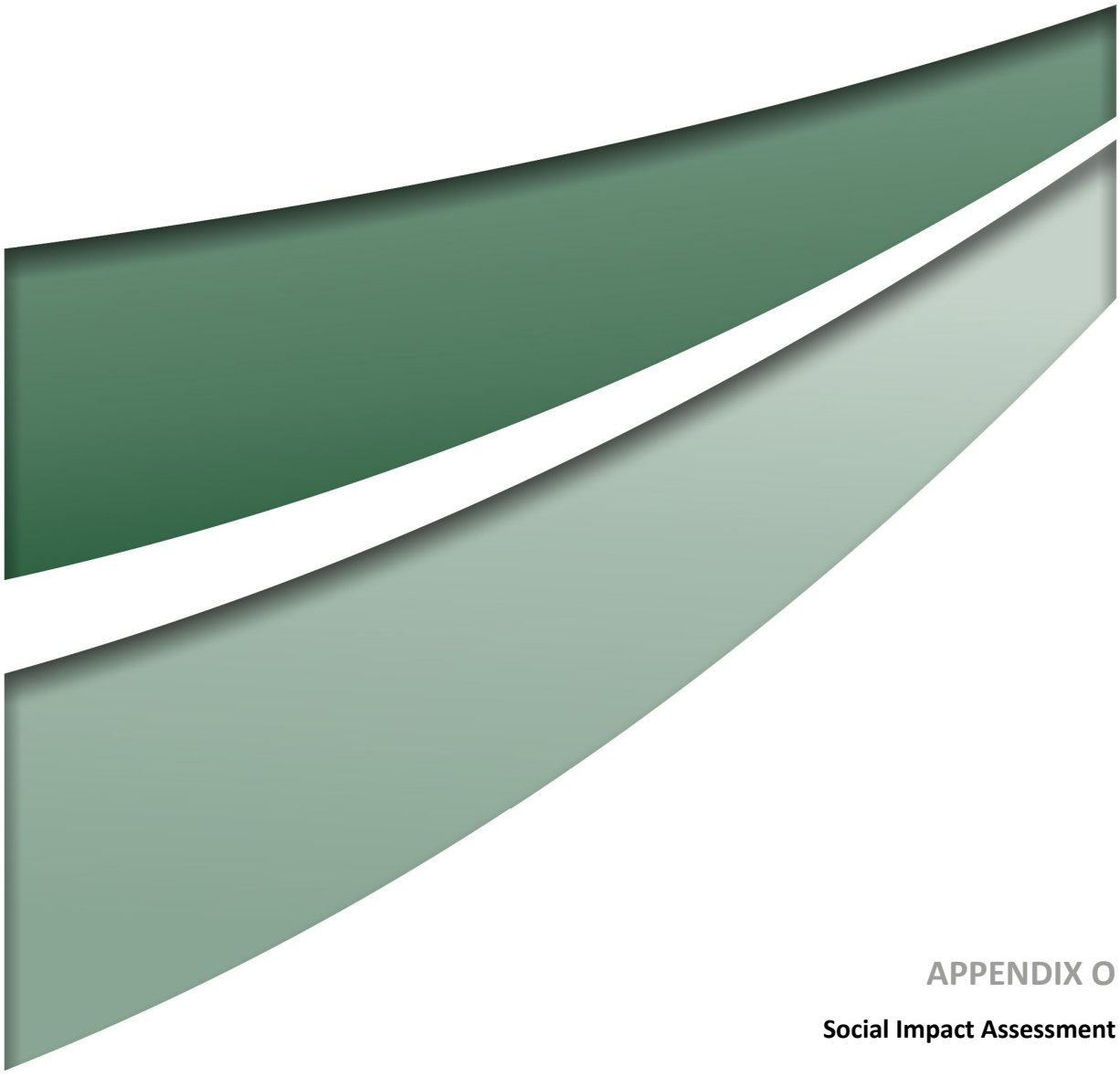
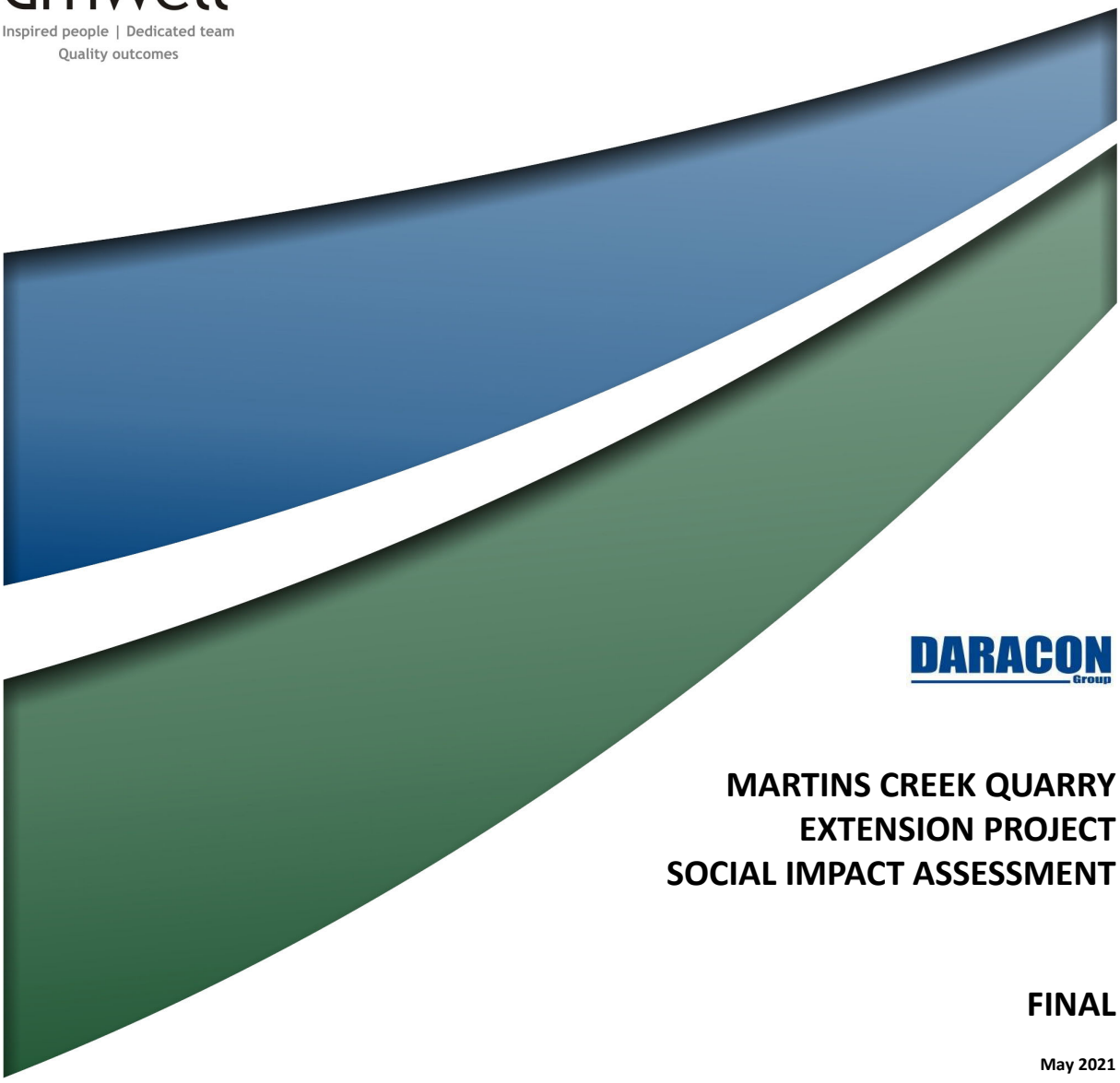


APPENDIX O

Social Impact Assessment

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DARACON Group

MARTINS CREEK QUARRY EXTENSION PROJECT SOCIAL IMPACT ASSESSMENT

FINAL

May 2021

SOCIAL IMPACT ASSESSMENT

Martins Creek Quarry Extension Project

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Daracon

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Table of Contents

Abbreviations

Executive Summary i

1.0 Introduction 1

1.1 SIA Requirements 1

1.2 Report Structure 4

2.0 Project Overview 6

2.1 Project Description 6

2.2 Quarry Workforce 12

3.0 SIA Methodology 13

3.1 International SIA Principles 13

3.2 NSW SIA Guideline 14

3.3 SIA Principles and Ethical Conduct 14

3.4 SIA Approach and Methodology 16

3.4.1 Preparatory Planning - Submission Analysis 17

3.5 Program Participants 18

3.5.1 Social Assessment and Engagement Mechanisms 23

4.0 Operational Context 44

4.1 Historical Operations 44

4.2 Workforce 45

4.3 Community Investment 45

4.4 Road Maintenance Contribution 47

4.5 Perceptions of the Company 47

4.5.1 Stakeholder Perceptions of Daracon and the Martins Creek Quarry 47

4.5.2 Perceived Community Investment Activities 51

4.5.3 Submission Analysis 58

4.5.4 Martins Creek Quarry Action Group Survey Results 63

4.5.5 Complaints Analysis 65

4.6 Summary of Perceptions of Recent Operations 67

5.0 Social Profile 69

5.1 Context and Purpose 69

5.2 Geographic Context 70

5.3 Governance 71

5.3.1 Local Governance 71

5.3.2 State Government 73

5.3.3 Federal Government 73

5.3.4 Native Title, Aboriginal Land Councils and Traditional Owner Groups 73
5.4 Historical Context 74
5.4.1 Aboriginal History 74
5.4.2 Regional and Local European History 74
5.5 Regional Development Context and Community Response to Change 79
5.5.1 Quarrying Developments and Community Response 82
5.6 Community Capitals 87
5.6.1 Sustainable Livelihoods Approach 87
5.6.2 Data Collection and Analysis 89
5.7 Natural Capital 92
5.7.1 Summary of Natural Capital 96
5.8 Human Capital 96
5.8.1 Key Population Characteristics and Trends 97
5.8.2 Skills, Education and Training 106
5.8.3 Health Characteristics 115
5.8.4 At-Risk and Vulnerable Groups 118
5.8.5 Summary of Human Capital 118
5.9 Social Capital 120
5.9.1 Mobility and Community Networks 122
5.9.2 Household and Family Composition 125
5.9.3 Justice and Crime 126
5.9.4 Social Capital Summary 128
5.10 Economic Capital 129
5.10.1 Income, Spending and Cost of Living 130
5.10.2 Industry and Employment 133
5.10.3 Summary of Economic Capital 144
5.11 Physical Capital 146
5.11.1 Infrastructure and Services 147
5.11.2 Summary of Physical Capital 163
5.12 Regional and Local Issues and Aspirations 163
5.12.1 Regional Issues and Opportunities 164
5.12.2 Dungog LGA Issues and Opportunities 170
5.12.3 Maitland LGA Issues and Opportunities 174
5.12.4 Local Community Issues, Opportunities and Values 175
5.13 Social Profile Summary 176
6.0 Perceived Negative and Positive Social Impacts 183
6.1 Overview 183
6.2 Summary of Reported Positive and Negative Impacts 184
6.2.1 Interconnectivity of Reported Social Impacts 187

6.3 Social Amenity and Surroundings 190
6.3.1 Trucks and Traffic Movements 191
6.3.2 Quarry Site Operations 201
6.4 Sense of Community 208
6.4.1 Public Safety 209
6.4.2 Rural Amenity and Character 217
6.5 Engagement and Decision Making Process 222
6.5.1 Trust in Decision Making and Engagement Process 223
6.5.2 Breach of Consent Conditions 226
6.5.3 Lack of Social Licence to Operate 226
6.6 Personal and Property Rights 229
6.6.1 Property Damage 230
6.6.2 Property and Values and Prices 231
6.7 Cumulative Impact 232
6.8 Environmental Impact 235
6.8.1 Biodiversity and Land Use 236
6.8.2 Water 238
6.9 Health and Wellbeing 239
6.9.1 Mental Health 240
6.9.2 Physical Health – General 241
6.10 Economic 242
6.10.1 Livelihood 244
6.10.2 Employment 246
6.10.3 Resource Use and Application 246
6.11 Aboriginal Cultural Heritage 247
6.12 Broader Other Comments and Feedback 248
6.13 Community Representative Groups 250
6.13.1 Martins Creek Quarry Action Group 250
6.14 Business and Service Providers 252
6.15 Identified Positive and Negative Social Issues by Locality 254

7.0 Assessment and Prediction of Social Impacts 256

7.1 Introduction 256
7.2 Assessment of Social Risk/Impacts 257
7.3 Social Amenity and Surroundings 261
7.3.1 Trucks and Traffic 261
7.3.2 Noise 284
7.3.3 Blasting (Noise and Vibration) 294
7.3.4 Air Quality/Dust 297
7.4 Sense of Place and Community 304
7.4.1 Proposed Mitigation and Predicted Impacts (Mitigated) 307

7.5 Health and Wellbeing 309
7.5.1 Mental Health 311
7.5.2 Physical Health 313
7.6 Personal and Property Rights and Livelihoods 316
7.6.1 Decline in Property Values 316
7.6.2 Property Damage 320
7.6.3 Local Business and Livelihood 323
7.6.4 Economic and Employment 329
7.7 Engagement and Decision Making 331
7.8 Access to and Use of Ecosystem Services 336
7.8.1 Biodiversity 336
7.8.2 Water 339
7.9 Culture and Heritage 341
7.9.1 Assessment Outcomes 344
7.9.2 Mitigation and Management Measures 346
7.10 Cumulative Impacts 348
7.11 Predicted Impact Summary 349
8.0 Management and Enhancement of Social Impacts 351
8.1 Proposed Project Mitigation and Enhancement Strategies 352
8.2 Community Engagement Strategy 354
8.3 Daracon Community Contributions and Sponsorship Program 356
8.4 Local Employment and Procurement Policy 358
8.5 Voluntary Planning Agreement 358
9.0 Monitoring of Social Impacts 359
9.1 Monitoring Effectiveness 359
10.0 Conclusion 362
11.0 References 364

Tables

Table 1.1 SEARs – Relevant General Requirements (DPE 2016) 2
Table 1.2 Minimum SIA Requirements by DPE (DPE 2016) 3
Table 2.1 Key Project Features 8
Table 2.2 Construction Activities 12
Table 3.1 Principles Identified in SIA Guideline 14
Table 3.2 SIA Engagement Contacts Summary 20
Table 3.3 Consulted Stakeholders by Location - Personal Interviews and Surveys 22
Table 3.4 Summary of Social Assessment Methods by SIA Phase 25
Table 3.5 Engagement and Communication Methods 27

Table 3.6	Daracon's Ongoing Engagement and Information Provision Mechanisms	34
Table 3.7	Summary of Original EIS Engagement and Information Provision Mechanisms (2014-2016)	35
Table 3.8	Examples of Requested Information	41
Table 4.1	Examples of Daracon Social Investment (January 2018 – March 2021)	46
Table 4.2	Examples of Recalled Local Initiatives Supported by Daracon	53
Table 4.3	Examples of Suggested Social Investment Opportunities	55
Table 4.4	Categorisation of Issues by Area	58
Table 5.1	Dungog LGA Current Councillors 2021	71
Table 5.2	Maitland LGA Current Councillors 2021	72
Table 5.3	Quarrying Projects Case Studies	82
Table 5.4	Primary Data Sources for Community Capitals Analysis	90
Table 5.5	Examples of Indicators Collated and Reported In Profile By Capital	90
Table 5.6	Primary Reasons Why People Visit Dungog LGA (2015)	94
Table 5.7	Reasons Why People Stay and Spend Money Once They Arrive in Dungog LGA (2015)	95
Table 5.8	Summary of Key Human Capital Indicators for Key Communities	96
Table 5.9	Changes in Population over Time Gender and ATSI Status (2011-2016)	103
Table 5.10	Changes in Population over Time (2011-2016)	104
Table 5.11	Changes in Population over Time (2006-2016)	104
Table 5.12	Highest Level of School Attained (Total Population and Indigenous)	107
Table 5.13	Educational Facilities (Early Years – Secondary)	109
Table 5.14	Non School Qualifications	111
Table 5.15	Selected Health Indicators	117
Table 5.16	Proportion of At-Risk Groups in Study Communities 2016	118
Table 5.17	Summary of Key Social Capital Indicators for Study Communities	121
Table 5.18	Crime Rankings for Dungog LGA, 2013 - 2017	127
Table 5.19	Summary of Key Economic Capital Indicators for the Study Communities	129
Table 5.20	Selected Income Related Indicators	133
Table 5.21	Labour Force Participation 2016	135
Table 5.22	Occupations of Employment 2016	136
Table 5.23	Herfindahl Index of Industry Diversity	137
Table 5.24	Industry of Employment 2016	137
Table 5.25	Dungog LGA Top Industries 2016	138
Table 5.26	Dungog LGA Active Businesses	143
Table 5.27	Summary of Key Physical Capital Indicators for Study Communities	146
Table 5.28	Examples of Community Infrastructure and Services in Dungog and Maitland LGAs	148
Table 5.29	Public Amenities and Utilities in Dungog LGA	152
Table 5.30	Council submissions regarding MR 101	156
Table 5.31	Health Service Summary, Dungog and Maitland LGA 2018	158
Table 5.32	Dwelling Types 2016	158
Table 5.33	Summary of Issues and Opportunities – Upper and Lower Hunter Region (including Dungog and Maitland LGAs)	166
Table 5.34	Summary of Issues and Opportunities – Dungog LGA	171
Table 5.35	Summary of Issues and Opportunities – Maitland LGA	174
Table 5.36	Key Community Strengths and Vulnerabilities	178
Table 6.1	Impact Matrix	188
Table 6.2	Community and Special Interest Group Representatives Contacted During the SIA process	250
Table 7.1	Social Risk Matrix	258
Table 7.2	Defining Magnitude Levels for Social Impacts (DPIE 2020)	260
Table 7.3	Social Likelihood Definitions	260
Table 7.4	Crash Summary Dungog LGA, 2014 - 2018	265

Table 7.5	Local School Bus Services and Routes	267
Table 7.6	Summary of Mitigation and Enhancement Strategies – Social Amenity and Surroundings (Truck and Traffic Movements)	279
Table 7.7	Predicted Social Impact – Social Amenity (Trucks and Traffic)	281
Table 7.8	Road Traffic Noise Assessment – Operating Scenarios	286
Table 7.9	Summary of Mitigation and Enhancement Strategies – Social Amenity (Noise)	290
Table 7.10	Predicted Social Impact – Social Amenity and Surroundings (Noise)	292
Table 7.11	Summary of Mitigation and Enhancement Strategies – Social Amenity (Blasting Noise and Vibration)	296
Table 7.12	Predicted Social Impacts – Social Amenity (Blasting Noise and Vibration)	297
Table 7.13	Summary of Mitigation and Enhancement Strategies – Social Amenity and Surroundings (Air Quality)	302
Table 7.14	Predicted Social Impacts – Social Amenity (Air Quality and Dust)	303
Table 7.15	Summary of Mitigation and Enhancement Strategies – Sense of Place and Community	308
Table 7.16	Summary of Revised Project Impact – Sense of Place and Community	308
Table 7.17	Summary of Revised Project Impact – Mental Health	313
Table 7.18	Summary of Revised Project Impact – Physical Health	316
Table 7.19	Proportion of Identified SSC Populations by Age Group (55 to 84 Years)	319
Table 7.20	Summary of Revised Project Impact – Property Values	319
Table 7.21	Summary of Mitigation and Enhancement Strategies – Property Rights (Blasting)	322
Table 7.22	Summary of Revised Project Impact – Property Damage (Blasting and Trucks)	323
Table 7.23	Summary of Mitigation and Enhancement Strategies – Local Business and Livelihood	328
Table 7.24	Summary of Revised Project Impact – Local Business and Livelihood	328
Table 7.25	Summary of Mitigation and Enhancement Strategies - Economic	330
Table 7.26	Summary of Revised Project Impact – Local Business and Livelihood	330
Table 7.27	Summary of Mitigation and Enhancement Strategies – Decision Making Systems	335
Table 7.28	Summary of Revised Project Impact – Decision Making Systems	336
Table 7.29	Summary of Mitigation and Enhancement Strategies - Biodiversity	339
Table 7.30	Summary of Revised Project Impact – Biodiversity / Ecological Impacts	339
Table 7.31	Summary of Revised Project Impact - Water	341
Table 7.32	Examples of Heritage Buildings in Paterson	343
Table 7.33	Summary of Mitigation and Enhancement Strategies - Heritage	347
Table 7.34	Summary of Revised Project Impact – Heritage and Culture	348
Table 7.35	Summary of Predicted Social Impacts	350
Table 8.1	Proposed Mitigation and Enhancement Strategies by Significant Predicted Social Impacts	353
Table 8.2	Potential Sponsorship and Community Investment Projects	357

Figures

Figure 1	Frequency of Issues – Overall Key Themes (Unprompted Issues)	iii
Figure 2.1	Project Locality and Primary Haul Route	11
Figure 3.1	Top Ten Suburbs by Number of Submissions	18
Figure 3.2	Identified Stakeholders	19
Figure 3.4	Engagement and Information Provision Preferences	39
Figure 3.5	Information Requirements	41
Figure 4.1	Martins Creek Quarry Historical Road Tonnages (tpa) 1993-2019	44
Figure 4.2	Daracon Social Investment Activities – January 2018 to March 2021	47
Figure 4.3	Level of Knowledge of the Revised Project	50

Figure 4.4	Level of Support for the Revised Project	51
Figure 4.5	Level of recalled contributions to the local community	52
Figure 4.6	Submission Impacts by Locality (Top 16 Impacts)	61
Figure 4.7	Submission Impacts by Locality (Remaining Impacts)	62
Figure 4.8	Levels of Agreement with Community Attitude Statements	63
Figure 4.9	MCQAG Survey Results Unprompted Issues (n=82)	64
Figure 4.10	Issues of Concern (Prompted)	65
Figure 4.11	Number and Nature of Community Complaints Received by Martins Creek Quarry January 2014 - March 2021 (n=108)	66
Figure 4.12	Number of Community Complaints Received by Martins Creek Quarry January 2014 - March 2021 (n=108)	67
Figure 5.1	Production Level of Martins Creek Railway Quarry – Selected Years from 1939 to 1988	76
Figure 5.2	Constructing the North Coast Rail Line c. 1910	77
Figure 5.3	Martins Creek Railway Station (Later than August 1911)	78
Figure 5.4	Significant Events and Developments	80
Figure 5.5	North Coast Rail Line During 2015 floods	81
Figure 5.6	Capital Framework	88
Figure 5.7	Indigenous Population Proportion 2016 Source: ABS Community Profiles	98
Figure 5.8	Median Age – Years Source: ABS Community Profiles (2016)	99
Figure 5.9	Martins Creek 2016 Population Distribution (Age in years by Gender)	100
Figure 5.10	Paterson 2016 Population Distribution (Age in years by Gender)	100
Figure 5.11	Vacy 2016 Population Distribution (Age in years by Gender)	101
Figure 5.12	Bolwarra 2016 Population Distribution (Age in years by Gender) Source: ABS Community Profiles (2016)	101
Figure 5.13	Bolwarra Heights 2016 Population Distribution (Age in years by Gender) Source: ABS Community Profiles (2016)	102
Figure 5.14	Dungog LGA 2016 Population Distribution (Age in years by Gender)	102
Figure 5.15	NSW 2016 Population Distribution (Age in years by Gender)	103
Figure 5.16	Population Projections for Dungog LGA, 2011-2036	105
Figure 5.17	Population Projections by Age Category – Dungog LGA Source: NSW State and Local Government Area Population and Household Projections	105
Figure 5.18	Top 5 Fields of Tertiary Study Source: ABS Community Profiles (2016)	114
Figure 5.19	Total Asthma Hospitalisations for Dungog and Maitland LGA (2001/2003 to 2017/2019)	116
Figure 5.20	Index of Education and Occupation (IEO)	120
Figure 5.21	Proportion of Residents Living at a Different Address One Year Ago	122
Figure 5.22	Proportion of Residents Living at The Different Address Five Years Ago	123
Figure 5.23	Graphic of Responses During SIA Consultation - What Do You Most Value About Living in The Area and What's Important to You?	124
Figure 5.24	Household Composition, 2016	125
Figure 5.25	Family Composition	126
Figure 5.26	Index of Relative Socio-Economic Advantage and Disadvantage	129
Figure 5.27	Median Weekly Income (Personal Income)	131
Figure 5.28	Median Household Income (2016)	131
Figure 5.29	Median Mortgage Repayments ($/Monthly)	132
Figure 5.30	Median Rent ($/weekly)	132
Figure 5.31	Unemployment Rates 2016	134
Figure 5.32	Dungog LGA Unemployment Rate December 2010 through to December September 2020	134
Figure 5.33	Employment Type for People Aged 15 Years of Age and Over	135
Figure 5.34	Employment Numbers Per Industry in Dungog LGA	139
Figure 5.35	Visitor Expenditure Per Dollar	140

Figure 5.36	Contribution of Tourism to Wages and Salaries in the Dungog LGA	141
Figure 5.37	Estimate Output of Tourism in Dungog LGA	142
Figure 5.38	Dungog LGA Business Employment Types	144
Figure 5.39	Index of Relative Economic Resources	145
Figure 5.40	Local School Bus Services and Routes	154
Figure 5.41	Property Ownership Types Source: ABS Census (2016) – Time-Series Profiles; ABS Census (2011, 2016) – Community Profiles	160
Figure 5.42	Number of Property Sales Between October 2013 to 31 December 2020.	162
Figure 5.43	Average Sales Between January 2013 and December 2019.	162
Figure 5.44	What do you Most Value about Living in the Dungog LGA?	175
Figure 5.45	What do you Most Value about Living in this Community? Frequency	176
Figure 6.1	Frequency of Issues – Overall Key Themes (Unprompted Issues)	185
Figure 6.2	Round One - Levels of Concern Attached to Prompted Issues – Overall	186
Figure 6.3	Round One Prompted Issues - Average Ratings of Concern	187
Figure 6.4	Impacts Identified by Social Impact Category (DPIE, 2017)	190
Figure 6.5	Stakeholder identified trucks and traffic movement impacts	191
Figure 6.6	Rated level of concern – traffic and transport	192
Figure 6.7	Round One Rated level of concern – air quality	200
Figure 6.8	Stakeholder identified Quarry site operational impacts	201
Figure 6.9	Round One Rated levels of concern (prompted) – Quarry Noise	203
Figure 6.10	Round One Rated levels of concern (prompted) – Blasting	205
Figure 6.11	Stakeholder identified sense of community impacts (unprompted)	208
Figure 6.12	Rated level of concern – public health & safety	215
Figure 6.13	Rated level of concern – access	216
Figure 6.14	Rated levels of concern – Sense of Community and General Amenity	218
Figure 6.15	Stakeholder identified issues – impact on decision making process	222
Figure 6.16	Round One Rated levels of concern (prompted) – Relationships, Engagement & Trust and Operational Management	223
Figure 6.17	Stakeholder identified issues – personal and property rights	229
Figure 6.18	Round One Rated level of concern – Vibration from trucks	231
Figure 6.19	Stakeholder identified cumulative impacts	233
Figure 6.20	Rated levels of concern (prompted) – Cumulative Impacts	234
Figure 6.21	Stakeholder identified issues – environment	235
Figure 6.22	Rated levels of concern (prompted) – Biodiversity and Land Management and Water Impacts	236
Figure 6.23	Stakeholder identified issues – health and well being	239
Figure 6.24	Rated levels of concern (prompted) – Mental Health and Physical Health	240
Figure 6.25	Stakeholder identified issues – economic	243
Figure 6.26	Rated levels of concern (prompted) – Economic Impacts and Livelihood	243
Figure 6.27	Rated levels of concern (prompted) – Historic Heritage, Greenhouse Gases and Cultural Heritage	248
Figure 6.28	Impact themes raised during final comments	249
Figure 6.29	Impacts Identified by Business and Service Providers	253
Figure 6.30	Unprompted Issues by Locality	255
Figure 7.1	Impacts Identified by Social Impact Category (DPIE, 2017)	257
Figure 7.2	Crash Map Along Haulage Route	266
Figure 7.3	Total Laden Trucks Over Weighbridge (Peak Day) – Historic vs Proposed Peak	271
Figure 7.4	Martins Creek Quarry Historical Road Tonnages (tpa) 1993-2019	272
Figure 7.5	What Makes a Place Great?	305
Figure 7.6	Determinants of Health	310
Figure 7.7	Total Asthma Hospitalisations for Dungog LGA (2001/2003 to 2016/2018)	314

Figure 7.8 Paterson Village – Paterson Post Office (c.1975) and Former CBC Bank (date unknown) 344
Figure 9.1 Proposed Framework for Monitoring Social Impacts and Community Change 360

Appendices

Appendix 1 Review Questions for the SIA Guideline
Appendix 2 Social Impact Assessment Declaration
Appendix 3 SIA Technical Director CV
Appendix 4 Submissions and Feedback from MCQAG
Appendix 5 Community Information Sheets
Appendix 6 Media Review
Appendix 7 Analysis of Stakeholder Views on Project Refinements

Abbreviations

Term	Definition
ACCSR	Australian Centre for Corporate Social Responsibility
ADA and RtS	Amended Development Application and Response to Submissions
CAF	Collaborative Assessment Forum
CBA	Cost Benefit Analysis
CCC	Community Consultative Committee
Communities of interest	Communities of interest for the SIA including suburbs proximal the quarry and its operations (Martins Creek SSC, Vacy SSC and Paterson SSC) and those along the haul route including (Bolwarra SSC and Bolwarra Heights SSC)
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DoEE	Commonwealth Department of the Environment and Energy (now Department of Agriculture, Water and the Environment)
DPE	Department of Planning and Environment (now the Department of Planning, Industry and the Environment)
DPIE	Department of Planning, Industry and the Environment (formerly the Department of Planning and Environment)
DRG	Division of Resources and Geosciences (now Mineral Exploration and Geosciences)
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
ETL	Electricity Transmission Line
km	Kilometres
LEA	Local Effects Analysis
LEP	Local Environmental Plan
LGA	Local Government Area
Mt	Million tonnes
Mtpa	Million tonnes per annum

Term	Definition
NSW	New South Wales
OEH	Office of Environment and Heritage (now Environment, Energy and Science)
Original Project	The original proposal for the Martins Creek Quarry Extension Project to extract 1.5 million tonnes per annum (Mtpa) of material over a 30 year period of which up to 1.45 Mtpa will be on road for quarry sales transportation, as exhibited in the EIS (Monteath & Powys 2016) during late 2016.
PA	Project Approval
PO	Performance Objective
Project Area	The area to which this Amended Development Application applies.
Revised Project	The revised proposal for the Martins Creek Quarry Extension Project to extract 1.1 Mtpa material over a 25 year period with up to a maximum of 500,000 tpa on road and 600,000 tpa by rail for quarry sales transportation.
RMS	Roads and Maritime Services (now Transport for NSW)
SCIR	Stakeholder Consultation Issues Report (Monteath & Powys 2016)
SEARs	Secretary's Environmental Assessment Requirements
SES	State Emergency Service
SIA	Social Impact Assessment
SIA Guidelines	Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development
SSC	State Suburb Code
SSD	State Significant Development
Umwelt	Umwelt (Australia) Pty Limited

Executive Summary

The Martins Creek Quarry (the quarry) is licensed by Buttai Gravel Pty Ltd, which is part of the Daracon Group (hereafter referred to as Daracon). The quarry is an existing hard rock quarry situated within the Dungog Local Government Area (LGA), approximately 7 kilometres (km) north of Paterson and 28 km north of Maitland, New South Wales (NSW). The quarry was established in 1914 by the NSW Government Railways for the purpose of supplying railway ballast and other quarry materials to both the NSW railway network and Hunter Valley/Newcastle construction projects. Until late 2012, the quarry was operated continuously by various NSW Government transport departments, authorities and corporations.

In December 2012, Daracon secured a long term licence of the quarry and have been extracting material in order for the quarry to continue to produce high quality aggregates, roadbase, ballast, gabion and other specified materials used in road, railway, concrete and civil construction.

In 2014, Daracon submitted a State Significant Development application for the Martins Creek Quarry Extension Project. This application sought approval for the consolidation of the existing development approvals and the expansion of the quarry into new areas to extract and haul by road transport up to 1.5 million tonnes (Mt) of material per annum (pa) over a 30 year period (Monteath & Powys, 2014) (hereafter referred to as the Original Project). An Environmental Impact Statement (EIS) was prepared and exhibited during late 2016 (Monteath & Powys, 2016). After these submissions were received on the Original Project, Umwelt (Australia) Pty Limited (Umwelt) was engaged by Daracon, to undertake further stakeholder engagement to understand the issues and to prepare this Social Impact Assessment (SIA). This SIA forms part of the Response to Submissions (RtS) to the Original Project EIS and is a component of the broader Amended Development Application (ADA) for the Martins Creek Quarry Extension Project (hereafter referred to as the Revised Project).

The SIA has been prepared in line with:

- The Secretary's Environmental Assessment Requirements (SEARs) for the Original Project (SSD 6612) which were provided to Daracon on 4 August 2016.
- The requirements of the Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE 2017), as confirmed by DPIE in correspondence dated 6 November 2020.
- Feedback on relevant components of the original EIS received from the DPE's request for RtS letter (dated 2 December 2016) as detailed in **Section 1.1**.

This SIA has also considered stakeholder and community feedback on relevant components of the original EIS as identified during a comprehensive review of the submissions received by the DPE, together with further feedback received during the extensive community engagement conducted for the Revised Project.

A best practice approach to SIA has been adopted for the Project, that integrates international and NSW social guideline requirements and has involved a number of key phases including:

- **Preparatory Planning** - undertaking appropriate planning for the Revised Project with the review of submissions made on the EIS for the Original Project and the development of a stakeholder engagement strategy to inform the preparation of the SIA.
- **Profiling** - defining the baseline social context in which the Revised Project is based.

- **Scoping** - identifying key social impacts/issues relevant to the Revised Project.
- **Assessment and Prediction of Impacts** - evaluating and predicting positive and negative social impacts.
- **Strategy Development** - identifying strategies to minimise negative impacts and enhance positive impacts associated with the Revised Project.
- **Monitoring and Evaluation** – development of a framework outlining how social impacts should be monitored and evaluated should the Revised Project proceed.

At the submission phase for the Original EIS, *impacts on the community* were a key theme of submissions with the key concerns raised in relation to impacts on the community associated with the following:

- traffic and transport (373 submissions)
- public health and safety (291 submissions)
- noise (257 submissions)
- air quality (160 submissions)
- blasting and vibration (160 submissions)
- visual amenity (15 submissions).

Social impacts were the second most frequently raised theme, with concerns centred around the loss of social amenity (227 submissions) however it is important to note that the themes of impacts on community and social impacts are very closely interconnected.

Approximately 285 stakeholders have participated in the SIA engagement program, in addition to consultation undertaken for the broader ADA / RtS process, across two rounds of engagement affording opportunity to identify perceived issues/impacts in relation to the Revised Project, provide feedback on proposed project refinements and assessment outcomes and identify strategies for mitigation and enhancement. It is important to also acknowledge that some stakeholders have participated via multiple mechanisms and across both phases of engagement. Stakeholders included landholders and residents located in proximity to the Quarry site and along the haul route; community and special interest groups; local businesses and service providers.

Engagement and communication mechanisms have included personal interviews and telephone correspondence, collaborative assessment forums, Project briefings, online surveys, the provision of community information sheets and access to a Social Pinpoint page.

Perceived impacts identified by stakeholders cover a range of social impact categories, as defined in the SIA Guideline (DPE, 2017) and reflect the fears and aspirations of the stakeholders consulted. Social impacts relating to the categories of way of life (how people work, rest and play), community, surroundings and were commonly identified as potential impacts; followed by impacts relating to personal and property rights and decision-making systems (**Figure 1**).

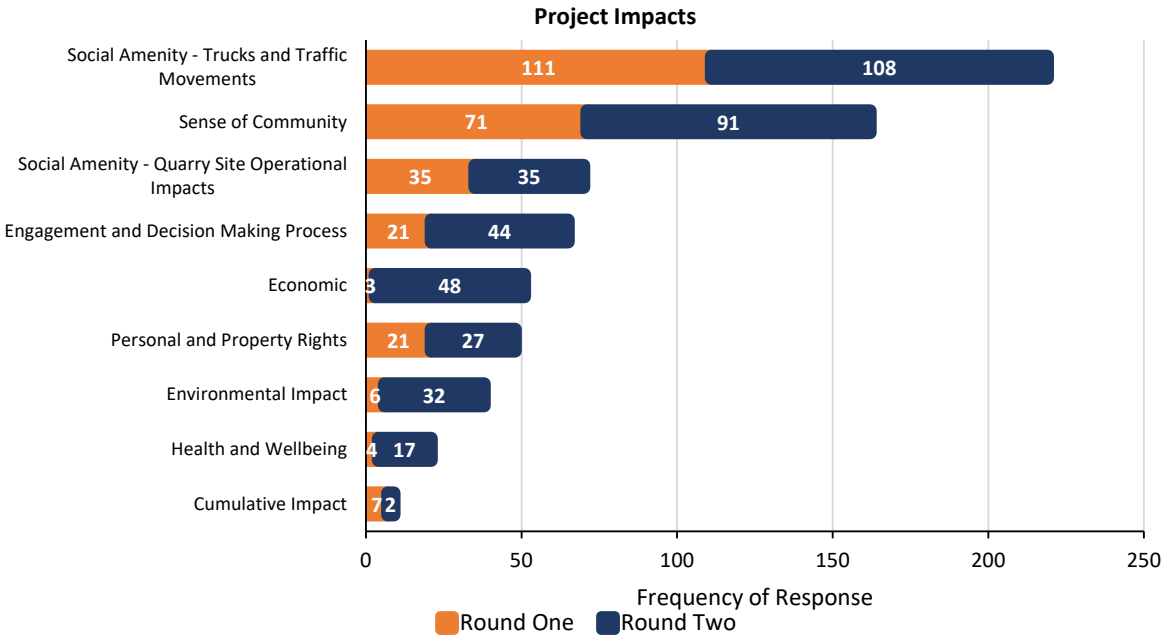


Figure 1 Frequency of Issues – Overall Key Themes (Unprompted Issues)

Round One: n=78, 10 missing[1] (Community = 64, Business and Services = 6)

Round Two: n=114, 27 missing (Community = 74. Business and services = 5)

Multiple Response allowed.

The SIA has identified the most significant (high) social risks, based on the consideration of both stakeholder perceptions (as presented at above at **Figure 1**) and mitigated technical risk analysis, to be:

- Impacts on social amenity associated with directly with trucks and traffic movements due largely to the existing and future volumes of trucks and traffic movements and flow on effects such as increases in noise, changes to air quality, impacts on local road infrastructure and potential for interactions with the public.
- Impacts on social amenity associated directly with onsite quarry site operations such as air quality, noise, blasting and vibration.
- Changes to sense of community including rural amenity, character of the locality and how people went about their lives due to truck movements and onsite activities at the quarry.
- Trust in the decision-making processes, Daracon and associated engagement activities.

Other issues identified were related to property damage and property prices (personal and property rights), economic impacts such as perceived impacts on livelihoods and possible economic opportunities associated with employment and the application and use of the quarry resource and concerns regarding health and wellbeing, largely mental impacts for some community members due to increased stress and anxiety.

Further detail with regards to identified stakeholder perceptions of social impacts is provide throughout **Section 6.0** with impacts assessed in accordance with the SIA Guideline at **Section 7.0** along with identified project refinements and management and mitigation measures.

Changes to the Original Project have been iterative with consideration of key issues identified by the community and other stakeholders during the Original EIS submission phase and subsequent engagement rounds addressed in a number of significant project changes. The most relevant to concerns raised around loss of social amenity were:

- reduced production and road haulage rates
- avoidance of road haulage at particular times
- revised operating hours of the quarry.

These changes are outlined in further detail at **Section 2.1** of the SIA. It is however acknowledged that when presented with proposed project changes during the consultation process, many of those consulted did not consider that these went far enough to address their identified issues of concern.

Aside from the consideration of the iterative changes to the project parameters, a range of other strategies have been proposed to address the identified potential social impacts relating to the Revised Project. These strategies have been developed through review of existing Daracon management approaches and proposed commitments; review of strategies identified in the technical assessments for the ADA / RtS addressing for example traffic, noise, air quality and blasting activities; stakeholder strategies identified through the SIA engagement program (Rounds One and Two and other discussion forums); relevant projects and studies relating to social impact management; and the experience of the SIA team across other projects. Additional social criteria have also been considered in the development of relevant strategies, including an assessment of the vulnerability of stakeholders to particular impacts such as residents, users and businesses of Paterson, those residing in proximity to the quarry and those directly along the haul route.

Mitigation and enhancement strategies proposed to address significant social impacts include:

- Restriction of proposed maximum daily truck movements to only occur up to 50 days per year.
- Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times.
- No road haulage of product on Saturdays (or weekend or public holidays).
- Planning quarry activities around extra traffic days/ community events in Paterson Village/Tocal.
- Regular consultation with local bus companies.
- Reduced speed limits for quarry trucks travelling through Paterson Village.
- Investigation of the use of radar variable message signs.
- Review and update of Driver Code of Conduct, including driver training relating to buses.
- Provision of Camera Monitoring Station at the King and Duke St Intersection to enable truck identification as required.
- Environmental management plans such as noise, air quality, blasting, traffic and heritage.

- Daracon Community Contributions and Sponsorship Program.
- A restructured Community Engagement Strategy that improved accessibility and delivery information provision that targets identified concerns.
- Implementation of Local Employment and Procurement Policy that encourages supporting businesses and recruiting locally where possible.
- Voluntary Planning Agreement (VPA).
- Social Impact Management Plan (SIMP).

In recognition of the existing strained relationship with elements of the local community, Daracon proposes to develop a more structured and regular approach to engagement via a Community Engagement Strategy that affords further development of company-community relationships through regular and effective engagement and communication and a focus on targeted information provision seeking to address community preferences and need. Mechanisms for engagement will draw on identified community preferences.

As a component of this strategy Daracon will continue to employ a dedicated Community Liaison Representative to manage the ongoing engagement associated with the Revised Project and monitoring and management commitments relating to social and environmental impacts.

DPIE have also appointed new Chair to re-establish a Community Consultative Committee (CCC) in accordance with current guidelines and Daracon is committed to working with Chair to optimise the CCC's effectiveness.

From a local investment perspective, while Daracon as a company has an existing community contributions and sponsorship program at the quarry, it is intended to be within this, a targeted focus on the quarry that is more strategically focused on the allocation of contributions and donations and allows the company to work with the local community to effectively manage the negative impacts of the operation and to enhance any potential benefits of the quarry. The revised Daracon Community Contributions and Sponsorship Program would therefore have a focus on mitigating the direct and indirect impacts of the quarry on the local community and enhancing positive impacts associated with the presence of the operation in the community where possible.

Daracon would seek to work with local residents and key stakeholders to focus on sponsorships and in-kind contributions that target impact areas and enhance local values with a focus on affected localities, including Martins Creek and the village of Paterson, with better targeting investment spend locally. The establishment of funding criteria associated with the Program will be determined in collaboration with the CCC once this group is formed.

While quarries do not typically have high direct workforce numbers (although contributions to suppliers and via subcontracts are greater), Daracon also will seek to continue to employ and procure from local sources to the greatest extent possible to enhance any economic benefits of the Revised Project in the locality where possible.

Should the Revised Project be approved, Daracon will also be required to make annual financial contributions to both Dungog Shire Council and Maitland City Council in the form of a Voluntary Planning Agreement (VPA) in accordance with Section 7.11 of the EP&A Act.

To ensure that predicted social impacts of the Revised Project are monitored, and any unanticipated social impacts identified, a Social Impact Management Plan (SIMP) would be developed with the involvement of key stakeholders, that outlines suitable and proportionate social impact monitoring and adaptive management arrangements for the Revised Project, as well as proposed timing and frequency of monitoring and public reporting of results.

The SIMP will be developed in accordance with the SIA Guideline and will:

- identify opportunities to enhance positive and mitigate negative social and economic impacts of the Revised Project on affected communities
- detail adaptive management and mitigation strategies to address potential impacts of the Revised Project identify appropriate stakeholder responsibilities
- identify appropriate monitoring, reporting and review mechanisms, including the purpose of monitoring and the parameters that will be monitored and how and when monitoring data will be collected
- outline a process to engage with relevant stakeholders and communities, with a focus on practical mechanisms for the community to collaborate and record their observations and experiences of social impacts and any proposed community participation in monitoring
- include an incident notification and reporting process, including providing applicable information to the community
- develop a process for reviewing the above elements to assess whether they are still appropriate, and whether any new issues have emerged that should be included in ongoing monitoring
- develop a process for making monitoring results and associated information publicly available, including any revisions to the monitoring and management framework.

1.0 Introduction

Buttai Gravel Pty Ltd which is part of the Daracon Group (hereafter referred to as Daracon) engaged Umwelt (Australia) Pty Limited (Umwelt) to undertake a revised Social Impact Assessment to support the Amended Development Application (ADA) and Response to Submissions (RtS) for the Martins Creek Quarry Extension Project.

An Environmental Impact Statement (EIS) for the consolidation of existing development approvals and expansion of Martins Creek Quarry (Monteath & Powys 2016) was placed on public exhibition from 13 October to 24 November 2016. This EIS included both a Stakeholder Consultation Issues Report (SCIR) (**Appendix E**) and the Social and Economic Assessment (**Appendix O**).

Upon review of both of these Appendices, the then Department of Planning and Environment (DPE) (now the Department of Planning, Industry and Environment) (DPIE):

> *identified significant shortcomings with the SIA and the consultation undertaken to support the preparation of the EIS. This [advice was] consistent with feedback from the community during the Department's consultation meetings that consultation undertaken during preparation of the EIS did not result in the community's issues and concerns being addressed or resolved. [DPE request for response to submissions (RtS) letter, dated 2 December 2016].*

The adequacy of community consultation and social impact assessment was also questioned in many of the community submissions made during public exhibition phase.

Umwelt was subsequently engaged by Daracon in 2017 to complete a SIA as part of a broader ADA and RtS process for the Martins Creek Quarry Extension Project (hereafter referred to as the Revised Project).

The following SIA has therefore been prepared in line with:

- The Secretary's Environmental Assessment Requirements (SEARs) for the Original Project (SSD 6612) which were provided to Daracon on 4 August 2016.
- The requirements of the Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE 2017), as confirmed by DPIE in correspondence dated 6 November 2020.
- Feedback on relevant components of the original EIS received from the DPE's request for RtS letter (dated 2 December 2016) as detailed in **Section 1.1**.
- Other stakeholder and community feedback on relevant components of the original EIS as identified during a comprehensive review of the submissions received by the DPE.

Details of the SIA methods, findings, evaluation and monitoring frameworks are outlined in detail in the following sections of this report.

1.1 SIA Requirements

The SEARs for the Original Project (SSD 6612) were provided to Daracon on 4 August 2016.

The relevant general requirements from the SEARs relating to the social component of the assessment (including the supplementary SEARs), are addressed within the SIA, as outlined in **Table 1.1**.

Table 1.1 SEARs – Relevant General Requirements (DPE 2016)

General Requirements		Location in Report
Social and Economic	• An assessment of potential impacts on local and regional communities including impacts on social amenity. • A detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the development, including any infrastructure improvements, or contributions and/or voluntary planning agreement or similar mechanism. • A detailed assessment of the costs and benefits of the development as a whole, and whether it would result in a net benefit for the NSW community.	**Section 7.0**
Consultation	During the preparation of the EIS, you must consult with relevant local, State and Commonwealth government authorities, service providers, Aboriginal stakeholders, community groups and affected landowners. In particular, you must consult with the: • Commonwealth Department of the Environment; • Office of Environment and Heritage (including the Heritage Branch); • Environment Protection Authority; • Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services; • Department of Primary Industries (including the NSW Office of Water, NSW Forestry, Agriculture and Fisheries sections and Crown Lands division); • Roads and Maritime Services; • Hunter Local Land Services; • Dungog Shire Council; • Maitland City Council; • Port Stephens Council; and • community groups including, but not limited to the: Martin's Creek Quarry Action Group, Paterson Progress Association, Bolwarra Heights Community Group and the Voice of Wallalong and Woodville. The EIS must: • describe the consultation process used and demonstrate that effective consultation has occurred; • describe the issues raised by public authorities, service providers, community groups and landowners; • identify where the design of the development has been amended in response to issues raised; and otherwise demonstrate that issues raised have been appropriately addressed in the assessment.	**SIA:** **Section 3.3** **Section 6.0** **Section 7.0** **ADA / RTS:** **Section 5.0**

Post the public exhibition phase of the EIS for the Original Project, the DPE requested that a revised SIA be submitted as part of the RtS which at a minimum includes and / or adheres to the requirements outlined in **Table 1.2** (DPE request for RtS letter, dated 12 December 2016). Relevant locations in this report have been identified for ease of reference.

DPE also determined at that time that:

- A further program of consultation and engagement with the community was considered necessary to inform the revised SIA with such a program to be designed and carried out by an appropriately qualified and experienced person/s or organisation.

- Any description of mitigation and management measures be properly considered in relevant impact assessments and clearly outlined in a consolidated section of the RtS (DPE request for RtS letter, dated 12 December 2016).

Table 1.2 Minimum SIA Requirements by DPE (DPE 2016)

DPIE Requirement		Location in Report
a)	A comprehensive stakeholder identification or map with particular emphasis on potentially vulnerable groups	**Section 3.0**
b)	Researches, analyses and qualitatively describe first-hand views (i.e., opinions, concerns and aspirations) of community members regarding the proposal	**Section 6.0**
c)	Investigates and documents the views of other interested parties regarding the proposal	**Section 6.0 and Project Social Pinpoint Page**
d)	Considers and assesses the different ways in which the project might affect various groups in the community, with particular attention to distributive equity and hard-to-reach community members	**Section 7.0**
e)	Conducts a thorough assessment of potential social impacts, directly informed by insights gained through community engagement	**Sections 6.0 & 7.0**
f)	Considers the potential significance of these impacts, in terms of: i) duration – when the impact will occur and over what period; ii) extent – in terms of both geography and number of people potentially affected; iii) severity – the intensity of the potential impact on different groups; iv) sensitivity – the social value placed on the impact by different groups, and their capacity to adapt to change; and v) level of concern/interest – the degree to which the impact is viewed as significant by different groups in the community (based on outcomes from engagement)	**Section 7.0**
g)	Proposes how positive impacts might be secured or enhanced	**Section 7.0**
h)	Proposes responses to significant negative impacts (avoid, minimise or, lastly, mitigate)	**Section 7.0 & 8.0**
i)	Provides a comprehensive monitoring plan for social impacts, including appropriate responses for unanticipated impacts	**Section 8.0**

DPIE Requirement		Location in Report
The DPE also noted that as a mechanism to support and inform a revised SIA, the SCIR (Appendix E) would require further work including:		
a)	Prioritisation and identification of significance of issues to determine the importance of each issue to different parts of the community	**Section 7.0**
b)	A discussion of whether the Applicant's responses to issues actually address the concerns (e.g., does restricting in-pit quarrying operations to between 6am and 6pm Monday to Saturday address community concerns around noise from this activity?)	**Section 7.0 and Appendix 7**
c)	Identifying the relationships between the issues raised and the parts of, or groups in, the community to whom they relate	**Section 6.0**
d)	Shifting the focus of engagement so that, as well as informing people of the Applicant's operational intentions, there is genuine, inclusive engagement around impacts on the social fabric and intangible dimensions of the community	**Section 3.3, 3.4, Section 6.0** **Project Social Pinpoint Page**
e)	A description of proposed mitigation and management measures that are not discussed in relevant impact assessment reports elsewhere in the EIS (eg. relating to road noise mitigation measures, on-site truck parking and consultation with residents in View Street). The Department requests that any description of mitigation and management measures is properly considered in relevant impact assessments and clearly outlined in a consolidated section of the RtS.	**Section 7.0 & 8.0**

Source: DPE request for RtS letter, dated 12 December 2016

In September 2017, DPE released the SIA Guideline *Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development* (DPE 2017) (hereafter referred to as the SIA Guideline). Umwelt sought confirmation from DPIE in correspondence dated 7/9/2020 that the SIA Guideline (SIA) was the appropriate guideline for the Revised Project. DPIE confirmed the approach to use the SIA Guideline in correspondence dated 6/11/2020. Since the commencement and substantial completion of the preparation of this SIA, a revised draft SIA Guideline has been prepared by the DPIE and was placed on public exhibition in October 2020. This revised Guideline is still in draft. The SIA for the Revised Project has therefore been prepared by Umwelt as part of the RtS/ADA in accordance with the SIA Guideline (DPE, 2017) and as per feedback received from the DPIE (2020) as presented at **Table 1.2**.

1.2 Report Structure

To address the SIA Guideline and DPE's requirements for the ADA and RTS, the revised SIA report is structured as follows:

Section 1.0 provides an introduction to the Assessment, its objectives and Project requirements.

Section 2.0 outlines the key details of the Revised Project being assessed.

Section 3.0 outlines the methodological approach adopted for the assessment for each of the SIA phases, including the data and information sourced to develop the social baseline profile.

Section 4.0 provides the operational context to the study with regard to Daracon's operations at the Martins Creek Quarry.

Section 5.0 provides the social profile for the relevant study communities, including governance, historical change and assessment of key community capitals. This section also identifies regional issues and aspirations as identified through review of local media and local and regional strategic plans.

Section 6.0 provides an overview of the perceived positive and negative social impacts associated with the Revised Project, as identified through engagement activities with key stakeholders and the wider community (both historical and more specifically via this current ADA and RTS process).

Section 7.0 assesses and predicts the likely social impacts that may result due to the Revised Project.

Section 8.0 defines strategies to manage negative impacts and enhance positive impacts.

Section 9.0 considers a framework for ongoing monitoring and evaluation of social impacts should the Revised Project be approved and proceed.

Section 10.0 provides a summary and conclusion to the revised SIA.

2.0 Project Overview

2.1 Project Description

Following review and consideration of the EIS submissions, Daracon has amended key operational parameters of the Original Project in order to further reduce environmental and social amenity impacts associated with transportation of quarry product, extraction of material and ongoing operation of the quarry. This involved a revision of the proposed extraction limits, hours of operation as well as truck movements and volumes.

Extensive stakeholder engagement has been undertaken between 2018 and 2020 as part of the updated environmental assessment for the ADA and RTS. Following this process, Daracon considered the feedback provided, in particular from the local community, and made additional amendments to the Revised Project parameters, including further reductions in the amount of quarry product transported by road, peak truck movements, and operational hours.

The key features of the Revised Project therefore include:

- extraction of up to a maximum of 1.1 Mtpa of quarry product material over 25 years, transporting up to 500,000 tpa by road and up to 600,000 tpa by rail
- revised product transport arrangements, including:
    - reduced peak daily laden trucks of 140 per day (280 movements) for up to 50 days per year, otherwise up to 100 laden trucks per day (200 movements), with the hourly peak to consist of:
        - up to 20 laden trucks per hour (40 movements), Monday to Friday between 7.00am and 3.00pm
        - up to 15 laden trucks per hour (30 movements), Monday to Friday between 3.00pm and 6.00pm
    - no road haulage of quarry product on Saturday or between the Christmas and New Year period each year (except in the case of declared emergencies)
    - no trucks through Paterson Village before 6.45 am
    - increased quarry product transported by rail
    - removal of Haul Route 2 as a primary haul route (now proposed only to service local jobs as required)
- revised operating hours of 7.00 am to 6.00 pm Monday to Saturday, with the exception of road haulage of quarry product which will only occur Monday to Friday, and no evening or night operation, apart from rail loading and transportation and necessary maintenance activities
- a 16.8 ha reduction in the proposed disturbance footprint, including avoiding approximately 15.3 ha of native vegetation in the former East Pit (Lot 21 DP 773220)
- construction and use of a new access road and bridge crossing from Dungog Road, over the North Coast rail line, to allow for all heavy vehicle movements via the new access
- improvements at the Dungog Road and Gresford Road intersection and the King Street and Duke Street intersection (within the village of Paterson)

- upgrades to the approach to Gostwyck Bridge
- extension of the rail spur to facilitate longer trains to transport more quarry product
- establishment of noise bunds and noise attenuation of the existing fixed processing plant with further upgrades and replacements to reduce noise and air quality impacts
- progressive rehabilitation of the quarry.

The key features of the Revised Project are summarised in **Table 2.1** along with a comparison against the Original Project as exhibited in 2016.

Figure 2.1 illustrates the locality of the quarry and the proposed primary haul route.

Table 2.1 Key Project Features

Key Project Feature	Original Project (as per the exhibited EIS, 2016)	Revised Project (as per the ADA, 2021)
Proposed Quarry Operations Approval Term	• 30 years	• 25 years
Limits on Extraction	• Total extraction of up to 1.5 Mtpa, of which up to 1.45 Mtpa on road for quarry sales transportation	• Total extraction up to 1.1 Mtpa, with up to a maximum of 500,000 tpa on road for quarry sales transportation
	• Majority by road, approximately 50,000 tonnes by rail	• Up to 600,000 tpa by rail. Subject to market requirements at a later date, Daracon may seek DPIE approval to increase the amount transported by rail, on a campaign basis.
Quarry Extent	• Proposed additional disturbance 38.8 ha	• Proposed additional disturbance area 22 ha – a reduction of 16.8 ha
Operating Hours	• In pit quarrying operations - 6.00 am to 6.00 pm Monday to Saturday	• In pit quarrying operations - 7.00 am to 6.00 pm Monday to Saturday • No in-pit mobile crushing in the West Pit
		• Blasting of quarry material only between 11.00 am and 3.00 pm Monday to Friday
		• No blasting on Saturday, Sunday or Public holidays
	• Evening/Night crushing and processing activities - 6.00 pm to 10.00 pm	• No quarrying or processing during evening period (6.00 pm to 10.00 pm) • No operations during night period (10.00 pm to 7.00 am) • No crushing or processing prior to 7.00 am Monday to Saturday
	• Pugmill mixing and binder delivery operations - 4.30 am to 10.00 pm Monday to Friday, 4.30 am to 6.00 pm Saturday	
	• Sales loading and stockpiling for road transport - 5.30 am to 7.00 pm Monday to Saturday	• No loading of product trucks prior to 7.00 am Monday to Friday
		• No quarry trucks through Paterson prior to 6.45 am Monday to Friday
		• No road haulage of quarry product on Saturday or from 24 December until 7am 2 January / or whatever is first working day after New Year (unless required for declared emergencies)

Key Project Feature	Original Project (as per the exhibited EIS, 2016)	Revised Project (as per the ADA, 2021)
	• Loading and parking of trucks on site overnight	• Provision for up to 10 unladen Daracon trucks (not contractors) to return to the quarry between 6.00 pm and 7.00 pm Monday to Friday to park in the quarry overnight and be loaded during this time in readiness for departure from 7.00 am the following morning. (Note: in the case of trucks loaded on Friday evening, departure will be no earlier than 7.00 am Monday morning.)
	• Train loading - 24 hours/7 days per week	• No change
	• General Maintenance and Environmental Management Control – not specified	• 24 hours/7 days per week as required, including vehicles/trucks moving in and out of the site for maintenance purposes, as required
Rehabilitation	• Rehabilitation of the Project Area	• No change
Workforce Numbers	• Operation – an additional 16 jobs at full capacity	• Operation – 22 full time equivalent positions
	• Construction and Decommissioning – up to 155 jobs	• Construction, pre-clearing, rehabilitation and decommissioning – in the order of 120 jobs over the life of the construction/decommissioning, with a peak of 20-30 construction workers in any given phase.
Infrastructure Construction Activities	• New access road and driveway including a bridge over the existing railway line	• Further engineering design work has been undertaken on the access road. Access road and bridge is estimated to be completed within 4 years following Project Approval, subject to gaining relevant Road Act approvals from DSC for the intersection with Dungog Road and ARTC approvals and scheduled construction window to complete the railway bridge. The duration of construction work is estimated to be 50 weeks.
	• Potential extension of internal rail siding	• No change (Revised rail spur footprint following further design options).

Key Project Feature	Original Project (as per the exhibited EIS, 2016)	Revised Project (as per the ADA, 2021)
Product Transportation	• Maximum 215 loaded product trucks per day (430 movements per day)	• Maximum of 140 loaded product trucks (280 movements) per day for up to 50 days per year otherwise up to 100 laden trucks per day (200 movements)
	• Maximum 40 loaded product trucks per hour (80 movements) per hour	• Maximum of 20 loaded product trucks (40 movements) per hour between 7.00am and 3.00pm • Maximum of 15 loaded product trucks (30 movements) per hour between 3.00pm and 6.00pm
	• Maintain the ability to transport quarry material via rail	• No change
Road haul route	• Route 1 - Martins Creek Quarry via Station Street, Grace Avenue, Dungog Road, Gresford Road, Tocal Road, Paterson Road, Flat Road, Pitnacree Road, Melbourne Street, New England Highway	• No change to Primary Haul Route 1, however after the bridge and new access road is constructed there will be no haulage along Station Street and Grace Avenue
	• Route 2 - Martins Creek Quarry via Station Street, Grace Avenue, Dungog Road, Gresford Road, Butterwick Road, Clarence Town Road, Brandy Hill Drive, Seaham Road	• No change

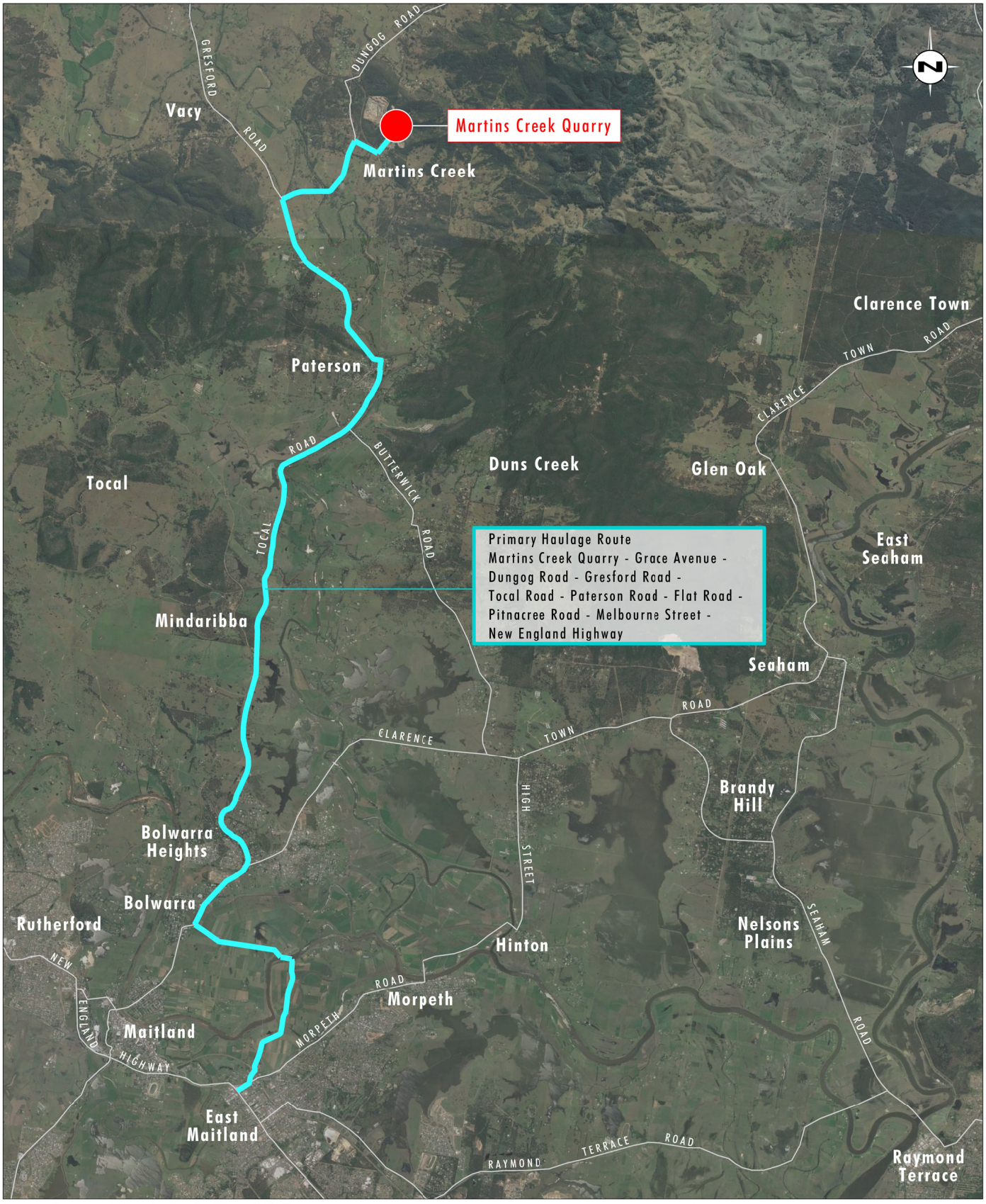


Image Source: Google Earth (Aug 2018)

0 2 4 6km

1:120 000

Legend

Primary Haulage Route

FIGURE 2.1

Project Locality and Primary Haul Route

2.2 Quarry Workforce

When the quarry is operating at full capacity, the workforce for quarry and haulage operations are expected to be approximately 22 full time equivalent employees, creating further employment as a result of the following activities:

- transport
- suppliers
- external compliance and monitoring.

In addition, contractors will be periodically engaged for various activities during the life of the quarry and may total in the order of 20 to 30 personnel.

Construction activities following the commencement of the Revised Project will occur at different times throughout the first five years (as described in **Table 2.2**). Each of the construction activities will occur over different durations and may not all occur simultaneously. The total duration of construction activities related to the new quarry access road, quarry access road intersection with Dungog Road and the quarry access road bridge over the Main Northern railway line, is expected to be approximately 12 months.

In the order of 120 jobs will be generated over the life of the construction and decommissioning activities, with a peak of 20-30 construction workers in any given phase.

Table 2.2 Construction Activities

Project Stage	Construction Activities
Project Approval to Year 5	• New quarry access road/quarry access road intersection with Dungog Road/ quarry access road bridge over the Main Northern railway line/upgrades to intersections on haulage routes/upgrade to approach to Gostwyck Bridge. • Construction of new weighbridge, offices, carparking and vehicle wheel wash. • Noise wall in the Processing Area. • Noise barriers on internal haul road. • Noise wall at the boundary of Southern Stockpile Area. • Sound attenuation of Primary Crusher Building, Secondary Crusher Building, Rail Loading Screen and surge bin. • Rail siding extension.
Year 20 to final	• Decommission of fixed crushing and processing plant and installation of mobile crushers and screens.
	• Decommission all remaining quarry infrastructure including offices, weighbridge, wheel wash, portable crushing equipment.

More broadly the Daracon Group employees approximately 800 people across NSW, 141 of which reside within 40 km of the quarry.

3.0 SIA Methodology

SIA is an approach to predicting and assessing the likely consequences of a proposed action in social terms and developing options and opportunities to improve social outcomes. Best practice SIA is participatory and involves understanding impacts from the perspectives of those involved in a personal, community, social or cultural sense, to provide a complete picture of potential impacts, their context and meaning.

In developing the SIA approach that has been used to assess the potential impacts arising from the Revised Project, Umwelt has considered both international best practice SIA principles and the NSW SIA Guideline. The following sections provide a summary of each of these principles, guidelines and ethical considerations and how they have been integrated within the current SIA process for the Revised Project.

3.1 International SIA Principles

The generally agreed international principles relating to SIA (Vanclay 2003) identify social impacts as the matters affecting, directly or indirectly:

- People's **way of life**, that is: how they live, work, play and interact with one another on a day to day basis.
- The **community**, that is: its cohesion, stability, character, services and facilities.
- **Access to and use of infrastructure, services and facilities,** whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups.
- Their **culture,** that is: their shared beliefs, customs, values and language or dialect.
- Their **health and wellbeing:** health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity.
- Their **surroundings**, such as: the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
- Their **personal and property rights,** particularly whether people are economically affected or experience personal disadvantage which may include a violation of their civil liberties.
- Their **political and decision-making system**, such as the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- Their **fears and aspirations**, that is: their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of social disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced.

Monitoring and evaluation are also key components of an SIA process to identify any unanticipated impacts that may arise in the future as a result of the Revised Project.

3.2 NSW SIA Guideline

As highlighted at **Section 1.0**, this SIA has been prepared in accordance with the NSW SIA Guideline (DPE 2017) and additional feedback from the DPE on the Original SIA (2016) and has been reviewed against *Appendix D Review Requirements* of the SIA Guideline (refer to **Appendix 1**).

A signed declaration certifying that the revised SIA does not contain false or misleading information is provided at **Appendix 2**.

The revised SIA has been prepared by a suitably qualified and experienced lead author and social team. The lead author is Karen Lamb, Principal Social Consultant at Umwelt. Ms Lamb's *Curriculum Vitae* is provided at **Appendix 3.**

3.3 SIA Principles and Ethical Conduct

Consideration has been made of ethical considerations that apply to research involving humans, with particular focus on the principles identified in the SIA Guideline (refer to **Table 3.1** below).

Table 3.1 Principles Identified in SIA Guideline

Principles	Description	How this SIA has considered each Principle
Action-oriented	Delivers outcomes that are practical, achievable and effective.	Stakeholders involved in identifying impacts for consideration in the assessment process. Potential mitigation and management measures identified.
Adaptive	Establishes systems to actively respond to new or different circumstances and information and support continuous improvement.	SIA methodology that is adaptive to changing circumstances. Engagement undertaken via a range of methods/mechanisms and at key phases of the assessment process to identify community perceptions of the Project and outcomes of technical studies. Mitigation and management measures identified to support continuous improvement.
Distributive equity	Considers how social impacts are distributed within the current generation (particularly across vulnerable and under-represented groups) and between current and future generations.	Social Baseline Profile that considers vulnerabilities and resilience of individuals and communities and their ability to respond to change. Assessment of social impacts across differing stakeholder groups.

Principles	Description	How this SIA has considered each Principle
Impartial	Is undertaken in a fair, unbiased manner and follows relevant ethical standards.	Independent assessment that respects the confidentiality of participants and which outlines the ways in which participants can be involved in the SIA process and the project assessment more broadly. Community perceptions of impact documented and reported.
Inclusive	Seeks to hear, understand and respect the perspectives of the full diversity of potentially affected groups of people. It is also informed by respectful, meaningful and effective engagement that is tailored to suit the needs of those being engaged (for example, culturally sensitive, accessible).	Multiple mechanisms and tools used to engage key stakeholders. Stakeholder perspectives of impacts that may be experienced are fully documented in sections of the SIA report, with stakeholder perceived risk noted in predicting social impacts.
Integrated	Uses and references relevant information and analysis from other assessments to avoid duplication and double counting of impacts in the EIS. It also supports effective integration of social, economic and environmental considerations in decision-making.	Full overview of research methodology including information sources utilised and referenced throughout the document. Regular meetings with the Project team throughout the assessment program has provided opportunities to effectively align assessment outcomes with the broader ADA process, undertaken by Umwelt (Australia), to inform Project refinements. Outcomes from environmental and other technical studies are considered and cross referenced as applicable within the SIA. Previous assessment reports and studies considered in the baseline study component of the SIA.
Life cycle focus	Seeks to understand potential impacts (including cumulative impacts) at all project stages, from pre-construction to post closure.	Consideration of all social impact categories as defined in the SIA Guideline, including cumulative impacts.
Material	Identifies which potential social impacts matter the most, and/or pose the greatest risk to those expected to be affected.	Risking for impacts from the perspectives of those potentially affected (stakeholder perceived risk) and through relevant social analyses and considerations of technical study outcomes.
Precautionary	If there is a threat of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental (including social) degradation.	Potential impacts have been assessed and ranked utilising the approach recommended in the SIA Guideline, and potential mitigation and enhancement strategies identified.

Principles	Description	How this SIA has considered each Principle
Proportionate	Scope and scale should correspond to the potential social impacts.	Impacts have been assessed according to impact characteristics outlined in the SIA Guideline and highlight the key social impacts associated with the proposed Project.
Rigorous	Uses appropriate, accepted social science methods and robust evidence from authoritative sources.	The research methodology adopted for the assessment is detailed and information sources noted throughout the document. Project team comprising relevant social science expertise.
Transparent	Information, methods and assumptions are explained, justified and accessible; and people can see how their input has been considered.	Process of recording outlined to interview participants, with copies of interview transcripts provided on request for review and confirmation. Voluntary participation in the assessment and engagement program, with no coercion. Outline of the project and the SIA process with a right to withdraw involvement at any stage of the process. Confidentiality of personal matters with engagement outcomes expressed collectively, no individual identification. Data coding and protection.

3.4 SIA Approach and Methodology

A best practice approach to SIA has been adopted for the Revised Project that integrates international (Vanclay 2003) and the NSW SIA Guideline (DPE 2017) requirements and feedback from the DPE as part of the response to the EIS for the Original Project in 2016.

In line with best practice, preparation of the revised SIA to support the ADA and RtS process has involved a number of key phases of work that includes:

- **Preparatory Planning** - undertaking appropriate planning for the Revised Project with the review of submissions made on the EIS for the Original Project and the development of a stakeholder engagement strategy to inform the preparation of the SIA.
- **Profiling** - defining the baseline social context in which the Revised Project is based.
- **Scoping** - identifying key social impacts/issues relevant to the Revised Project.
- **Assessment and Prediction of Impacts** - evaluating and predicting positive and negative social impacts.
- **Strategy Development** - identifying strategies to minimise negative impacts and enhance positive impacts associated with the Revised Project.

- **Monitoring and Evaluation** – development of a framework outlining how social impacts should be monitored and evaluated should the Revised Project proceed.

Engagement with the community has also been undertaken at key phases of the SIA, to afford a participatory approach to assessment and the involvement of the community and other local and regional stakeholders in the clarification and confirmation of issues and concerns and in the identification of strategies to address negative and enhance positive impacts relating to the Revised Project.

3.4.1 Preparatory Planning - Submission Analysis

A key first step of the planning phase for the revised SIA was an extensive review and analysis of the 887 submissions made by both government agencies and the broader public on the EIS for the Original Project which was on public exhibition between 13 October and 24 November 2016.

The submission analysis for the purposes of the revised SIA focused on the 873 submissions (excluding duplicates) from non-government agencies and members of the public including:

- Community and Interest Groups (seven (7) submissions)
- Organisations (81 submissions)
- Members of the public (785 submissions).

Submissions were lodged by the following community representative and special interest groups:

- Martins Creek Quarry Action Group
- Hunter Environment Lobby
- Voice of Wallalong and Woodville
- Bolwarra Heights Community Group
- Morpeth Heritage Conservation Group
- Paterson Progress Association
- Brandy Hill and Seaham Action Group

The top ten suburbs ranked by the number of submissions are documented in **Figure 3.1.** The majority of submission received were received from Paterson, Bolwarra Heights and Martins Creek.

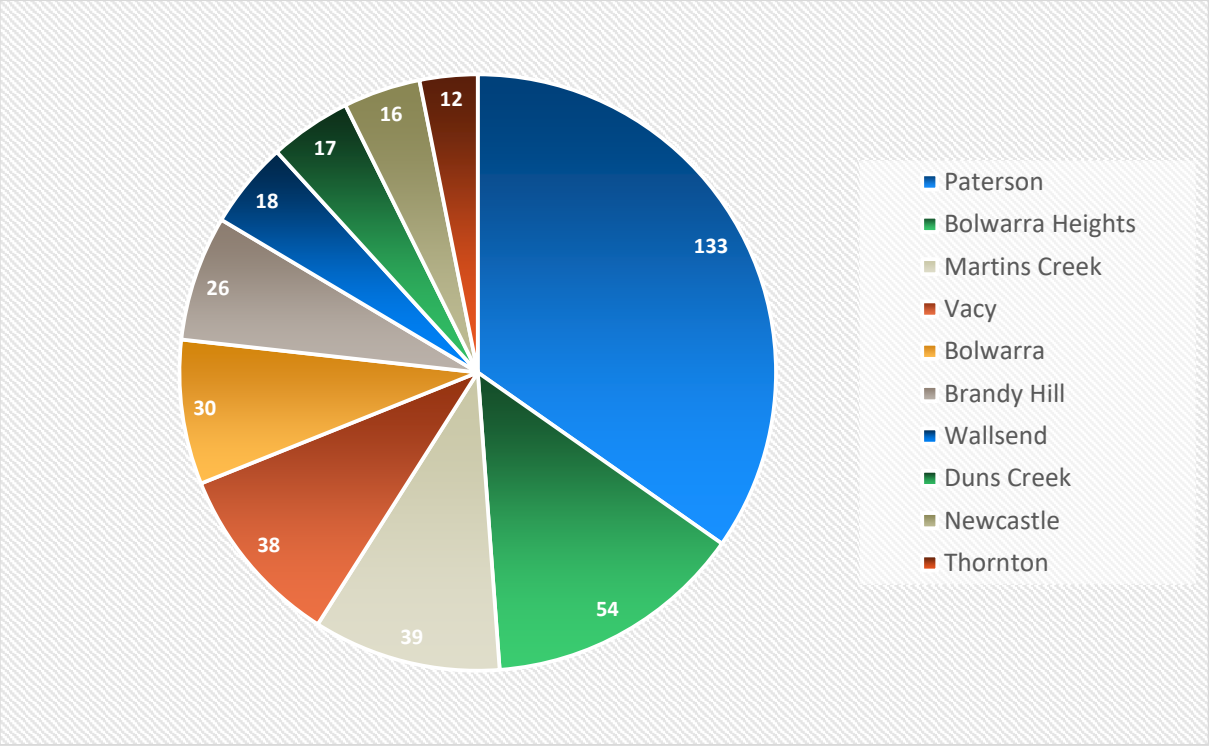


Figure 3.1 Top Ten Suburbs by Number of Submissions

Further detail on issues identified within the reviewed submissions is provided in **Part B** of the ADA and RtS document and in **Section 4.5** of this SIA report.

3.5 Program Participants

Social impact assessment involves the cooperation and coordination of a number of 'social partners' or 'stakeholders'. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live nearby a resource/project
- may have to relocate as a result of the project
- have an interest in the proposed action or change
- use or value a resource
- are interested in the use of the resource.

As part of preparing a SIA for the Revised Project, a wide range of stakeholders have been identified and involved over a number of key phases (refer to **Figure 3.2**).



Figure 3.2 Identified Stakeholders

Stakeholder identification was largely undertaken using inputs from a number of sources including:

- Review of publicly available documents undertaken to support the profiling of the local and regional community (including a review of recent media and local community service directories) and the identification of salient stakeholder issues in the relevant communities.
- Outcomes of historical engagement (where available).
- Review of submissions on the EIS for the Original Project (Monteath & Powys 2016).
- Snowball sampling i.e., contacts made from initial sources providing contact details of additional stakeholders to be engaged.

Key stakeholder groups who were engaged to inform the SIA include:

- Residents and community members living in proximity to either the quarry or the proposed haul route, including representatives from special interest and community groups[2]
- Key stakeholders including service providers, local businesses and a representative from a local Indigenous group.[3]

In addition to the above, 17 Registered Aboriginal Parties (RAPs) were also specifically consulted during the Original EIS with regards to cultural heritage and associated values within the Project area.

Stakeholders were contacted via multiple means, including via phone and emails. Additional contact attempts were also made with those community stakeholders who had responded that they would be in contact with the project team should they decide they were interested in participating in an interview.

[2] Consulted representatives from these groups were also often commenting as a member of the community, given that is where they resided,

[3] A representative from the Mindaribba Local Aboriginal Land Council participated during Round 1 consultation activities but did not respond to requests by telephone and email to participate during subsequent consultation activities.

Relatively low rates of decline were recorded during the SIA process, with reasons for decline largely included lack of interest or too busy to complete a survey/interview. To a lesser extent, stakeholder decline was attributed to being unaffected by the Revised Project, consultation fatigue or perceived conflict of interest (as an employee) or the stakeholder had moved from the area.

Table 3.2 provides an overview of the number of stakeholders consulted across each stakeholder group category during the preparation of the SIA for the Revised Project. This excludes consultation with government agencies and stakeholders included in those engagement activities to inform the ADA and RtS more broadly which are outlined within that report. However, it should be noted that some stakeholders were engaged via multiple mechanism and in both rounds. **Table 3.2** summarises contacts and refusal rates.

Table 3.2 SIA Engagement Contacts Summary

Stakeholder Category	Number contacted / Invited	Direct Consultation (face to face, phone or via online survey)	Contact attempted but no response received	Declined	Number disconnected
Personal Interview and Surveys Round One					
Residents and community members near the Revised Project or Haul Route (including members of special interest community groups)*	200	68	111	10	13
Key stakeholders including local businesses, service providers and Indigenous	26	16	3	7	
Personal Interview and Surveys Round Two					
Residents and community members near the Revised Project or Haul Route (including members of special interest community groups)	150	107	26	5	5
Key stakeholders including local businesses, service providers and Indigenous stakeholders	22	7	12	4	
Collaborative Assessment Forums (CAFs)					
Air Quality and Blasting	48	16			
Traffic and Transport	70	39 (across 2 forums)			

Stakeholder Category	Number contacted / Invited	Direct Consultation (face to face, phone or via online survey)	Contact attempted but no response received	Declined	Number disconnected
Noise	47 (with an additional 100 notified of the session via email)	Online – 5 registered attendees with additional non-registered attendees also online			
Social Impact Assessment	85	27 (across 2 forums)			
Total*		**285**			

Note: Some stakeholders contacted the Project team directly, therefore row totals may be different.
* Some stakeholders participated in multiple mechanisms and have been consulted over both rounds.

The number of consulted stakeholders by locality are outlined at **Table 3.3**.

Table 3.3 Consulted Stakeholders by Location - Personal Interviews and Surveys

Stakeholder Category	Post Code*	Locality	Number of Participants		
			Round One	Round Two	Total
Residents / Community Interest Group Members	2320	Bolwarra	4	5	9
		Bolwarra Heights	4	10	14
		Maitland	-	1	1
		Mindaribba	-	1	1
	2321	Duns Creek	2	2	4
		Woodville	1	1	2
	2324	Brandy Hill	3	2	5
	2381	Premier	-	1	1
	2420	Hilldale	2	1	3
		Martins Creek	12	28	40
		Wallarobba	-	1	1
	2421	Paterson	23	31	54
		Vacy	17	6	23
	-	Missing / Unknown**	1	17	18
	Sub Total		**69**	**107**	**176**
Businesses and service providers		Maitland	1	-	1
	2323	East Maitland	1	-	1
		Martins Creek	1	-	1
		Dungog	1	-	1
	2421	Paterson	6	**7**	13
		Vacy	1	-	1
		Tocal	1	-	1
	-	Other (Gresford, Lukintyre and Thornton)	3	7	3
	Sub Total		**15**	**7**	**22**
TOTAL			**84**	**114**	**198**

*During online surveys, participants provided their postcode which can apply to numerous localities.

**Some online survey participants refrained from noting their location of residence.

3.5.1 Social Assessment and Engagement Mechanisms

Engagement has been undertaken at key phases of the assessment, namely in the identification of the Project issues and impacts and in the feedback of assessment studies and identification of appropriate strategies to mitigate or enhance Project impacts.

Engagement to inform the SIA has been undertaken over two main rounds. Round One was held in June – August 2018 with the objective being to confirm and further explore issues of concern associated with the Project as identified during the previous EIS public exhibition and submission phase.

In September 2019, the quarry was placed into limited operations, and Daracon continued to complete further Project feasibility investigations, detailed quarry design refinements and explored potential additional mitigation measures, taking into consideration the outcomes of engagement activities to date.

Between July and December 2020, a second phase of targeted engagement activities was undertaken (Round Two) with all stakeholders consulted in Round One offered the opportunity to participate. Expressions of interest were also sought more broadly. The purpose of this second round was to introduce a series of further refinements to the Project that had been proposed in response to engagement outcomes to date, and to seek community input on the extent which these refinements addressed identified concerns.

In addition to the above, community members also participated in Collaborative Assessment Forums (CAFs) addressing air quality and blasting (March 2019) and traffic and transportation (July 2019), noise (December 2020 online) and social impacts (February 2021). The purpose of the CAFs was to present the draft outcomes of the studies, collect community feedback on identified outcomes and currently proposed mitigation measures, and to allow for the suggestion of additional strategies. These forums were purposively small group forums, as opposed to public information sessions to allow for more meaningful discussion and consideration of study outcomes.

Residents were largely drawn from the localities neighbouring the Martins Creek Quarry including Martins Creek itself, Paterson and Vacy. The views of those residents and community members located along haulage routes, i.e., Bolwarra and Bolwarra Heights were also sought via invitations to participate in the engagement program, with invitations shared via a number of mechanisms including:

- Representative community and special interest groups (e.g., Bolwarra Heights Community Group, Paterson Progress Association and the Brandy Hill Seaham Action Group, etc.)
- An expression of interest to participate in engagement activities or to have a personal interview included in the Community Information Sheets No. 1 and 2.
- Notices included in the Paterson Psst.
- Via a dedicated Martins Creek Quarry Social Pinpoint page.

All those expressing an interest were offered an interview and included in a register of interested stakeholders.

Engagement activities were largely focused on the identification of participants:

- Knowledge of the quarry existing operations and level of support for these operations.
- Specific issues of concern associated with quarrying operations as they existed at the time of the original EIS and also associated with the Revised Project (top of mind response or unprompted issues).

- Levels of concern attached to a series of potential (prompted) issues that may be relevant to the Project as guided by the review of submissions on the original EIS and have also that have been known to occur in similar project types, i.e., quarrying activities.

- Levels of satisfaction attached to the range of proposed Project refinements Suggestions of mitigation and management measures to address identified impacts.

- Potential areas of social investment to be considered by Daracon in the future should the Project be approved.

- Preferences for engagement and information provision in the future.

While the data gathered to inform the following sections of the SIA has largely been obtained via personal and telephone interviews and discussions, interactions with community members at the Vacy Fair (9 September 2018) and at the series of topic-specific CAFs and online forums held during (2019-2020) have also been included where relevant to inform the SIA along with submissions and community presentations made on the original EIS.

Table 3.4 provides a summary of the assessment and engagement mechanisms that have been utilised in the preparation of the SIA for the Revised Project. The consultation identified below has been further complimented by engagement undertaken by the broader team with State government agencies and other key stakeholders in the course of other operational and technical assessment activities. Further detail of the full extent of consultation undertaken for the Revised Project is summarised within the ADA and RtS document.

Consultation was undertaken through a multiple number of key engagement activities which have been outlined in **Table 3.5.** These are in addition to engagement mechanisms historically undertaken by Daracon (**Table 3.6**) and those specifically to inform the Original EIS (**Table 3.7**).

Table 3.4 Summary of Social Assessment Methods by SIA Phase

Method	Description
Assessment Methods	
Phase 1	**Program Planning**
Review and Analysis of Existing Company Consultation Mechanisms	Review and analysis of company engagement data including meetings, phone calls, newsletter and community complaints.
Review and Analysis of Submissions and Existing Company Consultation Mechanisms	Extensive review of submissions made on the EIS for the Original Project – 887 submissions made by both government agencies and the broader public. Review and analysis of company engagement data including historical minutes of the Martins Creek Quarry Community Consultative Committee (CCC) meetings and community complaints.
Development of Stakeholder Engagement Strategy	Development of a tailored approach to stakeholder engagement support the preparation of the revised SIA.
Re-establishing Stakeholder Contact, Issue Feedback and Validation	Discussions with and presentations to key groups (both government agency and community representative groups) with regards to the proposed approach to the RtS generally, and the revised SIA specifically, and engagement activities moving forward. Distribution of an information sheet summarising submission analysis outcomes and requesting expressions of interest for participation in the engagement program. This included feedback of issues identified during the submission analysis process.
Phase 2	**Community Profiling**
Community Capitals Analysis	Assessment and analysis of ABS Census data and other relevant social and community indicators and data sets to develop a detailed social baseline profile of the communities of interest building on the work that had been undertaken in the original SIA (Monteath & Powys 2016). Areas of existing community resilience and vulnerability have been identified through application of a community capitals analysis (refer to **Section 5.6)**.
Operational Context	A review of relevant company information such as employment information and social investment activities to support an understanding of the social and economic linkages between the quarry and the local and regional community.
Post Impact Studies Analysis	Review and analysis of secondary data (including local histories, local government strategic plans and assessment studies, local media, previous EIS/SIA studies, operational complaints) and primary data collected through stakeholder interviews, to understand historical, existing and emerging issues and opportunities within the community.

Method	Description
Phase 3	**Scoping of Issues and Opportunities**
Further review and analysis of submissions	Further review of submissions made on the EIS for the Original Project in the development and consideration of a range of project refinements.
Round One: Key Stakeholder Issues Analysis	Initial round of personal and telephone interviews with neighbouring residents, local businesses and other key local stakeholders to confirm the issues and opportunities relating to the Revised Project as identified via the submission review process undertaken at Phase 1. This Phase also involved presenting to stakeholders proposed changes to the Revised Project as originally proposed and determining if these resulted in any change in the concerns identified or levels of associated concern. Ranking of identified issues and opportunities by relative frequency.
Phase 4	**Assessment of Impacts and Opportunities**
Social Risking	Identification of unmitigated and mitigated social risks/impacts associated with the Revised Project.
Key Stakeholder issues analysis – impacts and opportunities	Engagement with neighbouring residents, local business and other key stakeholders (via face-to-face and phone interviews and online surveys) to seek further feedback on issues and opportunities relating to the Revised Project, particularly in light of further proposed changes to the Project. Further targeted engagement on specific issues and strategies with key stakeholders, i.e. proximal residents regarding noise impact assessment outcomes and Paterson businesses regarding proposed intersection upgrades, parking and road changes.
Collaborative Assessment Forums – Impacts, Opportunities and Strategy Development	Facilitation of a series of forums to present and discuss outcomes of technical assessments on key issues of concern, identify any further perceived issues and opportunities relating to the Revised Project and further discuss possible strategies to mitigate impacts and enhance opportunities.
Phase 5	**Prediction of Impact and Strategy Development**
Social Risk Matrix	Categorisation of impacts by social impact category and theme. Identification of perceived and technical Project risk. Prediction of significant social impacts relating to the Project based on assessment of key impact characteristics: extent, duration, severity and sensitivity.
Social Impact Management and Residual Risk Ranking	Identification and development of appropriate strategies to address predicted Revised Project impacts. Minimisation of high and medium-ranked social impacts where possible through commitment to relevant management and enhancement strategies.

Table 3.5 Engagement and Communication Methods

Method	Target Stakeholder Group	Description
Personal interviews	Residents and landholders in the locality/regional community	Personal (face to face and phone) meetings with proximal neighbours and other community members to validate issues of concern and social impacts identified during submission analysis and identify additional issues and possible mitigation and enhancement strategies and views on proposed project changes and the extent to which they addressed impacts. Interviews were held over two main rounds.
	Local residents and landholders proximal to the quarry	Personal (face to face and phone) meetings with landholders proximal to the quarry to discuss the outcomes of noise impact assessment, collect stakeholder feedback and suggestions for mitigation measures. This engagement was undertaken by Daracon representatives and noise specialist and involved: • July - August 2020: engagement with Martins Creek residents (Station Street and Cory Street) on further work to reduce future noise impacts. • November - December 2020: engagement with landholders in close proximity to the quarry with potential operational noise impacts, including personal visits and delivery of property-specific information regarding draft noise impact assessment results and proposed mitigation measures. • 70 property-specific information sheets were prepared and personally delivered to landholders.
	Key stakeholder groups	Project briefings, meetings and personal interviews with a range of key stakeholder groups and organisations and / or their representatives including: • Bolwarra Heights Community Group • Brandy Hill and Seaham Action • Country Women's Association • Martins Creek Quarry Action Group • Paterson Progress Association • Voice of Wallalong and Woodville • Mindaribba Local Aboriginal Land Council.

Method	Target Stakeholder Group	Description
	Businesses and service providers	Personal interviews to identify specific issues of concern and associated appropriate management responses. Interviews with businesses and service providers also informed consideration of specific issues included within the SIA. • CBC Bed & Breakfast & Café • Court House Hotel • Dillon & Sons (Dungog) • Grace Coaches • Hunter Valley Buses • Linq Buslines • Paterson Public School • Tilly's Childcare Centre • Tocal College • Vacy Primary School • Paterson Auto Repairs • Paterson Gallery • Paterson Tavern • PRD Real Estate (East Maitland) • River Realty (Maitland) • Stockers and Partridge • Stylz on Track Hairdresser

Method	Target Stakeholder Group	Description
Project Briefings	Martins Creek Quarry Action Group	Members of the Umwelt project team and representatives from Daracon attended four formal MCQAG meetings through the RtS and ADA process. • **26 March 2018**: Introduction to Umwelt and the Response to Submissions process, outcomes of the submission analysis and proposed approach to the RtS document preparation and accompanying engagement program. • **22 May 2018**: Discussion of proposed changes to the existing operations, a RtS status update and upcoming engaged activities. • **18 December 2018**: General update, review of the SSD approval path, study updates and future engagement opportunities. • **10 September 2020**: General update of activities undertaken since quarry placed in limited operations in September 2019 and proposed activities moving forward. In addition, on 9 January 2019 MCQAG representatives attended the Umwelt office to provide the Project team an overview of history of quarry and the Group's key concerns relating to the Revised Project. MCQAG representatives also attended each of the CAFs outlined below. Each of these above meetings have also provided the opportunity for members of MCQAG to identify issues of concern regarding the Project, their suggestions for possible management mechanisms. **Appendix 4** provides written submissions and feedback from MCQAG relating to the Revised Project.
	Community Consultative Committee (CCC)	Briefing to previous members of the Martins Creek Quarry CCC to share information about the RtS process and obtain committee member feedback on the proposed approach (22 May 2018).

Method	Target Stakeholder Group	Description
	Government agencies and elected representatives (Umwelt project team and Daracon)	Briefings and personal meetings with relevant government representatives (local, state and federal) to present the Revised Project and obtain feedback on Revised Project aspects. Agencies and groups consulted have included the following: • DPIE • Transport for NSW • Crown Lands • EPA • Natural Resources Access Regulator (NRAR) • Dungog Shire Council • Maitland City Council • Port Stephens Council • Australian Rail Track Corporation (ARTC) • Hunter Business Chamber
Community Project Information Sheets	Residents and landholders in the locality/ Regional community	Development and distribution of Community Information Sheets to near neighbours and key stakeholders at key stages. Each information sheet also provided Daracon and Umwelt contact details for further information and/or to request a personal project interview or briefing. Community Information Sheets were distributed to approximately 3700 households nearby to the Revised Project and along the haulage route including Martins Creek, Vacy, Paterson, Tocal, Bolwarra, Bolwarra Heights, Duns Creek, Mindaribba and Woodville.

Method	Target Stakeholder Group	Description
		Community Information Sheet 1 (June 2018): Included at Appendix 5. - Included a Revised Project update post EIS public exhibition, outcomes of submission analysis and identified issues of concern and an overview of the RtS process. **Community Information Sheet 2 (July 2020):** Included at Appendix 5. - Outlined key Revised Project changes that were made in light of feedback from community engagement activities since 2019. - Discussed the ADA and RtS process and key steps to date and moving forward - Introduced Social Pinpoint, an online engagement platform for information provision, including Revised Project presentations and information sheets and encouraged in ongoing engagement either via the discussion forums and survey tools. **Community Information Sheet 3 (May 2021):** A third information sheet in booklet form to be distributed that summarises the outcomes of all technical studies. The Community Information Sheets were distributed to approximately 3700 households nearby to the Revised Project and along the haulage route including Martins Creek, Vacy, Paterson, Tocal, Bolwarra, Bolwarra Heights, Duns Creek, Mindaribba and Woodville. Community Information Sheet 1 was distributed via Australia Post's unaddressed mail service. Community Information Sheet 2 was hand delivered, due to community feedback that some residents did not receive the first Information Sheet. Copies of both were also left in prominent locations, i.e., Paterson Post Office, Dungog Shire Council building, Vacy General Store, Paterson Country Café and Daracon reception. An electronic version was also emailed to local community representative groups for their information and distribution to their members, e.g., Martins Creek Quarry Action Group. Information sheets were also emailed to members of the community who contacted the Project Team and indicated that they had not received a copy by Post but would be interested in receiving with copies also made available on both the Project's Social Pinpoint page (https://umwelt.mysocialpinpoint.com/martins-creek-quarry) and Daracon websites. The same process is planned for Community Information Sheet 3.

Method	Target Stakeholder Group	Description
Collaborative Assessment Forums	Those residents and landholders in the locality/ regional community identifying an interest in being involved. Outcomes also distributed more broadly via Social Pinpoint.	Prior to each CAF, participants were provided with pre-read materials outlining key information relating to the CAF topic, to inform their participation. After each CAF participants were provided with an information pack containing (as relevant): • Summary of the meeting notes including issues and questions captured in the CAF. • A copy of the presentation slides from the CAF. • Feedback relating to the issues raised in the CAF including: o Frequently Asked Questions, with answers based on information available to date, and o Commitments from Daracon in response to the community's feedback, including short term actions to be implemented as part of current operations, further investigations as part of the current assessment process, and management strategies relating to future operation
Updates in the Paterson Psst	Paterson residents Paterson Psst readership	Updates included in the local Paterson Psst community newsletter at key project stages: **July 2018:** to inform the community that Umwelt consultants were undertaking engagement activities to discuss the status of and seek views on Daracon's proposed Revised Project and to invite them to make contact if they would like to have a meeting or discussion. **February 2019:** to provide an update with regards to the Collaborative Assessment Forums series on key issues of concern and encourage community members to register interest if they had not done so already. **September 2020:** to inform the community that Daracon have considered community input and have completed further Revised Project feasibility investigations, detailed design refinements and have considered additional mitigation measures. To inform that the Community Information Sheet No.2 has been distributed and to acknowledge the appointment of Daracon's Community Liaison Representative and development of the Social Pinpoint engagement platform. **October 2020:** to inform the community that there had been additional information uploaded to Social Pinpoint with responses to some frequently asked questions and provide contacts details of the team if they wanted additional information. A number of requests to include Project updates and clarifications of Project details within the Paterson Psst post October 2020 were rejected for publication.
Online survey	Residents and landholders in the locality/ regional community	Development of an online survey that was made available to community members via email (sent to over 160 email addresses) and on the Social Pinpoint website.

Method	Target Stakeholder Group	Description
Email and phone correspondence	All interested stakeholders	Phone calls and emails relating to the SIA process to landholders, as required, to organise meetings, provide information and/or respond to questions relating to the SIA process, including the Collaborative Assessment Forums.
Social Pinpoint Website	All stakeholders	Provision of a Social Pinpoint website (https://umwelt.mysocialpinpoint.com/martins-creek-quarry), an online interactive engagement platform providing key Revised Project information and access to the SIA consultation tool to facilitate meaningful engagement and to keep the community informed throughout the assessment process. Site included information relating to Revised Project design changes, information sheets, CAF pre-read material, presentations and outcome summaries, and Q&A of frequently asked questions. The Social Pinpoint site also included links to the online survey and communication portals where community members could subscribe to receive project updates or log a question for the project team. When new content was uploaded to Social Pinpoint, an email notification was sent to stakeholders who had registered interest in receiving project updates (over 160 email addresses).
Daracon Website	All stakeholders	Provision of information relating to the Revised Project, including copies of information sheets and other information committed to at the CAFs, made available on the Daracon website. For example: • Blast notification protocol • Provision of data from additional dust deposition gauge established at View Street • Code of Conduct • Links to Social Pinpoint site • Community Information Sheets
Vacy Fair Stall	Broader community	Drop-in stall at the Vacy Fair on 9 September 2018 to share information about the RtS process, proposed technical studies to be undertaken to address DPE feedback on the EIS for the Original Project and to provide a forum for feedback. Staff from Daracon and Umwelt were present to address questions.

In the addition to the above, Daracon has also utilised a range of mechanisms for engaging with their stakeholders as part of standard business operations (refer to **Table 3.6**) and also specifically for the purposes of the EIS process for the Original Project (refer to **Table 3.7**) and more recently engaged a dedicated Community Liaison Representative for the quarry with the intent that this role will continue should the Revised Project be approved to provide an ongoing conduit between the company and the community.

Table 3.6 Daracon's Ongoing Engagement and Information Provision Mechanisms

Approach	Details
Community Complaints Line	A complaints phone number (1300 663 151) and email address (martinscreek@daracon.com.au).
Company website	A dedicated Martin's Creek Quarry page on the Daracon corporate website. MCQCCC meeting minutes and community updates are posted on this site when available. Contact details and a contact form are also provided on the website where community members can raise complaints, questions or register to receive notifications.
Letterbox drops	Letterbox drops on an as needs basis regarding issues that may be relevant to the neighbouring community, e.g., two drops in April 2015 regarding Extended Hours of Operation and in November 2017 regarding a Project progress update post EIS exhibition. Regular letterbox drops are also undertaken to provide advice of upcoming blasting activities and have also been made more recently (post commencement of limited operations in September 2019) in the event of planned operational activities under the terms of the Interim Environmental Management Plan (IEMP). Since joining Daracon's Martins Creek Quarry team, the Community Liaison Representative has also distributed 'request to contact slips' to those residences for which the company had no contact information in order to establish a mechanism for contact and information sharing.
Notification subscriptions	Email notification subscription service from Martins Creek Quarry. Primarily provides information about blasting activities at the quarry.

Table 3.7 Summary of Original EIS Engagement and Information Provision Mechanisms (2014-2016)

Approach	Details
Martins Creek Quarry Community Consultative Committee (MCQCCC) **(2014-2016)**	The MCQCCC was established in September 2014 as the main consultative mechanism and met monthly during the preparation of the EIS for the Original Project, with the first meeting held in October 2014. At the initial meeting of MCQCCC, the Chair facilitated a brief session with the group to identify issues for discussion at future meetings. The primary objectives of the MCQCCC was to provide a forum for open discussion between representatives of the company, the community, the Council and other stakeholders on issues directly relating to the development application, the quarry's current operations and community relations. The MCQCCC operated under a defined Terms of Reference established in collaboration with Dungog Shire Council and the Paterson Progress Association. Membership included an independent Chair; Dungog Shire Council (Mayor and General Manager); and representatives from local community groups including: Paterson Progress Association; Brandy Hill Action Group; Bolwarra Heights Action Group; Martins Creek village representative; MCQAG; The Voice of Wallalong and Woodville Group; and two representatives from the Martin's Creek Quarry. Members of the public were also able to attend the meetings as observers. Meeting minutes were published on the Martins Creek Quarry web page with hard copies also available at Paterson Post Office and Paterson IGA Grocery Store. The previous MCQCCC as a formal entity is no longer active, with the most recent meeting of that former group held in June 2016 where the members voted and agreed not to continue to meet. Should the Revised Project be approved, it is expected that a condition of consent will be the establishment of a Community Consultative Committee (CCC) before the commencement of construction in accordance with the DPIE's Community Consultative Committee Guidelines: State Significant Projects (2019). Daracon has committed to re-establishing the CCC and following a written request from Daracon, DPIE appointed an independent chair for the Martins Creek Quarry CCC, Mr Michael Silver in November 2020. Membership for a new CCC is yet to be established.
Public meetings	**July 2014:** A public meeting at Paterson, arranged by Dungog Shire Council on 31 July 2014. **November 2016:** Attendance at a Community Meeting facilitated by the then DPE during the public exhibition phase of the Original EIS.

Approach	Details
Key stakeholder letters and briefings (2014-2015)	Consultation with all agencies and groups identified in the EIS SEARs. Initial contact with the relevant government agencies and service providers commenced in December 2014. Contact was made to the following agencies and organisations: • Commonwealth Department of Environment • EPA • Department of Primary Industries (including NSW Office of Water) • Roads and Maritime Services (now Transport for NSW (TfNSW)) • Maitland City Council • Port Stephens Council • Dungog Shire Council • Australian Rail Track Corporation (ARTC) • Office of Environment and Heritage (now DPIE) • Office of Environment and Heritage (heritage Division) (now DPIE) • Hunter Local Land Services Rural Fire Service • Land and Property Information • Hunter Water • Essential Energy • Telstra and National Broadband Network Company • Hanson Construction Materials • Department of Trade and Investment, Regional Infrastructure and Services • Community groups representing Paterson, Bolwarra Heights, Wallalong and Woodville

Approach	Details
Personal meetings (2014-2015)	Daracon attended meetings with community and group representatives when requested throughout the development of the Original EIS. These include meetings with: • Bolwarra Residents regarding truck numbers and truck noise • Bolwarra Residents, Maitland Police, representatives from Member for Maitland Robyn Parker, Maitland Council representatives regarding traffic and truck noise • Landholders adjoining and nearby quarry • Local transport operators • Local bus companies • Local Dungog and Paterson businesses • CB Alexander College. In addition, when requested, Daracon made available consultants to meet and discuss in detail various technical aspects of the EIS with stakeholders. The proponent's blasting and geology consultants for example met with View Street residents to observe a blast from the operating quarry and discuss blasting for the proposal. The proponent's acoustics consultant has also met with a representative from the Paterson Progress Association and Martins Creek Quarry Action Group to discuss noise issues regarding the proposal.
Community Line	Daracon established a 1300 community information line for enquires regarding the Original EIS with this number advertised on the website, local telephone books and local newsletters.
Community feedback on VPA (August 2015)	Advertisements were placed in local newspapers, including the Maitland Mercury, Dungog Chronicle and Port Stephens Examiner, during August 2015, to designed to allow the broader community the opportunity to provide input into the Voluntary Planning Agreement (now Planning Agreement). Responses were received from: • Six community members • Paterson Historical Society • Tocal Agricultural College • Martins Creek Memorial Hall • Martins Creek Rural Fire Brigade • Dungog Shire Council • Port Stephens Council • Maitland Council.
Newsletter updates (2014-2017)	Periodic updates on the activities of the MCQCCC have been provided in local newsletters including The Paterson Post and Gresford News. A community update newsletter was also distributed to the community in November 2016 to summarise the Original Project when the EIS was placed on public exhibition.

3.5.1.1 Process Evaluation

According to the SIA Guidelines (DPE 2017) 'respectful, inclusive and meaningful engagement with potentially affected people and other interested parties is a fundamental part of SIA.' To ensure that engagement mechanisms used in this SIA were appropriate and meaningful a number of techniques were implemented to evaluate the engagement process.

- Residents and landholders in the localities surrounding the quarry and along the haul route were initially prioritised during Round One engagement due to their proximity to the Revised Project.
- A variety of mechanisms, including distribution of information sheets, personal letters, door knocking, phone calls, Social Pinpoint website and emails were used to ensure residents and landholders in the broader locality were also informed of the Revised Project and were invited to participate in engagement for the SIA.
- Project Information Sheets were circulated widely (to approximately 3,700 households).
- Contact details of community members interested in receiving information about the Revised Project were collected and stored in a centralised database.
- Participants were asked about their preferences for how they would like to be engaged, and this information was collected and used to inform future communications and engagement (results of this are discussed below).
- Participants were asked to provide feedback and satisfaction on engagement activities.

These practices have helped to guide the SIA engagement process to ensure that the mechanisms implemented, and information provided has afforded meaningful participation. In addition, the feedback from stakeholders helps ensure that the SIA is not just about predicting social impacts, but a process that contributes 'to the ongoing management of social issues throughout the whole Project development cycle, from conception to post-closure' (Vanclay, Esteves, Aucamp, & Franks 2015, iv).

Across both rounds of consultation, stakeholders were asked to report their preferred mechanisms of engagement and information provision, with 63 (or 80%) of participants in Round One and almost half the participants surveyed in Round Two reporting their information preferences (54). Of these, the majority preferred email communications (41; 32), followed by newsletters (35; 19) and communications through local newsletter outlets (such as MCQAG updates or the Paterson Psst) (**Figure 3.3**). Stakeholders also stated that they would prefer any written communications to be simple, short and succinct and to contain no jargon.

Several participants consulted in Round Two, noted that it may take them some time to read communications, as their association with Daracon and the quarry's operations is quite negative and they are often reluctant to open communications, and three (3) stakeholders would prefer no communications at all. Another four (4) stakeholders preferred communications be provided by Umwelt only, indicating a level of trust and objectivity in the consultation process provided by the consultancy.

> *Email is fine, in a world where everyone is busy; I admit sometimes I don't want to look at their correspondence, so I file it away to look at it later. You know, we're all busy, so the emails need to be simple and easy to read. - Round Two*

Through Umwelt via phone calls, newsletter, email. Transparency is the biggest thing. I think Umwelt have done a great job to date, you people are very nice and your very impartial. Any information provided needs to be simplified, we have a lot of elderly people in the area, and the most simplistic form of communication is through a conversation. – Round Two

When the quarry is operating – I would welcome someone from Umwelt to come and witness what I experience. – Round Two

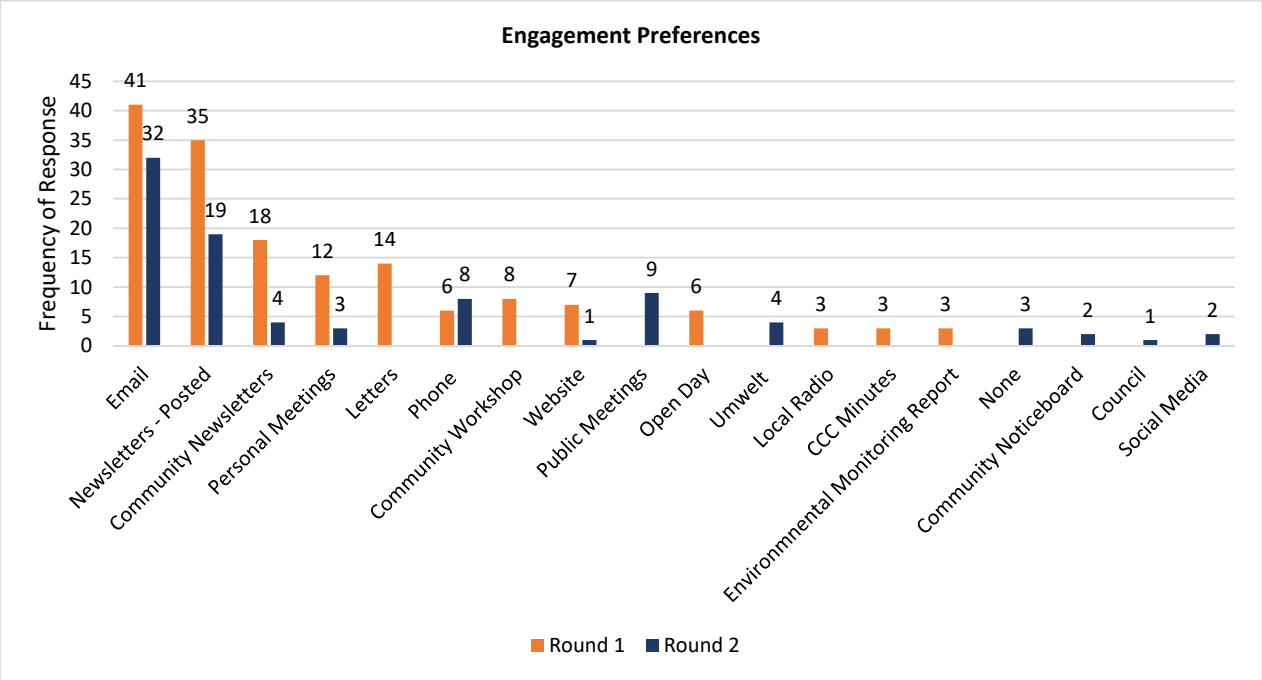


Figure 3.3 Engagement and Information Provision Preferences

Round 1 (n=63, Missing 16); Multiple response allowed.

Round 2 (n=114, Missing 55); Multiple response allowed.

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Evaluation forms were made available at each of the CAFs although limited feedback provided via this mechanism, with 8 participants completing the forms. For those did provide feedback on these, there were varying opinions expressed as to the format, usefulness and content of these sessions.

Not 100% sure we were heard, I mean REALLY heard.

Opportunity to voice concerns and ask questions.

You gave us plenty of opportunity to ask and comment. Thank you!

Q and A [session was most beneficial]. I learnt more from these exchanges than the presentation. Although the presentation was a catalyst for discussion.

This session could have gone for 8 hours and I don't think all community questions could have been answered.

Thanks for staying patient but our reality is often quite different from data.

In the light of COVID-19 health restrictions in place in NSW from March 2020 to October 2020, the ability for the community to participate in face-to-face community meetings was reduced. The level of distrust in the community with respect to information provision and transparency was notable with many stakeholders, including the MCQAG, perceiving that Daracon and Umwelt had planned Round Two consultations to coincide with COVID-19 restrictions, in order to 'divide and conquer'.

> *I think they are doing the sneaky, trying to get this going during COVID, so that people can't have public meetings and can't rally after they received their 'holiday brochure' in the mailbox. – Round Two*

> *I like to eyeball people (face to face). I don't like to do things remotely and I know that they are using COVID to hide behind that. – Round Two*

One stakeholder surveyed however, noted the limitations placed on consultations during the pandemic and offered support for a community meeting that was held online, despite being out of their comfort zone. Another stakeholder felt that public meetings were difficult to attend, and even more so with health restrictions in place. Email was also supported as a means to protect the environment from unnecessary paper waste.

Online is not effective in properly communicating to people. If they support the local papers and put their communication sheets in the local paper, the elderly people will like to read it. Young people like it online, but there is a diverse range of people here that need their needs met. – Round Two

Face to Face but I understand that is hard to do during COVID-19 restrictions. Second best preference: phone call. Newsletters are good. I'm not highly technical, but the video conference that was held last week [MCQAG 10/09/2020] worked ok. – Round Two

By email correspondence is the best way. Meetings are problematic to get to [especially with COVID restrictions in place now], but they seem to fall on a day/time that you can't get to. I work in the afternoon/nights, so it's harder for me to attend. – Round Two

Mail or email are the best; email is probably cheaper and saves paper. – Round Two

A small number of stakeholders (4) noted that the community newsletter (Paterson Psst) was a good source of information regarding the company and its operation, particularly for elderly people in the community. Throughout the assessment process a number of updates about the Project were included in the Paterson Psst (refer to **Table 3.5**) where publication timing and contribution requirements allowed.

I think they could put half a page in the Psst to help the community, tell them what they're doing, ask the community what they would like them to donate to. – Round Two

When asked about the nature of information that Round Two stakeholders would prefer to receive, project updates and the timing of implementation were the most frequently raised responses (19), whilst several participants preferred no communications at all (11). Community engagement was raised as means for effective consultation and information provision (8), with one (1) stakeholder requesting more direct consultation with DPIE.

Stakeholders also identified wanting to be kept updated with information regarding the identification of issues and impacts (7) and monitoring outcomes (5) particularly associated with adherence to truck movements and product tonnage, should the Revised Project be approved.

Several stakeholders noted a desire for blasting notifications to continue and suggested that the current mail out format works well for them (3) and a smaller number of participants requested further information regarding the approvals process (2) (**Figure 3.4**). **Table 3.8** provides stakeholder comments associated with each of the requested information themes provided during Round Two consultations.

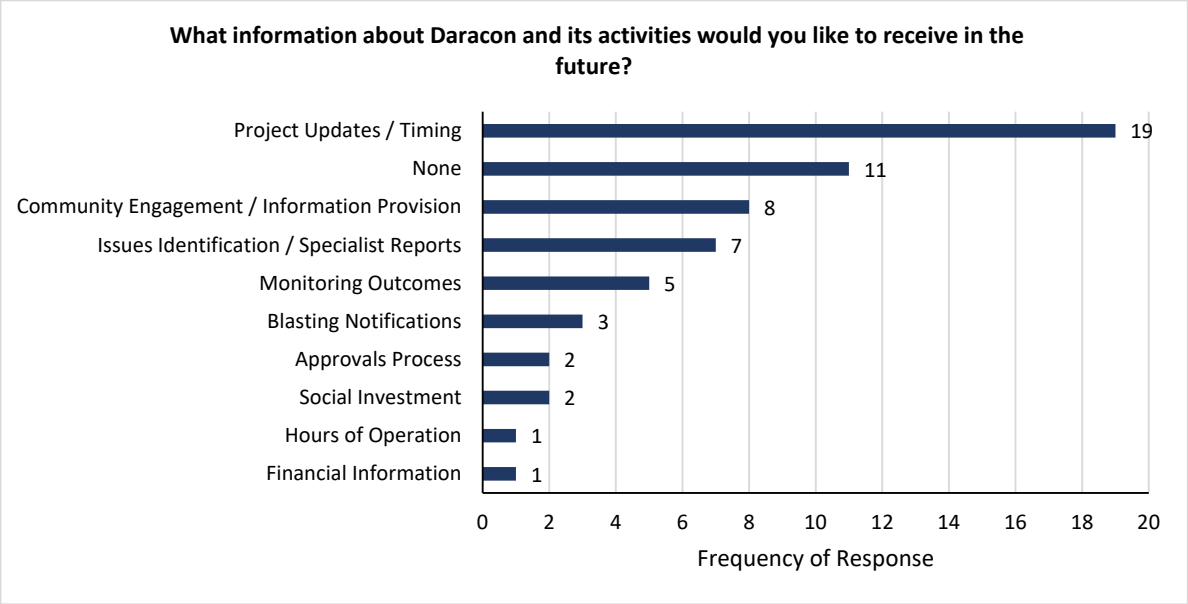


Figure 3.4 Information Requirements

(n= 114, Missing 60); Multiple response allowed.

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Table 3.8 Examples of Requested Information

Requested Information Theme	Stakeholder Comment
Project Updates / Timing	*What their plans are.* *Any changes going forward or outcomes of what is happening here.* *Updates and tell us what's happening.* *If there are any big/major changes that will impact us e.g., if the quarry is coming closer.* *Everything that is relevant to its Martins Creek Quarry activities.* *I'm happy with the updates provided in the communication info sheets.*
None	*Nothing, I am not interested in Daracon as a company or their operations.* *Nothing really.* *No because every time I get something from them, I feel sick.*

Requested Information Theme	Stakeholder Comment
Issues Identification / Specialist Reports	*I think it would be positive to be proactive in identifying the issues, but at the moment it's the Community Vs Daracon.* *The previous environmental assessments will likely require rework, especially regarding the recent bushfires. I want to see honest updates regarding these assessments.* *Technical information that relates to various impact areas especially road safety, noise, air quality, water quality, ecology.* *All information which will impact on our suburb.* *Entrance and building of the roads / bridge – it's just a mystery box, we don't know what it's going to look like. Construction timeline for access road – what will the noise impacts be from construction?* *I'd like to see that they are dealing with their truck drivers regarding speed, noise of air breaks and making sure that they drive via Flat Road and not through heritage and sensitive (children) areas. I'd like to hear from them that this is actually important to them (management) and their drivers.*
Community Engagement / Information Provision	*What the community can do to respond to those things raised in newsletters etc and how.* *They need to make a transcript available for the Traffic CAF. I know there was an Umwelt representative taking detailed notes. Interpretation of the meeting could be altered if not verbatim responses.* *More consultation from the Department of Planning is required, direct consultation by the Department with the community. Not just at the very end.* *Everything so we as the community of Martins Creek have a voice to raise our concerns.* *People want to know what happened between the time the quarry 'closed' to now suddenly being 'open again'. That would be interesting to most people. We don't want to contact government offices to track that information down. We thought they had permanently closed - so it was shock to us to receive the newsletter that they are open.* *All information about the proposal so that I can stay informed.*
Blasting Notifications	*I do hear blasts and animals can go berserk. I would like to have a warning that blasts are about to occur for example a loud whistle blown before it goes off would work (as I don't get very good mobile reception, so notifications don't work). Obviously, the whistle would not be at a high frequency to worry dogs etc, but they do it in the mines, so I don't see why it wouldn't work here.* *Letterbox drop of blasts/trains coming in. It's nice to know just in case, I have people staying.* *Proposed blasting.*
Approvals Process	*Where they are in the approvals process.* *Dates of final submission i.e., when their submissions process is open, how long for and when its close date is.*

Requested Information Theme	Stakeholder Comment
Monitoring Outcomes	*Rules and regulations regarding tonnage transported by different means and if these are being adhered to.* *Well, they're not telling me when they are doing the wrong thing, that's what I would like to know.* *I'd like to know the details of how many trucks have been past in a month for example, to monitor their activities. Potentially they could post this information on their website and on the MCQAG group, so that the community can monitor the number of trucks.* *Open and honest monthly reporting of tonnages removed by rail and road. Monthly reporting of all truck movements. Reporting of all complaints.*
Social Investment	*They say they will make contributions to Maitland and Dungog Councils, but they don't outline how much that would be. I would like to see an exact figure amount for these contributions.* *Health and environmental contributions to offset health and community impact of their operations.*
Hours of Operation	*Working hours is a really big one. Closing on the Saturday is fantastic, but if they can start it later?*
Financial Information	*Information on the Mingay family trust which this project will support. The exit strategy Daracon have for the quarry. Reading the court case, a Daracon representative stated Dracon never go into a venture without an exit strategy. Mining securities for the quarry. Political contributions made since 2014.*

Many stakeholders (9) did not provide a specific response requesting information, but instead commented on the consultation process, the Revised Project overall or the government approval process.

My litmus test is when the trucks start up again. I get my information through the MCQAG and if I really want to, I contact Johnson [the State member]. – Round Two

I'd like them to acknowledge that they have a problem and show empathy, so that the community can see that they understand how they are feeling and remove the Us VS Them. – Round Two

I have developed a great respect for them and what Umwelt do, so I hope they continue to give honest advice to Daracon. – Round Two

I can see underneath the information they are providing and what is really going on. They are glossing over the truth; I have lived with it. – Round Two

4.0 Operational Context

This section provides an overview of operations at the Martins Creek Quarry as they relate to social impacts to provide an operational context for the revised SIA.

Information has been sourced directly from Daracon and relevant outcomes of the submission analysis and engagement activities undertaken with neighbouring landholders, other members of the community and community representative groups.

4.1 Historical Operations

The Martins Creek Quarry was established in 1914 by the NSW Government Railways for the purposes of supplying railway ballast and other quarry materials to the NSW railway network. The quarry was operated continuously by various NSW government transport departments, authorities and corporations until November 2012. Buttai Gravel Pty Ltd, a part of the Daracon Group (Daracon), secured a long-term licence of the quarry in 2012 and operated the quarry until operations were suspended in September 2019.

With regards to historical rates tonnages transported from the quarry, **Figure 4.1** presents road transportation during more recent years between 1993 to the present time, acknowledging the time frame in which Daracon secured its licence for the quarry.

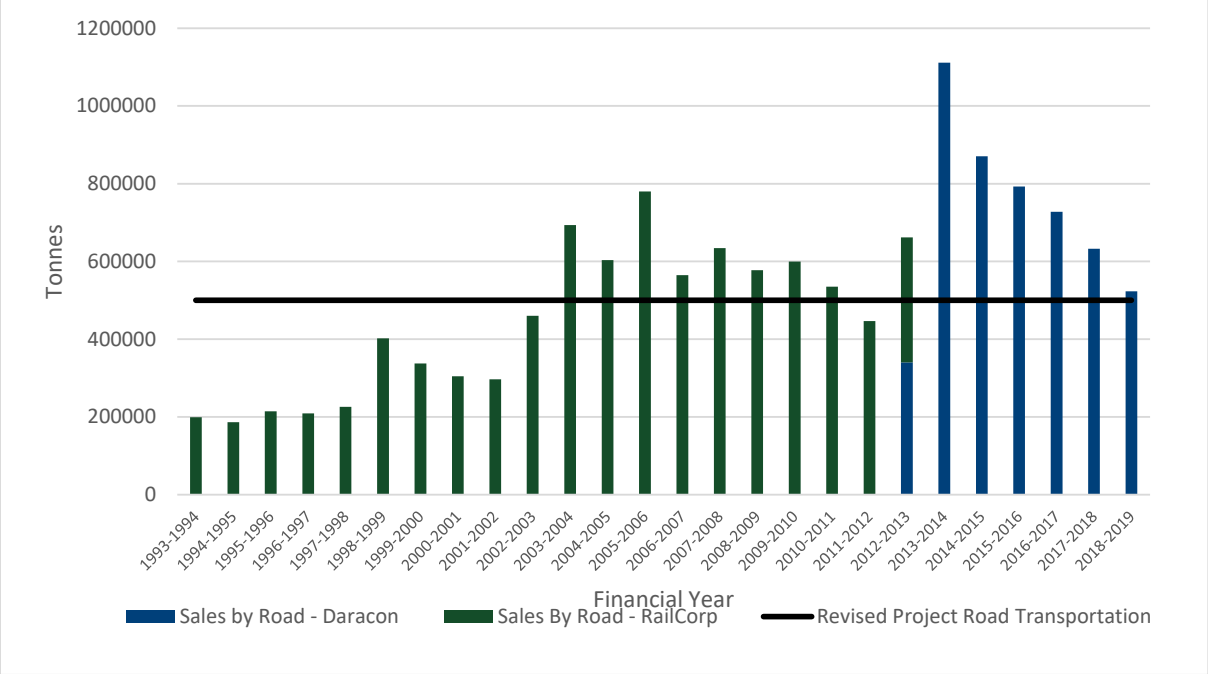


Figure 4.1 Martins Creek Quarry Historical Road Tonnages (tpa) 1993-2019

Source: Daracon, 2021

4.2 Workforce

The broader Daracon Group is a collection of multiple businesses working across a range of construction and engineering services for public and private sector projects. The Daracon Group has a strong focus on the Hunter Valley with its head office located in Beresfield, NSW and other offices in Sydney, Mount Thorley and Gunnedah. The Daracon Group employs approximately 800 people across NSW, 141 of which reside within 40km of the quarry. When the Martins Creek Quarry was fully operational (prior to September 2019), it directly employed 14 staff with another eight (8) support staff and full-time contractors. Since September 2019, the quarry has employed one person on an as-required basis. Based on ABS data, Daracon is one of only 23 businesses in the Hunter (out of a total of 41,744) employing more than 200 persons.

4.3 Community Investment

Daracon's commitment to sponsorship is an important part of the company's business and reflects a commitment to providing to the communities and people who support them.

The company has been a major sponsor of *'Variety – the Children's Charity'* for over the past two decades and as a result have raised more than $1,000,000 for children in need supported by this charity.

Daracon also regularly supports many events and organisations each year as part of a commitment to the communities in their areas of operation.

Table 4.1 provides a summary of the social investments made by Daracon to community groups and events from 2018 up until March 2021. These examples indicate that this investment has supported various local community groups, events and services. Overall, a t community level, Daracon directly contributed over $200,000 in social investments during this time. In addition to this, is in-kind support has also been provided in the form of road works and other such activities undertaken as a part of site-based projects such as the provision of concrete to an Eco Village at Cooranbong for the Awabakal people.

Table 4.1 Examples of Daracon Social Investment (January 2018 – March 2021)

Community Partner/Organisation	Description
Examples of Major sponsorships and investment	Diabetes Foundation Hunter Medical Research Institute - research grant Jobe Wheelhouse Football Lifeline Bushfire Appeal Newcastle Golf Club Newcastle University Rugby Northrop Golf Day Singleton Rugby Club Paterson Netball Paterson Progress Association Paterson River Rugby League Football Club Police Rugby Run Dungog Trail Run Terrigal Rugby Club Vacy Village Country Carnival Variety – the Children's Charity Youth Insearch
Examples of other sponsorships/ partnerships /donations	Life Education (Martins Creek Primary School) Cardiff Hawks Player Sponsorship Dungog Art Society / Annual Art Exhibition Dungog Shire Community Centre Christmas luncheon Dungog Ultra Trail Sponsorship Gresford Billy Cart Derby Gresford Bushmans Carnival Gresford Campdraft & Rodeo Maitland Grossman High school engineering team sponsorship Maitland Touch Competition

Figure 4.2 apportions the focus areas of all Daracon's social investment activities from January 2018 to March 2021. Daracon's community investment contributions have focused on supporting sport and recreation activities (51%), local community events (24%) and community service (14%).

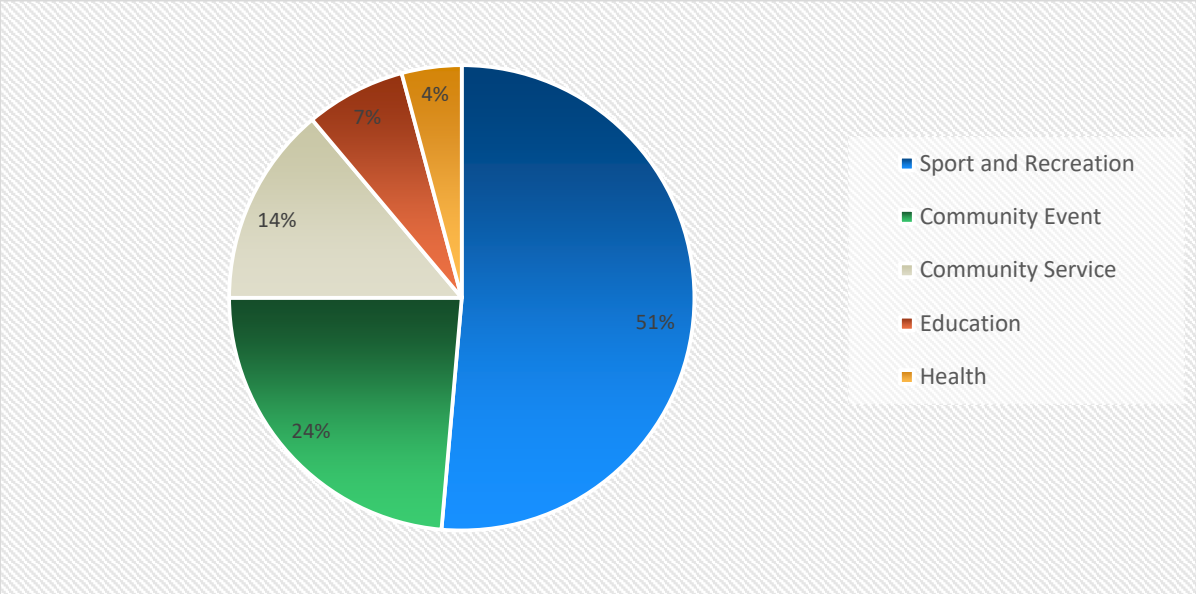


Figure 4.2 Daracon Social Investment Activities – January 2018 to March 2021

© Umwelt, 2021

4.4 Road Maintenance Contribution

In addition to the community investment outlined in **Section 4.3**, between January and September 2019, Daracon paid monthly contributions to Dungog Shire Council for road maintenance in accordance with the agreed requirements of Daracon's former Interim Environmental Management Plan.

For the period January to September 2019, Daracon has contributed in excess of $250,000 to Dungog Shire Council for road maintenance activities with the Dungog LGA along the primary haul route.

4.5 Perceptions of the Company

This section analyses existing data to provide an overview of community perceptions of Daracon. The data sources utilised include:

- outcomes of analysis of submissions by Umwelt on the EIS for the Original Project
- relevant outcomes of personal interviews undertaken by Umwelt in June and July 2018
- analysis of Martins Creek complaints register data (January 2014- March 2021)
- outcomes of a community survey undertaken by the Martins Creek Action Group (MCQAG) in April 2015.

4.5.1 Stakeholder Perceptions of Daracon and the Martins Creek Quarry

In opening discussions with stakeholders to inform this SIA during the first round of engagement during July and August 2018, the community members and businesses were asked to identify their knowledge and perceptions of Daracon and the history of the Martins Creek Quarry in the community.

Generally, the overall the response was negative with many of those answering this question referring to the belief that the while the quarry had been in existence for a number of years, it had become more problematic since ownership had changed from RailCorp. The prevalence of these views is also likely due to the fact that those who were interested in participating in engagement activities were typically not supportive of the Project and its parameters as had been presented prior to these discussions.

The initial sentiment from discussions was that Daracon had been operating dishonestly by not operating in accordance with the original consent conditions and that when RailCorp was operating the quarry, they did so in a way that was compatible with the local community. Of note is that these comments were made with regards to RailCorp haulage levels that were actually largely higher than those which Daracon are currently proposing within its revised Project (**Figure 4.1)**.

An historic community meeting held on 31 July 2014, was also referred to where some consulted community members expressing the view that the general message from Daracon at the time had been *'if you don't like it move'*. It was felt that this perception setting the scene for the Daracon's operations and their relationship with the community. Some of the comments that were heard during discussions include the following:

> *The current owners/operators have little regard for community.*
>
> *The quarry used to apply to council for changes but when Daracon came in, he [David Mingay] did what he liked. The rail was much better (7am-4pm); they followed the rules.*
>
> *When the quarry was owned by RailCorp it operated in a way that was compatible with its location and effect on local communities. As soon as Daracon took over the quarry started operating with absolute disregard to people and communities.*
>
> *Daracon doesn't have a social licence or public trust.*
>
> *RailCorp was kind, generous and listened. Daracon is not.*
>
> *The arrogance they [Daracon} showed at that community meeting [in July 2014] …set the scene for their operations.*
>
> *I have had this place [house] for 30 years…it was okay when it was RailCorp.*
>
> *Daracon is unethical in its operations.*
>
> *Since 2013, this place [Paterson] turned to hell.*
>
> *The perception is that the quarry has not dealt honestly in the past.*

Discussions with community representatives, both as a part of the formal consultation program but also during attendance at meetings with the MCQAG, have referred to the quarry's *'controversial history stretching over more than a decade'* and that a number of community meetings and public consultation sessions have been held in the past where community members and residents have identified their concerns with regards to the scale of the operations and product transportation mechanisms since Daracon had taken over operation of the quarry. The fact that these meetings had not resulted in any change to the operations led to a heightened degree of frustration with regards to the quarry and its impacts on the local community. A feeling of *'consultation fatigue'* was also acknowledged.

Despite the above, it is worth noting that there were also a small number of those consulted who reported a positive or neutral view towards the company and that they while they were aware of concerns within the community, they were not being affected to the same extent. There was also some recognition of the benefits attached to the quarry, particularly in the form of employment for the broader region and the product is supplies in the way of road base / gravel. Further discussion on the costs and benefits associated with the quarry identified during discussions with consulted community members is provided at **Section 7.0.**

When asked about their previous contact and interactions with Daracon, for those consultation participants (in 2018) who noted that they had previous contact, these interactions were a combination of making a complaint to the company, attendance at public forums / meetings and / or personal meetings.

> *I called to report that trucks and cars are being sandwiched together - nothing happened, this still occurs.*

However, during more recent consultation with community members (during the course of the Traffic and Transport CAFs held in 2019), participants noted improvements in the way Daracon have managed operational impacts, including the cessation of truck movements on Saturdays (under the IEMP) and improvements with the management of Daracon truck driver behaviour.

> *Paterson is a different place now that we have no truck movements* [on a Saturday due to the limited operations].

In addition, after an article was posted on the Newcastle Herald Facebook site regarding the quarry being put into limited operations, a number of comments were posted by community members that highlighted more positive perceptions of Daracon and the importance of the quarry for local jobs within the wider community.

> *Feel really sorry for all the great guys I worked with there. Such a shame I really hope Daracon sorts them out with other opportunities.*

> *Where will the council get it's road base now, don't think there are too many licenced quarries left in the shire.*

> *All good hard working blokes. Daracon said they'll find work for them. Probably not local though. Sad day.*

During Round 2 discussions, consultation participants were again asked to rate their levels of knowledge and support of the Revised Project. General knowledge of the Revised Project was quite high with an average rating of 4.7 out of 7 (where 1 was ‘no knowledge at all’ and 7 was ‘all possible knowledge’) (refer to **Figure 4.3**), with 65 (or 63%) participants reporting a knowledge rating of 5 or above.

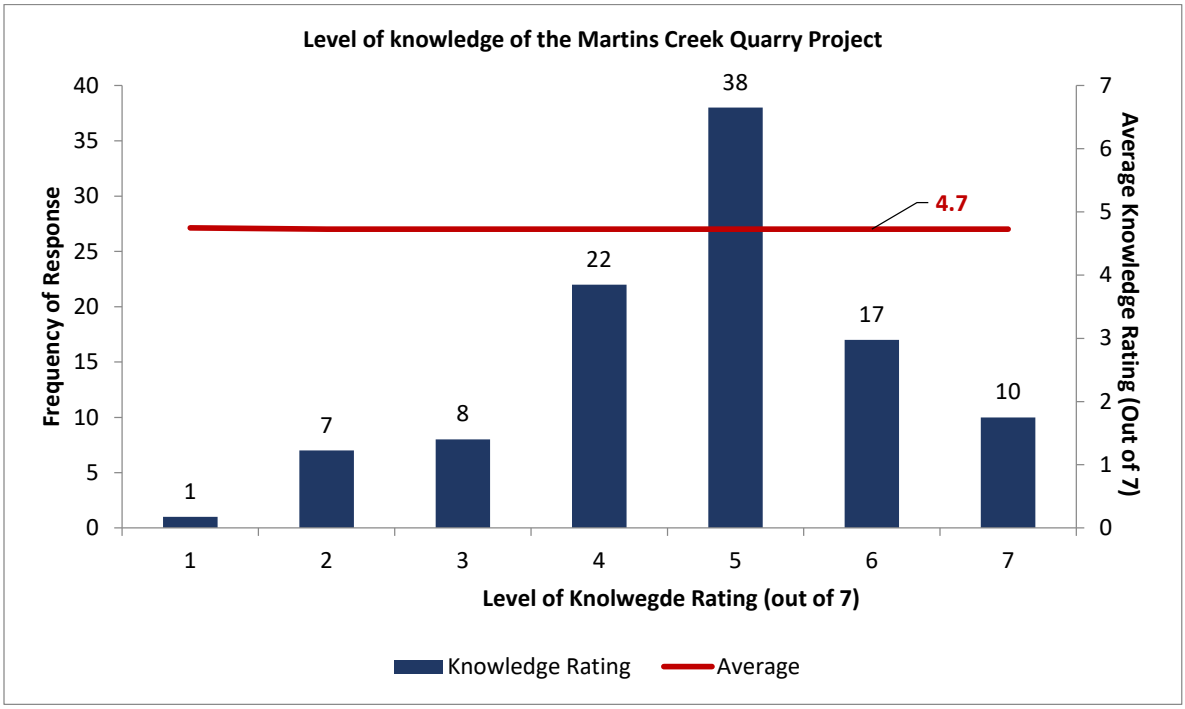


Figure 4.3 Level of Knowledge of the Revised Project

Round Two (n=114, 11 missing)

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The level of support for the Revised Project, however, was extremely low (**Figure 4.4)** with an overall average support rating of 2.3 out of 7, where 1 was 'not supportive at all' and 7 was 'very supportive'. A total of 54 respondents (or 54%) reported a rating of 1 out of 7 ('not supportive at all') and only 15 participants (or 15%) indicating some level of support for the Revised Project by providing a rating of 5 or above out of 7. Ten (10) participants rated their support as 7 out of 7.

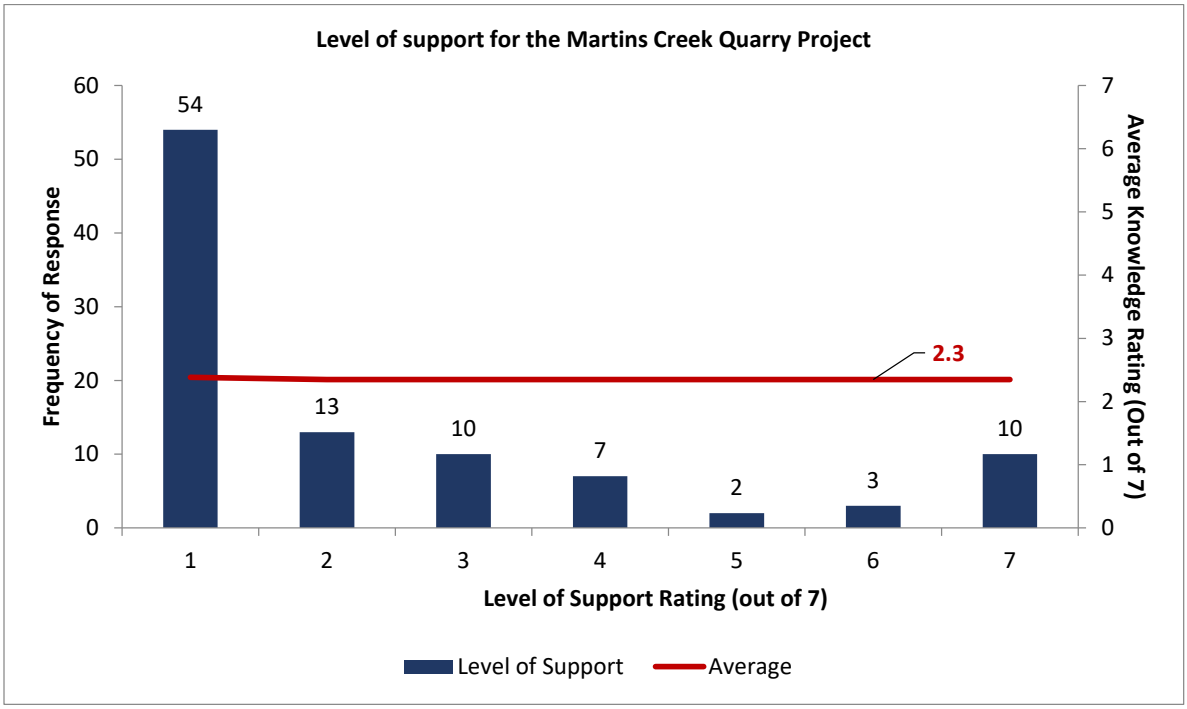


Figure 4.4 Level of Support for the Revised Project

Round Two (n=114,14 missing)
© Umwelt, 2020

Details on specific issues of concern associated with the quarry's operation as identified during engagement discussions undertaken specifically for this SIA are discussed in detail at **Section 6.0**.

4.5.2 Perceived Community Investment Activities

During the course of Round Two consultations, stakeholders were asked if they could recall local initiatives that Daracon have supported or been a part of in the local community. The majority of stakeholders (72%) could not recall initiatives supported by Daracon. Of the remaining 28%, the areas of support recalled most frequently included infrastructure upgrades and sports and recreational activities (**Table 4.2**). Recalled initiatives tended to be accompanied by high levels of distrust and cynicism, with many stakeholder comments acknowledging past grievances of lack of support or present perceptions that any contributions made by Daracon are seldom welcome.

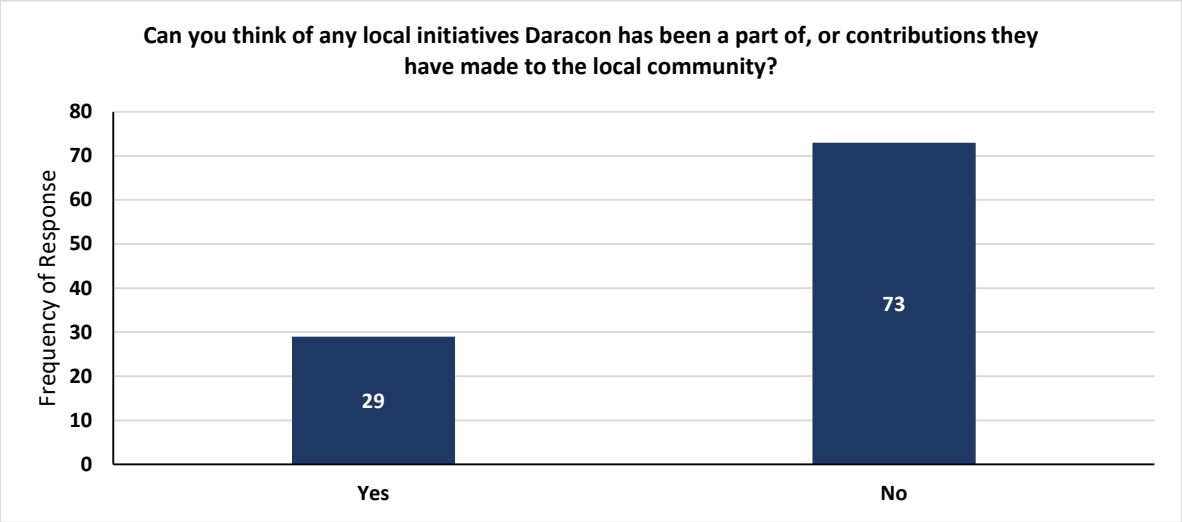


Figure 4.5 Level of recalled contributions to the local community

Round Two (n=114, 12 missing)

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Table 4.2 Examples of Recalled Local Initiatives Supported by Daracon

Area of Support (Frequency of responses in brackets)	Specific initiatives recalled / Stakeholder Comment
Infrastructure and Services (10)	*The Gostwyck Bridge was being fixed up for Daracon and I assume Daracon have paid for that with Dungog probably taking money under the table. It's hard to trust them when they've been trading illegally.* *Subsidy to Council for road use.* *Rail bridge on Dungog Road.* *I think they have paid fine money to Dungog Council. They probably did road maintenance (and if they haven't they should).* *They were involved in the 40 km signs to slow people down, that was a good incentive.* *They also purchased a block of land in Paterson for parking which I think is a good idea.*
Sports and Recreation (6)	*Hot mix of Netball Courts in Paterson.* *They have donated to golf club (prize money and materials).* *Sponsored the local Netball team.*
Product Supply (5)	*I'm sure they have donated some gravel to some places [no specifics provided].* *You used to be able to go up with your trailer on the weekend and get crusher dust for free, but they have stopped doing that. People still talk about that and how that was a good thing, but now it's stopped. People thought they were getting something back and used it for their roads or their driveways.* *In the 2015 floods they delivered milk and bread to people, which was really nice. They've done a lot. They give gravel to locals and don't charge us, I like that they think of their neighbours.*
Sponsorship of Community Events (6)	*I know they give donations for local events, I've seen their name [no specifics provided].* *I know they supported the local village fair and football team, and I've heard good feedback.* *$500 to Vacy fair.* *$10,000 to Three Villages event – but that doesn't impact very many people as mainly people from out of town.*
Education Services (3)	*Paterson preschool assistance.* *They have done things for Seaham Public School i.e., loads of rocks delivered to make a garden.*
Community Groups (2)	*They made donations to Martins Creek Memorial Hall when we were raising money to upgrade toilets.* *I'm a member of the Variety Charity and Daracon is a huge sponsor of that.*
Emergency Services (1)	*Donations to the Fire Brigade.*

Stakeholders were also asked to consider what they would like to see Daracon contribute to in the community in the future, should the Revised Project be approved. Many stakeholders refused to provide a suggestion, and instead were in favour of no contributions at all (44). There was a common theme that any contributions offered by the company would be viewed as bribery or coercion, and many stakeholders preferred that no association between the quarry and the community occurred. A further four (4) participants would prefer operations to cease altogether.

One (1) stakeholder however suggested that Daracon could provide a list to the community of available programs, services or community groups that they would consider supporting, and the community could allocate their preferences to ensure specific target areas received support.

It would be good for them if the community knew they were there to help/participate in community things, but we need to know what they would consider. Suggestion: provide a survey to the community of different groups that could be supported and then ask them to rate which community groups/events they would prefer to see supported. – Round Two

Of those who did provide suggestions, the majority centred around contributions to Dungog Council to ensure road maintenance was carried out (18) with many believing that regular road maintenance would reduce noise from unladen trucks and improve public safety by reducing potholes and uneven surfaces (**Table 4.3**).

Table 4.3 Examples of Suggested Social Investment Opportunities

Investment area (Frequency of Response in brackets)	Examples of specific suggestions	Examples of Stakeholder Comments
Infrastructure and Services (18)	Road Maintenance / Council Contributions (14) Footpath Maintenance (1) Bypass (3)	*I understand that it is up to Dungog Shire to look after the roads but it would also help if you maintained some of the roads for them.* *I would definitely want them to help with the roads falling apart due to their trucks.* *As road safety is a prime aspect to me, there would have to be road upgrades to enhance safety and road maintenance, to reduce noise impacts and safety issues.* *Could start by paying in kind to residents of the road contributions they avoided during illegal operations from 2012 to 2019.* *Could put in a foot path in Martins Creek.* *Daracon could contribute to the local community by building a bypass around Paterson in order to exploit the resource or if a bypass is not feasible then they should build rail off loading facilities and transport 100% of product by rail (as has been demonstrated as being reasonable and feasible by modern quarrying operations in the Southern Highlands).*
Sports and Recreation (10)	Sports (General) Skate Park / Playground Development Pony Club Tennis Courts Golf Club	*Support local kids sports.* *Local groups could benefit financially e.g., pony clubs* *If there was a Skatepark that Daracon could assist with or something like that.* *Invest into local tennis court which isn't operational now as there are no funds. Fix up the tennis court - that's the only thing we have in Martins Creek.* *If it was approved with more stringent regulations and more by rail, the community would be more supportive of Daracon and would welcome a load of gravel for the parking lot at the Golf club.* *Expand the playground facilities at Paterson.*

Investment area (Frequency of Response in brackets)	Examples of specific suggestions	Examples of Stakeholder Comments
Environmental, Rehabilitation and Biodiversity Initiatives (9)	Landcare Koala protection Rehabilitation programs	*A significant yearly contribution to wildlife protection and rehabilitation.* *Donations to Landcare or similar.* *Whilst I understand the expansion may be offset with tree planting or another token initiative in another location, this does not help the fauna and flora in the exact location. I would like to see a progressive rehabilitation project start, at least on the perimeter and perhaps work done on the surrounding land to reduce this impact.* *Course there should be, the koalas for one, they could put some trees out for them to replace the ones they knock down.*
Community Events and Groups (6)	Sponsorship of local community events and groups	*A BBQ for the community once a month; sausage sizzle. Kids can get some lollies and a can of drink - that's what we used to do when we were kids.* *The town hall could be used for a Christmas party, jumping castle - think about the kids in the area (10-15 kids in Martins Creek).* *I know mines in the Hunter Valley give donations to the progress associations who use it to paint local halls etc, so that would be good.* *Red Cross, anything is good.*
Emergency Services (5)	Rural Fire Service Westpac Helicopter	*Support local RFS.* *Local fire brigade.* *Charity Cutting Day in Vacy and Country Carnival because the money raised at these events goes to schools of Vacy and the local community surrounding the quarry. I want the money to stay in the community, not go to Newcastle. They split the funds raised three ways: to the local school, Westpac helicopter service and then the local soccer or dance squad.*
Local Employment (4)	Promoting local employment	*They should be giving people a job.*
Product Supply to Locals (3)		*Loads of crusher dust could be dropped at their [community groups] place.* *Years ago, people could go over there and get a load of gravel and that was good, but when they shut that off, it alienated them from us. It was great, but now there's a barrier and its sad really.* *Provide free gravel to organisations.*

Investment area (Frequency of Response in brackets)	Examples of specific suggestions	Examples of Stakeholder Comments
Health and Wellbeing (3)	Health programs	*Mental health support for families who live with constant truck noise all day.* *Hearing testing for children who live on your haulage route and potentially experience industrial deafness from consistent unmitigated noise above safe levels.*
Education (3)		*Support local schools*
Other (2)	Local Businesses (1) Noise Mitigation (1)	*Consideration of the business owners and the community that will be affected due to the proposed expansion.* *Noise reduction around the quarry for the people near it.*

4.5.3 Submission Analysis

As highlighted in **Section 3.4.1**, a total of 873 individual submissions were made from non-government agencies and members of the public including community members, interest group and organisation submissions (excluding duplicates).

Of the submissions received from members of the public during the public exhibition of the EIS, a total of 419 (48 %) were objections, 447 (51 %) were in support and seven (7) (1 %) provided comment. Of the 447 supporting community submissions received on the Original Project, there were approximately 384 that stated a connection to Daracon either as an employee, family member of an employee or business connection.

A total of 317 (75.7 %) objections were received from the nearby area (within approximately 5 km and proximate to the haulage route), 86 (20.5 %) from the local and sub-regional area (between approximately 5 and 100 km) and 16 (3.8 %) from the broader community (approximately 100 km). When the objections were analysed in relation to location, there was a similar proportion of issues by category for each of the areas (refer to **Table 4.4**).

Table 4.4 Categorisation of Issues by Area

Locality	Category				
	Environmental, Social and Economic Impacts of the Project	The Project	Issues Beyond the Scope of the Project	Merits of the Project	Procedural Matters
Nearby Area (within 5 km and proximate to haulage route)	75.0% (1366)	12.8% (234)	7.9% (144)	1.0% (18)	3.3% (60)
Local and Sub-Regional area (5 km to 100 km)	77.0% (341)	12.4% (55)	6.3% (28)	0.5% (2)	3.8% (17)
Broader Community (100 km)	69.6% (39)	14.3% (8)	5.4% (3)	8.9% (5)	1.8% (1)

4.5.3.1 Environmental, Social and Economic Issues

There were ten key themes to the Environmental, Social and Economic Issues raised in the objecting submissions, including:

- impacts on the community
- social
- economic

- biodiversity
- impacts to heritage
- cumulative impacts
- impacts to water resources
- rehabilitation
- greenhouse gases
- land management.

The most frequently raised theme was impacts on the community with the key concerns raised in relation to impacts on the community associated with the following:

- traffic and transport (373 submissions)
- public health and safety (291 submissions)
- noise (257 submissions)
- air quality (160 submissions)
- blasting and vibration (160 submissions)
- visual (15 submissions).

Social impacts were the second most frequently raised theme, with concerns centred around the loss of social amenity (227 submissions) however it is important to note that these impacts are also very closely interconnected with those identified under impacts on the community and reported above.

4.5.3.2 The Original Project

The key theme raised in objecting submissions in relation to the Original Project was associated with consideration of project design and alternatives. A total of 297 objecting submissions from community, interest groups and organisations raised issues relating to the project design of the Original Project.

4.5.3.3 Issues Beyond the Scope of the Project

This category includes broader policy issues or issues that are not directly related to the merits of the Original Project. The main theme raised under this category was in relation to whether Daracon are considered fit and proper in relation to existing and proposed operations. The key sub-themes were:

- the current operations and management, including compliance with the existing development consent (110 submissions)
- Daracon's reputation in the community and social licence to operate (40 submissions)
- court proceedings relating to Martins Creek Quarry that were being undertaken at the time of the Original Project application (15)

- complaints processes for the existing operations (10).

4.5.3.4 Merits of the Project

Thirteen (13) submissions raised concerns about the justification of the Original Project, while twelve (12) submissions were received that stated a general objection to the Original Project however stated no specific issues or reasons for the objection. These submissions were classified as objections on the merits of the Original Project.

4.5.3.5 Procedural Matters

The key issue raised in relation to procedural matters was the need for Daracon to pay community contributions or the lack of contributions paid in the past (32 submissions). Other issues raised included:

- unsatisfactory community consultation by Daracon in relation to the Original Project (20 submissions)
- the NSW Government planning process (13 submissions)
- adequacy of assessments completed for the Original Project (13 submissions).

4.5.3.6 Impacts by Locality

As shown in **Figure 4.6** and **Figure 4.7**, traffic and transport was the most frequently raised impact across key suburbs in proximity to the quarry and haul route including Paterson, Martins Creek, Bolwarra / Bolwarra Heights, Vacy, Brandy Hill and Duns Creek / Woodville.

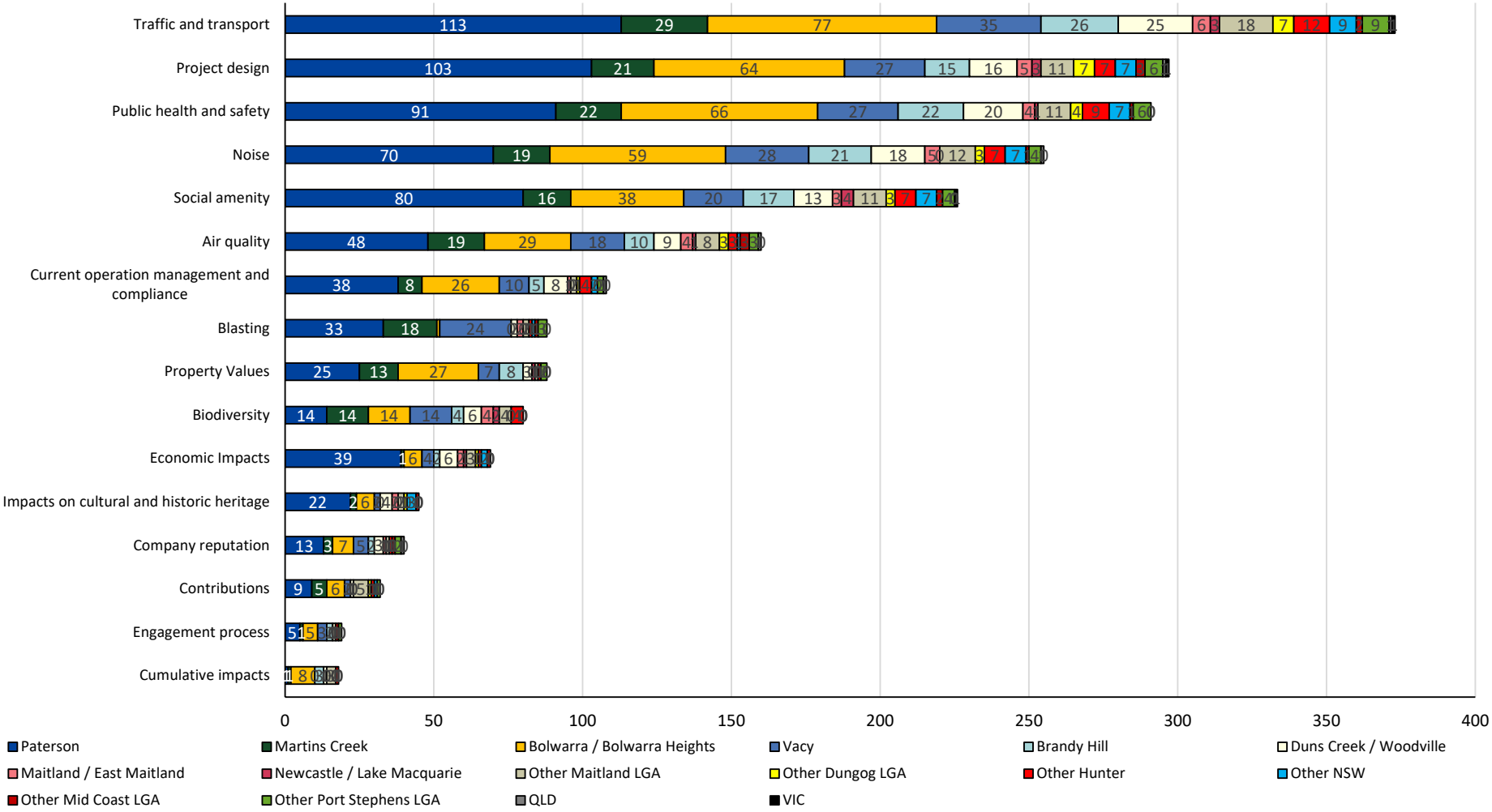


Figure 4.6 Submission Impacts by Locality (Top 16 Impacts)

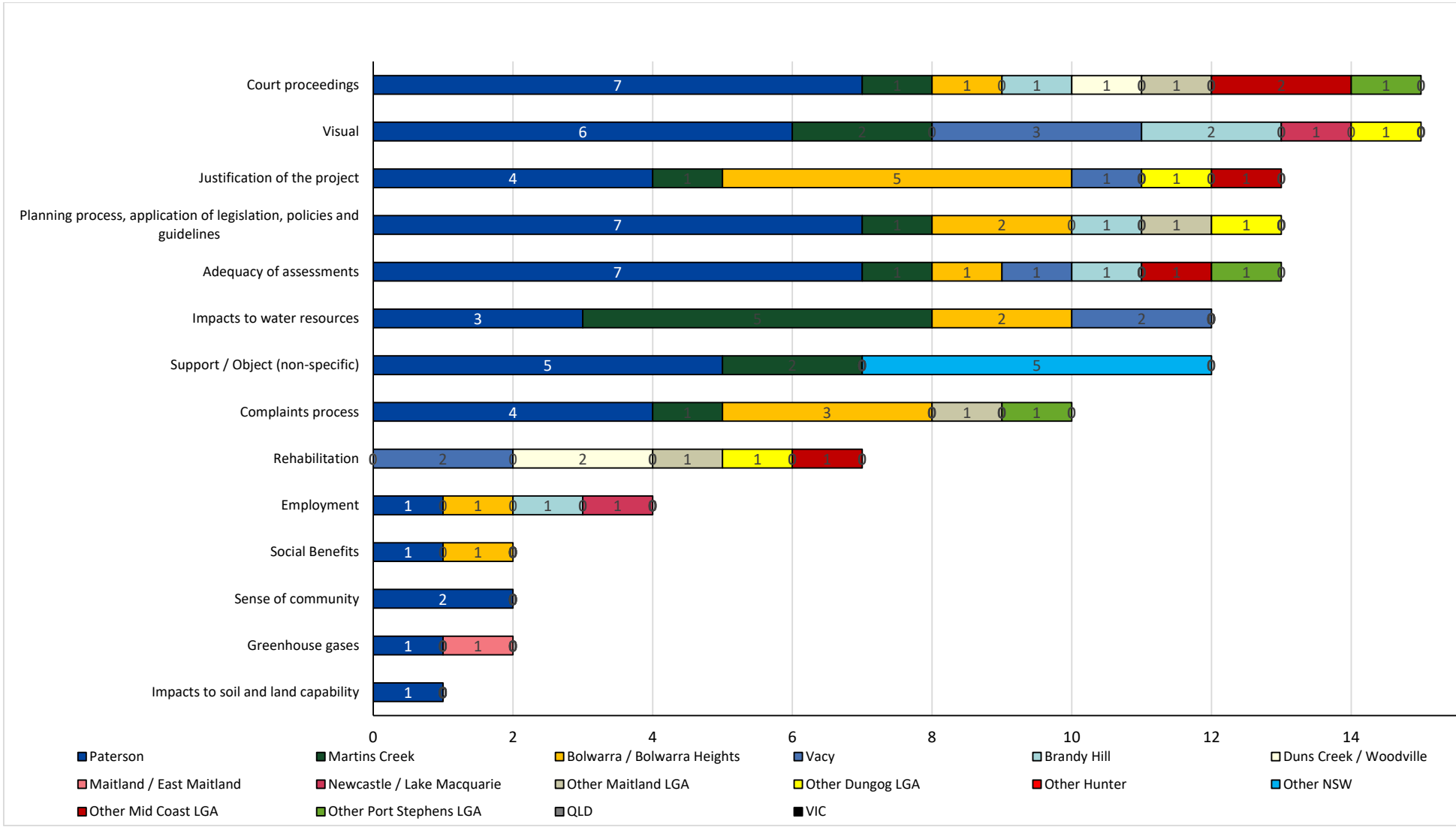


Figure 4.7 Submission Impacts by Locality (Remaining Impacts)

4.5.4 Martins Creek Quarry Action Group Survey Results

The Martins Creek Quarry Action Group (MCQAG) undertook a Community Attitudes Survey between April to August 2015 (MCQAG 2015) to document community perceptions and attitudes towards the Original Project and Daracon. Specific identified objectives of the survey were to:

- Determine how Daracon and the Martins Creek Quarry operations were perceived by the community.
- Identify key perceived issues and impacts associated with the proposed Project.
- Identify the issues of most concern to the community, to assist Daracon (and their consultants) in prioritising and addressing these issues within the environmental assessment process.
- Gain a better understanding of the community's views on how Daracon could work more effectively with the community in relation to their operations and the proposal.

A total of 82 respondents completed the survey. Survey respondents were drawn from around the Dungog, Maitland and Port Stephens LGAs. The survey results reported by the MCQAG indicated that perceptions of the company at the time of survey were very low.

When asked to rate their current feelings towards Daracon on a ten-point scale from 0 (extremely negative) through to 10 (extremely positive), an average rating of 3.27 was obtained.

Respondents also noted that over the 12 months preceding the survey that their feelings towards the company had become more negative (63.6% of respondents).

When asked their level of agreement to a series of attitude statements about Daracon, the majority of respondents (77%) reported that they did not believe that Daracon cared about local communities in the region or addressed concerns raised by the community (75.7%). Reported trust in the company was also low, with 72.9% believing that '*people around here really don't trust Daracon*' (**Figure 4.8**) (MCQAG 2015).

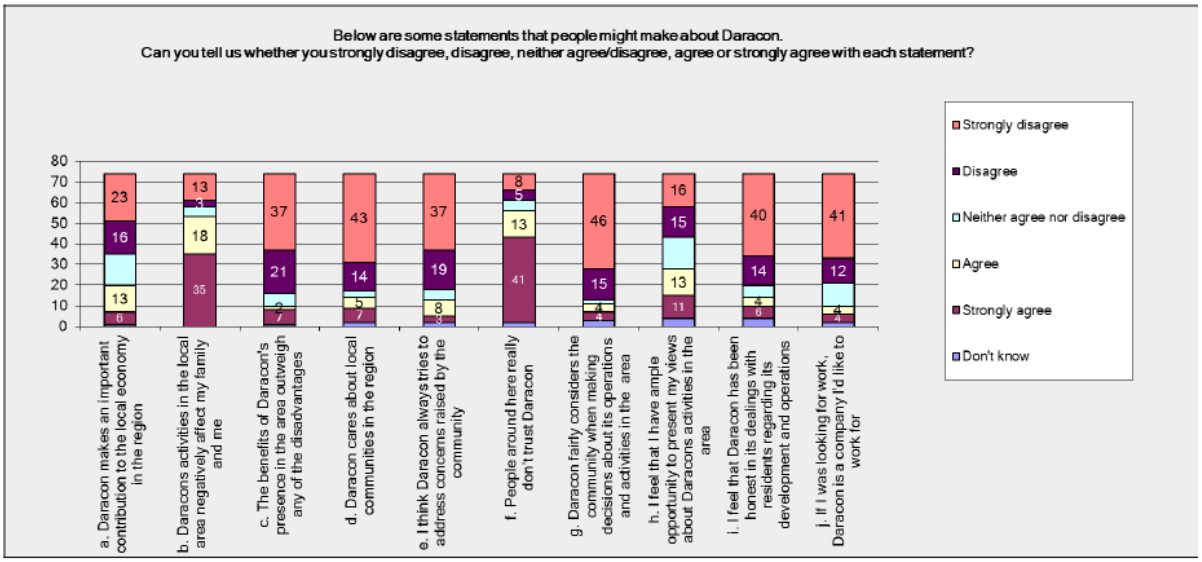


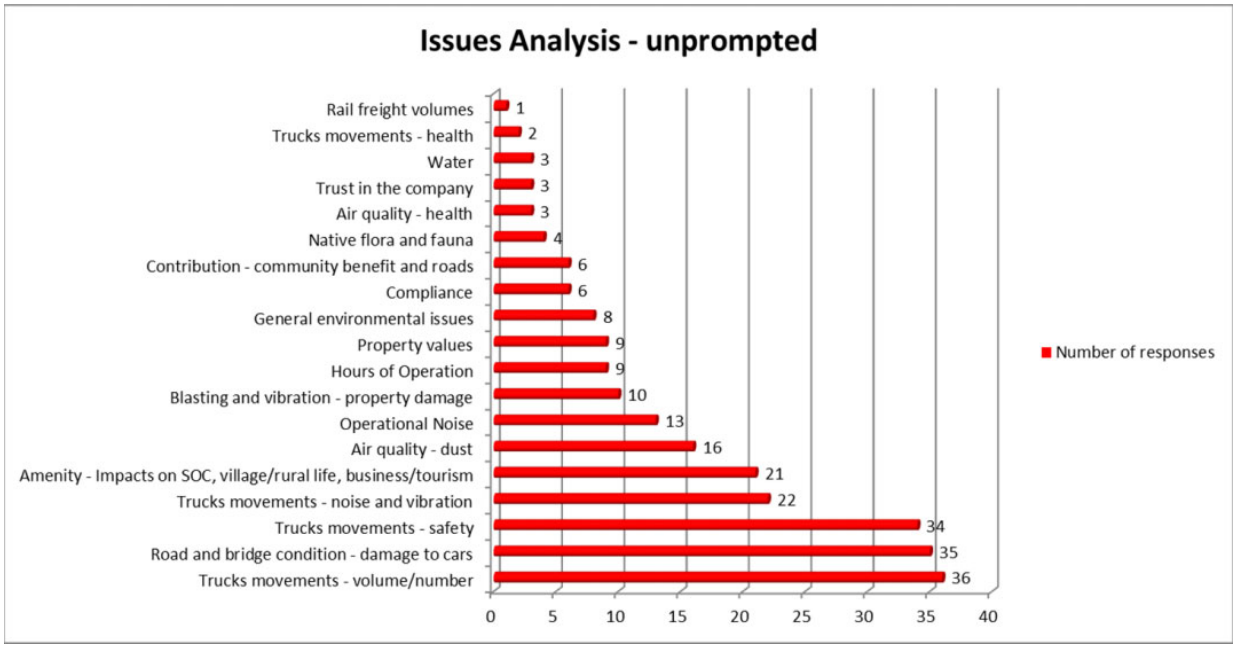
Figure 4.8 Levels of Agreement with Community Attitude Statements

Note: Courtesy of the MCQAG 2015 Community Attitudes Survey

Reported top of mind associations at that time when respondents were asked to indicate 'what words or things come to mind when people mention Daracon', included trucks and noisy trucks with many respondents also noting words related to the type and nature of Daracon's business.

The results of this survey also further highlighted issues and attitudes to the Martins Creek Quarry operations from the local community at the time the survey was conducted. Of those who participated in the online survey (n=82) 45% were from Paterson and 17.2% were from Martins Creek.

The top three unprompted issues raised by those surveyed at that time included the volume of truck movements (n=36), the condition of the roads and bridges and the damage that caused on cars (n= 35) and the decrease in safety caused by the quarry's truck movements (n=34) (refer to **Figure 4.9**). These top three issues align with those raised in the submissions received during the EIS public exhibition phase.

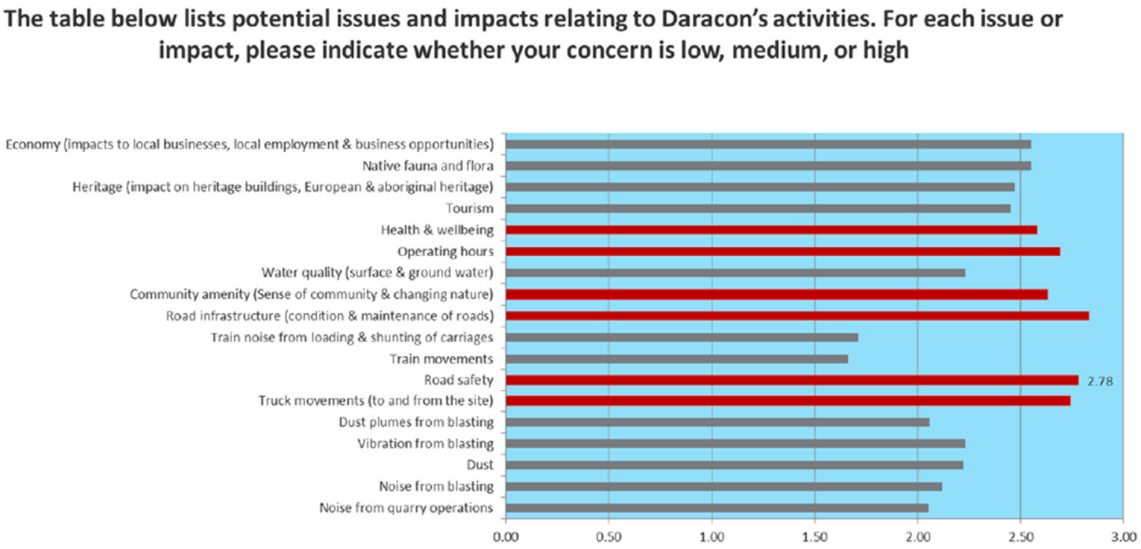


Note: Courtesy of the MCQAG 2015 Community Attitudes Survey

Figure 4.9 MCQAG Survey Results Unprompted Issues (n=82)

Those who participated in the survey were also asked how concerned they were from a list of issues/impacts (low concern = 1, medium concern = 2, high concern = 3). All of the impacts except for two (train movements and noise from trains) scored higher than 2, suggesting high levels of community concern with respect to many of the perceived Project impacts (refer to **Figure 4.10**).

Those prompted issues highlighted in red in **Figure 4.10** are those that were noted to have a higher level of concern and align with previous (unprompted) issues identified in the survey (refer to **Figure 4.9**).



Note: Courtesy of the MCQAG 2015 Community Attitudes Survey

Figure 4.10 Issues of Concern (Prompted)

It is worth noting that the economy, including local employment and business opportunities, also rated highly amongst the prompted issues as presented to participants, however it is not clear from the survey report as presented whether this is referring to the positive opportunities that this project may provide to the economy or not.

In summary, in its submission on the EIS for the Original Project, the MCQAG identified several key overarching concerns, as identified in the community survey, individual submissions in opposition to SSDA14_6612, and by the action group members. These were a sense of community fatigue around the lengthy approvals process, the overarching belief that the issues indicate failure of the proponent to obtain a social license to operate and address community concerns, and a concern that community issues were being misrepresented as perceived or projected, when they were in fact based on current operation levels.

4.5.5 Complaints Analysis

The Martins Creek Quarry has a Complaints Line to which members of the community can call to make complaints with regards to the operations. A review of the complaints register from January 2014 to March 2021 has been undertaken to provide some operational context to issues identified by during consultation activities.

Martins Creek Quarry received 108 community complaints between January 2014 and March 2021. The highest number of complaints received relate to impacts on road/road-user safety, followed by vibration (blasting), operational noise (blasting) and blasting (property damage) (refer to **Figure 4.11**).

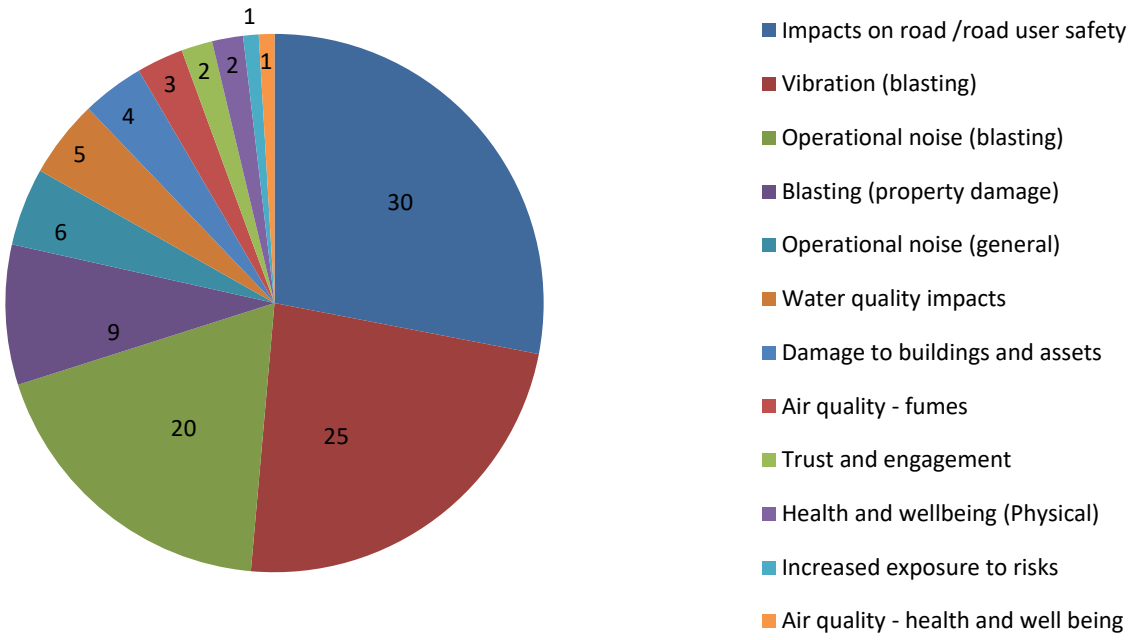


Figure 4.11 Number and Nature of Community Complaints Received by Martins Creek Quarry January 2014 - March 2021 (n=108)

The highest number of complaints over this timeframe was in 2014 with 30 complaints received, with complaints decreasing substantially in 2015. The number of complaints started to increase again during 2016 at the time of the Original EIS's public exhibition phase and associated media attention and peaked again in 2018 at 24 complaints. Complaints have declined since 2019 (refer to **Figure 4.12**) with this decrease likely due to the reduction in operations during the period 11 February 2019 to 24 September 2019 when Daracon operated the quarry in accordance with the IEMP agreed to with Dungog Shire Council. Furthermore, as of 24 September 2019 the quarry was placed into limited operations.

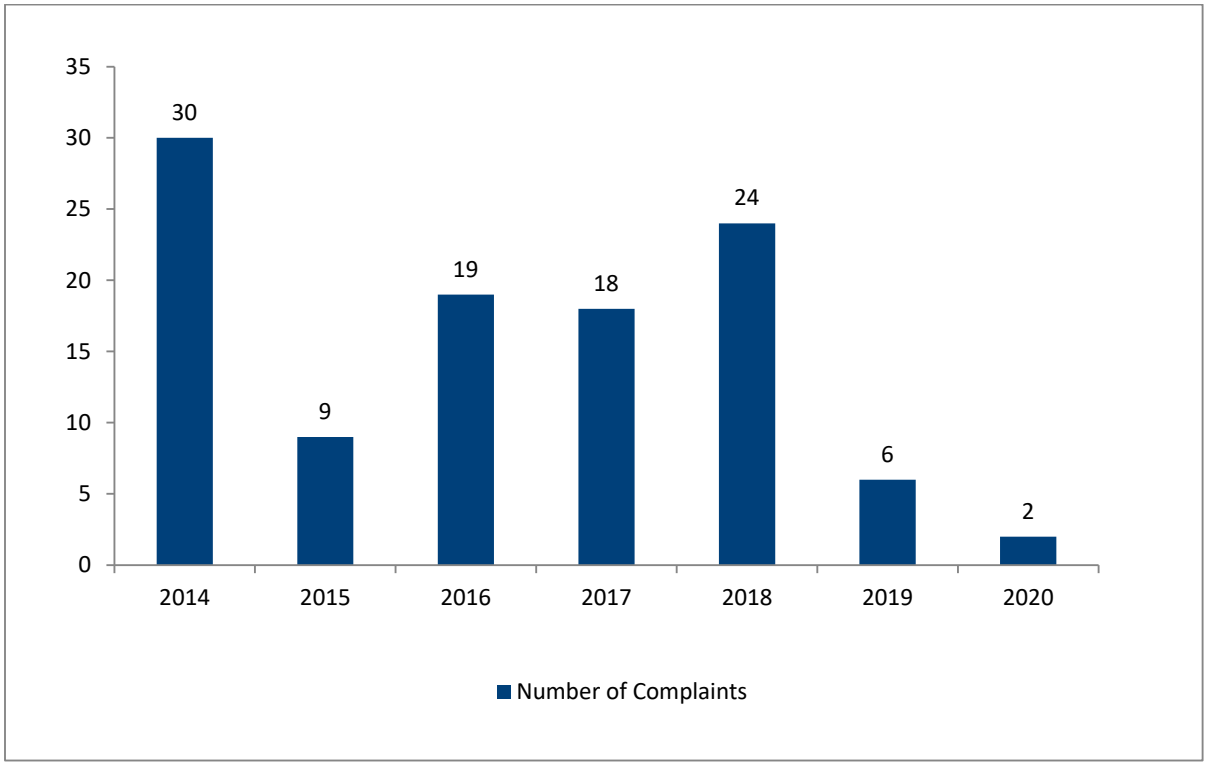


Figure 4.12 Number of Community Complaints Received by Martins Creek Quarry January 2014 - March 2021 (n=108)

4.6 Summary of Perceptions of Recent Operations

Analysis of submissions following exhibition of the Original EIS, MCQAG community survey results and the quarry's complaints register highlight similar issues of concern from the community relating to the recent operations, namely around truck movements and the number of trucks and associated impacts on public health and safety. In addition, this analysis highlights that perceptions of Daracon are largely negative.

Analysis of the 873 submissions made during 2016 for the EIS for the consolidation of existing development approvals and expansion of Martins Creek Quarry (Monteath & Powys 2016) highlighted that approximately 50% of the submissions were negative and 50% were positive with:

- Positive submissions largely from Daracon employees or those with a relationship with the company and focused on the economic benefits of the Original Project.

- Negative submissions were largely from community members with concerns raised around transport and traffic, followed by issues of public health and safety and noise.

For their submission for the EIS, the MCQAG completed a community survey in 2015 which highlighted similar issues of concern relating to truck movements, number of trucks, road and bridge condition and safety concerns.

The number of complaints received for the Martins Creek Quarry has fluctuated since 2014. The most frequent responses were in relation to the impact on roads and user safety (refer to **Section 4.3.4**). As noted above there was a large decrease in the number of complaints made from 2019 through to March 2021 compared to the preceding years which can be attributed to Daracon operating at a reduced production level from February through to September 2019, when the quarry was then placed into limited operations.

5.0 Social Profile

5.1 Context and Purpose

A baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social environment in which a project is proposed. According to the International Association for Impact Assessment (IAIA) *SIA Guidelines* (2015), a baseline social profile should provide: documentation and analysis of the local historical setting; relevant data to enable the evaluation and audit of social impacts and associated management strategies; and afford a complete picture of the local cultural context; as well as a greater understanding of local values.

The SIA Guideline (DPE 2017) also outlines what a social baseline study should include, namely:

- a description of the project's area of social influence
- quantitative indicators and qualitative descriptions relevant to each potential social impact, building on any relevant indicators identified during scoping, and sourced through a combination of desktop research and primary data collection (including from other specialist studies undertaken for the EIS).

The SIA Guideline emphasises that the social baseline should be tailored to the specific project context and include meaningful data to inform the SIA. The baseline should also include analysis of any relevant data trends and provide a benchmark from which potential impacts can be assessed, and any change monitored.

Profiling provides a comprehensive summary of the key characteristics of the people of a community or Project area and is concerned with developing a detailed understanding of the social and economic context of potentially affected communities. For the purpose of this assessment, the following components have been considered in the development of the social baseline profile for the Revised Project, namely:

- **Geographic scope:** identification of the communities of interest relevant to the current assessment.
- **Governance:** summary of relevant structures of governance at local, state and federal levels.
- **Historical context**: review of the history of local communities, including their culture and values.
- **Development context and response to change**: assessment of development issues within the communities of interest and the response of local landholders and community residents to this change.
- **Community capitals / assets:** assessment of community capitals to identify areas of vulnerability and resilience across the communities of interest.
- **Key community values, issues and concerns:** documentation of current community issues in the region as identified in key planning documents, regional studies and the local media.

Data sources utilised in the preparation of this profile section, relevant to the Revised Project Area, include:

- ABS Census (ABS, 2011, 2016); Social Health Atlas (PHIDU 2020) and other social indicator datasets
- local and State government reports
- existing Environmental Assessments / Social Impact Assessments (relevant to the area)
- research reports and publications

- review of local and regional media
- consultation with key stakeholders and landholders in the region.

The social profile is a necessary component of the SIA and provides a foundation from which social impacts associated with the proposed Revised Project may be assessed and predicted.

5.2 Geographic Context

Martins Creek Quarry is located within the LGA of Dungog Shire in NSW. The Dungog LGA is part of the Hunter region, and the Lower Hunter sub-region which lies over 75 km to the west of the city of Newcastle and 215 km north of Sydney. The LGA is comprised of the major population centres of Dungog, Clarence Town, Gresford, Vacy, Martins Creek and Paterson and has a population of 8,900 people (ABS 2016).

Dungog LGA is bordered by Singleton LGA to the west, Upper Hunter LGA to the north-west, Mid Coast to the north-east and Port Stephens LGA and the Maitland City LGA to the south.

It is important as part of the social profile of an SIA to define the geographic scope relevant to the SIA.

Figure 2.1 illustrates the location of the communities of interest to Revised Project. At just less than 1 km away, Martins Creek is the closest township to the Martins Creek Quarry with Paterson and Vacy also in close proximity at approximately 4 km and 5.5 km away respectively. The townships of Bolwarra and Bolwarra Heights are approximately 20 km away from the quarry in the Maitland LGA, however these townships are also likely to have an interest in the impacts and opportunities resulting from operations at Martins Creek Quarry due to being located along the primary haul route for the Revised Project.

In this SIA, the primary social area of influence has been defined as the localities and communities immediately proximal to the quarry, the Dungog LGA and the state of NSW, for comparative assessment. The key relevant ABS areas of interest including the key State Suburb Code (SSC) therefore include Martins Creek (SSC), Paterson (SSC), Vacy (SSC), Dungog LGA, Maitland LGA and NSW State.

It is acknowledged that given the nature of the Revised Project with regards to the transport of product, that the impacts for this project are likely to also be felt further afield within other communities, including those along the primary haul route. Therefore, relevant socio-economic indicators for the Bolwarra and Bolwarra Heights SSCs as key localities along the haul route have also been included where relevant as have those for Duns Creek SSC.

It is also acknowledged that there are a number of additional suburbs both surrounding the quarry and existing along the haul route including (but not limited to) Mindaribba, Tocal and Hilldale. Given the low populations within many of these additional communities, the majority of data captured in the ABS census and other sources is typically withheld or randomly adjusted in order to safeguard residents' anonymity. Given this, these suburbs have not been focused on throughout the community profile. The intent is not to ignore the importance of these suburbs or the potential impact that the Revised Project may have on residents, instead for the purposes of profiling it is considered that the social and economic indicators for these suburbs are largely consistent with those of the primary communities of interest.

However as noted in **Section 3.5**, engagement has occurred with a variety of stakeholders across suburbs within the Maitland and Dungog LGAs and the impacts on residents of localities more along the haulage route have also been assessed separately to the impacts that relate to those residing within proximity to the quarry and within the broader regional community.

5.3 Governance

5.3.1 Local Governance

5.3.1.1 Dungog Shire Council

The Dungog Shire Council is governed by the Local Government Act 1993 and is comprised of three Council wards: Wards A, B and C. Each ward is represented by three proportionately elected Councillors. As of 2 March 2020, Cr John Connors was elected Mayor and Cr Steve Low was elected Deputy Mayor of Dungog Shire at an 'extraordinary meeting of council'. This meeting followed Cr Tracy Norman's resignation as Mayor on 20 February 2020 (refer to **Table 5.1**).

Table 5.1 Dungog LGA Current Councillors 2021

Ward	Councillor
A Ward	Cr John Connors ***Mayor***
	Cr Jan Lyon
B Ward	Cr Steve Low AM ***Deputy Mayor***
	Cr Digby Rayward
	Cr Greg Riley
C Ward	Cr Glen Wall
	Cr Robert Booth
	Cr Kate Murphy

Source: Dungog Shire Council (2021)

As of June 2020, executive management of the LGA has been undertaken by General Manager Mr Gareth Curtis, supported by senior management. A number of management committees take responsibility for a variety of community facilities including public halls, community theatre facilities and sportsgrounds.

The NSW government released its IPART report on 20 October 2015 which outlined the assessment of Councils' Merger Business Cases and Improvement Proposals which were submitted as part of the 'Fit for the Future' process. The 'Fit for the Future' process assesses Local Council's against four criteria to assess if Councils are:

> *financially sustainable; efficient; with the capacity to effectively manage infrastructure and deliver services; the scale, resources and 'strategic capacity' to govern effectively and partner with the State; and has the capacity to reduce red tape and bureaucracy for business and of a scale and structure that is broadly in line with the [NSW Independent Local Government Review] Panel's recommendations (IPART 2014).*

The IPART assessment of Dungog Shire Council's Improvement Proposal as reported in its 2015 report declared Dungog Council as 'unfit' for the future based on an inability to satisfy either scale and capacity or financial criteria (Dungog Shire Council 2018b). It was reported by IPART that this assessment was in

particular due to Dungog's small and stagnant population, limited capacity to increase revenue and challenges in overcoming infrastructure backlogs.

Local and regional plans and legislation relevant to the Dungog LGA include:

- Dungog Shire Council Community Strategic Plan 2012-2030
- Strategic Land Use Plan – Upper Hunter 2012
- Upper Hunter Economic Diversification Project: Action Plan (2017).

Relevant strategic planning documents and associated Shire objectives are discussed further at **Section 5.12**.

5.3.1.2 Maitland City Council

The Maitland City Council is represented by its Mayor and 12 councillors and is divided into four Wards.

Table 5.2 Maitland LGA Current Councillors 2021

Ward	Councillor
North Ward	Mayor Cr Loretta Baker ***Mayor***
	Cr Mike Yarrington
	Cr Mitchell Griffin
	Cr Robert Aitchinson
West Ward	Deputy Mayor Cr Ben Mitchell ***Deputy Mayor***
	Cr Henry Meskauskas
	Cr Nicole Penfold
East Ward	Cr Ben Whiting
	Cr Kanchan Ranadive
	Cr Peter Garnham
Central Ward	Cr Philip Penfold
	Cr Donald Ferris
	Cr Sally Halliday

Source: Maitland City Council (2021)

Local and regional plans and legislation relevant to the Maitland LGA include:

- Maitland +10 Community Strategic Plan
- Maitland Local Strategic Planning Statement 2040+
- Lower Hunter Regional Strategy.

Relevant strategic planning documents and associated Maitland City Council objectives are discussed further at **Section 5.12**.

5.3.2 State Government

The Martins Creek Quarry is within the boundaries of the Upper Hunter State Electorate, which extends from Spring Ridge in the north to Yengo National Park in the south; and from the Talbragar River in the west to Bundook in the east.

The Upper Hunter State Electorate has most recently been represented by National Party Member Michael Johnsen who was elected to the role in 2015 (Parliament of New South Wales 2018). Johnsen, as the Member for the Upper Hunter, was also a Member of the NSW Legislative Assembly, Parliamentary Secretary for Agriculture, Member of the Standing Committee on Parliamentary Privilege and Ethics until his resignation on 31 March 2021 A by-election for this seat will be held in the New South Wales Legislative Assembly seat of Upper Hunter on 22 May 2021.

State government plans, strategies and legislation which are relevant to the Revised Project and the region include:

- The Hunter Regional Plan 2036 (2016)
- *Environmental Planning & Assessment (EP&A) Act 1979*
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries 2007 and State Environmental Planning Policy Amendment 2015.

The Independent Planning Commission (IPC) are the determining authority for consent for the Revised Project under the *Environmental Planning & Assessment (EP&A) Act 1979* and the updated *Environmental Planning and Assessment Amendment Act 2017*, which came into effect in March 2018.

5.3.3 Federal Government

The Dungog LGA is part of the Commonwealth Electoral Division of Lyne, the boundary of which was gazetted in 2016. The current elected member for Paterson is Mr David Gillespie MP, member of the Nationals Party (Parliament of Australia, 2020).

5.3.4 Native Title, Aboriginal Land Councils and Traditional Owner Groups

In NSW there are two key mechanisms by which Aboriginal people can have their rights in land formally recognised – Land Rights and Native Title. The two systems operate under different laws and differ in the rights they can provide.

Land rights for Aboriginal and Torres Strait Islander peoples refers to the ongoing struggle to gain legal and moral recognition of ownership of lands and waters they called home, prior to colonisation of Australia in 1788.

Native title rights and interests are those rights in relation to land or waters that are held by Aboriginal or Torres Strait Islander peoples under their traditional laws and customs and recognised by the common law.

The NSW Aboriginal Land Council (NSWALC) is the State's peak representative body in Aboriginal Affairs and is constituted by Part 7 of the *Aboriginal Land Rights Act 1983* No 42. NSWALC are empowered to

administer the Mining Royalties Account and to approve or reject the terms and conditions of agreements proposed by Local Aboriginal Land Councils to allow mining or mineral exploration on Aboriginal land.

Every four years, voting members of Local Aboriginal Land Councils vote for a Councillor to represent their region. Currently the Chairperson of the NSW Aboriginal Land Council is held by Cr Anne Dennis, Gamilaraay woman who was born on Namoi Reserve and has lived most of her life in Walgett and was first elected to council in 2011.

Cr Abie Wright, a descendent of Gommeroi, Anaiwan, Dunghutti and Wanaruah people from Newcastle, oversees the Sydney/Newcastle Region, which includes the following Local Aboriginal Land Councils: Awabakal, Bahtabah, Biraban, Darkinjung, Deerubin, Gandangara, La Perouse, Metropolitan, Mindaribba, Tharawal and Worimi (NSWALC, 2020).

Currently there are no Native Title claims (National Native Title Register 2020) and no Indigenous Land Use Agreements (ILUA) registered in Dungog LGA (National Native Title Register 2018).

The Aboriginal Land Councils active within the Dungog LGA boundaries are Karuah, Worimi and Mindaribba Land Councils.

5.4 Historical Context

5.4.1 Aboriginal History

The Dungog LGA area was first occupied by the Gringai, a clan within the Worimi, who are thought to have moved to the area some 40,000 years ago. Dungog is named for the Gringai word 'tunkok', which means a 'place of thinly wooded hills'. The Gringai occupied an area from Brookfield to the headwaters of the Chichester and Williams Rivers and up to the Manning River, along with Paterson and Gresford and north to Glen Williams. The Worimi occupied the lower Williams River and shared a boundary with the Gringai which existed (approximately) at a location currently known as the township of Glen Williams, with a territory that extended down the Williams River to the coast. The Gringai occupied the area in fairly large numbers, living in villages consisting of 8 or 9 family groups interspersed throughout the landscape with each group holding a portion of land (Dungog Shire Council 2018c).

European settlement in the area had a devastating effect on the Aboriginal people living in the region, with the importation of diseases leading to loss of life of a large proportion of the population. Land previously belonging to the Gringai and Worimi was settled by Europeans on their arrival in the area in the early 1800's, displacing the local population and leading to conflicts which further impacted the Aboriginal population (Dungog Shire Council 2018c).

5.4.2 Regional and Local European History

The Dungog Shire Council reports that European settlement began in the Dungog region in the early 1800's with the establishment of towns along the Williams River and the Paterson River. Land was made available in the Williams Valley in 1825 by Governor Darling, with free grants of land ranging from 329 acres to 2,560 acres while larger lots up to 9,600 acres could be purchased. Early recipients of land grants were free immigrants, or naval or military officers. More rugged land was reserved as Crown Land and remained so until 1861, when lots of between 40 – 320 acres became available for purchase. Early settlers were primarily British with Scottish immigration to the region commencing in 1837. Immigrants from Germany also came to the area to assist in wine and grape production, with Welsh immigrants arriving during the settlement of Gresford in the 1830s (Dungog Shire Council 2018c).

The Dungog Shire takes its name from the town of Dungog, which was initially referred to as Upper Williams until local magistrate, Captain Thomas Cook, named the town in 1834. In the years after settlement, the town of Dungog acquired a court of petty sessions, a post office, an inn and a school house, along with cultural establishments such as a newspaper, the *Dungog Chronicle* and a School of Arts which were established in the late 1800s. By 1850 the town was well established (Dungog Shire Council 2018c).

Smaller townships in the LGA such as Vacy, Martins Creek and Paterson also developed in the early to mid-1800s.

In 1801 Lieutenant-Colonel William Paterson explored the Paterson Valley and by 1804 convict timber-cutters from the Newcastle penal colony were working in the Paterson area. In 1822 the Hunter Valley was opened to settlement, and the town of Paterson was surveyed in 1833 after landowner Susannah Ward surrendered 90 acres of land in the early 1800s in order to establish a town, however the town was not proclaimed until 1885. The river became an important trading route from Newcastle to Morpeth, and the Paterson Steamship Company was formed (Dungog Shire Council, 2018d). Paterson became a vital trading hub and developed quickly. Wine and grapes, citrus and tobacco were shipped from Paterson to Newcastle. The town continued to grow despite the decline in river trade in the 1850s, and timber mills were established in the 1870s. The north coast railway connected Paterson with Dungog in the 1890s, however the town was no longer a thriving transport hub. More recently Paterson's economy has been based on agricultural activities including beef and timber (Visit Dungog, 2018). In recent years, tourism highlighting the historical nature of Paterson have been organised, for example the Paterson Historical Walk is a 1.5 hour annual guided tour of Paterson's heritage and historical elements, with buildings dating back to the 1830s a key feature of the tour. The event encourages all ages with a five-dollar fee encompassing entry to the Paterson Museum and provision of afternoon tea for adults and children are free (Paterson Historical Society 2021).

Vacy is a small collection of houses to the north of Paterson. It was established as a private township in 1828 by the Cory family, and later subdivided and sold in 1927. The town was known for tobacco and arrowroot production and its cattle sale yards (Visit Dungog 2018). Vacy farming is dominated by beef cattle, dairy cattle, sheep, poultry and equine industries. Hobby farms and small acreages are also held by retirees and working families.

Martins Creek was settled in 1851 with a publication prepared as part of the celebration of the centenary of the Martins Creek Public School in 1992 (Ingle 1992) referring to early pursuits on the land at Martins Creek being timber / forestry, horse breeding, sheep and cattle grazing and horticulture. In its earliest days the Martins Creek area was officially unnamed land east of Edward Gostwyck Cory's land grant (Ingle 1992).

The Martins Creek District was named from the watercourse which was in turn called after the family that lived alongside it from the 1840s. The district has been partly rural but predominantly industrial since the early 1900s when it had become a centre for quarrying rail ballast in response to the need for a newer and faster transport system and a push for a line from Maitland to the north, i.e., Taree (Ingle 1992).

It was reported in the Maitland Mercury on 5 March 1910 that:

> *A new quarry has been opened up about half a mine beyond Martins Creek Station, and a second stone crusher, staging, etc. have been erected so that no delay may be experienced when work at the quarry at Mt Harris is discontinued. The quarry is conveniently situated being alongside the line and all that is required is a siding to reach it….The stone at Martins Creek is harder and better for ballasting purposes than at Mt Harris and will be used to finish off the ballasting of the lines from Maitland out.* (Ingle 1992)

It is also reported that at Martins Creek at that time, there was a tent city near the present Martins Creek Station until 1912 with rail workers travelling with their families while they built the line. Quarry workers also occupied the tents until the 1920s (Ingle 1992).

The second quarry at Martins Creek, known as the Newcastle City Council Quarry, was established on the eastern side of Cory Street in 1910. Material from the Newcastle City Council Quarry is reported to have been used in the construction of many roads in the region including the New England Highway. The quarry is reported to have brought new families into the area, with the Council building nine (9) cottages on Cory Street that were rented to the employees and a barracks (now demolished) for single men to stay in. The Newcastle City Council quarry had 25 employees in 1939 and only 19 by 1943, when it closed.

The third quarry built at Martins Creek, known as the Railway Quarry, was opened by the Railways Department (the former State Rail Authority) in August 1914 and supplied railway ballast from the Hawkesbury River to Narrabri and north to Kempsey (Ingle 1992). 100 tonnes of product (blue metal) was quarried per day from a tunnel, brought out by horse and cart and dumped into trucks, which would then transport the product along the line. Product from this quarry was used to in the construction of roads, tramways, and the Williamtown Air Base. In 1914, the Railway Quarry had 44 employees, and by 1988 there were 20 employees. The Railway Quarry was reported at producing 86,236 tonnes of hornblende andesite in 1939, and up to 230,000 tonnes by 1988 (Ingle 1992).

The following table assembled from the NSW Department of Mines Annual Reports shows the level of production of hornblende andesite at the Martins Creek Railway Quarry during some years:

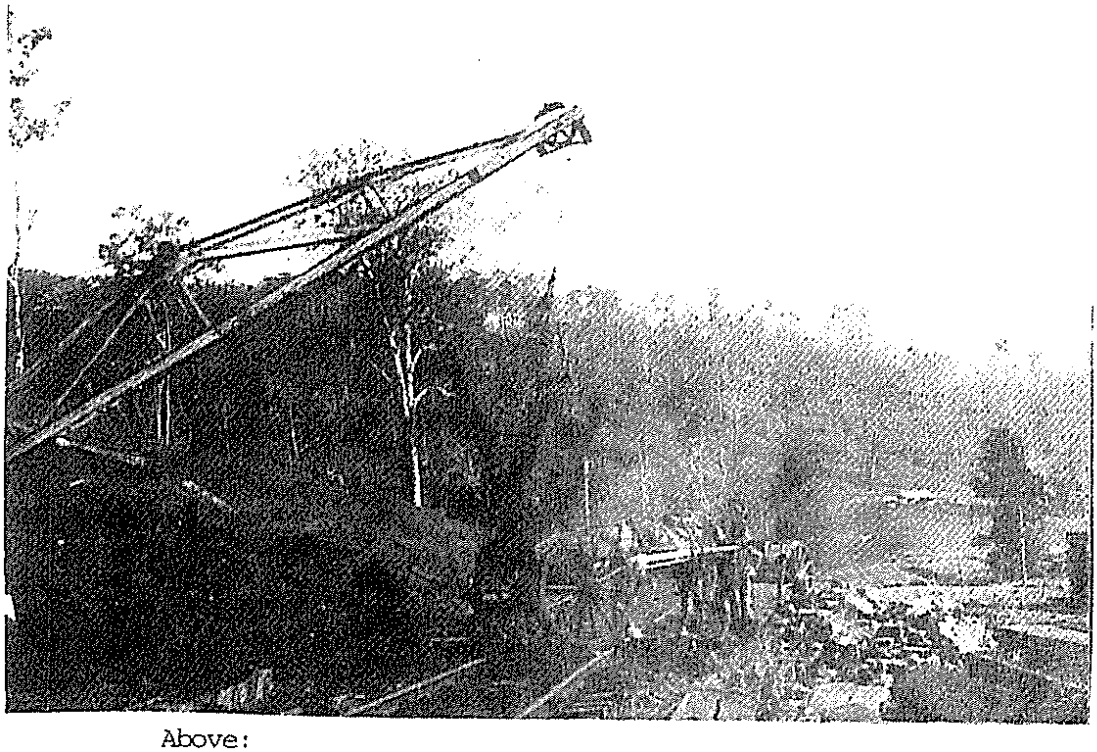
1939	86,236 tons.	The commencement of World War 2.
1940	73,904 tons.	
1941	100,501 tons.	
1942	93,238 tons.	
1943	78,622 tons.	
1944	79,319 tons.	
1945	105,581 tons.	The end of World War 2.
1961	109,659 tons valued at £54,843.	
1963	156,685 tons valued at £81,825.	
1988	230,000 tonnes [226,366 tons].	

Figure 5.1 Production Level of Martins Creek Railway Quarry – Selected Years from 1939 to 1988

Source: Ingle 1992

During the 1950s downturns in demand for quarry products (blue metal) saw some employees moved to Newcastle workshops, with some returning to the quarries when there was work available. Ingle (1992) states that 'working in the quarries has been a family tradition for the generations of Martins Creek families in spite of frequent threats to continuity of employment'. The rail line between Maitland and Dungog was officially opened on 14 August 1911 (refer to **Figure 5.2** and **Figure 5.3**). Ingle (1992) stated that 'the coming of rail transport answered the increasing need for fast, easy cartage of cream, timer, fruit and humans. There was a daily stream of blue metal from the quarries, and Martins Creek Station was so busy at first that it worked around the clock on three shifts daily. Resident numbers were swelled by addition of industrial workers.

Regarding the population in Martins Creek, Ingle (1992) reports that '[w]hen all three quarries worked there was a population at Martins Creek of about 450, by 1965 it would settle at 250.'.



Above:
Constructing the North Coast Rail Line c.1910 (A.Asplund)

Figure 5.2 Constructing the North Coast Rail Line c. 1910

Source: Ingle 1992

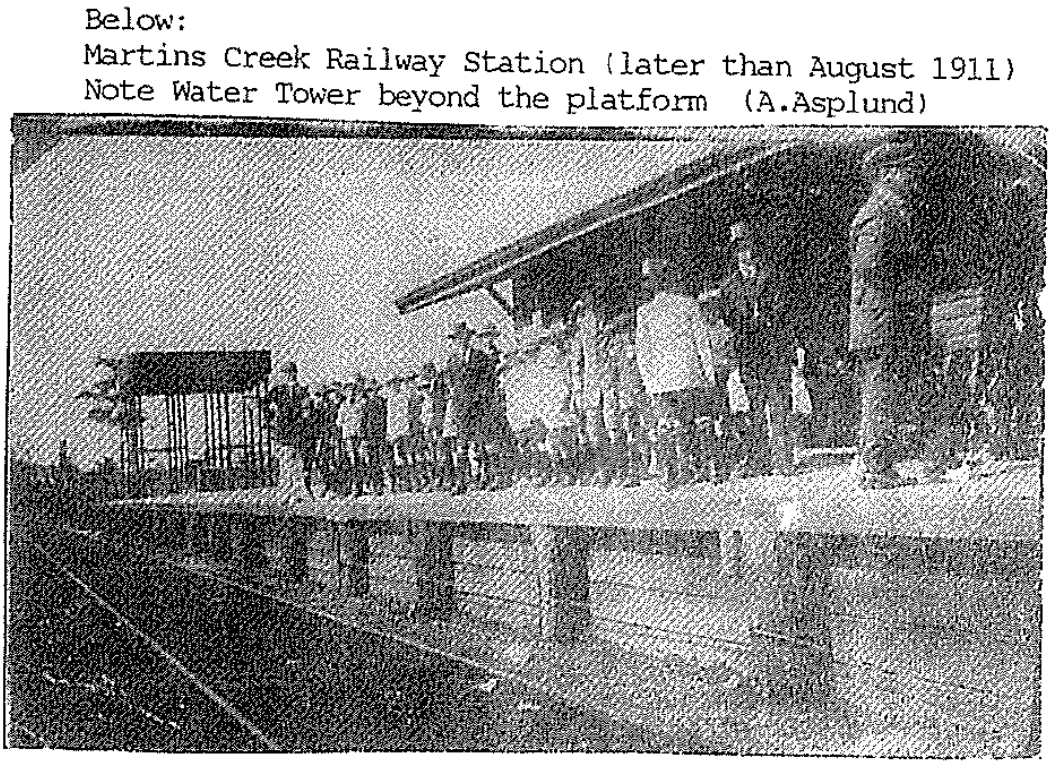


Figure 5.3 Martins Creek Railway Station (Later than August 1911)

Source: Ingle 1992

The above demonstrates the long association of Martins Creek with quarying activities.

Given its age and history, a number of buildings and bridges are listed as heritage places by the NSW Office of Environment and Heritage (OEH) in Vacy, Paterson and Martins Creek including the Martins Creek Railway Station (est. 1911) and Tocal Homestead. Heritage places are protected under the NSW Heritage Act 1977 (NSW OEH 2018). Further information is provided in **Section 6.11** of the ADA and RtS.

A recent article (November 2020) in the Dungog Chronicle (Appendix 6) describes the contribution of a local author and Hunter Valley illustrator who have combined to develop a chronicle of the history of Paterson during the 20th and 21st century. The book contains over 100 sketches of local buildings in the area.

Discussions with community stakeholders as part of the SIA, have also noted the historical richness of the area.

> *There is a real sense of where we've come from.*
>
> *Rural, village atmosphere, strong community, historical society.*

5.5 Regional Development Context and Community Response to Change

This section utilises a number of data sources to build a picture of both the development context of the assessment area and also an understanding of the process of social change and communities' response to this change. Specifically, this section considers community events and/or developments that have had a significant impact on the region and also case studies on the response of communities to change to similar types of development projects, both within the region and in similar project contexts.

Data and information utilised in this section has been sourced from:

- Local, regional and state media (refer to **Appendix 6**).
- SIAs and EIAs undertaken for surrounding projects including Brandy Hill Quarry and the Eagleton Hard Rock Quarry and also further afield in similar project contexts, e.g., Gunlake Quarry expansion, Lynwood Quarry and Ardmore Park Quarry.

Salient and relevant issues and events that have emerged through the review and analysis of the above information are summarised on the timeline provided at **Figure 5.4**.

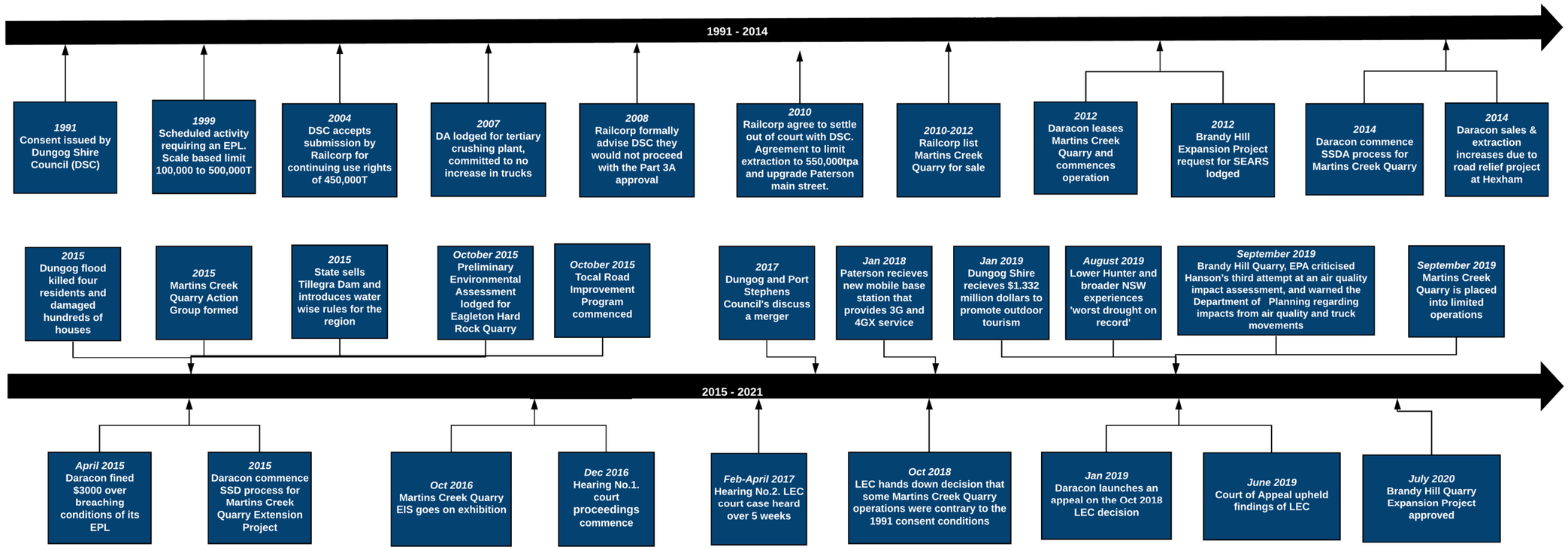


Figure 5.4 Significant Events and Developments

© Umwelt, 2019

The Hunter Region experienced significant flooding in 2015 caused by a one-in-1,000-year rain event with townships such as Dungog particularly impacted. Parts of Dungog were inundated, three people drowned, and four homes were swept away in April 2015 when the Myall Creek burst its banks. In response to this incident, the Dungog Shire Council prepared an updated version of the Dungog Local Flood Plan and new policies to respond to flooding specifically in the Myall Creek and State Government funding has been provided ($5 million) for a series of levees, control banks, spillways, floodgates and drainage canals as part of the Hunter Valley Flood Mitigation Scheme.

Under the approval from EPA, Daracon played a role in providing emergency assistance at the request of ARTC, running a significant number of trucks to assist in the rebuilding after the floods. **Figure 5.5** below shows the before and after images of the rebuilding of the main northern rail line which had been washed away.



Figure 5.5 North Coast Rail Line During 2015 floods

Source: ARTC 2015

There have also been a number of significant infrastructure developments that have also changed the operating landscape of the broader Hunter, including the opening of the Hunter Expressway in March 2014.

In the 2015-16 NSW State Budget, $1.2 million was allocated for the Tocal Road Improvement Program and more recently the Dungog Shire Council has received additional funding for road infrastructure under a number of programs administered by Roads and Maritime Services (RMS) such as the Regional Road Block Grant, the Regional Roads REPAIR Program, Fixing Country Roads and the NSW Road Safety Strategy.

Poor road conditions are in general a feature of the locality. In January 2019, the NRMA launched the Rate Your Road survey across the state of NSW in the lead up to the NSW election. In the survey, participants were asked to rate their road on a scale of very poor to excellent (rating out of 100) based on congestion, condition and safety. In its inaugural report it was noted that the Newcastle and Hunter regions received 2,191 votes and Maitland was reported as experiencing a $64 million road maintenance backlog, which was one of the worst in the Hunter and Central Coast regions.

It is evident that a significant focus on investment in roads is needed in the local area. One of the key challenges facing Dungog Shire Council is the state of the LGA's roads and the cost to repair those roads with a limited rates base and limited State and Commonwealth funding. As far back as 2010, the Sydney Morning Herald has reported concerns that the truck movements associated with the RailCorp Quarry were contributing to the degradation of the road condition and that additional funding from RailCorp would be required. Since that time there have been numerous media reports about the need to improve the state of the roads in the LGA (Appendix 6). It is important to note that from January to September 2019 Daracon contributed on a monthly basis to the Dungog Shire Council for road maintenance totalling in excess of $250,000.

5.5.1 Quarrying Developments and Community Response

With respect to quarrying developments specifically, there has been increased demand for construction materials in the Hunter Region and intensification general expansion and / or extension of hard rock quarrying mining activities in the broader Maitland, Upper Hunter and Port Stephens area over the years. There have been a number of recent quarrying projects and extensions proposed in nearby localities and also in similar project contexts (**Table 5.3**). A number of these have also been specifically identified during consultation activities with stakeholders and presentations from the MCQAG due to their location and / or perceived similarities with the Martins Creek Quarry. These projects have been reviewed to identify how stakeholders and communities have responded to these proposed developments.

Table 5.3 Quarrying Projects Case Studies

Project	Product Type	Company	Locality / Distance	Date Proposed	Date Determined / Current Status
Brandy Hill Expansion Project	Hard rock quarry	Hanson Construction Materials Pty Ltd	Approx. 25km south-east of the Project Area	March 2013 (Request for SEARs / PEA)	Extension approved July 2020
Eagleton Hard Rock Quarry (Extension)	Hard rock quarry	Eagleton Rock Syndicate Pty Ltd	Approx. 42km south east of the Project Area	Oct 2015 (Request for SEARs)	Assessment – more information required
Gunlake Quarry	Hard rock quarry	Gunlake Quarries NSW Pty Ltd	Marulan, NSW Southern Tablelands	Original project - 2007 Extension2015	Extension Approved in 2017

Project	Product Type	Company	Locality / Distance	Date Proposed	Date Determined / Current Status
Sutton Forrest Quarry	Sand quarry	Sutton Forest Quarries Pty Ltd	Sutton Forrest, NSW Wingecarribee Shire	Dec 2013 (Request for SEARs)	Response to Submissions
Lynwood Quarry	Hard rock quarry	Holcim (Australia) Pty Ltd	Marulan, NSW Southern Tablelands		Approved December 2005
Ardmore Park Quarry	Sand and hard rock quarry	Multiquip Quarries	Bungonia 25km southeast of Goulburn NSW		Approved September 2009. Modification 3 approved September 2020

Source: NSW Major Projects 2021; Holcim 2021, R. W Corkery and Co. 2008

Brandy Hill Quarry

One quarrying project in particular that is nearby to the Revised Project and is of relevance given the potential for cumulative social impacts is the Brandy Hill Expansion Project. Hanson Construction Materials Pty Ltd (Hanson) currently operates a hard rock quarry, Brandy Hill Quarry, in the suburb of Seaham. This quarry has been in operation since 2001 after receiving development consent by the Port Stephens Shire Council in 1983. A proposed expansion project put forth in March 2013 was approved in July 2020 and included an increase in annual production to 1.5 million tonnes per year and a concrete batching production and concrete recycling plant.

Submissions during the public exhibition stage noted similar community concerns to that of the Revised Project. These comments pertained to loss of rural amenity, sense of place and 'liveability' caused by expanded hours of operation and additional truck activity, especially at night, compromised road safety and impacts on access amenity.

These issues of concern were reinforced in a Response to Submission document published in October 2018 that included an updated SIA (Key Insights 2018) with the SIA noting that:

> *It is desirable to find a balance between Hanson being able to maximise its resource for its own benefit and for the economic flow-ons to the community, and the community being able to continue to live a healthy lifestyle with the amenity they currently appreciate being retained.*

The updated SIA for the Brandy Hill Expansion project also identified that in general, the community was not opposed to the quarry, but rather wanted to ensure that operations occurred at levels that would not significantly impact local amenity and the local experience of the area (Key Insights 2018).

Devastating bushfires in 2019-2020 tended to highlight the loss of a further 52 hectares of koala habitat, which was viewed by the community as a strong case to deny the expansion's approval (Appendix 6). The Brandy Hill Quarry Expansion Project received national media attention and support was provided by celebrities such as Sir Elton John to refuse the expansion and highlighted the cumulative impact of habitat loss, should the Revised Project also be approved.

Mitigation strategies proposed by the Proponent in its SIA to address community identified issue associated with the Brandy Hill included:

- Formalisation of the existing Community Consultative Committee (CCC).

- Creation of a mechanism that provides oversight of the Statement of Commitments and the Voluntary Planning Agreement.
- Consideration of additional mechanisms in the regular CCC agenda.
- Speed limit reductions
- Changes to proposed operating hours.

Eagleton Quarry

The proposed Eagleton Hard Rock Quarry is located approximately 40 km from the Revised Project in Eagleton, adjacent to the existing Boral Seaham Quarry. The EIS for the quarry was on public exhibition in February / March 2017 and proposed extraction of up to 600,000 tonnes of quarry material per annum over a 30 ha area for a period of 30 years. The RtS has been submitted and the project is currently in the Assessment phase.

Consultation activities during the assessment process identified that stakeholder issues with this proposed project also included noise, dust, damage from blasting activities, traffic movements and cumulative impacts with other noise sources in the environment.

A Social Values Review report prepared as a part of the RtS documentation identified that many of those in the community neighbouring the Eagleton Quarry project site were attracted to the area because of the

> *property sizes, rural amenity, trees and wildlife in a location that is still readily accessible to local villages such as Seaham, or the larger urban centres of Raymond Terrace, Medowie, Newcastle and Maitland* (Kleinfelder 2017).

It was also acknowledged that:

> *No community is able to remain static, however, it is imperative that adjacent land uses are managed in a responsible manner with regard to the accepted health, amenity and rights of neighbours.*

And that

> *whilst residual local amenity impacts have been assessed as complying with the relevant goals and standards, the level of concern within the local community indicates that the proposed quarry would be expected to result in impacts on the local rural character* (JBA 2017).

The project is yet to be approved with current assessment status identified as more information required following lodgement of the Response to Submissions.

Gunlake Quarry

Further afield the Gunlake Quarry in the City of Goulbourn LGA, also provides a useful case study in the context of the Martins Creek Quarry.

In April 2017, an extension of the existing Gunlake Quarry, was refused by the then Planning Assessment Commission (PAC, now IPC) on a number of grounds with the PAC noting that the expansion of the quarry would have 'unacceptable social impacts, including negative road safety outcomes and was not in the public interest.' This refusal had followed a recommendation of 'conditional consent' by the NSW DPE (now DPIE).

The quarry extension has since been approved with the NSW Land and Environment Court issuing approval conditions for Gunlake Quarry's expansion following a conciliation conference between the company and the DPE.

Consent conditions attached to the approval included limits on average daily truck movements, staged truck movements as output increases, upgrades to primary transport routes and a review of transport options, including by rail, within 10 years and every 10 years thereafter (Land and Environment Court, Gunlake Quarries Pty Limited v The Minister for Planning [2017] NSWLEC 1342).

The Towrang Valley Progress Association said at the time that 'it is not against quarries or economic development, just in favour of an outcome on Gunlake's expansion and transport plans with which all can live' (Towrang Valley Progress Association 2017).

In 2020, the Gunlake Quarry applied to the NSW Land and Environment Court to increase daily truck movements to a maximum of 590 each day (**Appendix 6**), in response to increased resource demand. A scoping report and request for SEARs for the Gunlake Quarry Continuation Project was lodged with DPIE in December 2020 with this outlining an intention to increase daily truck movements and a removal of the fixed annual tonnage limit so that the transport of saleable product is restricted by the approved truck movements only.

Media with regards to the proposal reports noted that community residents hold concerns for traffic safety and social amenity impacts associated with increased dust and noise and argue that rail transportation options should be forthcoming as early as possible.

In order to improve road safety and the continuity of product transport by road, the Gunlake Quarry has already funded and constructed a major upgrade to the primary haul route between the quarry and the Hume Highway, compliant with AUSTROADS rural road guidelines and able to receive the increased level of trucks proposed in the develop consent.

Sutton Forest Quarry

In another similar project community context, but again outside of the region, the EIS for the proposed Sutton Forest Quarry in the NSW Southern Highlands, received over 400 submissions from community members with the main issues identified including amenity impacts associated with the proposed operations such as increased noise levels, visual impacts, reduced air quality, groundwater pollution, increased traffic movements and reduction in the value of neighbouring properties.

Ardmore Park Quarry

The Ardmore Park Quarry is located approximately 4 km south of the village of Bungonia and 25 km south-east of Goulburn in the southern tablelands of NSW. Multiquip was granted State Government project approval to produce up to 400,000tpa of sand and hard rock products per year in 2009. This project represents a modified proposal following the consideration and refusal of an initial development application in 2005 (R. W. Corkery and Co. 2008).

On 2 August 2005, the Minster for Planning refused the original development application for the quarry based on finding of the assessment report by the then Department of Infrastructure, Planning and Natural Resources. The report concluded that while the environmental issues associated with the construction and operation of the quarry on the project site could be managed and mitigated through appropriate conditions of consent, the proposal would generate significant and unacceptable environmental impacts on the community along the proposed transport route. Key issues of concern related to:

- road safety
- noise and amenity impacts on Bungonia village residents
- inadequate condition of the road for the proposed number of heavy vehicle movements.

The minister in refusing the development application noted the following reasons:

1. The predicted heavy vehicle movements associated with the project would result in unacceptable amenity and social impacts for residents along the proposed transport route, including within the village of Bungonia.
2. The predicted heavy vehicle movements associated with the project could not be accommodated without acceptable risk to road users given the current serviceability of the proposed transport route.
3. The proposal as submitted was not within the public interest (R.W. Corkery and Co. 2008).

To address the above issues of concern with the project, a modified application was submitted in 2008 and ultimately approved in 2009. The modified application included key changes to the transport component of the project, namely:

- a private bypass road of Bungonia
- the upgrading of the public roads of the proposed transport route to the desired road standard of Goulburn Mulwaree Council (R. W. Corkery and Co. 2008).

Lynwood Quarry

Lynwood Quarry is a hard rock quarry currently being constructed by Holcim (Australia) Pty Ltd to the west of Marulan in the Southern Tablelands Region of New South Wales. The quarry is located in the Goulburn Mulwaree LGA approximately 160 km south-west of Sydney and 27 km north-east of Goulburn (Holcim 2021).

During consultation for the SIA to support the development application (Coakes Consulting 2005) most participants from Marulan were supportive of the development of a quarry in Marulan citing the economic benefits associated with the proposal, namely increased local employment. Participants indicated that a lack of employment opportunities in the township in the past had meant that people had been required to move out of the locality or travel distances to find work. Participants also acknowledged that any new industry in the town would also provide benefits for the community, in terms of an increase in the town's facilities. It was also acknowledged that new people in town would benefit the township.

The most frequently raised issues of concern for Marulan residents included:

- Dust from the quarry exacerbating current dust problem in town, including health impacts from dust.
- Blasting including blasting time and potential damage to property.
- Transport concerns relating to safety for the community, including the increase in the number of vehicles (trucks and trains) and the safety of aging and inadequately maintained infrastructure (roads and the level crossing).
- Noise impacts from quarry infrastructure.

Lessons for Martins Creek Quarry

The above projects provide key insights for the Revised Project. It is evident that social impacts of quarrying activities are a key area of interest and can be difficult to manage to a level that is regarded as acceptable by those experiencing them. Even if compliance with relevant environmental guidelines are met and all significant impacts have been addressed from a technical perspective, impacts on the amenity of local communities as a result of environmental and other impacts such as traffic, noise, dust and blasting impacts are likely to be still be experienced and can be significant for some within Project affected communities.

A common theme in the analysis of consultation outcomes of the above project examples, is that community members are not against developments and can see that there is some benefit associated with these but would like to see greater consideration of mutually beneficial solutions to co-existence and the ability for existing or anticipated impacts to be managed satisfactorily in a collaborative way. This is particularly important in the context of quarrying operations in which the availability of suitable sound rock resources is limited with the location of such resources not always ideally placed with the co-existence of the quarrying operations with local communities, presenting often challenging issues.

A review of the above project examples has also identified a range of mitigation and management measures that have been considered in the context of the Revised Project. Proposed mitigation and management measures for the Revised Project are addressed at **Sections 7.0** and **8.0**.

5.6 Community Capitals

In the development of the profile for the Revised Project, aspects of the sustainable livelihoods approach (DfID 1999) have been utilised to provide a comprehensive understanding of the relevant communities proximal to Revised Project (Coakes and Sadler 2011).

Preparation of the study has involved collection, collation and analysis of secondary data, with relevant primary data, collected through personal stakeholder interviews, used to supplement secondary data where relevant.

5.6.1 Sustainable Livelihoods Approach

As highlighted above, the study has utilised aspects of the sustainable livelihoods approach (DfID 1999) to provide a comprehensive understanding of the relevant communities proximal to Revised Project.

The Department for International Development (DfID) approach draws on broad categories of community capitals as a fundamental basis to identifying and further enhancing community capacity and resilience. According to DfID, a livelihood includes the capabilities, assets (including both material and social resources) and activities required for people to meet their basic needs and support their well-being.

A livelihood is considered sustainable *'…when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base*'.

This study has involved profiling communities of interest (refer to **Section 5.2)** according to five 'community capitals' or 'capital assets – economic, physical, social, human and natural capital, and has involved the selection and collation of indicators for each capital (Beckley et al. 2008; DFID 1999; Ellis 2000; Hart 1999).

Natural capital is defined as the stock of natural resources e.g., minerals, oil and gas, agricultural lands, oceans, forests etc. that provide natural beauty, generate sustainable economic and commercial activities and which provide ecosystem services.

Human capital refers to the health and welfare of human beings, their knowledge and skills, as well as their overall capacities to contribute to ongoing community sustainability. A community that is heavily dependent on a particular industry, but which exhibits low levels of human capital, is likely to face greater challenges in embracing socioeconomic change as a result of disruption.

Social capital relates to how individuals, groups, organisations and institutions within a community interact and cooperate; and can be broadly defined as a multifaceted concept that encompasses the dynamics and strength of relationships and/or interactions within a given community; this includes the degree of social cohesion and interconnectedness between community members.

Economic capital is defined as the extent of financial or economic resources within a town or community, including access to credit. For instance, a town lacking in economic capital, but predominantly reliant on a specific industry sector such as mining, is likely to be more vulnerable to change and consequently more likely to experience greater difficulties in adapting to change given this dependence, particularly once an industry declines or as a result of industry closure.

Physical capital is broadly defined as a town or community's built infrastructure and services, including hospitals, schools as well as social service provision e.g., health care, aged care, childcare. For example, a highly remote community that lacks access to basic facilities and social services may lack the capacity to enhance its local human skills base and is likely to be more disadvantaged in capitalising on opportunities for further industry development and economic capital growth.

Elements of each capital area are further outlined in **Figure 5.6**.

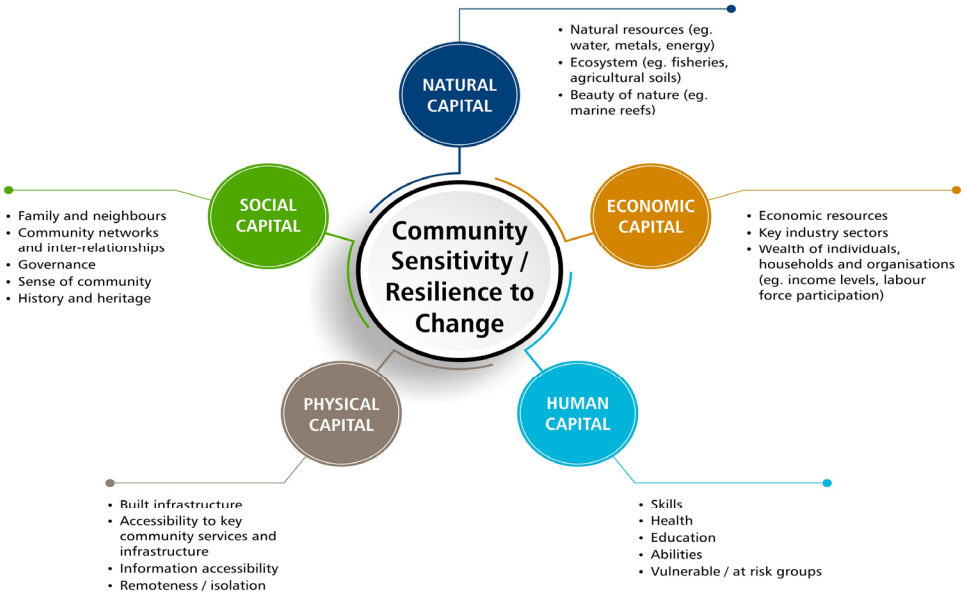


Figure 5.6 Capital Framework

Source: Adapted from Coakes and Sadler (2011)

For the purpose of this study an assessment of community resilience or adaptive capacity has been undertaken, based on review and analysis of relevant indicators and other secondary and primary data sources.

5.6.2 Data Collection and Analysis

A key component in the development of the social baseline profile for the assessment has been the collation and interpretation/analysis of demographic data. Analyses undertaken relates to:

- **indicator** identification and selection to afford appropriate assessment of social impact relating to the Revised Project
- **comparative analysis** across the different communities identified as being relevant to the Revised Project. NSW State data has also been utilised for comparative purposes
- longitudinal/Time-series analysis of population data.

As identified above, socio-economic characteristics of the relevant communities are largely based on State Suburb and LGA levels of analysis and informed by data available from the latest 2016 Census and other data sources such as the Public Health Information Development Unit (PHIDU), Torrens University Australia. The primary communities of interest for the purposes of this study therefore include:

- State Suburbs of:
    - Martins Creek (SSC)
    - Paterson (SSC)
    - Vacy (SSC)
- Dungog LGA
- NSW State.

Where relevant to the social impacts identified, state suburb level data for the communities directly located along the primary haul route, i.e., Bolwarra (SSC), Bolwarra Heights (SSC) and Duns Creek (SSC) have also been included. It is important to note that while some key indicators have been included for Duns Creek, this SSC falls within the Port Stephens LGA and the haul route only traverses a small portion of this locality. Additionally, lower levels of community interest is also evidenced by the smaller number of community submissions during the original EIS for this proposal when compared with other localities.

It should also be noted that the ABS area boundaries of the communities of Martins Creek, Paterson, Vacy, Bolwarra and Bolwarra Heights have experienced changes over time, resulting in differences in the local population and households included in the 2006, 2011 and 2016 Census' for these communities. In particular, the Paterson SSC experienced significant change between 2011 and 2016, with the state suburbs of Webbers Creek and Tocal being gazetted from Paterson in 2016. All community boundaries changed between 2006 and 2011. Due to these differences, caution must be taken when comparing social indicators of these communities over time. This limitation is acknowledged where relevant in the community capitals analysis below (see **Section 5.6**).

Data sources utilised in the community capitals analysis are outlined in **Table 5.4** below.

Table 5.4 Primary Data Sources for Community Capitals Analysis

Source	Content
Australian Bureau of Statistics (ABS)	2016 Community, Time Series and Indigenous Profile data for: • State Local Government Areas (LGA) of Dungog • State Suburb Code (SSC) level for: o Martins Creek (SSC) o Paterson (SSC) o Vacy (SSC) o Bolwarra (SSC) o Bolwarra Heights (SSC) o Duns Creek (SSC) • State of New South Wales (STE) 2016 Socioeconomic Indices for Areas (SEIFA) for Socioeconomic disadvantage, education and occupation, and access to economic resources.
The Public Health Information Development Unit (PHIDU), Torrens University Australia	2019 and 2020 releases of public health data through the Social Health Atlas (Western Australia) and Aboriginal and Torres Strait Islander Social Health Atlas. Data within the Social Health Atlas is collated from a range of sources. http://phidu.torrens.edu.au/social-health-atlases
NSW Government Department of Planning and Environment (DPIE)	2019 release of population projections by NSW State and Local Government Area Population and Household Projections – based on data sourced from the 2016 Census https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections

Indicators have been identified according to each capital area, and data collated for analysis at the levels noted above. **Table 5.5** presents the indicators that have been and their respective source.

Table 5.5 Examples of Indicators Collated and Reported In Profile By Capital

Indicator	Data Source
Human Capital	
Indigenous Population	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Learning or earning	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
SEIFA Education occupation	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Highest level of school attained	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Non-school qualifications	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro

Indicator	Data Source
People aged 18 years and over with one of four risk factors (rate per 100)	PHIDU, 2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Children Developmentally vulnerable in one or more domains (2015)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Educational Facilities – enrolments, attendance, FTE staff, number of students	https://www.myschool.edu.au/
Population projections	https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections
Social Capital	
Population Mobility	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Aged pensioners	PHIDU, 2017. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Poor Proficiency in English	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
SEIFA Relative Socio-economic Disadvantage	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Household composition	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Family composition	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuidler Pro
Married	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Proportion who volunteer for an Organisation or Group	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using PHIDU, 2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Economic Capital	
Personal and Household income	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
% employment in mining	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Unemployment rate	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Labour force participation	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Top three Industries of employment	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
SEIFA Economic resources	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Financial stress from mortgage or rent	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Herfindahl Index of Industrial Diversity	Calculated based on ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Physical Capital	
Dwelling Structure/Type	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles

Indicator	Data Source
Home ownership	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Rent Assistance from the Government	PHIDU, 2017. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Residential Aged Care Places	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Household size	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Overcrowding (no. of people per bedroom)	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 20182020
Occupied Dwellings without Internet Access	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Travel to work	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Access to transport/average number of cars	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro

5.7 Natural Capital

Natural capital contributes to community strength and sustainability and includes an assessment of natural assets and resources such as water, soil and air quality, biodiversity and the presence of natural resources such as timber, minerals and gas. Natural capital can also include assets which contribute to recreational values, tourism or other social and cultural values, such as waterways or lakes.

As previously mentioned, the quarry is located within the Dungog LGA, with sections of the primary haul route within the Maitland LGA. The Maitland LGA covers 396 km² from Woodberry in the east to Lochinvar in the west, Tocal to the north, and Gillieston Heights to the south. The Hunter River is an important natural asset from the region. The river meanders through the LGA and was important for transport and trade during the establishment of Maitland. A major flooding event in 1955 caused significant damage across the region and was the first Australian natural disaster to be broadcast by the media on an international scale. The River and its extensive floodplain provide a natural boundary for urban growth and urban development potential is generally limited to areas south of the Hunter River (Maitland City Council 2020).

Maitland is home to over 390 fauna and 1,290 flora species. Of these species, 132 are listed as threatened species and 20 threatened ecological communities. Maitland LGA also contain productive agricultural lands, although this land is becoming increasing fragmented through urban development (Maitland City Council 2020).

Dungog LGA covers an area of 2248 km^2 and is located in the Barrington Tops region of NSW. The Barrington Tops forms one fifth of the Dungog LGA's land area and is part of the Central Eastern Rainforest of Australia, which is listed as a World Heritage Wilderness. The region has two major rivers, the Williams and the Paterson, both tributaries of the Hunter which contribute approximately 40% of the Hunter River flow. The creation of Lostock Dam in the 1970s assisted in flood mitigation and water storage for the region (Dungog Shire Council 2018c; Visit Dungog 2018).

The Dungog LGA possesses both rugged hills and alluvial river flats, with the later leading to a reliance on agricultural assets, timber production and grazing for economic security. The Paterson/Allyn Valleys and the Clarence Town/Dungog hills having been extensively cleared are used for dairy farming along the lower reaches and for beef production in steeper areas. Occasionally beef and horse studs may occur.

Forestry operations are concentrated in the north but are not as widespread throughout the LGA as they once were. Increasingly rural residential and hobby farms are occupying traditional grazing areas (Dungog Shire Council 2017). However, the area is experiencing growth in tourism to the Barrington Tops and nearby state forests and is attracting retirees looking to settle in a rural community (Dungog Shire Council 2018c; Visit Dungog 2018).

A number of natural features are attractive to the visitor economy including Barrington Tops National Park, Columbey National Park, Chichester State Forest and the Dungog Common Recreation Reserve. The LGA is a stepping off point for hikers, walkers, bikers and campers into the Barrington Tops, Jerusalem Creek Trail and the Williams River. A number of scenic drives are available for visitors to the area and locals. Lostock Dam provides the capacity for fishing, while kayaking and swimming are possible in the Paterson, Allyn and Williams rivers (Dungog Shire Council 2018c; Visit Dungog 2018).

Analysis of local media from 2015 to 2020 highlighted that water supply is a noted concern across the region. Media articles stated that drought across the Hunter Valley has been affecting agricultural communities, with a call to the State government to offer financial relief. In 2015 issues around Daracon's controls for sediment and erosion were found by the EPA to be inadequately maintained, causing water from the quarry to flow past a sediment control fence without being treated. Hunter Water also confirmed in 2018 that mains water being provided to some Dungog residents was raw and did not meet current national drinking water guidelines and progressed two solutions based on engineering advice and community feedback including a rainwater tank solution or an onsite water treatment kit (refer to **Appendix 6**). Furthermore, due to severe drought in 2019 water restrictions were introduced to the Lower Hunter September 16 to October 2020, and for the first time in over 20 years for the region in response to what was considered 'the state's worst drought on record' (refer to **Appendix 6**). However, late 2020 and early 2021 saw drought conditions easing with the impacts of the La Nina phenomenon causing increased rainfall across the Hunter region.

Consultation activities for this SIA have revealed the importance of the quality of life and amenity of the area. with many noting that the natural beauty and serenity of the rural lifestyle was a key draw card for the area. When asked what people valued about their community some respondents identified the following assets of the area:

> *Nature, quiet, we all have reasonably large blocks [and we] like open space and lifestyle.*
>
> *Pretty quiet apart from the quarry. The people are friendly, [it's a] community, [but] people still keep to themselves.*
>
> *The quiet (was once very quiet) and its physical beauty.*

Discussions with community stakeholders have also noted concerns with regards to the loss of this rural quality of life typically due to quarry trucking activity and other factors, such population change, for example:

> *[The area is] close to Sydney but is rural, quiet. But it is changing – [we] don't need any more trucks. Population is already increasing let alone quarry trucks increasing.*

According to the Dungog Shire Visitor Economy 2015-2018 report (Dungog Shire Council 2015), visitors to the region are primarily coming for a holiday (73%) with 22% visiting friends and relatives. Most visitors originate in regional NSW (58%) with another 26% originating from Sydney. The Dungog Visitors Information Centre (cited in Dungog Shire Council 2015) cites 26% of visitors come from Newcastle, 29% from Sydney and 10% from the Central Coast.

When asked about what they liked about the area, consulted residents often referred to the peace and tranquillity afforded by the rural setting of the area, with the presence of natural environmental features seen as a key part of this amenity.

> *Quiet, bigger blocks and biodiversity…native flora and fauna.*
>
> *Visuals are of the most beautiful areas of the valley*.

Resident sentiment is echoed by those visiting the area, with 44% of visitor activities including, general sightseeing (32%), eating out (29%) or visiting a relative's property (43%). The primary areas of interest to visitors at the Dungog Visitors Information Centre are camping (15%), walks (11%) and events (8%), with the remainder unspecified.

Dungog Shire Council note in their report (Dungog Shire Council 2015, 19) that the target market that 'best suit these opportunities [in Dungog LGA] currently are the family travel market and the over 55's' as those most likely to visit the area and utilise the areas services.

Motivations expressed by visitors for coming to the LGA via the survey conducted by Dungog Shire Council and published in the Dungog Shire Visitor Economy 2015-2018 (Dungog Shire Council 2015) report are detailed in **Table 5.6**.

Table 5.6 Primary Reasons Why People Visit Dungog LGA (2015)

	Tourism businesses (%)	*General community (%)*
State and National Parks	88	79
Art, film, food and music events	74	77
Horse and cattle events	70	61
Fitness, cycling, swimming and canoeing events	61	47
Sport events	57	36
Mountain bike trails	54	49
Cycling trails	47	49
Historic villages	32	52
James Theatre	31	n/a
Dungog Common	28	28

Source: Dungog Shire Council (2015)

'Hotels and pubs' were given as the primary reason for staying and spending money in the LGA according to the general community, and 'antiques and bric-a-brac' as the primary reason given by tourism businesses (**Table 5.7**). Differences may reflect the differing access to tourism- based information by members of the community (Dungog Shire Council 2015).

Table 5.7 Reasons Why People Stay and Spend Money Once They Arrive in Dungog LGA (2015)

	Tourism businesses (%)	*General community (%)*
Antiques and bric a brac	81	58
Cafes	78	57
Wineries	73	51
Galleries	70	54
Hotels/pubs	69	64
Markets	68	52
Cultural heritage	67	41
Restaurants	66	55
James Theatre	64	n/a
Art trails	59	n/a
Historic villages	57	34

Source: Dungog Shire Council (2015)

The importance and potential value of outdoor tourism to the Dungog LGA was strengthened in January 2019 with Dungog Regional Tourism receiving $1.332 million in State Government funding under round two of the Regional Growth Environment and Tourism Fund. The successful project is a collaboration with the Dungog Shire Council, the Forestry Corporation and community groups and seeks to capitalise on the unique natural attractions in the Dungog LGA with investment into a number of sites within the Shire including the Paterson Sportsground, Dungog Common, Dungog Showground and Williams River Holiday Park and Chichester Forest (East and West). Ultimately is intended that the project will increase visitation rates and therefore expenditure within Dungog while diversifying the existing market base, improving safety for visitors and enhancing visitor experiences (A**ppendix 6**).

A number of events are held in the region, primarily out of the township of Dungog including the Dungog local growers stall, Clarence Town farmers market, Back to Back Wool Challenge, Rail Motor Society Open Day, Truffle Gathering, Gresford Community Markets, CWA Bush Poets, Masked Ball, Gresford Historical Trivia Night, Riverwood Downs Trail Run, Dungog Campdraft, Tocal Field Days, Tocal Homestead Peek into the Past, Dungog Down Memory Lane, AGOG film festival, Vacy Village Country Carnival, Wiiragulla Annual Polo Tournament, Dungog Pedalfest, Dungog Arts Society Annual Art Exhibition, Dungog Car and Bike Show, Dungog Festival, Australian Stock Horse Society Eastern Branch Show, Dungog Show, Dungog Region Arts and Culture Trail (Visit Dungog 2018).

Flooding in the Dungog LGA has occurred several times in recent years:

- **8 June 2007:** The 'Pasha Bulker' storm caused flooding of a number of properties in low-lying regions and flooded properties on Hooke and Dowling Streets.
- **April 2015:** Storms caused by an East Coast Low over the Sydney and Hunter regions resulted in loss of life and significant structural damage.

- **March 2021:** Several roads and bridges within the Dungog LGA were shut after severe storms and flooding on 19 March 2021 with 50mm of rain falling in two hours.

The *Dungog Floodplain Risk Management Study and Plan 2017* was produced on behalf of Dungog LGA and NSW OEH (Hudson and Patterson 2017) in response to the 2007 and 2015 flood events. The plan identifies, assesses and compares a range of flood mitigation and risk management measures for the LGA, and assesses their costs to the community, both tangible and intangible.

As outlined in the 2019-2020 Dungog Shire Council Annual Report, Council has implemented a Flood Warning System which provides:

- guidance on what actions to take given certain triggers
- the community and emergency services with up-to-date information to guide decision making
- clear messaging to those at risk.

5.7.1 Summary of Natural Capital

In summary the Dungog LGA hosts the following natural capitals and characteristics:

- Alluvial river flats provide a base for grazing and intensive agriculture strong source of local employment in the LGA.
- Natural recreational assets include the Barrington Tops National Park, Columbey National Park and Chichester State Forest, providing potential tourism-related employment and income.
- River systems in the area create recreational opportunities such as kayaking and swimming for locals and visitors alike.
- Flooding has occurred across the LGA with significant impacts in the last several years, including economic impacts on infrastructure.

5.8 Human Capital

Table 5.8 provides a summary of the key human capital indicators for the study communities relevant to the Revised Project. This data is compared to NSW, where relevant, with further discussion regarding these indicators and key issues of significance provided in the subsequent sections.

Table 5.8 Summary of Key Human Capital Indicators for Key Communities

Human capital	Martins Creek (SSC)	Paterson (SSC)	Vacy (SCC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Population	385	891	630	987	2,947	546	8976	7,480,231
Indigenous (%)	4	2	4	3	3	4	5	3
Males (%)	48	49	51	49	50	53	50	49
Median Age (years)	39	41	39	44	36	41	45	38
Proportion born overseas	7	5	5	9	8	8	5	30

Human capital	Martins Creek (SSC)	Paterson (SSC)	Vacy (SCC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Year 12 or equivalent (%)	32	42	38	56	53	53	36	59
Equivalent Post-Secondary Education[4] (%)	47	53	56	58	58	53	45	49
Bachelor degree level (%)	14	19	15	27	24	21	15	26
People aged 18 years and over with one of four risk factors[5] (rate per 100)	-	-	-	-	-	-	87.3	78.2
Learning or earning[6] (%)	-	-	-	-	-	-	80	85
Children developmentally vulnerable in one or more domains (2015)	-	-	-	-	-	-	9.7	20.2

Source: ABS 2016, PHIDU 2020

5.8.1 Key Population Characteristics and Trends

As at the 2016 census, the Dungog LGA had a population of 8,976 people with the population of Martins Creek, Vacy and Paterson comprising approximately 21.2% of the Dungog LGA's total population.

While above the State average of 2.8%, the proportion of the population within the Dungog LGA who are Indigenous is fairly low – 5%. Of the study communities, the proportion of Indigenous population is largest within the suburb of Vacy (4.1%), and the lowest in Paterson (2.1%) (refer to **Figure 5.7**). The main Indigenous nation within the LGA is the Worimi people. Dungog Shire Council's Community Strategic Plan (Dungog Shire Council 2018e) identifies a key priority for the region is to increase promotion of and community awareness of local Aboriginal heritage and culture. The proportion of the population who are Indigenous within Bolwarra and Bolwarra Heights is 3% in both localities, while Duns Creek has an Indigenous population of 4% (ABS Community Profiles 2016).

[4] Includes Cert III & IV, Diploma and Bachelor. Community Profile Census data (GCP). Cert Level I & II are excluded as both the SEIFA Index and Census define these levels as being equivalent to Years 11 and 12.

[5] Estimated number of people aged 18 years and over with at least one of four risk factors (current smokers, high risk alcohol, obese, no or low exercise in the previous week) – 2014-2015

[6] Learning or Earning at ages 15 to 24 - 2016

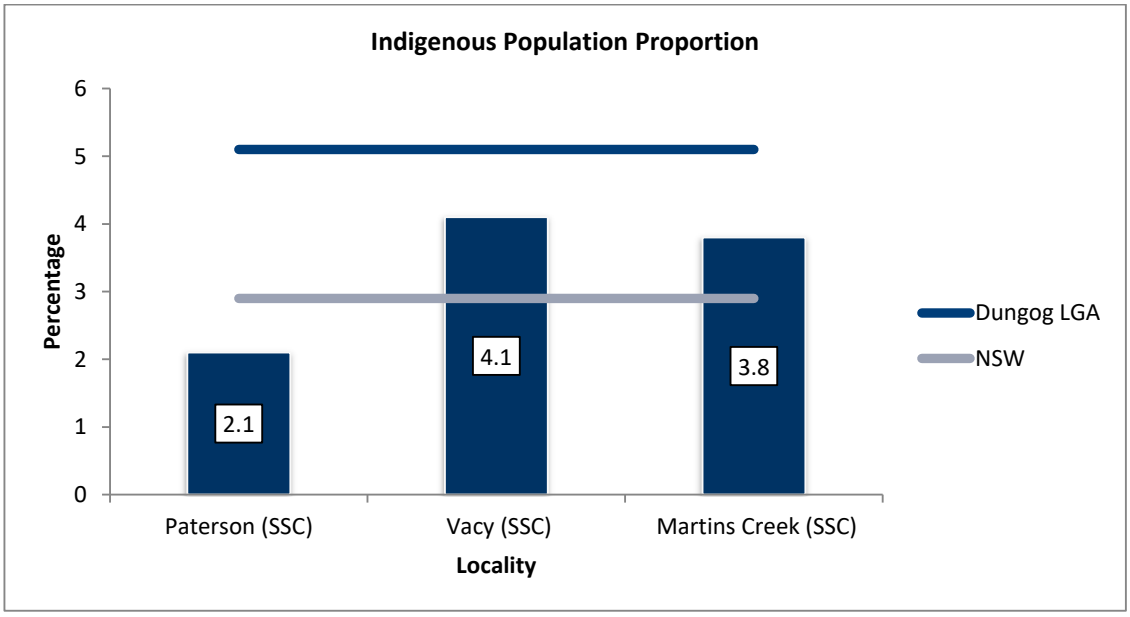


Figure 5.7 Indigenous Population Proportion 2016
Source: ABS Community Profiles

5.8.1.1 Age Structure

Compared with the NSW average, the populations of Paterson, Vacy, Martins Creek, Duns Creek, Bolwarra and the Dungog LGA, are older with median ages ranging from 39 - 45 years, compared to 38 years across NSW. However, in Bolwarra Heights the population in younger with a median age of 36 years.

The population of the broader Dungog LGA is the oldest with a median age increasing from 41 years to 45 years between the 2006 and 2016 Census periods suggesting an aging population across the LGA more broadly. However, when looking at the specific communities, the median age in Paterson has increased, stayed the same in Vacy and decreased in Martins Creek (**Figure 5.8**). Given boundary changes over census periods identified in **Section 5.6.2** above, the localised medians for Paterson, Vacy, Martins Creek, Bolwarra and Bolwarra Heights over time should be considered as indicative of their collective area. Individual community (SSC) changes should be interpreted with caution.

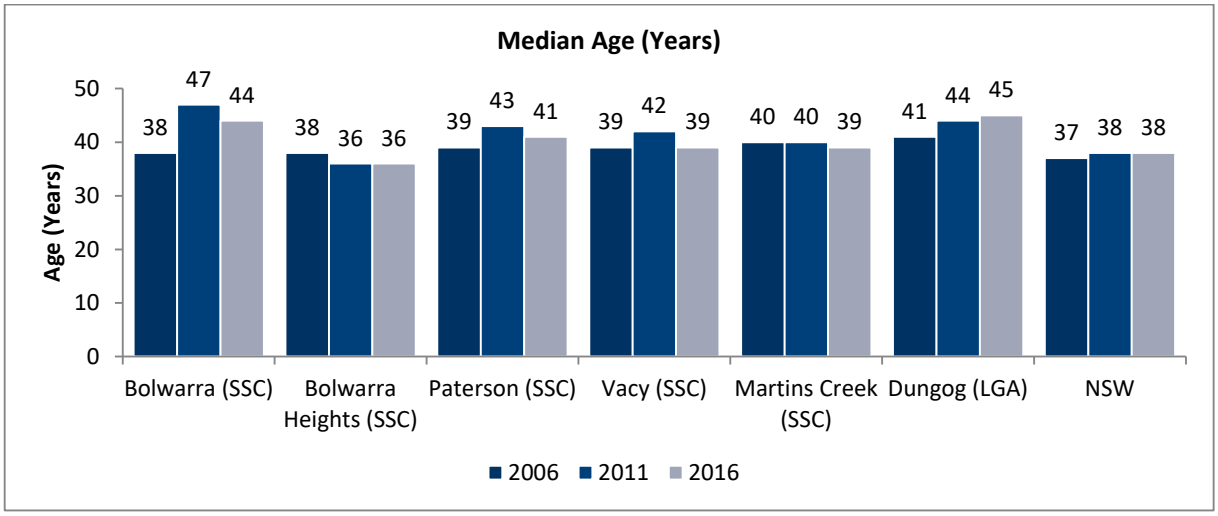


Figure 5.8 Median Age – Years
Source: ABS Community Profiles (2016)

Figure 5.9 to **Figure 5.15** illustrates the age structure by gender in each community of interest. These figures indicate that:

- The population in Martins Creek and Paterson have a greater proportion of females than males with the majority in the 45-54 year age bracket.
- Bolwarra has higher proportions of 55-64 years, while Bolwarra Heights is a younger population with higher proportions of 5-14 years.
- The population in Vacy is slightly dominated by males largely in the 45-54 and 5-14 age brackets.
- Generally, across the Dungog LGA there is an even balance between males and females.

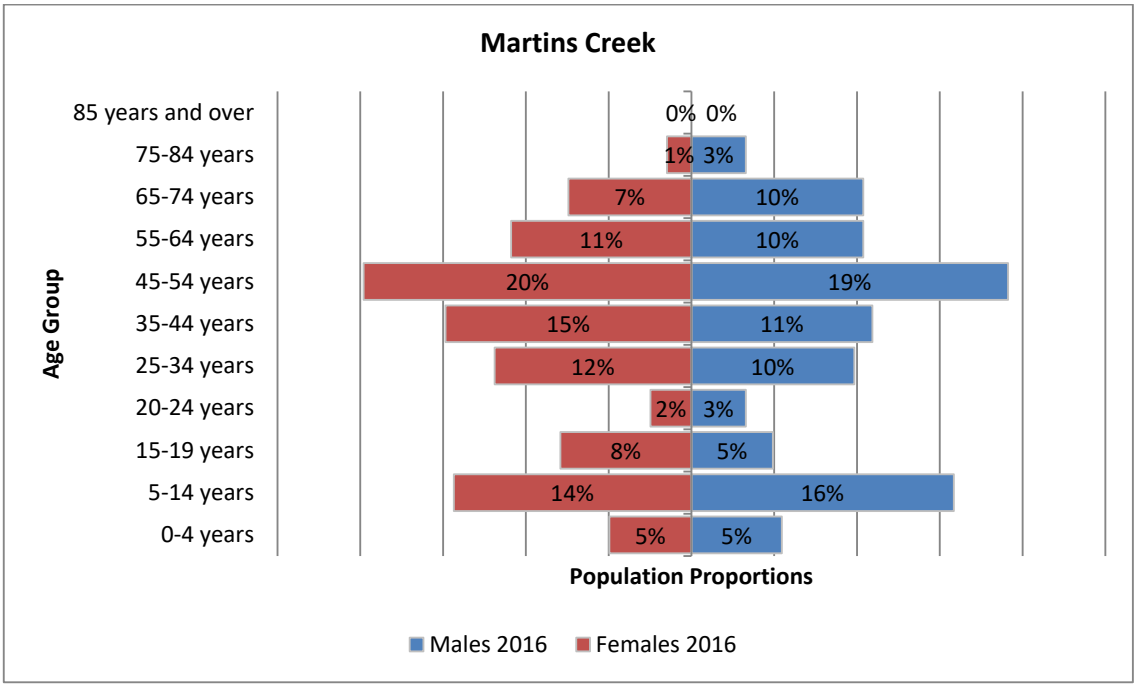


Figure 5.9 Martins Creek 2016 Population Distribution (Age in years by Gender)
Source: ABS Community Profiles (2016)

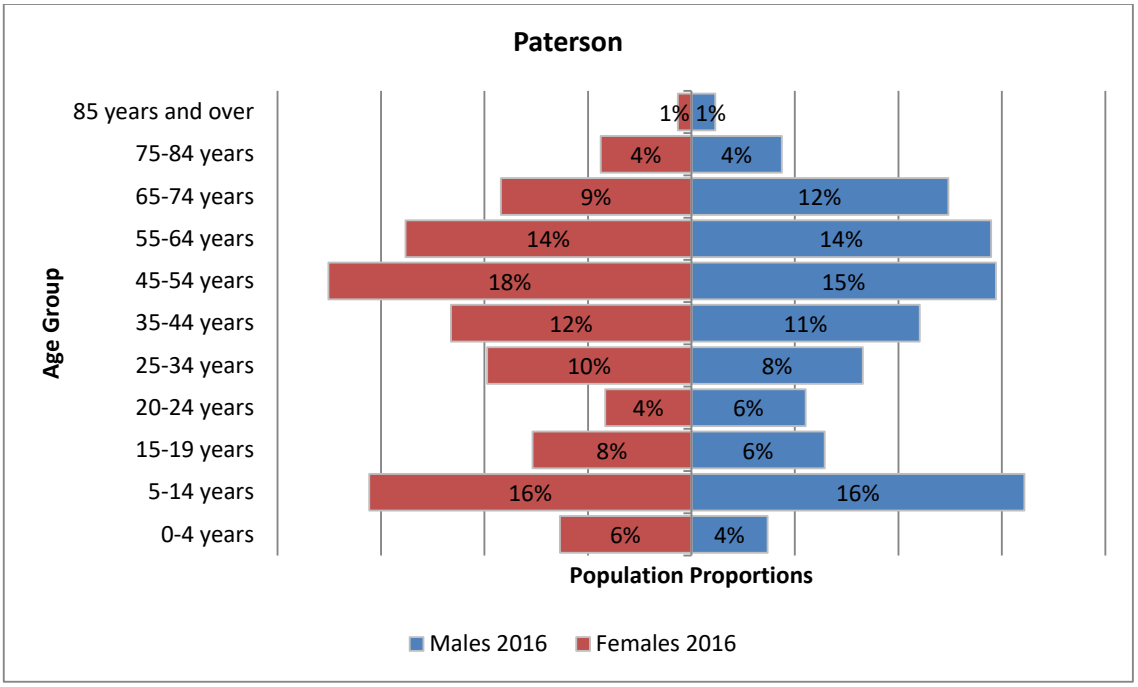


Figure 5.10 Paterson 2016 Population Distribution (Age in years by Gender)
Source: ABS Community Profiles (2016)

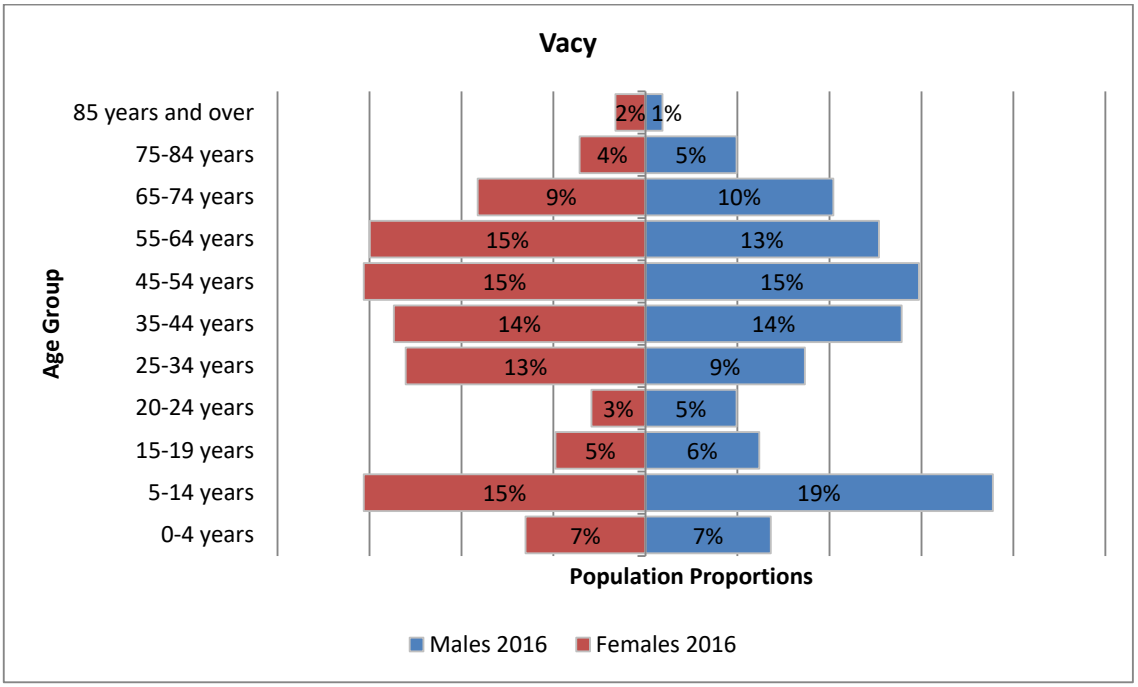


Figure 5.11 Vacy 2016 Population Distribution (Age in years by Gender)

Source: ABS Community Profiles (2016)

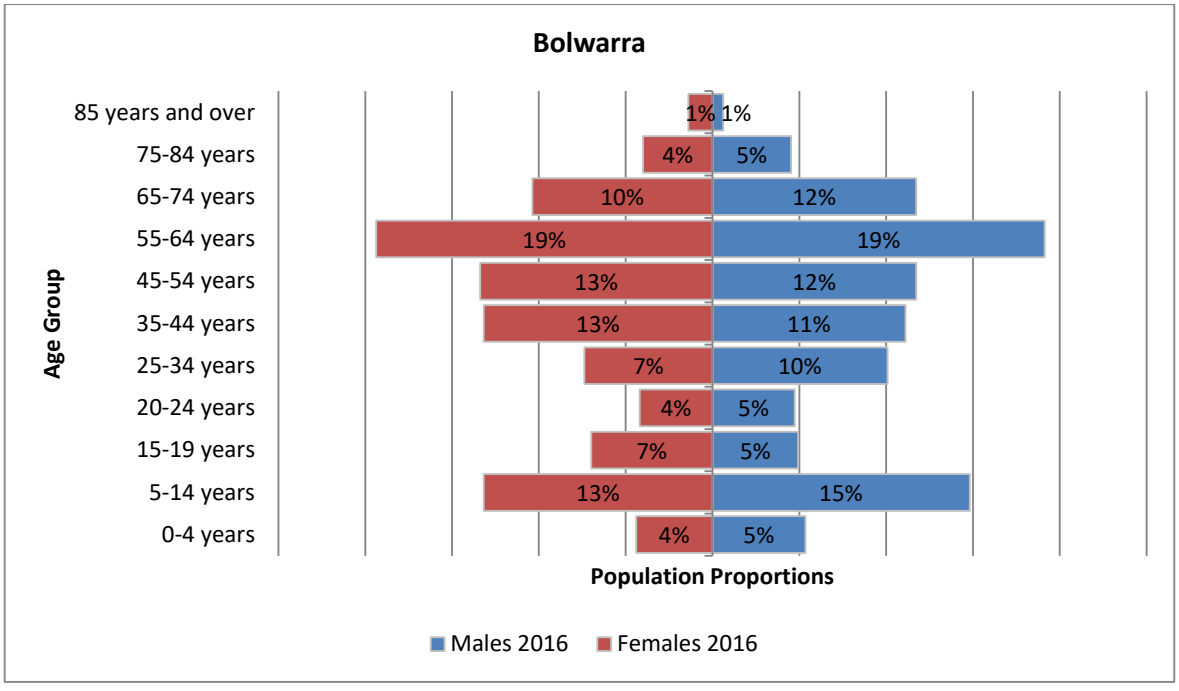


Figure 5.12 Bolwarra 2016 Population Distribution (Age in years by Gender)

Source: ABS Community Profiles (2016)

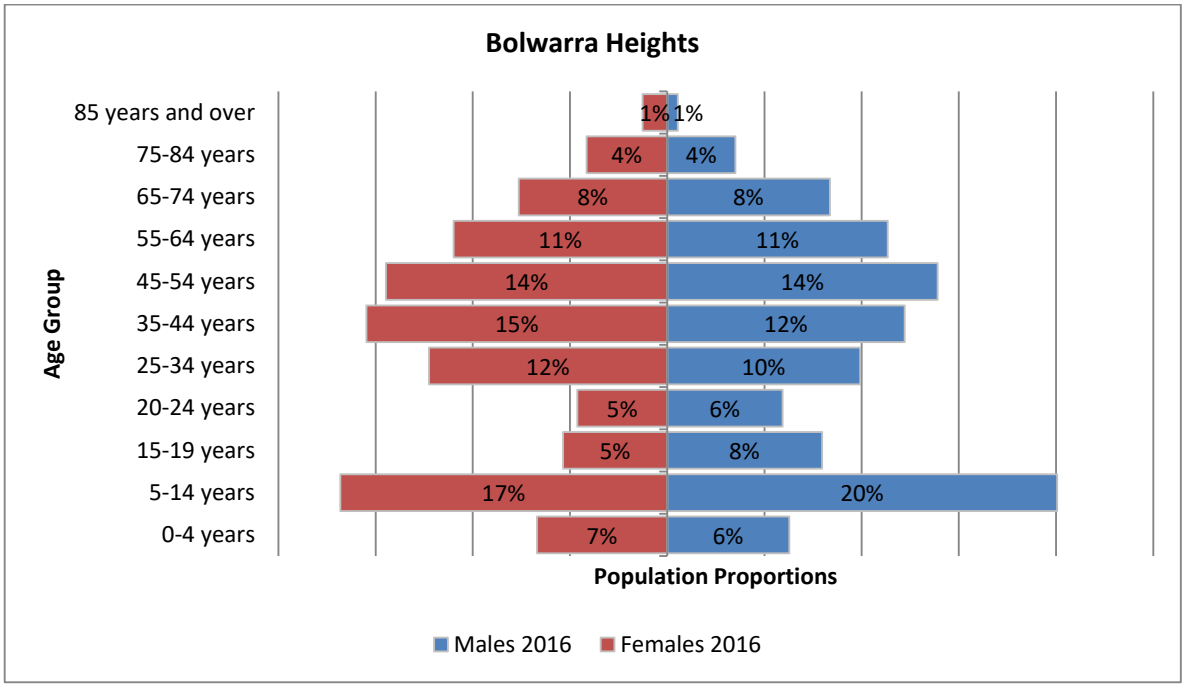


Figure 5.13 Bolwarra Heights 2016 Population Distribution (Age in years by Gender)
Source: ABS Community Profiles (2016)

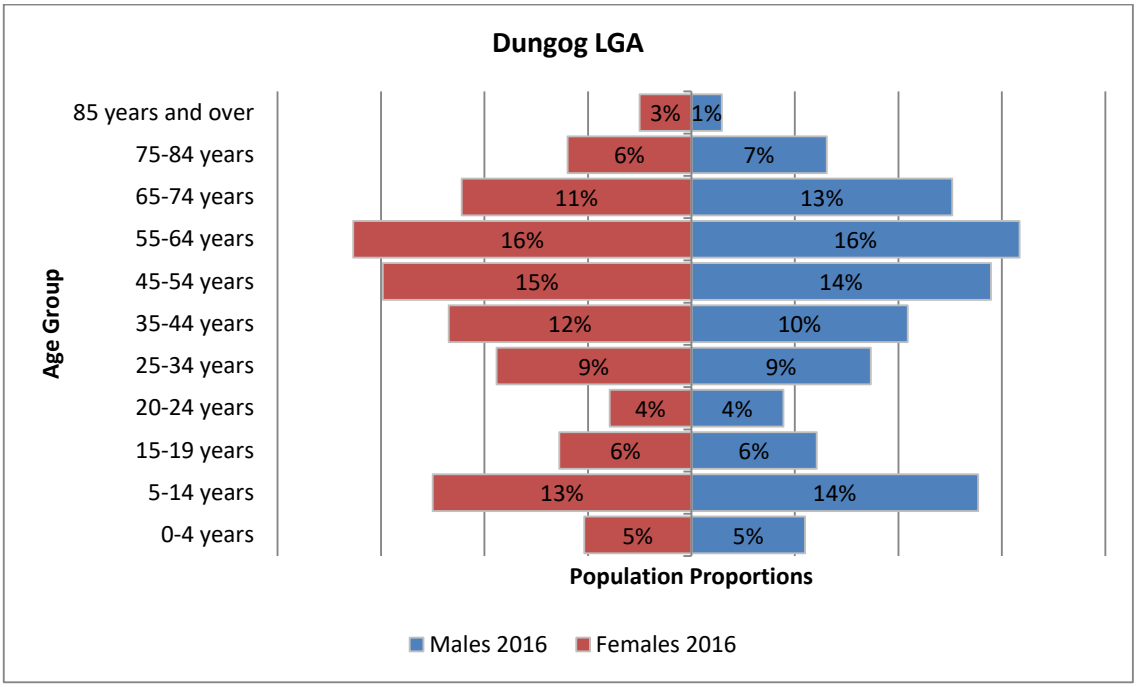


Figure 5.14 Dungog LGA 2016 Population Distribution (Age in years by Gender)
Source: ABS Community Profiles (2016)

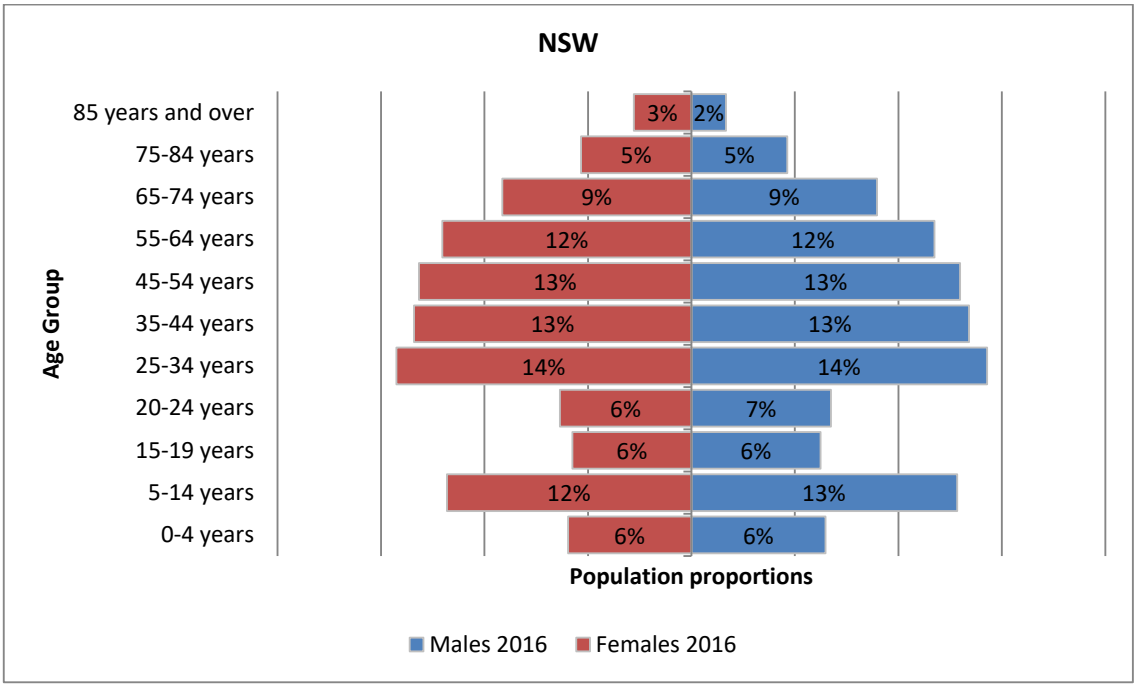


Figure 5.15 NSW 2016 Population Distribution (Age in years by Gender)
Source: ABS Community Profiles (2016)

5.8.1.2 Population Change

Changes in the gender breakdown across the Dungog LGA has been minimal between the 2011 and 2016 Census periods with only a slight decrease in the proportion of males and a very marginal increase in the proportion of females while the proportion of those in the LGA who are Indigenous has increased by close to 2% (**Table 5.9**).

Table 5.9 Changes in Population over Time Gender and ATSI Status (2011-2016)

Dungog LGA	2011	2016	Trend
Male (%)	50.3	50.1	↓
Female (%)	49.7	49.9	↑
Aboriginal and Torres Strait Islander People (%)	3.2	5.1	↑

Source: ABS Community Profiles (2016)

As can be seen in **Table 5.10**, population numbers in the suburbs of Paterson, Vacy and Martins Creek have increased between 2011 and 2016, with Paterson (15%) and Vacy (14%) and Martins Creek (13%) all experiencing a substantial increase in population. It should be noted that even when the suburb of Webbers Creek is included in the 2016 population count of Paterson, the area of both the SSCs of Paterson and Vacy has decreased slightly from 2011 to 2016, meaning the actual increase in population is likely to be marginally higher in both areas. Dungog LGA has experienced a more moderate increase in population of 8% from 2011 to 2016 (see **Table 5.10**), and 11 % since 2006 (refer to **Table 5.11**).

Population change in Bolwarra and Bolwarra Heights is difficult to ascertain given changes to the ABS suburb boundaries between 2011 and 2016. However, the Maitland City Council's *Community Strategic Plan Maitland+10 (2018-2028),* identifies that the LGA was expected to increase in population from 77,000 in 2016 to 104,850 by 2036 making it 'one of the fastest growing cities in Australia' (Maitland City Council 2018).

Like many rural communities, population changes across the LGA are led by the migration of post-education youth seeking employment opportunities outside the LGA and the migration of tree-changers into the LGA (refer to **Table 5.10**) (Dungog Shire Council 2018e). During consultation undertaken by the Dungog Shire Council in preparing the Community Strategic Plan (2018e), Dungog High School students noted that they want the opportunity to move away and experience other places and many of them also want to come back to the LGA when they grow older (Dungog Shire Council 2018e).

Table 5.10 Changes in Population over Time (2011-2016)

Year	2011	2016	↑↓ Change 2011 – 2016 (%)
Paterson SSC	802	922[1]	↑ (+15)
Vacy SSC	547	625	↑ (+14)
Martins Creek SSC	342	388	↑ (+13)
Dungog LGA	8318	8,975	↑ (+8)

Source: ABS Community Profiles (2016)

[1] To account for changes in boundaries between census periods, this number includes the population of Webbers Creek SSC (30 persons)

Table 5.11 Changes in Population over Time (2006-2016)

Year	2006	2011	2016	↑↓ Change 2006 – 2016 (%)
Dungog LGA	8,062	8,318	8,975	↑ (+11)

Source: ABS Community Profiles (2016)

The population projections for Dungog LGA as provided by the *NSW State and Local Government Area Population and Household Projections* (DPIE 2016) reaffirms the notion of an aging population in the LGA.

As shown in **Figure 5.16** the Dungog LGA is projected to experience steady population growth to 2031 with a decline projected between 2031 and 2036.

These projections show that from 2016 to 2036 there will be decreases in proportions of the population that fall between the ages of 0 and 64 years. Proportions in the 65+ year age group will rise; with those in the 75-84 age brackets increasing by up to 4%. It is estimated that by 2036 the percentage of the population aged 65 years and above will have risen from 20% in 2011 to 29% by 2031 (refer to **Figure 5.16** and **Figure 5.17**).

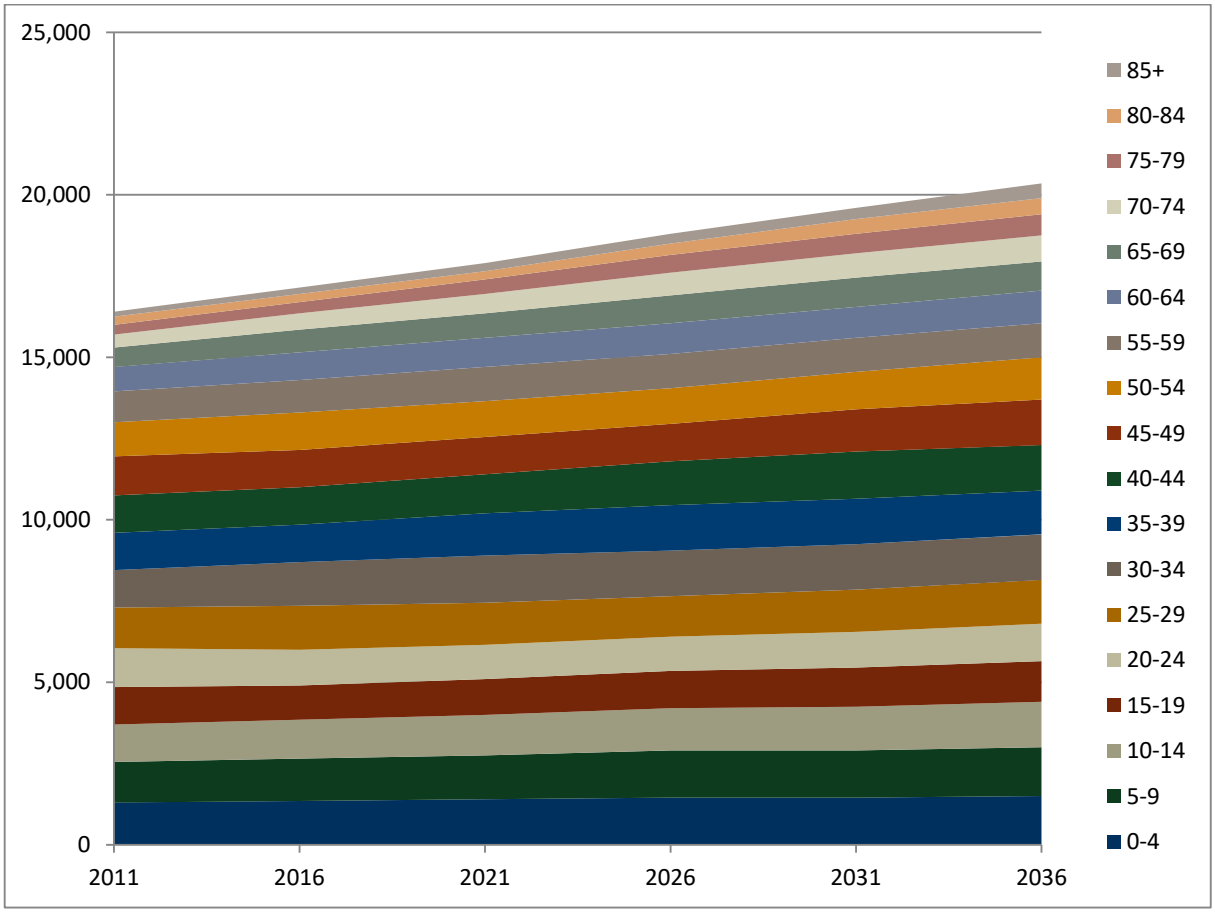


Figure 5.16 Population Projections for Dungog LGA, 2011-2036

Source: NSW State and Local Government Area Population and Household Projections

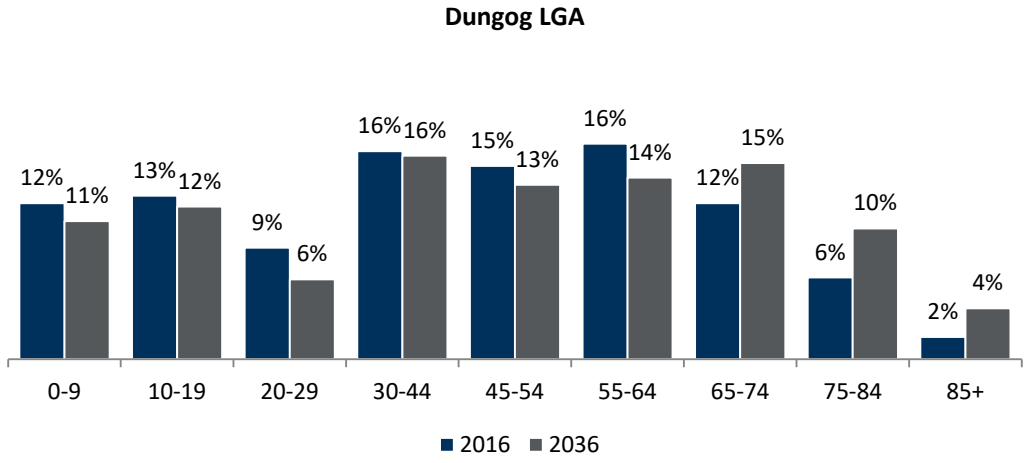


Figure 5.17 Population Projections by Age Category – Dungog LGA

Source: NSW State and Local Government Area Population and Household Projections

The Dungog Shire Community Strategic Plan 2030 (Dungog Shire Council 2018e) identifies population change as a challenge for the LGA. While the overall LGA is expected to experience population growth, there are villages and districts in the LGA experiencing static population growth and at times population decline. As outlined in the Community Strategic Plan 2030 (2018e), Dungog Shire Council has a number of strategies in place to help retain young people in the area while also catering to an aging population, including:

- Continue to develop programs/initiatives to welcome and support new residents into the LGA.
- Planning and provision of local community services and facilities need to reflect population growth, change and diversity.
- Ensure that there is adequate land supply to accommodate future expected population growth.
- Develop and initiate opportunities for greater participation of young people in local community activities.
- Seek external funding from State and Federal Government to assist with better engagement and participation by young people in the Dungog LGA.
- The ongoing provision of local health and medical facilities needs to reflect the requirements of our community including our ageing population.

5.8.2 Skills, Education and Training

5.8.2.1 Primary and Secondary

Table 5.12 presents the highest levels of schooling completed in the study communities. As indicated below, all study areas had generally lower levels of schooling attainment than NSW, with similar levels within the local suburbs and Dungog LGA as a whole.

The rate of people leaving school at the end of Year 10 in Martins Creek (49%), Paterson (38%), Vacy (41%) and Dungog LGA (40%) was nearly double that of NSW (23%). Due to the higher proportions of students leaving school before Year 12, there were significantly less students in the Dungog LGA (36%) and Martins Creek (32%) who completed Year 12 than the state average (59%).

For Duns Creek (31%), Bolwarra (28%) and Bolwarra Heights (30%) the proportion of the population leaving school in Year 10 was more comparable, but still above the NSW average. Similarly, the proportion of those who had completed Year 12, was below the NSW average (between 56%-53% compared with 59%). Indicating a higher level of secondary education in these suburbs compared with Paterson, Vacy and Martins Creek.

In terms of Indigenous educational attainment, the results were less dramatic, with half as many Indigenous people attaining year 8 or below in Dungog LGA compared to NSW, and slightly fewer reporting highest attainment as Year 12 or equivalent.

The proportion of the Indigenous population who finished school at the end of Year 10 in Dungog LGA was comparable to that of the rest of the population (both 40%).

Table 5.12 Highest Level of School Attained (Total Population and Indigenous)

	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Year 8 or below (%)	5	4	4	2	2	2	6	5
Year 8 or below (indigenous) (%)	-	-	-	-	-	-	16	33
Year 9 or equivalent (%)	10	9	8	7	6	8	10	6
Year 9 or equivalent (indigenous) (%)	-	-	-	-	-	-	13	10
Year 10 or equivalent (%)	49	38	41	28	30	31	40	23
Year 10 or equivalent (indigenous) (%)	-	-	-	-	-	-	40	34
Year 11 or equivalent (%)	5	7	9	7	8	5	7	5
Year 11 or equivalent (indigenous) (%)	-	-	-	-	-	-	11	10
Year 12 or equivalent (%)	32	42	38	56	53	53	36	59
Year 12 or equivalent (indigenous) (%)	-	-	-	-	-	-	24	33

Note: Excludes highest year of school not stated.

Source: ABS Community Profiles (2016)

Educational primary and secondary facilities available within the study communities are summarised at **Table 5.13;** this includes available information for schools via the MySchools website relating to:

- proportion of students that are either indigenous and / or from non-English speaking backgrounds
- school attendance rates
- school positioning on the Index of Community Socio-Educational Advantage (ICSEA) scale. This scale represents levels of educational advantage.

It should be noted that while the data only includes primary and secondary schools located within the study communities, it is possible that the students within these communities would travel to other schools outside of the LGA. This was validated by community members in the engagement process.

The Dungog LGA has six primary schools and one high school. A primary school is located in each of the study communities, with another in Bolwarra, and the high school and remaining two primary schools in Dungog.

However, given that Martins Creek, Paterson and Vacy are approximately equidistant from Dungog and Maitland, it is likely that high schools students would attend schools in the larger urban centre of Maitland and surrounding suburbs, hence information on secondary schools within Maitland has also been provided.

In 2015, Martins Creek Primary School faced closure due to low student numbers (6) with the Department of Education reversing its decision and stating that the school would remain open until at least 2019. At the time of writing (March 2021), school remains open.

According to the MySchools government website, a moderately high proportion of students attending schools in the Dungog LGA fall in the bottom quarter of the ICSEA Scale, indicating a lower level of educational advantage.

Table 5.13 Educational Facilities (Early Years – Secondary)

Shire / Locality	School / Facility	Level	Enrolments (2019)	Proportion Aboriginal Students	Student Attendance Rates (%) (2019)[7]	FTE Teaching Staff	Other Relevant Information (2019)
Dungog	Martins Creek Public School	K-6	9	0	92	1.3	47% of students fall within the bottom quarter of ICSEA 0% language background other than English
	Vacy Public School	K-6	108	11	94	6.1	31% of students fall within the bottom quarter of ICSEA 2% language background other than English
	Paterson Public School	K-6	122	4	94	6.0	24% of students fall within the bottom quarter of ICSEA 0% language background other than English
	Dungog High School	U, 7-12	633	11	87	53.0	48% of students fall within the bottom quarter of ICSEA 2% language background other than English
	Dungog Public School	U, K-6	281	21	93	19.4	48% of students fall within the bottom quarter of ICSEA 1% language background other than English
	St Joseph's Primary School – Dungog	K-6	94	4	92	6.6	25% of students fall within the bottom quarter of ICSEA 0% language background other than English
Bolwarra	Bolwarra Public School	K-6	432	4	93	21.9	15% of students fall within the bottom quarter of ICSEA 6% language background other than English
Maitland	All Saints College (St Mary's Campus)	11-12	445	5	92*	50.5	19% of students fall within the bottom quarter of ICSEA 5% language background other than English

[7] As at Semester 1, 2019

Shire / Locality	School / Facility	Level	Enrolments (2019)	Proportion Aboriginal Students	Student Attendance Rates (%) (2019)[7]	FTE Teaching Staff	Other Relevant Information (2019)
	All Saints College (St Peter's Campus)	7-10	867	7	89	61.8	17% of students fall within the bottom quarter of ICSEA 4% language background other than English
Maitland East	Maitland High School	U, 7-12	978	15	85	75.8	49% of students fall within the bottom quarter of ICSEA 5% language background other than English
	Maitland Grossmann High School	U, 7-12	1086	7	87	77.6	30% of students fall within the bottom quarter of ICSEA 6% language background other than English
	Linuwel School Ltd	K-12	244	6	90	17.6	9% of students fall within the bottom quarter of ICSEA 9% language background other than English

Source: MySchools.com.au (2021)
*attendance levels available for 2017 only

5.8.2.2 Non School Qualifications and fields of Study

Aside from the primary and secondary school facilities outlined at **Table 5.13** above, there are also a range of tertiary and vocational education and training facilities within the study communities. These include:

- Tocal College
- Metford TAFE, Singleton TAFE
- University of Newcastle.

As indicated in **Table 5.14**, residents of the study communities and Dungog LGA are proportionally more likely to hold Certificates and Diploma's than Higher Education degrees, when compared to residents of NSW as a whole. Specifically, 44% or more of residents in all study communities and Dungog LGA hold certificates, compared to 30% in NSW. Furthermore, Paterson (18%), Vacy (17%) and Dungog LGA (16%) have higher rates of Advanced Diploma and Diploma level qualifications than NSW (15%), whilst attainment of Bachelor's degrees and Postgraduate degrees are lower.

When considering all of the study communities in the Dungog LGA, Vacy and Paterson had the highest proportion of people who had completed post-secondary education (56% and 53% respectively); this is higher than the NSW average of 49%. Martins Creek and Dungog LGA as a whole had lower than state averages rates post-secondary education (47% and 45% respectively).

For the study communities outside the Dungog LGA, Bolwarra (58%), Bolwarra Heights and Duns Creek (53%) had higher than State averages rates post-secondary education and certificates.

Table 5.14 Non School Qualifications

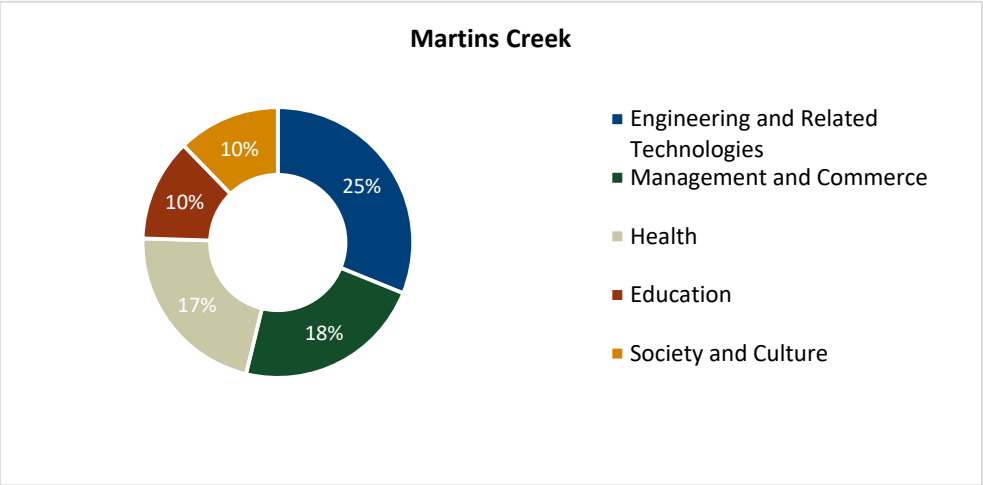
Level of Qualification	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Equivalent Post-Secondary Education[8] (%)	47	53	56	58	58	53	45	49
Postgraduate Degree Level (%)	2	2	3	7	5	4	3	9
Graduate Diploma / Graduate Certificate Level (%)	3	1	1	2	4	3	2	3
Bachelor Degree Level (%)	14	19	15	27	24	21	15	26
Advanced Diploma and	14	18	17	14	19	19	16	15

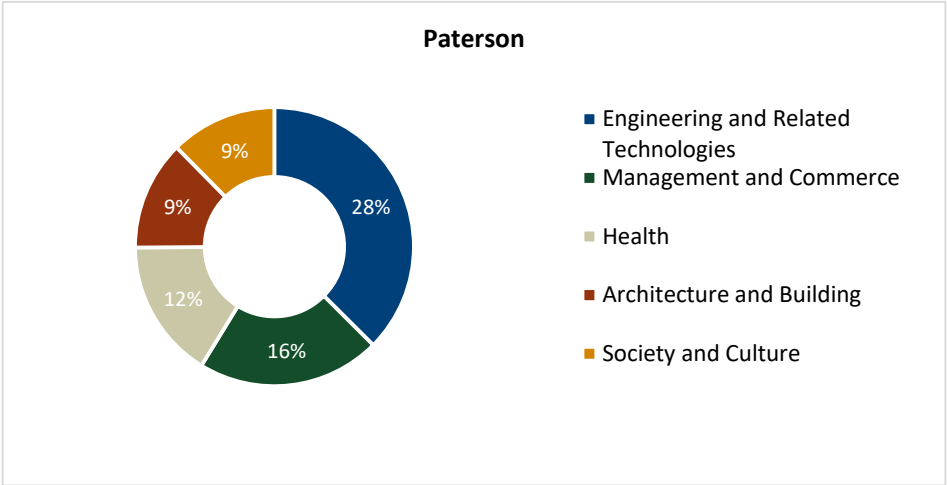
[8] Includes Cert III and IV, Diploma and Bachelor.

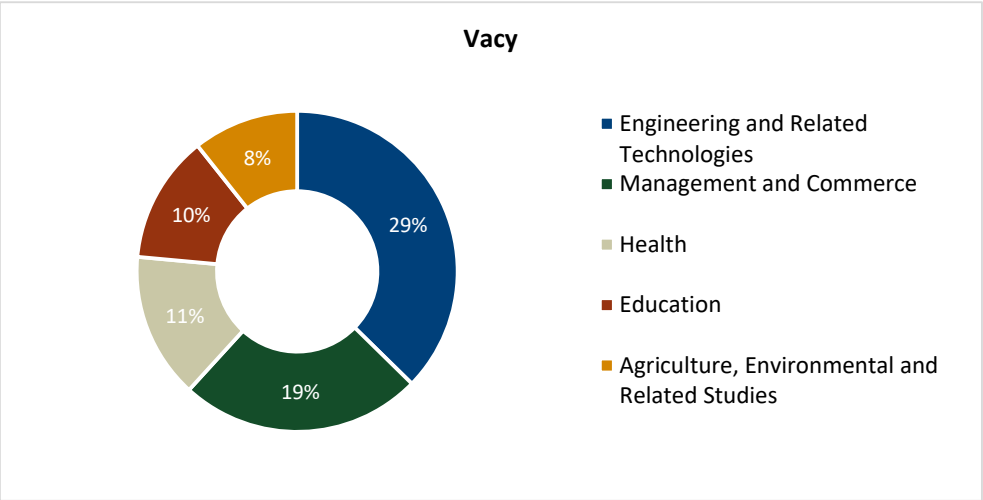
Level of Qualification	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Diploma Level (%)								
Certificates (%)	45	44	50	38	38	40	44	30

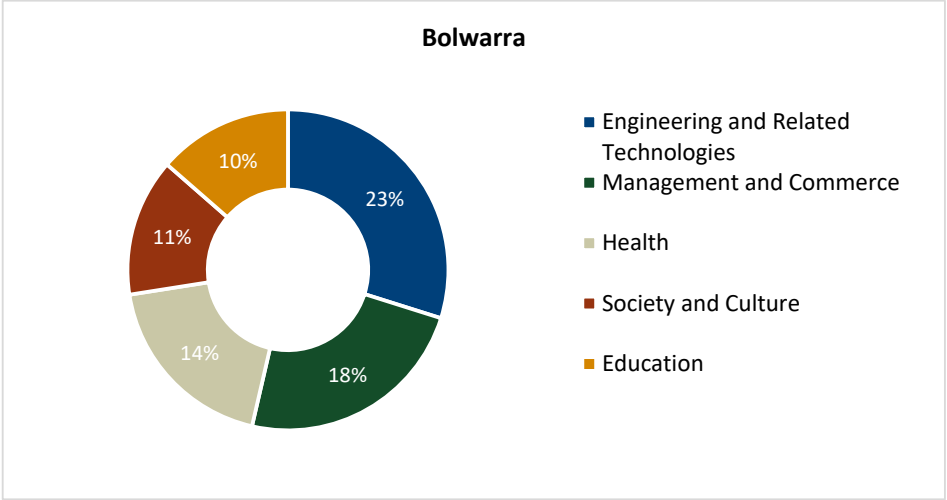
Source: ABS Community Profiles (2016)

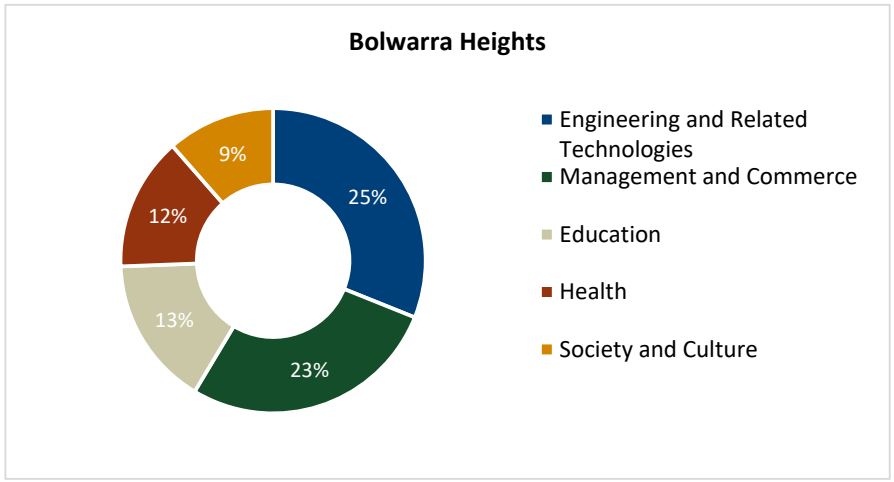
Figure 5.18 shows the top five tertiary fields of study. The main area of study in Dungog LGA and the study communities was Engineering and Related Technologies, with one quarter of those who had a qualification reporting it as their chosen field. Following from Engineering, 16-18% of graduates reported Management and Commerce as their area of study. In NSW this trend was reversed, with a quarter having studied Management and Commerce, and 17%, Engineering and Related Technologies.

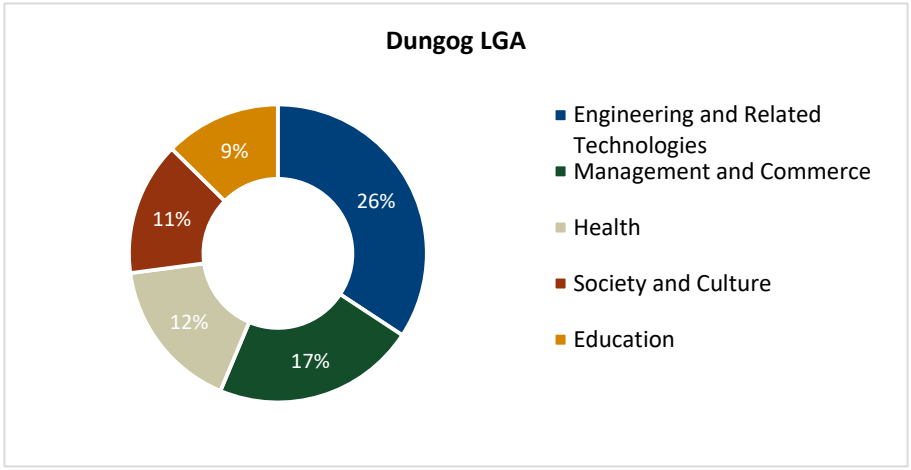

Martins Creek
25%
18%
17%
10%
10%
Engineering and Related Technologies
Management and Commerce
Health
Education
Society and Culture


Paterson
28%
16%
12%
9%
9%
Engineering and Related Technologies
Management and Commerce
Health
Architecture and Building
Society and Culture


Vacy
29%
19%
11%
10%
8%
Engineering and Related Technologies
Management and Commerce
Health
Education
Agriculture, Environmental and Related Studies


Bolwarra
23%
18%
14%
11%
10%
Engineering and Related Technologies
Management and Commerce
Health
Society and Culture
Education





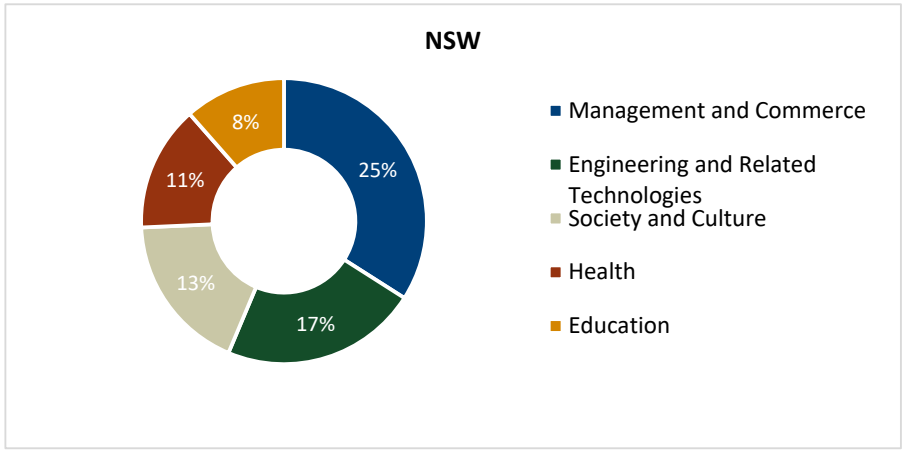


Figure 5.18 Top 5 Fields of Tertiary Study
Source: ABS Community Profiles (2016)

5.8.3 Health Characteristics

The study community falls within the Lower Hunter Sector of the Hunter New England Local Health District (LHD). As of 2017/2019, the key health status characteristics of the Dungog LGA, and Maitland LGA compared to NSW and as reported by NSW Health included:

- Lower rates of asthma in Dungog and Maitland than NSW.
- Higher (but decreasing) rates of circulatory disease hospitalisations and deaths in Dungog and Maitland.
- Higher (but decreasing) rates of coronary heart disease hospitalisations and deaths in Dungog and Maitland.
- Equivalent decreasing rates of stroke hospitalisations in Dungog.

Given the particular interest in emissions to air associated with the Revised Project, asthma rate changes over time within both the Dungog and Maitland LGAs have been presented at **Figure 5.19**.

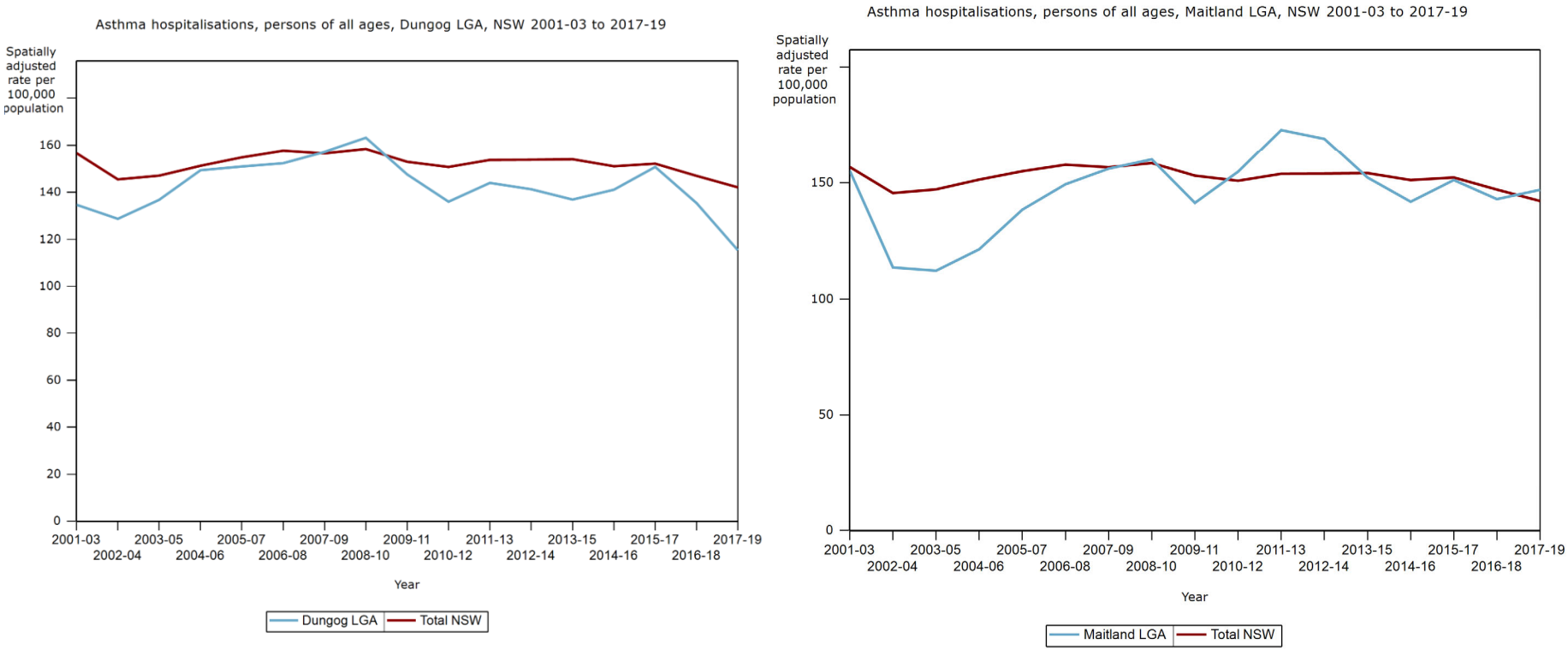


Figure 5.19 Total Asthma Hospitalisations for Dungog and Maitland LGA (2001/2003 to 2017/2019)

Source: HealthStats NSW (2020), http://www.healthstats.nsw.gov.au/

As shown in **Table 5.15,** Health statistics relating to the Dungog LGA and Maitland LGA highlight:

- lower rates of premature deaths in Dungog LGA compared with NSW and Maitland LGA
- higher proportion of mothers smoking during pregnancy in Maitland and Dungog LGA, compared with NSW
- higher than state average proportions of persons who have self-assessed poor or fair health in Maitland and Dungog LGA
- lower rates of children who are developmentally vulnerable in Dungog LGA, with Maitland slightly above the state average
- higher proportion of aged pensioners in Maitland LGA, while proportions in Dungog is comparable to the state average
- higher proportion of the population take part in risky health behaviours for example smoking, high risk alcohol use and no or low levels of exercise in Maitland and Dungog LGA.

Table 5.15 Selected Health Indicators

Impact	Dungog LGA	Maitland LGA	NSW
Rate of premature death[9] ASR per 100,000 (Modelled estimates 2013 to 2017)	216	259	238.4
Smoking during pregnancy[10], 2012/14 (%)	12	14.5	9.8
Levels of self-assessed health either fair or poor: *ASR per 100 (Modelled estimates 2017-2018)	17	15.8	14.1
Early childhood development: AEDC, Developmentally vulnerable on one or more domains, 2015 (%)	9.7	21.9	20.2
Age Pensioners, 2017 (%)	61.9	73.2	63.2
Current smokers, high risk alcohol, obese, no or low exercise in previous week, 2014/15 (%)	87.3	82.8	76.3

Source: PHIDU (2019 and 2020)

Additional information on available health infrastructure and services is provided in the Physical Capital section at **Section 5.11**.

[9] Australian Standardised Rate (ASR) is a method of adjusting the crude rate to eliminate the effect of differences in population age structures when comparing crude rates for different periods of time, different geographic areas and/or different population sub-groups (e.g., between one year and the next and/or States and Territories, Indigenous and non-Indigenous populations).

[10] IDR rate per 1,000.

5.8.4 At-Risk and Vulnerable Groups

An over representation of at-risk groups can indicate a community which may require differing levels of community assistance. According to the Australian Institute of Health and Welfare (AIHW), people living in rural or remote locations experience poorer health and welfare in general than people in metropolitan locations. In rural regions, this disadvantage may be compounded by an individual's inclusion in one or more 'at-risk' groups. At risk groups have a greater risk of experiencing disadvantage than the general population. Such disadvantage can include economic, social and health risks which can accumulate over the person's life.

At risk groups include the number of people providing unpaid childcare, and no educational attainment. Other potential at risk groups include people aged 65 years and over, Indigenous populations, profoundly or severely disabled, and unpaid carers of people with a disability. As indicated in **Table 5.16**, a number of the study communities' exhibit greater proportions of at risk groups when compared to NSW state averages with those greater than NSW highlighted.

Table 5.16 Proportion of At-Risk Groups in Study Communities 2016

At Risk Groups	Paterson (SSC)	Vacy (SSC)	Martins Creek (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog (LGA)	NSW
Aboriginal and/or Torres Strait Islander people (%)	2	4	4	3	3	4	5	3
Provided unpaid assistance to a person with a disability (last two weeks before Census night) (%)	13.9	13.6	15.1	13.9	11.7	14.8	13.5	11.6
Highest Educational attainment: Year 9 or below (%)	10.3	8.5	9.4	6.1	7.5	5.4	12.2	8.4
Population aged 65+ (%)	16.8	15.1	12.9	18.5	13.0	13.4	20.0	16.2
Profoundly or severely disabled people (all ages, incl. long term care), 2016 (%)	-	-	-	-	-	-	6.1	5.6

Source: ABS Community Profiles (2016), ABS Quickstats 2016, PHIDU (2020).

5.8.5 Summary of Human Capital

Based on the data presented in the preceding sections:

- Dungog LGA has a higher proportion of residents aged 65 years and over when compared to the individual suburb based communities and the State of NSW as a whole.

- The townships of Bolwarra, Duns Creek, Paterson, Vacy and Martins Creek all have higher median ages than the State average. Bolwarra Heights is a younger population.

- Dungog High School students noted that they want the opportunity to move away and experience other places and many of them also want to come back to the LGA when they grow older; therefore there needs to be strategies in place to help retain young people in the area while also catering to an aging population.

- It is estimated that there will be steady population growth to 2031 with a decline projected between 2031 and 2036. It is estimated that by 2036 the percentage of the population aged 65 years and above will have risen from 20% in 2011 to 29% by 2031.

- Population changes between 2011 and 2016 indicate a considerable population increase in Paterson, Vacy and Martins Creek between those years, compared to slower increases across the Dungog LGA.

- The highest level of educational attainment across the Dungog LGA is Certificate III qualifications. Attainment of Bachelor level qualification or above is considerably lower than the NSW and national averages.

- When considering a range of relevant indicators, there appears to be a higher proportion of at-risk groups within the Dungog LGA when compared with NSW averages.

- Health indicators show that a higher proportion of residents engage in risky health behaviours in Dungog LGA when compared to NSW.

- Residents of the Dungog LGA are more likely to self-assess their health as fair to poor than all residents across NSW.

The SEIFA Index of Education and Occupation (IEO), prepared by the ABS, reflects the general level of education and occupation-related skills of people within an area with a value of one indicating low levels of skills, and a value of ten indicating high levels of skills. The Dungog LGA falls within the 6th decile and is ranked 66th out of the 129 LGAs in NSW.

A comparison of the IEO SEIFA Index for each of the study communities indicates that have relatively high education and occupation statuses compared to other state suburbs in NSW with levels highest within Bolwarra and Bolwarra Heights (**Figure 5.20**).

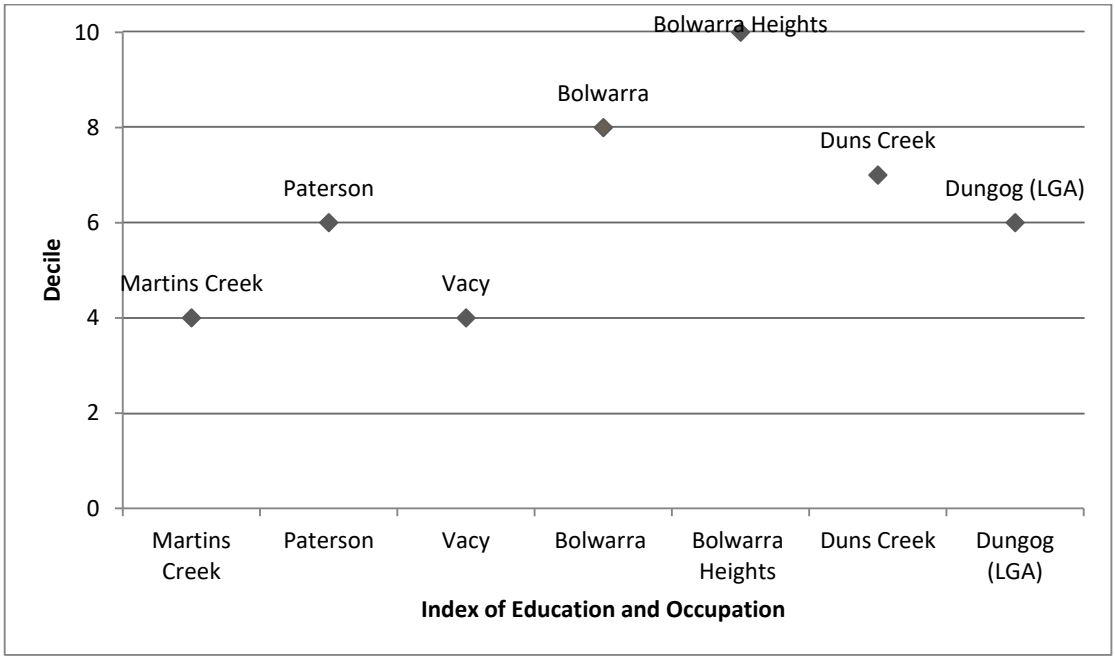


Figure 5.20 Index of Education and Occupation (IEO)
Source: ABS, SEIFA Indexes 2016

However, it should be noted that the Index may be skewed for the smaller communities such as Martins Creek given that each person greatly impacts the area's SEIFA score making it more difficult to undertake comparisons. Within small communities, each person greatly impacts the SEIFA score, making it more difficult to undertake comparisons against larger population centres. However, where communities are considered too small or have too little data for accurate comparisons, the ABS do not report SEIFA Index values, indicating that each of the communities presented above the minimum population threshold of validity.

5.9 Social Capital

Table 5.17 provides a summary of the key social capital indicators for the study communities relevant to the Revised Project compared to the broader state of NSW with further discussion regarding these indicators provided in the subsequent sections.

Table 5.17 Summary of Key Social Capital Indicators for Study Communities

Indicator	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Married (%)	54	56	60	61	61	61	54	49
Families without children (%)	40	41	41	44	34	54	44	37
Families with children (%)	43	46	47	44	55	35	41	46
Single parent family with children (%)	14	13	6	11	11	10	14	14
Group Households (%)	5	1	1	3	1	2	2	4
Proportion living at a different address 1 year ago (population mobility) (%)	12	9	9	12	12	13	11	14
Proportion living at a different address 5 years ago (population mobility) (%)	27	32	37	33	41	37	30	39
Proportion of the population over 65 years receiving a pension (%)	-	-	-	-	-		61.9	63.2
Poor proficiency in English,2016 (%)	-	-	-	-	-		0	3.8
Volunteered through an organisation or group (last 12 months), 2016 (%)	15	28	26	24	22	25	25	18
Internet not accessed from private dwelling (%)	19	12	14	9	8	10	20	15
People aged 15 years and over providing unpaid childcare, 2016 (%)	-	-	-	-	-		23.2	27.2
Single parent families with children aged less than 15 years, 2016 (%)	-	-	-	-	-		21.7	19.9

Source: ABS Community Profiles (2016), PHIDU 2020

Note: cells with no data are sourced from PHIDU and is not available at an SSC level.

5.9.1 Mobility and Community Networks

Mobility rates may indicate population stability and the degree of social cohesion in a community.

The mobility across the study communities when looking at a one-year period was lower than the NSW state average. For the Dungog LGA 11% of the population reported to have lived at a different address one year prior to Census night, compared with 14% in NSW. The townships of Martins Creek, Vacy and Paterson also experienced lower than state average mobility rates during this period (12%, 9% and 9% respectively).

Bolwarra (12%), Bolwarra Heights (12%) and Duns Creek (13%) have similar proportions of the population who lived a difference address one year prior to Census night.

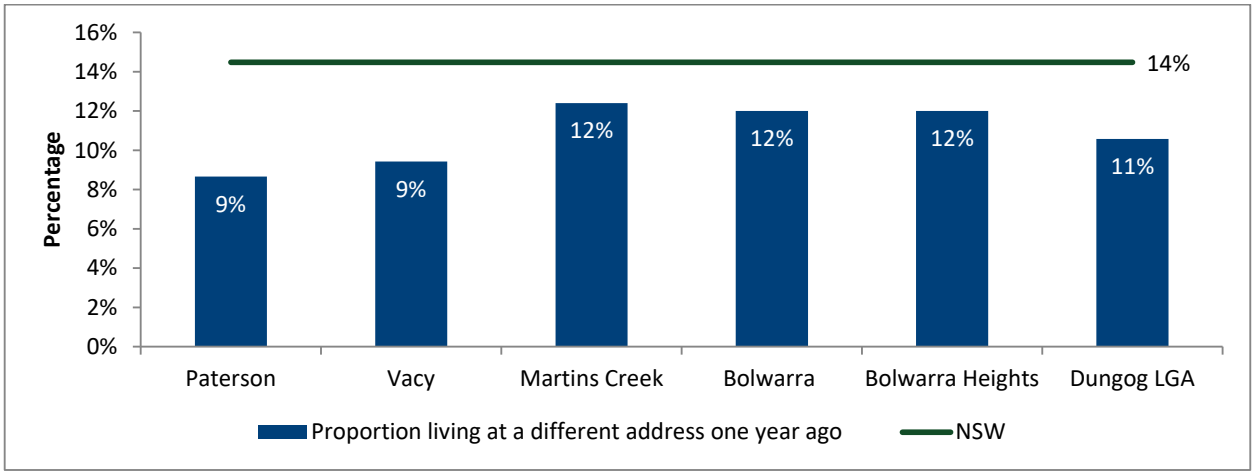


Figure 5.21 Proportion of Residents Living at a Different Address One Year Ago
Source: ABS Community Profiles (2016)

When considering location of residence five years prior to the 2016 Census, the proportion of people living at a different address five years ago for the townships of Paterson (32%), Duns Creek (37%), Vacy (37%), Martins Creek (27%), Bolwarra (33%) and Dungog LGA (30%) all were again lower than the NSW average (39%) also suggesting a high degree of community cohesion. Bolwarra Heights (44%) however was higher than NSW average, suggesting increased community mobility.

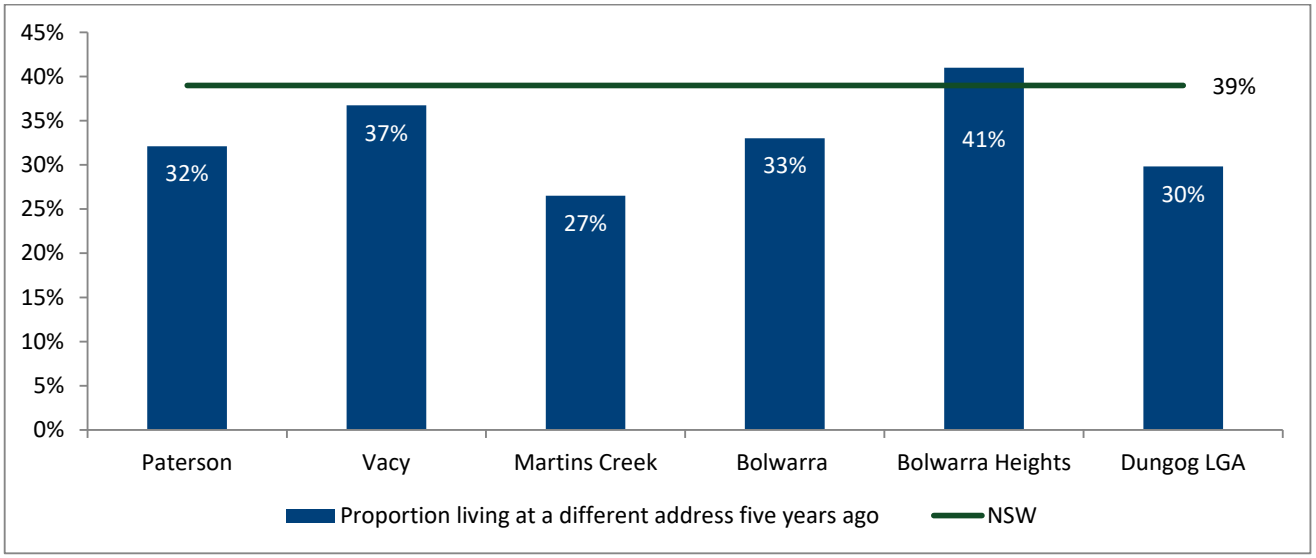


Figure 5.22 Proportion of Residents Living at The Different Address Five Years Ago

Source: ABS Community Profiles (2016)

Volunteering rates can also be an indicator of the degree of community cohesiveness and the degree to which community members are willing to contribute to the community or participate in community events.

Levels of participation in volunteering across the broader Dungog LGA as a whole are higher than those compared to the State with 25% of the population in Dungog LGA volunteering in the 12 months preceding the 2016 Census compared to 18% in NSW. This indicates a strong level of community participation and cohesion. At an individual township level, all Bolwarra, Bolwarra Heights, Paterson and Vacy are also notably higher than the State average (28% and 26% respectively) while participation rates within Martins Creek are slightly below the State average at 15%.

The Dungog Shire Council's Strategic Community Plan 2030 identifies a key priority for the region is that public involvement in community activities, stating volunteering needs to be maintained and encouraged (Dungog Shire Council 2012).

This theme of community connectedness was also reflected in the discussions held with members of the community during consultation for the SIA who described their communities as *'tight-knit'* and articulated a strong sense of communal spirit and mutual support. Communities were also described as vibrant, safe, family friendly and resilient. A selection of comments from respondents heard during consultation activities below:

> *Family comes from here, [we] built our home here, [our] children go to school here. Community comes together, [in events such as] big floods,… disaster[s], community helped each other, caring. [There is] always someone to talk to, young people here talk to older people, well connected*.
>
> *Rural village amenity, sense of community, character of the village; history, strong community, amenity, connectedness*.
>
> *Serenity, people look after each other, a lot of heart, aware of everything that goes on, people rally around each other*.
>
> *The community comes together.*

The small sizes of the local communities were also considered to be an important factor in creating a sense of *connectedness*.

> *Still fairly small, know most people, schools small enough, sense of community, people band together*.

> *Quiet, rural, community concerns of [Martins Creek Quarry] project has brought community together, especially [in] Paterson.*

> *Good community, live dancing, kids/schools have concerts, quiet.*

> *Small community, [so you] get to know everybody - three generations live here. Nice feeling.*

Similarly, the Dungog Shire Council's Strategic Plan 2030 (2018e) and engagement in 2011 to support community planning process, outline the following values:

- [The Dungog] community is close-knit and caring and creates a safe environment for families.
- An active involvement in community life, with a high number of volunteers.

During consultation for the SIA, community members also referred to the amenity of the local area and the connectedness of the community members. A graphic of the responses on these issues is provided in **Figure 5.23**.



Figure 5.23 Graphic of Responses During SIA Consultation - What Do You Most Value About Living in The Area and What's Important to You?

Source: Umwelt 2018

5.9.2 Household and Family Composition

The majority of households across the broader Dungog Shire and the specific study communities are family households with the proportions of each study community approximately 10% higher than the NSW average (72%). This is followed by single person households. While the number of group households[11] is lower for both Vacy, Paterson, Bolwarra and Bolwarra Heights, in Martins Creek the proportion of group households is slightly higher than the NSW average (refer to **Figure 5.24**).

While the proportion of families with and without children are the same in Bolwarra, families without children represent a higher proportion of the population across four of the localities of Paterson, Vacy, Martins Creek and Bolwarra Heights when compared to NSW (**Figure 5.25**).

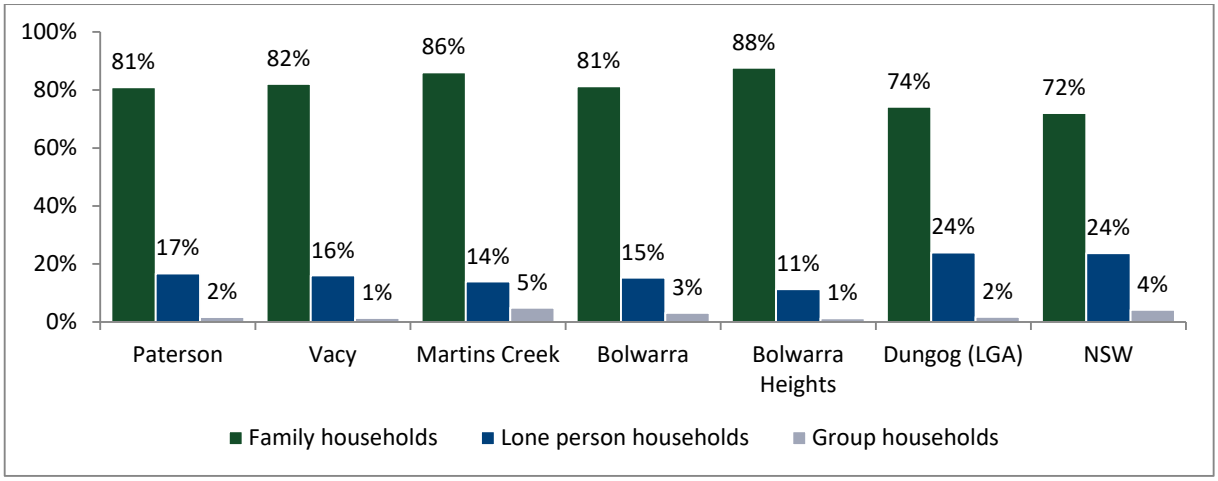


Figure 5.24 Household Composition, 2016

Source: ABS Community Profiles (2016)

The proportion of families with children in the Dungog LGA are also at a lower proportion than the NSW average. This is in keeping with a population consisting of a relatively high proportion of retirees with further information on employment status provided at **Section 5.10**.

[11] A household consisting of two or more unrelated people where all persons are aged 15 years and over. There are no reported couple relationships, parent-child relationships or other blood relationships in these households.

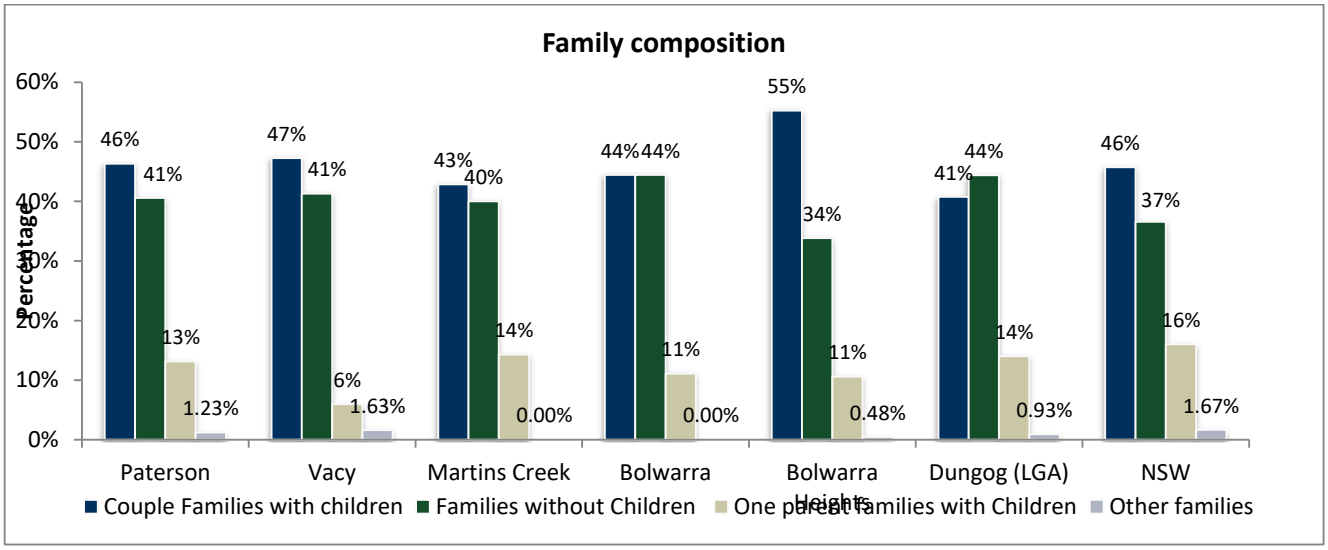


Figure 5.25 Family Composition

Source: ABS Community Profiles (2016)

5.9.3 Justice and Crime

Crime rates can also be an indicator of the strength of social capital present in a community. Data collected and reported by the Bureau of Crime Statistics and Research (BOCSAR) ranks the 120 LGAs of NSW according to crime rates per 100,000 of population. This allows for the comparison to other LGAs in NSW for different categories of crime. **Table 5.18** shows the rankings from 2013 to 2019 for the Dungog LGA. A ranking of 120 is the lowest crime rank possible. The closer the rank is to 1 the more incidents of crime and the higher the rates per 100,000 compared to the other LGAs within NSW.

Where Dungog LGA crime rankings for the period 2013 to 2019 have fallen (become closer to 1), it indicates a potential increase in the following crime rates or that LGAs with historically higher rates of incidence have improved.

Select offences for the Dungog LGA that have seen an increase in incidence rates per 100,000 from 2013 to 2019 are:

- assault (non-domestic violence) from 159.1 to 331.7
- fraud from 90.9 to 353.1
- other Theft from 204.6 to 342.4
- Transport Regulatory Offence from 11.4 to 64.2.

'Assault – non domestic violence related', experienced a fairly sharp rise in rates, indicated by a BOCSAR ranking change from 116 to 68. While rankings for crimes such as 'Assault-domestic violence related' (74 to 103), 'prohibited and regulated weapons offences' (40 to 79) and 'breach apprehended violence order' (42 to 96) all experienced significantly lower rates of crime, resulting in better ratings in 2019.

In general, from the selected offences, Dungog ranks better than most LGAs in NSW, with all offences ranked above 40 in 2019 (**Table 5.18**). Arson and Other theft appear to be a potentially problematic crimes in the area, with the rank for Arson falling to 13 in 2014, and 3 in 2016, and the rank for Other theft falling each year.

Table 5.18 Crime Rankings for Dungog LGA, 2013 - 2017

Offence	2013	2014	2015	2016	2017	2018	2019	Rank Trend ↑↓
Assault - non-domestic violence related	116	94	113	62	89	99	68	↓
Assault - domestic violence related	74	94	71	85	88	72	103	↑
Sexual Offences	49	101	73	59	63	73	94	↑
Robbery	Equal Last	Equal Last	Equal Last	Equal Last	Equal Last	Equal Last	Equal Last	No change
Break and enter - dwelling	97	118	114	75	112	98	93	↓
Break and enter - non-dwelling	49	108	105	44	79	102	56	↓
Motor vehicle theft	66	100	98	65	75	95	53	↓
Fraud	118	87	93	111	104	102	91	↓
Intimidation, stalking and harassment	91	50	32	49	79	87	84	↑
Steal from person	76	40	Equal Last	88	Equal Last	88	84	↓
Other Theft	110	110	108	71	90	88	55	↓
Receiving or handling stolen goods	Equal Last	91	Equal Last	112	110	Equal Last	115	↑
Arson	53	13	61	3	48	39	46	↓
Prohibited and regulated weapons offences	40	40	85	65	63	86	79	↑
Offensive conduct	75	87	112	75	101	108	Equal Last	↑
Liquor offences	111	95	113	99	105	114	114	↑
Breach Apprehended Violence Order	42	77	49	86	87	114	96	↑

Offence	2013	2014	2015	2016	2017	2018	2019	Rank Trend ↑↓
Transport regulatory offences	57	61	38	43	44	45	40	↓

Source: NSW Bureau of Crime Statistics and Research (2018)

Note: BOCSAR rates NSW LGAs with a population greater than 3000. A ranking of 120 is the lowest crime rank possible, and indicates an LGA has the lowest rate of crime for that category, while a ranking of 1 indicates the LGA has the highest rate of crime for that category.

5.9.4 Social Capital Summary

Key findings with regards to the social capital in the study area include:

- Higher than state average proportion of household are made up of families without children.
- Dungog LGA has low rates of mobility between the 2011 and 2016 Census years indicating a fairly stable population.
- The communities exhibit the characteristics of a well-connected community with people tending to remain in the area (low population mobility) and generally participating in volunteering activities, slightly above the state average in all localities except for Martins Creek. This community cohesion and connection was reinforced by the Council's Community Strategic Plan 2030 and engagement with the community for the SIA.
- Crime rankings for the broader Dungog LGA have improved for a number of categories including sexual assault, domestic violence related assault, and breach of AVO.
- Fraud and non-domestic assault has seen an increase of incidence from 90.9 to 353.1 per 100,000 and 159.1 to 331.7 since 2013 to 2019.

Figure 5.26 below provides overall socio-economic status and level of disadvantage within each community as determined by the Index of Relative Socio-economic Disadvantage (IRSD), based on a Socio-Economic Indexes for Areas (SEIFA) score prepared by the ABS which ranks areas in Australia according to relative socio-economic disadvantage. A low score indicates a greater degree of disadvantage, with the lowest 10% of areas receiving a decile of one, and the highest, a decile of ten. It should be noted that no comparison can be made between LGAs and State suburbs on ranking, as rankings are only comparative within each geographic classification.

Based on the IRSD index, the data indicates that:

- compared with other LGAs within NSW, the Dungog LGA exhibits an average level of socio-economic advantage, falling within the 7th decile
- that all of the study communities are more advantaged than Martins Creek, which ranks in the 6th decile, compared with the other SSC's.

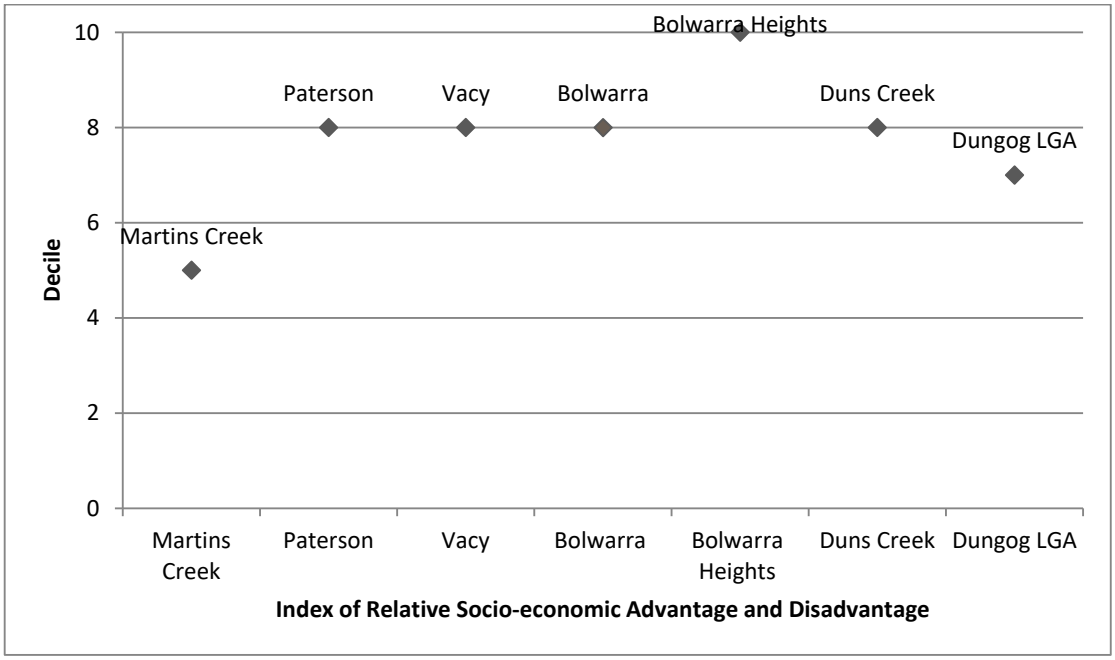


Figure 5.26 Index of Relative Socio-Economic Advantage and Disadvantage
Source: ABS (2016)

5.10 Economic Capital

Table 5.19 provides a summary of the key economic capital indicators for the relevant communities, with further discussion regarding these indicators and other elements of economic capital within the study communities provided in the subsequent sections.

Table 5.19 Summary of Key Economic Capital Indicators for the Study Communities

Indicator	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Median total personal income ($/ weekly)	646	651	708	743	809	684	578	664
Median total household income ($/ weekly)	1,446	1,581	1,760	1,706	2,147	1,775	1,226	1,486
Median mortgage repayment ($/monthly)	1,733	1,733	1,950	1,733	2,121	2,167	1,662	1,986
Median rent ($/weekly)	280	270	210	350	390	350	245	380
Labour force participation (15-85 years) (%)	58.2	64.6	68.9	63.5	67.9	64.6	56.2	59.2

Indicator	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Financial stress from mortgage or rent[12], 2016 (%)	-	-	-	-	-		18.5	29.3
Unemployment (%)	4.0	4.6	4.5	4.9	4.1	4.7	5.5	6.3
Employment in mining (%)	6.5	4.2	10.2	6.4	10.1	5.3	3.9	0.9
SEIFA Index Economic Resources (IER)[13]	5	7	7	9	10	10	7	-

Source: ABS Community Profiles (2016), PHIDU (2020)

5.10.1 Income, Spending and Cost of Living

Economic health indicators for the study communities indicate that personal incomes in 2016 across Dungog LGA and within the specific communities of interest more proximal to the quarry were typically lower than NSW averages with the exception of Vacy, which had the highest average income across person and household incomes. Located in the Maitland LGA, Bolwarra and Bolwarra Heights also had higher than State average personal and household incomes.

With regards to income levels:

- Average weekly personal incomes are the highest in Bolwarra Heights ($809), Bolwarra ($743) and Vacy ($708) followed by Duns Creek ($684), Paterson ($651) and Martins Creek ($646), all of which were higher than the Dungog LGA ($578).
- Vacy, Duns Creek, Bolwarra and Bolwarra Heights all have average personal incomes higher than both NSW ($664) and the national average ($662) (**Figure 5.27**).
- Average weekly household incomes in Bolwarra ($1,706), Bolwarra Heights ($2,147), Duns Creek ($1,775), Vacy ($1,760) and Paterson ($1,581) are higher than those across NSW compared to average weekly incomes in Martins Creek which sit just below the State average at $1,446 (**Figure 5.28**).

[12] Low income households (households in bottom 40% of income distribution) under financial stress from mortgage or rent

[13] The Index of Economic Resources (IER) focuses on the financial aspects of relative socio-economic advantage and disadvantage, by summarising variables related to income and wealth. This index excludes education and occupation variables because they are not direct measures of economic resources. A low score indicates a relative lack of access to economic resources in general. **high** score indicates relatively greater access to economic resources in general

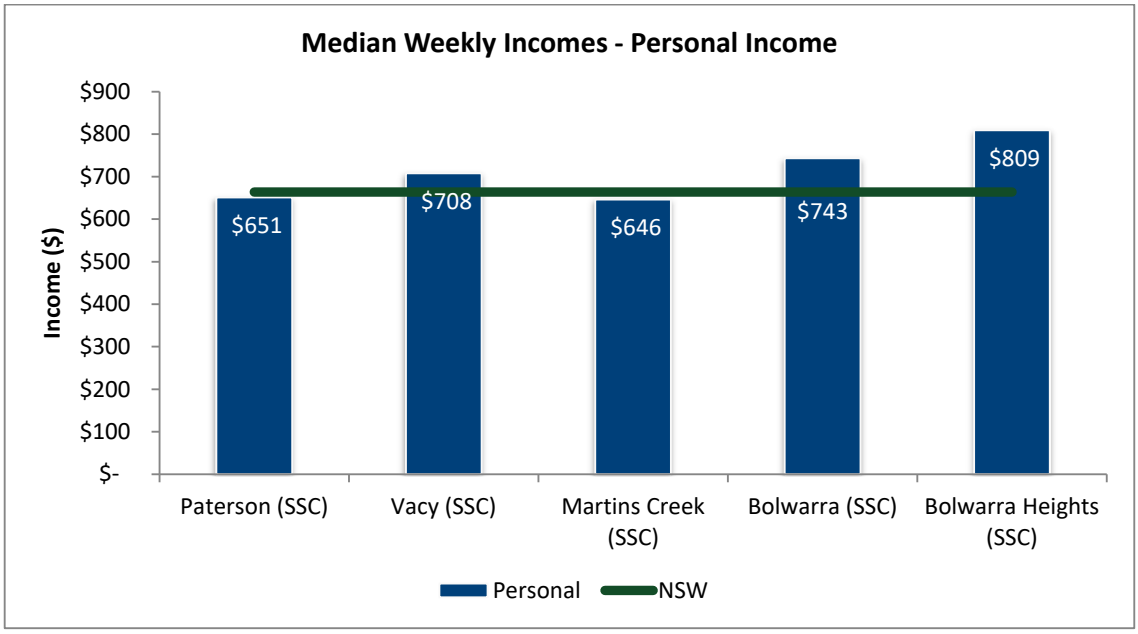


Figure 5.27 Median Weekly Income (Personal Income)

Source: ABS Community Profiles (2016)

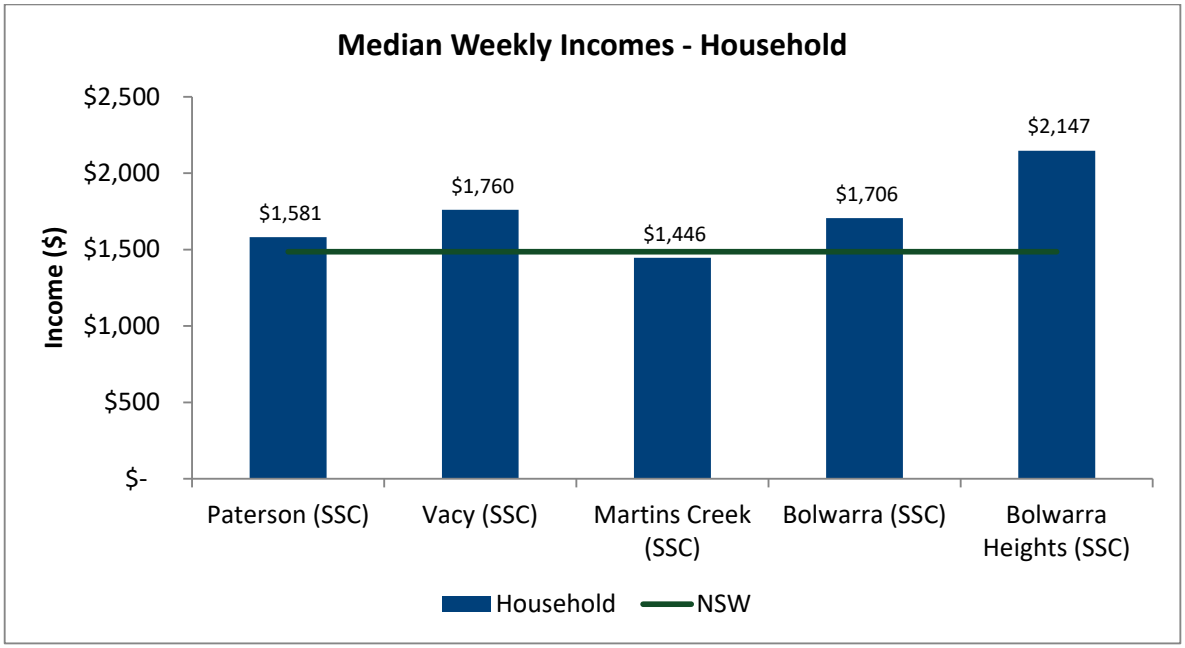


Figure 5.28 Median Household Income (2016)

Source: ABS Community Profiles (2016)

Expenditure on rent and mortgages across the LGA remain comparatively low with increases in median rental payments between 2011 and 2016 in Dungog lower than increases at a state level (refer to **Figure 5.29**). The median cost of mortgage payments dropped during the same period of time in NSW, yet rose by 0.9% in the Dungog LGA over the same period (**Figure 5.29**).

At the suburb level, mortgage and rent costs are above the NSW average while the other suburbs are comparable to or below the state average.

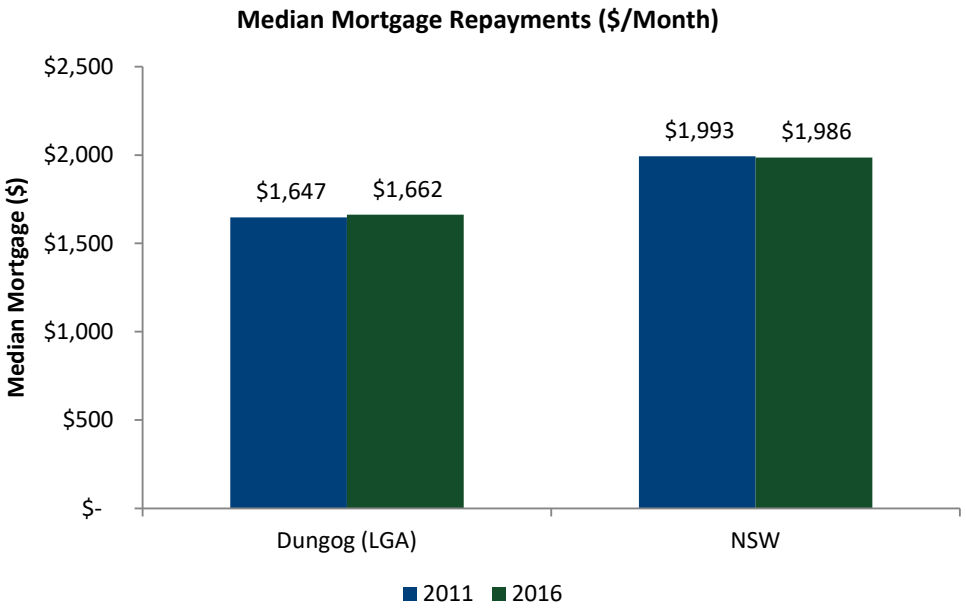


Figure 5.29 Median Mortgage Repayments ($/Monthly)

Source: ABS Community Profiles (2016)

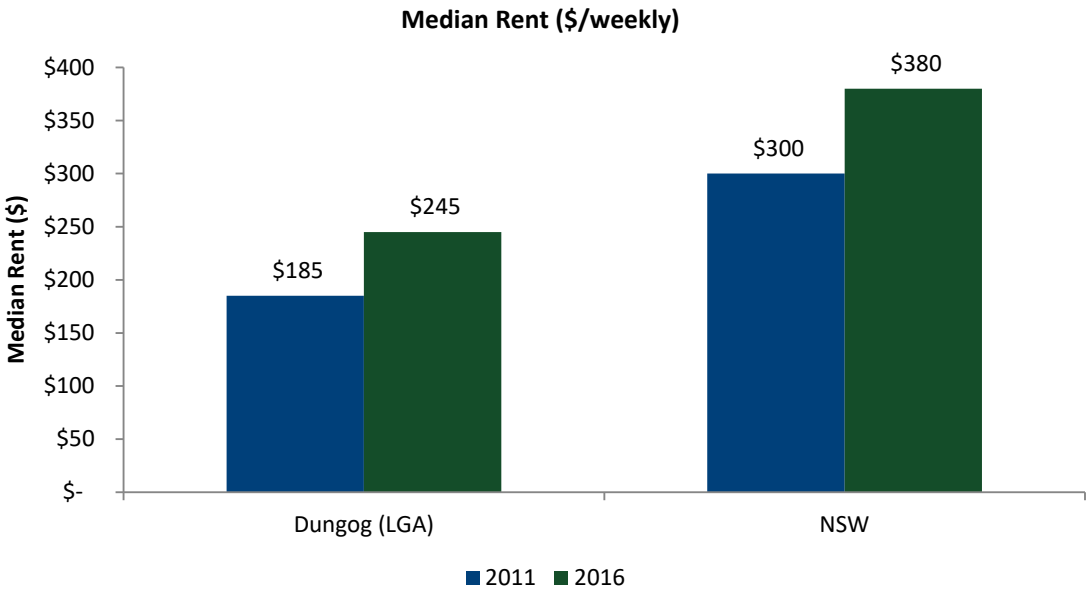


Figure 5.30 Median Rent ($/weekly)

Source: ABS Community Profiles (2016)

When compared to NSW state averages, Dungog LGA also experiences:

- A greater proportion of residents experiencing rental stress (33.4% compared to 27.9%).
- Higher proportions of low-income households (43.6% compared to 40.4%).
- A greater proportion of people receiving long term unemployment benefits (4.5% compared to 3.8%) (PHIDU, 2018).
- Comparable levels of residents experiencing mortgage stress; low income welfare dependent families with children and aged pensioners (**Table 5.20**).

Table 5.20 Selected Income Related Indicators

Impact	Dungog LGA	NSW
Households in dwellings receiving rent assistance from the Australian Government, 2017 (%)	13.6	16.3
Rental Stress[14], 2016 (%)	33.4	27.9
Mortgage Stress[15], 2016 (%)	9.0	8.8
Low Income Households[16], 2016 (%)	43.6	40.4
Low income welfare dependent families (with children), 2017 (%)	8.5	9.9
People receiving an unemployment benefit long term, 2017 (%)	4.5	3.8
Age Pensioners, 2017 (%)	61.9	63.2

Source: PHIDU (2020).

5.10.2 Industry and Employment

Census data indicates that levels of unemployment across the Dungog LGA and study communities is lower than the state average (6.3%). Levels of unemployment in the study communities are the highest within the suburbs of Duns Creek and Paterson with 4.7% and 4.6% (respectively) of the total population of employment age recorded as unemployed at the 2016 Census and 5.5% across the broader LGA of Dungog (**Figure 5.31**).

The Indigenous unemployment rate for Dungog LGA (11.1%) is above the overall unemployment rate for the LGA, but below the average unemployment rate for Indigenous people across NSW.

[14] A family or individual is considered to be in housing stress if they are in a low-income bracket and pay more than 30% of their income on rent or mortgage repayments. Acute housing stress occurs when 50% of income is spent on housing (PHIDU 2020)

[15] See above

[16] Income is equivalised; equivalised household income per week can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would be needed by a lone person household to enjoy the same level of economic wellbeing (PHIDU 2020)

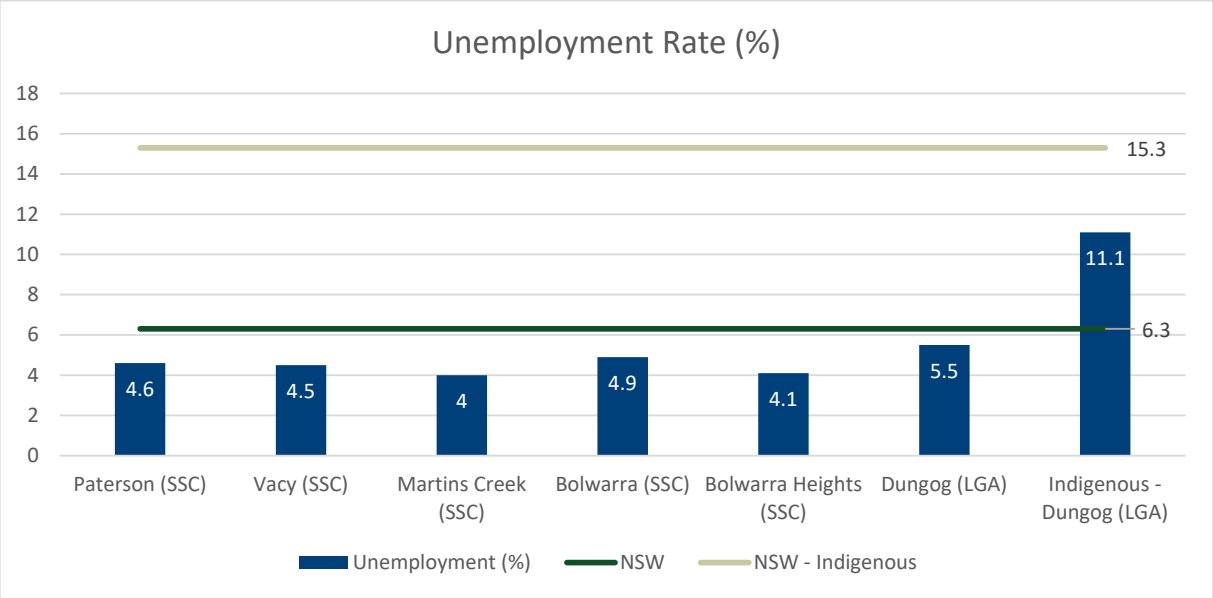


Figure 5.31 Unemployment Rates 2016

Source: ABS Community Profiles (2016); ABS Aboriginal and/or Torres Strait Islander Peoples QuickStats (2016)

When looking at the Small Area Labour Markets data (Australian Government 2020), the unemployment rates for the Dungog LGA have changed quite substantially over recent years. Since the end of 2010, the unemployment rate has peaked at 7% in 2015, and was the lowest in 2012 at 2.2% (**Figure 5.32**). This is compared to NSW averages where unemployment was 5.9% in early to mid 2015 and then decreased to 4.4% be the end of 2019, before increasing again to 6.1% by the end of 2020 (ABS 2021).

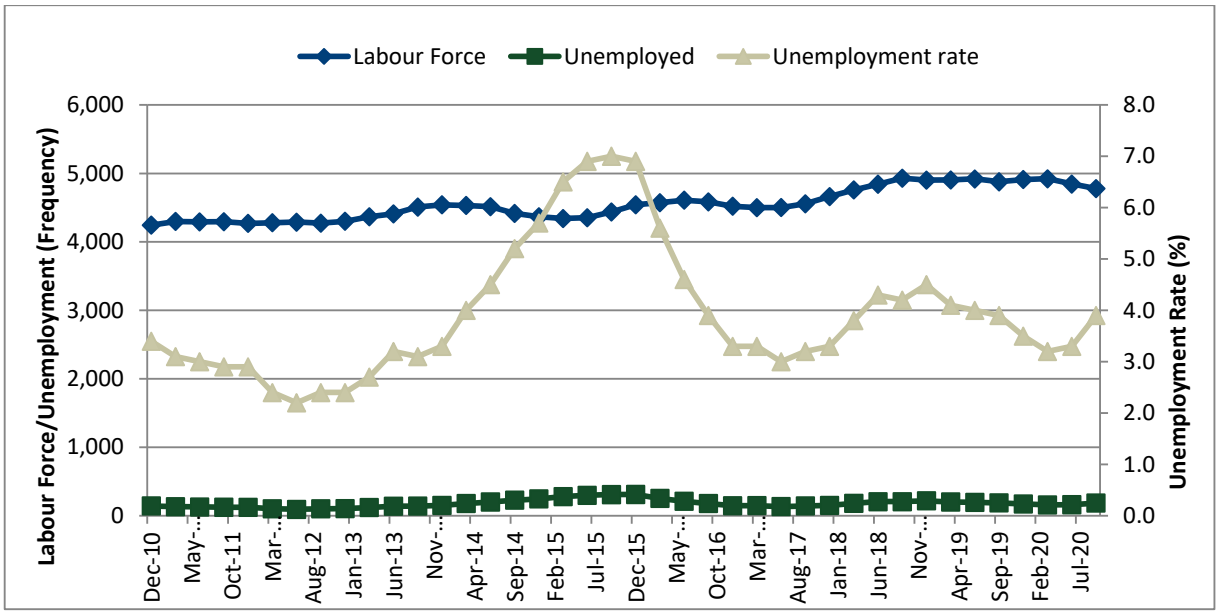


Figure 5.32 Dungog LGA Unemployment Rate December 2010 through to December September 2020

Source: Small Area Labour Markets, Department of Jobs and Small Business, Australian Government (2020)

Levels of labour force participation for those aged between 15 to 85 years of age, (i.e., the number of people who are either employed or are actively looking for work), are the greatest within the suburbs of Paterson and Vacy with the rate of labour force participation in 2016 across the Dungog LGA generally and within Martins Creek specifically slightly lower than the state average (56.2% and 58.2% compared to 59.2%)[17] (**Table 5.21**). Labour force participation rates for the LGA have increased overall between 2010 and 2019 (refer to **Figure 5.32**).

Table 5.21 Labour Force Participation 2016

	Paterson (SSC)	Vacy (SSC)	Martins Creek (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog (LGA)	NSW
Labour force participation (15-85yrs) (%)	64.6	68.9	58.2	63.5	67.9	64.6	56.2	59.2

Source: ABS Community Profiles (2016)

As can be seen in **Figure 5.33**, the proportion of the population who are employed full time is lower than the state average, while the proportion who works part-time is higher than the state average, with the exception of Bolwarra Heights where the proportion of those employed full time is above the state average. However, across all study communities the majority of those employed across all of the communities, are employed full time (**Figure 5.33**).

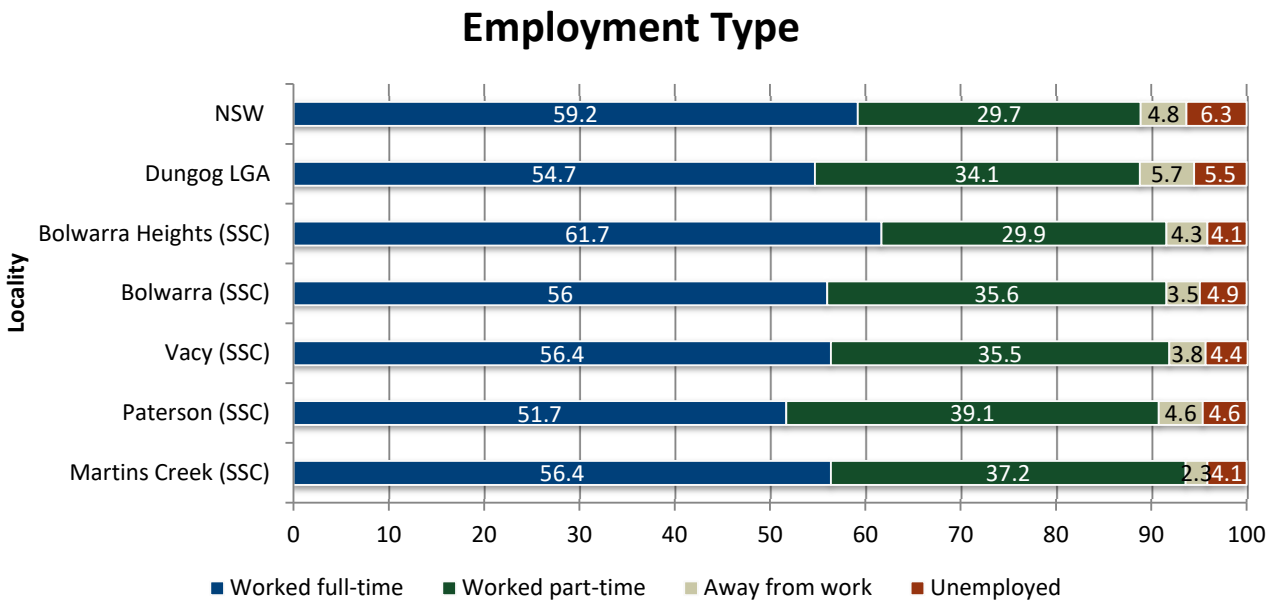


Figure 5.33 Employment Type for People Aged 15 Years of Age and Over

Source: ABS Community Profiles (2016)

[17] The labour force participation reflects the labour force (both employed and unemployed persons) expressed as a percentage of the total population with unemployed being those people who are jobless, actively seeking work, and available to take a job.

Key occupations within each community are presented at **Table 5.22** below. This data indicates:

- **Dungog LGA:** The highest proportion of those employed are employed as technical and trades workers followed by managers with the proportions of those employed in each of these occupations slightly greater than proportions across NSW.
- **Martins Creek:** Technicians and trades workers are the primary occupation followed by Professionals.
- **Paterson:** Professionals and managers are the primary occupation.
- **Vacy:** Technicians and trades workers are the primary occupation followed by professionals and clerical and administrative workers.
- **Duns Creek, Bolwarra and Bolwarra Heights:** Primary occupation is professionals, followed by technicians and trade workers.

It should be noted that the study communities need to be analysed in the context that Dungog LGA is a net exporter of jobs with approximately 3,825 people employed of which 1,636 are employed locally (ABS Table Builder 2016).

Table 5.22 Occupations of Employment 2016

Occupation	Paterson (SSC)	Vacy (SSC)	Martins Creek (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog (LGA)	NSW
Managers (%)	17.4	14.3	8.3	13.7	13.7	9.8	15.6	13.5
Professionals (%)	18.4	14.9	15.5	24.5	24.2	23.5	14.2	23.6
Technicians and trades workers (%)	16.0	20.2	20.8	15.2	16.0	16.7	18.0	12.7
Community and personal service workers (%)	8.8	5.6	13.1	11.6	9.2	8.7	9.2	10.4
Clerical and administrative workers (%)	12.1	14.9	14.3	13.3	15.1	12.1	12.6	13.8
Sales workers (%)	7.0	7.5	6.5	7.7	8.5	8.0	7.2	9.2
Machinery operators and drivers (%)	9.5	10.6	7.1	5.6	6.6	11.4	9.3	6.1
Labourers (%)	10.0	10.9	8.9	7.1	6.3	7.6	12.1	8.8

Source: ABS Community Profiles (2016)

5.10.2.1 Economic Diversity – Key Industries and Occupations

The Herfindahl index is a measure of homogeneity/diversity and is used to measure economic diversity. It is calculated as the sum of squares of proportional employment within detailed industry sectors, using ABS INDP4 data (with an index closer to 1 indicating less economic diversity).

The Herfindahl index for the Dungog LGA is 0.0253, indicating lower levels of economic diversity comparable to NSW as the score is closer to 1.

Table 5.23 Herfindahl Index of Industry Diversity

	Dungog LGA	NSW
Herfindahl Index	0.0253	0.0092

Umwelt 2019 - Source: ABS Table Builder, 2016

People residing in the Dungog LGA are predominantly employed in the construction industry (11.6%) (of which Daracon is categorised as) followed by health care and social assistance (10.8%) (ABS, 2016).

Table 5.24 below shows the proportion of residents within each locality that are employed in each industry. Residents across the smaller townships of Paterson, Vacy, Martins Creek, Duns Creek, Bolwarra and Bolwarra Heights are also employed in agriculture, mining, construction, health care and social assistance, retail, accommodation and food services, education and training and manufacturing (**Table 5.24**).

Table 5.24 Industry of Employment 2016

Industry of Employment	Paterson (SSC)	Vacy (SSC)	Martins Creek	Bolwarra (SSC)	Bolwarra Heights	Duns Creek	Dungog (LGA)	NSW
Agriculture, forestry and fishing (%)	7.4	8.7	3.0	2.3	0.7	1.1	10.6	2.1
Mining (%)	4.2	10.2	6.5	6.4	10.1	5.3	3.9	0.9
Manufacturing (%)	5.3	7.5	7.7	4.4	5.3	4.9	5.9	5.8
Electricity, gas, water and waste services (%)	3.3	3.4	2.4	2.9	1.9	0.0	2.0	0.9
Construction (%)	14.0	10.6	9.5	9.1	8.7	13.6	11.6	8.4
Wholesale trade (%)	0.9	1.2	1.8	1.9	2.1	3.0	1.7	3.1
Retail trade (%)	9.3	6.5	4.8	8.5	8.8	12.5	8.6	9.7
Accommodation and food services (%)	5.8	5.3	6.5	6.7	4.7	5.7	5.1	7.1
Transport, postal and warehousing (%)	3.7	6.2	1.8	4.2	3.7	4.2	5.1	4.7
Information media and telecommunications (%)	0.7	0.0	0.0	0.6	0.3	0.0	0.4	2.2
Financial and insurance services (%)	0.9	2.8	0.0	1.7	2.9	3.4	1.7	4.9
Rental, hiring and real estate services (%)	0.0	1.9	2.4	2.1	2.6	1.1	1.3	1.8
Professional, scientific and technical services (%)	5.3	5.0	4.8	7.9	6.2	6.1	5.7	8.1
Administrative and support services (%)	4.0	5.0	5.4	2.5	1.7	1.9	3.1	3.5
Public administration and safety (%)	4.0	4.3	4.8	5.8	7.2	5.3	5.1	6.0
Education and training (%)	10.2	8.4	7.7	11.2	11.8	10.2	7.7	8.4
Health care and social assistance (%)	10.0	9.3	16.1	16.0	12.9	13.6	10.8	12.5
Arts and recreation services (%)	0.7	0.0	0.0	1.7	1.2	0.0	0.7	1.5
Other services (%)	4.7	4.7	6.5	4.2	5.0	5.7	4.7	3.7

Source: ABS Community Profiles (2016)

Table 5.25 shows the top industries of employment with in the LGA of Dungog. This differs from the previous table (**Table 5.24**) in that it instead uses ABS 2016 Census data for 'place of work'. This means the data uses the number of people employed by businesses / organisations in each of the industry sectors in Dungog and their number of employees. The industries in Dungog LGA with the highest number of jobs in are listed in **Table 5.25**, indicating that the agriculture, forestry and fishing (19.1%) industry is a high employer across the LGA, with education and training (13%), construction (9.7%) and the retail trade (8.7%) also important.

Table 5.25 Dungog LGA Top Industries 2016

Industry	Proportion of jobs in the Industry
Agriculture, Forestry & Fishing (%)	19.1
Education & Training (%)	13.0
Construction (%)	9.7
Retail Trade (%)	8.7
Accommodation & Food Services (%)	8.6
Health Care & Social Assistance (%)	8.3
Professional, Scientific & Technical Services (%)	6.0
Public Administration & Safety (%)	5.7
Transport, Postal & Warehousing (%)	5.1
Other Services (%)	3.9
Administrative & Support Services (%)	3.0

Source: REMPLAN (2020)

While the Dungog LGA has a relatively small population, the locality supports a high number of jobs across a range of key industries, with a total of 2,202 people employed to work in Dungog LGA according to 2016 Census data (REMPLAN 2020).

However, a significant proportion (16.7%) of Dungog LGA's 8,976 residents also held jobs in surrounding local government areas in the week before Census night 2016, with the largest number of jobs held by Dungog LGA residents outside the locality with the majority being in Maitland (617 people/6.87%); Port Stephens (377 people/4.2%) and Newcastle (368 people/4.10%) (REMPLAN 2020).

5.10.2.2 Tourism

Tourism is a key industry sector for Dungog LGA with REMPLAN data (2020) indicating that of the 2,202 people employed in Dungog, 180 are tourism related jobs, making it the fifth largest employment industry after agriculture, forestry and fishing; education and training, health care and social assistance and construction (**Figure 5.34**).

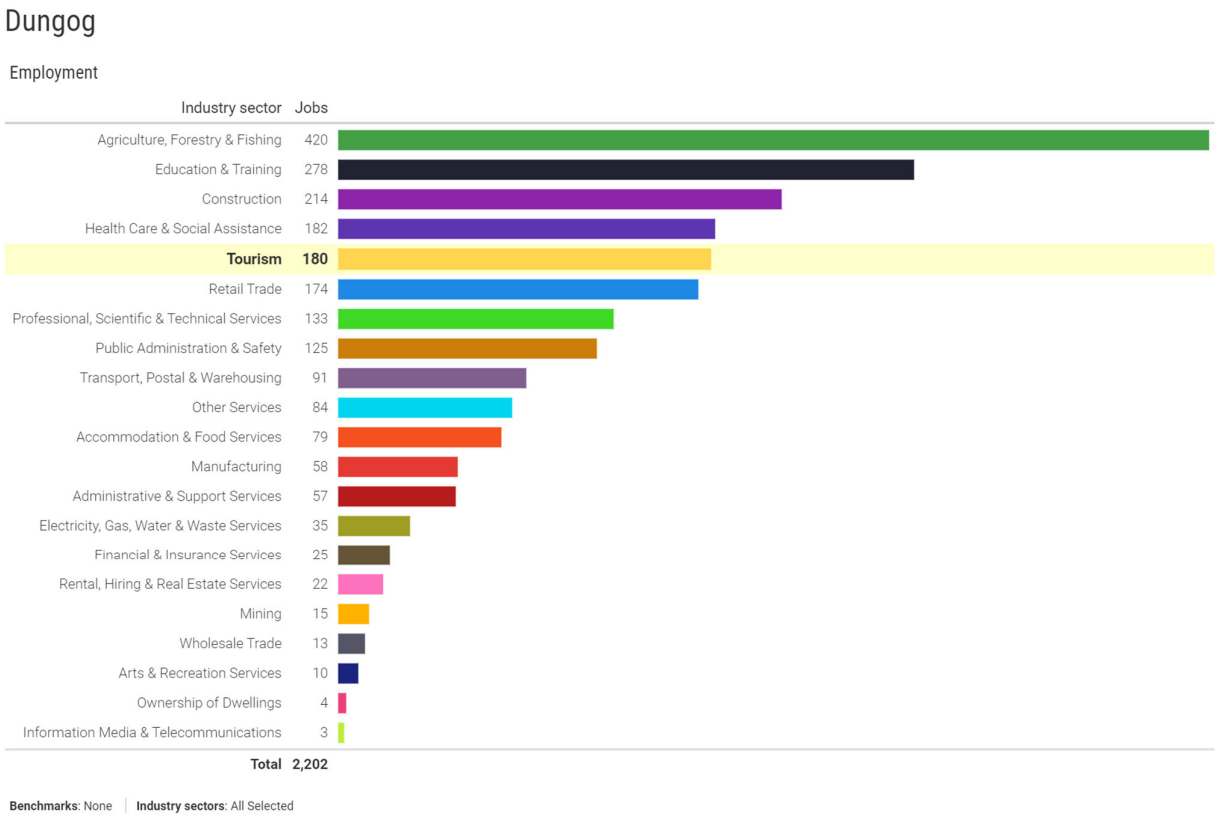


Figure 5.34 Employment Numbers Per Industry in Dungog LGA

Source: REMPLAN (2020)

Estimated expenditure from domestic day tourists averages $107 for the Dungog LGA, with the average number of nights visitors spent in the area listed as three nights with an average spend of $480 over the three-day period (REMPLAN, 2020).

According to the Dungog Shire Council's Visitor Economy 2015 report, visitation to the Dungog LGA increased by 8% between 2008 and 2014 with the visitor economy worth a total of $47 million to the Dungog LGA. Visitors can be broken down into day-trippers (65%), overnight visitors (34%) while international visitors make up 1% and $33 million is spent by overnight visitors to the region at an average spend of $100 per visitor (Dungog Shire Council, 2015).

The value of the tourist dollar is spread across a number of local industries, with accommodation and food services; transport, postal and warehousing; manufacturing and ownership of dwellings benefitting the most (REMPLAN 2020) (**Figure 5.35**).

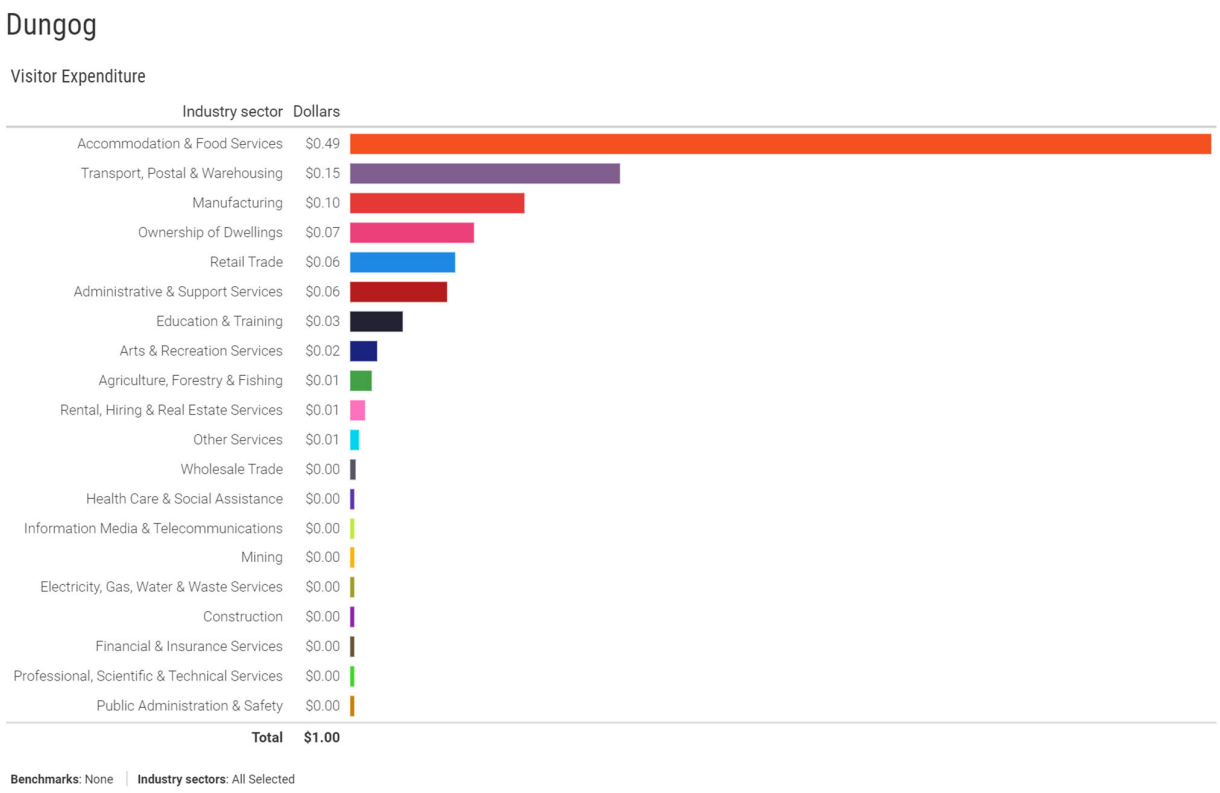


Figure 5.35 Visitor Expenditure Per Dollar

Source: REMPLAN (2020)

REMPLAN (2020) estimate that tourism contributes the following to the Dungog LGA:

- $17.218 million of value add in the economy[18] representing 4.7% of the total LGA economy of $363.605 million (**Figure 5.36**)
- $9.792 million to the total number of wages and salaries paid to workers in Dungog LGA (representing 6.3%) (**Figure 5.36**)
- $37.922 million out of a total output of $710.915 million.
- Construction (**Figure 5.37**).

18 Based on ABS 2016 Census Place of Work Employment (Scaled), ABS 2016 / 2017 National Input Output Tables, ABS June 2019 Gross State Product, and ABS 2018 / 2019 Tourism Satellite Account.

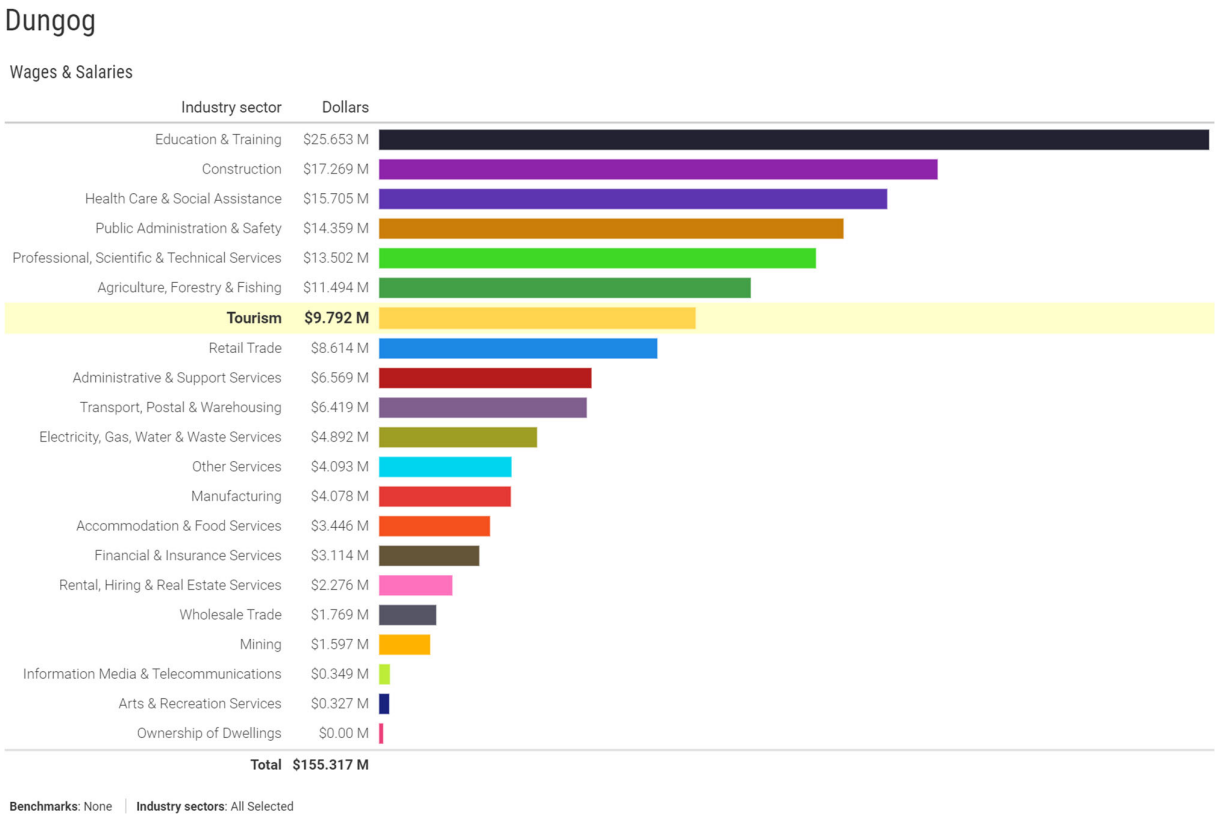


Figure 5.36 Contribution of Tourism to Wages and Salaries in the Dungog LGA

Source: REMPLAN (2020)

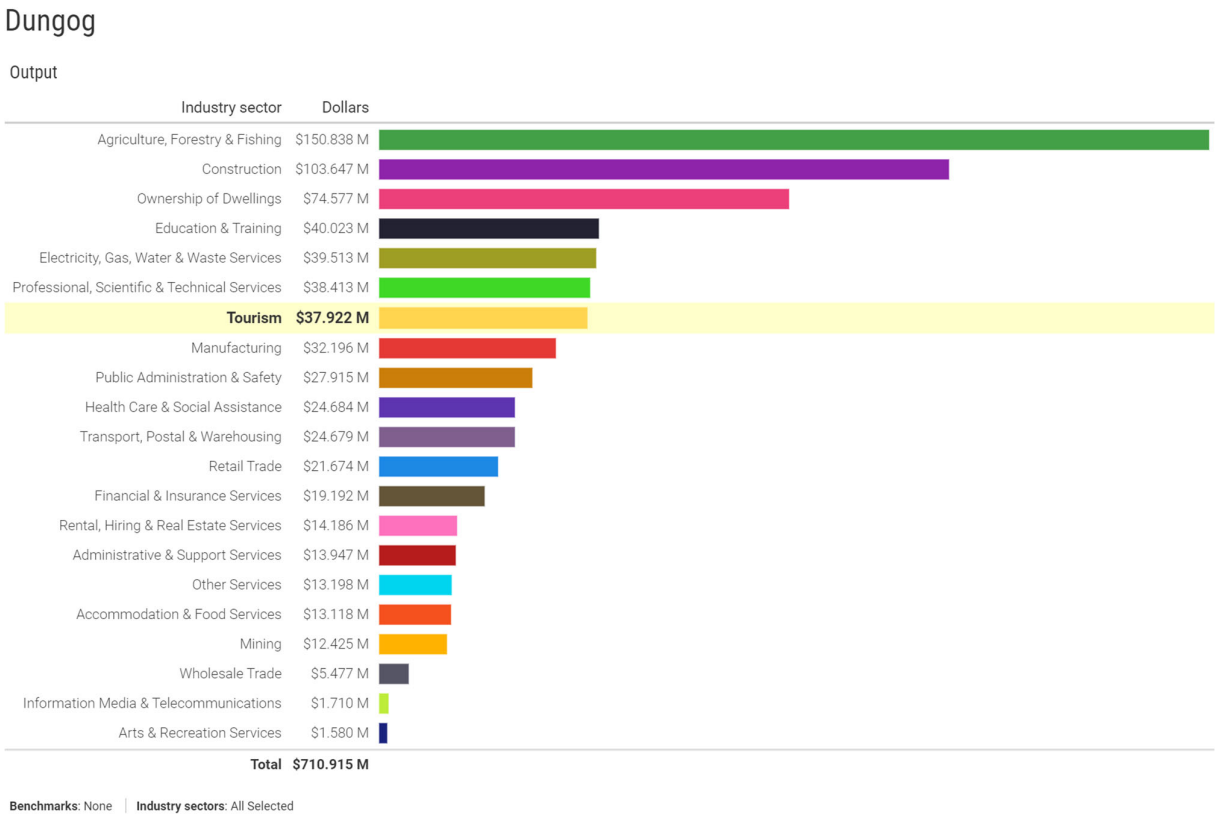


Figure 5.37 Estimate Output of Tourism in Dungog LGA

Source: REMPLAN (2020)

5.10.2.3 Local Business Profile

Analysis of local businesses present in the Dungog LGA as of the latest available Counts of Australian Business data from the ABS (June 2019[19]) highlights that:

- The largest numbers of businesses were agriculture, forestry and fishing industry related followed by construction (refer to **Table 5.26**).
- Most businesses in the LGA are non-employing (have no employees), followed by businesses with 1-4 employees (**Figure 5.38**).
- Most businesses had a turnover of $50,000 to less than $200,000 annually (35%) or zero to less than $50,000 annually (35%).
- Of the total 1,060 active businesses, 67% were non employing businesses.

[19] ABS Catalogue 8165.0: Counts of Australian Businesses, including Entries and Exits, Jun 2015 to Jun 2020.

Table 5.26 Dungog LGA Active Businesses

Industry	Count
Agriculture, Forestry and Fishing	410
Construction	169
Rental, Hiring, & Real Estate Services	75
Professional Scientific & Technical Services	71
Retail trade	55
Transport, Postal and Warehousing	45
Accommodation and food services	35
Financial and insurance services	35
Other services	33
Administrative and support services	29
Health care and social assistance	27
Manufacturing	25
Wholesale trade	25
Education and training	15
Arts and recreation services	10
Information media and telecommunications	6
Electricity, Gas, Water & Waste Services	5
Public administration and safety	3
Currently unknown	3
Mining	0
Number of Businesses by Industry - Total	**1061**

Source: ABS (2020) Counts of Australian Businesses, including Entries and Exits, Jun 2015 to Jun 2019

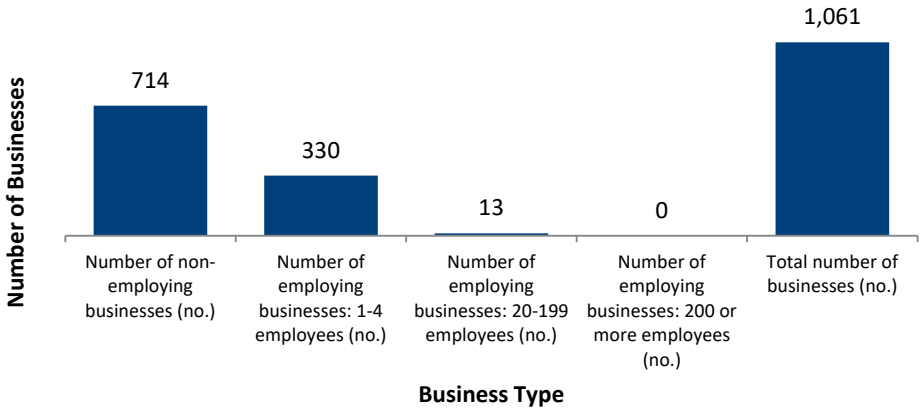


Figure 5.38 Dungog LGA Business Employment Types

Source: ABS (2020) Counts of Australian Businesses, including Entries and Exits, Jun 2015 to Jun 2020

The presence of significant agricultural activities, local businesses, and good local employment practices was seen to be important in the sustainability of the village communities during discussion with stakeholders in the consultation program.

> *Rural lifestyle, lack of heavy industry, balance of rural enterprises and distance to city.*
>
> *All employ local, great rural community but not far from anything, community spirit, park, events, sports.*

5.10.3 Summary of Economic Capital

In general, Dungog LGA has relatively strong economic capital, with advantages across a range of categories in comparison to other LGAs in NSW, including:

- Consistently lower rates of unemployment across study communities and the wider Dungog LGA compared with the state average, despite fluctuations between 2010 and 2020.
- Household and personal incomes in Paterson and Martins Creek are below the NSW average, while Vacy, Duns Creek, Bolwarra and Bolwarra Heights are above the NSW average. However, all income type averages for these townships are higher than average incomes across the broader Dungog LGA. Vacy, Paterson and Martins Creek show strong employment in agriculture, construction and health care and social assistance.
- Martins Creek, Vacy and Paterson communities have higher numbers of labourers and technicians and trades workers than NSW averages. This reflects the higher levels of employment in industries such as construction, mining and agriculture. Duns Creek, Bolwarra and Bolwarra Heights however have higher proportions of professionals compared with the other study communities.
- In Dungog LGA, expenditure on rental payments and median mortgage repayments rose between 2011 and 2016. In the case of mortgage repayments, the rise was atypical of the national trend between 2011 and 2016.

- Lower rates of full-time employment and higher rates of part time employment across Vacy, Paterson and Martins Creek, which may be indicative of a higher rate of under-employment.

- Behind agriculture, forestry and fishing, education and training, and construction which tend to be large industries of employment, the tourism industry in Dungog LGA is one of the major contributors to the region. The tourism industry in Dungog is one of the largest employers and generates large amounts in gross output for the region representing 5.04% of the LGA's economy.

- Economic diversity for the Dungog LGA is lower than NSW as the score is closer to 1.

The SEIFA Index Economic Resources (IER) reflects the economic resources of households within an area and includes variables such as household income, housing expenditure (e.g., rent) and wealth (e.g., home ownership). A low score indicates a relative lack of access to economic resources in general, while a high score indicates greater access to economic resources.

Based on this index, and given that the lowest scoring 10% of areas are given a decile of 1, and the highest a 10, the data indicates that:

- Dungog LGA has very high access to economic resources, falling in the 9th decile relative to all LGAs within NSW.

- This trend is reflected in each of the study communities, with the lowest access being reported in Paterson, which falls within the 7th decile relative to other suburbs in NSW.

- Martins Creek, Duns Creek, Bolwarra and Bolwarra Heights scored in the 9th and 10th deciles, indicative of a high level of access to economic resources.

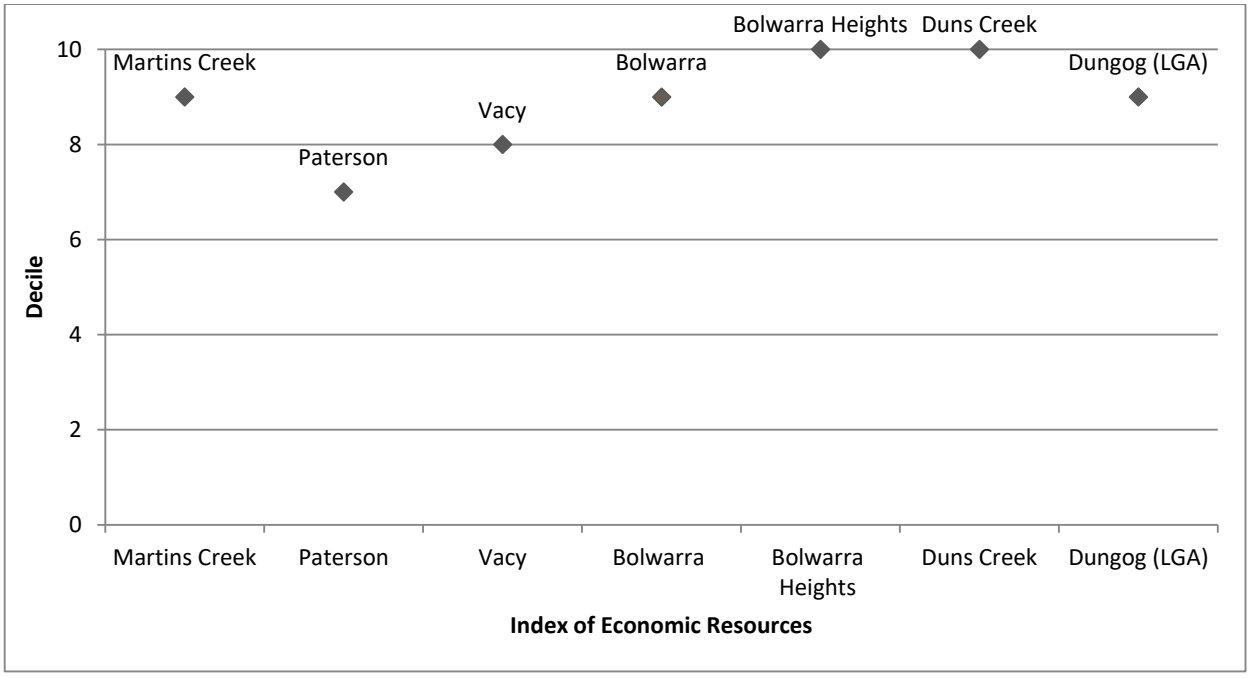


Figure 5.39 Index of Relative Economic Resources

Source: ABS (2016)

5.11 Physical Capital

Physical capital includes built infrastructure and services to the community. This includes amenities, services, and utilities along with housing and accommodation. The availability and type of physical capital are key indicators of social health and wellbeing and indicate a community's capacity for economic growth and innovation. A lack of physical capital such as health care and recreation facilities can negatively impact on the health and wellbeing of a community. The type, quality and degree of access to physical capital by the community are important considerations when assessing a community's physical capital.

Table 5.27 provides a summary of the key physical capital indicators for the study communities, with further discussion regarding these indicators provided in the subsequent sections.

Table 5.27 Summary of Key Physical Capital Indicators for Study Communities

Indicator	Martins Creek (SSC)	Paterson (SSC)	Vacy (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog LGA	NSW
Total Occupied Dwellings (%)	93	91	90	94	95	94	86	90
Total Private Dwellings	131	328	241	371	1,003	175	3,783	2,889,057
Separate houses	124	294	211	326	924	165	3,133	1,729,820
Owned outright (%)	36.9	40.5	36.2	44.4	35.2	43.0	42.4	32.2
Owned with Mortgage (%)	51.6	45.2	51.8	41.8	53.1	52.1	37.1	32.3
Rented (%)	13.1	12.7	6.9	13.3	10.4	5.5	17.6	31.8
Other Tenure Type (%)	0	0	1.4	0.0	0.0	0.0	0.6	0.9
Average Household Size	2.8	2.8	2.8	2.7	3	3	2.5	2.6
Number of people / bedrooms	0.9	0.8	0.8	0.7	0.8	0.8	0.8	0.9
Internet accessed from dwelling (%)	81	88	86	91	92	86	79	85
Travel to Work as a Driver (Car) (%)	73	71	73	75	77	71	67	58
Average number of cars per dwelling	2.3	2.3	2.5	2.1	2.1	2.6	2.1	1.7
Rent assistance from the Australian Government (2017)	-	-	-	-	-	-	13.6	16.3
Overcrowding[20], 2016	-	-	-	-	-	-	3.0	5.0

Source: ABS Community Profiles (2016)

[20] % Dwellings with one or more extra bedrooms needed (no.)

5.11.1 Infrastructure and Services

The townships of Vacy, Paterson and Martins Creek have limited infrastructure, in keeping with their small population sizes. For example, access to health care requires travel to Dungog for basic services, or Maitland or Newcastle for more comprehensive health care.

During Round One engagement, when stakeholders were asked where they access their day-to-day services, shopping etc. the majority responded that these were sourced from Maitland and Paterson. Therefore, the following discussion of the primary elements of physical capital have been considered in relation to both the Dungog LGA and also Maitland itself.

Table 5.28 Examples of Community Infrastructure and Services in Dungog and Maitland LGAs

Infrastructure	Martins Creek	Paterson	Vacy	Other Dungog LGA	Maitland LGA
Community	St James Church (no longer in use)	St Paul's Anglican Church Saint Columba's Paterson Church	St John's Anglican Church	Dungog Uniting Church Anglican Parish of Dungog St Andrew's Presbyterian Church & Dungog Markets Christ Church	Bolwarra Uniting Church Sacred Heart Campbell's Hill Church St Marys Anglican Parish Maitland
Culture/Arts/ History	Schools of Art Hall	Schools of Art Hall Paterson Court House Museum Paterson Gallery Paterson Rail Motor Museum Paterson Rail Motor Society	Schools of Art Hall	Dungog Arts Society operates across the LGA and fosters artistic endeavours Doug Walters Pavilion	Tocal Homestead Maitland Regional Art Gallery Maitland Gaol Walka Water Works Morpeth Museum
Emergency Services / Policing	Rural Fire Brigade station	Paterson Police Station (not open 24 hours)	Vacy Rural Fire Brigade	Dungog Police Station Dungog Fire Station Dungog Rural Fire Service	Maitland Police Station
Library				Library in Dungog, with a limited service to Paterson residents via a Library Deposit Station	Maitland City Library East Maitland branch Central Maitland branch

Infrastructure	Martins Creek	Paterson	Vacy	Other Dungog LGA	Maitland LGA
Local Businesses and other services / facilities		Paterson IGA Paterson Auto Repairs Stockers and Partridge Stylz on Track Hairdresser Paterson Chemist Paterson Post Office Paterson Butcher	Vacy General Store	A range of businesses listed in the Dungog District Chamber of Commerce members directory.	A range of businesses listed in the Maitland Business Chamber member directory
Accommodation and tourism		CBC Bed & Breakfast & Café Court House Hotel Paterson Tavern On Keppies BnB Farm Resort The Barracks Tocal Homestead A number of additional options listed on the real estate brokerage site 'Airbnb'.	Farmers Hotel Vacy Village Motel A number of additional options listed on the real estate brokerage site 'Airbnb'.		

Infrastructure	Martins Creek	Paterson	Vacy	Other Dungog LGA	Maitland LGA
Schools	Martins Creek Primary School Refer to **Table 5.13** for further information.	Paterson Valley Pre-School Paterson Public School Refer to **Table 5.13** for further information.	Vacy Primary School Hunter Mobile Preschool services the town of Vacy	Dungog Pre-School Kindergarten Joeys Pre-School & Early Learning Centre Dungog Primary School Dungog High School Education beyond high school level requires travel to Newcastle or further Refer to **Table 5.13** for further information.	Refer to **Table 5.13**.
Recreation/Community / Sport facilities	Martins Creek tennis courts and club house	Paterson Golf Club		Swimming pools (Dungog and Clarence Town) Sports and recreation clubs Dungog Bowling Club Gresford Bowling Club CWA Hall James Theatre Community Centre Dungog Showground Gresford Showground	Maitland Aquatic Centre Maitland Aquatic Centre Ernie Jurd Oval (Largs) Largs Tennis Courts Bolwarra Sporting Complex No. 1 Bolwarra Sporting Complex No. 2 Bolwarra tennis Courts Lorn Park

Infrastructure	Martins Creek	Paterson	Vacy	Other Dungog LGA	Maitland LGA
Open Spaces	'Skipline' Park, Martins Creek	John Tucker Park Sporting field	Sporting field	Williams River picnic area Dungog Common including the newly established Dungog Mountain Bike Park Sporting fields in Dungog & Gresford	A large number of local parks and playgrounds

Source: Dungog Shire Council (2018c)

5.11.1.1 Public Utilities and Services

Martins Creek is largely serviced by the Dungog Council. **Table 5.29** summarises the public amenities and utilities available in the Dungog LGA.

Table 5.29 Public Amenities and Utilities in Dungog LGA

Utilities	Description
Water	Hunter Water manages Chichester Dam, which services 35% of the Lower Hunter region, including Dungog LGA. Lostock Dam, managed by Water NSW, supplies water for Paterson.
Wastewater	Dungog LGA has both sewered and unsewered localities, with Vacy, Paterson and Martins Creek all unsewered. Wastewater in these locations is provided by on-site sewerage management.
Waste Management	Council operates both garbage and recycling collection across the LGA. The single landfill in the LGA is located in Dungog.
Electricity	Electricity infrastructure is managed by Essential Energy. A number of retail providers operate in the area.
Gas	There is no reticulated gas supply in the Dungog LGA. Residents rely on LPG gas delivered by a local gas retailer.
Telecommunications	Telstra manage and maintain all telecommunications infrastructure across the LGA. A number of telecommunications retailers operate across the area.

Source: Dungog Shire Council (2018c, 2018e, 2018f)

5.11.1.2 Transport Infrastructure

The region is connected by air from Newcastle Airport (approximately 60 km south-east) and has rail connections via Countrylink to Sydney and regional NSW. The Hunter Train Line services Dungog LGA several times daily, stopping in the town of Dungog and running south through Martins Creek and Paterson to Maitland and on to Newcastle, and north to Gloucester and Taree. Vacy is connected to the rail system via the NSW Transport bus lines which run daily.

Public transport within the LGA is somewhat limited, with limited bus services connecting Vacy and Martins Creek to the rail system or to other townships across the LGA. The Dungog Shire Council's Community Strategic Plan 2030 identifies the limited public transport options and the poorly considered timetables for the trains in the LGA a key challenge. As such a key priory for the Council is to develop appropriate public transport options to connect residents locally and regionally and to improve the provision of transport services within the LGA.

The Cityrail service is the only public transport service available to residents of Martins Creek and Paterson and it is available five times a day Monday to Friday with three services offered on weekends.

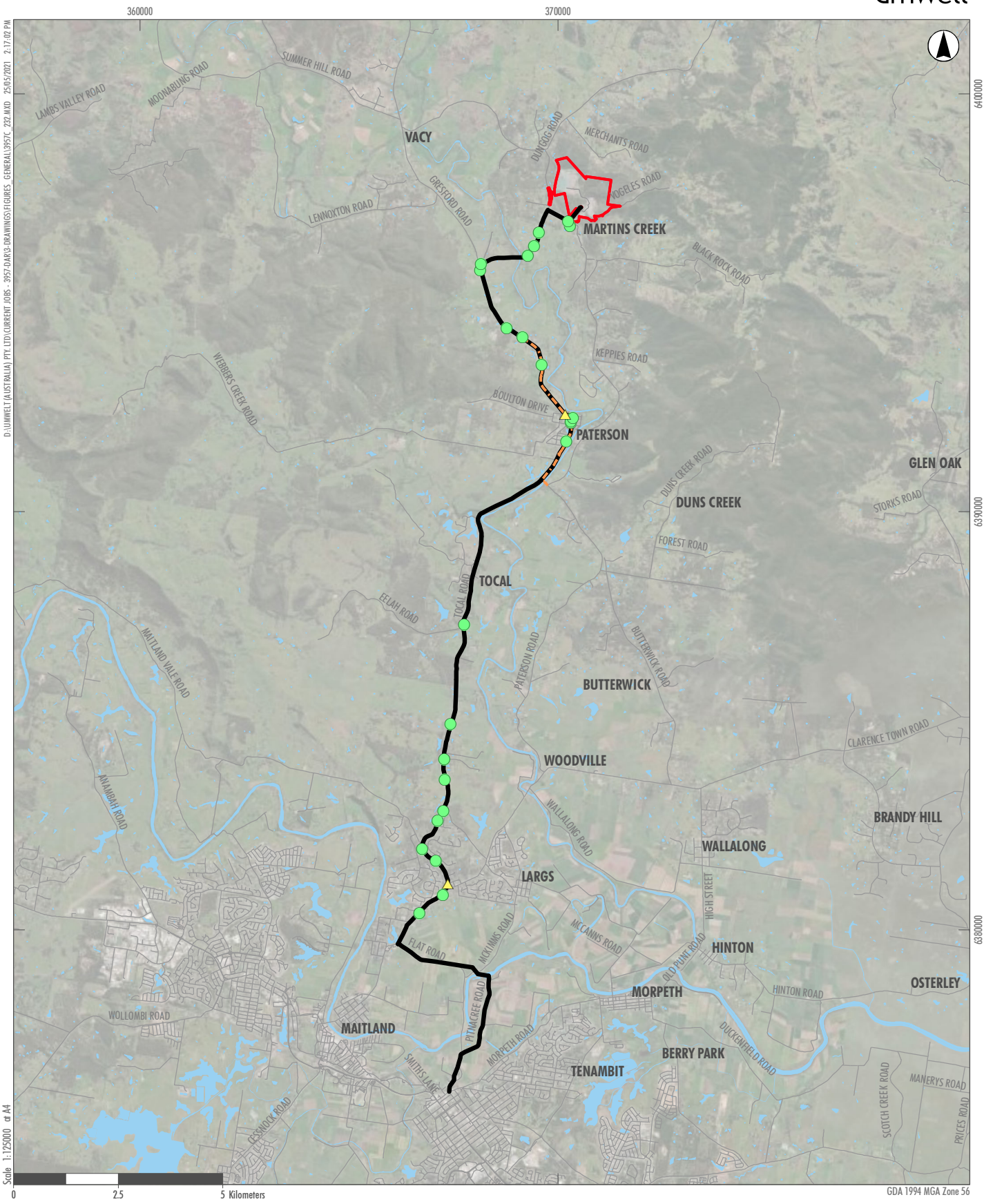
There are three main school bus service operators whose routes cross the Revised Project primary haul route. These are Hunter Valley Buses, Linq Bus Lines and Grace Coaches (refer to **Figure 5.40**).

The biggest operator is Hunter Valley Bus lines which runs four school bus services in the Paterson, Bolwarra and Maitland area – the 2322 from Bolwarra Heights, the 2291 from Phoenix Park, the 2241 from Hunterglen, and the 2322 from Thornton.

Linq bus lines also operates several services including:

- 513 and 593 which services Dungog High School, St Joseph's Public School (Dungog), Dungog Primary School.
- 479 and 280 which services Martins Creek Public School, Paterson Public School and Vacy Public School.

Grace Coaches is a small independent bus company, who took over several school-transportation routes from the previous operator, Sextons. Grace Coaches operates a single school service which runs from Paterson to Butterwick, to Dunns Creek and Martins Creek Road, delivering school students to the Paterson Public School.



Legend

- Project Area
- Grace Coaches Bus Route
- Daracon Truck Haulage Route 1
- Road
- Narrow road / buses turning onto truck route
- School bus pick up / drop off points

FIGURE 5.40

Local School Bus Services and Routes

Image Source: ESRI (2021) Data source: Daracon (2021), DFSI (2020)

The Dungog Shire Council faces a number of challenges in relation to road and transport infrastructure. In 1995 main roads across NSW were categorised into two categories, according to the amount of traffic they carried. High traffic main roads remained the state's responsibility, while lesser-trafficked main roads became the responsibility of local councils. In Dungog, this resulted in all main roads being transferred to the Council to manage.

Dungog's road and infrastructure network are extensive with 329 km of sealed roads, 271 km of unsealed roads and 124 km of regional roads, all of which are maintained by Council (Dungog Shire Council 2012). The Dungog Shire Council states that most of the roads were in a state of disrepair when they were turned over to the Council. Many remain in poor condition and require considerable financial resources to repair.

In its 2004 submission to the Review of Road Classifications undertaken by the Road Traffic Authority at that time, Dungog Council reported that '*Council has considerable issues regarding the inadequacy of funding allocated to its regional roads and their deteriorating condition under the present arrangements, as these roads carry our heaviest traffic and serve as the only linkages with the rest of NSW*'. It was reported at that time that there is a considerable volume of heavy vehicles utilising the Council's existing Regional Road network with up to 18% on Main Road (MR 101) (Dungog Road), a key link between Maitland to Gloucester via Dungog. This represented a 20% increase up from 1997 and a reported 2.6% increase in heavy vehicle traffic per year and was attributed to heavy vehicle movements at the quarry – noted as an 'important and expanding regional facility' and that in order to meet the continuing growth in demand, the quarry had increased its output from 373,550 tonnes in 1993/94 to 772,983 tonnes in 2003/04 – an increase equivalent to approximately 30,000 loaded truck movements annually (Dungog Shire Council, 2004).

Issues around the disrepair of roads across the LGA are ongoing, with the Council estimating that repairing the main roads will cost $65 million, half of which must be paid by the Council.

A review of local media also attests Dungog LGA as having a number of infrastructure issues with the main one being the state of the LGA's roads and the cost to repair those roads with a limited rates base. Merging with surrounding LGAs of either Port Stephens or Maitland has been suggested by Craig Deasey, ex-Dungog Shire Council's General Manager for 2017, and resulted in suggestions to share services between councils (**Appendix 6**).

Stemming from this the Community Strategic Plan 2030 highlights a number of priorities to improve road and transport infrastructure namely:

- Improve the safety and functionality of our road network.
- Ensure our local bridge network is safe and able to accommodate heavy vehicle load requirements.
- Advocate for improved rail services/timetables for the Dungog LGA.
- Seek external funding from State and Federal Government to assist with better planning and provision of public infrastructure in the Dungog Shire LGA.
- Apply for a Special Rate Variation to the NSW Government via the Integrated Planning and Reporting (IP&R) process with the specific purpose of creating general revenue opportunities for Dungog Shire Council to fund public infrastructure maintenance and upgrades in the LGA, with a keen focus on the road and bridge network.

The Paterson Local Area Plan (Dungog Shire Council 2005) also cited issues of traffic congestion around the village of Paterson, with increasing trucks travelling through the town, particularly for residents on and near the Tocal-Gresford Road, with a significant amount of 'heavy truck traffic generated by the State Rail Quarry at Martins Creek'.

Furthermore, Maitland City Council has identified in their Delivery Program 2018-2021 (Revised) (2019) that Tocal Road in Bolwarra Heights is a focus for major reconstruction, with plans to spend $1.4M on road repairs from Maitland Vale Road to Hilldale Drive. Other roads in Bolwarra Heights that have been identified for rework as part of Maitland City Council's Four Year Capital Works Program are Paterson Road from Corina Avenue to Cabarita Close, Lang Drive, and Tocal Road from Maitland Vale Road to Lang Drive.

The significance of MR 101 to the region and its high traffic use is further supported by the various submissions that the Dungog Shire Council and neighbouring Councils, have submitted over the years to have MR 101 reallocated from a regional road to a State road (refer to **Table 5.30)**.

Table 5.30 Council submissions regarding MR 101

Date	Description
Dungog Shire Council (August 2004)	In its submission to the Road Classification Review Board the Dungog Shire Council recommended that MR 101 be modified from a regional road to a state road due to the important link it provides from Maitland to Gloucester via Dungog. It has been experiencing a significant increase in traffic of which heavy vehicles are a high component and much of this traffic is generated by State government holdings, i.e. the quarry.
Dungog Shire Council, Great Lakes Council and Maitland City Council Joint Submission for the reclassification of MR 101 to State Road (2004)	Submission supporting proposed reclassification reported this to be highest trafficked road within the Dungog Shire as is the most direct route from Maitland to Paterson and then onto Dungog and Stroud. The main industries and traffic generators being: agriculture (dairy and chicken farming); light industrial in Dungog and Paterson; tourism (Barrington Tops, Chichester Dam, National Parks and State Forests); education (High School in Dungog and several primary schools in Dungog, Martins Creek, Paterson, Lorn and Stroud) and commercial shopping areas and employment centres (Dungog, Paterson, Lorn, Stroud and Maitland).
August 2020 Submission to the Regional Road Transfer and Road Classification Review	Dungog Shire Council again nominated several roads across the Shire for submission to the NSW Government's road classification review including MR 101 from the southern boundary at Tocal through to the eastern boundary on Stroud Hill Road as a Priority 1.

Source: Dungog Shire Council 2005; Dungog Shire Council, Great Lakes Council and Maitland City Council. n.d.; Dungog Shire Council 2020a; Dungog Shire Council 2020b.

The above issues are of relevance when considering existing levels of community concern associated with the traffic impacts associated with the Revised Project and high traffic movements (discussed further in **Section 6.0**).

5.11.1.3 Health Services

The availability of health services is a key indicator of community health and wellbeing. According to the Australian Institute of Health and Welfare (AIHW) rural and remote communities experience a greater degree of difficulty accessing health and welfare services than populations in metropolitan areas, leading to lower life expectancy and reduced health outcomes. Key health infrastructure is outlined below:

- **Dungog and District Hospital:** less than 50 beds and an emergency department and a hospice care unit. Acts under the 'spoke & hub model' with Maitland Public hospital as its primary reference point. Only limited number of patients are effectively transferred to John Hunter. The hospital provides a limited range of services emergency services and medical and sub-acute care. Visiting services for specialists including, early childhood clinics, audiologist, optometrist, audiometry, drug and alcohol counselling, dietitian, speech therapist, podiatrist, x-ray services, physiotherapist, mental health worker, geriatric services, special care beds, palliative care, post-natal care, health promotion, women's health clinic, social worker, needle/syringe exchange and emergency department (Hospitals Data 2018).

- **Maitland Hospital:** provides an emergency department; maternal, child and family health service, general dental practice; occupational therapy; acute mental health impatient service and paediatric medical service. Funding ($450 million) was announced for a new the Maitland Hospital in 2017/18 State Budget with construction underway and the hospital expecting to be opened in early 2022. Services at the new hospital will included emergency services; medical, surgical, paediatric and maternity services; critical care services for adults and babies, including a special care nursery; operating theatres, delivery suites and assessment rooms; palliative care and rehabilitation services; mental health services; satellite renal dialysis; a new chemotherapy service; expanded oral health service and a range of ambulatory care and outpatient clinics.

- **Medical services:** There are three medical practices in the Dungog LGA, a dentist, pharmacist and a number of community nurses. The Medical Practices include Dungog medical practice, Clarence Town medical centre, Paterson medical practice. Health practitioner service levels at 2015 were 48.3 GPs per 100,000 residents in the Hunter, New England and Central Coast compare to 113 GPs per 100,000 for NSW, however health practitioner service levels for Dungog LGA are not specified (PHIDU 2015). Dungog and District Neighbourcare provides a wide range of community health support including meals-on-wheels, neighbour aid, respite, social support, community aged care packages and community transport, along with home care, palliative care and linen services. Dungog LGA also has an established action group which addresses domestic violence in the LGA (Dungog Shire Council 2018e; My Hospitals 2018).

- Access to medical and allied health services outside of those visiting services listed above requires residents to travel to Newcastle or Sydney. This may entail repeat visits or extended care, creating a financial and social burden on both the ill person and carer(s).

Consultation with landholders for the SIA suggested that a number of community members access health services including local GPs and chemists in Paterson.

Table 5.31 Health Service Summary, Dungog and Maitland LGA 2018

Service	Dungog	Maitland
Hospital	Dungog Community Hospital <50 beds	Maitland Hospital (100-199 beds) Maitland Private Hospital (156 beds) New Maitland Hospital (in construction)
Medical Practices	3	>50
Social Care services (respite, meals on wheels etc.)	1	>20
Aged Care facilities	3	12
Dentists	1	>15
Health Practitioner service levels – Hunter Region	48.3/100,000 residents	48.3/100,000 residents
Number of residential aged care places per 1000 people aged 70 years and over, 2016	50.6	51.9

Source: MyHospitals 2018, PHIDU 2020

According to PHIDU, in 2016 the number of residential aged care places for Dungog LGA and Maitland LGA is substantially lower than NSW, with an average of 83.4 places for NSW (PHIDU 2020) (refer to **Table 5.31**).

Similarly, Dungog Shire Council's Community Strategic Plan identifies the provision of health and medical facilities for the region's ageing population a key priority for the future.

5.11.1.4 Housing and Accommodation

Housing and accommodation are a vital component of physical capital. They indicate a locality's growth and capacity to accommodate its workforce, as well as a region's liveability.

Reflective of the rural location, the majority of the private dwellings in all of the study communities are separate houses (**Table 5.32**) reflecting a tendency for lower density living across the LGA.

Table 5.32 Dwelling Types 2016

Dwelling Type	Vacy	Paterson	Martins Creek	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog	NSW
Separate house (%)	98.6	98	100	94.2	97.2	100	96	66.4
Semi-detached, row or terrace house,	0	0	0	5.8	2.5	0	0.7	12.2

Dwelling Type	Vacy	Paterson	Martins Creek	Bolwarra (SSC)	Bolwarra Heights (SSC)	Duns Creek (SSC)	Dungog	NSW
townhouse etc. (%)								
Flat or apartment (%)	0	1	0	0	0	0	1.2	19.9
Other dwelling (%)	1.4	1	0	0	0	0	1.4	0.9

Source: ABS Community Profiles (2016)

The majority of homes in the study area are owned with a mortgage (refer to **Figure 5.41** and **Table 5.27**). Levels of home ownership with the communities of interest are above the State average with 44% of the households in the Dungog LGA and between 37% and 44% in the study communities owning their own homes outright compared to 33% in across NSW. Similarly, the proportion of those renting are also substantially lower than the State average.

Within the communities of Paterson, Vacy and Martins Creek, the proportion of homes owned with a mortgage appears to have increased between 2011 and 2016, most prominently in Vacy (11% increase) (see **Figure 5.41**). The proportion of homes owned outright has increased in Paterson (38% to 42%), decreased in Vacy (44% to 37%), and remained stable in Martins Creek (37 to 38%). The proportion of rented homes decreased from 2011 to 2016 in Paterson (19% to 12%) and Vacy (12% to 7%), whilst remaining stable at 13% in Martins Creek. As noted in **Section 5.6.2**, the boundaries of the suburbs of Paterson and Vacy have undergone some changes between the 2011 and 2016 census periods. To account for changes in the Paterson SSC boundary, data for the suburb of Webbers Creek is included in the analysis. However, differences between boundaries remain and data should be interpreted as indicative only. The boundaries of the Martins Creek SSC and Dungog LGA remained the same over the Census periods shown.

Bolwarra and Bolwarra Heights have smaller proportions of properties that are rented and higher proportions of home ownership that the NSW average, however changes in the ABS suburb boundaries for Bolwarra and Bolwarra Heights have made change over time difficult to ascertain. Similarly, Duns Creek has lower proportions of properties that are rented and higher rates of home ownership.

In comparison, the trend across the Dungog LGA shows a slight increase in the proportion of dwellings owned with a mortgage, with all other ownership types remaining relatively stable. In NSW, the proportion of homes owned outright has decreased from 36% in 2006 to 33% in 2016, whilst rentals increased from 31% in 2006 and 2011 to 33% in 2016.

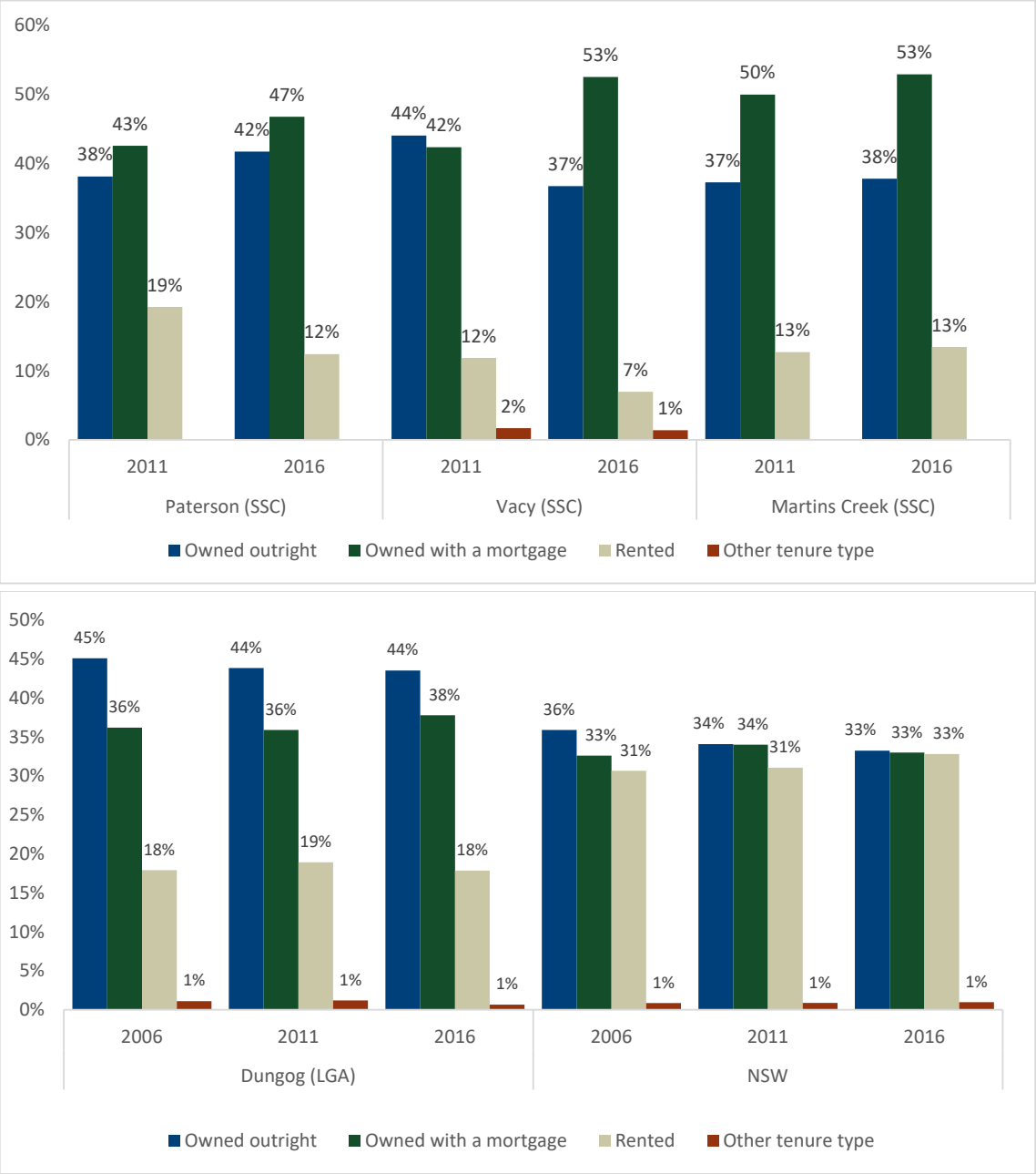


Figure 5.41 Property Ownership Types

Source: ABS Census (2016) – Time-Series Profiles; ABS Census (2011, 2016) – Community Profiles

Note: Due to changes in boundaries between the 2011 and 2016 census periods, the 2016 data for Paterson includes the community of Webbers Creek SSC. Small area differences are present in all SSCs, despite adjustments. Changes should be considered as indicative only.

According to sales data collected by the NSW Valuer Generals Office (current as of 31 December 2020), the number of property sales in Vacy have fluctuated from 13 sales in 2013 to a top of 31 in 2017, and then decreased to 12 in 2019, but increased again to 21 in 2020 (refer to **Figure 5.42**). As can be seen in **Figure 5.43**, the average sales price in Vacy has also increased, from $396,231 in 2013 to $613,483 in 2020. However, the sales price experienced some fluctuation, with a rapid increase from 2014 ($328,980) to 2015 ($569,365), followed by a decline in 2016 ($473,325) and gradual increases each year, up to the current average (Valuer General 2020). In November 2019, the median number of days on the market for property in Vacy was 136 days, which decreased to 112 days by October 2020. The NSW average during this same period also saw a slight decrease (57 days to 44 days), however the median days on the market across NSW was much lower (Property Valuation and Consulting 2020).

In Paterson, the number of sales has fluctuated year to year, with 24 sales in 2013 leading into a low of 15 in 2014, followed by steady increases to a high of 30 in 2017, before falling back to 19 in 2019 and 22 in 2020. Sales prices show a more gradual rise and fall, with a steady increase from $363,167 in 2013 to the highest average year in 2017 of $682,201. Since 2017, despite the number of sales remaining consistent each year, the average sale price has continued to fall from $670,550 in 2018 and $641,605 in 2019 to $572,456 by the end of 2020. As of October 2020, the average days on the market was 69, an increase from 46 days in November the previous year (Property Valuation and Consulting 2020).

In Martins Creek, the number of property sales have remained relatively stable between 2013 and 2017, albeit lower than surrounding localities, with eight (8) sales in 2013, and 8 in 2017. However, in more recent years, 2018 saw only one property sold and there were two sales in 2019. Although there were three properties sold in 2020, one property was sale price was much higher than the others and tended to increase the average sale price from $346,475 to $504,317. The average sales price decreased slightly from $376,000 to $333,076 between 2013 to 2015, before experiencing a sharp increase to $634,031 in 2016, on the account of one property selling for over one million dollars. The average sale price remained high in 2017 at $644,0000, however, the average fluctuated again over the coming years from $302,500 in 2019 and $504,317 in 2020. No data was available for the median number of days on the market for Martins Creek.

It should be noted that due to lower number of sales in Martins Creek, the average price is heavily influenced by individual property price. Furthermore, the sales listed included vacant lots, and all sales relating to land leased to Daracon for the Martins Creek Quarry site have been removed from the average, as these were significant outliers (Valuer General 2020). In addition, due to the small number of property sales and the difference between property types (i.e. large homes on acreages compared to smaller blocks in villages), property prices within the suburbs vary considerably. For example, in Paterson, during 2020 there was a vacant lot that sold $15,000 and 4 properties that sold for $1,000,000 or more. Average property prices should therefore be interpreted with caution, as they may not accurately reflect the variety of property types and prices.

According to the 2020 Valuation Report for the Dungog LGA (Opteon 2020), values in Paterson village have increased slightly from the previous valuation in 2019, while the villages of Vacy and Martins Creek have remained steady[21]. Median property sales across the Dungog LGA have slowly increased between 2016 and 2019, with median sale prices in 2016 at $305,000 to $380,000 in 2019, although sale prices have slightly dropped in 2020 to $370,000. Median land values, however, have slowly increased from $125,000 in 2016 to $173,000 in 2020. The Dungog Shire's Community Strategic Plan 2030 identifies the need to increase the level of affordable housing within the LGA, with strategies in place to provide affordable housing for young families and older residents.

[21] Note that the Valuation Report is based on a variety of third party sources (not just sale prices), including information relating to town planning, land use, zoning and other market related information.

In comparison to Paterson, Vacy and Martins Creek, the average property sales in 2020 for Bolwarra (49 sales) and Bolwarra Heights (47 sales), (suburbs of the Maitland LGA), are much higher with $557,786 and $671,160, respectively. It takes on average 36 days to sell in Bolwarra Heights and 73 days in Bolwarra, suggesting these localities are much more sought after than the study communities mentioned above.

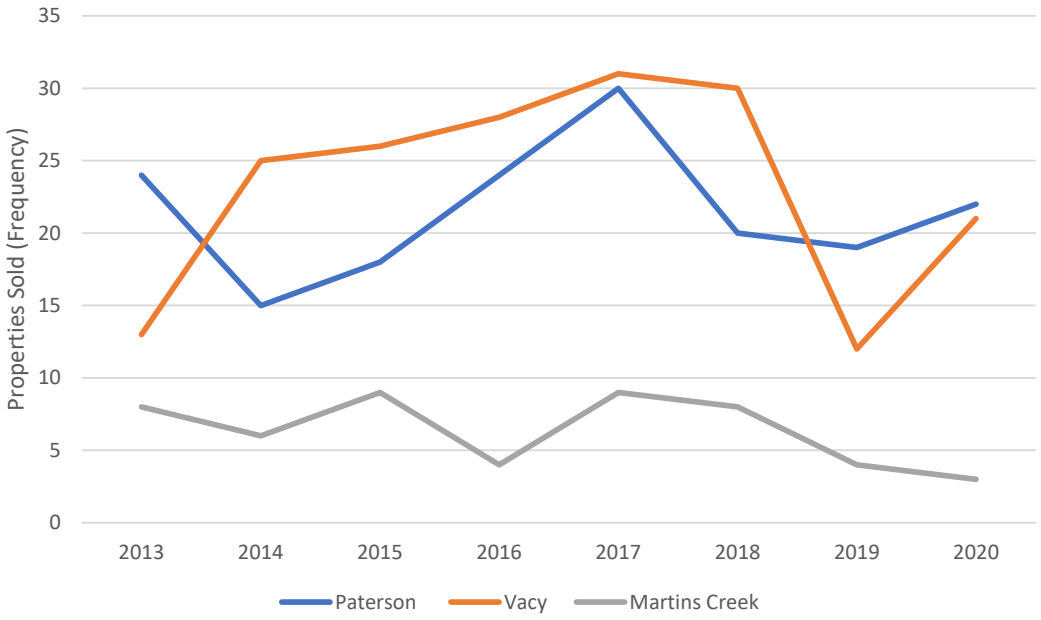


Figure 5.42 Number of Property Sales Between October 2013 to 31 December 2020.

Source: NSW Government Valuer General Property Sales (2020)
Note: Includes sale of vacant lots; sales relating to property owned by or leased to Daracon have been removed from the count.

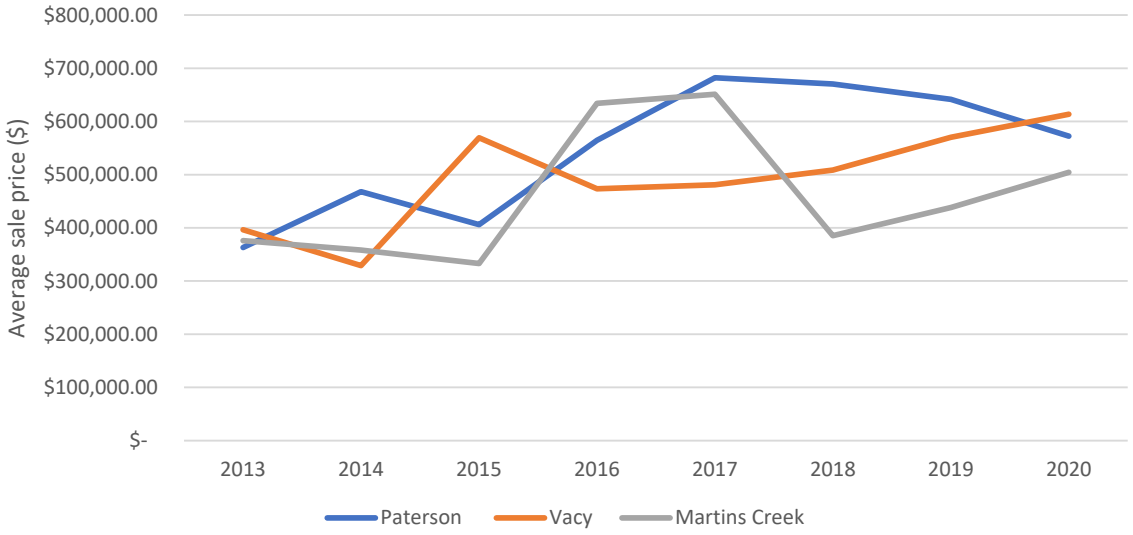


Figure 5.43 Average Sales Between January 2013 and December 2019.

Source: NSW Government Valuer General Property Sales (2020)
Note: Includes sale of vacant lots; sales relating to property owned by or leased to Daracon have been removed from the average.

The average number of people per household for the study areas Paterson, Vacy, Martins Creek, Bolwarra and Bolwarra Heights are all above the Dungog LGA and NSW average. This is consistent with the proportion of family households in each area (as mentioned in **Section 5.9.2**).

5.11.2 Summary of Physical Capital

The majority of the physical capital across the LGA is concentrated in the township of Dungog, particularly in the areas of health, community and emergency services.

Health services across the LGA are limited, with most regular services located in Dungog township, and specialist services provided on a visiting basis or requiring residents to travel to Maitland or Newcastle or Sydney. Emergency care is available in the Dungog township, however as noted above, specialist medical services are largely limited to visiting specialists or outreach programs, meaning residents are required to travel to Newcastle or Sydney for specialist services.

Similar to health services, community services are concentrated in Dungog, with some outreach services extending to the smaller townships.

Built infrastructure limitations include poor telecommunications and limited open spaces outside of the Dungog township. Water treatment is also limited with properties in Dungog linked to the sewer system.

Roads and transport infrastructure is a key challenge for the Dungog Shire Council due to the extensive road network in the LGA that are all under Council management and the limited rates base for the Council. In addition, many of the roads are in poor condition, requiring repair and maintenance. As such the Shire has made a number of applications for State Government funding over the years for road funding. In 2020 the Shire was successful in receiving over $4 million funding under Stage 1 of the NSW Government's Fixing Local Roads program.

Public transport across the LGA is serviced by NSW rail and bus lines, however bus services are limited and many residents are reliant on personal vehicles to travel to and from work.

With regard to housing, the Dungog LGA has a higher proportion of dwellings either owned outright or with a mortgage than NSW, and Vacy experiencing a rise in housing prices, and Paterson a decrease in housing prices.

5.12 Regional and Local Issues and Aspirations

This section utilises a number of data sources to build a picture of community issues, values and aspirations at the regional level, the Dungog LGA level and at a local township level. Data utilised in this section has been sourced from the following documents:

- NSW State Government and Dungog Shire and Maitland City Council strategic plans
- Local Government strategic planning documents: Dungog and Maitland
- Local, regional and state media (refer to **Appendix 6**).
- Outcomes of the Community Capitals Analysis (as detailed in **Section 5.6**).
- Interviews with stakeholders and members of the community.

5.12.1 Regional Issues and Opportunities

This section summarises the outcomes of a review of relevant Regional strategic plans and documents to highlight some central challenges and opportunities for the Upper Hunter Region (which includes the LGAs of Muswellbrook, Singleton, Upper Hunter and Dungog) and Lower Hunter Region (which includes Maitland LGA). Where possible issues and opportunities specific for the Dungog and Maitland LGAs have been highlighted.

Relevant strategic planning documents that have been sourced for this review at a Council level include:

- Hunter Regional Plan 2036, NSW Government DPIE (2016)
- The Upper Hunter Economic Diversification Project: Action Plan (2017)
- Strategic Regional Land Use Plan Upper Hunter, NSW Government (2012)
- Lower Hunter Regional Strategy (2006-2031).

The Hunter Regional Plan 2036: The Hunter Regional Plan 2036 is a 20 year blueprint for the future of the Hunter Region which is intended to guide the NSW Government's land use planning priorities and decisions from 2016 to 2036. The vision for the Plan is for the Hunter to be:

> *The leading regional economy in Australia with a vibrant new metropolitan city at its heart*

Regarding Dungog, the Plan states:

> *Dungog Local Government Area is bordered by the World Heritage-listed Barrington Tops plateau to the north, with strong connections to Maitland and Port Stephens to the south. It contains the local service centres of Dungog, Clarence Town and Paterson, and is characterised by important agricultural and water catchment areas. Dungog's future lies in strengthening its tourist connection to Barrington Tops, diversifying its already-strong agricultural base and capitalising on its potential for large-scale music festivals.*

Some of the key priorities for the region and Dungog LGA outlined in this Plan include:

- A need to diversify the economy within the Upper Hunter, and while mining, energy production, viticulture and thoroughbred horses will continue to underpin the economy and employment in the region; growth is expected in other industries including manufacturing, creative industries and defence.
- Support the growth and diversification of the agricultural sector.
- Expand the tourism sector by leveraging its strengths, including growing of fresh produce and nature tourism.
- Protect the water supply.

Regarding the Maitland LGA, the Plan states:

> *Maitland Local Government Area contains a high-growth metropolitan area that includes strategic centres servicing the hinterland and rural areas of Dungog and the Upper Hunter area. It includes a number of urban release areas that are contributing to significant greenfield housing supply for the region, as well as centres undergoing revitalisation, and historic rural villages. Maitland will continue to supply housing, connect its settlements and offer civic, health and educational services.*

Some of the key priorities for the region and Maitland LGA outlined in this Plan include:

- Focus development to create compact settlements in locations with established services and infrastructure, including the Maitland Corridor growth area
- Deliver the existing Urban Release Areas including those of Bolwarra/Largs.

Upper Hunter Economic Diversification Project: The Upper Hunter Economic Diversification Project: Action Plan (2017) works within the implementation framework established by the Department of Planning and Environment for the Hunter Regional Plan 2036 and delivers on the Government commitment in that plan to diversify the economy in the Upper Hunter. The Upper Hunter region is defined as covering the LGAs of Dungog, Muswellbrook, Singleton and Upper Hunter.

The Upper Hunter Economic Diversification Project Action Plan was prepared by the NSW Government's Hunter Regional Leadership Executive in 2107 and sets renewed priorities for encouraging new business and employment opportunities and sustainable regional transition for the region over the next 20-25 years. This renewed economic diversification initiative for the Upper Hunter is shifting the debate from land use conflict towards regional economic priorities based on comparative and competitive advantages, leading to opportunities to strengthen industry investment.

Key directions for economic development and industry transition outlined in the Hunter Regional Plan 2036 that this plan has drawn from include:

- enhance connections to Asia-Pacific through global gateways
- transform the productivity of the Hunter
- protect and enhance agricultural productivity
- manage the ongoing use of natural resources
- diversify and grow the energy sector
- plan for greater land use compatibility.

Lower Hunter Regional Strategy (2006-2031): The Regional Strategy applies to the five local government areas of Newcastle, Lake Macquarie, Port Stephens, Maitland and Cessnock and represents an agreed NSW government position on the future of the Lower Hunter. The primary purpose of the Regional Strategy is to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the Region's population over the next 25 years. The Regional Strategy also plans for the provision of sufficient new urban and employment lands to meet expected strong demands for growth. The Regional Strategy also refocuses development in the Lower Hunter towards the strengthening of vibrant centres that support the role of Newcastle City Centre as the regional city.

Table 5.33 provides a summary of the issues and opportunities for the Dungog LGA and the broader Upper Hunter region (which relate to the Dungog LGA) and those issues specific to the Maitland LGA as identified in the key regional strategic plans including Hunter Regional Plan 2036 (2016), The Upper Hunter Economic Diversification Project: Action Plan (2017), Strategic Regional Land Use Plan Upper Hunter (2012) and the Lower Hunter Regional Strategy (2006-2031).

Table 5.33 Summary of Issues and Opportunities – Upper and Lower Hunter Region (including Dungog and Maitland LGAs)

	Issues	Opportunities
Natural Capital	• Competing land uses across the Upper Hunter Region- agriculture and rural residential, and mining outside of the Dungog LGA • Dungog has less area protected by formal reserves than other LGA's in the Upper Hunter • Retaining resource base for mining, agricultural and energy industries across the Upper Hunter Region • The natural environment in the Upper Hunter Region is under ongoing pressure from development including an increase in mining and coal seam gas development. • Residential and commercial development in a number of towns and villages in the region is already constrained by flooding • Risks associated with climate change which can impact on key industries including agriculture, mining and tourism • Water security	• Upper Hunter Region has significant natural resources including coal and coal seam gas and productive agricultural land. • Rural character of Dungog. • World heritage listed Barrington Tops National Park located in proximity to Dungog. • The Upper Hunter Region is home to 80 NSW threatened and 18 nationally listed threatened animals as well as 58 NSW threatened plant species and 37 nationally listed plant species. • The Upper Hunter Region comprises just 2% of the area used for grazing and cropping in NSW but provides a much greater contribution to the NSW production of many agricultural commodities, particularly equine, viticulture, milk and beef cattle. • The coal seam gas industry in the Upper Hunter Region is in its infancy, with no commercial production at this stage. However, the region contains large reserves of coal seam gas and is highly prospective for conventional gas. • The Upper Hunter Region contains other mineral deposits as well as numerous extractive resource operations (e.g., hard rock, gravel). • The Upper Hunter Region includes a significant portion of the Hunter-Central Rivers Catchment Management area, and a smaller proportion of both the Hawkesbury Nepean and Macquarie River catchments. • The Upper Hunter Region retains substantial natural heritage with nearly 60% of the area blanketed with native bushland.
Physical Capital	• A number of the towns and villages in Dungog LGA have limited opportunities for future expansion because they are directly affected by flooding of the Paterson and Williams rivers or impacted by road closures caused by flooding. • Growth of the mining sector will require infrastructure provision and upgrades (in particular, rail, roads, pipelines and ports).	• Road and rail provide important connections to regional and international transport hubs such as Newcastle Airport and Port of Newcastle. • Chichester Dam located upstream of Dungog, is one of the Hunter's most important freshwater storage facilities contributing about 35% of the Lower Hunter's potable water supply.

	Issues	Opportunities
	• Need for more diverse housing options to cater for housing needs of 'tree changers' and aging population in the Dungog LGA. • Increased rail infrastructure and traffic management/intersection upgrades in the Upper Hunter Region. • Increased activity and population growth across the Upper Hunter Region will impact on infrastructure provision in local communities. • Regional cumulative impacts on infrastructure due to the growth of mining and related industries in the Hunter Region. • Demand for social infrastructure, including health, community and social services, education and emergency facilities is likely to increase as a result of population and economic growth and any existing deficiencies are likely to be compounded. • Improvements needed in telecommunications and utilities infrastructure. • Strong residential growth in the Maitland corridor has led to increased congestion on the Maitland Road–New England Highway — the only direct link between the Maitland district and inner Newcastle.	• Strong growth in housing has occurred in the Maitland LGA over recent years and this is expected to continue.
Economic capital	• Dungog economy particularly reliant on beef industry. • Dungog is experiencing slow growth rates and seeking ways to broaden and diversify its local economies. • Difficulties attracting new industries and investment to the Dungog area due to slower population growth. • Low demand for industrial land in Dungog. • Mining (and related industries) places pressure on other industries including the thoroughbred and wine industries (in terms competition for land, labour force, wages) in the Upper Hunter Region.	• Dungog and Gloucester have extensive beef cattle grazing and crop production which remains the mainstay of the local economies. • Upper Hunter Region dominated economically by coal mining and agriculture which contributes strongly to the regional, state and national economy. • The Upper Hunter region is one of the State's most fertile and productive agricultural areas. The agricultural industry is worth around $5.9 billion annually to the regional economy, with dairy, horse breeding, viticulture and beef cattle industries being major contributors.

	Issues	Opportunities
	• Land use uncertainty in the Upper Hunter Region is impacting on investment in diversified industries. • Uneven economic growth and distribution of economic resources (including wages) due to the mining industry across the Upper Hunter Region.	• Coal is NSW's most significant commodity export - worth over $14 billion in 2010/11. Approximately 60% of this coal is mined in the Upper Hunter region (although there is no coal mines in Dungog). • Tourism is an important industry for the region and for Dungog due to the proximity of Barrington Tops National Park. • There is also significant employment in the region in service industries such as health care, education, retail and local administration. • Working with existing sectors to encourage further investment and growth.
Social Capital	• The current identification and protection of both Aboriginal and historic cultural heritage within the region is not comprehensive, being reliant on statutory listings, baseline local and regional heritage studies, and other incomplete data sets. • Urban, regional and mining growth has the potential to further impact on known and yet to be identified cultural heritage. • Avoid/manage cumulative impacts on cultural heritage, including intergenerational equity.	• Many communities in the Dungog LGA have strong connections to the cities of the Lower Hunter, such as Maitland and Newcastle. Fly-in-fly out workers are less likely to be needed due to these connections. • Upper Hunter Region is rich in both Aboriginal and historic cultural heritage. • Over the last 30 years, cultural heritage studies have identified over 7,000 sites (objects) within the region which are registered under the *National Parks and Wildlife Act 1974*. • 36 sites within the Upper Hunter Region are listed on the State Heritage Register. • Many communities are set within and around the Hunter's natural features and open space, which are among the region's best assets. The quality of these areas and the ability to access them gives residents an array of unique experiences and the opportunity for a healthy lifestyle. • Strong sense of regional identity and community.
Human Capital	• Strongest growth in the Upper Hunter Region has occurred where mining is most prevalent – Singleton (1.4% p.a.) and Muswellbrook (1.3% p.a.). In comparison, in Dungog LGA where there is no coal mining presence, growth has been 0.7% per annum.	• The NSW Government have developed a cumulative impact assessment methodology to address the challenges of cumulative impacts of the mining industry on community health and wellbeing (e.g., dust, noise and visual amenity). • Dungog and Gloucester, in particular, have benefited from a modest increase in tree-change growth.

	Issues	Opportunities
	• A perceived decrease in human health and wellbeing (physical and psychological) is one of the key issues raised by some community members regarding the perceived impacts from coal mining in the Upper Hunter Region. • Shortfall in the provision of smaller dwellings including detached houses, townhouses and apartments with one or two bedrooms in the Upper Hunter Region. • Aging population: 25% of the region's population will be over 65 years by 2036.	• Dungog seen as having affordable housing.

Source: Hunter Regional Plan 2036 (2016); The Upper Hunter Economic Diversification Project: Action Plan (2017); Strategic Regional Land Use Plan Upper Hunter (2012); Lower Hunter Regional Strategy (2006-2031):

5.12.2 Dungog LGA Issues and Opportunities

The Dungog Shire Council *Community Strategic Plan 2012-2030* (updated in 2018) identifies a number of challenges specifically for the LGA, including: lack of employment markets within the LGA; static or declining village populations; an aging population, and migration of youth out of the LGA.

Other critical issues identified in the Dungog Shire's Strategic Plan include considerable environmental management issues, notably a considerable number (25%) of site sewerage management systems requiring work, and the need for ongoing water management. The Council has identified the need to manage conflicting land use demands between agricultural producers, horse breeders, resource companies and local communities. Preparedness for extreme weather events is also a priority for the Council.

Water security for agricultural and human consumption is particularly relevant for the LGA given its dependence on agricultural output (Dungog Shire Council 2018).

The Council stated in its 2012-2030 strategy that resource and expenditure management is a critical issue for the long-term financial viability of the LGA, with a low rate-payer base to fund infrastructure challenges such as the repair of roads and timber bridges in the LGA.

Table 5.34 outlines the main issues and opportunities facing Dungog LGA based on existing Council strategic planning documents and outcomes of the capitals analysis.

Table 5.34 Summary of Issues and Opportunities – Dungog LGA

Theme	Issues	Opportunities / Facilitating Factors	Dungog Shire Council Community Strategic Plan 2012-2030 - priorities
Human Capital	• Aging population • Populations of villages either static or declining • Loss of youth to Newcastle or further afield as a result of limited educational opportunities and jobs • Low levels of higher educational attainment	• Increasingly attractive to 'tree-changers' and visitors looking for active recreation • Higher levels of Certificate level educational attainment consonant with agricultural and mining related work	• Better access to post-secondary training/education • Retain government services • Housing options inclusive of aged care, affordability • Provide age-appropriate facilities/events for youth • Local health services catering to population requirements, e.g., aging population
Social Capital	• Rising rates of crime across some categories including categories of assault	• Strong volunteer base indicating a high level of community participation and social cohesion • Strong community spirit and pride in cultural heritage, local history, natural landscape and safe community	• Increase volunteerism

Theme	Issues	Opportunities / Facilitating Factors	Dungog Shire Council Community Strategic Plan 2012-2030 - priorities
Economic Capital	• Increasingly less affordable housing and property in a range of land types (i.e. residential, rural, business) • Rising mortgage repayments • Rising housing prices in key townships • High levels of rental stress • Loss of jobs in public sector due to decrease of services • Lower rates of full-time employment	• Higher level of homes owned either outright or with a mortgage • Overall higher personal incomes • Lower rates of unemployment • Some employment diversity evident in agriculture and mining • Capacity to build on existing tourism income by increasing awareness of the region's brand	• Minimise consumer activity outside the LGA: LGA brand, buy/sell local • Expand economic and agricultural diversity, and employment opportunities • Offer more tourist accommodation/facilities • Strengthen local business confidence regarding major regional infrastructure projects • Market driven allocation of industrial and employment land • Sustain viable agricultural activities/growth • Retain rural character of the LGA
Physical Capital	• Limited public transport and poor road infrastructure in need of repair • Low levels of physical capital including road, health, telecommunications and community infrastructure • Government and social services delivered on a regional rather than local basis • High infrastructure maintenance and works costs (roads, sewerage system)	• A good range of community facilities in Dungog which can be built upon • Good connection to local rail system • Mixed land-use and allotment sizes	• Housing options inclusive of aged care, affordability • Identify and appropriately zone land for growth • Maintain safe road networks • Improve mobile and internet services • Improve transport links • Maintain safe recreational facilities. Plan/provide local community services

Theme	Issues	Opportunities / Facilitating Factors	Dungog Shire Council Community Strategic Plan 2012-2030 - priorities
			reflecting population change/diversity, geographic separation of towns/villages • Increase awareness of local Aboriginal heritage/culture, preserve/promote European heritage
Natural Capital	• Potential for land use conflict	• Natural capital is highly valued by residents including agricultural assets • High quality agricultural and grazing land • Natural capital for nature based recreational/tourist activities	• Monitor and address impacts of climate change • Manage weeds/feral animals • Identify and address negative impacts of resource extraction • Reduce carbon footprint/energy usage • Maintain appropriate access to natural assets • Expand access to national parks/forests • Plan parklands and recreational facilities that reflect population change

Source: Community Strategic Plan 2012-2030 (2018)

5.12.3 Maitland LGA Issues and Opportunities

The Maitland City Council *Maitland +10 Community Strategic Plan 2018-2028,* the Council's annual report and relevant public documents identify a number of challenges and opportunities for the LGA. These are summarised at **Table 5.35.**

Table 5.35 Summary of Issues and Opportunities – Maitland LGA

Theme	Issues	Opportunities / Facilitating Factors
Human Capital	• Growing population	• Growing population • Diverse mix of cultures
Social Capital	• Maintaining heritage	• Unique built heritage and villages • One of the oldest regional centres in Australia
Economic Capital	• Accessing local employment opportunities • Minimal directional and interpretative signage hampers visitors from exploring areas	• Leveraging various accommodation options for an agritourism package experience • Diverse mix of businesses
Physical Capital	• Ensuring sufficient infrastructure and housing for the growing population. • Restricted water usage • Community infrastructure is reaching its capacity • Infrastructure to service a growing population can pose significant challenges • The existing local road network relies heavily on the New England Highway and is under significant pressure from traffic growth from new urban development in and around Maitland	• Completion of major road works including Paterson Road at Bolwarra. • A focus in 2020/21 on a prioritised program of works to support the area's urban growth and reduce traffic congestion • Tocal College: training facilities and also popular for weddings, events and conferences • Availability of and access to sporting, health, education and shopping facilities • Variety of transportation options: walking, cycling, public transport and access to local and regional road networks
Natural Capital	• Protecting wildlife and environment • Moving from natural assets to tourism attractions will require substantial investment and development	• Scenic beauty • Hunter River – availability for a range of recreation and leisure activities

Source: Maitland +10 Community Strategic Plan 2018-2028; 2019-2020 Maitland City Council Annual Report; Destination Management Plan 2020-2030; Maitland Local Strategic Planning Statement 2040+

5.12.4 Local Community Issues, Opportunities and Values

Dungog Shire Council *Community Strategic Plan 2012-2030* also identifies a number of specific issues of importance as identified by residents of the Paterson community through consultation activities undertaken as part of the Council's strategic planning process.

Acknowledging that this consultation was undertaken in 2011, when asked *What is the most important issue facing the future of the Dungog Shire and its community?*, for the Paterson community amongst identified issues of concern at that time included:

- heavy vehicle traffic - road damage, noise
- heritage bridges - load limits
- a need to hold on to the rural lifestyle
- younger people leaving shire
- closure of local businesses
- lack of tourism due to deterioration of National Park facilities.

Aspects that Paterson residents identified that they valued most about living in the Dungog LGA during the strategic planning process included the following:



Figure 5.44 What do you Most Value about Living in the Dungog LGA?

Source: Dungog Shire Council Community Strategic Plan 2011

The above aspects were supported by outcomes of supporting business and government forums that identified the '*community spirit*', '*rural amenity combined with a high level of service delivery*', and the '*quality of life*' as amongst the best attributes of the Dungog LGA and its community.

More recently, during consultation activities undertaken with the community to support the preparation of this SIA, when community respondents were asked to describe the key attributes and values of importance to them in the region, to identify the strengths of their communities and what they liked about living in the area, a number of key themes were identified – many of which were the same that had been noted in 2011 (Dungog Shire Council 2018e), most notably a sense of community. Identified themes when discussing the values of the local area and region included:

- sense of community
- quality of life
- access and infrastructure
- culture and heritage
- natural environment
- economic stability.

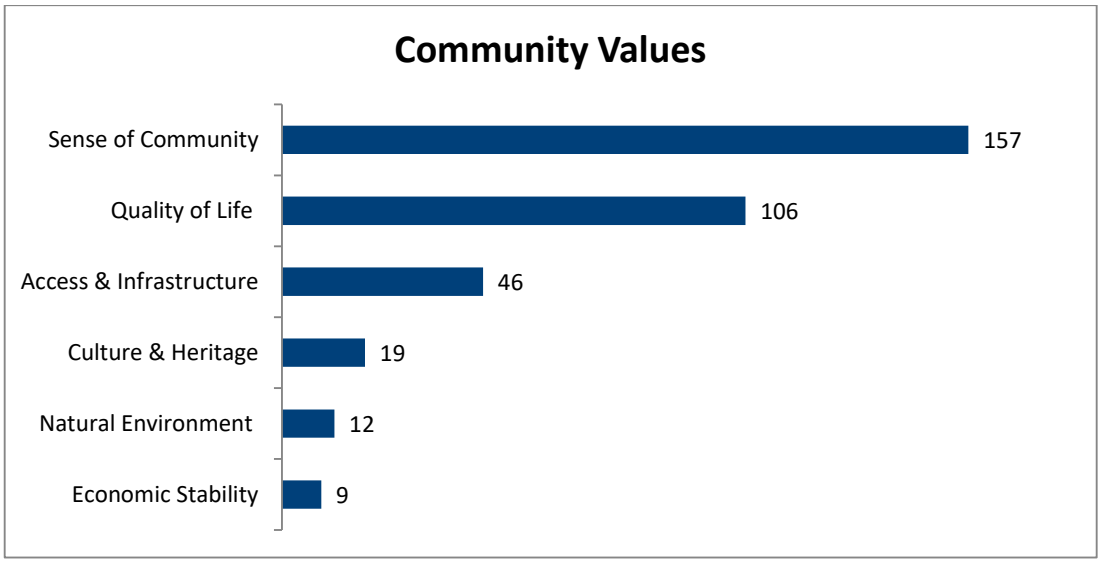


Figure 5.45 What do you Most Value about Living in this Community? Frequency

Source: Umwelt (2018)

Note: Multiple responses allowed

5.13 Social Profile Summary

Inherent within the SIA process is the need to identify and empower vulnerable groups. The World Health Organisation (WHO) defines vulnerability as:

> *the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of disasters (significant change)* (WHO 2002)

Both the WHO and more recently, Vanclay (2015) has outlined characteristics of vulnerable individuals / groups as:

> *Children, pregnant women, elderly people, malnourished people, and people who are ill or immunocompromised, that are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies (WHO 2002)*
>
> and;
>
> *Although vulnerability is context- dependent and can include a very wide range of groups, typically the concept includes: Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people (Vanclay, 2015).*

From the social profile analysis undertaken above, it is possible to assess key areas of community resilience and risk within in the Dungog LGA and the study areas proximal to the Revised Project.

The information above has been gathered from a range of secondary data sources including the ABS and PHIDU, local government strategic and actions plans and state department plans. The data are used to provide a well-informed understanding of the social context in which the Revised Project is located, on Dungog LGA in general, and Martins Creek, Paterson and Vacy in particular.

The following table summarises key strengths and vulnerabilities of the capitals assessment identified in the above profile for the key study area communities and the Dungog LGA more broadly.

Table 5.36 Key Community Strengths and Vulnerabilities

Capital Area	Strengths	Vulnerabilities
Natural	• High quality agricultural and grazing land • Access point to a number of National Parks • Natural capital well placed for nature based recreational/tourist activities • Major river systems and Dam • Rural character of Dungog • The region contains other mineral deposits as well as numerous extractive resource operations (e.g., hard rock, gravel)	• Potential for land use conflict, agriculture and rural residential • Areas prone to flooding • Water security • Risks associated with climate change which can impact on key industries including agriculture
Economic	• Lower rates of unemployment • Average weekly personal incomes are the highest in Bolwarra, Bolwarra Heights, and Vacy followed by Paterson and Martins Creek, all of which were higher than across the Dungog LGA. • Some employment diversity evident in agriculture and mining, construction and health care • Tourism a key and emerging industry • Lower levels of housing financial stress and lower mortgage repayments in the LGA • Higher proportions of professionals in Paterson, Bolwarra and Bolwarra Heights • Construction is the primary industry of employment across the broader Dungog LGA (11.6%) followed by health care and social assistance (10.8%) • High access to economic resources across the study communities	• Rising mortgage repayments • Rising rental costs • Lower rates of full-time employment, higher rates of part-time employment across Dungog LGA • Higher levels of technicians and trades workers across study communities • Some dependence on agricultural industry • Difficulties attracting investment and diverse industries

Capital Area	Strengths	Vulnerabilities
Human	• Population increase in Vacy, Paterson, Martins Creek (between 13 and 15% from 2011 to 2016 ABS Census) • Higher levels of Certificate level educational attainment consonant with agricultural and mining related work • Higher rates of secondary and post-secondary education in Bolwarra and Bolwarra Heights • Engineering and related technologies is the top field of study across the study communities • Area popular with 'tree-changers' • Smaller gaps in educational attainment between Indigenous and non-Indigenous population (when compared to the State average) • Decreasing rates of circulatory and coronary disease hospitalisations (than the State average).	• Higher proportions of at-risk groups and higher levels of engagement in risky health behaviour • Lower levels of higher educational attainment • Aging population (higher median age) • Difficulties retaining youth population who often move outside the LGA for employment and education • Increase in population of over 65s expected by 2036 in Dungog LGA • Higher smoking during pregnancy rates • Higher than state average proportions of persons who have self-assessed poor or fair health
Physical	• Higher level of homes owned either outright or with a mortgage • Lower than State average levels of overcrowding	• Low levels of physical capital including road, public transport, health, telecommunications and community infrastructure • Limited public transport access • Road infrastructure in poor condition • Community and health services limited or offered regionally • Rising housing prices in key townships • High levels of rental stress • High rates of car use • Limited diverse housing options

Capital Area	Strengths	Vulnerabilities
Social	• Higher rates of community participation indicating social cohesion • Low mobility and higher rates of volunteering across the study communities • Strong, close-knit community • Area rich in cultural heritage • Rural lifestyle • Strong sense of community and identity	• Rising rates of crime across some categories including categories of assault

Issues and opportunities which arose from the data analysis in the community profile for the region are listed below:

- Increasing employment opportunities in the LGA to limit economic leakage to surrounding communities.
- Increase housing affordability and availability across the region to attract and retain workers, locals and investment.
- Increase population growth across the LGA, particularly working-aged people, to increase the LGAs revenue base.
- Addressing the accommodation and health needs of an aging population.
- Maintaining natural landscape features and rurality of the region.
- Protecting existing agricultural assets including water storage, agricultural lands and natural assets through management and land use planning.
- Increasing health outcomes and decreasing adult participation in health-risk factors such as smoking, obesity and risky drinking.
- Digital connectivity across the LGA enabling strong local, national and global communications.

The community profile shows weak physical capital, however the potential for stronger economic capital in the form of mineral and agricultural assets providing the basis for maintaining existing social, economic and human capital across Dungog LGA. Opportunities to further develop the capital of Dungog LGA and the townships of Martins Creek, Paterson and Vacy should build on existing capital and support local needs and aspirations:

- Diversifying existing economic opportunities into tourism, local retail and services, agriculture.
- Attract economic investment into the LGA to support local employment and business opportunities.
- Assist in mitigating the impact of extractive industries.
- Assist in raising public awareness of land management strategies.
- Assist in maintenance of natural assets including weed and pest control.
- Assist in essential infrastructure maintenance and works such as road and sewerage repair and maintenance.
- Increasing public transport infrastructure to assist residents to remain connected.
- Further development of community events and cultural facilities.
- Assist in developing positive cultural, artistic, community and Aboriginal and non-Aboriginal cultural heritage outcomes.
- Assist in the development of age-appropriate events and facilities for youth.
- Assist in developing aged-care, mental health and specialist health services.

- Housing development to promote migration and retention of skilled workers and retention of existing younger segments of the population.
- Improve telecommunications across the LGA for personal and business use.
- Investment in liveability and development of Dungog as a steppingstone to the regions natural feature.

6.0 Perceived Negative and Positive Social Impacts

6.1 Overview

A key component of the SIA is the process of understanding, from the local community and business perspective, the issues, values and uses associated with the assessment area, and specifically the identified issues of concern and potential opportunities associated with the Revised Project. These impacts are then further assessed to predict any significant impacts in relation to the Revised Project which may require mitigation or enhancement (refer to **Sections 8.0** and **9.0**).

The objective of this section is to therefore provide a comprehensive description of community views of the Revised Project from the perspectives of those involved, in a personal, community, social and cultural sense (Ross, 1992).

This phase of the SIA program has three main objectives:

- to ensure that key stakeholders have an opportunity to participate in the SIA program
- to identify noted issues/impacts associated with the Revised Project
- to identify strategies for management and opportunities for enhancement of reported social impacts.

These objectives have been achieved through consultation as outlined at **Section 3.0** and included engagement with:

- **Residents and community members:** living in proximity to either the Quarry and its proposed haul route, e.g., those residing in Martins Creek, Paterson, Vacy, Bolwarra.
- **Special interest groups:** including community groups, indigenous representative and resident representative groups.
- **Service providers:** based in Bolwarra, Paterson, Vacy and Tocal.
- **Local business:** particularly business owners/operators in Paterson.

As highlighted in **Section 3.0**, engagement activities have been undertaken over two key rounds; June - August 2018 during which time 78 individuals participated in discussions either via personal or group interviews; and again commencing July 2020 with follow up interviews and discussions during this second round continuing until March 2020 (a total 114 stakeholders participated in interviews during this second round). Activities that have been undertaken to support the preparation of the SIA are outlined in further detail in **Section 3.0**.

Interview guides and surveys have been utilised to collect data to inform the SIA. Stakeholders have been permitted to provide multiple responses in the identification of negative and / or positive social impacts of the existing quarry operations and the proposed quarry extension, important local community values and management and potential enhancement strategies. Proportions or counts provided during analysis refer to the total sample size of respondents, with frequencies for each impact identified and recorded (only once per respondent). Where appropriate, the number of stakeholders who did not contribute or respond to a particular survey question, has been provided and is identified as missing data.

Within these categories, impacts are further defined by theme and issue to afford a more detailed description of the perceived social impacts of the Revised Project from the perspectives of the stakeholder groups consulted. It should be noted that when asked to identify issues in relation to a proposed Project, stakeholders will naturally tend to focus on negative issues/impacts associated with a Project.

However, such issues are important to understand, to ensure that those impacts of most concern to the community are fully assessed and addressed in the Revised Project assessment, planning and design phases.

Stakeholders have also identified the extent to which identified concerns with regards to the Martins Creek Quarry would be addressed by the application of a series of proposed Project refinements and changes to proposed operations (as presented in 2018 (Round 1) and 2020 (Round 2)). Key proposed project changes are described in detail in Section 2.0 of the ADA/ RTS with reported stakeholder views on these addressed at **Section 7.0** of the SIA.

A range of mitigation and enhancement strategies that stakeholders believe would serve to mitigate and/or enhance Revised Project impacts were also identified, with these considered in **Section 8.0.**

6.2 Summary of Reported Positive and Negative Impacts

For the purpose of the analysis in the following sections**,** stakeholder issues have been presented graphically in aggregate and differentiate between issues raised during Round 1 and Round 2. Supporting discussion identifies any notable issues and / or opportunities as highlighted by particular stakeholder groups. This discussion recognises that many consulted representatives of the community groups, business and service providers were also typically local residents, therefore issues were often also raised in that context.

Overarching issue themes identified during the personal discussions are presented in Figure 6.1. As shown, the most frequently raised issues by consulted stakeholders related to impacts to social amenity associated with trucks and traffic movements, followed by sense of community, the decision-making process and social amenity associated with quarry site operations. A total of 70 stakeholders in Round One (90%) and 79 (or 75%) of consulted stakeholders in Round Two, raised issues regarding the Revised Project.

The outcomes of this direct consultation and issues identified during these discussions has largely been consistent with the issues and associated themes identified within the 419 objecting submissions lodged on the Original Project EIS.

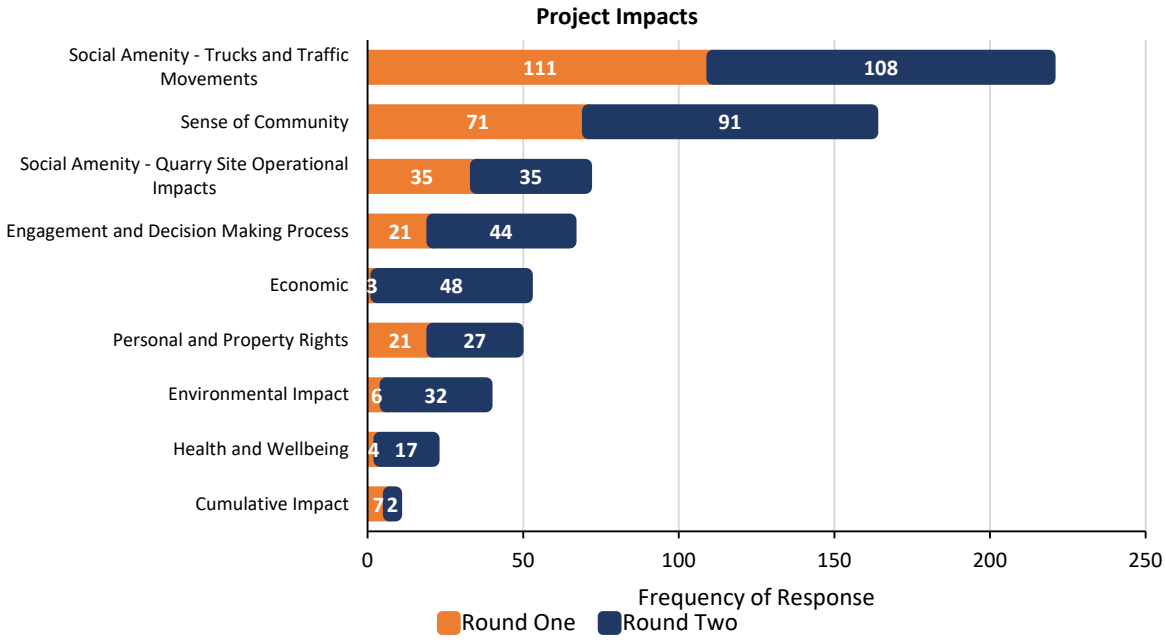


Figure 6.1 Frequency of Issues – Overall Key Themes (Unprompted Issues)

Round One: n=78, 10 missing[22] (Community = 64, Business and Services = 6)

Round Two: n=114, 27 missing (Community = 74. Business and services = 5)

Multiple Response allowed.

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During Round One, in addition to being asked to identify issues and opportunities associated with the Martins Creek Quarry, participants were also presented with a (prompted) list of potential Revised Project impacts known to be associated with similar types of operations, in order to identify the level of concern specifically attached to each of these when considering the Revised Project (**Figure 6.2**). Prominent prompted issues of concern were largely consistent with those that had been identified when asked via free call (unprompted). Average ratings for each prompted impact are charted in **Figure 6.3.**

[22] Indicates that the number of respondents who did not provide an answer to the survey question.

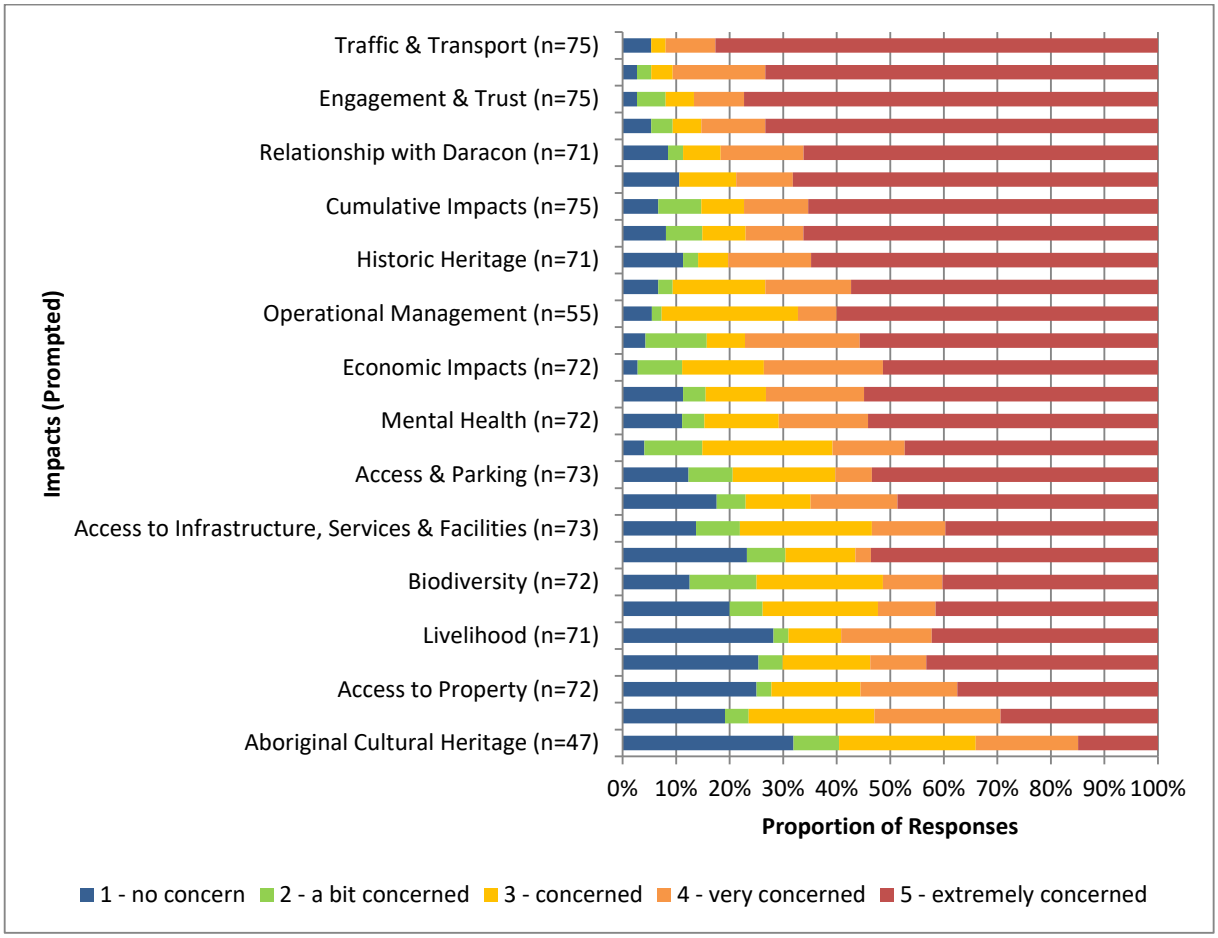


Figure 6.2 Round One - Levels of Concern Attached to Prompted Issues – Overall

Total n = 78 (Round One)

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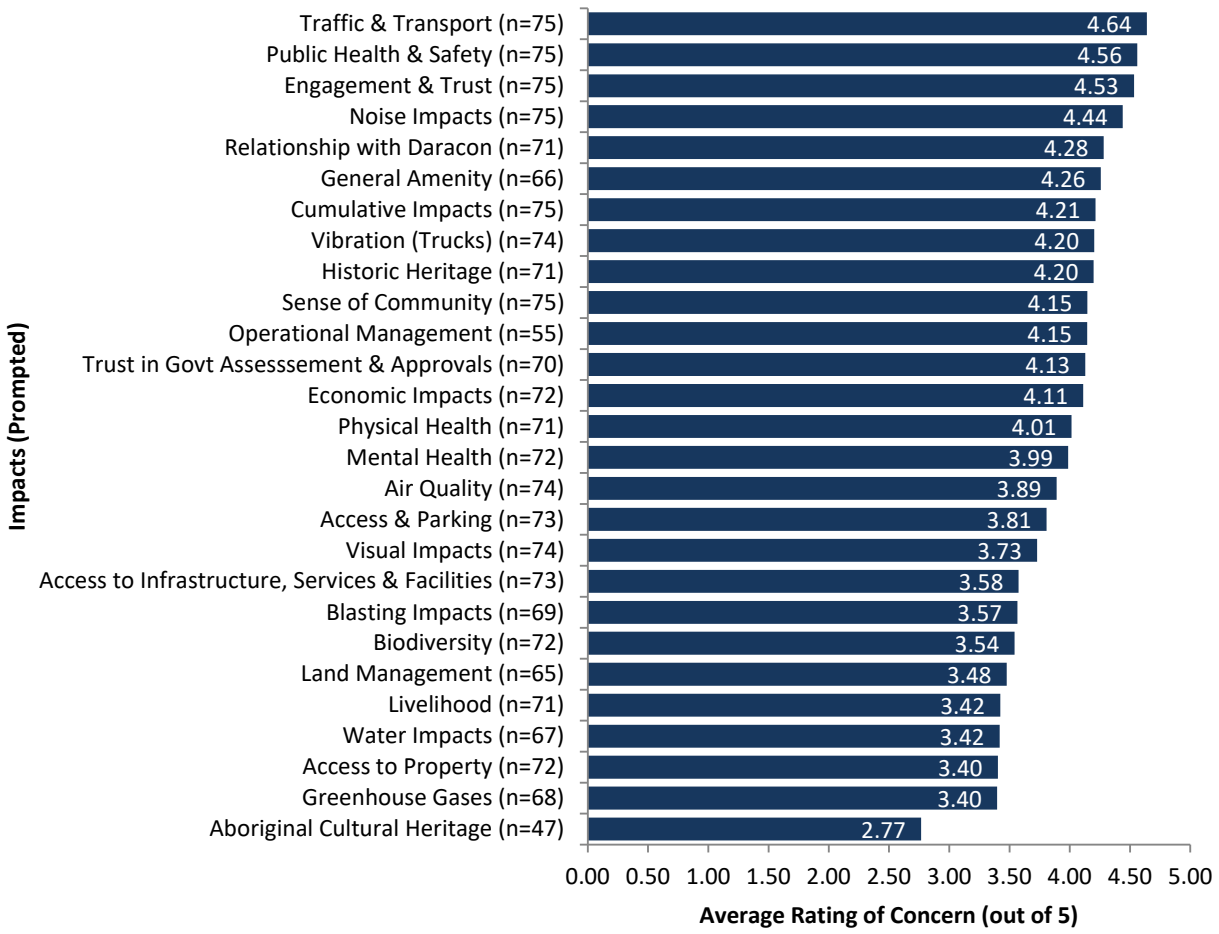


Figure 6.3 Round One Prompted Issues - Average Ratings of Concern

Total n = 78 (Round One Participants)

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6.2.1 Interconnectivity of Reported Social Impacts

As noted above, identified social impacts across a range of social impact categories, as defined in the SIA guideline, were identified during the two engagement rounds with these impacts generally reflecting the fears and aspirations of the stakeholders consulted. It should be noted, social impacts are not mutually exclusive, with interrelationships existing between social impact categories, themes and issues. Table 6.1 and **Figure 6.4** presents the reported social impact themes as related to categories identified in the SIA guideline. As is illustrated in the matrix presented at **Figure 6.4**, the social impacts identified are often relevant to more than one social impact category, given that social impacts are not mutually exclusive and are often highly interrelated. For example, potential impacts to social amenity as a result of traffic and truck movements, are perceived by stakeholders to impact on their way of life, their health and well-being, and their access to and use of surroundings.

Table 6.1 Impact Matrix

Theme	Impacts	Way of Life	Community	Access to and Use of Infrastructure	Culture	Health and Wellbeing	Surroundings	Personal and Property Rights	Decision-Making Systems	Fears and Aspirations
Social Amenity and Surroundings	Truck Volume and Movements	●	●	●	●	●	●	●		●
	Noise – Trucks and Traffic	●	●			●	●	●		●
	Truck Start Times	●	●			●	●			●
	Air Quality – Trucks and Traffic	●	●			●	●	●		●
	Air Quality/Dust – Quarry Site Operations	●	●			●	●	●		●
	Noise – Quarry Site Operations	●	●			●	●			●
	Blasting – Quarry Site Operations	●	●				●	●		●
	Infrastructure and Services	●	●	●			●			●
Sense of Community	Public Safety	●	●	●		●	●			●
	Rural Amenity and Character	●	●	●	●		●	●	●	●
Decision Making Process	Lack of Social License to Operate	●	●		●				●	●
	Breach of Consent Conditions	●	●		●	●			●	●
	Trust in Decision Making and Engagement Process	●	●		●				●	●
Economics	Lack of Local Employment	●	●					●		●
	Livelihood Impacts	●	●	●		●	●	●		●
	Employment Positive	●	●					●		●
	Resource Use and Application	●		●			●			●
Environment	Biodiversity and Land Use	●	●				●			●
	Water	●	●			●	●			●
	Greenhouse Gases	●				●	●			●
Personal and Property Rights	Property Values and Prices	●	●			●		●	●	●
	Property Damage	●	●			●	●	●	●	●

Theme	Impacts	Way of Life	Community	Access to and Use of Infrastructure	Culture	Health and Wellbeing	Surroundings	Personal and Property Rights	Decision-Making Systems	Fears and Aspirations
Health and Wellbeing	Mental Health	●	●			●	●	●	●	●
	Physical Health - General	●	●	●		●	●			●
Cumulative Impact	Cumulative Impact	●	●				●		●	●

Source: Umwelt (2021)

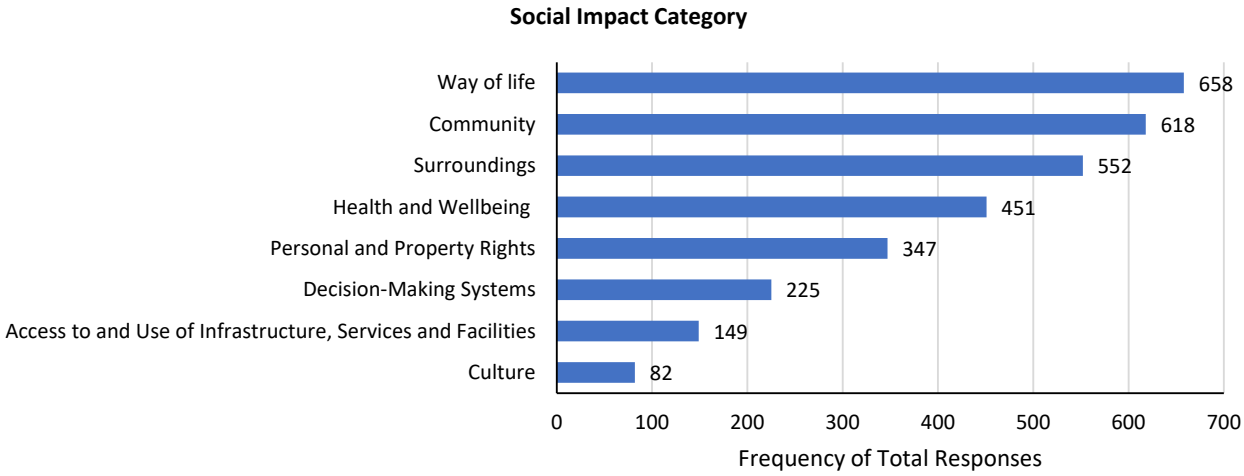


Figure 6.4 Impacts Identified by Social Impact Category (DPIE, 2017)

Round One: n=78; Round Two: n=114; Multiple responses allowed.

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Social impact themes and key associated issues of concern as identified during consultation activities are further described in the following sections. Qualitative quotes from personal discussions and other engagement forums have also been provided to highlight stakeholder sentiment as recorded to provide further context to the impacts noted.

Respondents during Round One of engagement were also asked 'do you think that the disadvantages of the Revised Project would outweigh the advantages?'. Of the 52 respondents that provided an answer, 24 (46%) agreed with the statement, 18 (35%) disagreed and 10 (19%) were unsure. This is reflected below with the majority of the impacts that were raised by respondents in Round 2 being negative (79%) as opposed to positive (21%).

6.3 Social Amenity and Surroundings

The greatest higher level impact theme generated by discussions with community stakeholders were related to changes to the existing social amenity and surroundings of residents and broader community, and ultimately changes to the way they live their life. These concerns were particularly heightened given the rural amenity and village atmosphere that residents highly value.

Changes to and impacts on social amenity and surroundings were seen to be due largely to the existing and future volumes of trucks and traffic movements and the actual and perceived impacts, aspects and flow on effects associated with these such truck movements such as increases in noise, changes to air quality; and also impacts generated by the operation of the quarry site itself.

6.3.1 Trucks and Traffic Movements

The most frequently identified social impact related to changes to surroundings and the community's social amenity when considering all consulted stakeholders (community and business) across both rounds of consultation, related to trucks and traffic movements (219), with concerns largely centring on truck volumes and movements (80); noise generated by trucks (72), impacts to infrastructure and services (27), truck starting times (21) and impacts of the operation of quarry trucks on local air quality (19) **(Figure 6.5**).

It was felt by many of those consulted that the loss of social amenity and rural lifestyle was directly related to volume of trucks transporting product through the rural village of Paterson and Bolwarra urban area.

It should be noted that these concerns also had a direct relationship with impacts on public safety and health and wellbeing. These impacts are discussed further in **Section 6.4.1** and **6.9,** respectively.

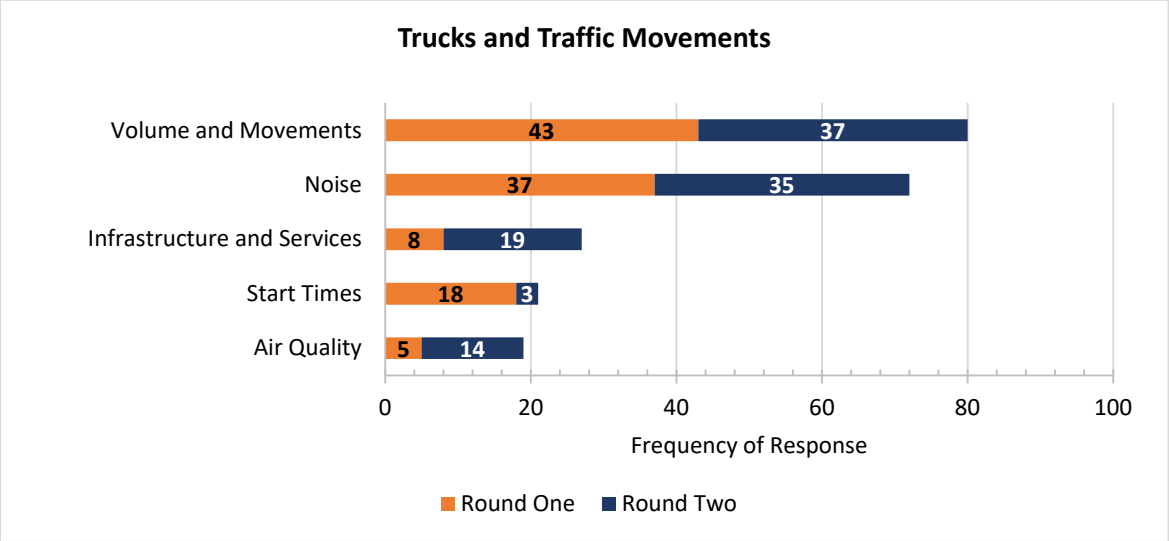


Figure 6.5 Stakeholder identified trucks and traffic movement impacts

Round One: n = 78; Round Two: n = 114; Multiple responses allowed.
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When specifically asked during Round One engagement activities to rate their level of concern associated with a list of prompted potential issues that may be associated with the Revised Project, traffic and transport was also identified at this point as the issue that caused the greatest level of concern with 92% (n = 69) reporting that they were either *very concerned* or *extremely concerned* about this as an issue.

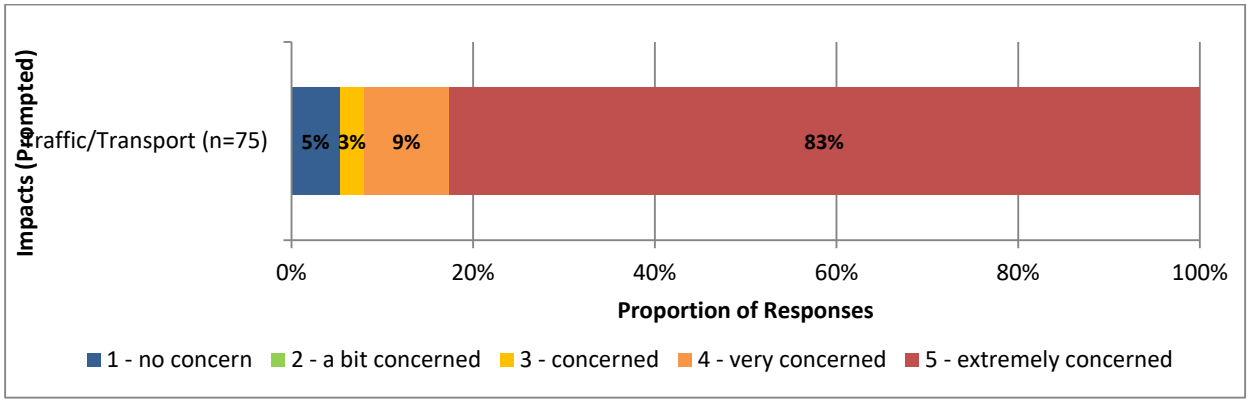


Figure 6.6 Rated level of concern – traffic and transport

Round One: n = 78

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The increased truck traffic between Martins Creek and Paterson inevitably associated with any expansion will make this section of road more difficult to transit and more intimidating to drivers than it already is. – EIS Submission

This was also consistent with the outcomes of a review of submissions on the original EIS (2016) in which traffic and transport were the greatest issue of identified concern.

6.3.1.1 Truck Volumes and Movements

As presented at **Figure 6.5**, it was the volumes and movements of the trucks themselves caused the greatest concern with regards to truck, traffic and transport related impacts on local social amenity, with consulted stakeholders noting that the frequency of trucks in 2018 moving through the township of Paterson was already an issue and that any proposed changes to the scale of operations would only exacerbate existing issues and impact on road users, local businesses and visitors to the village of Paterson and restrict their mobility within the village.

[The] frequency of heavy vehicles…in my opinion it's [road] overloaded - Round One

Don't know how cafés would operate. To increase [truck traffic] would be too much. - Round One

It's dreadful through Paterson. - Round One

Truck movements are too excessive. - Round One

I have experienced one [truck] a minute and it was mayhem. - Round One

The roads cannot accommodate how much they want to put out. - Round One

Issue is there can be 12 trucks at once…all speeding. - Round One

I hate seeing those trucks go past. - Round One

They have to stop impacting the village in all directions… the truck movements are too excessive. - Round One

In Paterson you don't ask about the weather, you ask about the trucks. - Round One

A total of 34 stakeholders consulted in Round Two (31 community members and 3 businesses) reiterated truck volumes as being a key issue concern for them. Of these, the majority (17 stakeholders; 61%) noted their concerns with the volume of truck movements were largely due to the associated impacts on pedestrian and road user safety with stakeholder referring to difficulties in moving around and within Paterson and easily crossing the road and the physical divide in the township that can result and possible associated flow on effects to the viability of businesses within Paterson.

We're not opposed to the quarry, just the number of trucks. – Round Two

Long term people in town won't survive with that traffic going through – Round Two

The number of trucks on our country roads is much too high. Country roads in Paterson, Bolwarra Heights etc. – Round Two

Kids and parents have to stand a while before there is a break in the traffic. It's good now the trucks have stopped; 3-5pm is the busiest time of the day, I try and walk my dog and it's difficult to cross the road. – Round Two

The proposed scale (hourly and daily intensity of truck movements) will impact upon the function of Paterson utility centre. Visitors will be more likely to shop in Maitland than bother to deal with 'quarry traffic' through Paterson. The truck intensity will serve to provide a physical divide between one side of the road and the other as was experienced in 2014-2019 by Daracon's illegal operations – Round Two

When you add up the trucks it's less than a minute per truck and you can't cross the road. It's not just Paterson, it's all the way into Maitland, trucks coming all the time. – Round Two

However it was also acknowledged that truck movements through Paterson causing impacts on pedestrian movements was not necessarily all specifically related to the quarry.

Concerned about the amount of trucks and traffic, not just Daracon trucks. – Round 2

Concerns with regards to division of the village of Paterson and impeded movement around the village were also again raised during discussions at the time of the Social CAF with community representatives referring to truck convoys splitting the village in two which in turn was felt to have had a catastrophic impact to the village amenity with Paterson.

Paterson is busy, the street is full of people when it isn't divided into two by a haul road. Paterson is busy everyday of the week as a busy activity centre. – Social CAF

It is not just about if you can cross the road, it is about recognizing that this is where people walk around to get their coffee, go to the shops and pick up their Land newspaper. – Social CAF

When discussing trucks and truck movements, conversations typically turned to the strong preference to having Quarry products transported by rail instead of truck.

Daracon should use the rail, which will decrease pollution from trucks and less trucks on the road - Round One

Concern someone is going to be killed - need to use the railway - Round One

Why not haul to a loading point and train from there? - Round One

They should use rail - Round One

The number of trucks per day/per hour is ludicrous. I don't have a problem with them expanding and taking it out by rail. – Round Two

There is always a difficulty getting product to various localities, but I do believe that the management of the distribution of product to minimise impacts on route is possible. I am a strong advocate for rail transport. It is a designated transport corridor, a point to distribute from and will manage the transport impacts by road – Round Two

Anything more than five trucks an hour impacts the entire environment, community and ecosystem. – Round Two

As would be expected, truck volumes were also raised during the Traffic and Transport Forums held with members of the community in July 2019 with participants expressing concerns over the proposed truck volumes, maximum proposed tonnage transported by road, and associated congestion on roads.

Several community members during these sessions again expressed that high numbers of trucks in and out of the quarry had 'ruined' their village [Paterson] and had impacted their business in the village.

For my household the current numbers are not acceptable, and the proposed numbers are not acceptable, I might as well live on the Hunter expressway, there are too many trucks. – Traffic and Transport CAF

The community has said it wanted the quarry as a resource for the community but it's killing the community. – Traffic and Transport CAF

We have had a business in town, and its ruined our village. - Traffic and Transport CAF

People are getting angsty. You talk about mining operations I feel like I live in a mining town. – Traffic and Transport CAF

There were also several queries during these sessions with regards to the regulatory process that would ensure that both current and future limits are adhered to by Daracon, and that a schedule should be implemented to avoid congestion on local roads and roadsides.

Even if everything goes to plan, you are still looking to double (in terms of tonnage) what you are putting out per road. – Traffic and Transport CAF

It was however, also acknowledged that there were a range of other trucks using the roads, and not just Daracon.

There is not just quarry trucks, there are other trucks, chicken trucks. Brings it up by a lot, in a small village. – Traffic and Transport CAF

A number of proposed Project refinements associated with changes to truck volumes have been presented to stakeholders during the course of consultation activities with stakeholder views and comments with regards to these specific refinements discussed in detail at **Appendix 7.** In summary, there has still been high levels of dissatisfaction expressed with regards to the number of trucks proposed, even with proposed reductions.

Still not enough. – Round 2

Still equals 280 plus many other business's large trucks per day are too many. - Round 2

No trucks should be allowed to pass the township of Paterson. - Round 2

Public safety impacts associated with truck movements are discussed further in **Section 6.4.1.**

6.3.1.2 Noise - Trucks and Traffic Related

Related to truck movements, consulted stakeholders also raised specific concerns with the noise levels generated by trucks across both rounds of engagement - 37 and 35, respectively. Members of the community noted that sitting outside their house was impossible and the enjoyment of the amenity of their surroundings had been diminished by the existence of truck noise.

The noise is relentless, makes it impossible to sit in the garden, sleep, or open windows. - Round One

For us we are far enough away, but for the residents of Paterson and along the road it must be horrific. - Round One

Trucks flying past all day. - Round One

Friends who use Paterson comment on how noisy the area is now with the constant movement of truck going by so often. - Round One

We bought this property for the tranquillity and distance from the busy built-up areas. - Round One

Noise and the disturbance of the trucks on social amenity. – Round Two

You can't sit on the veranda with those trucks going past. – Round Two

We are at the age that we decided we could cope with some trucks, but we didn't know there was going to be an increase and we didn't realise how noisy they are. This was to be our retirement house. – Round Two

Noise impacts on all the towns & roadside residents along route - too disruptive affecting residents, safety, tourism. – Round Two

In and outside of our house you can hear the noise. Level of B-doubles on the road and the frequency of them, means that there is noise. – Round Two

The social amenity would be decimated by the number of trucks traversing the streets of Paterson. You can't hear yourself think, you can't conduct a conversation with someone in their front yard. – Round Two

Noise of trucks also, it's a conflict of use on rural residential roads. Road transport of coal ceased in 1990s, so it is not appropriate here. – Round Two

Number of trucks Daracon is proposing and the air and noise pollution they will cause is unacceptable. – Round Two

Noise is horrendous, you near this grinding sound of metal on metal – have been hearing it since I got the notification about Daracon moving trucks. – Round Two

Currently a tranquil township will be impacted by noisy rattling trucks. – Round Two

Two (2) stakeholders particularly noted during discussions that they felt the is noise unbearable, despite regulations being met.

Road noise policy – doesn't take into consideration that Paterson is a rural environment. While road noise may be compliant with the policy, that is only one aspect of amenity and doesn't consider a range of other factors. – Round Two

It was also expressed during discussions in Round Two in 2020 that the lack of trucks and traffic noise experienced since Daracon was placed into limited operations in September 2019 was notable and that there was a sense of anxiety that the rural amenity they had gained during the limited operations period will be lost should the Revised Project be approved.

Been so lovely since it stopped. So very, very lovely. Everybody hates the idea. We can sit outside now and it's so nice, but when the trucks were coming through it was so disruptive. – Round Two

Truck noise - I was totally depressed when they were here before, I could only hear the trucks and no birdsong, the speed of the trucks, the noise and the number of trucks were horrendous and did not lend itself to the pleasant rural life you are expecting. – Round Two

Existing **poor road conditions** were also thought to be a contributor to the noise generated by trucks on the local roads with it noted that empty (unladen) trucks had the most significant impact in terms of noise and that perhaps road resurfacing activities could improve the problem. Road condition is addressed further in **Section 6.3.1.3.**

The state of the roads are contributing to the noise. - Round One

Empty trailers are extremely noisy. - Round One

Fix the roads – 75% of the noise is due to poor roads. - Round One

Can hear the trucks come over the train line and have to stop talking. They are louder when they are empty. – Round Two

For **business owners** in Paterson, the key concern associated with trucks and transport was also the noise emissions and the impact it was having on the customers and therefore their business. Noted concerns centred around the possibility that customers may discontinue to visit Paterson given that the amenity of the area had been severely impacted by noise associated with traffic volumes.

Two accommodation providers consulted during Round One specifically reported that their guests often checked out early due to the noise levels emanating from passing trucks. It was also noted that customers were also less likely to sit outside in allocated dining areas due to noise, traffic and safety concerns. Livelihood impacts are further discussed in **Section 6.10.**

I get customers coming in saying 'what's with all the trucks. - Round One

It was however specifically acknowledged by a small number of consulted stakeholders during Round One (5) that the existing trucks and traffic could not be all attributed to Daracon and that there were other operators using the roads.

There was also a distinction made during some discussions with stakeholders in Paterson, Dunns Creek, Bolwarra and Martins Creek with regards to the impact of traffic from Daracon trucks versus contractor trucks. Some stakeholders noted that Daracon truck drivers appeared to be more considerate and

contractor truck drivers frequently referred to as *cowboys*. While one stakeholder in Round Two similarly noted this sentiment, it was thought that all trucks were often associated with the Martins Creek Quarry.

Daracon trucks are the quietest trucks of all. - Round One

Daracon have made sure their drivers respect the speed limits. - Round One

Daracon drivers are very educated. They're given three warnings then shipped out. - Round One

There is confusion, if it's a truck, people think it's a quarry truck. – Round Two

This point was reinforced during the Traffic and Transport CAF where a number of participants stated that they have seen trucks speeding in Paterson or using non-approved roads, however that Daracon trucks were usually not the issue and rather it was the subcontractor trucks that were seen driving dangerously, driving in convoys, etc.

When you get busy, that is when you use subcontractor trucks, and they are often worst – speeding. – Traffic and Transport CAF

Daracon trucks are much better, but when you get busy there are lots of the vanilla trucks and you can't tell which truck is which. – Traffic and Transport CAF

Mitigation measures outlined at Section 7, have been identified to assist in the community's ability to distinguish between Daracon trucks and other heavy vehicle traffic and ensure appropriate behaviour should the Revised Project be approved.

During the public exhibition for the original EIS, a large number of submissions from those along the Project's transport route had also made similar observations regarding the impacts of vehicle noise. Given that many of those living in the area had chosen the townships surrounding the quarry site due to the peace and quiet and the 'rural atmosphere', the trucks arriving at the site was considered to be at odds with this, with submissions referring to the influx of trucks as their '*new 5:30/5:45 alarm'*. Other submissions detailed how it was almost impossible to hold a full-length conversation in town or at the local coffee shop due to the noise of the trucks as they passed.

6.3.1.3 Infrastructure and Services

A number of concerns were raised during discussions with regards to the impacts that trucks have been having on the local road infrastructure and bridges (27). Consulted stakeholders spoke of the creation of potholes and general road damage. Reference was also made to flow on effects due to disruptions due to road works and ongoing maintenance activities **(Figure 6.5)**.

Trucks destroy the roads and then we have to put up with the roadworks and Council have to pay for them.

Road maintenance… this could be done by Daracon. - Round One

The road condition – it's pitiful. It is never fully fixed, patched up. - Round One

It's a fact…roads and bridges are damaged. - Round One

Council struggles for funding. - Round One

Local roads are not built to accommodate continuous heavy truck traffic. – Round Two

The road condition is not great and it varies along the corridor, so ongoing road condition is a big issue for safety. – Round Two

A consulted educational facility also noted the concerns that they had for both their staff and students travelling on Dungog Road given the inexperience of the drivers, traffic on the roads and the possible interactions with visitors.

Staff come in on that road. Maitland roads are better. We have 100 students on campus, with lots of inexperienced drivers, and 30,000 visitors last year. - Round One

Three (3) stakeholders in Round Two disputed economic benefits of the Revised Project, suggesting the cost to rate payers having to maintain village roads, outweighed any positive impacts of the Revised Project.

Nor is the Project adding any physical or financial wealth to the community, actually it is a cost to community, as we rate payers have to pay for the cost of the roads. – Round Two

There was no discussion as to who is responsible for road service maintenance? Everyone knows that Dungog Shire Council don't have the money to fix the roads. – Round Two

Road conditions do not suit truck activity. Maintenance cost - cost is carried by the rates of the community and not by the quarry. – Round Two

6.3.1.4 Truck Start Times

The times at which the trucks started operating was also a noted source of concern for consulted stakeholders in Round One (18) with comments made with regards to the convoy nature in which trucks had previously been lining up outside the quarry gates or travelling through Paterson at early hours of the morning and these being responsible for sleep disturbances due to both the noise emissions and also visual impacts from shining lights. One consulted stakeholder that other businesses were expected to adhere to restricted operating times, so why was the same not true for Daracon.

I live about 700 metres from Paterson Road at Bolwarra and am regularly woken early by trucks using their exhaust brakes on the roundabout at the junction of Flat Road. To increase the number of trucks and to start sending them even earlier will have a severe impact on the people who live in this area. – EIS submission

They start lining up from 5.30am and then convoy in. - Round One

The trucks start queuing at 5.40am…. there are a convoy of trucks from Tocal to Paterson - Round One

The noise starts at 5.45am. - Round One

No other business can make as much noise as this before 7am. - Round One

Lights - convoy of trucks waiting to go into the quarry, we moved to a country town - Round One

Trucks at decent times during the weekdays are acceptable, just. Trucks late at night and on weekends is unjust, cruel and a sign of greed. - Round One

These hours of operation will seriously impact amenity of residents near and enroute to the quarry via onsite and associated offsite activities. - Round One

Even though the trucks are not supposed to go through Paterson until 6.45am they are often going down Butterwick Road at 5.45am in order to park outside Paterson to await the appropriate time to pass through the village. - Round Two

Concerns regarding truck starting times were reinforced during discussions held at the Traffic and Transport CAF at the prospect at reduced quarry operation times with participants noting that while the quarry's operation hours might state that it will open at 7am and close at 6pm, trucks are traveling along the haul route earlier in the morning and later in the evening and that it was trucks queuing and convoys that was a concern, particularly in the morning.

How would you feel if you heard 30 laden trucks going down the past your bedroom, if you had a newborn baby waking up? You wouldn't want to seize the day? - Traffic and Transport CAF

How many trucks will be lining up at 7am? - Traffic and Transport CAF

What time will they start loading? If they start loading at 7am, how long will it take to load 30 trucks? - Traffic and Transport CAF

Can the trucks be staggered to prevent convoys? - Traffic and Transport CAF

I drove through Cory Street to Paterson and saw 9 trucks - Traffic and Transport CAF

Following additional Revised Project commitments in relation to changes to quarry operating hours, early morning truck movements were less of a concern during Round two discussions with three (3) stakeholders specifically noting start times at this time. The proposal to cease trading on Saturdays was seen to be a positive Project design change by the majority of stakeholders consulted, although interestingly a small number of locals expressed a preference for sales to continue on weekends.

Further discussion surrounding the proposed Project regarding changes to operating hours and community feedback with regards to these is discussed in detail at **Appendix 7**.

6.3.1.5 Air Quality – Trucks and Traffic Related

Air quality impacts specifically associated with truck movements were related to both dust emissions from transported truck loads, but also from emissions of truck and diesel fumes and their impact on odour and the potential for health implications (19).

…it's from [diesel] fumes rather than dust - Round One

The dust off trucks is a problem. - Round One

It's off the loads of the trucks. I can't just say it's the [Daracon] trucks…it could be farmers too. - Round One

Diesel trucks gotta be an impact. - Round One

I don't see the dust problem or their machinery but the diesel from trucks is very smelly. - Round One

Fumes…they're very toxic- Round One

They're less than 500m from my doorstep and we get all the dust and the diesel fumes off the trucks. – Round Two

Should be using the rail. - Round One

Diesel from trucks is very smelly. - Round One

I prefer to see a gravel quarry there than a coal mine. - Round One

As a prompted issue in Round One, concerns regarding air quality scored a mean rating of 3.4 out of 5, with most accompanying comments made referring to diesel fumes from trucks and how they contributed to overall greenhouse gas emissions. Reductions in diesel emissions associated with trucks was also considered to be another reason why rail should be considered by Daracon as a transport option.

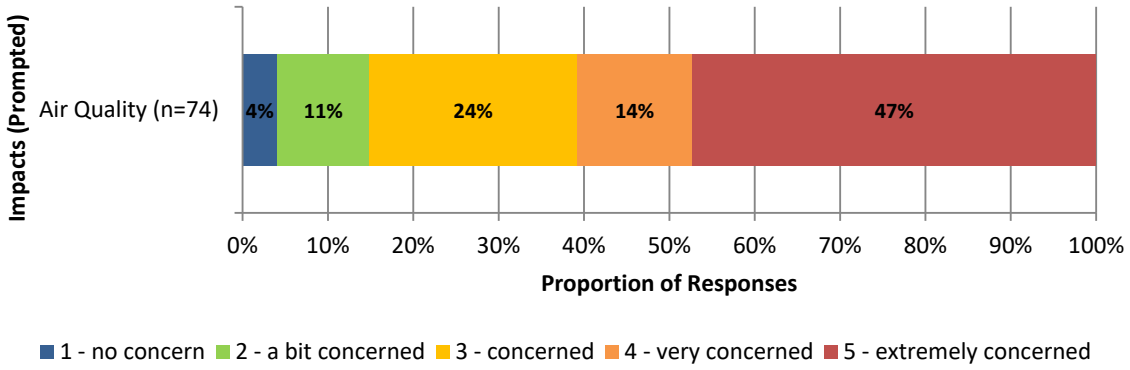


Figure 6.7 Round One Rated level of concern – air quality

Round One: n = 78; 4 missing

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Diesel Fumes. Fit all trucks with Euro 6 under the trucks- Daracon could control this - do not allow any truck without this fitted to purchase from the quarry. - Round One

Fume dust all over the veranda! - Round One

2014/15 peak transport…black grim, soot and diesel. - Round One.

A landholder located along the haul route also stated that the presence of dust associated with passing quarry traffic in the past had resulted in them spending less time in their garden.

Level of b-doubles on the road and the frequency of them means that there is noise, impacts amount of time in garden (noise, dust impacts on garden). – Round Two

The ballast off the trucks and the noise and dust off the trucks, it's like living in Sydney. – Round Two

During Round One engagement activities an interviewed **school representative** noted concerns around potential asthma impacts from dust on school children.

We do have asthmatic kids here and the number increases every year. - Round One

One business consulted in Round Two noted a noticeable reduction in accumulated dust on the exterior surfaces of their accommodation business since truck movements had substantially reduced with limitations being imposed on Daracon's operations since September 2019.

Suggested refinements identified by stakeholders during discussions relating to trucks and traffic are detailed at **Section 7.3** along with corresponding mitigation and management measures proposed by the Revised Project. As noted above, **Section 6.9** provides further discussion regarding the health and wellbeing impacts specifically relating to traffic and transport.

6.3.2 Quarry Site Operations

Aside from those impacts on local amenity associated with the movement trucks and traffic, impacts directly associated with the onsite operation of the Martins Creek Quarry were also raised and included noise (26), blasting (20) and concerns due to poor air quality/dust (13).

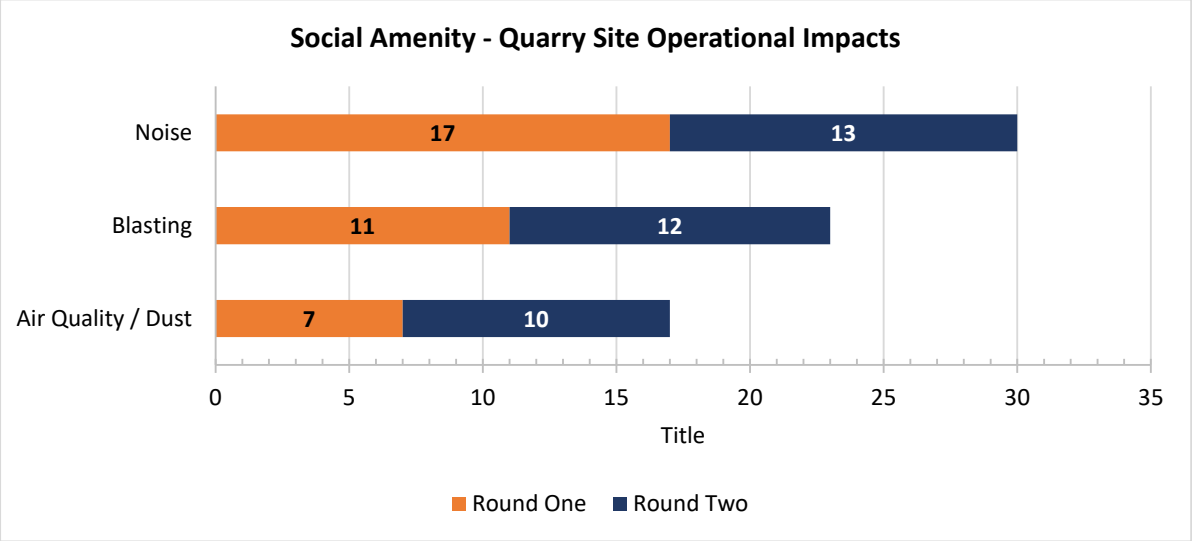


Figure 6.8 Stakeholder identified Quarry site operational impacts

Round One: n = 78; Round Two: n = 114; Multiple responses allowed

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6.3.2.1 Noise

While truck and traffic noise has been addressed as issue under **Section 6.3**, separate to this issue identified during discussions with stakeholders is that of noise emissions associated with general quarrying operations (30) on the site (refer to **Figure 6.8**).

Consulted stakeholders located in both Martins Creek and Paterson referred to disturbances from noise coming directly from the quarry from a range of sources, including the operation of crushers and other machinery, blasting, and on-site truck loading activities.

Some days we hear the crusher going all day. - Round One

It's a constant groan. - Round One

It becomes background noise. - Round One

Loading gravel into trucks. - Round One

Machinery noise, reverse beeping all day, blasting. - Round One

There is noise all day. You go outside and think, why bother? - Round One

Machinery noise…reverse beeping all day…blasting. - Round One

The noise and the blasting they are saying that it is within guidelines but who said I need to acclimatize to that level of noise; the guideline says it's not a dangerous level of noise but its relentless and there is nowhere in the house that I can escape the noise. And I don't think that my level of acceptability is higher than normal, its so stressful. – Round Two

Of a morning, you can hear the trucks. I am on Horns Crossing Road and when they take their foot off the break and start revving the engine it wakes me up. From my house I can hear the vehicles reversing, that's how noisy it is. Don't have pleasant feelings when I think it could go back to that. – Round Two

Quarry noise was also noted by some as affecting their social amenity and how they were using their homes.

If the quarry is running, we can't use our balcony. - Round One

We cannot utilise house verandah, bedrooms, living room or garden. - Round One

We've moved our TV into the middle of the house to combat the noise. - Round One

We want this house to be our forever house [but] we can't have people at our house due to trucks and noise. - Round One

I can hear the product getting loaded/crushed. I want to know why my property gets so much noise and dust? I go for walks to Dungog Road and its really noisy. – Round Two

I can hear the crusher now and no support has been provided. No discussion, they have only offered me free gravel, I mean come on, that's not going above and beyond is it? Fences to reduce noise, sound-proof windows. They should just buy our street out [Station Street]. – Round Two

As a prompted issue of potential concern for future operations, noise impacts generally rated highly with a mean concern rating of 4.4 with 64 (85%) of participants noting they were *extremely* or *very* concerned with comments provided referring to both truck related noise and noise emissions more generally (**Figure 6.9**).

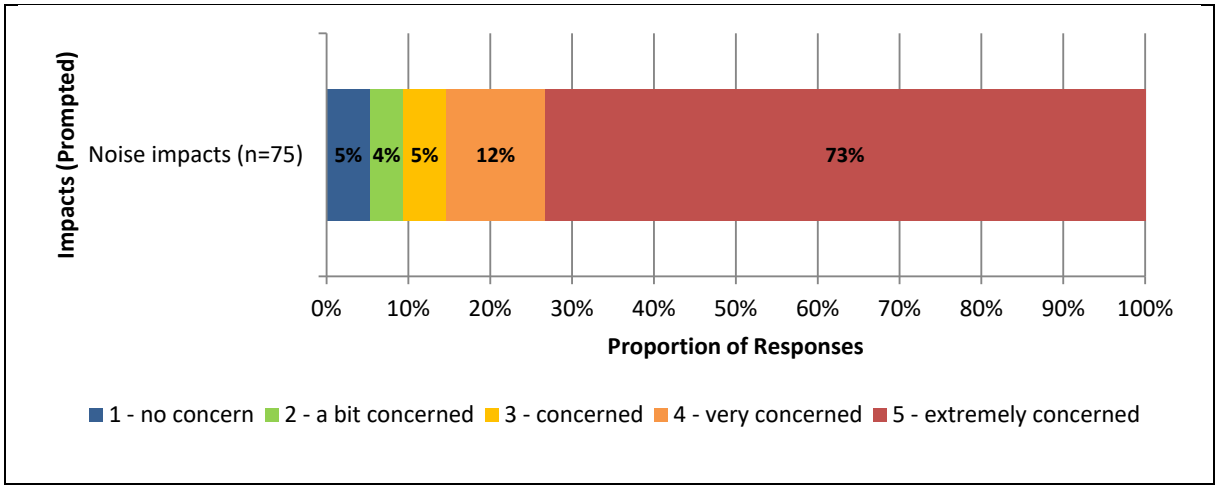


Figure 6.9 Round One Rated levels of concern (prompted) – Quarry Noise

Round One: n = 78; 3 missing

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Comments made when noise was presented as a prompted issue of concern referred to noise monitoring activities and how the noise was being measured.

I have concerns about where the noise is being measured. The closer properties don't have monitors. - Round One

Horns Crossing Road Noise Monitoring systems have been removed so the recordings would be invalid. - Round One

A number of consulted residents, particularly those north of the quarry, also referred to how while they were not being directly impacted now, they had concerns with regards to how this may change in the future as the quarry expanded.

Isn't unbearable - but if they are moving closer it will be a 10 [out of 10]. - Round One

Not unless it gets closer to us. - Round One

I don't hear too much but if I lived next to it, it would be a 5 (extremely concerned). - Round One

These concerns were reinforced during discussions held in Round Two and at the Traffic and Transport CAFs with participants raising a number of questions and concerns relating to the quarry's proposed new access road, particularly in relation to the impact this road would have on the residents surrounding the intersection and that this new access road would simply be moving the impacts away from some residents and closer to others.

Does it mean that here will be no truck movements on Grace Avenue? – Traffic and Transport CAF

You are moving the problem from Station Street and moving it closer to the residents in Paterson Valley Estate – Traffic and Transport CAF

It's sickening to look at, it will impact us greatly. – Traffic and Transport CAF

The noise will get worse too, I think. We will have a turning station right near our houses [from the new access road]. But I don't know what the impact will be until its built will I? You will have to do another impact assessment once its built. There are no trucks turning there at the moment, so I think the noise will be worse. – Round Two

I live 100 meters from the [proposed] new access road, which will impact on my way of life. – Round Two

During the Traffic and Transport CAF, concerns were also expressed with regards to the intention for Daracon to seek approval for an extension to the existing rail spur at the quarry site and potential impacts associated with both this and the site's rail unloading facilities.

What impact will the expansion and relocation of the rail spur/loading facility have on residents (particularly Vacy residents)? – Traffic and Transport CAF

Where will the rail loading facility be moved to? I don't want to hear further north, where exactly are you moving it? – Traffic and Transport CAF

How will noise impacts be managed? If rubber linings do not work, what other noise suppression techniques will be used? – Traffic and Transport CAF

During the Noise CAF participants also questioned when the rail spur extension and new access road would be implemented.

Has there been any consideration of minimising extraction until the rail spur extension and new access road are in place? – Noise CAF

During these discussions Daracon confirmed with participants that if it were possible to get the new access road and rail spur built sooner then this was the company's preference. However, there was an acknowledgement that necessary discussions with the Shire and the ARTC would that take some time and this process could not begin until such time as the Revised Project had been approved (should that occur).

6.3.2.2 Blasting

Blasting was also identified as an issue of concern associated with the existing quarrying operations in Round One with a number of concerns raised by residents in regard to current blasting activities and vibrations at the quarry (11). A further 12 stakeholders in Round Two outlined concerns with blasting, including two stakeholders who specifically described impacts on their pets and livestock.

Potential property damages relating to blasting activities were also raised during both rounds of consultation. These impacts are associated with property rights and are addressed in **Section 6.6.**

I feel vibrations and hear it. - Round One

Blasting noise echoes across the valley and the community of Paterson and surrounding communities. – Round Two

I have the utmost sympathy to people living proximal to the quarry. I was at the quarry and could feel/hear it. – Round Two

I have a grey hound who is very sensitive to noise and so I receive the blasting notifications, so that I can make sure that I am home. – Round Two

Effects the horses. – Round Two

Residents, particularly those located at Martins Creek and Vacy referred to their homes shaking and rattling during blasting activities, with one resident specifically noting that the **frequency with which blasting occurred** appeared to be increasing.

The whole house shakes. At one stage it was every week, now its once a month. - Round One

They used to cap the blasts 40 years ago. - Round One

This whole house rattles. - Round One

The noise is rattling the windows. - Round One

We feel blasts. Our pictures move and we are 4-5km [away] from the quarry. - Round One

My biggest problem was the explosions shaking the daylight out of the place. The vibrations in a two-story brick house is a concern. You wonder what it's doing to the property. If the explosions got any greater it would be a worry. – Round Two

Originally, we knew when they were blasting, and they seemed to only blast on one day a week and we knew it was going to happen. But since the new people took over, it would happen whenever. Now we never know when they were happening. They can provide notifications, but it's different somehow the blasts are bigger? – Round Two

Two (2) participants specifically made positive comments with regards to blasting activities noting that the impacts had been lessened since the quarrying activities had moved further from them.

We don't get them here since they've moved away. - Round One

We get a slight rumble – but haven't been as bad. Maybe I'm just used to it. - Round One

As a prompted issue of concern that may be associated with future Revised Project activities, blasting had a mean rating of concern of 3.6 with the highest levels of concern noted by 54% of Round One participants (**Figure 6.10**).

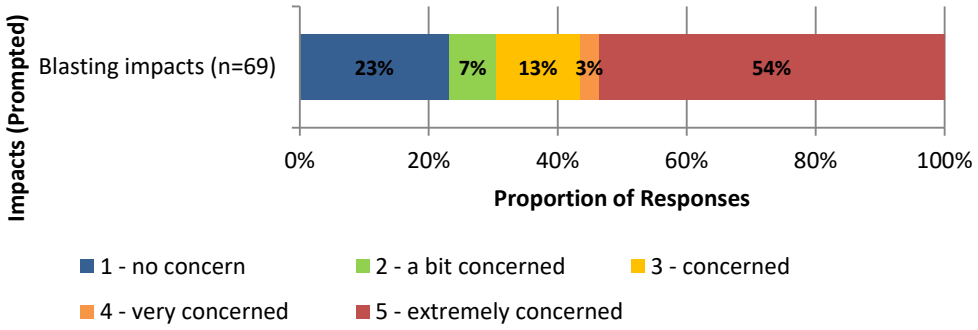


Figure 6.10 Round One Rated levels of concern (prompted) – Blasting

Round One: n = 78; 9 missing
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When rating their level of concern, residents noted that glasses and pictures were already moving and that there were cracks in their windows and that this was expected to be more of an issue in the future (further discussed in **Section 6.6**).

As the quarry moves north, it becomes more of an issue. - Round One

We had glasses move in the cupboard and had the ceiling repaired several times. - Round One

Although it was acknowledged that Daracon provided blasting notices to residents to advise of upcoming blasting activities, there were some complaints that these notices are placed in mailboxes off cycle to the mail deliveries, so residents may not always see them in their mailbox prior to the blast and therefore they were not very effective.

Wouldn't be concerned if I was notified. - Round One

Sometimes notified about it – but not always. - Round One

I do hear it at times and don't receive the notifications. - Round One

Every now and then the blasts are too big. In one instance they rang and they said they had made a mistake. - Round One

A couple of residents also referred to the stress associated with blasting and the anticipation as they waited for the blast to occur.

Stress – just waiting for blast. - Round One

During the Air and Blasting CAF (2019), it was again noted that the lived experience of quarry impacts varied substantially to the presented modelling results and that community amenity was being affected by blasting which was a key cause of concern.

Monitors may say one thing – but the idea is that we are still living this. The readings are something but living with it is something else. - Air Quality and Blasting CAF

Forget about the data we want you to come and have a look. - Air Quality and Blasting CAF

The readings mean nothing to us, the numbers don't help us, and we are living with it. - Air Quality and Blasting CAF

You've said the levels of vibration are acceptable, is it acceptable that when my house shakes and breaks things off my shelf? - Air Quality and Blasting CAF

6.3.2.3 Air Quality/Dust

Aside from air quality and dust impacts related to specifically to the operation of trucks and the transportation of product, a number of concerns were also raised with regards to impacts on air quality associated specifically with onsite quarrying activities such as blasting and the loading of product (17).

Consulted stakeholders referring to impacts on air quality and dust believed that the dust may be from crushing and mining activities taking place at the Martins Creek Quarry; however, when asked about their issues of concern with the existing operations, there was also a number of non-specific references to dust with the potential source, not specified.

Dust from trucks and crushing. - Round One

It's the dust from loading and mining. - Round One

Concerned about air quality and dust – unsure where it's from. - Round One

It was also noted by a number of stakeholders noting that while they had not been personally affected, it was a broader of issue of concern and one that may increase as the quarry expands its operations.

Not here…not here, but near the Quarry. - Round One

Not as much us personally but for the community as a whole. - Round One

Not too bad now…it used to be worse when they were closer. - Round One

The trains probably giving just as much. - Round One

Haven't really noticed it too much. - Round One

As the quarry expands, we could have an issue. - Round One

It's more of a problem up near the quarry, not here. [resident from Paterson] - Round One

During the CAF addressing air quality and dust, participants further noted the impact that dust emissions had been having on them – both from quarrying operations and general dust in the air and the fact that while modelling of dust emissions suggested that these levels were within specified limits, the real life experience was very different.

Dust goes up in the air and then comes down a long way away. Dust travels and not all dust is in the immediate area surrounding the quarry. - Air Quality and Blasting CAF

I live on View St and my table is covered in dust all the time. - Air Quality and Blasting CAF

I never had to have my pool cleaned as often as I do now, you keep using the word predictions… what we are saying is now. We are living with this now. You are saying that in the future Daracon is going to fix all the issues as we are living with this now. - Air and Blasting CAF

Since quarrying activities had substantially reduced, two (2) stakeholders noted a noticeable reduction in the need to clean the exterior of their residence, however one (1) stakeholder was concerned that dust impacts will resume if the Revised Project is approved and noted that pool cleaning activities will be once again an issue.

Since they stopped operating, my windows are clean. - Round Two

The dust all over everything and in the pool. I've taken many photos of it over the years. It's just typical Daracon, I have to clean the pool monthly and have done for years now. – Round Two

Dust coating our home, clotheslines, air we breathe. – Round Two

During the Air and Blasting CAF held in March 2019 that presented outcomes of the updated air quality assessment prepared for the Revised Project, participants queried the air quality and dust monitoring program that had been undertaken to support this assessment and noted the fact that the outcomes did not appear to correspond with their experiences. There were also concerns that this monitoring did not adequately reflect the impacts of the future quarry operations.

The real experience is different to the model. - Air Quality and Blasting CAF

Analytical data in the predictions is all coming from where the operation is at now. What happens when the quarry moves into the top left corner (north-west)? Does the model account for elevation, topography in that area once the quarry moves in that direction? Do the prediction and contour models take the movement of the quarry into consideration? - Air Quality and Blasting CAF

How is it that when Daracon moves to the top corner (north-west) the dust impacts will not increase? - Air Quality and Blasting CAF

Dust was just phenomenal before and when I questioned them about dust monitoring, they told me that the monitors were not near us. They should be closer to where I am, but instead they are conveniently located in low reading locations. – Round Two

The lived experience is not consistent with levels being recorded. Monitoring requirements are basically 1980's level. – Round Two

6.4 Sense of Community

The second most frequent unprompted social impact theme noted by consulted community stakeholders in Round One were in relation to impacts of the Revised Project on sense of community (71), with these more specifically associated with impacts on the safety of members of the public (54), the rural amenity and character of the locality and how people went about their lives (17). Concerns associated with particular aspects of the Revised Project affecting the rural amenity of residents and the character of the area however, were more salient in Round Two discussions (48). (**Figure 6.11**).

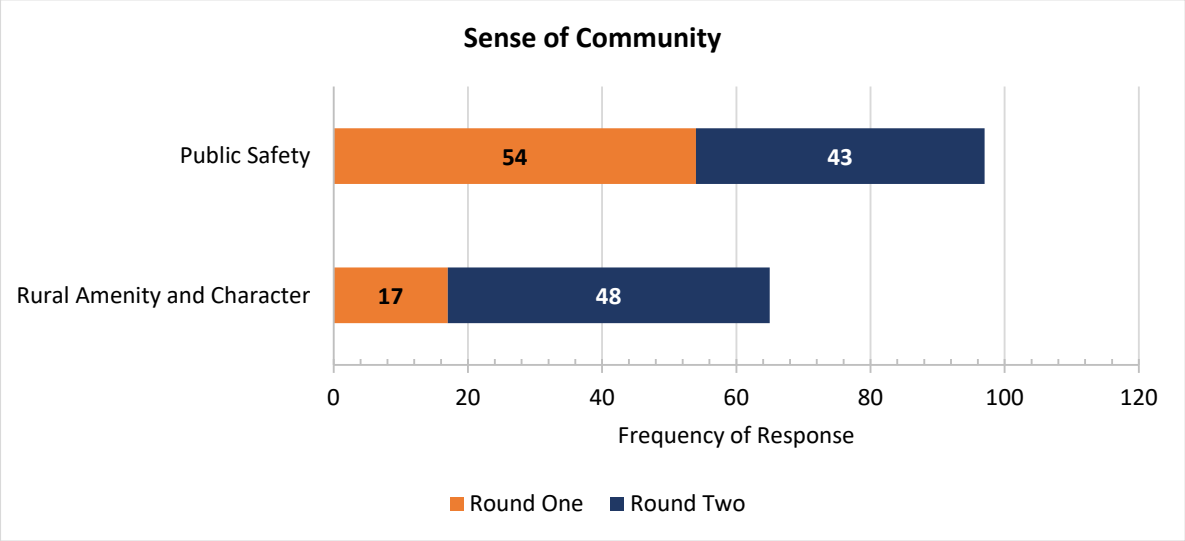


Figure 6.11 Stakeholder identified sense of community impacts (unprompted)

Round One: n = 78; Round Two: n = 114; Multiple responses allowed.
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Again, it is important to note the above issue themes noted under sense of community are intricately linked to those identified under social amenity outlined in the sections above, and transport and traffic impacts on social amenity more specifically (**Section 6.3.1**) with trucks and traffic movements thought to have

diminished the ambience of rural villages along the haul route, and for those living in Paterson and Bolwarra Heights in particular.

Following the Land and Environment Court's decision in 2019 to limit operations, a limited number of truck movements have been experienced. Stakeholders consulted in 2020 (Round Two), often referred to these last twelve months as *blissful*, *wonderful* and *quiet*, concepts attributed to the rural amenity and natural surroundings of the area and that any disruption to the community's sense of place was strongly rejected by the majority of stakeholders with whom discussions were held. Many recalled the ambience of the area as the reason for originally settling in the community and felt that quarry product transported by road immediately disturbed the peaceful setting.

It has been good since the quarry has been shut. – Round Two

Quarry has been closed for approximately nine months. This has been blissful. The town has returned to the way it should be. A small rural town with an agreeable rural amenity. – Round Two

Linkages between the sense of community and the safe movement of pedestrians within Paterson and road user safety were also particularly pertinent during Round Two discussions.

6.4.1 Public Safety

A high number of consulted stakeholders in both Round One (54) and Round Two (43) identified concerns relating to public safety and the flow on effects, particularly the **mobility patterns and activities of community members**. These concerns were seen to be due to a number of key factors including:

- Truck movements and the potential for conflict with pedestrians, cyclists and drivers due to, the number of trucks, the speed of trucks and unsuitability of the roads for truck traffic, e.g., limited turning capacity for trucks through the township, narrow access routes and limited pedestrian pathways within Paterson that were close to roads.

- The possibility of rocks and debris falling from trucks on the road and striking vehicles or pedestrians; the Maitland Road entry to Paterson was identified as a particular problem spot.

Risk of falling rock debris and other ballast falling from trucks was seen to have an impact on the sense of community more broadly, and public safety more specifically and this being a potential hazard to pedestrians and vehicles alike. Local residents from Paterson, particularly those living along Maitland Road noted that a fear of being hit by loose rocks was affecting how they used their front yards. A number of those interviewed also referred to how **vehicular damage** had occurred with **smashed windscreens reported** from travelling close to loaded trucks with concerns also noted with parking on the road in Paterson due to the potential risk of car damage due to passing trucks.

In 24 months, 2014 to 2015, my vehicle sustained two smashed windscreens, both from gravel that bounced off trucks as they exited the quarry. This has been reported to Daracon. It has also increased my insurance premiums. – EIS submission

I wear a helmet when doing the front lawn. - Round One

I don't want to put the trampoline out the front. - Round One

They should set up cameras to see trucks that are losing gravel. - Round One

The rocks coming off trucks…it is the quarries fault. They put it on the drivers. The quarry has a responsibility and obligation to make sure it [the load] is secured. - Round One

I'm aware of it constantly and I rarely go out the front to wash my car or get the mail. - Round One

I can't trust my kids to play out the front again as there's always stuff flying off the trucks. – Round Two

Since Daracon took over, the number of trucks to fight with on the road has been incredible, one broken windscreen after another. – Round Two

The higher cost of car insurance as we had, on average, to replace a windscreen every 9 months or so from trucks and rocks breaking them, plus general damage to car paintwork, (and we are not frequent drivers so I can only imagine the problems for the people who have to be on the road regularly). My husband bought a new truck a few years ago and within a week he had a cracked windscreen. – Round Two

It was common for older interviewees to cite that they experienced heightened anxiety when considering going into Paterson due to concerns about driving around heavy vehicles and trucks and issues with parking their cars. Similar concerns about safety were also noted by some residents who regularly travelled towards Maitland and **experienced increased traffic volumes** due to truck movements as well as by Bolwarra residents who felt there was a heightened risk of accidents risk on roads leading into and out of Bolwarra.

Turning on to Tocal Road can be a problem. - Round One

It's not safe on the roads. - Round One

Very concerned about safety, our street heading north, to turn right into the street there's no room on the left to move around cars, issues with other cars turning, if number of trucks increase then it will be hard to turn into/out of our street, Very dangerous. – Round Two

Tocal Rd/ Paterson Rd intersection - traffic merges and in normal times it is difficult to merge, hard to see traffic coming out of Paterson Road so impossible for the trucks to see, roundabout towards Lorn/ Flat Road. – Round Two

The roads in our area are not highways and the risk to people and pedestrians in particular is too high to allow that many trucks to be on our roads. – Round Two

I drive from Paterson to Maitland and there is just a line of heavy vehicles. I believe it will increase my time to travel and will make the road unsafe, because people will become impatient and try to overtake the trucks. – Round Two

Businesses and service providers also noted that they felt concern for their staff travelling to and from work who had to deal with this issue on the roads.

I am concerned for the safety of my staff on the roads…entering/leaving my property. - Round One

I don't understand that reasoning. I live here and I have a business here and yes my business has needed the increase of cars to survive, but we don't sacrifice other people's livelihoods. We all work together to make it the best town we possibly can. The amount of trucks is just wrong. – Round Two

Safety - I live, work and move around this community and have been frustrated at the general disregard for the local community by the company. – Round Two

The **existing condition and widths of the roads** was seen to be a contributing factor with safety concerns associated with travelling along the single lane roads and across bridges, e.g., Gostwyck Bridge.

The roads are country roads and fail quickly now with the current loadings and volume, increase that and the failures will only increase. These failures are evident on the Tocal road in both the Dungog and Maitland sections and occur over a short period, repairs are not carried out in a timely manner and are only pothole patches, the roads are neither wide enough or engineered to take the proposed pounding. – EIS submission

The bridge and potholes constantly need repairing. - Round One

I often go another way to avoid the trucks…the bridges are difficult to cross. - Round One

I get anxiety - trucks turning onto bridge…and the 100km zones with poor visibility and a lot of blind corners. - Round One

No mention of road works being undertaken by Daracon and the danger along Bolwarra Heights. The Council have widened it a bit, but there are still areas that are narrow and it's a safety issues for cyclists with the trucks going past. – Round Two

The damage to our roads and therefore increased danger to people's lives. – Round Two

The road condition is not great, and it varies along the corridor, so ongoing road condition is a big issue for safety. – Round Two

Parents and grandparents also spoke of being worried for **the elderly and school children** crossing the road and as a result limited their time walking outside with children amongst the traffic in the Paterson village area. Concerns for pedestrian safety were due to a combination of truck volumes and the existing narrow footpaths on the edge of busy roads.

I had to stop on the post office corner because trucks coming around corner. - Round One

Difficult for trucks to take that bend near post office without crossing double line. - Round One

They could kill our kids and wives on the street every day. I would sit there and cringe that my kids won't come home or that there will be a head on with a truck driver and a car. – Round Two

Round Two stakeholders particularly noted their concern surrounding proposed design changes at the King and Duke Streets intersection, with the potential removal of carparking and traffic volumes heightening safety concerns for pedestrians in particular.

I don't like the idea of the Post Office car park being removed. That carpark is for the elderly. They will have to cross on the corner and so will people with children, so less safe as they will now have to cross the road. It just adds another danger. – Round Two

We have four grandkids and I have a horrible fear of massively loaded trucks, two metres form the corner of our house, even at 50km/hr the trucks, they have no chance of stopping. – Round Two

I see the amount of elderly people and children (but more elderly) and they have a hard time crossing the road. They can park outside the front of the business, pick up their parcels and go again. – Round Two

Not safe to cross the road to the shops, there are a range of businesses along the main street of Paterson and it is only a small length of road. If you have a laden truck going one way and unladen truck going the other way, the road is just not built for that. And you can't put a pedestrian crossing in, as it will complete the stop the road altogether. – Round Two

There's school kids in the afternoon, crossing the roads, little kids. – Round Two

There are no pedestrian crossings, and people are ducking across, people aged 50-80 year old, but that is the reality, people want to duck across the street. The railway can slow down traffic already, but I think a crossing near the shop would possibly be a good idea, but it may also restrict parking. It's hard to get a park to go to the cafe now, so they can't take away car parking, that would not go down well. – Round 2

Dungog Shire Council just spent money on a new BBQ area 20 metres from the road putting in a park, it's not fenced, there's no crossing, there's a blind corner, but it's the most used park in Paterson. It's a narrow area to cross. – Round Two

The other day I nearly got run off the road by a truck, so have concerns that will happen more often if the trucks starts back up again. ….. There are more people settling out here now and therefore there is even more risk on the roads. – Round Two

It's been really nice not having them here for the last 18 months and I don't want to go back. My daughter can play on the street now with her scooter and there's no trucks going past to worry about. – Round Two

There were also concerns expressed by consulted stakeholders related to the **safety of primary and secondary school students** waiting for school bus pick-ups on the side of local roads or alighting from buses within Paterson itself particularly given the hastiness with which children crossed the road. Concerns for tertiary students attending Tocal College were also noted given their need to regularly traverse the campus across Tocal Road by foot or with vehicles with trucks moving at speed down the road.

Huge safety concern for our children on bus routes. - Round One

Peak [truck] times coincide with school times. - Round One

We've learned how to walk around, get around. - Round One

Effects on Paterson, the state of the roads and safety of kids in the area. - Round One

There is no pedestrian crossing. Young kids don't behave safely. This community is fairly relaxed about road safety and children are impulsive. There have been a lot of near misses of children being hit by trucks. Trucks have little visibility, and the kids are not safe. - Round One

Still too many trucks on the road. Noisy and dangerous travel too fast near bus stops. – Round Two

It's not safe on the roads. - Round One

I hold after school classes [at the gallery], and even now kids and parents have to wait a long time to cross, what's it going to be like when the trucks start back up. – Round Two

25 is still a lot of trucks. I think about the peak school times. Children are literally standing on the side of the road waiting for their bus, that is double the amount, with the empty coming back, so still a lot of trucks and at peak school times. – Round Two

Public safety was also a key issue of concern that was identified by local businesses in Paterson given that driving through Paterson and parking within the township is becoming increasingly problematic with there being the potential for serious accidents to occur. This was supported by a number of community stakeholders noting feelings of anxiety associated with **traffic volumes and how and where they would park** their cars when visiting Paterson and therefore changing their patterns of movement as the roads were not suitable for the existing truck traffic.

We have been told by customers that they can't get past. - Round One

Take your life into your own hands if you park on the side of the road. - Round One

It's intimidating to drive on the roads. - Round One

It's not safe on the roads. - Round One

If you open your door a car or truck could take it off [referring to narrowness of parking strip out the front of his house]. - Round One

The roads cannot accommodate how much they want to put out. - Round One

As a shopper we are affected. - Round One

Increased traffic volume will cause unacceptable risk of pedestrian accidents and congestion on an already busy main road through residential areas – Round Two

[I am] not far from Tocal Road, so can't spend as much time in our garden. We like going to the nursery in Dungog about once a month and now don't feel safe on roads to Dungog. – Round Two

It was also reported that **the speed with which trucks moved** presented a real safety risk to drivers, pedestrians and cyclists. This was also reinforced during Social CAF discussions where it was reported that there had been more cyclists returning to Paterson now that truck movements had stopped.

Cyclists use Paterson. In the last the 6-12 months there has been a shift with more cyclists. – Social CAF

It was however also acknowledged by many during consultation activities that it was the Daracon contractor drivers that were causing the problems not Daracon employees themselves and that Daracon drivers generally behaved responsibly. Stakeholders were concerned that should the Revised Project be approved; the number of contractors would exceed that of Daracon employed drivers and insufficient monitoring would be undertaken.

Daracon have sensible drivers and stay to speed zones - Round One

Daracon drivers are courteous and slow…it's the [contractor] cowboys that are the issue. - Round One

Couple of cowboys speeding up the road. - Round One

Daracon trucks are reasonably respectful with speed; the contractor's trucks however are less maintained - Round One

Roads are narrow, windy and there is a lack of regard for supporting maintenance, keeping to speed limits or working with the community for welcome solutions. – Round Two

How are they monitoring non-Daracon vehicles i.e., contractors, to ensure that they are following the same code of conduct as the Daracon employed drivers? – Round Two

Daracon needs to think about these trucks. They are cowboys, they tailgate, pass you when they shouldn't. Don't say they are not your trucks - they are contractors and you should be able to control them. I have never seen a problem with any Daracon trucks, but you only need one. – Traffic and Transport CAF

We have school children, parents and preschool children at great risk due to speeding trucks. Our area has many cyclists and walkers on the weekend. The trucks speeding is a danger. – Round Two

Consulted stakeholders also noted **changing their patterns of activity** due to concerns for safety due to road traffic with 12 consulted residents from across the localities of Paterson, Martins Creek and Brandy Hill also reporting changes to previously enjoyable activities such as **walking, cycling and general use of area** due to concerns about their safety.

I have friends who want to put a crash barrier behind their fence. - Round One

The above noted concerns were also consistent with those that had been raised during the submission process for the original EIS, with submissions detailing concerns related to the safety of those using the local roads – particularly for pedestrians, cyclists and motorists – due to increased traffic movements.

Current traffic levels are already proving to be unsafe with the speed and volume of heavy vehicles moving through the built-up community, passing by a school and retail shops and residential homes. – EIS Submission

Tocal Road is already a busy road…there are numerous bus stops along the road for school children pickups and there are no cycle/ foot paths for safe pedestrian movement. – EIS Submission

There is no pedestrian crossing in the township for pedestrians to safely cross while up to 80 trucks per hour pass through the town. – EIS Submission

Given the lack of footpaths, many school children, their parents and pedestrians in general (many of whom have prams) also walk along these same road shoulders. – EIS Submission

The safety of children, old people, dog walkers etc. is going to be at risk – EIS Submission

Martins Creek Road ….is a narrow road with dangerous blind corners and hills to traverse for other drivers in the area. – EIS Submission

Discussions during the Social CAFs further enforced concerns regarding patterns of movement within the village of Paterson with these reinforced in communications from MCQAG which referred to a *'substantial deterioration of the Village Activity Centre Function in Paterson from the refined and completely unacceptable proposed magnitude of 40 truck movements per hour and 280 truck movements per day.'*

As indicated above at **Figure 6.2**, (and again at **Figure 6.12** below), when presented with a prompted list of potential issues and impacts against which to rate their level of concern on a scale of 1 (no concern) to 5 (extremely concerned) during engagement activities for the revised SIA, *public health and safety* was the second highest prompted issue of concern with 90% (n = 68) of the 75 participants that responded to this question rating themselves as being either very concerned or extremely concerned about this issue.

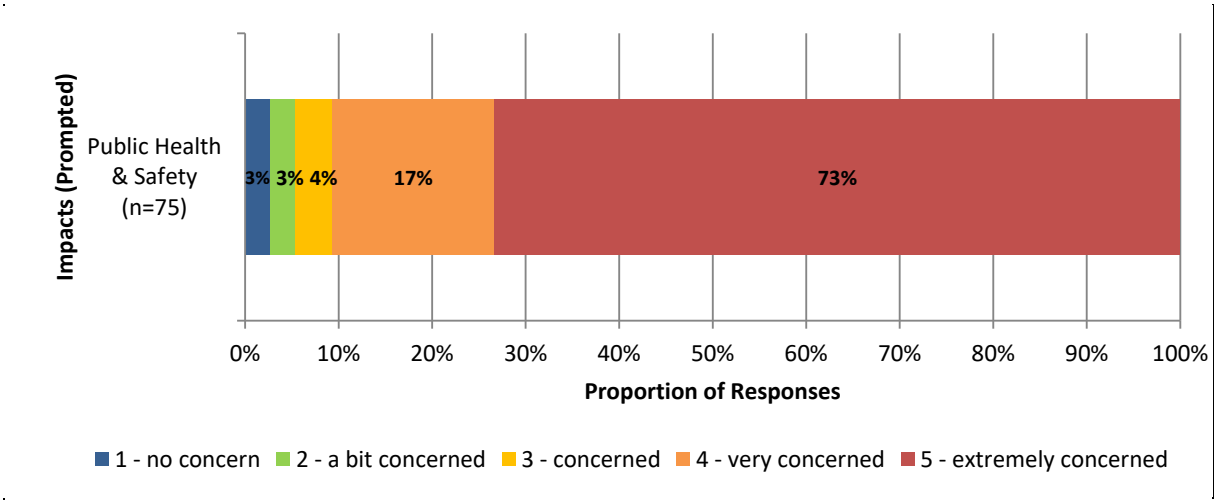


Figure 6.12 Rated level of concern – public health & safety

Round One: n = 78; 3 missing

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Access and parking was also rated highly as a prompted issue with 60% (n = 44) reporting that they were either very concerned or extremely concerned about this issue.

You cannot park near Post Office. [You] take your life into your own hands if you park on the side of the road.- Round One

This is a major problem in Paterson. - Round One

Don't feel safe doing it [parking] in Paterson. - Round One

Access to property and infrastructure, services and facilities all rated lower levels of concern with mean concern ratings of 3.4 and 3.6 respectively, and 36 participants noting either *no concern* or only *a bit of concern*. However, for those indicating that they had high concern levels, comment were again noted with regards to difficulties in moving around the locality.

Son trying to access property - truck almost ran up the back of him. - Round One

Often go another way to avoid the trucks. Bridges are difficult to cross. - Round One

You have to wait for trucks, slow down for them, go around corner wider. - Round One

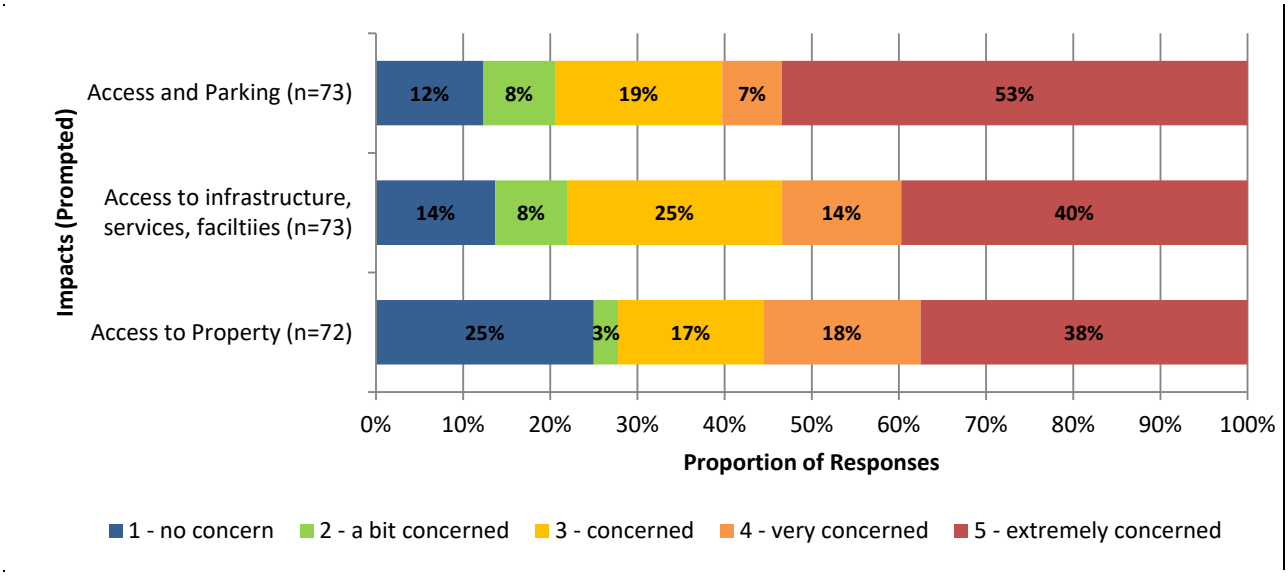


Figure 6.13 Rated level of concern – access

Round One: n = 78

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Concerns related to road user safety is also consistent with analysis of Martins Creek Quarry community complaints analysis presented at **Section 4.4.3** of this report, in which impacts on roads and road user safety made up the greatest sources of complaints between January 2014 and April 2020 (30 complaints or 28%) with such complaints including flying rocks and speeding vehicles.

Round Two stakeholders noted a keen **sense of despair at the thought of operations resuming**. As previously discussed, public safety impacts and impacts on their rural amenity were top of mind and often the focus of conversation returned to risks to pedestrians, vehicles and those participating in recreational activities in their front yards, such as gardening. A strong desire was expressed to see existing rail infrastructure improved to accommodate any further expansion of the quarry and to address noted concerns raised regarding public health and sense of community.

Too much dust and damage to roads - It's obvious. We moved to a quiet town, move the bloody quarry. Nothing for the locals apart from environmental disruption and damage. We told you last time you applied, just go away. – Round Two

You can't understand the horrid effects it had on everyone's lives here - the feeling of worrying about just going to the post office or the butcher in case you got hit by a truck trying to get out of your car, or saw a pedestrian get knocked down – potentially a horrible thing – Round Two

I would like to see the product transported by rail and transported on major roads, not minor roads. Yes it may be more expensive to do it that way, but they will pass the cost of the double handling onto the customer. That quarry was originally a rail sliding quarry and since Daracon took over it has since changed to a trucking quarry, so they have changed the overall operation of the quarry itself to suit themselves. – Round Two

6.4.2 Rural Amenity and Character

In addition to fears for personal safety affecting their way of life, community stakeholders, predominantly those from Paterson, also noted how the rural amenity and character of the local area was being impacted by the presence of the quarry and its operations with many consulted stakeholders referring to how they had moved the area to enjoy the tranquil and rural lifestyle and that that amenity was now being destroyed by the activities of the quarry with the area changing completely and possibly even leading to the demise of the Paterson village

One stakeholder who had lived in the area for several years referred to how they used to be able to ride horses along the road, but now this was no longer possible due to safety concerns, while another noted how it was unpleasant to come and to use local businesses in Paterson.

Destroyed! - Round One

The amenity of this place has never been more under threat. - Round One

Ambiance - that is why we bought here. - Round One

It is destroying the character of the suburb. - Round One

The history of the town [Paterson] is being destroyed. - Round One

It's unpleasant! - Round One

This plan butchers our town of Paterson. – Round Two

One community member also noted similar fears for Bolwarra Heights.

It's destroying the character of the suburb – Bolwarra Heights is considered a leafy, semi-rural area and Daracon want to change it into an industrial zone. - Round One

During Round Two discussions, one stakeholder noted a concern that people were leaving Paterson due to the quarry and the affect this may be having on the village:

People are selling left, right and center, I have seen houses being sold multiple times. Every time the quarry moves to another area houses go up for sale. They are just letting them win by moving out which is what they want. – Round Two

At the Social CAF, there was also discussion amongst some participants referring to the changes in the community composition, cohesion and character within the local area (particularly Paterson) and it was felt that that this was likely to continue with the expansion of the quarry operations with references made to valued community members and neighbours leaving the area already as a direct result of the quarry's operations.

Levels of concern associated with sense of community and general amenity of the locality as prompted issues in Round One engagement activities also rated fairly highly with mean concerns ratings of 4.1 and 4.3 respectively (**Figure 6.14**).

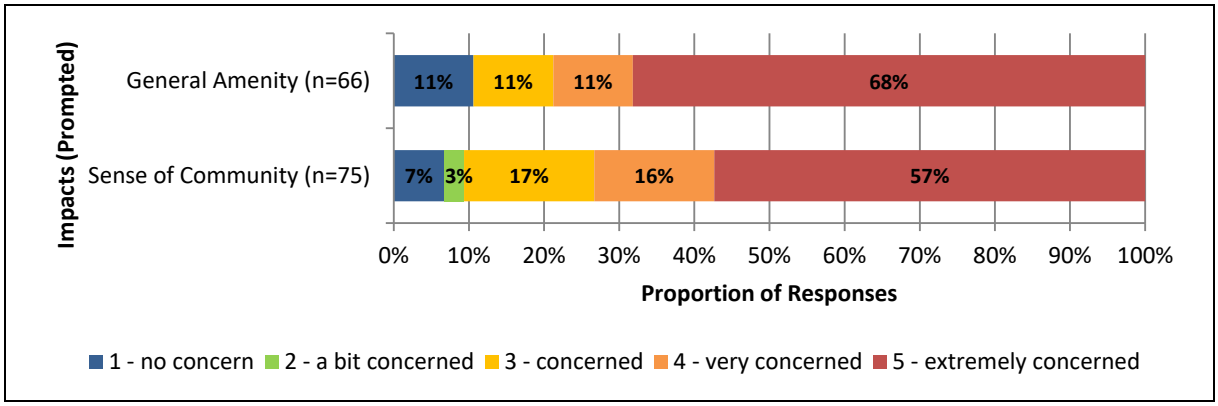


Figure 6.14 Rated levels of concern – Sense of Community and General Amenity

Round One: n=78

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When prompted with these two potential issues, participants again referred to the impact on local village character and the peacefulness of the area.

On a busy day, can't enjoy the village amenities. - Round One

There is no more peace and quiet. - Round One

Amenity has been diminished and concerned it will diminish further. - Round One

Destroys character and amenity. - Round One

Daracon quarry expansion is not compatible with the location. - Round One

There were also conflicting views expressed on how the quarry was impacting on the relationships within the community with many noting that the Quarry and community member feelings towards Daracon had brought the community closer together:

It's brought a lot of people together. - Round One

Galvanised community. - Round One

This common cause has brought people together. - Round One

However, there was also the converse view expressed by some that it had caused divisions within the community – particularly with Daracon staff.

Big division between Daracon and us. - Round One

No one is supporting Daracon. - Round One

Caused divisions (polarised) the community. Topic you don't talk about. - Round One

It has split the community - between residents and quarry workers/drivers. - Round One

Lack of trust, we've banded together but the town is us vs them. - Round One

It's not nice to have this animosity and its turned it into an us vs them. Everyone works together in town for our community to make it work, so I feel like I have ownership of the community, but there is no harmony and that's sad. I don't know if it can ever be reconciled. They hold community meetings, and everyone is all emotional and irate and it goes out the window and nothing gets solved. - Round Two

When more specifically asked to identify what they saw as the key Project costs and benefits associated with Daracon's refined proposal for Martins Creek Quarry. Noted costs referred to the changing rural amenity of the township of Paterson and its village atmosphere and the associated impacts this could have on tourism and businesses.

Massive community costs – it could see demise of the town. - Round One

Irreversible impact on social fabric. - Round One

I don't think community is equipped…shouldn't need to be. - Round One

Expansion of the Martins Creek Quarry would have an enormous detrimental impact on the lives of thousands of people living close to the quarry and along the haulage route. - Round One

Related to this, historic heritage as a prompted issue had a mean overall concern rating of 4.2 (Round One) with 57 (or 80%) of consulted participants who responded to this question during personal and group interviews held in Round One being either *very* or *extremely concerned*. Concern was particularly expressed for the heritage and tourism values of the buildings in the village of Paterson given its proximity to the quarry, and potential damage to these buildings and associated values, particularly that it was the village's historical character that had attracted a number of the village's residents to the areas in the first place.

It is damaging these buildings. We have very active historical society. - Round One

We are custodians of some of the most culturally significant heritage in the Hunter. - Round One

Some really nice heritage buildings in Paterson that are falling down and rattling. A bit of restoration going on now but 15 years ago they were falling apart. - Round One

130-year-old buildings… would love to see Paterson stay the beautiful old town that it is. - Round One

Most of Paterson village is heritage. - Round One

A number of stakeholders recounted examples of damages to their historical homes and other historical buildings in the area such as the Gostwyck House and the CBC guesthouse due to vibration from truck movements and blasting.

Our house is crumbling due to vibration…it has a strong heritage value. - Round One

Current buildings do not cope with this level of transport. - Round One

Cracking walls from vibration damage – the church, post office, CBC, etc. - Round One

It was felt by some that the existing roads were unsuitable for the vehicles using them and that and therefore trucks travelling along these, particularly exacerbated damage to road surfaces, and hence damage to the older buildings.

Fix the road surfaces to minimise damage to historic buildings. - Round One

Putting trucks down village designed for horse and cart. - Round One

Protection of the historical elements of Paterson were particularly salient during Round Two discussions with community members and businesses, with some stakeholders concerned truck volumes and vibrations were causing structural damage to buildings along the haul route. However, one stakeholder also argued that the age and material of the buildings weighed more heavily on structural integrity, than the passing of trucks.

The buildings are old and there is a generation of people interested in history. Most people blame the trucks [for damage to buildings] but there's also just dryer periods and climate change that effect the buildings. Things expand and contract.- Round Two

Structural damage caused by truck vibrations. The houses are 140 years old, and there is cracking in the walls, the wear and tear on the buildings, the buildings are not built for it – Round Two

Town is heritage listed, how can you change the intersection when its heritage listed? You can't change a window on the buildings, how can you change the intersection, the heritage listing is on the whole town'. It is incompatible with LEP. - Round Two

The quarry can produce their product but big trucks through small old historic area is not on. We can't do what we like and we lose the rural atmosphere of the historical village. – Round Two

It's a heritage area and the vibration from trucks is causing major cracking to heritage homes. History of our community needs to be protected. – Round Two

Despite all of the above, it was also mentioned during a number of discussions (by seven participants over four separate interviews during Round One) that although the existing quarry operations had been having an impact on the general sense of amenity more recently – this was not always the case and the quarry and the community had managed to co-exist in the past and that there was no reason that this could not happen again in the future provided impacts were mitigated effectively**.** Similar sentiment was echoed in Round Two, however this was conditional on ensuring that the volumes of product transported by road is minimal, if at all, and rail transportation is adopted for the majority of product.

I don't want the quarry to shut, but Daracon have been incredibly greedy and need to stop. Need a reduction of trucks going through Paterson to an acceptable level (which is 350,000 tonnes by road). - Round One

I haven't met anyone who wants the quarry closed but community input must be valued. - Round One

It is not about shutting the quarry…just stop the amount of production. - Round One

We do not want the quarry to close, we just don't want it getting any bigger. The quarry is currently taking over our entire lives and that has to stop - Round One

I am not opposed to the Project, but Daracon have not had a good record and that was shown in the ruling against them, but if it is done correctly, then it is possible. – Round Two

I do believe that the management of the distribution of product to minimise impacts on route is possible. I am a strong advocate for rail transport. It is a designated transport corridor, a point to distribute from and will manage the transport impacts by road. Trains will still go past us all the time and the noise of the trains will be an issue, but it will better for safety on the roads. – Round Two

Surely more can be taken out by rail and get the trucks off our country roads. I am not happy at all about the proposed plan. – Round Two

Anything through these little towns is going to be destruction. It's still 500,000 more than what's happening here at the moment. It's a tactic they use - Ask for twice as much as they wanted and then negotiate down. Anything above what they should have been doing is too much for this social and economic environment. – Round Two

Is it a good fit? That's what the court judge had to ask and now so do DPI&E. It may have been a good fit 20 years ago, but now with the communities here and considering our standard of living, it just can't coexist. – Round Two

Round Two participants felt very strongly about maintaining their sense of place and the rural amenity of the area, noting that the volume of trucks and traffic movements was responsible for this and that the increased use of rail could counter these impacts.

The hourly intensity of trucks proposed is unacceptable - because I reside in a rural village and I am afforded rural amenity that will be greatly impacted upon should the 50 trucks per hour proposed be approved. I have already experienced that level of quarry traffic past my residence during Daracon's unlawful operation and the impact to my family and my household were intolerable and unacceptable. – Round Two

Having lived in Paterson township for over 20 years, we cannot in any way say we would like to go back to the situation previously with the nightmare of trucks destroying our life here. – Round Two

I am strongly opposed to the re-opening of the quarry as outlined in your latest plan, 50 truck movements past my house will again be an intolerable situation. My residential home property, and other residents, front boundary on Tocal Road Bolwarra Heights is only 2-3 metres from the edge of the road where your heavily laden double quarry truck travel at 60km per hour….. one every minute or so in heavy times, its unacceptable as far as safety to us as residents on the footpath and ruins the social wellbeing of our community. – Round Two

There are small quarries in Sydney that have built bypasses to ensure the amenity of small villages e.g., the village of Marulan for example. Running trucks through a little village like Paterson is not acceptable. – Round Two

Hundreds of trucks on the road passing through the townships of Paterson, Bolwarra, Maitland are not compatible with the roads and character of these townships. These are quiet, tourist places not industrial corridors for Daracon trucks. – Round Two

Our little worlds of bush and garden, is extremely important to me at this time. There is a renewed respect for what they have and I think that will be one of the defining things. Corporate businesses have to understand that these impacts are affecting everyday people. Daracon need to remember that. – Round Two

A balance between one major business and the community needs to be addressed properly. A community cannot be destroyed because of the demand and greed of one business. – Round Two

The break from the trucks has shown the village what the village should be like. They have their rural amenity back. They will get a lot of opposition if this starts up again. Shutting the quarry was probably the worst thing Daracon could have done for themselves. – Round Two

The physical presence of trucks on a road every minute of every day, will cause and has caused impacts to amenity and the physical presence of the trucks divides the village in two and provides a continual reminder

to me, my household and the village residents that they are living in a village that is transected by a quarry haul road that was at the time operating illegally. That impact was unacceptable to me and my household. – Round Two

There is such a residential sprawl here now, it is not the place for that type of industry at all, let alone expand on it. It doesn't matter how many times you try to rearrange the issues, that industry cannot coexist in this small town. I would prefer them to close it down and make a housing estate. That would be the best way to utilise that land. The value in the community would be ten-fold as far as lifestyle and could create a whole new suburb, Martins Creek Heights, or do you want grubby trucks and faceless company greed? - Round Two

Some people say, 'well move', but this is our life. - Round Two

6.5 Engagement and Decision Making Process

The SIA Guideline (DPIE, 2017) refers to impacts to decision-making systems as a social impact, particularly the extent to which people can have a say in the decisions that affect their lives and have access to complaint, remedy and grievance mechanisms.

Unprompted noted issues of concern raised during discussions with stakeholders that have been coded under this impact category include those presented at **Figure 6.15**.

It should be noted that fears and aspirations associated with the decision-making process were heightened during Round Two consultations, with more than double the total number of responses identified when compared to Round One.

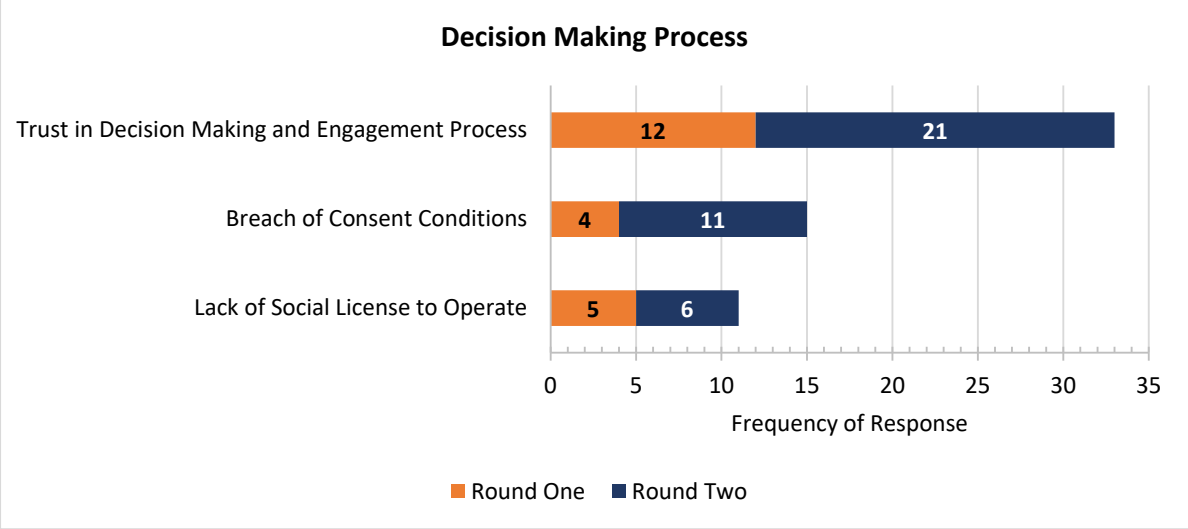


Figure 6.15 Stakeholder identified issues – impact on decision making process

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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The above is supported by the fact that when consulted stakeholders (Round One) were asked about their existing relationship with Daracon, 57 stakeholders (or 73%) noted that they did not have a relationship and 66% were *extremely concerned* with regards to their existing relationship (**Figure 6.16**). A very high mean concern rating of 4.3 out of 5 was reported for this as a prompted issue.

Engagement and trust was also rated as causing *extreme concern* for 58 (77%) of consulted community and business stakeholders (mean concern rating of 4.5 out of 5) with a mean concern rating of 4.1 out of 5 for trust in the Government assessment and approvals process also reported and 77% expressing some level of concern with the assessment and approvals process (**Figure 6.16**).

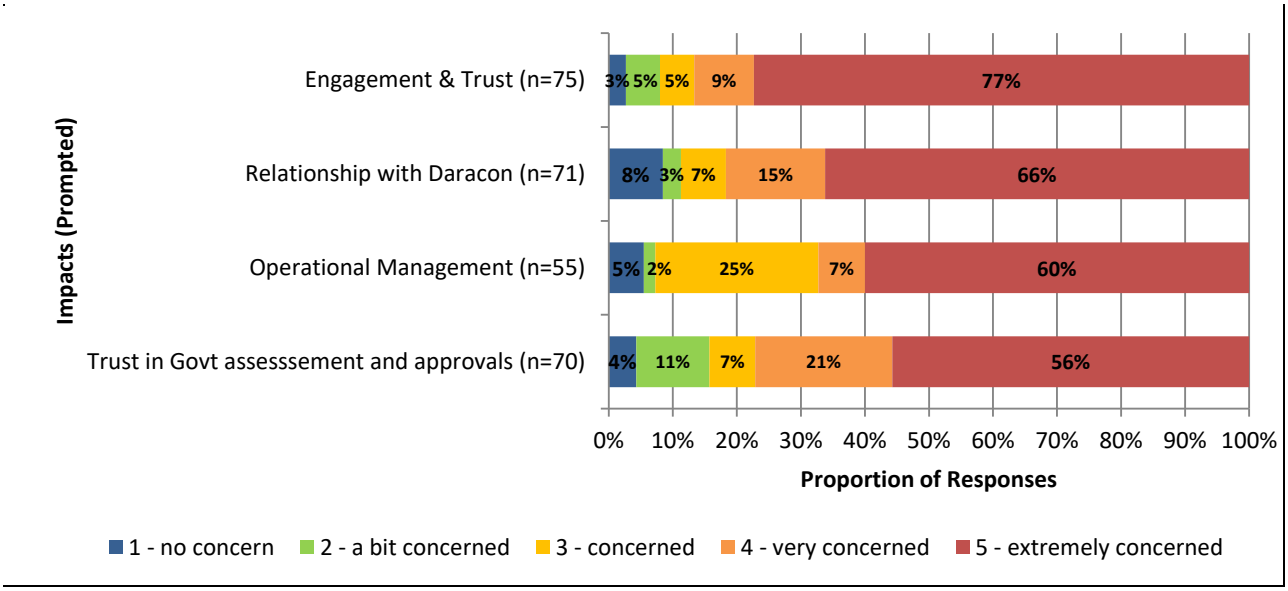


Figure 6.16 Round One Rated levels of concern (prompted) – Relationships, Engagement & Trust and Operational Management

Round One: n = 78

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6.5.1 Trust in Decision Making and Engagement Process

During Round One interviews with the community and local business, there were 12 distinct mentions of a **distrust** in Daracon's engagement and interactions with the community generally and the feeling that there was limited ability to have any real influence on decision making process with regards to the Revised Project, based on historical experiences in dealing with the company. Stakeholders generally felt a lack of an existing relationship with Daracon or having a negative relationship with Daracon, with these negative perceptions of the company strongly linked to a community meeting in 2014, around the time that the original EIS was submitted to Department of Planning and Environment.

There is no trust. - Round One

We don't believe they will stick to anything. - Round One

The arrogance at community the meeting set the scene for their operations. - Round One

I feel that this consultation may be a waste of time. - Round One

Don't have any contact with Daracon, they're just a name. - Round One

Mr Daracon doesn't come down to the pub on Friday…Daracon is [a] faceless person. - Round One

They have a long way to go. - Round One

I don't trust them – there is no relationship. - Round One

Don't feel like the school have a relationship [with Daracon]. We would appreciate information directly from Daracon or email of changes. - Round One

Mingay's attitude is indicative of Daracon's corporate culture – huge sense of entitlement and lack of social conscience. - Round One

Arrogance…doesn't interact in the community. - Round One

If they were fair dinkum they would have done more beforehand. - Round One [Daracon] are not very transparent, should think about community more. - Round One

Aggravating the community and no evidence of change/desire to change or to alleviate the community's concerns. Profit will be increased but they are not doing anything to make life here any easier for the community. Even though they have the funds to do so. If they make the transport via rail there would not be any issue. Their profits need to be given somewhat back to the community.

They can't be trusted. - Round One

Hard to gain trust and easy to lose it. Daracon need to pay their dues, have more consultations and representatives in the community. - Round One

Processes don't always go how they are planned. - Round One

State significance shouldn't take precedence over community. - Round One

[I am] cynical about the process. - Round One

There is no trust and they can't recover from it. A quarry has operated here for hundreds of years with no problem but then Daracon took over in 2012 and the problems began. – Round Two

Trust - Sadly anything Daracon says now is not believable. Past history has shown that their word means nothing. – Round Two

When asked during initial Round One interviews about whether they had previously been provided with information or been consulted by Daracon in relation to Martins Creek Quarry, only 16 of the 78 stakeholders (or 21%) indicated having previous contact with Daracon, while 49 stated they had no contact (63%).

They could help community trust by empowering the community to make decisions and community input being valued. - Round One

I don't feel engaged at all. - Round One

It was reported that the type of information provided by Daracon primarily came from public meetings and/or forums - followed by blasting notifications. Others reported having been contacted via community forums, personal meetings, phone calls or knowing an employee.

It was also noted by some in Round One, that referring to proposed changes to the Revised Project as Project refinements during engagement activities, was inaccurate and that they did not reflect refinements but instead was viewed as another example of how Daracon could not be trusted.

Using the word 'refinements' incenses our community. - Round One

It's sickening to use the word 'refinements', we as a community are not stupid. Stop treating us as such; it makes my blood boil when they use that word. - Round One

A reference to refinement to 1.1mtpa is misleading. - Round One

The number of responses recorded during Round Two consultations (24) echoed those of Round One, however there was more emphasis on a sense of distress and despair with the knowledge that Daracon would pursue approvals to expand their operations.

There was an acute sense of resentment toward Daracon for starting back up again. Although communication provided by Daracon expressed that the quarry was placed into a limited operation while the SSDA process is completed, many participants expressed the view that the Martins Creek Quarry was thought to no longer be operational after the 2019 court case ruling. During these consultation activities stakeholders were informed that the quarry had never ceased operations but had been placed into limited operations. This information confirmed the view of some stakeholders that they had heard or saw things going on. The misperception of the operational status of the quarry, seems to have increased the level of anxieties felt within the community, associated with honest and fair dealings with the company.

We can write and talk but nothing gets across the sense of invasion and disruption and overall awfulness that this sort of thing creates, for the people, the town. The concept of this coming back makes our toes curl. – Round Two

I am disappointed. I don't think Umwelt and Daracon are listening to the community, the number of trucks is still too many and it creates impacts like noise, dust and all the other impacts I can list – Round Two

I don't trust that they will do what they say they will do. They will try to get away with what they can, when they can. The costs/fines are insignificant if they do the wrong thing. They treat the public like fools. Surveys don't work. – Round Two

Daracon's past performance has proved they cannot be trusted. They do not care about the community. Firstly, contract drivers could not be controlled, now they can. Transport of product by rail was not viable, now it is.– Round Two

I am angry with it, when is it going to end? You can tell what is going to happen. It will go ahead, they don't care about us. People are not going to win, can't you see that. They said just move if you don't like it. – Round Two

What they do, they will do it anyway. I know at the peak it was really bad. - Round Two

Several stakeholders also argued during Round Two that the current COVID-19 pandemic was a convenient guise for the State Government to approve State Significant Developments and held the perception that the government would forgo appropriate environmental and social impact assessment, in favour of proposed developments. This view has also been expressed during targeted discussions and in written correspondence with the MCQAG.

Do you have to make recommendations in your report? Won't you just put what Daracon tells you? It's [Umwelt EIS / SIA] is not an independent report, those higher ups in your company are going to do what Daracon tell them. Daracon are talking to the politicians and getting them on their side. I believe there is a lack of government regulation. – Round Two

These views are intrinsically linked to the lack of trust in Daracon and the perceived lack of trust in the approval process discussed above.

6.5.2 Breach of Consent Conditions

The erosion of trust in Daracon expressed during Round One consultations was thought to have been exacerbated by the fact that the quarry previously appeared to be operating outside of its consent conditions and we not listening to the issues identified by affected stakeholders within the community.

They are choosing not to operate within consent conditions. - Round One

There has been an increase of tonnage over the 300,000-ton limit. - Round One

They should use rail –should be used in accordance with consent conditions. - Round One

We don't feel heard, we don't feel compromise. - Round One

Operating through devious means- Round One

Stakeholders further emphasised their concerns regarding potential breaches during Round Two consultation activities.

How do we know they will do what they say they will? Don't believe they will stick to the consent conditions. – Round Two

The original quarry footprint was mined to its limits many years ago. Daracon blatantly continue to operate illegally outside those boundaries thinking they are above the law costing our shire money with court costs etc – Round Two

I heard on the grape vine that there were changes. I feel quite irritated, having gone to the court case and hearing no remorse from Daracon or consideration for the community. – Round Two

There were no consequences. They got away with it. They had to pay a few dollars, when they have made masses. This is constant in government. The penalty associated with a breach of regulations is a trivial fine, compared to the income from the operations. They have the mentality 'I'll just do it until I get caught'. Their license should have been removed when they were found to be trading illegally. – Round Two

I am not unsupportive of the quarry per se, I'm just concerned that the quarry had not met their environmental impact obligations – Round 2

6.5.3 Lack of Social Licence to Operate

A number also referred to a belief that Daracon did not really have a social licence to operate and this was seen to enhance the lack of trust in the company meaning that information provided by the company such as outcomes of monitoring activities could not be trusted.

[The engagement] sets the standard. - Round One

The company standards – they just don't care about the community. - Round One

No regard for the community. - Round One

Daracon need to earn a social licence…by doing the right thing.

There was no consultation in 2014 from 14,000 tonnes to a million tonnes. If he gets the 900,000 tonnes he won't abide by it (just like last time). - Round One

The noise [and trucks] stop when media and consultants are in the area. - Round One

Horns Crossing Road Noise Monitoring systems have been removed so the recordings would be invalid. - Round One

There is a lack of monitors where it matters. - Round One

Where they put monitors is strange – right behind a gate post. - Round One

Distrust of monitoring activities and results was again further highlighted by attendees at the Collaborative Assessment Forums with attendees at the Air Quality and Blasting CAF (2019) noting scepticism with the presented assessment outcomes and monitoring results and requesting additional independent monitoring be undertaken. This issue was only raised once during Round Two consultations, perhaps reflective of the fact that the company was not operating at full capacity and therefore the issue currently has less relevance and perhaps also because adjustments to the monitoring process in response to identified community concerns.

I think it's pretty clear that there isn't any trust and one year of independent monitoring isn't going to give us much. - Round One

There have been instances when blast monitoring devices have placed behind a power pole or behind a tree. The processes are not correct – Round Two

It's the same with noise, the monitors are placed in hollows, but they should be where we live. It's all a lie. – Round Two

Round Two consultations tended to shift away from the monitoring of air quality and blasting impacts and instead emphasis was placed on the monitoring of product amounts exiting the quarry. Stakeholders advocated for strict adherence to product allowances, however they did not feel confident that Daracon would accurately report amounts and were sceptical that exceedances would result in sufficient, if any, penalty. Stakeholders felt that an independent authority should record and monitor all product leaving the quarry. Differences in local government area were also seen as a hindrance to effective monitoring, with stakeholders located within the Maitland LGA concerned that communication of outcomes would not be forthcoming. One stakeholder queried accountability for the monitoring of product exceedances in the event of natural disaster.

Who is monitoring the movement of the trucks and how is it going to be communicated to the community? We don't trust Daracon to do it and if it is Dungog Council, then we (Bolwarra Heights residents) won't be privy to that information (part of Maitland Council area). We want an independent person monitoring this to make sure they are sticking to their rates of movements per day/hour etc. – Round Two

What would happen in an emergency situation when the rail needed more product e.g., after the floods, who gives permission in an emergency situation for the quarry to produce more than their limits to help in emergency situation like this?

Round Two participants (6) also held the view that Daracon lacked social responsibility, suggesting that the company has failed at securing a social licence to operate and as a consequence, trust and community respect was substantially reduced. The memory of a previous meeting held with Daracon's then Managing Director was still etched in the minds of community stakeholders, and stakeholder relationships with the company to date have not recovered for the majority of those surveyed.

When you are told at a meeting 'I lived on a busy road and moved' by the head of Daracon, it goes to show how much the company takes the welfare of the community to heart. – Round Two

The processes are not correct. They are not open, transparent and honest and they need to build their social licence to coexist. Unfortunately, Hansen and Daracon have put their businesses at risk, as they have failed at that. – Round Two

It was so disgusting, this man's attitude, bugger the rest of us. – Round Two

They are not open, transparent and honest and they need to build their social licence to coexist. Unfortunately, Hansen and Daracon have put their businesses at risk, as they have failed at that – Round Two

Very little respect for the community, the attitude to the whole community is terrible, Daracon have the attitude that we will do it and you will have to deal with it. – Round Two

It is important to note however that not all feedback was negative when responding to the above *prompted* issues with two (2) participants noting during discussions that they were not concerned at all by their existing lack of a relationship with the company or not feeling that this was a bad thing. Some consulted stakeholders also recounted examples of the responsiveness of the company in the past on particular issues of concern and also the approachability of particular staff members.

Don't have one [a relationship]. Not concerned about it. - Round One

Impressed with person who came out to look at issue of rocks coming off trucks…he came out within 10 minutes. - Round One

They have people to contact. I can always ring the office, and someone will help. - Round One

We speak directly to Adam Kelly which works ok. - Round One

Adam Kelly is compassionate – more like him are needed. - Round One

I like the way it's [the information sheet] been put out but it hasn't really changed anything. - Round One

Received a phone call from David Mingay which was surprising – first contact in years. - Round One

Again, there was also reference to the fact that Daracon personnel, their drivers in particular, were respectful in their driving practices.

Daracon truck drivers are very polite. - Round One

They are professional in their response to me. - Round One

Daracon have made sure their drivers respect the speed limits. - Round One

Haven't had problems. As long as they keep communication open and I can always call. - Round One

Additionally, when asked at the end of their interviews if they would like to make any additional comments, it was noted by a number of stakeholders that they did in fact appreciate the opportunity to be involved in the current engagement activities as part of this revised SIA and they saw these discussions as a good first step. A large number (63) also requested to be included in ongoing engagement and information sharing activities suggesting a desire to establish or continue their relationship with Daracon.

It's nice to be listened to. - Round One

I think it's a massive step forward that Daracon have engaged someone. - Round One

This [engagement discussion] is changing my view. - Round One

You guys coming out is a first. [comment on SIA engagement program] - Round One

The general feel and feedback from discussions with many stakeholders was that they understood that the quarry needed to continue to operate, but that more effective and respectful consultation with the community needs to be undertaken moving forward. There were also some suggestions made as to how the company could improve this relationship with future engagement and targeted information provision.

They need better publicised meetings, more direct contact (or any direct contact). - Round One

They could provide tours, show us the rehabilitation they've done, provide more explanation about why they can't use rail. - Round One

Facts are key…would like to see more facts. They are re [Daracon] going to be here for a while. - Round One

Additional information on suggestions with regards to mitigation management measures, including those with regards to engagement activities, are addressed in further detail at **Section 7.7.**

6.6 Personal and Property Rights

Two themes emerged under the social impact theme of personal and property rights, these related to concerns associated with property damages in relation to traffic vibrations and blasting activities at the quarry (24), as well as the impact that the quarry may be having on property values and house prices (24), with 10 stakeholders in Round One and 14 in Round Two, specifically noting this as a concern (**Figure 6.17**).

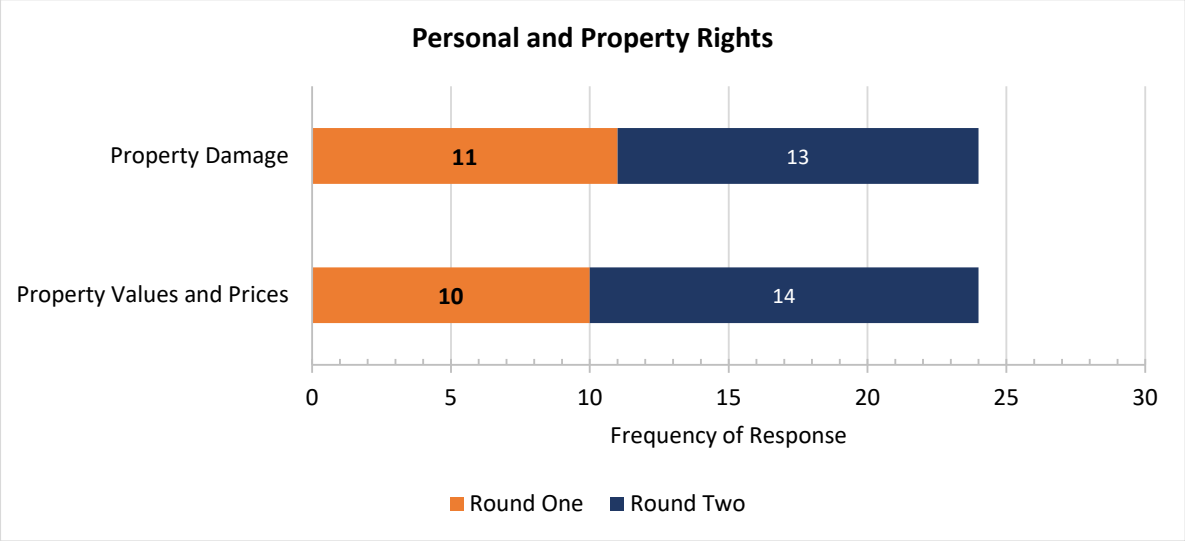


Figure 6.17 Stakeholder identified issues – personal and property rights

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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6.6.1 Property Damage

In relation to property damage associated with passing traffic or blasting activities, residents noted the appearance of **cracks in their houses and swimming pools.**

[Blasting] causes cracks and damages to our home - Round One

I've been here 40 years and we have cracked verandas from the blasting, although not so much now that the quarry is further back. – Round Two

My home has developed cracks in the plaster from the blasting. One even caused a toilet cistern to come away from the wall flooding carpet. – Round Two

Our pool has cracked and I don't know if that was because of the blasting, but when it is repaired, we are going to take photos so if it cracks again, we will know that it is the blasting that caused it. – Round Two

They have tried to tell me that everyone gets cracks in their house and its just because the land moves, that's not correct. – Round Two

One stakeholder in Round One acknowledged that the age of their house may have contributed to the damage.

We have wear and tear – but it's an old house. You can't blame the quarry. - Round One

Damage to my house from the 5 years of onslaught. – Round Two

The house shaking at 6am of a morning as the trucks come through. – Round Two

The tiles in the bathroom have all popped off and are cracked, I call it the crack house. I built that house myself. Daracon has shaken it to pieces. – Round Two

Many of the above issues were also reinforced in the Air Quality and Blasting CAF held in March 2019, where a number of participants recounted damage occurring to their properties and that while the presented modelling had suggested that the level of vibration from blasting activities is acceptable, that they are still experiencing impacts including **structural damage**, property damage and house vibration and trembling.

Is it acceptable that when my house shakes things fall off my shelves and break? - Air Quality and Blasting CAF (2019)

[The blasting specialist] says you get these little, tiny cracks – that is not what is happening. – Air Quality and Blasting CAF (2019)

When presented amongst the list of prompted issues, vibration from trucks was also noted during discussions as a cause for concern with 57 stakeholders (77%) stating that they were either *extremely concerned* or *very concerned* about truck generated vibrations which these largely thought to be attributable to a combination of empty trucks and existing road conditions and a number of mentions of how these vibrations may be resulting in damage to buildings.

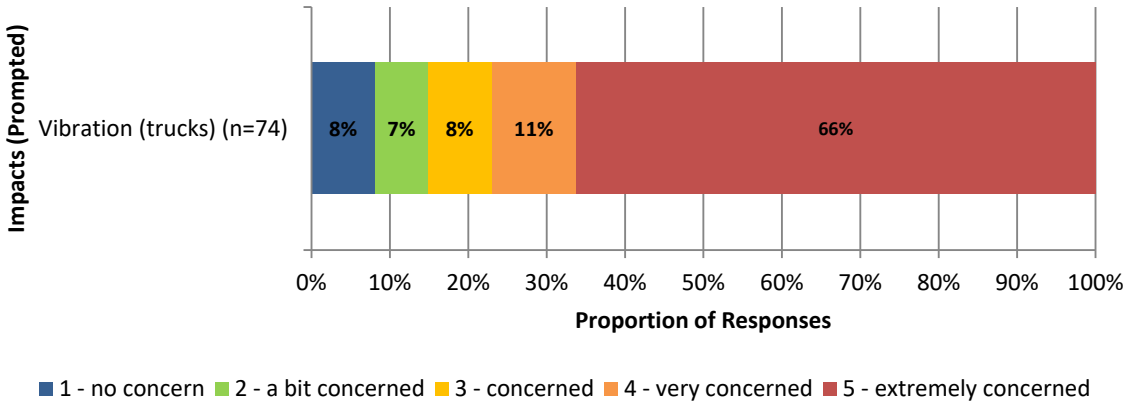


Figure 6.18 Round One Rated level of concern – Vibration from trucks

Round One: n = 78; 4 missing

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At 5:45am I feel vibrations from empty trucks…its wakes us up. Could reseal roads. - Round One

It's extreme…this road [Dungog Road] has been rebuilt 3 times. - Round One

I can feel in here the vibration of trucks, its worse as you get closer - depends on roads. - Round One

Its effect historic buildings, their sandstone foundations. - Round One

6.6.2 Property and Values and Prices

Community members spoke of neighbours who had been unable to sell their homes and concerns with regards to their property's value and saleability due to a *loss of desirability* of the local area with the presence of the quarry and trucks on the roads thought to be directly responsible. There was also a strong perception that house prices were declining.

I know the prices are dropping due to the quarry. It's a fact. - Round One

The last two people sold due to noise and they are not getting what they should be for their property. - Round One

I bought land at Martins Creek 20 years ago and want to subdivide. I can't do anything with it. Daracon should acquire it. - Round One

If you live here - we're stuck here because house prices are affected. Properties are on the market for a long time (especially in Martins Creek) - sometimes years. It's stressful for anyone who wants to sell. - Round One

Property owners/value of property within a 15km radius are negatively affected. - Round One

Prices will reduce as no one wants to live with trucks continually driving past their house. – Round Two

It also affects peoples land values. If the quarry wasn't there and trucks were not there, the houses in Paterson would be able to command a higher price. The properties in Butterwick Road are also depressed and they get annoyed with the trucks. – Round Two

We would have to sell our house at a considerable loss I would imagine. Have Daracon considered financial compensation to those who lose value on their property? I bet not., they wouldn't care less. This is our last house, but we can't move due to lose of value – Round Two

It was also noted by one stakeholder when discussing property that an expansion of the quarry may make the situation worse.

It would reduce our suburb to an industrial haulage zone. - Round One

The importance placed on property values as an economic concern is reinforced by the fact that when asked about their level of concern for potential economic impacts as a prompted issue, many of the supporting comments were made in relation to property and house prices and an associated feeling of entrapment due to not being able to sell their home and move out of the area.

Our house value has declined. We cannot sell – no one will buy here. - Round One

We would move if we could sell our house…but we can't. - Round One

Can't even get proper money for your house. - Round One

No way to sell this property and what Daracon has proposed I feel trapped. We thought we would be able to sell and downsize, but we can't, and I feel sick thinking about it. - Round Two

6.7 Cumulative Impact

As illustrated in **Figure 6.19**, a small number of those consulted raised concerns in relation to the cumulative impacts of the quarry (9) in the locality and broader region given the existence of a number of other quarries and industries such as farming in the area, which were seen as having the potential to have cumulative impacts including noise, dust and traffic. Cumulative impacts were raised with respect to other quarrying operations but also in terms of a combination of impacts from other point sources.

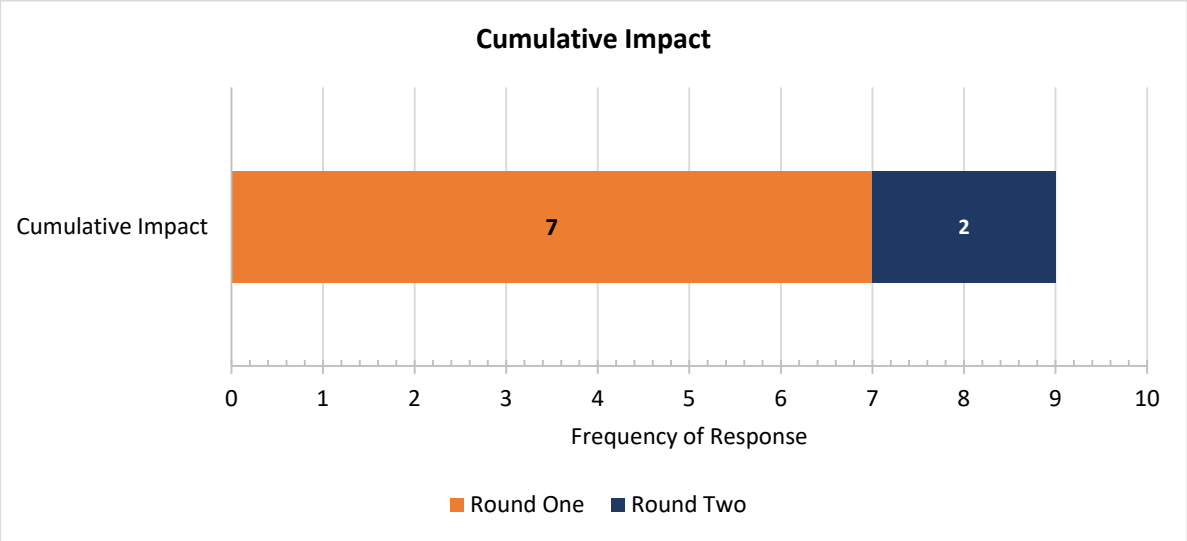


Figure 6.19 Stakeholder identified cumulative impacts

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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Stakeholders referred specifically to the Brandy Hill Quarry located approximately 40 kilometres away and the fact that it was also currently planned to expand and queried how this may impact on existing traffic and transport when there will be at least two quarries working at *full capacity*.

Combined traffic from quarries – Hanson and Daracon. - Round One

The Brandy Hill Quarry expanding…Tocal and Paterson Road traffic meets. - Round One

Additional development at another local quarry already has significant impact. Local development means that traffic levels in Bolwarra are already significant. Cumulative impacts becoming unsustainable. – Round Two

One stakeholder in Round Two also expressed concerns that Brandy Hill Drive at Brandy Hill would incur the cumulative effects of two quarries transporting goods. However, this concern was allayed during the course of the survey, when the consultant confirmed that this road would no longer be used as a primary haul route.

Two quarries using Brandy Hill Drive will be atrocious. – Round Two

During discussions at the Social CAF, concerns with regards to cumulative impacts were reinforced with a number of participants noting concerns for cumulative traffic impacts towards Bolwarra and further along at Melbourne St.

I think the cumulative impacts on Bolwarra can't be underestimated. – Social CAF

I have to drive my kids through Melbourne Street – and it already backs up – and imagine when both quarries are running. – Social CAF

Cumulative impacts were not just in direct reference to quarrying activities, individual issues were also often described in cumulative terms when referring to, for example, dust and traffic, and it was noted that it could not all be attributable to the quarry.

Dust - can't just say it's the [Daracon] trucks, could be farmers too. It's off the loads of the trucks. - Round One

As a prompted issue, cumulative impacts garnered a greater level of concern with a mean concern rating of 4.2 with 65% (49) of those consulted in Round One, identifying as being *extremely concerned* about this issue (**Figure 6.20**).

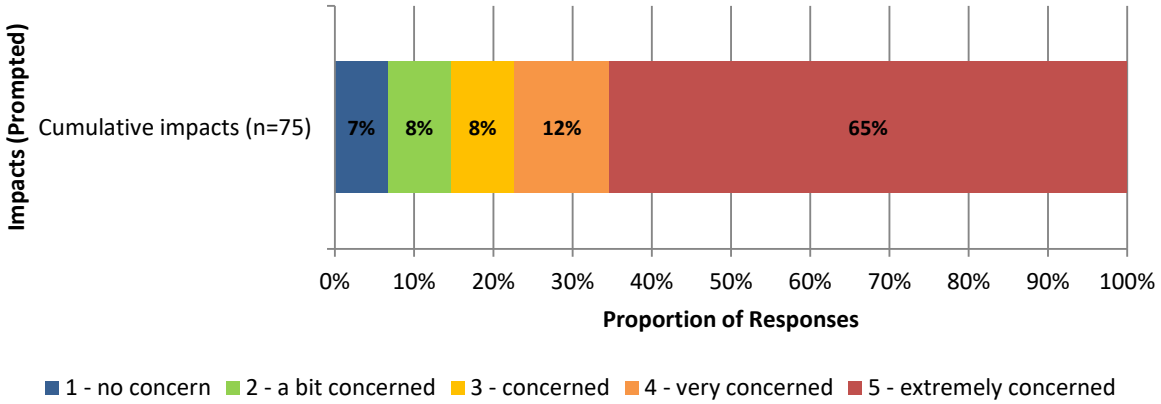


Figure 6.20 Rated levels of concern (prompted) – Cumulative Impacts

Round One: n = 78, 3 missing

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In this context, cumulative impacts here were again not just referred to in terms of quarrying activities specifically but about impacts being exacerbated when being experienced in combination with other activities such as living in a flight path of planes and helicopters and nearby to operating coal trains.

We are in a flight path…I knew that was here when I bought here.- Round One

Occasionally we get Williamstown air force planes plus noise from chook farms etc. but the main one is definitely cars. - Round One

It's not just Daracon trucks…it's contractors' trucks, farming trucks, subcontractors, cattle trucks etc. - Round One

Two trucks a minute…then school buses, traffic, trains etc. - Round One

…Also from the development at Bolwarra Heights (not quarry related) - Round One

Trains, jets, planes, trucks. We get it all. You feel like you haven't got a voice. - Round One

It was also identified that it was the combination of individual activities directly associated with the quarry's operations that were also causing inconvenience.

Blasting, traffic are major – even one by itself is bad enough. - Round One

6.8 Environmental Impact

Free recall concerns associated with the environment were expressed in terms of three key sub issues, including impacts on biodiversity due to land clearing and land management activities (32), impacts on surface water quality (5) and one reference to the impact of operations on greenhouse gasses (**Figure 6.21**).

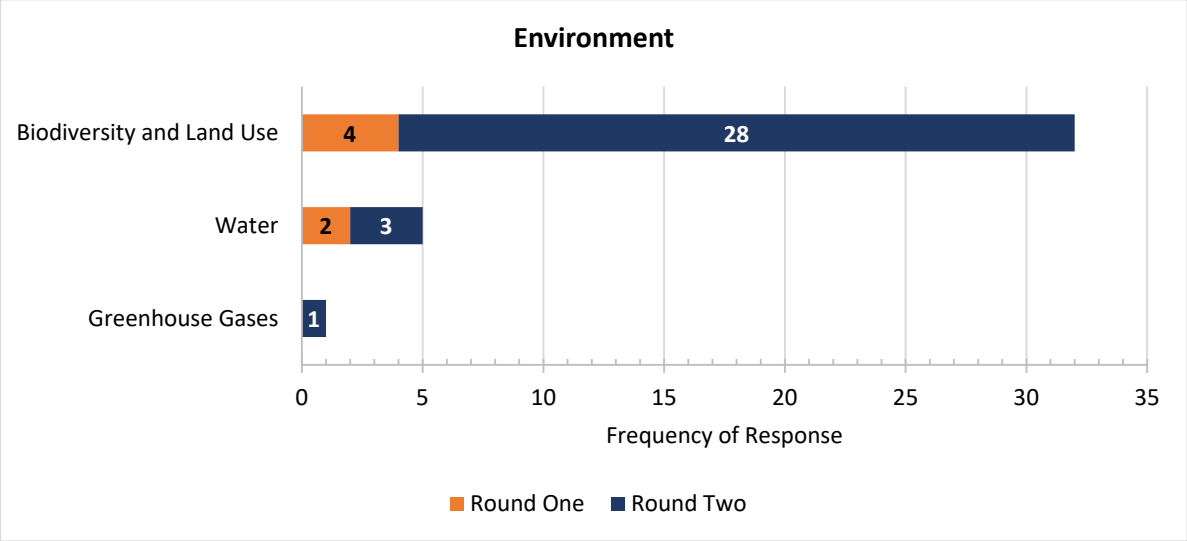


Figure 6.21 Stakeholder identified issues – environment

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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As can be seen in **Figure 6.21**, biodiversity and land use significantly increased as an issue of concern between the two rounds of engagement. This is evident also by the level of concern reported against these as prompted issues during the initial round of engagement (**Figure 6.22**).

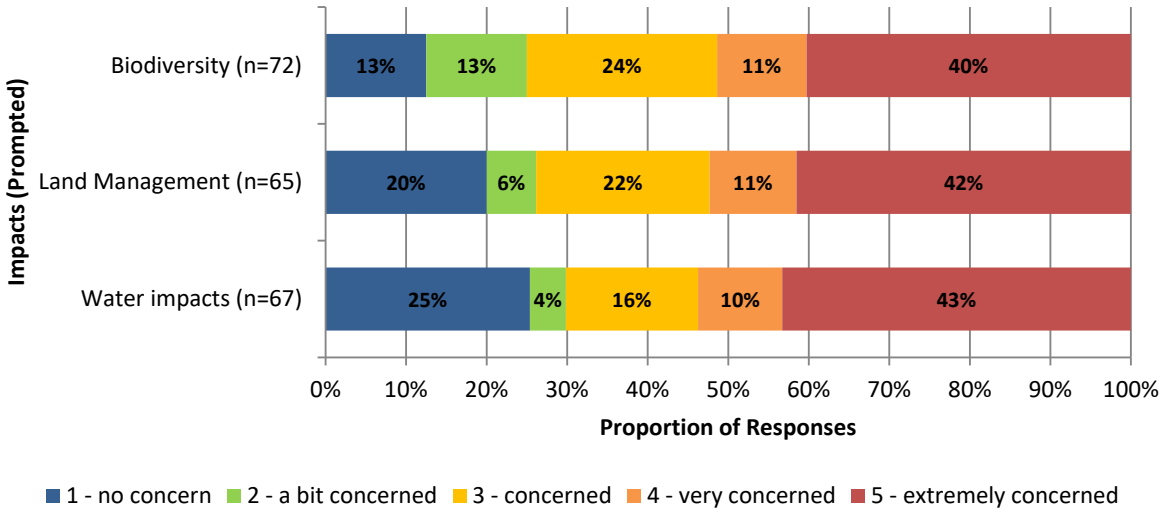


Figure 6.22 Rated levels of concern (prompted) – Biodiversity and Land Management and Water Impacts

Round One: n = 78

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6.8.1 Biodiversity and Land Use

During Round One biodiversity and land use impacts were relatively low compared to other Revised Project impacts discussed. There was reference to reduced koala populations and to an inadequate buffer zones for one (1) neighbouring residence who believed that there was supposed to be a 30-metre buffer between their property and the quarry and that they expected that the buffer was going to be made of foliage, but it was in actual fact a road. There was also mention of the seeds of weeds blowing onto their property and the fact that logs had also been dumped on the property boundary which was affecting the conservation value of the land.

Clearing of trees has caused koalas to leave area and compete for habitat in surrounding areas. - Round One

Since Daracon has come in the koalas are coming down here. They [Daracon] could plant trees for them. - Round One

It reduces the quality of conservation areas when you have a fractured edge. - Round One

If Daracon continue with massive annual extraction rates, it will be impossible to rehabilitate in the future. A quarry of this size in the middle of a lovely country township is not workable. Environmental damage caused by huge amounts of quarry excavation. Limit extraction rates to lawful levels. – Round Two

When presented with biodiversity as a prompted issue in Round One **(Figure 6.21)**, there was further reference made to koalas along with possible impacts on other local fauna and flora such as platypus, birdlife, kangaroos, pygmy bats, quolls, echidnas and orchids and how these may be affected by expansion and land clearing activities for the quarry. Some stakeholders believed that the amount of native wildlife in the area may be declining and that endangered species may be particularly threatened.

Seen koalas down here in stress – the quarry has doubled in size. - Round One

Loss of koala habitat is a big issue. - Round One

A lot of poor little animals are going to be moved out of [their] homes. - Round One

Expansion means killing threatened, endangered and critically end[angered] species. - Round One

A dead platypus was found in the creek. - Round One

Reference was also made to the increasing danger to local wildlife due to truck movements on the roads and the fact animals were being hit when trying to cross the roads.

Squashed possums/kangaroos increased with trucks increases impact. - Round One

A lot of kangaroos are hit. - Round One

Biodiversity impacts however, became more salient for stakeholders surveyed in 2020 (28), following a devastating bushfire season nationally and intense community and media scrutiny of the Brandy Hill Quarry, located close to the Revised Project, in relation to land clearing and the resultant destruction of koala habitat. The frequency of this issue as a concern for stakeholders, saw the issue raised at over six times the rate of those presented in Round One, with 28 references to biodiversity impacts made in Round Two.

We are seeing Koalas on Black Rock Road, they are being pushed down here. Brandy Hill is also pushing them down.

Quarry is in a significant koala area and due to fires and drought they are moving around for food. The truck movements will impact on our native animals negatively. – Round Two

Impact on local flora & fauna e.g., squirrel and sugar gliders, phascogale, native orchids. – Round Two

The destruction of more land and the damage to the environment, even more so now with koalas, brush-tailed phascogales, spotted quolls and other natives in residence, not to mention native plants including rare orchids that are known to be in the vicinity. – Round Two

After the mammoth losses of wildlife, in particular koalas, we fail to understand any reasoning that further destroys their limited habitats. Humankind is theoretically more advanced and aware of things like extinction of species than ever before and yet things like this still happen. – Round Two

The massive bush fires that devastated their habitat and then Brandy Hill and now Martins Creek Quarry are pushing them out of their habitat. They do not have anywhere to go. – Round Two

Native wildlife will be pushed to extinction with land clearing. – Round Two

One stakeholder suggested that quarry products could be sourced from already cleared land, such as that in the Hunter Valley that has previously been mined, another suggested sources could include industrial estates. Other stakeholders suggested that they would not dispute the quarry going ahead, but they would prefer to see a reduced extraction rate, in order to be more environmentally sustainable.

We need to preserve our flora in order to preserve our native fauna. The processes and materials for road and infrastructure projects should be sourced from recycled areas to stop destroying native flora. It is unacceptable. There is already a lot of damaged land out there e.g., the mines in the Hunter Valley. I know it is sandstone but if you mix it with cement, it can be made more stable.

Look for a new source of gravel in industrial areas rather than local country towns. – Round Two

Small quarrying, lets not be greedy with the earth, let's try and be sustainable. Why try and take it all out at once? Bluefield Colliery restore as they go along, which is great. I oppose the scale of this Project. – Round Two

6.8.2 Water

Two (2) consulted stakeholders in Round One and three (3) in Round Two referred to impacts on local surface water quality as result of quarrying activities and how the water from the quarry was traversing their properties and affecting the quality of the water in the Paterson River by turning it into a *milky colour*. Water quality was thought to have declined since the quarry had expanded their activities more recently. Reference was also made to the release of water and that notifications could be delivered to community members downstream to ensure safety concerns are ameliorated.

Water from the quarry comes through our property. The quality has degraded since the quarry expanded. - Round One

There is lime in the water…it's a milky colour. - Round One

Water is coming out of their [the quarry's] pipe…illegal pumping…goes straight to the river. - Round One

The storage of water they use to wash the quarry is flushed back out into our creek. Sometimes they just release the water without any warning. I don't mind them releasing water if it's clean, but I'm worried about the water quality. We have had a lot of cattle and horses developing cancer over the years, and it might be related? I'd like to know when they are going to release the water (provide notifications), so I can make sure that my grandkids are not in there. I don't want them to be washed away. – Round Two

Pollution going into the waterways. EPA reports needed, water testing needed. – Round Two

As shown in **Figure 6.22** above, water related impacts also had a lower overall concern rating when presented as a prompted issue (Round One). While the majority (43% or 29 stakeholders) noted that they were *extremely concerned*, there was still a large proportion who indicated that they had no concern at all (25%). A mean concern rating of 3.4 for water impacts was noted. Comments made in response to this as a prompted issue were again largely with regards to impacts on the Paterson River and local creeks due to discharges from the quarry and possible pollution.

During dry spell, they let water out without notification, dangerous. - Round One

Tank water here but our friend's dam was filled with milky water, silt and deposits from the quarry. - Round One

Have been times where it has looked polluted. - Round One

Concerned for creeks and the chemicals used on site. They use limes in gravel process - alkalinity in water. - Round One

No run-off from Daracon here but I imagine there is run off off-site and small particles wash into water courses. - Round One

While some participants (9) noted that they were on town water and / or filtered their drinking water so were not concerned from a household drinking water perspective, there were still a small number who referred to dust being in their tanks, which is considered in **Section 6.9.2.**

6.9 Health and Wellbeing

Outside of the impacts on personal safety related to trucks which have been addressed at **Section 6.4.1,** other direct health impacts were raised by a smaller number of consulted stakeholders relating to current and proposed future quarrying operations, including the effect of quarry operations on stress and anxiety levels (14) and possible impacts to their physical health (7) (**Figure 6.23**).

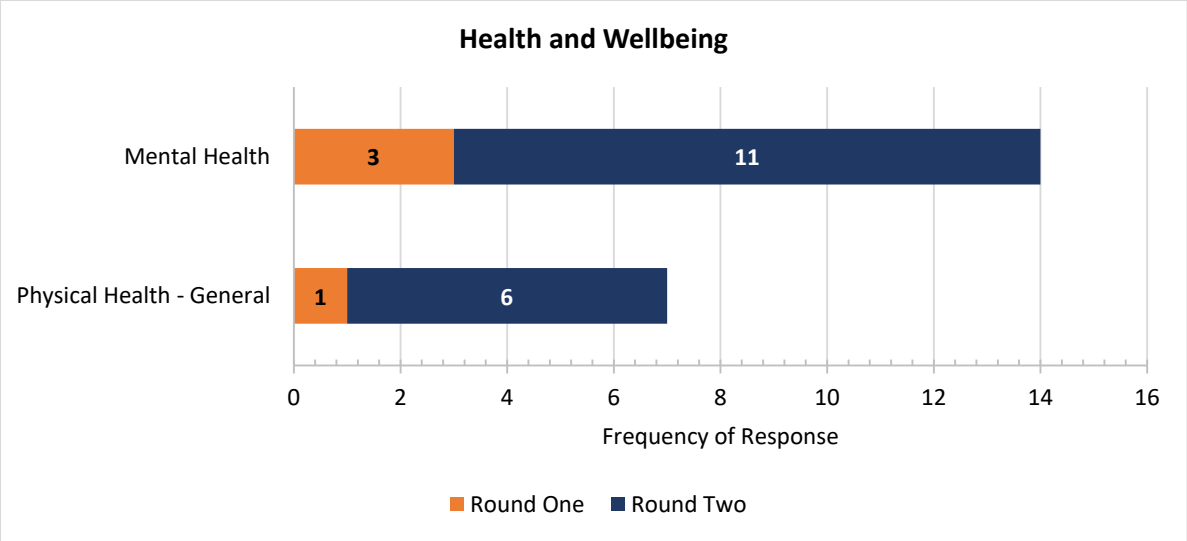


Figure 6.23 Stakeholder identified issues – health and well being

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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Physical and mental health also had lower levels of concern ratings compared to other issues when presented as a prompted issue during Round One consultation activities (**Figure 6.24**).

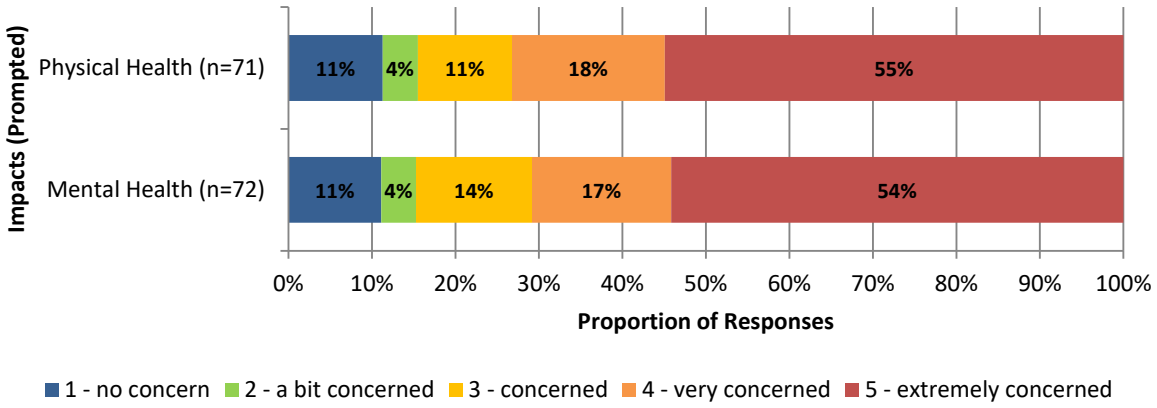


Figure 6.24 Rated levels of concern (prompted) – Mental Health and Physical Health

Round One: n = 78

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6.9.1 Mental Health

Mental health related issues of concern were largely linked to anxiety and stress (14) associated with the inability to enjoy the general amenity of the area, anxiety caused by driving on the roads and also financial concerns about the impact that the Revised Project may have on the value of their homes or businesses.

I [feel] anxiety about driving through Paterson. - Round One

It has affected my health. I can't sleep in our bedrooms. I can't live in my own house. I can't have people over. - Round One

Sleep disturbance, blood pressure… I alter my routine to fit in with the truck movements. - Round One

It keeps me awake at night thinking about it with anxiety and worry – Round Two.

It causes one of us to need anxiety medication and the other to feel sick. Even the word Daracon makes me feel sick. It's the wearing down process of the buggers. It's as if they will wear us down eventually. If we felt empowered, it would be different but there's no control. – Round Two

Consulted stakeholders spoke of the anticipation of the noise of the trucks early each morning also causing stress within their household.

We wake earlier in anticipation of the trucks/noise each morning and our mood is affected by noise. We start the day with tension. - Round One

It gives me a sick feeling and it will change my life, every single day my relationship with my husband, my financial security, my future. No, I can't imagine my life, the rumbling through with the noise they make, it's going to send me around the bend. It started to and then it stopped. – Round Two

I have the lived experience and the fear that the lived experience will come back and other people will also have to experience it. – Round Two

For those that identified as having some level of concern (rating of 2 or higher) when mental health was presented as a prompted issue (89%), stakeholders again referred to feeling *anxiety, angry, upset, frightened*.

I'm a nervous wreck - Round One

Stress levels have increased dramatically. [I have] panic attacks - Round One

There is a lot of frustration for the people in Paterson. - Round One

I've seen anxiety from this community when talking about this. - Round One

Husband wakes up hearing the trucks and feels stressed. [I] feel his anxiety. - Round One

The noise drives you nuts. We pray for Sunday's when they aren't working. - Round One

My wife suffers from anxiety set off from [truck] noise, breaks and exhaust. - Round One

During Round Two stakeholders explicitly expressed their fears associated with the quarry resuming operations at previously experienced levels and the associated stress that this was causing.

The disruption and the effect on people living in a previously beautiful, community minded place that then becomes a sad, sad, invaded prison. – Round Two

The 'time of the trucks' as we called it, resulted in a huge amount of additional mental trauma for him, and a lot of additional cost in medical support, due the destruction of the peace for which we had moved here. – Round Two

The increase and the thought of the nightmare starting over is just horrible. – Round Two

We can write and talk but nothing gets across the sense of invasion and disruption and overall awfulness that this sort of thing creates, for the people, the town, the native animals and plants. Even more exacerbated with Covid-19. – Round Two

It takes away the quiet ambience that you have when you live in a place like Paterson, you expect certain things, and you are upset but unsure why you are upset all the time. I don't think they understand the psychological aspect that it has on everyday people. For me I lost something but didn't understand what it was. I gained some of it back when they stopped and the angst was halved when Daracon stopped, but now we still have the spectre of trucks looming. - Round Two

I still remember breaking down and it was all just too much. – Round Two

This sentiment was reinforced during discussions at the Social CAF where participants referred to the *fear of the unknown* causing undue stress and impacts on mental health along with family breakdowns and destruction.

6.9.2 Physical Health – General

Aside from concerns with regards to impacts on public safety due to truck movements which have been addressed at **Section 6.4.1**, the general physical health concerns raised during free recall were related to the impact of dust emissions on health (7) and specifically how truck related emissions may be affecting people, and young children especially.

Health impacts specifically associated with truck movements were related to both dust emissions from transported truck loads but also from emissions of truck and diesel fumes and their impact on odour and the potential for health implications.

…it's from [diesel] fumes rather than dust - Round One

The dust off trucks is a problem. - Round One

It's off the loads of the trucks. I can't just say it's the [Daracon] trucks…it could be farmers too. - Round One

Diesel trucks got to be an impact. - Round One

I don't see the dust problem or their machinery but the diesel from trucks is very smelly. - Round One

Fumes…they're very toxic.- Round One

Dust in lungs. – Round two

Dust, I already have beathing difficulties. – Round Two

All the kids have asthma down home from that crushing plant, it looks like a volcano pluming out straight over your house and over the kids in the backyard, all over your clothes. – Round Two

There are multiple preschools and infants' schools. Diesel is a known carcinogen. The long-term impact to our children is detrimental to their health. – Round Two

Stakeholders also raised concern for the safety of drinking water from rain-water tanks, which tends to collect dust from the roofs of houses.

The dust ending up in our rainwater tanks, considering that whatever lands on our roof is washed into our tanks. – Round Two

I am considering getting our water tested. There could be silica, my husband works in the mines and he has to travel 3 hrs to work because we didn't want to live in a mining town (which could affect our health). – Round Two

Terrible water quality. – Round Two

6.10 Economic

When asked to identify potential impacts related to the Martins Creek Quarry, only a small number (3) of direct economic impacts were specifically raised in Round One discussions, however, became more of a concern in Round Two, with participants particularly concerned with the impacts effecting their livelihood (23).

Several participants in Round Two advocated against the idea that impacts, such as local employment were a likely positive impact of the Revised Project (8), however others suggested continued employment for those already employed at the quarry would be a benefit (8). (**Figure 6.25**).

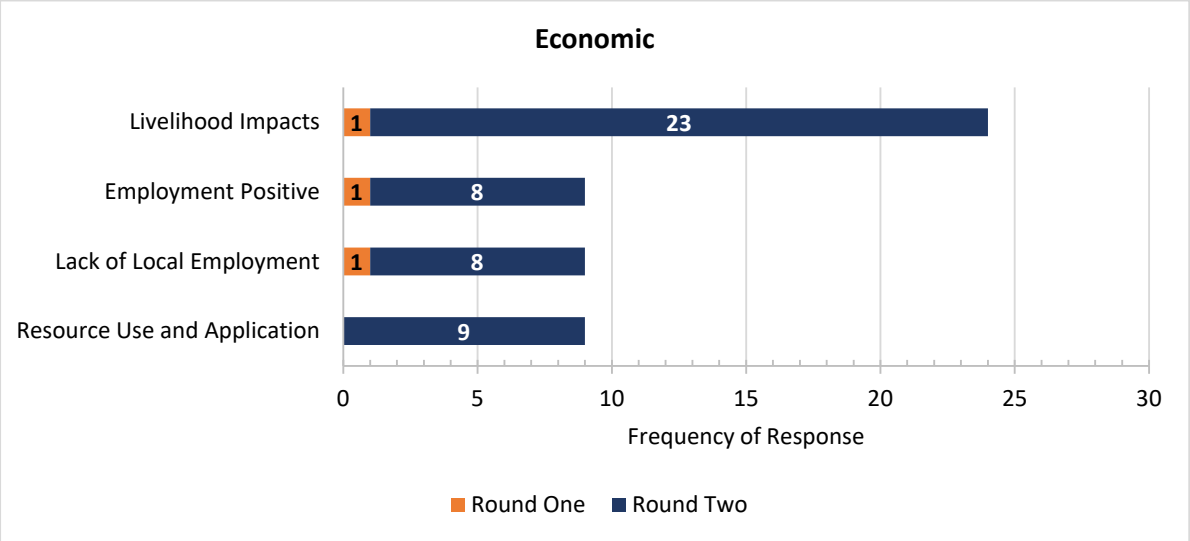


Figure 6.25 Stakeholder identified issues – economic

Round One: n = 78; Round Two: n = 114; Multiple responses allowed
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As a prompted issue (Round One), the economy generated a greater level of discussion amongst consultation participants (**Figure 6.26**).

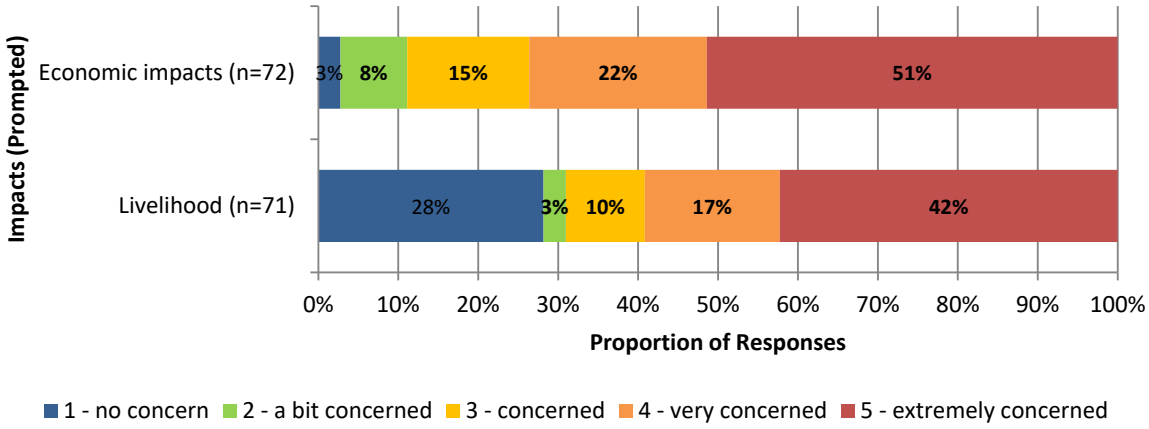


Figure 6.26 Rated levels of concern (prompted) – Economic Impacts and Livelihood

Round One: n = 78

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Aside from impacts to them personally regarding impacts on property values and house prices (which has been addressed at **Section 6.6**), those community members and businesses who indicated a concern rating of three or above, spoke of the decline of business in Paterson due to noise, difficulties in moving around the town and issues with parking potentially affecting trade for cafes and accommodation providers.

It's difficult for CBC with tourism and guests due to dust and noise. - Round One

Paterson won't be visited if trucks are there all the time. - Round One

I don't stop in Paterson because it's not safe. - Round One

In Paterson they are choosing different places to have coffee and food. - Round One

As a community, the trucks are driving business away. - Round One

Businesses are part of our community. - Round One

We have had people walk out straight away. - Round One

[We are] shutting the business down. - Round One

Businesses are suffering. - Round One

Kevin Horton at CBC…It's terrible for him and other businesses. People would rather drive to Maitland. - Round One

It was also noted by one respondent that the trucks that were not making any valuable contribution to the local economy by providing custom to the local businesses.

Trucks don't provide business for our community. They don't stop for coffee/hamburgers etc. - Round One

Many families lost mining jobs and there may be an improvement if they were employed [by Daracon]. - Round One

The following sections summarise the free recall raised issues raised related to economic impacts during Round One and Round Two.

6.10.1 Livelihood

During Round One consultations, one Paterson based business noted that the quarry's operations and the truck noise specifically, was impacting their business and therefore, affecting their livelihood. Similar accounts were provided in Round Two.

It is affecting my business - just look at our reviews! - Round One

Financial loss to local Business. – Round Two

We have a B & B here and I encourage everybody to do shopping in Paterson, but when the trucks go through there, it loses any of its amenity. – Round Two

Tourism and flow on economic benefits to the town were discussed as being heavily impacted by the volume of trucks and traffic movements associated with the proposed expansion.

The trucks impact heavily on the township of Paterson losing tourism revenue. – Round Two

It's a lovely quiet little town and can be quite busy with visitors on the weekends, which keeps us afloat in this area. – Round Two

Impacts to Paterson business due to people deciding not to shop due to trucks. – Round Two

Tourism is happening in this area, there are good restaurants in Maitland and in Morpeth that will bring more food production, some of the agriculture will be up and coming, great boutique things and it's all exciting. This is what is consistent with this beautiful valley. On Saturday mornings there are people riding bikes, tourism happening, and all these things employ local people, but having all those trucks through, ruin that. It's just appalling. – Round Two

Livelihood impacts were further discussed, with the lack of quarry contractors, suppliers and employees visiting local shops and businesses. A lack of parking and the restricted design of the King and Duke Streets intersection seemed to limit the ability for truck drivers to stop and spend locally. Only one stakeholder reported seeing drivers stopping in, whereas all others, thought this was impossible.

You do see the trucks pull up and get some morning tea, so I hope they continue to buy their food locally. – Round Two

Impact on the local shops, they intend to remove parking spots, Paterson can be awkward for parking and there's little on street parking. Every spot is precious. They are talking about removing carparks and that will impact these family businesses. If these shops go, then we have to drive to Maitland for groceries. – Round Two

A small number of consulted community members **acknowledged positive economic benefits** of the quarry and stated that employment (9) and the availability of the quarry resource (9), were two benefits of the Revised Project. A caveat was placed however by some stakeholders on their future support for the Revised Project, relating to the commitment of the company to abide by their approved extraction rates and transportation requirements, should they be approved, and to reduce their social impacts on the community.

I have no qualms about the quarry starting back up again, because it's good for jobs and the community as long as they stick with their levels. – Round Two

Supporting jobs in the Hunter. – Round Two

Employment of people local to the area. I think this will be beneficial to quarry operations and local community. – Round Two

I think of the people who have lost their jobs since it's has not been operating. It must be hard for them to support their families with no jobs. – Round Two

I appreciate the need for the product, but there are always issues surrounding this type of thing. It is difficult to answer if I am in support of the Project or not, as there would be a high rating for employment, but if the issues and management of issues were not carried out appropriately, then the rating is lower. – Round Two

There are always going to be some economic impacts: for the people who work there, for the businesses that supply fuel or tyres etc, but it should not be at the cost of the town. It's like an abattoir, it has positive impacts, but you don't want to live near one, the smell will kill you. – Round Two

Need to buy product from somewhere, local supply is better for impacting community than if transport is required from outside the area. – Round Two

It's something that people need, but just not at a cost to the community around it. – Round Two

6.10.2 Employment

As identified previously, Round Two participants indicated that Daracon did not appear to employ as many locals as they had done in the past and several (8) did not believe the Revised Project would positively enhance employment opportunities locally.

Daracon don't employ locals like they used to. - Round One

There are no positives for locals. People talk about employment, but they are not employing locals and I can't see any positives for the local area. – Round Two

They don't spend in the area and they don't live in the area. They don't employ from the area and have no positive impact on our lifestyle. – Round Two

Not many local people employed at the quarry, so that's a moot point. – Round Two

I no longer support the concept for jobs because the number of jobs produced by the Project is very small (even for contract drivers). Nor is the Project adding any physical or financial wealth to the community. – Round Two

For the 30 jobs they say it will provide, it's just not worth it. It won't help the economy or any locals. – Round Two

6.10.3 Resource Use and Application

A positive impact raised predominantly in Round Two, related to the use and application of quarry resources, with several stakeholders (9) suggesting that the Revised Project would deliver key materials to infrastructure projects.

Need to buy product from somewhere, local supply is better for impacting the community, than if transport is required from outside the area. – Round Two

Wide range of products, e.g., ballast, 30mm gravel, etc. – Round Two

We need their material for roads and construction. – Round Two

Use as fills in Dracon's residential developments – Round Two

It should be noted however, that although some stakeholders could identify the need for quarrying resources, this positive Revised Project impact did not abate their other concerns raised during SIA interviews.

It's something that people need, but just not at a cost to the community around it. – Round Two

I can't think of any positives apart form supplying gravel for development. – Round Two

I appreciate the need for the product, but there are always issues surrounding this type of thing. – Round Two

I don't want the project approved, but if the changes are approved, I know we need the product, that is the only positive I can see. They would be servicing NSW and Australia. – Round Two

Two stakeholders would prefer the quarry to operate on weekends, in order to have access to quarry products for home projects.

Biggest negative impact to us is when they stopped selling to the public. We used to get gravel for projects at home, but they stopped that I think due to the amount of loads that could leave the quarry and a trailer load of gravel was classed as a truck movement. It was about 2 years ago that they stopped, and I know we and a lot of other people were disappointed. Now if I want to get a trailer load of gravel, I have to go to Maitland, instead of just up the road. – Round Two

6.11 Aboriginal Cultural Heritage

Although Aboriginal cultural heritage was not in the forefront of participants minds when asked to identify their top issues of concern, the potential for impact however, generated discussion when presented amongst the list of prompted potential issues in Round One.

A relatively low mean rating of 2.8 out of 5 was reported during Round One consultations and appeared to be associated with low levels of knowledge regarding the presence of heritage items in the area. It was assumed by most consulted that the potential impacts to Aboriginal cultural heritage were likely being studied and considered by Daracon.

Don't really know. Heard there were scar trees on the quarry. - Round One

Important that they [Daracon] are aware. Not sure if impacted. - Round One

Not aware of any. We are on Wonnarua land. Worrimi is on the other side of the river. River is the boundary. - Round One

Don't know if there is much…if there had been any sites they'd have been dealt with. - Round One

I am very conscious of being on Aboriginal land and the arrogance/greed of Mingay and the quarry are ripping it all up. - Round One

In reference to the lack of knowledge about Aboriginal cultural heritage, one stakeholder made the comment:

Or they don't know it's there, a lot of the [heritage] work out there hasn't been done. - Round One

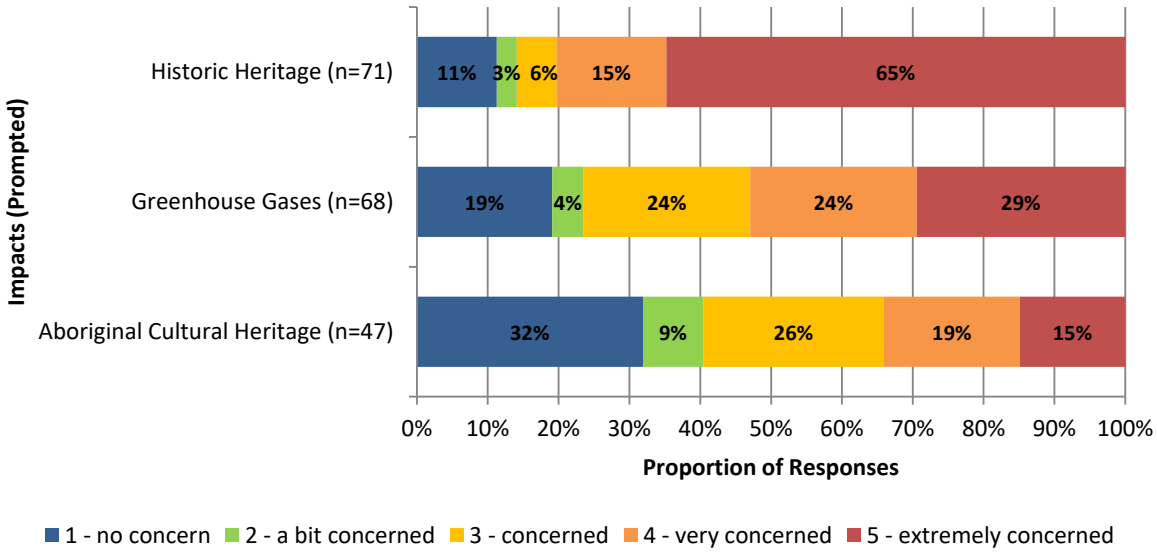


Figure 6.27 Rated levels of concern (prompted) – Historic Heritage, Greenhouse Gases and Cultural Heritage

Round One: n = 78

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6.12 Broader Other Comments and Feedback

At the conclusion of each consultation discussion, each participant was provided with the opportunity to discuss any further comments they would like to make regarding the Martins Creek Quarry Project. The majority of comments provided by stakeholders related to impacts they had already discussed, and in particular around their lack of trust in the decision making or engagement process (49) as discussed in **Section 6.5,** followed by the reiteration that approval of the Revised Project would result in further loss to the rural amenity and character of the area (16). Some comments surrounded truck volumes and movements (16) and several stakeholders would like to see operations cease indefinitely (8). **Figure 6.28** highlights the impact themes discussed during final comments.

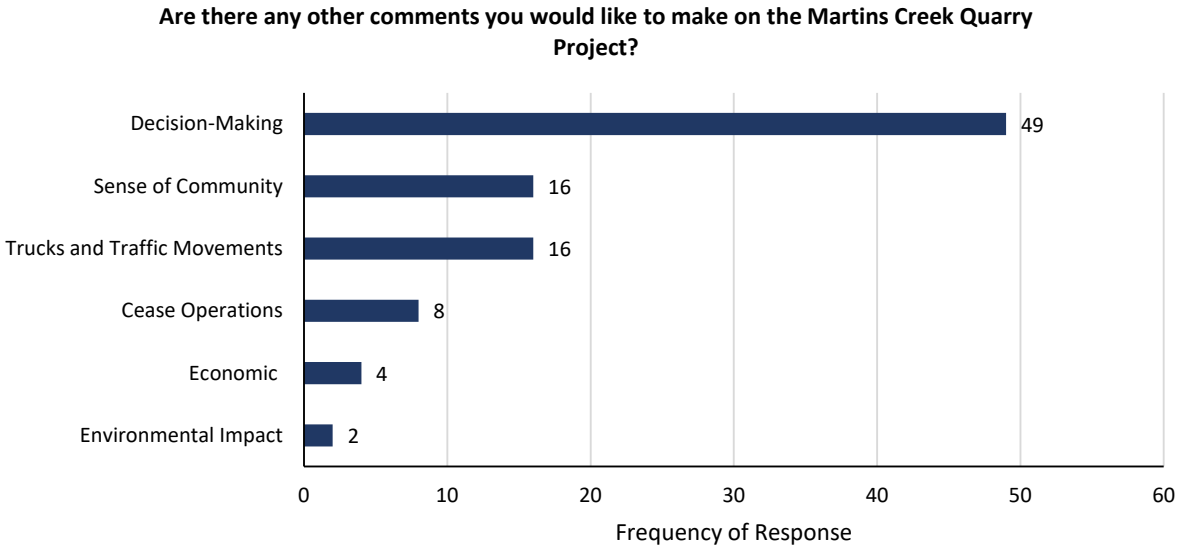


Figure 6.28 Impact themes raised during final comments

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A number of the comments made at this point in the interview were also positive in nature.

I am supportive but worried how they are going to get the product out of there. They have tried hard to keep the village on side and overcome the problem overall, but it is difficult, but I think it is a problem that can be overcome. I'm positive about that as a process, but there will have to be more rail infrastructure put into place. – Round Two

I'm quite happy with it all, my husband doesn't hear the noise either, we like to see the trains come in and go out. Noise doesn't bother me because I'm used to it. If you're going to buy house here then you need to do your research and not gripe about it. There's been a lot changes, I've been here 43 years, some changes were good, some were bad, but most were good, so I have no problems. In the past, if I have had a problem, I ring up and they sort it out. For example, once the trucks were going past too fast and after I called, they calmed them down. I rated the proposed changes high because you're trying and that is the most important thing. – Round Two

One positive thing I will say about Daracon, they responded very quickly to a complaint. A truck was parked across the driveway and scraped a car when it pulled out, but someone from Daracon came out within an hour, that was good. – Round Two

My grandfather worked there, my father worked there, I have carted product for 25 years, it's a local icon, it would be a shame to not see it operating. – Round Two

Mostly doesn't effect us. – Round Two

Other comments made have been included in the relevant sections above.

6.13 Community Representative Groups

As reported at **Section 3.0**, a number of representatives from local community and special interest groups participated in engagement activities for this SIA (refer to **Table 6.2**).

Table 6.2 Community and Special Interest Group Representatives Contacted During the SIA process

Community Group
Bolwarra Heights Community Group
Brandy Hill and Seaham Action
Country Women's Association
Martins Creek Quarry Action Group
Paterson Historical Society
Paterson Progress Association
Voice of Wallalong and Woodville

The specific issues raised during discussions with representatives of the above community and special interest groups have been included in the analysis reported in the preceding sections as many of those consulted were also local residents and community members who were typically commenting on their own personal experiences rather than the broader views of their groups.

The exception to this is the Martins Creek Quarry Action Group (MCQAG) with whom consultation has been undertaken both as a representative group and with individual members as residents and members of the local community. The section below provides a summary of the key issues of MCQAG as identified through discussions during undertaking during preparation of this SIA, documentation provided directly by the group and secondary data review. Outcomes of a Community Attitudes Survey undertaken by MCQAG in 2015 to seek community perceptions and attitudes towards the original Project and Daracon as a company at that time have also been summarised at **Section 4.4.3**.

6.13.1 Martins Creek Quarry Action Group

MCQAG is a non-profit, incorporated body created in 2014 to represent the combined communities of Martins Creek, Paterson, Vacy, Bolwarra, Bolwarra Heights, Brandy Hills, Wallalong and Lorn in response to Daracon's proposed expansion of Martins Creek Quarry. Its members are representatives from the Upper Hunter, Maitland and Port Stephens electorates. The group has developed a website (www.mcqag.org) and a Facebook community page which has approximately 326 'likes' by those following the page (November 2020).

As reported in **Section 3.0**, a number of meetings and presentations to the MCQAG have been held since 2018 by the broader Umwelt Project team and representatives from Daracon during the preparation of this SIA and broader RtS and ADA. Key formal meetings with the Committee include the following:

- **26th March 2018**: Introduction to Umwelt and the Response to Submissions process, outcomes of the submission analysis and proposed approach to the RtS document preparation and accompanying engagement program.

- **22nd May 2018**: Discussion of proposed changes to the existing operations, a RtS project status update and upcoming engaged activities.

- **18th Dec 2018**: General update, review of the SSD approval path, study updates and future engagement opportunities.

- **9 January 2019**: MCQAG representatives attended the Umwelt office to provide the Project team an overview of history of quarry and the Group's key concerns relating to the Revised Project.

- **10 September 2020**: General update of activities undertaken since quarry placed in limited operations in September 2019 and proposed activities moving forward.

These meetings in combination with analysis of the issues as identified publicly on the group's website, within its submission to the initial EIS in 2016 and provision of written supporting documentation and letters to the Project Team during the course of preparation of the SIA have provided the opportunity to further explore the concerns of MCQAG members.

MCAQAG member concerns centre around the incompatibility of the quarry with existing surrounding land values uses and the impacts on social amenity that are already being experienced by residents surrounding the quarry site and along the transport route with these impacts expected to be exacerbated due to the proposed scale of operations.

The group is concerned that the scale of the quarry's operations and associated heavy vehicle movements have already resulted in impacts on the existing pleasantness of rural outdoor life, connectedness, sense of belonging, social fabric, activity centre and the existing village function are severely impacted upon by the scale of onsite operations and the scale of off-site transport by many hundreds of heavy vehicle movements along the haulage routes.

It is noted that the neighbouring communities are *thriving urban and rural communities that have significant built and natural environmental values and in their own right are activity centres, meeting places, residential populations and above all place in which people love to live* and that *these communities are valued by residents and visitors alike for their rural amenity, character, ambience, scenery, natural beauty, European settlement and aboriginal history and as areas where the pleasure of neighbourhoods and outdoor surrounds can be enjoyed* (MCQAG submission opposing SSD14_6612).

The fact that the community has already lived with impacts on their amenity has meant that noted issues of concern are not perceptions of potential impacts but are based on the reality that they have been experiencing over the life of the quarry or 'lived experiences'.

The group has identified that it is not advocating for cessation of the quarrying operations but a situation where the both the quarry and those residing in proximity to the quarry and along its haulage route can continue to co-exist with the restoration of rural amenity and amelioration of impacts that recent operations and the proposal will and have had.

MCQAG has also expressed that any future expansion of the quarry over and above the 300tpa limit as approved in 1990 be by rail export only and that road export be limited to 24 trucks movements per day and requiring not greatly more than 30% of the product to be transported by road.

With regards to proposed iterative project refinements that have been presented to MCQAG between 2018 and 2020, these are considered by MCQAG to be completely unacceptable to both the group's committee and broader membership as the proposed annual, daily and hourly scale of operations does not address the issues raised in the MCQAG 16th December 2016 submission on the original EIS and that the proposed scale of operations results in unacceptable amenity and social impacts for residents surrounding the site and along the transport route.

6.14 Business and Service Providers

The most frequent impacts across both rounds of consultation that were raised by businesses and service providers, followed a similar trend to those raised by residents and community members surveyed, with truck volumes and movements (18) and impacts to their sense of community (11) raised most frequently **(Figure 6.29)**.

Our town will be trashed. There is already increased traffic with cars and its already enough. It's disturbance to our businesses and to the village. – Round Two

When we have the rail line going there straight into the quarry, but it is our village that has to suffer for Daracon – Round Two

It doesn't seem fair to me that they will sacrifice this village and our lives and safety – Round Two

Each business and service provider surveyed in Round Two, however, did have economic concerns, particularly associated with livelihood impacts and the effects of traffic on their continued trade. Concerns were also raised in relation to the effect that the Revised Project will have on tourism and the potential losses to local businesses if tourists or truck drivers fail to stop and shop locally, due to safety and parking concerns.

Dungog Road is disgraceful. Trucks have a big impact on it. Staff come in on that road. We have 100 students on campus, with lots of inexperienced drivers, and 30,000 visitors last year. – Round One

There's not many locals employed there, and they don't stop in the town because there is no room for them to stop. It's not a win-win. – Round Two

My argument has always been that you shouldn't be killing me so that you can make a quid. – Round Two

'Impact on tourism and shopping that keeps us going as a town, tourism will be hard to maintain as [the town becomes] a traffic hub'. – Round Two

Patron safety was a concern for some businesses, with delays in the ability to cross the road, potentially impacting trade and the smooth operations of their daily business.

Concerned about children crossing the road, I hold after school classes and even now kids and parents have to wait a long time to cross, what's it going to be like when the trucks start back up - Round Two

Property impacts associated with passing trucks damaging buildings of business owners or depositing dust from passing trucks, was also top of mind for those consulted.

Potential impact on homestead and campus – Round One

People's businesses drop in value due to the amount of traffic. One business has been trying to sell for years. – Round Two

Anything over 40km/hr I get black dust all over the building and verandas. It effects customers. I have noticed that I have not had to clean this since they stopped. – Round Two

Vibration from trucks causing property damage – especially for heritage listed buildings. – Round Two

Concerned that people won't want to buy homes that are cracked. – Round Two

In addition to livelihood impacts, businesses and service providers surveyed still wish to preserve the natural surroundings and protect the wildlife that inhabits the area.

We lost billions of native animals in the bushfires, koalas will be extinct by 2050 if we don't start protecting their habitat. Your EIS was done before the bushfires, destruction of any koala habitat in the current situation is inconceivable. Do not destroy native habitats and contribute to the extinction of species. – Round Two

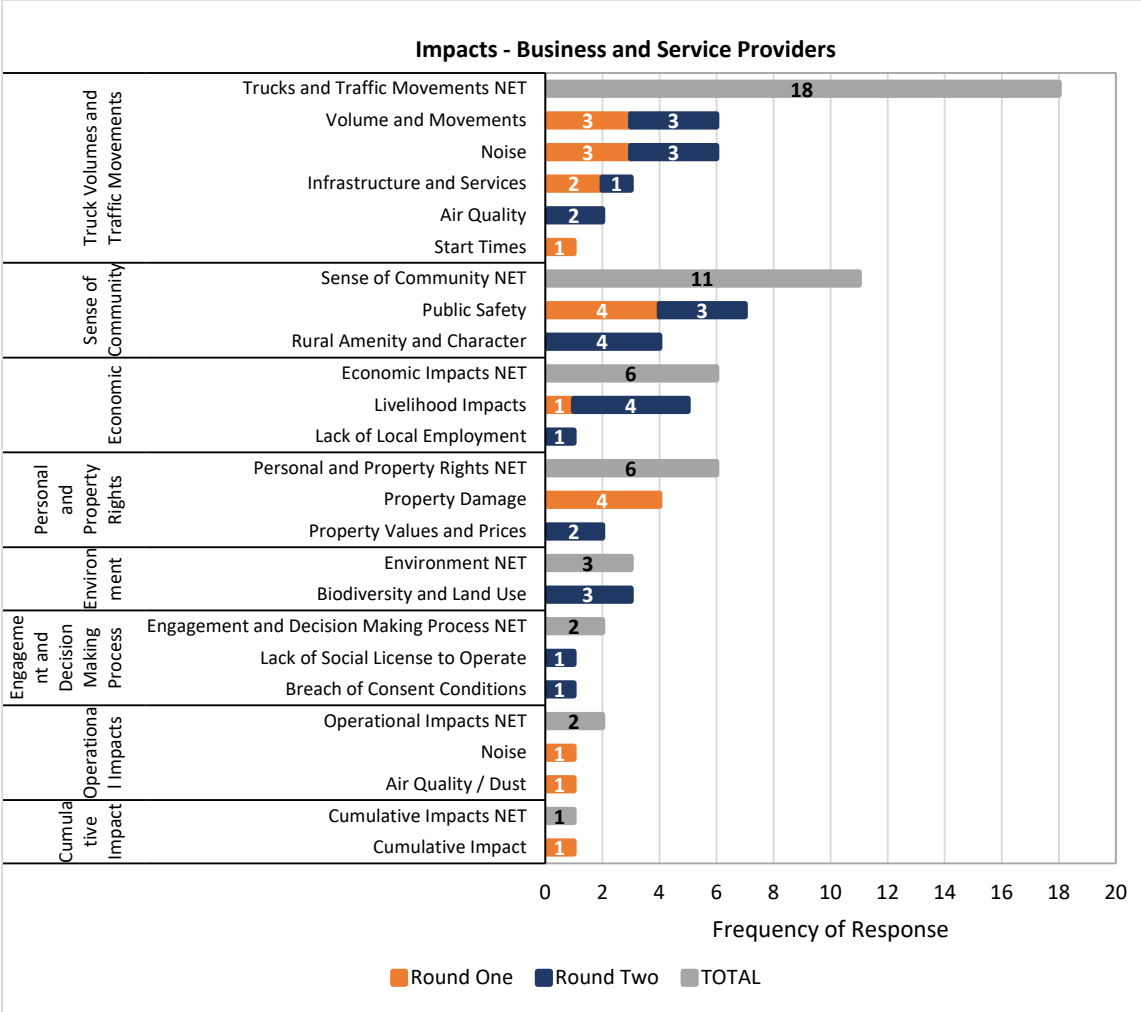


Figure 6.29 Impacts Identified by Business and Service Providers

Round One: n=15; Round Two: n=4; Multiple responses allowed

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6.15 Identified Positive and Negative Social Issues by Locality

Community member concerns as identified during consultation activities have also been analysed by locality. As **Figure 6.30** outlines, the issue trucks and traffic movements and sense of community impacts were the highest concern across all localities by a large margin, particularly for **Paterson** residents.

Operational impacts such as blasting, noise and dust were predominantly raised by those living in close proximity to the quarry such as **Martins Creek** and **Vacy**, making up 19 and 14% respectively of the issues raised for both localities.

Residents of **Brandy Hill** and **Woodville** in particular were concerned with the decision-making process and how it relates to social licence to operate, breaching of consent conditions and trust in the decision-making process. Concern with the decision-making process was also an issue for people living in **Vacy**, **Martins Creek**, **Bolwarra Heights** and **Bolwarra**.

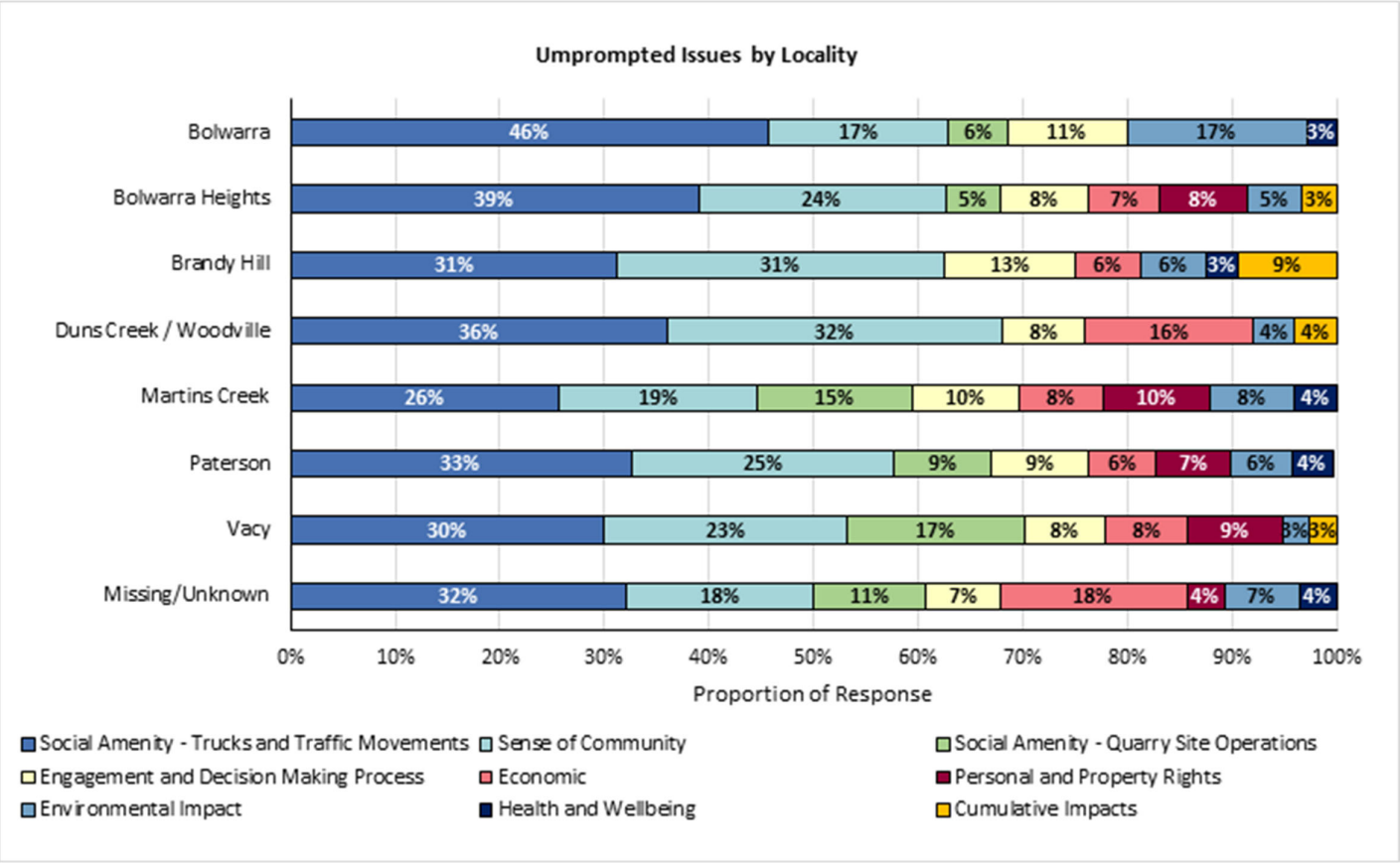


Figure 6.30 Unprompted Issues by Locality

Round One: n = 78, Round Two n= 114

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7.0 Assessment and Prediction of Social Impacts

7.1 Introduction

This section provides an assessment and ranking of the social impacts identified during the scoping phase of the SIA (as outlined in **Section 6.0**). The aim of the SIA is to assess the proposed changes to the existing social environment (of which the existing Martins Creek Quarry is a part), as a result of the Revised Project proceeding.

The SIA has utilised data from a number of sources to develop a layered picture of the potential social impacts arising from the Project. This section further assesses the social impacts associated with the Project, providing a detailed ranking of impacts according to a number of key criteria, as defined in the SIA Guideline. These criteria relate to:

- **Extent** – the geographical area affected by the impact or number of proportion or people or population groups who are affected.

- **Impact Timing / Duration** - when in the Project the potential social impacts are expected to occur e.g. Pre-construction, Construction, Operation, Closure, Post-closure and the timeframe over which the impact occurs.

- **Vulnerability/Sensitivity** – identification of who specifically is to be affected (directly, indirectly or cumulatively), including susceptibility or vulnerability of people, receivers or the receiving environment to adverse changes caused by the impact.

- **Stakeholder significance risk ranking** - the importance placed or level of concern that those potentially affected feel about the social matter.

- **Impact Severity** – the potential level of social risk posed by the negative social impact and the scale or degree of change from the existing condition as a result of the impact.

In order to prioritise the identified social impacts, a risk-based framework has been adopted. Traditionally, the technical risk assessment process has not been greatly amenable to the inclusion of social impacts. One key adaptation of the approach is that both the technical assessment outcomes (technical ratings) and stakeholder reported views of social impacts are assessed. This approach is consistent with Sandman's risk equation (Risk = Hazard + Outrage) (Sandman 1997), which acknowledges possibly low correlation between a risk's technical 'hazard' (how much harm it's likely to do) and its 'outrage' (how upset it's likely to make people).

Stakeholder views and perceptions regarding the significance of risk/impact is considered an independent and no less valid component of risk. It is worth noting that stakeholder perceptions vary between individuals and groups with no single perception more important than another. However, for the purpose of assessment the most common, or what is judged to be the general perception/sentiment of a stakeholder group has been used as a measure of perceived stakeholder risk or impact. These views have been presented in risk tables as *stakeholder perceived significance*.

The integration of the outcomes of technical ranking (severity) with stakeholder ranking of impacts, thus affords a true integration of expert and local knowledge in SIA and enables both types of risk to be addressed in the development of impact mitigation, amelioration and enhancement strategies. Such an approach is acknowledged in the SIA Guidelines in relation to estimating material effects.

Prioritising impacts in this integrated manner ensures that appropriate assessment and mitigation strategies can be developed that not only address impacts that may require more technical management but also those impacts that are considered by stakeholders as of high risk/importance/concern. Stakeholder concerns regarding an impact are just as important to manage as they have the potential to result in elevated levels of community concerns, complaints and grievances if not addressed appropriately.

As outlined in **Section 6.2** a range of social impacts and issues of concern have been identified in relation to the Revised Project that require prioritisation for assessment and appropriate management/enhancement and relate to the following social impact categories as outlined at **Section 6.0** .

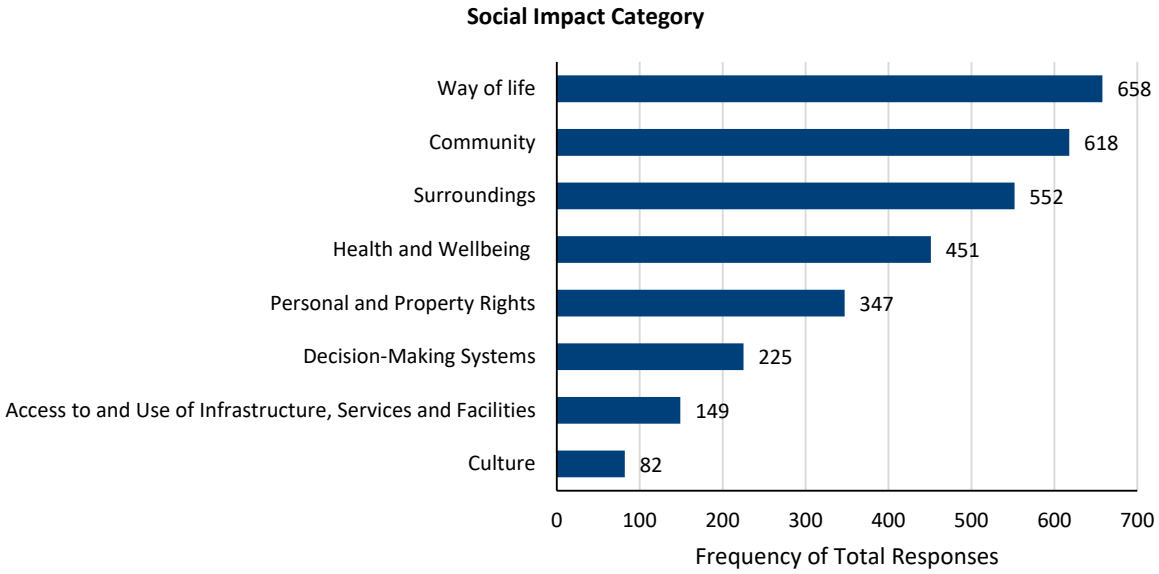


Figure 7.1 Impacts Identified by Social Impact Category (DPIE, 2017)

Round One: n=78; Round Two: n=114; Multiple responses allowed.

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The impacts identified within these social impact categories are assessed in detail as part of the overarching risk-based framework in the following sub-sections. It should also be noted that social impacts are often not mutually exclusive and are not simple relationships between a single root cause and a single effect. Social impacts can be direct, indirect and cumulative. Immediate impacts lead to various consequences that in turn affect all other aspects of the life, health and wellbeing of the affected individuals and community, including its physical, psychological (mental/emotional), social, economic and spiritual dimensions, and the opportunities that are available to people (Esteves et. al.). For example, higher order impacts such as traffic and truck movements resulting in flow on impacts such as impacts on sense of community and enjoyment of amenity.

7.2 Assessment of Social Risk/Impacts

The following section provides an evaluation of the significance of each potential negative and positive social impact without mitigation. The assessment is undertaken using the impact characteristics noted above and through the application of a consequence and likelihood framework as identified in the SIA Guideline (DPE 2017, 41).

It is recognised that the SIA Guideline requires the evaluation of significance of each potential negative social impact both with and without mitigation in place. However, as there have been numerous iterative changes in project parameters and design throughout the assessment and accompanying consultation process, the following evaluation has been undertaken with consideration of the identified mitigation measures considered during subsequent project refinements.

The social risk matrix (refer to **Table 7.1**), that considers both the consequences of the social impact (minimal, minor, moderate, major and catastrophic) and the likelihood of the impact occurring (rare, unlikely, possible, likely and almost certain) is then used to determine an overall risk assessment of the social impact as 'low', 'moderate', 'high' or 'extreme'.

Table 7.1 Social Risk Matrix

		Consequence Level				
		1	2	3	4	5
		Minimal	Minor	Moderate	Major	Catastrophic
Likelihood category	A. Almost certain	HIGH	HIGH	EXTREME	EXTREME	EXTREME
	B. Likely	MODERATE	HIGH	HIGH	EXTREME	EXTREME
	C. Possible	LOW	MODERATE	HIGH	EXTREME	EXTREME
	D. Unlikely	LOW	LOW	MODERATE	HIGH	HIGH
	E. Rare	LOW	LOW	MODERATE	HIGH	HIGH

Source: NSW SIA Guidelines (DPE 2017)

Both negative and positive impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts e.g. level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution etc.

As noted in the SIA Guideline, the definitions and scale assigned to each of the likelihood and consequence categories need to be relevant to the impact that is being evaluated, explained and justified in the SIA and where possible the consequence scale should be based on established measures and standards. It is important to note that unlike in the context of other technical studies undertaken as a part of the environmental impact assessment, there are no thresholds in the social space with the identification of possible consequences largely due to making a qualitative assessment. Therefore, the social risk assessment is also informed by the socio-economic baseline data, outcomes of literature reviews and experiences with other projects, outcomes of consultation that reflect the felt or lived experiences of consulted stakeholders and findings of technical studies.

With regards to specific definitions for the consequence or magnitude levels of the identified social impacts of the Revised Project, guidance has also been sought from a Technical Supplement document prepared by the DPIE to support the interpretation of the revised SIA Guideline (DPIE, 2020) (still in draft at the time of preparation of this SIA) to provide some guidance in the determination of consequence, or magnitude as it is referred to in the 2020 draft SIA Guideline. Definitions of magnitude as presented within the Technical Supplement are provided at **Table 7.2**.

The social risk assessment process for the current SIA, has therefore involved four main steps:

1. **Determining the consequence**. The risking approach adopted for this SIA requires the determination of the worst-case (but reasonable) consequence of a project factor. For some impacts it may be a negative consequence, while for others it may be a positive consequence. These consequences are assessed against impact-specific consequences and are categorised as 'catastrophic', 'massive', 'major', 'moderate', 'minor' or 'minimal' (refer to **Table 7.1**). It is noted that the social risk matrix from the current NSW SIA Guideline (DPE, 2017) provides greater emphasis on high and extreme risks, with 16 out of 25 risk rankings (64%) across the matrix being identified as high or extreme. While the 2017 Guideline has been used for the purposes of this SIA, it is also worth noting that the 2020 draft revised Guideline has significantly reduced the emphasis on high and extreme risks compared to the 2017 Guideline with 9 out of 25 risk rankings (36%) across the matrix being identified as *high* or *very high*.

2. **Determining the likelihood**. To understand the risks presented by a project factor, the magnitude of a consequence must be cross-referenced with the likelihood of it occurring. **Table 7.3** presents the **likelihood definitions** that were used to assess the likelihood of social impact consequences associated with the Revised Martins Creek Quarry Project, categorised as *'almost certain'*, *'likely'*, *'possible'*, *'unlikely'*, or *'rare'* (DPE 2017).

3. **Assessing the technical risk.** To assess the overall social risk, the consequence determined in step one are cross-referenced with the likelihood determined in step two to determine an overall risk assessment rating (i.e. low, moderate, high, or extreme) (refer to **Table 7.1**). In the case of some impacts, this risk assessment has involved reference to the relevant technical reports of the EIS (e.g. traffic, noise, blasting, air quality etc.), however the associated social impacts have been assessed through the social risking process. It should be noted that the resulting social risk ratings represent the risk post implementation of mitigation measures, with proposed mitigation and enhancement strategies to address the residual significant social impacts outlined at **Section 2.0**

4. **Ranking the stakeholder identified risk.** An important component of the SIA has been the integration of technical results with the risk ranking of a project factor or impact as identified by consulted stakeholders i.e. the sensitivity/susceptibility/vulnerability of people to adverse changes caused by the impact and/or the importance placed on the relevant social matter. Consequently, stakeholder ratings of risk were determined by assessing impacts identified through the scoping phase of the SIA (i.e. consultation activities). The resulting ranking (i.e. *low*, *moderate* and *high*) is determined by the frequency that an issue was raised by a particular stakeholder group in the engagement process. The justification for each ranking is highlighted in the discussion within each respective impact section with reference to the discussion of perceived issues and impacts as presented at Section 6 as appropriate. **It should be noted that community perception rankings as identified during consultation are not *'residual risk'* rankings as they do not reflect the management measures an applicant may put in place.**

Table 7.2 Defining Magnitude Levels for Social Impacts (DPIE 2020)

Magnitude Level	Meaning and examples
Transformational* / Catastrophic	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	No noticeable change experienced by people in the locality.

*Note: In the draft 2020 Guideline, the use of the term catastrophic has been proposed to be changed to 'transformational'. While the term transformational has been included above to reflect the definitions in the draft 2020 Guideline and its Technical Supplement, for the purposes of the following assessment, catastrophic continues to be used as per the 2017 SIA Guideline for consistency.

Table 7.3 Social Likelihood Definitions

Likelihood Category	Definition
Almost certain	Common repeating occurrence, ongoing Will occur in most circumstances
Likely	Will probably occur in most circumstances There is at least a 50% chance that it may happen
Possible	Might occur at some time Could occur but not often 5% chance it could happen
Unlikely	Unusual occurrence Unexpected
Rare	May occur only in exceptional circumstances Unheard of in the industry

In line with the process defined above, the following section assesses both the technical and perceived social risk in relation to consequences that may be experienced by people due to anticipated impacts/changes associated with the Revised Project.

These have been categorised in line with the Social Impact Categories and characteristics outlined in the SIA Guideline (DPE 2017, 5) and then further defined within impact themes and sub-impact issues, as noted in **Section 6.2.**

At the conclusion of each impact theme, a table is presented which summarises the Revised Project aspect, the social impact category and social impact, the extent of the impact, the affected stakeholders, the duration and/or timing of the impact, the sensitivity/vulnerability of potentially impacted stakeholders, the perceived social risk (from the perspectives of the stakeholders consulted), and the severity of the impact

(residual impact post mitigation measures). Relevant, existing and proposed management and enhancement strategies employed to manage the predicted risks are further described in **Section 2.0**.

It is important to acknowledge that the ratings of both likelihood and consequence or magnitude – and therefore overall significance – typically have both subjective and objective components, as this depends on a combination of people's individual experiences and/or perceptions as well as the outcomes of technical evaluations. When discussing the draft outcomes of the SIA with community representatives at the Social CAFs there was a level of dissatisfaction and disagreement expressed with a number of the resulting risk significance levels due to differing opinions with the project team as to either the likelihood of the impact occurring and / or the consequence should it occur. These opposing views were confirmed in follow up communications from MCQAG (MCQAG letter to Umwelt dated 11 March 2021).

Community members and MCQAG representatives in attendance referenced their *lived* experiences and how the community had been experiencing particular impacts due to existing quarry operations to date and therefore particular impacts were almost certain to occur. However, it is important to acknowledge that there has been a number of impact management and mitigation measures committed to during the ADA and associated assessment process that are in addition to those that had been adopted when lived and previously documented experiences had occurred.

While a re-review of all rankings has been undertaken by the project team considering community views and additional proposed mitigation post the receipt of community feedback, and consequently some risk significance levels have been adjusted slightly, it is important to highlight that the risk rankings as presented within this assessment do not all reflect the views of community stakeholders. Stakeholder perceptions have been identified separately in tables as perceived social impact / sensitivity and the resulting rankings have been determined largely by the frequency with which an issue was raised in engagement activities.

7.3 Social Amenity and Surroundings

When considering impacts on surroundings, the SIA Guideline refers to consideration of access to and use of ecosystem services, public safety and security, access to and use of the natural and built environment, and its aesthetic value and/or amenity.

The following sections address amenity impacts and on surroundings including public safety. However, it is important to note that impacts on public safety in the context of this project are also equally relevant to the social impact theme of community, given that such impacts can also change the character of a locality and how the community functions. They are also closely tied to Health and Well Being (**Section 7.5**).

Impacts more specific to the environment and use of ecosystems have been addressed at **Section 7.8** .

7.3.1 Trucks and Traffic

As highlighted at **Section 6.0** , it is acknowledged that in the context of the Revised Project that truck movements are tightly interconnected with all other social impacts such as health and wellbeing, sense of community and ability to access services, the decision-making process, personal and property rights, livelihood impacts on businesses and cumulative impacts. Other trucks and traffic related issues as relevant to these impact themes are to be addressed in further detail in the subsequent sections with the focus of this discussion being on impacts on way of life, social amenity and community due specifically to traffic and truck movements.

As identified at **Section 3.4** , Umwelt has undertaken consultation activities (both personal meetings and phone interviews) with both residents and community interest group representatives from localities along the haul route and nearby localities including Paterson, Vacy, Martins Creek, Bolwarra, Bolwarra Heights, Brandy Hill and Seaham, Duns Creek, Hilldale and Woodville.

7.3.1.1 Perception of Impact

During consultation activities undertaken to support the SIA, participants from across all stakeholder categories identified both the **volume and movement** of trucks along the haul route to be causing the greatest level of concern regarding the quarry with concerns multi-faceted and causing impacts on social amenity and surroundings in a number of different ways which are also of direct relevance to many other impact themes presented within this SIA.

When participants noted concerns relating to the proposed number of trucks, it was typically in the context of the resulting change in the local amenity and rural atmosphere, particularly for Paterson and impacts on pedestrian and road user safety and in their ability to move around the village with references made to the:

> *Substantial deterioration of the Village Activity Centre Function in Paterson. – MCQAG correspondence*

> *The proposed scale (hourly and daily intensity of truck movements) will impact upon the function of Paterson utility centre. The truck intensity will serve to provide a physical divide between one side of the road and the other as was experienced in 2014-2019 by Daracon's illegal operations. – Round Two*

The **early times** at which trucks had started prior to the original Interim Environmental Management Plan (IEMP) implemented in October 2018 and which mandated that trucks could not pass through Paterson before 6.45am also reportedly impacted on the enjoyment of local amenity.

Quarry related traffic was seen to be causing increased disruption and safety concerns for road users, residents and pedestrians.

Not surprisingly, Paterson residents in particular were particularly concerned about **heavy vehicle movements** through the village, and associated **traffic disruptions** and **safety concerns** for residents, school children and the elderly as they moved throughout the village and visited local businesses.

Concerns were also raised with regards to the **suitability of road infrastructure** for the volume of trucks, **increased damage to local roads** and road infrastructure and the current condition of local roads exacerbating traffic related impacts, for example, local bridges not having the capacity to absorb the number of truck movements that are proposed by the Revised Project, having flow on effects to the community and their safe use of local roads.

Truck volumes and the impact of these was also raised as a **cumulative issue**, with respondents noting that within the locality and broader region, there were a number of other activities in the area that either put trucks on the roads or contributed to noise and therefore contributed to reductions in amenity such as cattle trucks, car movements associated with development at Bolwarra Heights, trains and being in the flight path of planes and helicopters. The combination of impacts such as dust and truck movements, namely associated with both the Brandy Hill Quarry and Martins Creek Quarry was also identified.

Participants reported that Melbourne St in particular was already heavily congested at particular times of the day due to other traffic in the area and increasing residential developments towards East Maitland increasing concerns. Concerns regarding cumulative impacts associated with the recently approved expanded Brady Hill Quarry were also raised.

I have to drive my kids through Melbourne Street – and it already backs up – and imagine when both quarries are running. – Social CAF

Reference was also made to the fact that ongoing residential developments in Bolwarra was also affecting traffic travels.

Local development means that traffic levels in Bolwarra are already significant. Cumulative impacts becoming unsustainable. – Round Two

The **continuous nature** of the existing and future proposed truck volumes and movements and the early start times in these movements were all seen as impacting on the existing amenity of the community to varying degrees depending on location.

Concerns with regards to **public safety** and the ability to move safely around the community was a key issue of concern raised issues by stakeholders during SIA consultation activities. As highlighted at **Section 6.3.1.1** , these concerns stemmed from the movement of trucks through the rural community, Paterson village or other urban areas and the potential for interactions with pedestrians, cyclists and drivers due to, the number of trucks, the speed of trucks and unsuitability of the haul route roads for truck traffic. It was also linked to the narrowness of the roads and limited pedestrian pathways within Paterson that were close to roads and were used by both residents and visitors the village. The reported instances of rocks and debris falling off trucks onto the road or being flicked up by tyres was also noted creating a safety issue for all types of road users (vehicular and pedestrian alike) and causing damage to vehicles.

Concerns for public safety along the haul route roads, particularly leading into and out of Bolwarra, and also driving, parking and being a pedestrian within Paterson itself was reported as impacting on the way community members live their lives and move around the area with people reported having to change both their travel practices, and in the case of those living along the haul route, how they used their homes with less desire to spend time outside the front of their homes. Concerns for public safety and associated difficulties in connectivity and mobility was also thought to be influencing people's desire to visit local shops in the Paterson.

Members of the community and education service providers in the area also noted having concerns about the school bus pickup and drop off points along the side of the road and in Paterson, as well as children and the elderly crossing the road, particularly within Paterson.

Specific public safety concerns affecting existing surroundings therefore predominately focused on:

- Safety concerns impacting on way people use their home and move about their communities.
- Fears of truck crashes and collisions.
- Safety concerns relating to road condition.
- Potential for trucks to cause accidents on haul route – including school bus routes.

When asked to consider what they would like to see Daracon contribute to by way of social or community investment activities in the future should the Revised Project be approved, of those who did provide suggestions, the majority centred around contributions to Dungog Shire Council to ensure **road maintenance** was carried out. Most felt regular road maintenance would reduce noise from unladen trucks and improve public safety by reducing potholes and uneven surfaces.

I understand that it is Dungog Shire to look after the roads but it would also help if you maintained some of the roads for them.

I would definitely want them to help with the roads falling apart due to their trucks. Dungog Council don't have a lot of money and they nearly folded a couple of years ago.

As road safety is a prime aspect to me, there would have to be road upgrades to enhance safety and road maintenance, to reduce noise impacts and safety issues.

Considering the above, the perceived impact of traffic on social amenity and surroundings (including public safety and condition of road infrastructure) has been ranked as:

- *high* perceived stakeholder risk for residents and businesses within and immediately surrounding Paterson
- a *high* perceived stakeholder impact for residents, businesses and road users proximal to the quarry and along the haul route
- a *moderate* perceived stakeholder impact for other road users and community members within the wider Dungog and Maitland LGAs.

7.3.1.2 Assessment Outcomes

A comprehensive **Traffic Impact Assessment** (SECA 2021) has been undertaken in accordance with the RTA Guide to Traffic Generating Developments to assess, from a technical perspective, the potential changes to existing road and traffic conditions and potential impacts on:

- operational capacity of principal roads and key intersections along the primary haul route
- cumulative impacts from existing and proposed developments, including those associated with traffic from the existing and approved expansion of the Brandy Hill Quarry
- public transport, including safety of pedestrians and cyclists
- road condition and road safety for road users.

Traffic surveys undertaken to support the Traffic Impact Assessment were completed while the quarry was still operational.

The **Traffic Impact Assessment** identified that with respect to ongoing truck movements via road, that:

- While there will be an overall increase in traffic along the primary haul route due to the Revised Project, the traffic volumes generated would have an acceptable impact on the road network that forms the haul route between the New England Highway and the quarry, including road safety and public transport.
- There is adequate capacity in the existing road network to accommodate the proposed traffic movements associated with the Revised Project both during construction and operation activities.

Pavement deterioration modelling analysis of the haul route from Martins Creek Quarry to Melbourne Street in East Maitland, passing through both Dungog Shire Council and Maitland City Council areas was also undertaken in November 2018 (SMEC 2021). This analysis was done to further to quantify the effects of the increased traffic loading on the road pavements as it was noted during discussions with engagement participants that pavement condition also exacerbated the extent to which they were impacted by truck movements.

This assessment included a visual assessment of the road surface defects as well as laser profiler measurements to determine the road roughness and the measurement of rutting in the wheel paths. The assessment and associated modelling indicated that:

- The roads within the Maitland City Council tended to be in better condition and have stronger pavements as compared to those in the Dungog Shire Council area.
- The addition of the extra truck traffic associated with the Revised Project would result in additional road maintenance requirements for the proposed haul route over the next 25 years.
- On the basis that Daracon will contribute towards road maintenance and pavement upgrades, any impacts on the road pavement resulting from the transport of product from the Revised Project would be mitigated, should the Revised Project be approved.

Road condition with the Dungog Shire Council is a well-documented issue. As outlined in **Section 5.11** and documented in the media review at **Appendix 6**, the Dungog Shire Council already faces immense challenges with road maintenance given the extensive road network under the Council's management, and the limited rates base to cover road upgrades. The Dungog Shire Community Strategic Plan 2030 notes that within the Dungog LGA there are 329 km of sealed roads, 271 km of unsealed roads and 124 km of regional roads, all of which are maintained by Council. As such Council has identified that one of its challenges the extensive road network across the LGA and the high demand that this places on Dungog Shire Council in terms of maintenance costs and upgrading, in turn contributing to an infrastructure backlog with the improvement of road, rail and bridge networks being a key priority of the Council.

As indicated previously at **Section 5.11**, this challenge has been confirmed in a message from the Mayor in September 2020 which noted that Dungog Shire is the only local government area in NSW not to have any State roads, which impacts significantly on council's ability to fund and maintain their extensive road network, given its comparatively small ratepayer base. As a result a number of regional roads have been put forward for State road classification; including Main Road 101 which provides the primary link between Maitland and Dungog (Dungog Shire Council 2020a).

The broader LGA relies heavily on road transport with 70.6% of those employed and aged 15 years and over within the Dungog LGA traveling to work by car (as a passenger or driver) and 78.5% in the Maitland LGA (ABS QuickStats 2016) so naturally there are concerns with regards to travelling on roads alongside heavy vehicular traffic. Particularly when considering in light of the existing quality of roads within the Dungog LGA.

According to Transport for NSW, Centre for Road Safety (2019) there have been 170 crashes within the Dungog LGA between 2014 and 2018, the majority of which were car crashes (110 in total) (refer to **Table 7.4**). Of these crashes five (5) involved heavy trucks, two of which occurred in 2014 and three in 2015 (Transport for NSW 2019). These crashes moderately injured two people and seriously injured one person.

Table 7.4 Crash Summary Dungog LGA, 2014 - 2018

Type of Crash	2014	2015	2016	2017	2018	Total
Heavy Truck	2	3	0	0	0	5
All types (including heavy truck)	39	40	26	31	34	170

Source: Transport for NSW 2019

A component of the comprehensive Traffic Impact Assessment was a review of accident data provided by TfNSW for the full length of the haul route over the 5 year period between July 2013 and June 2018, which provides details on the accident types as well as the type of vehicles involved. The review determined that since Daracon commenced operating the quarry in December 2012, there have been no serious incidents recorded and/or reported to Daracon along this route nor the other historical main haulage route historically associated with trucks working for the Martins Creek quarry suggesting that the incidence of heavy vehicle traffic accidents is not high. A summary of the accident data along the haulage route between October 2014 to September 2019 is provided in **Figure 7.2.**

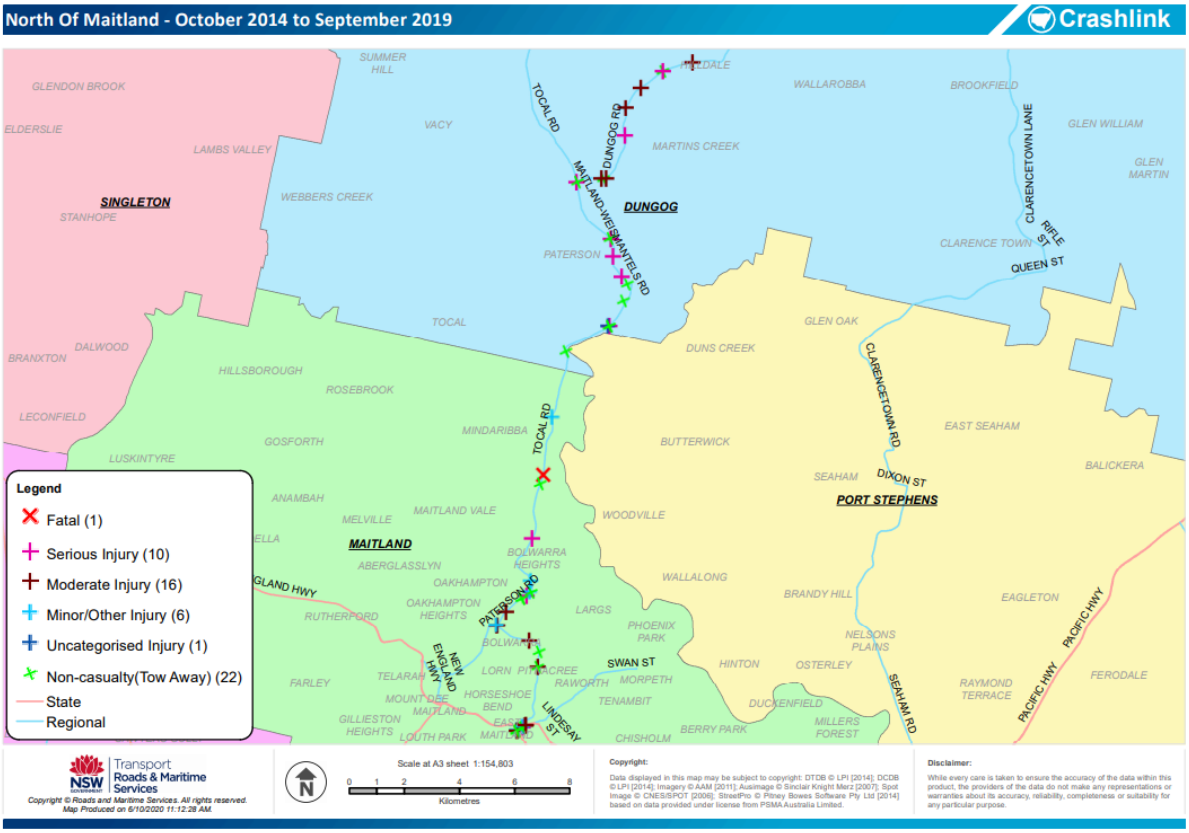


Figure 7.2 Crash Map Along Haulage Route

Provided by NSW Transport Centre for Road)

While the number of reported traffic accidents is not high according to relevant government agency data, a review of Daracon's complaints register has confirmed that the majority of reported complaints from community members regarding the quarry's operations have been associated with impacts on roads and road user safety, and members of the public having reported issues with ballast falling from truck loads, or getting caught in the treads or tyres in some instances resulting in cracked windscreens indicating that there are interactions with quarry vehicles. These incidents have been noted during discussions with community members, most recently at one of the SIA CAFs in which one participant specifically made reference to an incident whereby *'one Daracon truck tailgate opened and lost its load in Paterson and another one lost petrol and jack knifed'*.

In light of noted concerns regarding the safety of existing school bus routes and possible interactions between buses and heavy vehicles, a review of local school bus services and routes has also been undertaken to inform this SIA. There are a number of primary schools in the local area including Paterson Public School, Martins Creek Primary School, Vacy Public School and Bolwarra Public School which all use local bus services with secondary aged school students typically travelling further afield to high schools within the Maitland LGA and even as far as Newcastle.

There are three main school bus service operators with routes that include the Martins Creek Quarry haulage route with Hunter Valley Buses, Linq Bus Lines and Grace Coaches all having a number of pickup and drop-off points for their school buses that are along the Revised Project's haulage route. There are a high number of informal school bus stops along the haulage route which are generally agreed between bus operators and parents, and are not sign posted or developed as formal bus stops.

The Centre for Road Safety reports acknowledges that safety around school buses on rural bus routes is a complex issue involving a combination of road and roadside conditions, pedestrian behaviour, motorist behaviour and travel speed, and carer behaviour and supervision. The Centre reports that children up to 15 years of age are at three times more risk than older teenagers and adults to be involved in a fatal crash.

Local bus routes along the haul route are summarised at **Table 7.5** and presented at **Figure 5.40**.

Table 7.5 Local School Bus Services and Routes

Company	School Service	Routes
Hunter Valley Bus Line	Bolwarra Public School, Hunter Valley Grammar, St Peters & Mary's (Maitland), Maitland Grosmann High School, Maitland High School, Dungog High School, and Largs Public School	Run four school bus services in the Paterson/Bolwarra/Maitland area – the 2322 from Bolwarra Heights, the 2291 from Phoenix Park, the 2241 from Hunterglen, and the 2322 from Thornton. These services cross paths with the trucking route at several key points along Tocal Rd, Paterson Rd and Melbourne Street (Maitland).
Linq Bus Line	Dungog High School, St Joseph's Public School, Martins Creek Public School, Paterson Public School, and Vacy Public School	Tocal Rd (from Paterson Rd), Gresford Rd and Dungog Rd, up to Grace Avenue
Grace Coaches	Paterson Public School	From Paterson to Butterwick, to Dunns Creek and Martins Creek Road

Discussions with the above local bus companies undertaken during to support the preparation of the SIA have revealed that to date there have not been any incidents with trucks or near misses reported. However, a number of suggestions were made during these discussions with regards to possible improvements in the ways in which buses and trucks current share the roads including:

- The intersection where buses turn onto Tocal road from Wesley Road is narrow, and buses require a lot of road space to make the turn.

- Sections of Tocal Road are narrow, with limited space for buses to pull over onto the side of the road.
- Occasionally, due to limited space for parents and bus drivers to pull over, children need to cross Tocal road from where their parents stop to get to the bus.
- Buses that meet trucks at the Gostwyck Bridge have had to give way.

More recent consultation with Social CAF participants have also noted that despite the absence of interactions between Daracon trucks and buses to date, the possibility of that they may occur in the future was of real concern from a public safety perspective and that therefore the *precautionary principle* should be applied to such possible interactions.

From a **public safety perspective**, the Traffic Impact Assessment concluded that the Revised Project would be unlikely to result in an adverse impact on the operational capacity of the roads and key intersections along the primary haul route, including road safety and public transport due to the fact there was considered to sufficient capacity in the existing road network to accommodate the proposed traffic movements associated with the Revised Project both during construction and operation.

It also noted that the Revised Project was not expected to adversely impact on public transport, or the safety of pedestrians and cyclists using the primary haul route and was not anticipated to have any adverse impact on the structure of the Gostwyck Bridge due to the proposed number of truck movements over the bridge.

However existing road safety issues along the primary haul route and at key intersections and associated community concerns regarding these have been recognised as part of the design of the Revised Project with a number of road improvement works proposed that aim to improve road safety and facilitate traffic flow through these intersections.

With regards to **cumulative impacts**, during the preparation of the ADA / RtS for the Revised Project, one proposed haul route was removed to avoid the potential for material cumulative traffic impacts with the approved Brandy Hill operations.

The Traffic Impact Assessment has also considered cumulative impacts with the assessment of operational traffic impacts including an allowance for background traffic growth of 2 % per year up to 2030 (10 year period) reflective of growth expected to occur along the corridor. It also included existing and approved truck movements associated with the Brandy Hill Quarry

The assessment determined that from a cumulative perspective that traffic movements associated with the Revised Project will have an acceptable impact upon the overall operation of the principal intersections along the primary haul route and whilst two signalised intersections (Pitnacree Road / Melbourne Street / Lawes Street and Melbourne Street / New England Highway) are predicted to suffer from increasing delays, this would be due to the continual traffic growth along the New England Highway in this location rather than a direct impact of the Revised Project.

It is acknowledged that despite the above outcomes from the various technical assessments related to traffic and truck movements, for the purposes of the assessment of social impacts, based on feedback from the community, these outcomes do not make the predicted impacts associated with traffic on social amenity and surroundings any more tolerable by those affected.

A review of the social impacts of road traffic has identified that perceptions about, and therefore the level of annoyance experienced, as a result of road traffic does not depend only on traffic volumes or levels of noise. It is a combination of factors including also traffic composition, time of day and location.

There is also evidence that individuals may not perceive the existing traffic levels as high or low in an absolute sense, but instead perceive changes in those levels. A review by Brown and Van Kamp (2009) concluded that when exposure to road traffic noise changes, individuals tend to show an excess response compared to the responses predicted from steady-state exposure–response relationships, i.e. there is a 'change effect' in addition to an 'exposure effect'.

Community research of social impacts of road projects in the UK has also identified that the impact of traffic and perceptions of this impact can also depend on factors such as distance to the road, age, disability, concern with older family members and with children, employment status and patterns of mobility (Anciaes, Metcalfe and Heywood 2017).

Consultation activities undertaken for the SIA have revealed the high level of importance attributed to quality of life and the amenity of the area with many noting the serenity of the rural lifestyle as a key draw card for they lived in the area. The 'quiet' and 'rural quality of life' were seen to be what consulted community members valued and this was not just limited to community members consulted specifically for the SIA. Consulted residents often referred to the peace and tranquillity afforded by the rural setting of the area, with the presence of natural environmental features seen as a key part of this. The high volume of trucks that were proposed by the quarry and had been experienced prior to the quarry being placed into limited operations were seen as at odds with this and *'unacceptable'* from a community perspective.

Accommodation providers operating within Paterson noted that they had on occasion received bad reviews from guests to due to heavy truck movements and associated noise generated by these movements and in some cases guests had left early (livelihood impacts are addressed further at **Section 6.10.1**).

Engagement with attendees at separate CAFs held to present and discuss air quality, trucks and traffic, noise and social assessment outcomes and potential mitigation measures have all reinforced the high importance attributed to social amenity and the community's enjoyment of their surroundings and the wide ranging and detrimental impacts that truck movements had been having on that. These views have been further supported in subsequent communications provided to Daracon and Umwelt Project Team by MCQAG.

> *The lived experiences and impacts from the unlawful Martins Creek Quarry operations were significant, unwieldy and often unliveable.*
>
> *Since Martins Creek Railway Ballast Quarry was brought into compliance with the law and current consent conditions* [in reference to limited operations]*, the improvement to the amenity of the many impacted residents has been life altering. Residents have had their rural and village amenity restored.*

The Dungog Shire Community Strategic Plan 2030 and associated community consultation activities to support the preparation of that Plan, and its subsequent reviews, also reveals that the high community value attached to *'our rural landscapes, scenic qualities, rural and village amenity and abundant space' and a 'clean environment with low levels of traffic and an absence of heavy industry.'*

A focus on nature-based tourism is also identified as a highly valued aspect of the local economy with a desire to promote and support a range of tourist accommodation facilities.

In the context of the above views, while not intending to diminish the impacts on the community and the extent to which they are felt, it is also important to acknowledge the historical operations prior to Daracon's management of the quarry and the associated historical road haulage of product from the quarry as outlined at **Section 4.1**. The proposed road transportation limit of 500,000 tpa returns road haulage volumes to a level that is not inconsistent with road haulage volumes occurring prior to Daracon securing

its licence in 2013 with road transportation volumes proposed for the Revised Project less than those previously transported by RailCorp, particularly through the period of 2003-2004 to 2010-2011 (refer to **Figure 4.1**).

7.3.1.3 Proposed Mitigation and Predicted Impacts (Mitigated)

Daracon have recognised that traffic and transport and their flow on effects are of key concern to the community in particular with regards to the volume of truck movements and associated impacts on social amenity and the way in which people in the community move around and live their lives. Daracon also acknowledge that the lived experience associated with heavy vehicle movements in recent years, particularly during quarry operations in 2014 and 2015, was considered intolerable for community members and had substantial impact on the lifestyles and rural amenity for many in the community.

During this period, Daracon had been servicing a number of large projects, including emergency works required for ARTC remedial works of the Northern Line due to storm and flooding damage. As a result, truck movements were greater than normal - for example in the 2014/15 financial year there was one day reported in summary records where the number of trucks leaving the quarry peaked at 316 laden trucks. Since that time and up until the commencement of limited quarry operations in September 2019, the number of trucks has consistently declined.

In order to address impacts on social amenity and surroundings related to truck movements where possible, a number of changes to Daracon's Project proposal have been made and mitigation measures identified.

In summary, the key Project changes and mitigation measures committed to by Daracon include:

- reduction in the maximum tonnes transported by road to 500,000 tpa (down from 1.45Mtpa originally proposed)
- peak daily laden trucks of 140 per day (280 movements) for up to 50 days per year, otherwise up to 100 laden trucks per days (20 movements), with the hourly peak consisting of:
    - 20 laden trucks per hour (40 movements), Monday to Friday between 7.00am and 3.00pm
    - 15 laden trucks per hour (30 movements), Monday to Friday between 3.00pm and 6.00pm
- road haulage of quarry product to occur between 7.00am to 6.00pm Monday to Friday, with no haulage of product on Saturday, Sunday or public holidays
- no haulage (or crushing operations) between Christmas and New Year (unless required for declared emergencies)
- no trucks through Paterson prior to 6.45am Monday to Friday
- movement of up to 600,000tpa of product by rail (an increase from an originally proposed 50,000 tonnes).

For context, **Figure 7.3** shows the history of peak daily laden trucks during the period that Daracon has operated the site until limited operations were implemented in 2019. It can be seen that the proposed peak daily laden trucks of 140 trucks/day (for up to 50 days per year) is well below levels experienced during Daracon most recent previous operations.

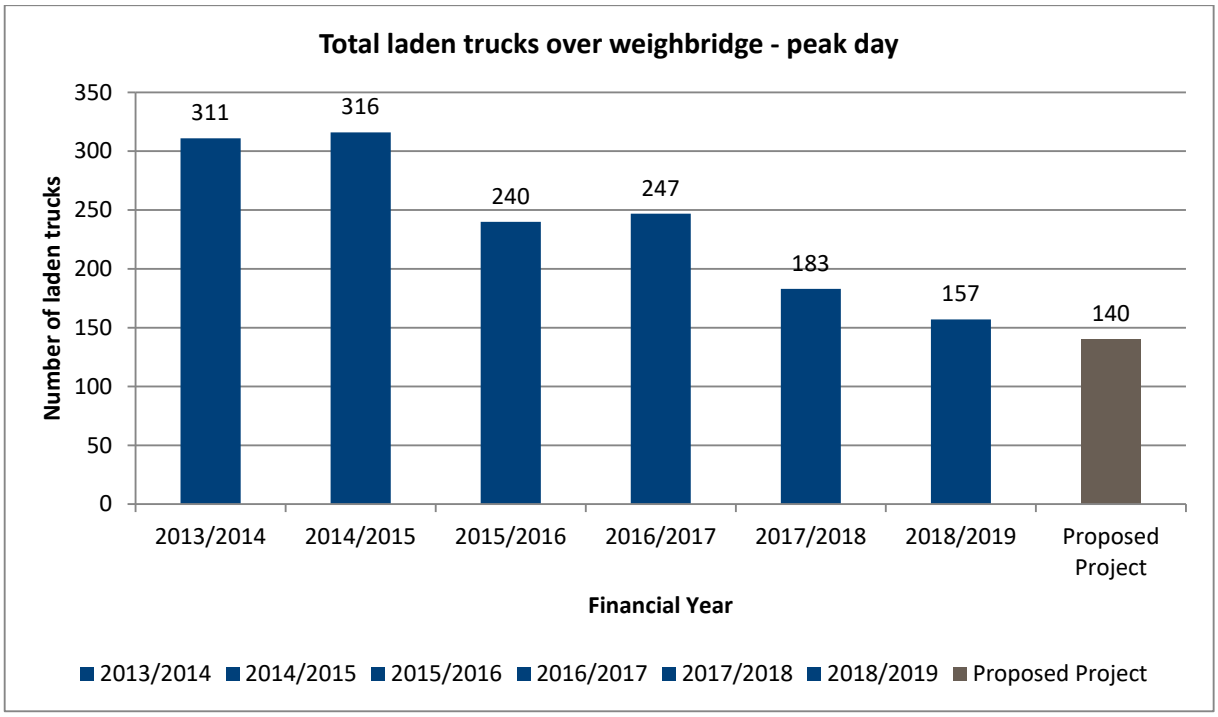
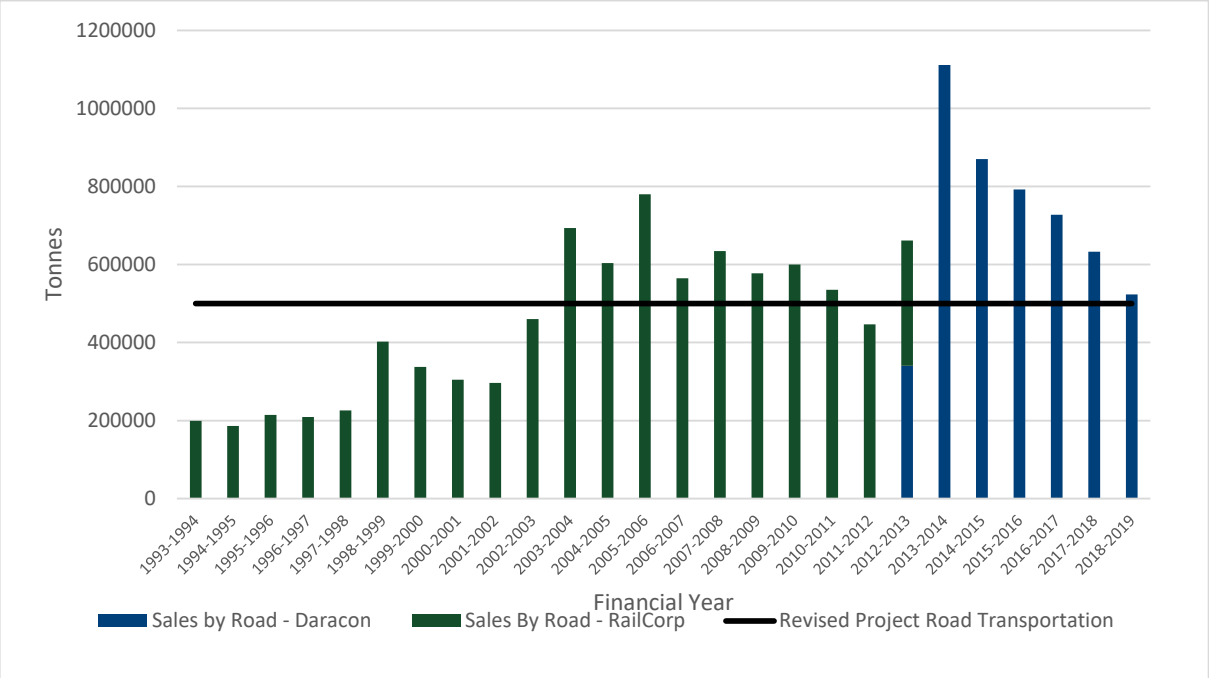


Figure 7.3 Total Laden Trucks Over Weighbridge (Peak Day) – Historic vs Proposed Peak[23]

This also reinforced by the tonnages and associated truck movements over the longer history of the quarry as outlined at **Section 4.1** and also presented again below at **Figure 7.4** which compares tonnages between 1993 to 2019 with those that are being proposed in the current ADA / RtS.

[23] The proposed peak of 140 laden trucks per day (280 movements) is to be limited to only 50 days per year.



Source: Daracon, 2021

Figure 7.4 Martins Creek Quarry Historical Road Tonnages (tpa) 1993-2019

Overall the Revised Project as currently presented represents a significant reduction in the volume of quarry related trucks compared to both those originally proposed in the 2016 EIS and also compared to historical activities to which the community have been exposed over more recent years and which has informed lived experiences.

Historically quarry product trucks had travelled to the quarry early in the morning, around 5.00am and sometimes earlier as the market in which the Martins Creek Quarry sold its products typically seeks to have the quarry products at the destination at 7.00am to coincide with the standard construction hours. To meet this market demand, trucks started entering the quarry to haul product from 6.00am.

In response to the identified amenity impacts associated with early truck movements, Daracon have reduced the hours of operation of the quarry should it be approved, to 7am to 6pm Monday to Friday. This reduction in hours will negate the need for quarry sales trucks to travel through Paterson earlier than 6:45am.

In addition, the Revised Project will now utilise only one preferred haulage route (Haul Route 1) via Flat Road and Melbourne Street to connect with the New England Highway, therefore removing most trucks from the routes via Lorn and Brandy Hill which have been historically used for the quarry. Further details on project design changes in relation to road transport, are outlined at **Section 6.3.1** of the ADA/RtS.

It should be noted that a number of the Project changes that have been proposed are also in alignment with those put forward by community members as possible strategies to improve company-community relationships during submissions received on the Original Project, during consultation activities undertaken to support the preparation of the SIA and during the MCQAG's survey of local community members (refer to Section 2.1.4, pp 8 -9 MCQAG Community Attitudes Survey Report 2015):

Demonstrate some genuine empathy towards the community. Cap hourly truck movements through Paterson, defer opening till 7.00am and stop Saturday working. Fixing the road surface would help too.

When presented with the proposed Project refinements with regards to proposed changes to truck movements, reported levels of satisfaction associated with these changes were still largely considered to be low with the majority of consultation participants feeling that these changes did not go far enough with comparisons still made of the proposed parameters to those that have been experienced previously over the recent history of the Project (2014) when impacts on community amenity were at their height (**Appendix 7** – detailed analysis of stakeholder views on Project refinements).

Anything through these little towns is going to be destruction.

Remains disruptive & destructive on roads, buildings & village life.

This is the same amount extracted in 2014 at the height of the negative impact on the community.

Still too many. It's been so nice since its stopped, the peace and quiet. Putting my grandchildren on the bus, I'm not worried about the trucks (safety at Dungong Road Bus Stop).

Of the changes to the Revised Project that have been committed to by Daracon, the proposed increase in the amount of product transported by rail and proposed changes to quarry operating hours have been the most favourably received by consultation participants (although average levels of satisfaction for these changes expressed Round 2 consultation activities were still reported at 3.7 out of 7 and 3.0 out of 7 respectively).

The majority of product needs to go by rail. We are a lifestyle community.

I feel that is good, but if they take more off what is going by road, it would be better.

When asked to suggest possible mitigation strategies to reduce the impact of truck movements and associated impacts on amenity, stakeholders most commonly referred to either:

- an increase in the utilisation of rail as a means of transporting product and / or
- for a bypass road to be constructed to remove the need for trucks to travel through Paterson.

Daracon acknowledges the strong community sentiment to increase the use of rail as a means for transport of quarry product and is committed to working toward this in the longer term. However, it is important to note that there are also a number of factors that influence the ability to increase rail transport including the:

- availability of train paths during daylight hours
- amenity impacts on surrounding residents associated with loading and dispatching trains during the evening and night period
- lack of suitable rail unloading sites, with a potential site identified by Daracon for the Sydney Metropolitan site, but not for the Hunter Region market.

Further investigations and changes in the market over time since the Project commenced has allowed Daracon to commit to increasing the amount of **quarry product transported by rail** further reducing the impacts associated with transport of quarry product via road and still maintain an economically viable project. Daracon are planning to continue to expand rail markets and gain access to rail unloading capacity,

in order to enable greater transportation of product by rail to service the Sydney market however it is intended that the for the time being, the local and regional market will continue to be serviced predominately by road transport.

Regarding the possibility of a **bypass**, it has been identified through discussion with relevant government agencies that a bypass of Paterson had previously been proposed but was removed from Council's planning documents in 2002. The former proposed route is now subject to other land uses and no longer available as a viable option.

In recognition of the high level of concern associated with traffic related impacts, as highlighted previously two CAFs were held on 23 and 24 July 2019, with the objective being to further discuss outcomes of technical studies specifically relating to traffic and transport and to also seek further input and feedback on roads and traffic management options and design concepts.

Consequently there have been a number of road intersections and bridge approach improvements that have been proposed as part of the Revised Project to improve road and pedestrian safety and minimise potential interactions between the public and quarry operated vehicles. A number of these have been designed in response to the outcomes of discussions with stakeholders, in particular following the presentation of the draft traffic assessment outcomes to community members at the Traffic and Transport CAFs.

Proposed road intersections and bridge approach improvements as part of the Revised Project, designed in consultation with the relevant road authority and in accordance with Austroads Guidelines, include:

- **New main site access:** Design and construction of a new main site access off Dungog Road in accordance with Austroads Guidelines with approval from the road authority (Dungog Council). It is anticipated that this will provide safer access to the quarry whilst catering for safe through traffic movements. The construction of this new quarry access will remove all quarry related trucks from Station Street and Grace Street with the existing access will only be used by light vehicles in an emergency event.

- **Gresford / Dungog Road intersection**: Upgrades to this intersection will provide a sheltered right turn lane on Gresford Road to improve road safety, by reducing or eliminating the potential for rear end type accidents. The upgrade will direct all through traffic to steer to the left of any vehicle waiting to turn right at this location and will further extend the acceleration lane improving road safety.

- **King / Duke Street intersection**: Upgrades to the existing 90-degree bend in Paterson with a refresh of the driving line marking through the intersection to delineate and separate opposing traffic. The upgrade will also allow for the relocation of the driveway on the north side of the intersection to improve space allocation for on street parking.

- **Gostwyck Bridge approach upgrade**: Upgrade will allow for the realignment of Dungog Road by incorporating a series of curves to raise driver awareness and associated new line marking, as well as Vehicle Activated Signage (VAS) alerting drivers approaching the bridge to reduce speed.

Daracon has considered input from the Traffic and Transport forums along with outcomes of broader engagement activities with community and other stakeholders and identified a number of additional mitigation measures to assist in the reduction of potential traffic impacts. These are in addition to measures that had already been implemented by the company. The key strategies to support the management of truck movement and associated traffic related impacts are to be contained within:

- Driver Code of Conduct

- Traffic Management Plan

While a Driver Code of Conduct had previously been in existence for the quarry, following the Traffic and Transport CAF, Daracon published a revised **Driver Code of Conduct** on the Martins Creek Quarry page of the Daracon company website and has agreed to the continued consideration of any comments or feedback received from the community on this document. The Code of Conduct applies to all trucks travelling to and from the Martins Creek Quarry and outlines actions to minimise the impact of Daracon's operations on the community and environment including, but not limited to:

- limitations on hours with which trucks may travel through Paterson and Martins Creek (6.45am and 7am respectively)
- enforcement of truck speed limits:
    - 40 km/hr through Paterson, Bolwarra and Vacy
    - 20 km/hr on Station St Martins Creek
- no access to the quarry via Martins Creek Rd and Cory St
- trucks not to travel in convoy
- restricted use of compression breaking within East Maitland, Brandy Hill, Bolwarra, Paterson and Martins Creek or any other residential areas unless necessary for safety reasons
- covering of truck loads and ensuring that all loose debris is removed prior to leaving the quarry site and again after unloading
- conducting regular monitoring, spot checks and observation of driver behaviour.

The Code of Conduct also reinforces the need for drivers to demonstrate increased vigilance in areas of high pedestrian and vehicle activity and in particular at school bus drop off and collection points along the haul route and through the townships.

Daracon is committed to regular reviews of this Code of Conduct and the inclusion of new traffic and transport mitigation measures identified as appropriate and to regularly communicate these measures to all drivers via driver toolbox talks and induction activities and to regularly monitor compliance of the Code of Conduct's implementation.

Additional proposed inclusions to the currently existing Code of Conduct include:

- Truck speed limits of 20-25 km/hr when travelling through the intersection of King and Duke Streets in Paterson.
- Requiring the reporting of any identified substantial road pavement irregularities within Paterson with these reports being passed onto both the Dungog Shire Council and Maitland City Council for attention.
- Regular and ongoing engagement with bus companies to allow for the identification and implementation of reasonable and feasible measures to manage interactions between buses and quarry trucks such as the identification of bus stops along the haul route and education of truck drivers as to the location of these to further increase awareness and enhance safe driving practices in their vicinity. This is particularly important given the regular changing nature of these due to families moving, changing schools etc. Related to this, Daracon will also investigate implementation of a system to identify rural bus stop pick up points i.e. stencil or paint markers as physical reminder to drivers that there is potential for children and parents to be close/adjacent to the road at school bus times.

- Reminder to drivers of the legal requirement to slow to 40km/hr when approaching a bus with flashing lights whether the bus is stationary or moving (Transport for NSW 2017).

Should the Revised Project be approved, Daracon is also committed to:

- Continued exploration of additional opportunities to further **monitor driver conduct** and **truck convoying** including fleet management technologies as they become available and GPS monitoring for non-Daracon vehicles.

- Investigating options for the establishment of **truck parking bays** and consultation with the community on potential locations for these.

- Seeking to establish **road maintenance contributions** via a Planning Agreement with Dungog Shire Council and Maitland City Council to further mitigate any impacts on the road pavement, and therefore road safety, resulting from the transport of product associated with the Revised Project.

- Providing **advance community and key stakeholder** (e.g. Dungog Shire Council and the EPA) **advice** in accordance with any emergency response plan enacted by the relevant State or National authority in the event that Daracon is called upon to assist in providing quarry material in response to an emergency event.

- **Planning quarry activities, and revise haulage as required**, around days when there is expected to be extra traffic within Paterson, i.e. due to a funeral or pre-arranged significant community events, e.g. Tocal Field days, car show events. Daracon's Community Liaison Representative will maintain links to key community groups and local service providers to identify such events and their timing. It is also anticipated that given the quarry will no longer operate on Saturdays that interactions with other Paterson based community events is to be limited.

- **Further reductions of truck movements between 3-6pm every week day to 15 laden / 30 truck movements** in acknowledgement that there is extra traffic within built up areas and along the haulage route during these hours due largely to school pick up times, after school and community based activities and people leaving their workplace.

- Investigation of relocation of the **existing Paterson bus stop** near the CBC Bed and Breakfast Café in collaboration with Dungog Council.

- **Maintaining regular communications with Hanson** via its Daracon Community Liaison Representative with the equivalent role within Hanson to identify ongoing issues of community concern, possible cumulative issues and joint responses to these.

Community member suggestions for upgrades to existing bus stops and possible of construction of footpaths and / or cycleways to increase pedestrian safety and connectivity have been acknowledged and are possible options for Daracon to make contributions towards, as part of the proposed Planning Agreement to be negotiated with Dungog Shire Council.

During consultation activities, there has been ongoing scepticism and distrust with regards to Daracon's monitoring of Project emissions and its operational impacts. In particular there have been doubts expressed as to Daracon's ability to monitor reduction in the level of materials transported by road per annum with accompanying commentary revealing that the community held a strong belief that approval limits will ultimately be breached and that their social amenity would continue to be under threat by the volume of trucks transporting product through the townships of Paterson and Bolwarra Heights.

Consulted stakeholders noted a preference to see an agency or government department such as DPIE or the EPA, be responsible for monitoring quarry extraction and transportation rates.

Have shown in the past they are dishonest and will not comply.

Precedence has shown that these figures will not be adhered to.

It's much better than it was, but there will always be a time that Daracon will say that they will take more out by road.

Who will monitor that, who is the compliance officer that monitors this?

Should the Revised Project be approved, the conditions of consent will specify limits on truck numbers and volumes. The consent will also be subject to Independent Environmental Audits to evaluate compliance with the consent conditions and assess the environmental management and impact of the development.

To monitor the numbers of trucks and ensure maximum hourly and daily truck numbers, extraction and processing limits and quantity of product transported are upheld and ensure transparency of such information, Daracon will also:

- Continue to implement the **detailed monitoring system** put in place in October 2018 when the company was required to operate the quarry in accordance with various versions of an Interim Environmental Management Plan (IEMP). Under this system monitoring summaries would continue to be recorded and reviewed with records provided to DPIE by Daracon on a monthly basis to ensure ongoing compliance. Daracon would also be required to inform the DPIE in writing of any breach of the approved haulage conditions detailing the action that had been taken, or was proposed to be taken, to remedy the breach. No breaches of the daily and hourly truck numbers, nor the extraction and processing limits occurred during operation under the former IEMP.

- Undertake monthly reporting of truck numbers over the weighbridge on the Daracon website for the first two years of operation with the regularity of this requirement after two years to be reviewed in consultation with the Community Consultative Committee (CCC) and reduced to quarterly (depending on identified need).

- In addition to Daracon's regular monitoring of driver conduct, commission an independent and random monitoring driver behaviour and adherence to the Code of Conduct three times per year in the first year of operation should the Revised Project be approved, with guidance sought from the CCC by the independent auditor, on key focus for this independent monitoring.

- Receive dashcam evidence provided by the community and draw upon on GPS tracking records to validate behaviour and vehicle responsible for management as per the Driver Code of Conduct.

- Provision of a Camera Monitoring Station at the intersection of King and Duke Streets to enable identification trucks through Paterson. This will allow for the company to quickly resolve truck related interactions associated with the quarry (including Daracon and contractor trucks) by correlation of number plates with weighbridge records. Outcomes of camera monitoring in response to a complaint will be communicated to the community via the CCC.

- Investigate the implementation of a community monitoring diary to be provided to residents proximal to the quarry and along the haulage route to record their observations and experiences of truck movements and driver behaviour to be provided to Daracon as part of their broader monitoring regime.

Ongoing management and mitigation of community concerns with regards to impacts on amenity will also be undertaken though the implementation of an ongoing community engagement program as detailed at **Section 8.2** and SIMP at **Section 9.0**. **Table 7.6** summarises mitigation measures including those identified through engagement with community members, along with relevant Daracon proposed strategies for the Revised Project.

Table 7.6 Summary of Mitigation and Enhancement Strategies – Social Amenity and Surroundings (Truck and Traffic Movements)

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies

Social amenity and surrounds – truck and traffic movements	• Reduced volume of trucks movements by road per hour and per day
	• Increased transportation of product by rail
	• Bypass Paterson
	• New quarry entrance to bypass Martins Creek
	• Double glazing for properties located close to transport route
	• Project gate signage at the exit of the main gates or areas of high truck movements, to remind truck drivers to obey speed limits
	• Radar Variable Message Signs - static communication tool to truck drivers to obey speed limits
	• Construction of a footpath/cycleway for pedestrian safety
	• Upgrades to existing bus stops
	• Driver monitoring program
	• Driver safety programs
		• Reductions in truck volumes to a peak of 140 laden trucks per day (280 movements) for up to 50 days per year, otherwise 100 laden trucks per day (200 movements). The hourly peak to consist of:
		  ○ Up to 20 laden trucks per hour (40 movements) Monday to Friday between 7.00am and 3.00pm
		  ○ Up to 15 laden trucks per hour (30 movements), Monday to Friday between 3.00pm and 6.00pm to reduce truck movements during school pick times and busier times of day within Paterson Village and along other sections of the haul route.
		• Further reduction of truck movements during times of known (pre advised) community events / funerals
		• Reduction of daily peak of laden trucks with maintenance of records of all laden truck movements to and from the site with records publish on the Daracon website monthly for at least the first two years
		• Increased proposed haulage by rail and continued planning to expand rail markets to facilitate greater rail transportation of product
		• New quarry access road
		• Investigation of the use of radar variable message signs
		• Provision of Camera Monitoring Station at the King and Duke St Intersection to enable truck identification as required
		• Project gate signage re speed limits
		• Review and update the Driver Code of Conduct (regularly as the need arises)
		• Conduct regular monitoring, spot checks and observation of driver behaviour

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
		• Mechanism for identifying Daracon vs contractor vehicles will be used • Liaison with schools regarding a school visits programs, e.g. heavy vehicle safety education program, truck awareness • Ongoing consultation with local bus companies and development of a system that readily identifies rural bus stop pick up points to increase driver awareness as to location, e.g. paint markers on the road • Establishment of road maintenance contributions via a Planning Agreement with Dungog Shire Council and Maitland City Council to be put towards maintenance of roads used for haulage of quarry products • Continued exploration of additional opportunities such as fleet management technologies as they become available • Maintaining regular communications with Hanson to identify ongoing issues of community concern, possible cumulative issues and joint responses to these. • Development and implementation of a Social Impact Management Plan (SIMP) that will include provision for ongoing monitoring mechanisms such as: o Monthly reporting of truck numbers o Randomly monitoring of driver behaviour and adherence to the Code of Conduct o Community monitoring activities

However, despite all of the above, it is also acknowledged that the volume of trucks proposed will result in social amenity impacts to varying degrees within the community and proposed project refinements such as decreased proposed extraction limit and hours of operation and therefore reduced road transportation volumes, peak hourly truck movements and overall trucking hours were all still considered by some consultation participants to be unacceptable.

Consequently, when considering the above Project change and proposed mitigations, the following impact predictions have been made in relation to surroundings and social amenity impacts specific to truck movements and volumes.

Table 7.7 Predicted Social Impact – Social Amenity (Trucks and Traffic)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Product haulage	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Social amenity and surroundings due to truck volumes and disruptions	Martins Creek SSC Vacy SSC Localities along the haulage route, i.e. Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Quarry near neighbours	High	High (C3)
					Visitors / users/ residents of Paterson village Paterson businesses	High	High (B3)
					Residents along the proposed haul route to Melbourne Street, East Maitland	High	High (C3)
					Other road users – Maitland & Dungog LGAs	Moderate	Moderate (C2)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Social amenity and surroundings – damage to infrastructure from trucks	Martins Creek SSC Vacy SSC Localities along the haulage route i.e. Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Road users along the proposed haul route	Moderate	Low (D2)
	Way of Life Surroundings	Social amenity and surroundings – trucks movements	Paterson SSC	Project life	Visitors / users/ residents of Paterson village	High	Moderate (D3)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
	Community Health and Well being	causing public safety risks (interactions with people and vehicles)	Tocal SSC Woodville SSC Mindaribba SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA		Other road users, pedestrians, cyclists along the haul route	High	Moderate (D3)
	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Social amenity and surroundings – cumulative impacts of trucks movements	Dungog LGA Maitland LGA	Project life	Local road and regional users on the Haul route	Moderate	Low (C1)

7.3.2 Noise

Impacts on social amenity as a result of noise were largely related to concerns with regards to noise generated by truck movements based on lived experiences associated with existing operations, along with noise generated by onsite quarrying activities.

Noise levels associated with **truck volumes and movements** along the haul route were noted by participants as detracting from the local rural amenity of the area and how they used their homes and gardens, entertained guests and the ability to move about freely, again particularly when visiting Paterson. A number of participants noted the experience that truck noise was thought to be exacerbated by the existing poor condition of local roads with these conditions believed to be made worse by the presence of quarry trucks themselves. In addition, it was noted that unladed trucks often caused greater noise impacts than laden.

It was reported the noise generated by these truck movements was a significant source of disturbance with early morning truck movements and associated noise and vibration described as contributing to sleep disturbances and a further loss of amenity, creating dissonance between the valued rural lifestyle and what is being experienced.

Consultation participants also spoke of the anticipation of the noise of the trucks early each morning and how this was causing stress within their respective households.

> *We wake earlier in anticipation of the trucks/noise each morning and our mood is affected by noise. We start the day with tension. - Round One*

As a result, the perceived impact of noise from traffic and truck movements on social amenity and surroundings is ranked as being of:

- ***high*** perceived stakeholder risk for residents proximal to the quarry and along the proposed primary haul route
- ***high*** perceived stakeholder risk for visitors / users/ residents and businesses within Paterson village
- ***moderate*** perceived stakeholder risk for the broader Dungog and Maitland LGAs.

Aside from noise directly associated with truck movements and traffic, noise has also been a key issue raised by local community stakeholders in relation to past **onsite operations** at the quarry.

Local residents surrounding the quarry including Martins Creek and Vacy referred to disturbances from noise coming directly from the quarry from a range of sources, including the operation of crushers and other machinery, beeping from vehicles reversing, blasting, and on-site truck loading activities.

Some residents who were in close proximity to the quarry reported that although they may not have been directly affected by noise to date, they had fears that if the quarry were to continue to expand it may become an issue for them in the future.

For participants, the valued rural nature of the area and its tranquillity heightened concerns relating to noise. It was reported that noise from quarrying operations had already impacted sense of place and rural amenity and this would only increase (refer to **Section 7.4**). In addition, the impact of noise on health and wellbeing e.g. sleep quality was also raised.

The above issues were coupled with comments on the impact noise had had on their livelihoods and ability to perform day to day tasks. As with trucks and traffic movements, people commenting on noise reported that noise emissions from the quarry also impacted on their ability to utilise areas of their homes such as their balconies and outdoor areas, interact with others or perform outdoor recreational activities such as gardening.

Noise was also a key issue raised in submissions made for the Original Project within the areas of Paterson, Bolwarra and Bolwarra Heights, Vacy, Martins Creek, Brandy Hill and Duns Creek.

From the period of January 2014 to March 2021, 19% (20) of complaints received by Daracon with regards to the Martins Creek Quarry related to operational noise from blasting events with an additional 5% (5 complaints) relating to general operational noise.

Aside from the broader consultation activities undertaken to support the SIA, more targeted engagement has also been undertaken with those residents likely to be most affected by noise due to their proximity to the quarry. In July-August 2020, engagement with was undertaken with Martins Creek residents residing in Station Street, Cory Street, Grace Avenue and Douglas Street to identify further work to reduce future noise impacts.

Further engagement has also been undertaken with other local residents in close proximity to the quarry who may be *marginally* or *moderately* affected at particular years of the Revised Project (i.e. Station St, Grace Avenue and Dungog Road) in the form of personal visits and delivery of property-specific information regarding draft noise impact assessment results and proposed mitigation measures.

Seventy property-specific information sheets were prepared and personally delivered to residents located on Station Street, Horns Crossing Road, Douglas Street, Cory Street, Grace Avenue and View Street. These information sheets outlined the results of the noise impact assessment as it related to the property including proposed Project changes that mitigate potential noise and other offsite impacts, noise modelling results and invited residents to contact the Project team if they had any questions or would like a further meeting.

As a result, the perceived impact of noise from quarry operations on social amenity and surroundings is ranked as being of:

- *high* perceived stakeholder risk for residents proximal to the quarry (Martins Creek and Vacy more specifically)
- *low* perceived stakeholder risk for the broader Dungog LGA.

7.3.2.1 Impact Assessment

A detailed **Noise Impact Assessment** (Umwelt 2021) has also been completed in accordance with relevant guidelines, i.e. the Noise Policy for Industry (NPfI) (NSW EPA 2017, the NSW Road Noise Policy (RNP), the Rail Infrastructure Noise Guideline (RING) (NSW EPA 2013) and the Interim Construction Noise Guideline (ICNG) (DECC 2009). This assessment included consideration of the impacts associated with road traffic noise and rail noise from trains on a non-network rail line/network rail line. It also assessed noise generated from onsite quarrying operations. Detailed outcomes of the noise assessment are provided at **Appendix E** of the ADA/ RtS with key outcomes provided below.

Traffic Noise

Noise impacts associated with trucks were assessed using the following scenarios.

Table 7.8 Road Traffic Noise Assessment – Operating Scenarios

Scenario	Annual tonnage	Operating hours	Truck movements		Comments
			Per day	Per hour	
No quarry - baseline traffic	-	-	-	-	The 'no build option' represents the baseline option without traffic generated by the quarry
Revised Project capped maximum	No more than 500,000 tonnes by road in any 12 month period	No truck loading before 7am All trucks entering and leaving the quarry to observe a reduced speed limit of 40 km/hr through Paterson. No trucks passing through Paterson before 6.45am. Operating hours 7am to 6pm Monday to Friday. No operations Sundays or Public Holidays.	Capped at 140 laden trucks	Capped at 20 laden trucks	Maximum possible daily movements and maximum possible hourly movements
Revised Project upper rate for 80% of product dispatched			89 laden trucks	12 laden trucks	12 laden trucks movements per hour is the equivalent hourly peak for 89 laden trucks movement per day
Revised Project annual average			65 laden trucks	-	Equivalent hourly peak of the annual average daily rate is less than 10 laden trucks movement per hour

Based on the above scenarios, the noise impact assessment and associated modelling identified the following with regards to **road traffic noise**:

- The proposed haulage route is already host to heavy vehicle traffic. Existing road traffic noise levels (i.e. without quarry trucks) exceed the criteria for most relevant sensitive receivers due to the proximity of the receiver to the road and existing traffic rates.

- The addition of quarry trucks will increase the road traffic noise levels to levels that are predicted to be less than 2 dB at all sensitive receivers. The Road Noise Policy (RNP) considers noise level increases of up to 2 dB(A) to be barely perceptible to the average person.

- Reductions in the road traffic noise levels are predicted during periods when the dispatch rate will be less than the maximum of 140 laden trucks per day or 20 laden trucks per hour.

- There will be a 9 dB - 13 dB reduction in the road traffic noise levels for properties located in Station Street, the northern end of Cory Street and Grace Avenue once a new quarry access road is constructed and the road haul trucks no longer access the quarry via Station Street.

Onsite Quarrying Activities

The noise assessment also included operational noise generated by onsite activities at the quarry.

Noise models were developed using stage plans for Years 2, 6, 10, 15 and 20 for the Revised Project with each noise model including a range of potential operating scenarios including various locations for equipment working in the West Pit, use of the southern stockpile, varying rock extraction and road truck dispatch rates, different permutations of the processing plant operations and including train loading.

The assessment assessed Year 2 noise impacts separately to those from Years 6, 10, 15 and 20 as all proposed physical noise controls will not all be in place by Year 2, i.e. construction of a new rail spur for loading and construction of a new quarry access road.

Noise modelling methodology also accounted for the effects of noise enhancing meteorological conditions during the day-time, evening and night-time periods.

Predicted noise levels depend upon:

- the sound power levels from all the fixed and mobile equipment operating concurrently

- the distance between the noise sources and residences

- the intervening topography

- weather conditions, e.g. wind, temperature inversions

- the presence of intermediate barriers and other controls.

The noise modelling inputs for the Revised Project considered a scenario representative of reasonable worst-case noise emissions from quarry operations during five stages: Years 2, 6, 10, 15 and 20. Noise predictions were undertaken for the day, evening and night time periods and incorporated a range of noise mitigation measures committed to by Daracon such as noise barriers and attenuation. The modelling considered the effect of 470 different meteorological conditions on noise propagation, from 140 potential operational scenarios, at 150 receivers.

Key outcomes of the noise impact assessment of onsite quarrying operations indicate that during **daytime operations** at the quarry and at a product dispatch rate of 20 laden trucks per hour, there could be 1 residential receiver where the noise levels are predicted to exceed the Revised Project noise trigger levels (PNTL) by more than 5 dB after Year 2. These conditions would only occur on days when the quarry is supplying a large project. These operating conditions will not occur every day nor would they occur for an entire day period as total truck movements in a day are also limited. By Year 2 all the noise controls will be in place except the decommissioning of the existing rail load facility and completion of the new access road. For operating conditions where the existing rail load facility is operating, the maximum predicted $L_{Aeq,15minute}$ exceeds the PNTL by more than 5 dB at 12 receiver locations. That said, there is a reduction in the noise impacts from those experienced during previous operations, by these most affected proximate private residences. However, this is a transitional noise impact which will be further reduced following the completion of the new rail loading facilities and new access road by the end of Year 4. For operating conditions where the existing rail load facility is not operating, the maximum predicted $L_{Aeq,15minute}$ exceeds the PNTL by more than 5 dB at 1 property.

There will also be differing levels of exposure to noise experienced by proximal residents at different times over the life of the Revised Project, particularly as various noise control measures place are put into place.

- **Dungog Road (North of Grace Avenue) residents:** are expected to experience increased noise from the quarry after Year 2 due to the proximity of the new access road. They will also be subject to noise during construction of the access road. They will also experience noise from the quarrying activities within the West Pit. Noise levels at this location were therefore assessed as a new development.

- **Dungog Road (South of Grace Avenue) residents:** it is anticipated there will be a reduction in day-time operating noise levels in comparison to those previously experienced levels due to the changes in the quarry's processing plant area. This was therefore assessed as a new development.

- **Vacy and Horns Crossing Road residents:** to experience noise both from the quarry and the new access road, therefore was also assessed as a new development.

- **Martins Creek Village:** is to experience a reduction in day-time operating noise levels in comparison to previous levels due to the changes in the processing plant area**.** A reduction in the noise from the train loading activities will also be experienced once the new rail spur is constructed**.** Road traffic noise levels associated with trucks entering and leaving the quarry will also be reduced once the new access road is constructed.

During the **evening shoulder period** of operations between 6pm to 7pm each night, up to 10 road trucks may be loaded for dispatch the following morning to avoid empty trucks coming through Paterson at 6.45 am. It is anticipated at that this time of day that maximum predicted noise levels could exceed 5dB for two sensitive receivers located at Station Street prior to Year 2 before the new access road from the quarry to Dungog Road is completed.

It is proposed the **evening and night-time activities** at the quarry will be limited to train loading, however this would not commence until a new rail spur extension into the northern end of the East Pit has been completed and that the noise impacts from this activity can be confirmed.

By the end of Year 4, the quarry's rail spur will be extended by approximately 360 m with rail wagons to be loaded by front end loader. With respect to rail noise, the noise assessment has determined that:

- During the daytime period, more than twenty pass-by events could occur without exceeding the Recommended Acceptable LAeq noise level at the closest receivers on Station Street. Over the four-hour evening period, only one pass-by event is possible before the Recommended Acceptable LAeq noise level at the receivers on Station Street is exceeded. During the night-time period, a single pass-by event would result in the recommended acceptable LAeq noise level at the receivers on Station Street being exceeded.

- During the evening period more three pass-by events could occur without exceeding the recommended maximum LAeq noise level at the closest receivers on Station Street. Over the night-time period two pass-by events could occur before the recommended maximum LAeq noise level at the receivers on Station Street is exceeded.

7.3.2.2 Proposed Mitigation and Predicted Impacts (Mitigated)

In addition to those outlined in previous sections, there have been in a number of changes to the Project as originally proposed to minimise the impacts of the quarry on social amenity and surroundings for proximal residents and within the broader community. Project design changes and identified noise mitigation measures to help minimise potential noise impacts associated with the Revised Project on the community include:

- Reductions in the hours of the quarry's operations.

- Redesign of the East Pit (processing plant area) to incorporate a noise bund and walls and the extension of the rail spur to move loading operations further from receivers.

- Construction of a dedicated access road onto Dungog Road removing trucks off Station Street (except for emergency purposes), following ARTC approval for detailed design plans and construction of a new rail crossing. The access road will be commissioned as early as possible, and by the end of Year 4, from project approval.

- Rail spur extension within the northern end of the East Pit, approximately 10 m below the current ground level and relocation of train loading facilities.

- Detailed review of production planning and sequencing to enable the incorporation of required operational controls (such as slow-down in quarry progression, provision of lower shielded areas and, where required, selective equipment shutdowns) during periods of adverse weather conditions.

- Only loading trains during the day-time until the performance of the noise controls are validated before moving to evening train loading. The noise assessment process would be replicated before moving to night-time train loading.

A number of structural and operational noise controls have also been incorporated into the Revised Project design including:

- Strategically placed barrier walls in proximity to noise sources at various locations. e.g. stockpile areas, existing East Pit processing plant area.

- Use of noise attenuation (e.g. cladding) of screen and crusher building and cladding of existing open areas.

- No in-pit mobile crushing in the West Pit.

- Use of new smaller quieter off road trucks in the West Pit.
- Re-allocation and potential relocation or cessation of machinery in the West Pit during adverse weather conditions.
- Strategic use the Southern Stockpile for product storage.

Additionally, reasonable and feasible noise attenuation measures consistent with current best practice in a modern approval have been incorporated into key items of plant and equipment and the day-to-day operation of the quarry. These are in excess of those that would have been relevant and / or required during historical operations at the quarry. This includes upgrading exhaust systems on mobile equipment, stockpile orientation, internal road maintenance, the management of the raw rock loading into haul truck bodies, reversing beepers, PA systems and truck parking areas.

To support the above operational noise controls, the Revised Project will also utilise:

- predictive weather forecasting system to identify the potential for adverse operating conditions that enhance noise propagation
- continuous real-time noise monitors (24/7) to report on the noise level generated by the quarry
- alarms generated by the continuous real-time noise monitors to trigger changes in the operations.

Table 7.9 summarises mitigation measures including those identified through engagement with community members, along with Daracon proposed onsite noise management strategies for the Project.

Table 7.9 Summary of Mitigation and Enhancement Strategies – Social Amenity (Noise)

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Social Amenity – noise from traffic	• As per **Table 7.7**	• As per **Table 7.7**
Social Amenity – noise from onsite quarry activities	• Greater compliance • Improved management of impacts e.g. reduce noise and dust • More stringent controls	• Reductions on quarry operating hours • Incorporation of noise bund, walls, barriers and other noise attenuation • Extension of rail spur to move loading operations from receivers • Construction of a dedicated access road onto Dungog Road removing trucks off Station Street • Limited operations during periods of adverse weather conditions. • Train only loaded during the day-time hours until performance of the noise controls are validated • Use of new smaller off road trucks in the West Pit • Re-allocation and potential re-location or cessation of machinery and stockpiles

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
		• Proactive operational management based on a predictive weather forecast and a continuous real-time operational noise monitoring system

With the above proposed mitigation and management strategies in place, it is therefore concluded that the Revised Project will have the following impacts on social amenity and surroundings related to noise:

Table 7.10 Predicted Social Impact – Social Amenity and Surroundings (Noise)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Product haulage	Way of Life Surroundings Livelihood Community Health and Well Being	Social amenity and surroundings - truck noise	Martins Creek SSC Paterson SSC Haul route localities	Project life	Residents in close proximity to the proposed primary haul route	High	High (C3)
				Project life	Visitors / users/ residents of Paterson village Paterson businesses	High	High (C3)
				Year 1-4 of Project	Station St residents	High	High (B3)
					Dungog Road residents proximal to new access road	High	Moderate (C2)
				Year 4 onwards	Station St residents	High	Low (E2)
					Dungog Road residents proximal to new access road	High	High (B3)
				Project life	Other residents proximal to the quarry	High	Moderate (C2)
Onsite Quarry operations	Way of Life Health and Well-being	Social amenity from quarry noise, e.g. use of equipment, plant	Martins Creek SSC Vacy SSC	Project life	Residents proximal to the quarry	High	High (C3)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
	Surroundings Community	operations and train loading affecting social amenity	Dungog LGA	Year 1-4 of Project	Residents within Station Street, Cory Street Grace Avenue and along Dungog Road	High	High (B3)
				Year 4 onwards	3 Station St residents (night time exceedances due to train loading)	High	High (C4)
				Year 4 onwards	Residents within Station Street, Cory Street Grace Avenue and along Dungog Road	High	Moderate (C2)
Presence of the quarry - construction of new access road	Way of Life Health and Well-being Surroundings Access to and use of infrastructure, services and facilities	Surroundings and social amenity – noise	Martins Creek SSC Vacy SSC	1 years	Dungog Road residents proximal to new access road	Low	High (B2)

7.3.3 Blasting (Noise and Vibration)

Residents, particularly those located at Martins Creek and Vacy, raised concerns during engagement activities with regards to onsite blasting activities at the quarry. During discussions, participants specifically referred to concerns associated with noise and vibrations arising from blasting and stated that their homes would often shake and rattle during blasting activities. Some participants also noted concerns regarding the impacts of blasting on their pets and livestock.

Both the review of submissions on the original EIS and also discussions held during both the Air Quality and Blasting and Social CAFs have served to further reinforce the concerns associated with blasting impacts on amenity, potential reduction in property values due to blasting activities and damage to houses, and poor notice or lack of notice from Daracon regarding upcoming blasting activities and associated stress.

Potential damage to property relating to blasting activities were also raised during both rounds of consultation. Impacts associated specifically with property damage impacts are further discussed at **Section 7.6.2** with this section focusing on social amenity impacts.

Due to the number of stakeholders that reported blasting as an issue the perceived stakeholder impact has been ranked as '*high'* for residents proximal to the quarry in Martins Creek and Vacy.

7.3.3.1 Assessment Outcomes – Blasting Noise and Vibration

An assessment of potential blasting and vibration impacts of the Revised Project has been undertaken for the ADA / RtS (Peter Bellairs 2019). The assessment was prepared in accordance with *Australian and New Zealand Environmental Council (ANZECC) 1990 – Technical basis for guidelines to minimise annoyance to blasting overpressure and ground vibration* (ANZECC 1990).

During the assessment modelling of blast impacts (vibration and overpressure) has been undertaken to identify any potential impacts on surrounding residences. The blast modelling was undertaken for representative quarry years and considered blast design parameters and the closest privately-owned residences to assess the potential air overpressure and vibration generation from blasting.

The modelling also considered previous blast monitoring data through a review of nearly 6.5 years of data from blast monitoring activities undertaken between 1 March 2013 to 19 August 2019, comprising 158 blasts from existing blast monitors located at:

- 336 Dungog Road
- Back gate of the quarry
- Corner Wakaya Close and View Street, Vacy.

Three additional blast monitors have also intermittently been established at the following locations:

- **19 View Street, Vacy:** established in December 2018 in consultation with the EPA, to monitor blasts from the quarry, and correlate the results with those from an existing monitor in View St.
- **Merchants Road, Martins Creek:** established in March 2017 following the receipt of blast complaints within the area.
- **9 Horns Crossing Road, Vacy:** established in December 2018, following a meeting with the resident. The blasting impact assessment indicated that ground vibration and airblast overpressure levels can be managed effectively within relevant EPA blast emission criteria.

An independent audit of blast monitoring by Daracon was conducted by the NSW EPA of 13 separate blasts from the quarry during 29 March 2018 to 27 August 2018 from the View Street, Vacy location. Daracon were not aware of the monitoring being undertaken by the EPA at that time. This audit also confirmed that monitoring results are well within relevant criteria with no breaches of the licence conditions or associated limits.

7.3.3.2 Blasting Noise and Vibrations Mitigation and Predicted Impacts (Mitigated)

During consultation activities generally, and the feedback of the blasting assessment more specifically during the Air Quality and Blasting CAF, community participants identified levels of distrust towards Daracon and the monitoring and assessment outcomes and identified that while exceedances were not predicted to occur, the 'lived experience' was very different from the outcomes of modelling.

It was requested that additional blasting monitors be installed to the north / north west of the quarry as it was believed felt that properties located along View Street had appeared to have experienced some damage from blasting vibrations. In response to community concern and to inform the assessment process, three additional temporary blast monitors (over and above those stipulated in Daracon's existing Environmental Protection Licence) were established at View Street and Horns Crossing Road at Vacy and Merchants Road in Martins Creek.

Daracon has been working with the EPA to determine the most appropriate and representative location for blast monitoring to the north/north west of the quarry. When this is determined, a blast monitor will be permanently sited on a concrete pad.

Additionally, in response to community concerns in relation to property damage resulting from blasting activities, Daracon commissioned an independent inspection, monitoring and reporting relating to blast vibrations from the quarry at a residence in Vacy during 2019. The peak particle velocity of the measured blast was measured at a magnitude of 10 to 20 times lower than the levels likely to cause damage to residential properties. The assessment indicated that the residence had not been damaged due to blasting operations at the quarry.

In response to community identified concerns regarding the impacts associated with blasting, a reduced blasting window has also been proposed as a part of the Revised Project with blasting to only occur between the hours of 11am - 3pm Monday to Friday only. There will also be no blasts to be fired on weekends or public holidays.

In the addition to the above, Daracon have committed to the following blasting mitigation and management measures:

- Continue to undertake blasting in accordance with a detailed blast design process that considers operational, geological and environmental constraints, with the design and size of each blast determined to meet these constraints and meet blasting criteria.

- Commitment to independent blast monitoring to be undertaken for three blasts within the first year of the Revised Project by an independent qualified person, and in consultation with the EPA. Daracon will consult with the Martins Creek CCC and/or representative of DSC in relation the monitoring times and locations. Independent monitoring would be conducted 3 times per year, every 5 years thereafter.

- Daracon will continue to implement the existing blast monitoring regime at three locations, as established under EPL 1378, and will review and update the blast monitoring as required to cover the sensitive receivers located in the vicinity of the Revised Project Area.

- Daracon will continue to consult with residents via letter box drops to inform them of the blast time the following day as well as an SMS or email on the day of the blast notifying neighbours of the time of day the blast is to occur.

Daracon will also develop a Blast Management Plan in consultation with the EPA, should the Revised Project be approved. The Blast Management Plan will:

- describe the measure that will be implemented to
    - ensure compliance with the blasting criteria and operating conditions
    - avoid blasting during unfavourable climatic conditions
    - detail the monitoring program for evaluating and reporting on compliance with the relevant conditions
    - include a protocol for identifying any blast-related exceedance, incident or non-compliance and for notifying DPIE and relevant stakeholders of these events
    - include public notification procedures to enable members of the public, particularly surrounding residents, to get up-to-date information on the proposed blasting schedule
    - include a protocol for investigating and responding to blast-related complaints.

The blast notification procedure will also be maintained on the quarry website.

Table 7.11 summarises mitigation measures including those identified through engagement with community members, along with Daracon proposed strategies for the Revised Project.

Table 7.11 Summary of Mitigation and Enhancement Strategies – Social Amenity (Blasting Noise and Vibration)

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Social Amenity – Blasting Noise & Vibration	• Blasting notifications in local media outlet • Minimum of 24 hours' notice for blasting • Reduce size of blasts • Blasting to take place in reduced timeframes / windows • Installation of blast monitoring devices on buildings/dwellings • Vibration monitoring installed on buildings (residences) to monitor harmonic resonance of blasts • Baseline blasting and vibration impacts for existing affected residents • Yearly independent monitoring	• Preparation of a Blast Management Plan that includes a monitoring program (as per above) • Reduced blasting windows and frequency • Provision of blast notifications to all local residents as per blast notification procedure • Establishment of a permanent blast monitor on a permanent footing in the Paterson Valley Estate at a location to be determined by the EPA. • Detailed blast design process that considers operational, geological and environmental constraints and blasting criteria • Independent blast monitoring

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
	• Permanent concrete installed monitoring points to replace spikes • Inspection/structural assessment of affected buildings • Increased monitoring and management • Sharing of blasting results / outcomes • Go beyond minimum standards	• Publishing of blast monitoring outcomes • Development of a regular newsletter summarising environmental monitoring outcomes – uploaded to Daracon Website.

The mitigated social impact of blasting on social amenity and surroundings for residents proximal to the quarry has been ranked as *'moderate'* (possible to occur but of minor consequence) noting that blast management plans are in place which tailor technical mitigation measures to blasting sizes. Similarly the mitigated impact on the wider Dungog LGA is *'low'*.

Table 7.12 Predicted Social Impacts – Social Amenity (Blasting Noise and Vibration)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Onsite quarry operations - blasting	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to blasting noise and vibrations	Martins Creek SSC Vacy SSC Dungog LGA	Project life	Residents proximal to the quarry	High	Moderate (C2)
					Wider Dungog LGA	Low	Low (E1)

7.3.4 Air Quality/Dust

The impacts of air emissions and dust raised by stakeholders in relation to the Revised Project centred on social amenity and health and wellbeing. Key Project aspects perceived to be the key determinants of reduced air quality included dust emissions generated from product loaded trucks travelling along the haulage route, diesel fumes, the impact of these fumes on odour and the associated potential health implications of diesel emissions. Consulted stakeholders also noted concerns with regards to impacts on air quality associated with onsite quarrying activities, i.e. blasting generated dust emissions and emissions to air due to onsite product loading activities.

Near neighbours expressed the need for increased maintenance and cleaning of their properties – both inside (e.g., frequent cleaning required of rooms, tables); and outside (water tanks and pools), outlining how at times they felt captive in their homes and unable to fully enjoy the rural lifestyle of their homes and localities.

Some residents noted that they are already experiencing these impacts, while others noted that while they had not been personally affected to date, that they were concerned that impacts of dust may increase as the quarry expands and directly impact on them in the future.

For submissions raised for the Original EIS, there were 160 submissions that indicated concerns around air quality impacts generally. These concerns around air quality were reiterated in the complaints received through the Martins Creek complaints line with three complaints between January 2014 to April 2020 relating to air quality from fumes and one complaint about the impact of air quality on health and wellbeing.

Concerns specifically related to the effects of dust emissions on health, in particularly on children are discussed at **Section 7.5.**

It should be noted that at the time of the Round 1 engagement (June – August 2018), over 98% of NSW was also considered to be affected by drought, with dust levels considered more extreme than usual given these circumstances (Department of Primary Industries 2020b). However, by Round 2 engagement activities (August – December 2020) drought across the State had eased such that 35% of NSW was considered drought affected in August 2020, dropping to 10% by December 2020 (Department of Primary Industries, 2020a). In December 2020, only 2.2% of the Hunter Region was considered drought affected, however the majority of this was still within the Dungog LGA (Department of Primary Industries 2020a).

The Dungog Shire Council's (2017) most current Statement of the Environment Report (2012-2017) states that air quality in the Dungog Shire Council Area is considered to be satisfactory. The lack of heavy industry in the area means that the major impacts on air quality are typically from vehicle emissions and rural burning, generally during the spring and summer months. Use of domestic wood heaters in the colder months can also contribute to localised pollution and is the main source of complaint regarding air quality within the Shire, although complaints are minimal. Some agricultural activities in the area also have the potential for odour emissions. These include dairy farming/effluent disposal, fertilizer application (including poultry manure and biosolids) and poultry raising. This report also notes that the number of vehicle registrations in the Dungog LGA is increasing (from 7,106 in 2011 to 8,402 by 2016), which can generally contribute to reductions in air quality within the LGA.

As outlined in the Community Strategic Plan (2018) community identified that they valued 'a pristine natural environment which is characterised by unpolluted waterways and clean air'.

Considering the above expressed views and factors, the impact to surroundings and social amenity as a result of decreased air quality direct from traffic is considered to be of:

- *High* significance for landholders and residents proximal to the quarry site and along the haul route, including within Paterson
- *High* significance for landholders and residents located along the haul route.

The impact to surroundings and social amenity as a result of decreased air quality direct from onsite quarrying activities is considered to be of *high* significance for landholders and residents proximal to the quarry.

7.3.4.1 Impact Assessment

A comprehensive assessment of potential air quality impacts of the Revised Project has been prepared by Jacobs (2020) in accordance with the *EPA's Approved Methods of the Modelling and Assessment of Air Pollutants in New South Wales* (EPA 2016) (Approved Methods) and guidance for the modelling and assessment of air pollutants in NSW.

This assessment included the collation of meteorological data from the local area and consideration of dust emissions from construction and operational impacts, dust generated from blasting and diesel and dust emissions from the transportation of quarry products and machinery exhausts, including PM, NOx and Carbon Monoxide CO.

The methodology for the air quality impact assessment used an air dispersion model, CALPUFF, to predict ground-level concentrations and deposition levels from identified emission sources, including dust generation and diesel emissions from trucks, and comparing these to the established air quality criteria. Predicted air quality impacts from the Revised Project were assessed against the current EPA assessment criteria as set out in the Approved Methods (EPA 2016) which represents revised and more stringent criteria for particulate matter concentrations, compared to the criteria that were used previously in the Original Project EIS (Monteath & Powys 2016).

Trucks Movements

With respect to changes to air quality specifically related to truck movements, the assessment determined that:

- Emissions from truck diesel exhausts travelling on public roads are not expected to result in any adverse air quality impacts based on modelling which showed that maximum kerbside concentrations would not exceed EPA criteria.

- While the transport of quarry product off-site and to final destinations on public roads has the potential to cause air quality impacts from wheel-generated dust, this dust source only has the potential to present an issue if the build-up of dirt on paved roads leading out of the quarry is not appropriately managed.

- There is very little change in contribution from the Revised Project expected beyond the Project Area boundary, for all particulate matter classifications (PM_{10}, $PM_{2.5}$, TSP and dust deposition).

- There were no exceedances of EPA criteria at any sensitive receiver locations.

Onsite Quarrying Operations

With respect to changes to air quality specifically related to **onsite quarrying activities** the assessment determined that there would be:

- Very little change in contribution from the Revised Project is expected beyond the Project Area boundary, for all particulate matter classifications (PM10, PM2.5, TSP and dust deposition), with no exceedances of the EPA criteria at any of the sensitive receiver locations.

- Emissions from onsite blasting activities and associated fumes are not expected to result in any adverse air quality impacts, based on model predictions which show compliance with EPA criteria.

- The air quality impact assessment concluded that with the implementation of the proposed management measures nominated, as summarised below, the Revised Project would not cause adverse air quality impacts on surrounding receivers or the local air shed.

- When assessing against the 2018 updated NSW Voluntary Land Acquisition and Mitigation Policy (VLAMP), there with no exceedances of the VLAMP mitigation and acquisition criteria at any sensitive receiver locations.

Monitoring and modelling undertaken under the assessment also suggested that the Revised Project is not expected to cause adverse air quality impacts with respect to crystalline silica. This was an identified issue of concern to member consulted community members in the context of possible impacts on health of the quarry workforce and broader community as dust from quarrying activities such as crushing may contain silica. Silica has been addressed in further detail at **Section 6.9.**

During the presentation of preliminary air quality and blasting assessment outcomes during the Air Quality and Blasting CAF in March 2019, some participants expressed doubts with regards to the modelling results as presented, noting that their lived experience was very different to the modelling and assessment outcomes. As a result of discussions held at this forum, Daracon made a commitment to expand the existing air quality monitoring network for the quarry to include an additional dust deposition gauge at a location in View Street in Vacy. This gauge has since been installed in May 2019 at a location recommended by an air quality specialist with input also sought from the EPA with all results published on the Daracon website.

Additionally, should the Revised Project be approved, it is anticipated that there will be a number of conditions and requirements that are attached to a modern approval. For example, it is expected that there will be a requirement for an Annual Review to be submitted to DPIE, including a comprehensive review of statutory limits and performance measures/criteria and a need to identify:

- any non-compliances or incidents
- identification of actions were or are being undertaken to ensure compliance.

Copies of the Annual Review will also need to be made available on the quarry website, submitted to Dungog Shire Council and made available to the CCC and any interested person upon request.

7.3.4.2 Air Quality / Dust Mitigation and Predicted Impacts (Mitigated)

The mitigation measures and project changes outlined at **Section 7.4.1** are also relevant in the context of impacts on social amenity due to traffic related dust / air quality emissions.

In order to minimise the impacts of air quality impacts resulting from onsite based quarry operations on social amenity for residents and community members, the Revised Project has also incorporated a number of project design changes which include:

- Reductions to the overall disturbance footprint through optimisation of the proposed extraction within the West Pit, reducing the disturbance footprint by approximately 16.8 ha and therefore the area of operations that could generate dust.
- Reductions in operational hours which would imply that the running of processing equipment, stockpiling and transportation of material will be reduced and thereby reduce the amount of dust generated by the operation of the Revised Project.
- Progressive rehabilitation of disturbed areas to reduce wind generated dust where feasible.
- Ongoing implementation of the air quality management practices of the previous operations at the quarry (e.g. through a high level of active dust control).

Air quality management at the Martins Creek Quarry has historically involved the implementation of a proactive air quality management and monitoring system. The implementation of this system will continue should the Revised Project be approved with the inclusion of the following additional commitments:

- enclosure of components of the fixed plant, e.g. crushers, hopper and screening building
- use of clearly marked haul routes and controlling dust on haul roads by the use water sprays
- restricting vehicle speeds
- trucks leaving the quarry to make use of the wheel wash facility to limit dust tracking onto the public road network
- trucks entering and leaving the quarry that are carrying loads will be covered at all times, except during loading and unloading.

Further in recognition of identified community concerns regarding nuisance impacts of dust and concerns regarding to monitoring activities, Daracon has also made a number of additional commitments specifically with regards to the management of air quality and its ongoing monitoring. These include:

- Continued publication of air quality monitoring data on the Martin Creek Quarry website. This will now also include the additional monitor placed in View Street, Vacy in May 2019.
- Limiting of dust generating activities in adverse weather conditions, e.g. dry and windy weather.

Community identified mitigation and management measures have been summarised at Table 7.13, along with Daracon proposed onsite management strategies for the Revised Project.

A consistent mitigation measure identified during consultation activities with regards to vehicle emissions have been regards to the use of Euro VI and fitting trucks with emission control technology. The use of Euro 6 is not currently supported in Australia with Australia currently mandating the Euro V noxious emissions standards for newly approved heavy vehicle models first manufactured from 1 January 2010, and for all heavy vehicles manufactured from 1 January 2011. The Commonwealth Department of Infrastructure has recently released a draft Regulation Impact Statement (RIS) on the possible introduction of improved noxious emissions standards, known as Euro VI, for new heavy vehicles for public consultation. In this RIS it is acknowledged that almost half (47.7%) of all of heavy duty rigid and articulated trucks supplied to the Australian market are built in Australia specifically for the Australian market, due to the unique requirements of Australia's interstate road freight industry. This means that regulations in other markets have less influence on this segment of the Australian heavy vehicle fleet.

Daracon currently operates it vehicles as per the requirements of the Heavy Vehicle National Law (HVNL) which includes a suite of regulatory requirements which govern vehicle standards and modifications. Adherence to the HVNL will continue should the Revised Project be approved with the company to consider the use of emission control technology and of alternative fuels as the regulatory landscape changes.

Table 7.13 Summary of Mitigation and Enhancement Strategies – Social Amenity and Surroundings (Air Quality)

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Social amenity – dust / air quality (traffic)	• Fit all trucks with Euro VI to reduce diesel emissions • Trucks fitted with emissions controls measures	• Restricted use of compression braking • Reducing vehicle speeds • Covering of truck loads • Conducting regular monitoring, spot checks and observation of driver behaviour. • Trucks leaving the quarry to make use of the wheel wash facility to limit dust tracking onto the public road network • Use of clearly marked haul routes
Social amenity – dust / air quality (onsite activities)	• Continued engagement with proximal residents to collect qualitative data relating to air quality and other impacts i.e. to understand the lived experience and quality of life impacts. • Publish and communicate monitoring and modelling outcomes • Dust suppression, e.g. enclosure of equipment, i.e. conveyors, use of automatic water spray system • Sealing of haul routes • Increased monitoring sites particularly to the north-west of quarry and nearby vulnerable sites e.g. high residential areas, school, preschool • Provide dust deposition data for locations further away from quarry • Regular water tank testing for proximal landholders (including testing for silica) • Publish silica monitoring results	• Reduced overall disturbance footprint • Reductions in operational hours • Progressive rehabilitation of disturbed areas • Enclosure of equipment • Use of water sprays on stockpiles • Additional dust deposition gauge in View Street Vacy with additional dust deposition gauges to be installed as required • Meteorological monitoring • Publishing all air quality monitoring results on the Daracon website • Preparation and implementation of Air Quality Monitoring Program

With proposed imitation measures in place, impacts on social amenity due to dust and / or changes to air quality are predicted as follows:

- a *low* social impact for residents and landholders in proximity to the quarry (*unlikely* with a *moderate* consequence) due to air quality changes associated with product haulage
- a *low* social impact (*unlikely* with a *minor* consequence) for residents and landholders in the surrounding locality due to air quality changes associated with onsite quarrying activities.

Table 7.14 Predicted Social Impacts – Social Amenity (Air Quality and Dust)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Product haulage	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to changes to air quality from truck movements	Martins Creek SSC Vacy SSC Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Residents proximal to the quarry Residents along the haul route	High	Low (D2)
Onsite quarry operations (including blasting)	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to changes to air quality from onsite operational activities	Martins Creek SSC Vacy SSC Dungog LGA	Project life	Residents proximal to the quarry	High	Low (D2)
Presence of the quarry - construction of new access road	Way of Life Health and Well-being Surroundings Access to and use of infrastructure, services and facilities	Surroundings and social amenity – dust	Martins Creek SSC Vacy SSC	1 year	Dungog Road residents proximal to new access road	Low	High (B2)

7.4 Sense of Place and Community

The potential impacts of the Revised Project on social amenity and surroundings are specifically are discussed in **Section 7.3.** Despite technical assessments of impacts on amenity identifying that the Revised Project is not anticipated to have an impact on the amenity of the area with respect to noise, air quality, vibration and traffic from a technical perspective and in line with relevant Government guidelines, it is nevertheless clear that for those residing proximal to the quarry, along the haul route and within Paterson village more specifically, the scenic and rural character of the area will be impacted and disruptions will be felt amongst within community.

This section presents the assessment of impacts that relate to a changing sense of place / sense of community as a result of the Revised Project. Public safety, while also closely related to this impact theme has been addressed above at **Section 7.3.** Changes in the character and sense of place of the area was also seen to have flow on livelihood impacts for Paterson based businesses and tourism. These are discussed further at **Section 7.6.3.**

As Gieryn (2000) outlines, 'place' can be anything that has the following necessary and sufficient features: geographic location (whether spot, area or linear form), material form (physicality) and investment with meaning and value (positive and negative). For example, the biophysical characteristics of a place may be an important foundation for personal meanings of place. Furthermore, locations where people gather to play, meet or share stories can also become special because of their social meaning. Place therefore is 'the coming together of the biophysical, social and spiritual worlds. The personal meanings that turn space into place become embedded into people's memories and in community stories; and can be associated with both positive and negative feelings' (Vanclay 2008, p.3).

The stories that are told about a location in order to enhance its appeal as a place to visit, to see, to be or to live, speak of the special qualities of that place i.e. what sets it apart from other places, what makes individuals want to be there. In essence, sense of place is about the personal and collective connections that individuals have with where they live, work and play (Vanclay 2008).

People who have a strong sense of place frequently have a high sense of belonging and community connection – meaning they have ties to a place and feel like they belong there. A shared sense of belonging and a collective consciousness 'acts as an adaptive community resource and helps develop resilience and social cohesion, especially in times of hardship and disaster' (Abbott-Chapman, Johnstone and Jetson, 2014: 298).

In general terms, sense of community also relates to '*the extent to which individuals in a particular location have a notion of being part of a community, and of helping out in the community by participating in community activities, and being a good neighbour (i.e. having neighbourliness)*' (Vanclay, Esteves, Aucamp, & Franks 2015, 77). Key elements of sense of community therefore can include membership (belonging, emotional safety, personal investment, social conventions); influence; integration and fulfillment of needs; and a shared emotional connection.

In evaluating thousands of public spaces around the world the Project for Public Spaces has found that in considering what makes a great space or place, to be successful they generally share the following four qualities:

- they are **accessible**
- people are engaged in **activities** there
- the space is **comfortable** and has a good image

- it is a **sociable** place: one where people meet each other and take people when they come to visit.

As indicated at **Figure 7.5**, there are a range of associated sub aspects that can make a place great.

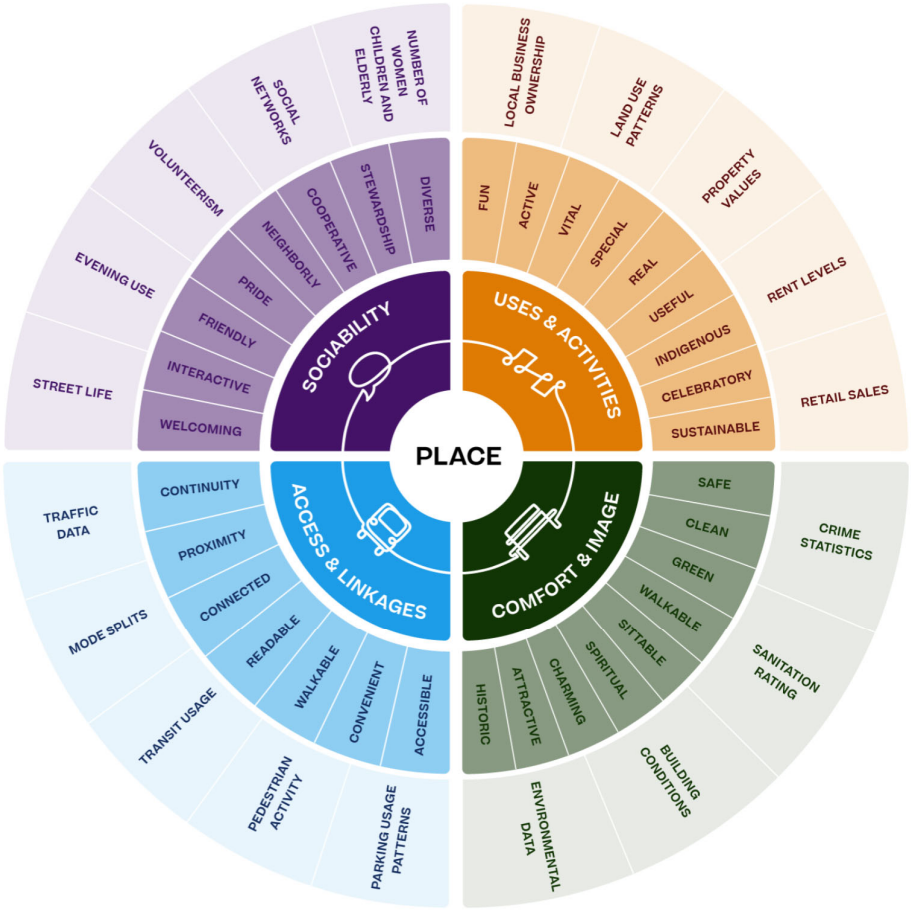


Figure 7.5 What Makes a Place Great?

Source: Project for Public Spaces

Coakes (1995) discusses many different elements of sense of community including the need for shared value, social interaction, and connection to a common structure (e.g. geography, gender, culture). The IAIA SIA Guidance also states that sense of belonging to a social group, is an important human emotional need with the consequence of many Projects being a reduction in the sense of belongingness, either because of the physical and social changes that take place, the presence of newcomers, but also because of alienation-inducing processes, that may occur (Vanclay, Esteves, Aucamp & Franks 2015, 74).

During discussions, consultation participants noted the high value attached to rural amenity (peace, tranquillity) and the lifestyle the area provides and were concerned that the operational impacts (dust, noise) and the number of trucks traveling the haul route would fundamentally change the nature and character of the area, in particular within Paterson and Bolwarra and how they enjoyed their space. The operation of the quarry of the scale proposed was seen to be at odds with these values.

The presence and discussion of the Revised Project in the community, was also seen to be influencing community cohesion and raising fears around potential impacts on sense of place. While some participants noted that the shared objection to Project and feelings towards Daracon had brought certain members of the community closer together, others commented that the Project has polarised and segregated the community. As noted in **Section 6.0**, the Revised Project had contributed to a perceived division within the community with consultation participants acknowledging a feeling of 'us' and 'them' and polarised views.

It's not nice to have this animosity and its turned it into an us vs them. Everyone works together in town for our community to make it work, so I feel like I have ownership of the community, but there is no harmony and that's sad. I don't know if it can ever be reconciled. They hold community meetings, and everyone is all emotional and irate and it goes out the window and nothing gets solved. - Round Two

The sense of community sentiment was further reflected during engagement for the SIA with residents describing their communities as 'tight-knit' with a strong sense of communal spirit and mutual support. When asked to describe what they value about living in the area SIA participants noted 'rural village amenity', 'sense of community', 'character' and 'connectedness' as important.

Given the strong social networks in the community, in relation to the Revised Project there were also concerns held for community members considered more vulnerable within the community, including children and the elderly.

Similarly, during engagement to support the development of the Dungog Shire Council's Strategic Plan 2030 (2018e), residents in the LGA were asked a similar question and responded that they value the amenity of the area, its sense of community, quiet nature and tourism. Participants also described the Dungog Shire as having an active and close-knit community who create a safe environment for families (Dungog Shire Council 1028e).

Again in their submission to object the original EIS, MCQAG state that the towns and villages in the LGA are 'valued by residents and visitors alike for their rural amenity, character, ambience, scenery, natural beauty, European settlement and aboriginal history and as areas where the pleasure of neighbourhoods and outdoor surrounds can be enjoyed' (MCQAG Submission).

Although not mentioned frequently in discussions with the broader community as a salient issue of concern, it was raised at an individual level during consultation that a number of families had already moved out of Paterson as a direct result of the operation of the quarry and the inability to co-exist.

Consequently, the impacts on sense of place / community as a result of the Revised Project were seen to have included:

- Disruption in daily living and movement patterns – largely related to the traffic movements associated with the Revised Project (refer to **Section 7.3.1**).
- Disruption in social and community networks.
- Diminishing of existing community values.
- Potential movement of people of out of the area (population outflux).

The sections above has highlighted a number of factors that may impact on sense of place and community largely as a result of the Project type and how community values attached the locality may be impacted.

Small regional communities such as those in the Revised Project area communities have strong community bonds and a way of life which are closely aligned with their surroundings and sense of place with small changes in these aspects often readily noticed and the impact can be magnified due to the small size of the town (Stevenson 1995).

Aside from disruptions directly resulting activities of the quarry and associated truck movements, therefore a loss of residents could have an additional effect of disrupting social relationships within a community, creating a further loss for those who remain, with this in turn leading to a loss of satisfaction with life in the community and an outflux of even a proportion of the population, can alter existing values and sense of community.

Coakes (1995) discusses many different elements of sense of community including the need for shared value, social interaction, and connection to a common structure (e.g. geography, gender, culture). While most communities are generally resilient to natural population change, a rapid or massive change can often have adverse social impacts.

While an appropriate assessment of population change from 2006 to 2016 is problematic given recent SSC boundary changes which occurred prior to the last ABS census (2016), the existing sense of community and existing networks is strong as evidenced by the fact that the communities of Vacy, Martins Creek and Paterson and the Dungog LGA as a whole had lower than State average mobility, with lower proportions of residence living at a different address five years ago prior to the 2016 Census. The same can also be said for localities along the haulage route such as Bolwarra. For example, in Paterson, 32% of the population were living at a different five years ago, while in Martins Creek it was 27%.

In addition, at the time of the 2016 Census, Dungog LGA, Vacy, Paterson and Bolwarra had higher than State average rates of volunteering, while Martins Creek was lower than the NSW average. This also suggests that there is currently high levels of population stability and a high degree of social cohesion within these localities.

When considering sense of community and place related impacts, it is important to acknowledge that quarrying has a long history in the locality (albeit at a lower scale), the significance of which has also been acknowledged by MCQAG and participants during consultation activities. However, it is anticipated that the rural amenity and sense of community associated with a quiet rural lifestyle will continue to be impacted to varying degrees by members of the community due to changing nature of the quarry and its activities, depending upon value that individuals attach to the local rural ambience.

While the revisions to the Project that have been identified in preceding report sections with respect to the proposed changes in operation scale and operating hours have been identified with the intent of minimising impacts on existing community values, it is acknowledged that the proposed reductions in operations were considered by many consulted as not going far enough and that this was particularly the case since the quarry had been placed on limited operations in September 2019 and there had been virtually no activities associated with the quarry since that time.

> *Still very excessive and disturbance for ambiance of village and safety is still too high.*

7.4.1 Proposed Mitigation and Predicted Impacts (Mitigated)

Aside from changes to the Revised Project parameters discussed in previous sections, to address the issues raised by the community relating to impacts on sense of community, Daracon proposes to target its existing community investment and sponsorship program to focus on those projects most closely aligned to identified community impacts, needs and aspirations. While the existing sponsorship program is limited given the size of the operation compared to that of larger-scale mining operations, a key objective of the program moving forward would be to maintain sense of community and rural amenity, through for example, promoting Paterson and Martins Creek and its key community and historical assets and values supporting local businesses. Allocation of funds under this community investment program will be determined in collaboration with the CCC with further detail of the proposed sponsorship program is provided at **Section 8.3** .

To enable the ongoing monitoring of the success of the Project revisions and other proposed mitigation measures to address the identified issues of concern, Daracon has also engaged a dedicated Community Liaison Representative who will be responsible for maintenance of a program of regular meetings with sensitive and interested stakeholder representatives.

Community identified mitigation and management measures have been summarised at **Table 7.15**, along with Daracon proposed onsite management strategies for the Revised Project.

Table 7.15 Summary of Mitigation and Enhancement Strategies – Sense of Place and Community

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Sense of Community	• Cap hourly truck movements • Limit hours of truck movements • Transport product by rail • No trucks through Paterson	• Reductions in truck movements – volumes and time frames • Reduced quarry operating hours • Increased use of rail • Community sponsorship program to focus on amenity projects • Monitoring and evaluating the success of mitigation measures via a SIMP • Community Engagement Strategy

With proposed mitigations in place, the likelihood of impacts on sense of community are considered to be as per **Table 7.16**).

Table 7.16 Summary of Revised Project Impact – Sense of Place and Community

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation – product haulage	Way of Life Health and Well-being Surroundings Livelihood	Sense of community – Cohesion, character, sense of place, rural lifestyle due to truck movements / product haulage	Paterson SSC	Project life	Residents / businesses of Paterson village	High	High (C3)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation – product haulage	Way of Life Health and Well-being Surroundings Livelihood	Sense of community – Cohesion, character, sense of place, rural lifestyle due to truck movements / product haulage	Localities / communities along the haul route	Project life	Proximal quarry neighbours Localities / communities along the haul route	High	High (C3)
Presence of the operation – onsite quarrying activities	Way of Life Health and Well-being Surroundings	Sense of community – Cohesion, character, sense of place, rural lifestyle	Martins Creek SSC Vacy SSC	Project life	Proximal quarry neighbours	High	High (C3)

7.5 Health and Wellbeing

The World Health Organisation (WHO) defines health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity' (World Health Organisation 2012). The health status of an individual and/or a community is therefore determined by a range of interactions between human biology and the environment. **Figure 7.6** identifies some of the many factors that act within and across these two spheres to trigger negative and positive health outcomes.

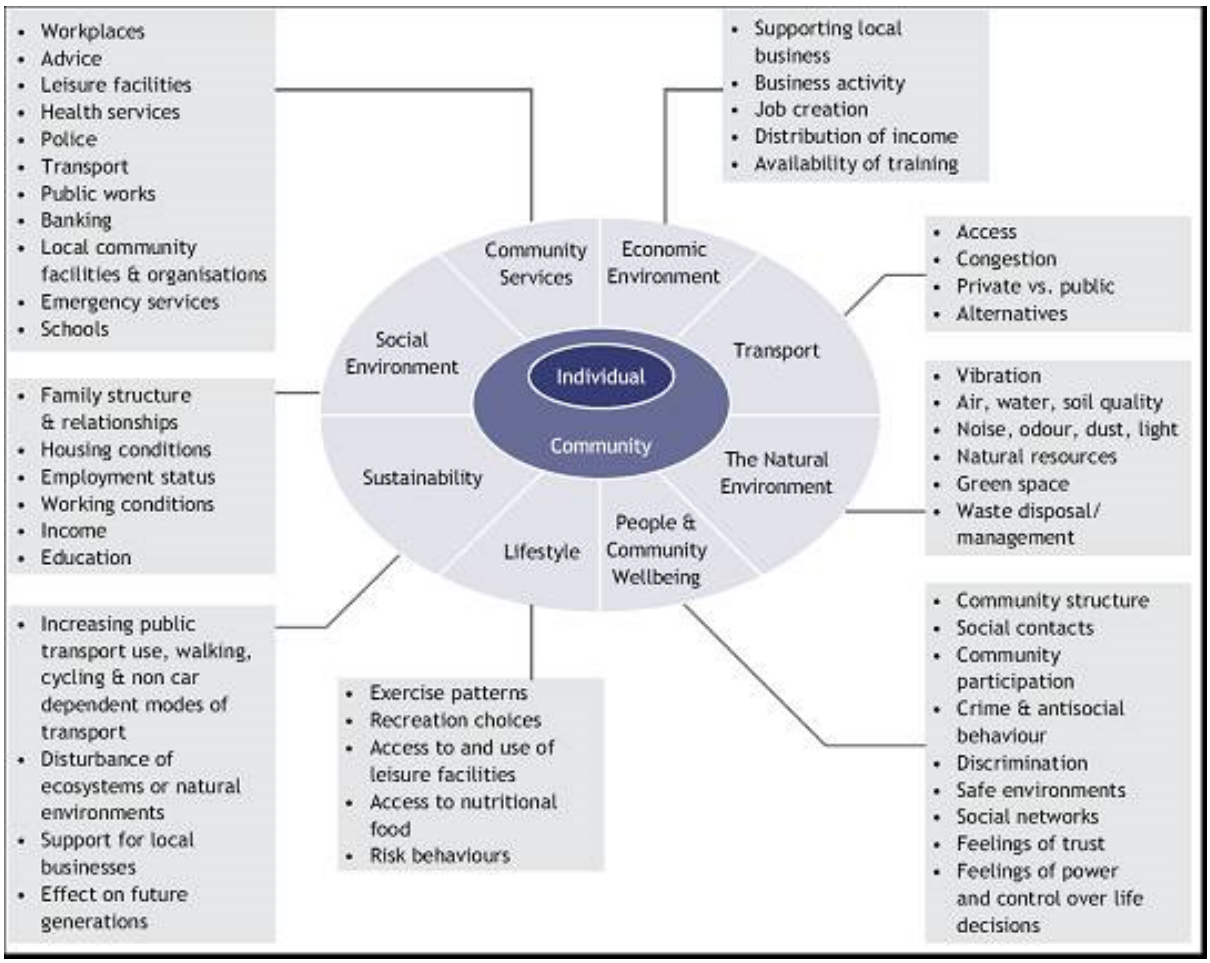


Figure 7.6 Determinants of Health

Source (Department of Health 2007)

WHO (2009) categorises factors into three key determinants and associated sub-issues, as outlined below:

- Social and economic environment
    - income and social status
    - education
    - social support networks
    - health services
    - employment and working conditions
- Physical environment
    - safe water and clean air
    - healthy workplaces

- safe houses, communities and roads

- Individual characteristics and behaviours
  - genetics
  - gender.

It is important to note that these determinants of health are interconnected. The health status of an individual and a community is typically due to the combined effect of health determinants and their composite factors. Understanding health determinants can help to identify why certain populations and environments may be healthier than others. This information can then be used to predict health trends within and across populations.

7.5.1 Mental Health

7.5.1.1 Perceptions of Impact

Mental health impacts were identified by stakeholders during engagement for the SIA as being associated with the Revised Project, with some stating that they were already experiencing stress and anxiety relating to existing project activities and operations. During Round One engagement (2018) when the quarry was in operation, community members acknowledged that they were experiencing stress and anxiety relating to driving on the roads, the inability to enjoy the amenity of the area and their homes and fears relating to future of the Project and ongoing impacts to their way of life.

Sleep disruption, as a result of noise from the Revised Project was also raised when discussing mental health effects. During Round Two, stakeholders noted heightened levels of stress and anxiety, due to having a reprieve from quarry operations since September 2019 and fears that they would experience similar levels of impact if the Revised Project was to be approved.

These fears along with noted anticipation of truck noise early each morning was understood to be causing feelings of stress, anxiety, anger and sadness in individuals, their families and the community as a whole.

> *It keeps me awake at night thinking about it with anxiety and worry – Round Two.*

> *It causes one of us to need anxiety medication and the other to feel sick. Even the word Daracon makes me feel sick. It's the wearing down process of the buggers. It's as if they will wear us down eventually. If we felt empowered, it would be different but there's no control. – Round Two*

7.5.1.2 Assessment Outcomes

Whilst stress and frustration alone do not constitute mental illness, they affect quality of life, and for individuals with an existing vulnerability to mental health issues, are added stressors. Regular sleep disturbance is also known to affect health.

The mental health of one person also has flow on effects to their partners and family, with some stakeholders reporting their concern for their partners. This in turn has flow on effects to the community and the way it functions through the Projects physical presence, as well as its mental presence.

Research confirms that the impacts of major projects for people who oppose them can also include increased stress levels, a sense of things happening beyond one's control and distress induced by change (Albrecht 2007, cited in University of Melbourne 2017).

Research reported in the Community Health and Safety Handbook developed by a Working Group of experts, industry, and government and non-government representatives, reports that one explanation for the association between environmental disruption and stress is an individual's sense of 'place attachment' or 'place identity' whereby the environment becomes part of their personal identity and they develop a strong attachment to the place (Connor et al. 2004). This view supports Albrecht's (2005) concept of 'solastalgia', which describes a feeling of 'homesickness at home' that might be experienced when the home environment is significantly changed.

In relation to the cumulative impacts associated with mining (or extractive) projects specifically, feelings of solastalgia are related to a number of factors, underpinned by a general feeling that one's home environment is 'under assault'. These factors include the loss of community, as well as changes in the local environment for those living nearby, such as property damage from blasting and traffic (Higginbotham, Connor, Albrecht, Freeman, & Agho, 2006). These factors have been linked to heightened levels of sadness, worry, fear and distress (see McNamara & Westoby, 2011), and lower levels of perceived health and wellbeing among impacted persons (Connor, Albrecht, Higginbotham, Freeman, & Smith, 2004), underpinned by feelings of powerlessness.

Consequently, it is *likely* that the Revised Project is contributing to mental health issues for some residents and landholders in the locality.

It is anticipated that the Project design changes and associated proposed mitigation measures that have been discussed in the preceding sections with respect to continued ongoing engagement and targeted information provision should the Revised Project be approved, may result in some relief from that stress being felt; however it is also acknowledged that it will take some time for community confidence in the management of project impacts to be demonstrated and a sense of trust in Daracon's ability to manage and monitor these effectively and that community concerns may persist regardless of the Revised Project's compliance and how impacts are experienced.

To assist in the reduction of stress and associated potential impacts on the mental health of the community, Daracon is committed to implementing the following strategies (further described in **Sections 8.2** and **9.0**).

- Establishing regular ongoing community engagement (open door policy) in relation to impact monitoring and management activities and maintaining this the throughout the life of the Revised Project to ensure Project impacts are being feasibility and reasonably managed.

- Ongoing and transparent provision of environmental monitoring results to the community.

Consequently with the above mitigation measures in place, it is likely that the discussion around the Revised Project is contributing to mental health issues for some residents within the community proximal to the quarry and the haul route, with a moderate consequence, resulting in a *'high'* social risk.

Table 7.17 Summary of Revised Project Impact – Mental Health

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Health and Well -being Livelihood	Presence of the quarry and its activities creating increased levels of stress and anxiety	Paterson SSC Martins Creek SSC Vacy SSC	Project life (possibility for decline over time for some)	Paterson residents and businesses	High	High (B3)
					Residents proximal to the quarry	High	High (B3)
			Localities along the haul route	Project life (possibility for decline over time for some)	Residents along the haul route	High	High (C3)
			Broader Dungog / Maitland LGAs	Early Project stages	Broader community	Low	Low (C1)

7.5.2 Physical Health

Impacts to health and well-being were raised as a concern during engagement with community members primarily concerned about the potential health impacts of air quality/dust generated from trucks (dust and diesel fumes) and from quarry site operations (dust and silica). These concerns were distinct from those regarding public safety due to truck movements and the potential for interactions with vehicles and pedestrians (refer **Section 7.3.1**).

During discussions, some stakeholders raised particular concerns about more vulnerable groups within the community such as children at schools along the haul route and those with existing health conditions, including asthma. Participants also noted concerns regarding the potential for health impacts relating to the impact of dust on water quality in rainwater tanks.

The number of people identifying physical impacts on health as concern were small in number. Considering the above, the impact of the Revised Project on physical health, is ranked as a *moderate* perceived stakeholder risk for residents and landholders in the locality.

The Strategic Regional Land Use Policy (2012) for the Upper Hunter acknowledges that the impact of air pollution on health and amenity is a major community issue in the region, with a decrease in health and wellbeing perceived as a result of the presence of the mining and extractive industries.

To date there is a lack of focused and conclusive government studies on health impacts of air quality in the broader Hunter Valley. However, an examination of relevant health and demographic indicators for the Revised Project locality suggests that:

- The townships of Paterson, Vacy and Martins Creek all have higher median ages than the State average.
- According to PHIDU Social Health Atlas (2019) rates of asthma are higher in the Dungog LGA, where for every 100 people approximately 12 have asthma (2014-15), than current rates in NSW as a whole (10.3 per 100)
- Data relating to asthma hospitalisations (NSW Health Stats 2019) indicates that rates of hospitalisation (per 100,000 population) in the Dungog LGA are largely below NSW, however peaked in 2008, dropping back down to less than the NSW rate since 2009 (refer to Figure 7.7).
- As of 2014-15 Dungog LGA had a much larger proportion of smokers, high risk alcohol users, obese persons and people who have participated in no or low amounts of exercise with 87.3% compared to the NSW average of 76.3%.
- In the Dungog LGA (2014-15), for every 100 people over the age of 15 years, there are approximately 18 that have poor or very poor self-assessed health. This is higher than the NSW average of 14.3 (2014-15)
- When considering a range of relevant indicators, there appears to be a higher proportion of at-risk groups within the Dungog LGA when compared with NSW averages (refer to **Table 5.16** in **Section 5.8.4**).

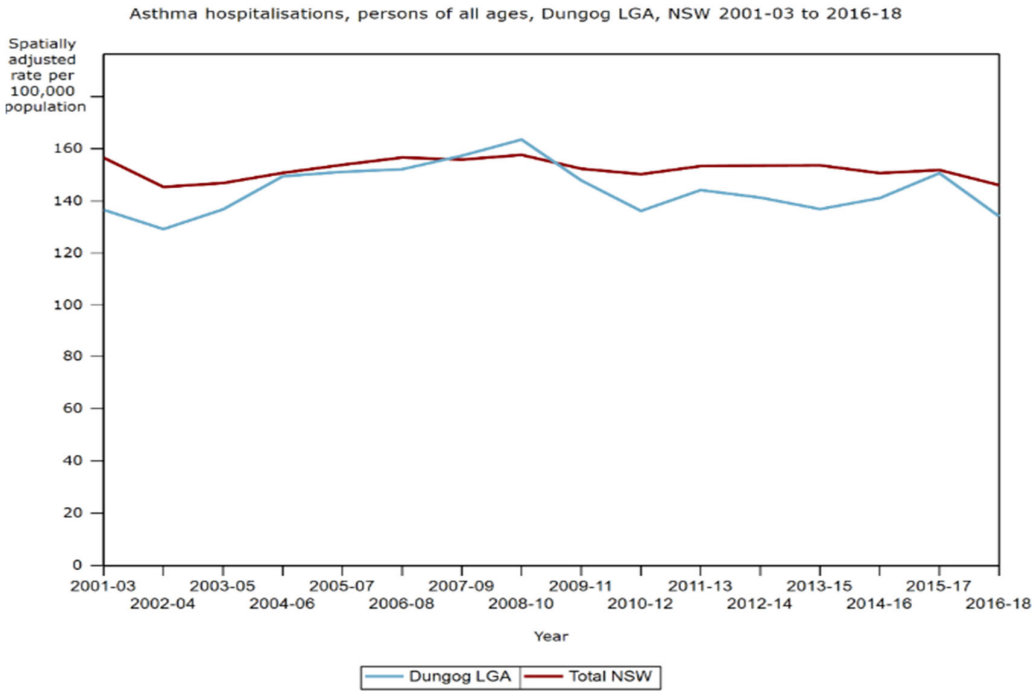


Figure 7.7 Total Asthma Hospitalisations for Dungog LGA (2001/2003 to 2016/2018)

Source: NSW Health Stats 2019

7.5.2.1 Assessment Outcomes

The assessment of predicted air quality impacts undertaken for the Revised Project concluded that:

- Very little change in contribution from the Revised Project is expected beyond the Project Area boundary, for all particulate matter classifications (PM_{10}, $PM_{2.5}$, TSP and dust deposition), with no exceedances of the EPA criteria at any of the sensitive receiver locations.

- In one case, the modelled Year 20 predicted maximum 24-hour average PM_{10} concentrations are anticipated to reach the Criteria level. In this instance, monitoring would be undertaken to identify PM_{10} concentrations at this site, and appropriate mitigation actions would be implemented.

- Emissions from blasting and associated fumes are not expected to result in any adverse air quality impacts, based on model predictions which show compliance with EPA criteria.

- Emissions from truck diesel exhausts travelling on public roads are not expected to result in any adverse air quality air quality impacts based on modelling which showed that maximum kerbside concentrations would not exceed EPA criteria.

- Monitoring and modelling suggest that the Revised Project is not expected to cause adverse air quality impacts with respect to crystalline silica with respirable silica with the estimated annual average at site boundary measured at 2.0 $\mu g/m^3$, below the occupational exposure standards reported by the Victorian EPA at 3.0 $\mu g/m^3$. Concentrations further from the site boundary, including at sensitive receptors, will be lower than 2 $\mu g/m^3$.

The following Work Health and Safety measures are in place for employees at the quarry:

- training in the understanding and identification of risks associated with dust exposure

- compulsory use of respiratory protection in specific areas of the site and crushing plant

- rotation of duties to ensure employees exposure is minimised

- regular personal dust monitoring to ascertain employee's exposure to inhalable dust, respirable dust and crystalline silica

- in consultation with a registered medical practitioner with health monitoring experience, Daracon provide health surveillance appropriate to the exposure, substance or processes the individual has been involved with or exposed to.

Considering, the mitigation strategies above, the Revised Project is assessed as *unlikely* to have an impact on physical human health through emissions to air with a *minor* consequence and is therefore ranked as a ***low*** social impact for the community. The impact for the workforce has been ranked as ***moderate****.*

Table 7.18 Summary of Revised Project Impact – Physical Health

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Health and Well-being Surroundings	Impacts on **health and well being** - exposure to emissions from truck movements/ traffic	Martins Creek SSC Vacy SSC Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek Dungog LGA Maitland LGA	Project Life	Residents proximal to the quarry Residents / businesses along the haul route	Moderate	Low (D2)
	Way of Life Health and Well-being Surroundings	Impacts on **health and well being** - exposure to emissions to air due from quarrying activities	Martins Creek SSC Vacy SSC	Project life	Residents proximal to the quarry	Moderate	Low (D2)
			Workforce		Quarry employees and contractors		Moderate (D3)

7.6 Personal and Property Rights and Livelihoods

According to the SIA Guidelines (DPE 2017), impacts to personal and property rights include whether people's economic livelihoods are affected, and whether they experience personal advantage or disadvantage and/or have their civil liberties affected. During engagement, stakeholder identified issues relating to this category included the potential for decline in property values, property damage (due to blasting activities and truck movements), impacts on local business and livelihoods due to the presence of the project and economic and employment opportunities (or perceived lack of).

7.6.1 Decline in Property Values

7.6.1.1 Perception of Impact

The impact of the Revised Project on property values was an identified issue of concern with consulted residents suggesting that the presence of the quarry was driving down property prices in the locality. Some residents reported feeling trapped and unable to sell or unable to sell for the right price. In particular, impacts from the quarry and the presence of the trucks was seen to decrease the desirability of the locality by reducing the rural amenity and sense of place. There was also the suggestion that a number of properties in the area had been on the market for extensive periods of time, with little or no interest in property purchase; and it was felt that the presence of the quarry was responsible for this.

Impact on property values is therefore considered a high perceived stakeholder risk for residents and landholders in the immediate Revised Project locality and along the haul route and a low perceived stakeholder risk for the broader regional community.

Review of Property Sales

As reported at **Section 5.11** a review of land values in the Dungog LGA assigned for rating and taxing purposes by the NSW Valuer Generals Office in the years 2015 to 2019 indicates that Dungog's residential market has seen a strong increase since 2016. This was largely driven by rural residential land releases in the Clarence Town and Paterson villages and improved road infrastructure to Raymond Terrace and Maitland commercial precincts (NSW Valuer General 2020).

Values in the Dungog residential, rural residential and village markets have generally remained steady over the twelve months between July 2018 to July 2019 due to well-balanced supply and demand. There has been limited new development in the residential areas, with sales numbers generally continuing at low but consistent levels. The rural residential market continues to expand with several new stages released in 2019 (NSW Valuer General 2020).

Since 2016 rural land values showed a strong increase overall due to increases in grazing land values following favourable seasonal conditions and good commodity prices into early 2018. There was also increased demand for rural lifestyle properties driven primarily by an increased presence of metropolitan based purchasers. A deterioration in seasonal conditions and a tightening of credit has resulted in a slowing of sales activity since the 2018, although this is yet to show a negative impact on values. The rural property market has varied since the 2018 showing a moderate increase overall. This was driven by the continued investment in the area by city and metropolitan based purchasers. The exception to this was smaller rural residential properties north of Dungog (generally not within commuting distance) which remained steady (NSW Valuer General 2019).

According to sales data collected by the NSW Governor Valuers Office and reported at **Section 5.11**:

- The number of property sales in Vacy have increased from 13 sales in 2013 to 30 in 2017 and then decreased to 12 in 2019 but increased again to 21 in 2020.

- In Paterson, the number of sales has fluctuated year to year, with 24 sales in 2013 leading into a low of 15 in 2014, followed by steady increases to a high of 30 in 2017, before falling back to 19 in 2019 and 22 in 2020.

- In Martins Creek, sales have remained relatively stable between 2013 and 2017, with eight (8) sales in 2013, and eight (8) sales in 2017 and from 2018-2020, only one to three properties were sold each year. The average sales price decreased slightly between 2013 to 2015, before experiencing a sharp increase to $634,031 in 2016, on the account of one property selling for over one million dollars. The average sale price remained high in 2017 at $644,0000, however, the average fluctuated again over the coming years from $302,500 in 2019 and $504,317 in 2020. No data was available for the median number of days on the market for Martins Creek.

- According to the 2020 Valuation Report for the Dungog LGA (Opeton, 2020), values in Paterson village have increased slightly from the previous valuation in 2019, while the villages of Vacy and Martins Creek have remained steady. Median property sales across the Dungog LGA have slowly increased between 2016 and 2019, with median sale prices in 2016 at $305,000 to $380,000 in 2019, although sale prices have slightly dropped in 2020 to $370,000. Median land values however, have slowly increased from $125,000 in 2016 to $173,000 in 2020. The Dungog Shire's Community Strategic Plan 2030 identifies the need to increase the level of affordable housing within the LGA, with strategies in place to provide affordable housing for young families and older residents.

- In comparison to Paterson, Vacy and Martins Creek, the average property sales in 2020 for Bolwarra (49 sales) and Bolwarra Heights (47 sales), (suburbs of the Maitland LGA), are much higher with $557,786 and $671,160, respectively. It takes on average 36 days to sell in Bolwarra Heights and 73 days in Bolwarra, suggesting these localities are much more sought after than the study communities mentioned above.

A review of properties that had recently sold and were for sale in the area was also considered in the localities proximal to the Martins Creek Quarry. Three houses in close proximity to the quarry have sold in November and December 2020 (realestate.com.au).

Descriptions of houses listed over recent years in the Martins Creek locality have included references to being *'Set in the quiet, peaceful town of Martins Creek'; 'nestled in the picturesque village of Martins Creek', 'enjoy the tranquillity of a rural setting' and 'Positioned in a peaceful rural community'*.

Due to low number of sales per year and difference between property types (i.e. large homes on acreages compared to smaller blocks in villages), property prices within the suburbs vary considerably. For example, in Paterson, during 2020 there was a vacant lot that sold $15,000 and 4 properties that sold for $1,000,000 or more. Average property prices should therefore be interpreted with caution, as they may not accurately reflect the variety of property types and prices.

It is difficult from a social impact perspective, to specifically ascertain the risks of the Revised Project on property values, and the direct impacts of the quarry, however recent assessments of property value (Tew 2019; Knight Frank Newcastle 2019), in other Project assessment processes in a mining context e.g., Mangoola Continued Operations Project (MCOP EIS/SIA), has indicated that:

- Market data and discussions with local real estate agents indicates that the market for rural lifestyle properties in the Hunter is liquid, with no known evidence of unsaleable properties as a result of the presence of mining (or similar) operations.

- There is evidence to suggest that detrimental impacts on property prices occur as a result of mining operations; however, this impact appears to be limited to the areas where factors such as noise and air quality exceed environmental standards and criteria, thus necessitating acquisitions by the relevant company under the Voluntary Land Acquisition and Mitigation Policy (VLAMP) for State Significant Mining, Petroleum and Extractive Industry Developments (NSW Government 2018).

The VLAMP provides voluntary acquisition rights for those properties identified as significantly adversely impacted by noise. Those properties that are impacted to a lesser degree but still fall within the marginal/moderate impact zone are afforded a range of mitigation rights that they can choose to receive to mitigate the impacts of a Project. This may include measures such as air conditioning; double-glazing of windows and other noise and dust mitigation measures, such as the cleaning and provision of water filters on drinking water tanks and pool cleaning.

Also of relevance to concerns relating to property values is the fact that the Dungog LGA is characterised by an aging population. **Table 7.19** indicates the proportion of population in each of the SSC that fall within the 55 years and above age cohorts.

Table 7.19 Proportion of Identified SSC Populations by Age Group (55 to 84 Years)

	Brandy Hill (SSC)	Bolwarra (SSC)	Bolwarra Heights (SSC)	Paterson (SSC)	Vacy (SSC)	Martins Creek (SSC)	Dungog (LGA)
55-64 years (%)	24	19	11	14	14	11	16
65-74 years (%)	9	11	8	11	10	9	12
75-84 years (%)	4	5	5	5	6	2	8

Source: ABS (2016)

Population projections estimate that from 2016 to 2036 there will be decreases in proportions of the population that fall between the ages of 0 and 64 years. It is estimated that by 2036 the percentage of the population aged 65 years and above will have risen from 20% in 2011 to 29% by 2031 (NSW State and Local Government Area Population and Household Projections, DPIE 2016).

Consequently, the impact of property devaluation is even more heightened for community members and landholders that fall within this age category.

The implementation of a Social Impact Monitoring Plan will allow for the tracking of relevant socio-economic indicators such as property values to identify and track changes in over time.

Considering the above, the impact of the Revised Project on property values of locality residents (quarry and haul route) is considered *possible* with a *minor* consequence, resulting in a ***moderate*** social impact ranking.

The impact on the broader regional community is considered ***low*** (*unlikely* and *minimal*).

Table 7.20 Summary of Revised Project Impact – Property Values

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Personal and property rights	Declining property values due to quarry operations and ongoing presence of trucks	Martins Creek SSC Vacy SSC	Project Life	Property owners proximal to the quarry	High	Moderate (C2)
			Localities along the haul route	Project Life	Property owners along the haul route	High	Moderate (C2)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
			Dungog LGA Maitland LGA	Project Life	Broader regional LGA	Low	Low (D1)

7.6.2 Property Damage

During engagement for the SIA six (6) stakeholders during Round 1 and four (4) during Round 2 noted that the appearance of cracks in their homes and swimming pools while the quarry was operating.

Stakeholders attributed the cracks and structural damage to vibration from blasting and from trucks traveling past their properties.

As reported at **Section 7.3.3** an assessment of potential blasting and vibration impacts of the Revised Project has been undertaken which addresses the impacts of the Project in terms of ground vibration, overpressure and fly rock on the surrounding environment, including private residential landholders, cultural heritage sites, rock formations and infrastructure.

The assessment outlines the following:

- Ground vibration and airblast overpressure levels can be managed effectively within relevant EPA blast emission criteria.
- An independent audit by EPA in 2018 confirmed monitoring results are well within relevant criteria.
- Blasting activities at the quarry have demonstrated compliance, with the implementation of existing blast management protocols and risk mitigation measures, with the ANZECC 1990 guidelines and licence criteria.
- The current monitor locations have been assessed as appropriate as they are representative of the vast majority of residences, including those closest to the quarry.

The use of the existing blasting measures and the ability to manage blast induced vibration and air overpressure will enable the Revised Project to meet the guidelines and relevant licence criteria.

During engagement for the SIA, aside from measures identified previously at Table 7.10 stakeholders identified a range of additional measures including most notably a need for a formal process for inspections and structural assessments with outcomes communicated to relevant landholders.

Daracon hence made a commitment after the Air Quality and Blasting CAF to undertake a structural and vibration assessment at one of five properties identified as being representative of those in the area. While the company was not able to secure landowner approval for this to occur, an inspection and monitoring relating to blast vibrations from Martins Creek Quarry was subsequently undertaken by a qualified expert at 24 View St, Vacy in August 2019. This house was chosen for its close proximity to the quarry and for its typical residential construction style. This assessment, which included a dilapidation (condition) survey to investigate the magnitude, extent and possible causation of any existing damage or defects at the dwelling determined that observed existing cracking and damage is related to two main factors:

- General damage due to normal building movements caused by moisture and thermal gradients within the building materials / elements and moisture changes within the foundation soils. This type of minor damage is common and ongoing in most residential structures and includes general crackling to pavement and landscaping elements, minor cracking to internal finishes such as walls and ceilings and minor cracking to external claddings / finishes.

- Cracking and movement related damage due to the settlement of the northern addition to the property. This damage mechanism was clearly evident by observing the opening and rotation of the building articulation joints (Lindsay Dynan 2019).

It was determined that the existing damage was not thought to be consistent with vibration damage and due to the representative selection of the property, and its proximity to the quarry, it is unlikely that any other residential buildings located in View Street Vacy have been damaged due to the blasting operations at Martins Creek Quarry (Lindsay Dynan 2019).

With regards to property damage specifically from trucking activities, as discussed **Section 6.6.1** , a number of those interviewed during engagement activities also referred to experiencing vehicular damage such as smashed windscreens from travelling close to loaded trucks.

Truck vibrations and their impacts on heritage buildings within Paterson is addressed at **Section 7.9**.

7.6.2.1 Mitigation Measures

Mitigation measures relevant to blasting, and therefore to manage any potential impacts on property damage include:

- A reduced blasting window proposed between 11am - 3pm, Monday to Friday only, with no blasts being fired on weekends or public holidays.

- The well-established, existing blast practices used to minimise blast induced vibration, air overpressure and flyrock will continue. In addition:

    - independent monitoring will be conducted 3 times in the first year, every 5 years thereafter with blast monitoring times and locations to be nominated by the Martins Creek CCC or representative of Dungog Shire Council

    - adopt additional controls of decking and smaller diameter face holes to ensure that the lower ANZEC 1990 guideline limits continue to be achieved

    - blasting contractors to adopt and modify blast designs as necessary to continue to achieve the lower ANZEC 1990 guideline limits

    - continued consultation via letter box drops to inform residents of the blast time the following day as well as incident reporting via SMS or email on the day of the blast notifying neighbours of the time of day the blast is to occur.

In addition to the above, Daracon is committed to property inspections of any privately-owned land within 500 metres of an approved extraction area to establish the baseline condition of any buildings and structures on their land, or to have a previous property inspection updated in response to a written request from the owner. Within 2 months of receiving this request Daracon will:

- commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:

- establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and
- identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and structures; and
- give the landowner a copy of the new or updated property inspection report.

Considering the above mitigation measures and technical assessment, property damage as a result of blasting is *unlikely* to occur with *minor* consequences and is therefore ranked as a ***low*** social impact (refer to Table 7.22.

Community identified mitigation and management measures regarding management of possible impacts on property rights have been summarised at Table 7.21 along with Daracon proposed onsite management strategies for the Revised Project.

Table 7.21 Summary of Mitigation and Enhancement Strategies – Property Rights (Blasting)

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Property damage – blasting	• Communication of Station Street blast monitor data to landholders • Installation of blast vibration monitor devices on buildings (residences) • Permanent concrete installed monitoring points to replace spikes • Reduce scale of operation • Reduce quarry footprint • Perform blasts at certain time of the day - six hour window is too long • Indicate to local community that resident's issues are acknowledged • Go beyond minimum standards • Recognise difference between data and what residents actually experience • Repair and/or compensation for damage to homes/properties	• Implementation of Blast Management Plan • Blast window reduced to 4 hours per day (11am – 3pm) and no blasts on weekends • Property inspections on request of any privately-owned land within 500 metres of an approved extraction area • Blasting at site not to cause exceedances of the criteria at residences on privately owned land • Communication of blast monitoring outcomes via updated website and other engagement mechanisms to be outlined in the Community Engagement Strategy • Local investment in key community enhancement projects in Martins Creek and Paterson via the Community Contributions and Sponsorship program

With respect to property damage specifically from truck movements along the haul route causing damage to cars, as identified at Section **7.3.1.3**, Daracon have committed to a number of mitigation strategies that will address the extent to which this impact occurs in any future truck movements should be the Revised Project be approved. These measures include:

- covering of truck loads and ensuring that all loose debris is removed prior to leaving the quarry site and again after unloading

- conducting regular monitoring, spot checks and observation of driver behaviour
- requiring the reporting of any identified substantial road pavement irregularities within Paterson with these reports being passed onto the Dungog Shire Council for attention
- seeking to establish **road maintenance contributions** via a Planning Agreement with Dungog Shire Council and Maitland City Council to further mitigate any impacts on the road pavement and improve road condition therefore reducing the possibility of road debris resulting from the transport of product associated with the Revised Project.

Considering the above mitigation measures and technical assessment, property damage as a result of truck movements is *unlikely* to occur with *minor* consequences and is therefore ranked as a ***low*** social impact (refer to **Table 7.22**).

Table 7.22 Summary of Revised Project Impact – Property Damage (Blasting and Trucks)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Personal and property rights	Property damage due to blasting	Martins Creek SSC Vacy SSC	Project life	Property owners proximal to quarry	High	Low (D2)
		Property damage due to truck movements	Haulage route	Project life	Road users along the haulage route	High	Low (D2)

7.6.3 Local Business and Livelihood

Consultation with businesses for the SIA, particularly those within Paterson, centred on concerns regarding the impact of the Revised Project on their business operations and livelihoods. Consulted community members felt that the Project and associated trucks were causing decline of business in Paterson due to noise, increased safety issues, decreased ability to walk around village and issues with parking. These impacts were seen to cause a reduction in the amenity of the village and deterring people from shopping in Paterson.

Community members and business owners also noted the impact that the Project had on hospitality and tourism related businesses in the area, again particularly for the village of Paterson. With one accommodation provider referring specifically to negative reviews being posted online in regard to their business.

These concerns for the tourism sector reflected submissions received on the Original Project which noted:

> *Tourism will be impacted over time with less people visiting the region, this will further have an impact on the economy of the region. (EIS submission 169386)*

…I also believe that a further increase of truck traffic will have a great impact on local tourism. A lot of the money coming into this area is from people visiting to enjoy the peace and quiet and get away from the city traffic. (EIS submission 173913)

The increased truck Traffic through Paterson directly affects not only my business … The noise from the truck Traffic disturbs not only me but also my guests. I have on occasion had guests leave due to the truck noise, or have said they would not return for that reason. (170284)

We have already seen a downturn in local businesses trading in goods & services, hospitality, tourism and wedding functions along haul roads, an extension will only make this worse. (173780)

Sentiments from the submission's analysis similarly highlight the historical nature of the Paterson village and note that the majority of the local business are located along the main street of town. The submissions point out that the rural and natural environment coupled with the history and events that occur in the locality and the region are integral to its desirability as a tourist destination.

Impacts to businesses and on tourism in Paterson were also a subject for discussion at the Traffic and Transport CAFs. The potential loss of current street parking was seen to be of significance to potential impacts for business with current on street parking spots seen as important. In particular the parcel pickup, and car spaces in front of the local businesses were seen as being important to ensure patronage to the businesses and quick access for the residents. The loss of car spaces was also seen to have the potential for corresponding impacts to tourism as a result raised.

During the CAFs, particular reference was also made to Saturday operations and how these were seen to be hindering weekend tourism and visitors.

7.6.3.1 Impact Assessment

With respect to tourism impacts specifically, an analysis of visitor reviews posted on Tripadvisor from 2012 to 2020 indicates a small number of comments noting customer dissatisfaction with their stay specifically due to truck traffic within Paterson, however these appear to be evenly interspersed with guests either commenting favourably on their experience or for those making a negative review, also noting other noise sources (such as trains) and other reasons for dissatisfaction with their stay.

While not to detract from the importance and potential impact of complaints to a business, the examination of historical customer reviews has indicated that the majority of the reviews published on TripAdvisor positively rating their experience – 19 out of 32 reviews rated as *excellent* with the large majority of these made prior to reduced operations at the quarry in September 2019.

A selection of examples of reviews are provided below:

Beautiful old building nicely restored. Bedrooms were of a good standard as was the dining room where we were served a good breakfast…..The only real negative about the place were the trains and trucks…. situated on a bend on the main road and close to a railway line and level crossing, so don't expect to get too much sleep in the early hours of the morning (TripAdvisor, June 2017).

We stayed here over a Sunday night as it was near to Tocal Homestead, where we were guests at a wedding. It was clean and comfortable, and the coffee and breakfast were ok. But take your earplugs: the train and large trucks were noisy early on Monday morning (TripAdvisor, March 2017).

We stayed here for 4 nights to attend a wedding & it was so wonderful. Paterson is a very small quiet town & this accommodation fits right in (July, 2017).

A really nice place to stay, quiet location (Expedia, August, 2017)

Positive tourist reviews also noted the ambiance and quite nature of the rural locality, which does further highlight the expectation and experience people are looking for when coming to the area. This is reinforced in the Tourism Plan for the Dungog Shire 2015-2018. During consultation activities undertaken by the Shire to support the development of this Plan, the top items identified as having a positive impact on visitation to Dungog Shire, as perceived by tourism operators, included natural beauty and fresh air (100%) and heritage of the countryside (79%). Historic villages within the LGA were seen by 32% of tourism businesses as a primary motivator for why people visit Dungog Shire while 57% say felt that historic villages the top secondary motivators, i.e. the motivator for why people stay and spend once they are in the area.

As reported at **Section 5.0**, tourism is a key industry sector for Dungog LGA – it is the fourth largest employment industry after agriculture, forestry and fishing; education and training, and construction.

Expenditure from domestic day tourists averages $107 for the broader Hunter region, including the Dungog LGA, with the average number of nights visitors spent in the area listed as three nights with an average spend of $480 over the three-day period (REMPLAN 2018).

According to the Dungog Shire Council's Visitor Economy 2015 report, visitation to the Dungog Shire increased by 8% between 2008 and 2014 with the visitor economy worth a total of $47 million to the Dungog Shire (total spend overnight and domestic day trip). Visitors can be broken down into day-trippers (65%), overnight visitors (34%) while international visitors make up 1% and $33 million is spent by overnight visitors to the region at an average spend of $100 per visitor (REMPLAN 2018).

REMPLAN (2020) estimate that tourism contributes the following to the Dungog Shire:

- $17.218 million of value add in the economy[24] representing 4.7% of the total LGA economy of $363.605 million.
- $9.792 million to the total number of wages and salaries paid to workers in Dungog LGA (representing 6.3%).
- $37.922 million out of a total output of $710.915 million.

The value of the tourist dollar is spread across a number of local industries, with accommodation and food services, transport, postal and warehousing, manufacturing, ownership of dwellings and retail benefitting the most (REMPLAN 2018).

During business targeted engagement activities, it was noted by one Paterson accommodation owner that 95% of their business was linked to weddings and that while visitation rates due to weddings had been significantly impacted by COVID, the proposed change in quarry operating hours (later morning starts and no haulage on a Saturday) was seen to be a positive move to assist and reduce the likelihood for patrons to leave early.

24 Based on ABS 2016 Census Place of Work Employment (Scaled), ABS 2016 / 2017 National Input Output Tables, ABS June 2019 Gross State Product, and ABS 2018 / 2019 Tourism Satellite Account.

During Round One engagement, when stakeholders were asked where they access services and do their shopping a majority responded Maitland and Paterson. Most general shopping and groceries were bought in Maitland, while stakeholders tended to purchase some goods and services in Paterson including at the chemist, grocer, Post Office, hairdressers, fuel station, pub and butchers.

Submissions on the Original Project had referred to fact that proposed barriers and median strips at the main intersection in Paterson may address some safety issues, but would create problems for those visiting businesses as the existing street is just not wide enough to accommodate the proposed number of trucks, while providing parking for the elderly and others outside the post office, takeaway shop and B&B/café. This was also thought to potentially impact on Paterson businesses.

During SIA consultation activities, the impacts to Paterson village businesses were again discussed in relation to proposed intersection upgrades for King and Duke Street, Paterson and concerns with regarding to the loss of car parking and flow on effects to their business. During the Traffic and Transport CAF (2019), participants were presented options for three potential intersection design changes. Participants articulated that none of the options presented for King and Duke Street intersection were favoured and that they felt the designs had no benefit to the community. A number of specific concerns were expressed at this session including:

- Reduced access to the Paterson service station and difficulties in being able to turn right into and out of this business.
- Queries regarding how alterations to the footpath outside the post-office would impact on the post-office if it is listed as a heritage building.
- Loss of on-street car parking and how this may impact businesses, tourism and community amenity. It was noted that the car space outside the Post Office is frequently used by the elderly, delivery trucks and customers for parcel pick up and drop off and that the removal of this space could prevent people from stopping altogether.
- A proposed carpark to be located on land purchased by Daracon in Paterson needed adequate parking spaces and visibility and that the community will not use this as they prefer to park on the street.
- A view that the intersection designs do not benefit the community or align with promoting the area as a tourist location.
- Cyclists take into account the condition and risk of routes prior to riding.
- Concerns for safety of pedestrians using the pedestrian refuge.

As a result there was no alignment in the Traffic CAF feedback on:

- the locations of pedestrian crossings or even the utility of inclusion of pedestrian crossings as part of road enhancements that may assist with public safety issues and minimising impacts on local businesses
- Daracon’s offer to establish off-street parking.

As a result, Daracon committed to developing an additional intersection design option and further targeted engagement with Paterson businesses was subsequently undertaken to understand their feedback on this revised intersection design and further specific concerns relating to the Revised Project and how proposed changes may affect and how these could be minimised.

The proposed King Street and Duke Street intersection that was presented at these subsequent meetings included the following elements:

- relocation of the existing driveway on the north side of the intersection slightly west to improve the space allocation for parking on either side of the driveway and improve carparking capacity along this northern kerb line
- relocation of the existing direction and hazard signage on northern side of intersection
- refreshing dividing line markings through the intersection
- modifications to the footpath, kerb ramp and kerb and gutter on the south-western corner of the intersection to accommodate the design vehicle turn path
- relocation of the existing 'No Stopping' sign in front of Telstra phone box to power pole adjacent to Post Office driveway and removal of the existing single carparking space to accommodate design vehicle turn path.

Further detail on this proposed intersection design is included at Section 2.0 of the ADA / RtS.

During this targeted consultation, the importance of the post office car space was again reiterated however there was a difference on views expressed at this time regarding the loss of this space with a split view between those contesting its loss and those who felt the existing space is already dangerous and should be removed anyway.

There was also again difference in opinion as to whether pedestrian crossings should be included into plans with some of the view that this may help those with mobility issues cross the road, e.g. wheelchairs, older population versus the those who felt that removal of the pedestrian crossing was a good idea as these tend exacerbate congestion in the village.

Trying to be a pedestrian is hard due to the number of trucks, if we can't have pedestrian crossings.
Round 2

The removal of the median strip and truck separator was generally seen as positive to make it easier to for visitors to move around Paterson as it was felt that trucks would struggle with navigating the corner with raised obstacles.

A number of consulted businesses were also happy to hear Daracon's proposed plans to increase the amount of product transported by rail subject to market requirements however there were still concerns identified from some businesses regarding trusting Daracon and what mechanisms would be put into place to what mechanisms are in place to monitor the rail versus road transportation limits.

With regards to concerns associated with shoppers parking, it was also noted during discussions that currently workers of some Paterson businesses park in the car parking spots allocated for customers which was further constraining car parking in the village and this issue could increase the future with further developments proposed in the village.

Considering the above, the livelihood impact to local businesses and the tourism economy is considered of *high* stakeholder significance.

Community identified mitigation and management measures regarding management of possible impacts on property rights have been summarised at Table 7.23 along with Daracon proposed onsite management strategies for the Revised Project.

Table 7.23 Summary of Mitigation and Enhancement Strategies – Local Business and Livelihood

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Local Business and Livelihood	• Reduced truck movements • Local business support, e.g. utilising local businesses for catering bookings, fuel purchases, sponsorships • Local business branding signage • Pedestrian crossing in Paterson • Shared pathways / footpaths	• No road haulage of quarry product on a Saturday • Limited truck movements between 3-6pm week days • Haulage to be limited when there are large planned community events • Local employment and procurement policy to enable encouraging supporting businesses and recruiting locally where possible • Local investment in key community enhancement projects in Martins Creek and Paterson via the Community Contributions and Sponsorship program, e.g. Paterson and Martins Creek Village entry signs, village beautification projects

In addition to the above measures, while previous consultation with TfNSW indicates that Paterson does not meet the criteria for a pedestrian crossing and no particular option (i.e. crosswalk vs no crosswalk) has been supported during consultation activities to date, Daracon have proposed this as an option and would be supportive of contributing to the establishment of a pedestrian crossing should Shire of Dungog approve it as a part of the Planning Agreement considerations, and TfNSW approve this measure.

Contribution towards footpath/cycleway works enhance pedestrian safety and mobility within the township of Paterson may also be considered as part of the Planning Agreement with the Shire of Dungog.

Table 7.24 Summary of Revised Project Impact – Local Business and Livelihood

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Personal and property rights	Economic livelihood – impacts on local businesses	Paterson SSC	Project life	Paterson businesses	High	Moderate (D3)
			Haulage route	Project life	Businesses along the haul route	Moderate	Low (D2)

7.6.4 Economic and Employment

7.6.4.1 Perception of Impact

While some respondents identified that a positive economic impact would be increased or continued employment of quarry staff as a result of the Revised Project, others stated that this benefit was limited as the Project would not result in many additional jobs and suggested that Daracon did not employ many local residents anyway. Some participants noted that the Revised Project would not have an economic benefit for the local communities.

7.6.4.2 Assessment outcomes

When the quarry is operating at full capacity, the workforce for quarry and haulage operations are expected to be approximately 22 full time equivalent employees. In addition, contractors will be periodically engaged for various activities during the life of the quarry and may total in the order of 30 personnel.

The direct employment of 22 FTE workers each year would result in the total employment of 450 FTEs.

Major resource projects can make significant social and economic contributions to communities that extend far beyond the location in which a particular operation is based. For instance, the presence of an operation can provide economic contributions to communities through indirect impacts such as employees' household expenditure. Employees (and their families) may also contribute to communities through their participation in community groups and activities, or through their use of health and education services. Likewise, indirect benefits may be experienced in communities where suppliers' head offices are located or where suppliers' business expenditure is undertaken.

The broader Daracon Group is a collection of multiple businesses working across a range of construction and engineering services for public and private sector projects. It is a successful locally owned family business with a strong focus on the Hunter Valley with its head office located in Beresfield, NSW and other offices in Sydney, Mount Thorley and Gunnedah. The Daracon Group employees approximately 800 people across NSW, eight of whom live within 10 km from the quarry and 133 within 40 km. Also of note is the fact that the Daracon Group is one of only 23 businesses in the Hunter that employ more than 200 people (of a total of 41,744 businesses in the Hunter (pers comm. Hunter Business Chamber).

An Economic Impact Assessment has been completed for the Revised Project in accordance with the Guidelines for the economic assessment of mining and coal seam gas proposals (NSW Government 2015) and involved a Cost Benefit Analysis (CBA) and a Local Effects Analysis (LEA).

Outcomes of the CBA suggest the Revised Project is estimated to provide a potential net benefit to NSW of $58 million in net present value (NPV) terms. This net benefit is comprised of $19 million and $39 million in direct and indirect benefits respectively. Indirect costs of the Revised Project are $503.

The CBA considers the indirect benefits to NSW through benefits to workers and suppliers. Based on full-time equivalent employment of 18 employees and total employment of 450 FTEs, as well as the average wages paid per employee, the wage for a full-time equivalent employee is $133,276 on average over the life of the Revised Project. These earnings are constant over the life of the Revised Project. The total of wages paid to employees is estimated at $26.1 million in NPV terms (EY 2020).

In terms of suppliers, the Revised is estimated to require $130 million (in NVP terms) in immediate inputs, with Daracon advising that currently almost all inputs are sourced from NSW-based suppliers. The EIA concludes that potential total supplier benefits are estimated to be about $26 million in NPV terms.

The LEA considers the costs and benefits of the Revised Project to residents of the Lower Hunter region of NSW (based on ABS SA3 boundary which includes Cessnock and Singleton). The analysis is based on data provided by Daracon which state that for the currently approved operations 100% of the supplier inputs are sourced from Lower Hunter based businesses and 71% of workers who live locally. The analysis shows an estimated potential net benefit of $35 million to the Lower Hunter region (SA3) in NPV terms, well over half of the total benefit estimated to NSW. This is largely driven by benefits to local suppliers, based on information from Daracon that 100% of the inputs to production are supplied from the Lower Hunter region (SA3). In fact, the net benefit to local suppliers is estimated to be about $26.2 million in NPV terms. There is an additional benefit of $9.2 million in NPV terms to local workers.

Of the Daracon employees who were previously employed at the Martins Creek Quarry prior to September 2019, 11 lived in the nearby LGAs of Dungog, Maitland or Port Stephens, while the remaining three lived in Lake Macquarie, Mid Coast and Newcastle.

Community identified mitigation and management measures regarding management of possible impacts on property rights have been summarised at **Table 7.25**, along with Daracon proposed onsite management strategies for the Project.

Table 7.25 Summary of Mitigation and Enhancement Strategies - Economic

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Employment	• Local employment • Local business support, e.g. utilising local businesses for catering bookings, fuel purchases, sponsorships	• Local employment and procurement policy to enable encouraging supporting businesses and recruiting locally where possible.

Table 7.26 Summary of Revised Project Impact – Local Business and Livelihood

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the quarry	Way of Life Personal and property rights	Economic livelihood and employment opportunities	Dungog, Maitland Port Stephens LGAs	Project life	Local / regional residents	Low (positive)	Moderate + (C2)
					Local business / suppliers	Low (positive)	Moderate + (C2)
			Lower Hunter region	Project life	Regional business / suppliers / Employees	Moderate (positive)	High + (B3)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
		Delivery of key materials to infrastructure Projects	Broader Hunter region, Sydney Metropolitan Region and other parts of NSW	Project life	Regional and NSW construction industry	Moderate (positive)	High+ (B3)

7.7 Engagement and Decision Making

The SIA Guideline refers to decision making systems as the extent to which stakeholders and the community can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

As highlighted in **Section 6.5.1** , community members expressed concerns in relation to trust in the company and the government assessment and development processes and their ability to provide meaningful input. In particular community members cited historical experiences with Daracon and concerns that the quarry had been operating outside of their consent condition as further eroding this trust. As result, the community felt they could not trust the monitoring results provided by the company and therefore had no reason to believe monitoring outcomes of Daracon in the future. Therefore, during engagement for the SIA there was a strong desire to see regular independent monitoring, accurate and consistent communication about the Revised Project and for the Company to keep the community informed of Project progress.

In addition, there was a noted feeling of *'consultation fatigue'* by community members as they felt they had been engaged on numerous occasions, without their concerns being addressed.

To improve trust and their relationship with Daracon, the community wanted to see the company undertaken genuine engagement, where community feedback and concerns were valued and adequately considered in Project development and decision making.

Concerns relating to trust and decision-making were seen by some participants as reinforcing that Daracon did not have a social licence to operate. These views are consistent with those expressed in survey conducted by MCQAG of community members in August 2015 where:

- 41 out of 82 total respondents (50%) *strongly agreed* to the statement 'people around here really don't trust Daracon'.
- 46 respondents (56%) *strongly disagreed* to the statement 'Daracon fairly considers the community when making decisions about its operations and activities in the area'.
- 40 respondents (49%) *strongly disagreed* to the statement 'I feel that Daracon has been honest in its dealings with residents regarding its development and operations'.

There were however a couple of comments from consulted community members who also made more positive comments about more recent engagement activities as part of the SIA and with regards to specific Daracon personnel who they felt were more responsive.

I applaud Umwelt and the process they are trying to do.

I feel everything I wanted to know was answered by Louise.

As previously outlined, Daracon's historical community engagement program has involved landholder meetings, community sponsorships, a community complaints line, website updates, letterbox drops, email notifications. In addition, 2014 to 2016, the Martins Creek quarry CCC was the primary consultative mechanism for the Project. While the CCC is no longer active, Daracon have committed to re-establishing a CCC. An Independent Chairperson for this CCC was appointed in November 2020 with expressions of interest in membership of a new CCC to be advertised should the Revised Project be approved. Daracon is aware that there can be limitations in the operation of a CCC as mechanism for engagement and as a conduit of information flow to and from the community and therefore will work with the Independent Chairperson establish the necessary framework to ensure the transparent operation of this mechanism to meet its objectives, for example:

- Establishment of clear expectations for both Daracon and committee members to uphold the responsibility of information provision sharing with the community through a documented Terms of Reference.
- Ability for members to review draft agendas for the upcoming meeting and the ability to put forward any new business to add.
- Ongoing evaluation of the success of the CCC in meetings its objectives.
- Regular promotion for and onboarding of new members, across local and regional areas.
- Membership to include a broad range of stakeholder groups, including near neighbours, local council representatives and regional residents.

The CCC will also not be relied upon as the only means of engaging with the community. Refer to **Section 8.2** for further information regarding Daracon's proposed approach to engagement moving forward.

Early in the engagement program for the SIA, participants were asked to identify their preferences for receipt of information from Daracon regarding the Revised Project. Mechanisms included emails, newsletters and newspaper articles. One on one interviews and community forums were also identified.

A range of engagement mechanisms have therefore been undertaken for the SIA to account for engagement preferences of the community and to ensure a multi-faceted approach. This engagement has involved a range of key stakeholder groups including residents and landholders in proximity to the quarry and haul route, special interest group members, local businesses and service providers, who were engaged through a variety of mechanism including personal meetings, project briefings and CAFs.

During the assessment phase of the SIA, community members were engaged to share the outcomes of key study outcomes and the proposed mitigation and management strategies via the series of targeted small group meetings or CAFs. Community members were invited to ask questions, provide feedback on proposed strategies and identify any additional strategies they wanted to be considered by the Project team. To demonstrate to the community that their views had been considered in the decision-making process, response documents were provided to participants that outlined answered to questions and

responses to suggestions (refer to **Appendices 6, 8** and **9** for examples of CAF outcomes reports distributed to interested stakeholders and participants). In addition, as result of this feedback a number of iterative project design changes have been made throughout the ADA / RtS phase.

Evaluation forms were made available at each of the CAFs although limited feedback provided via this mechanism. It should be noted that there was some feedback received post the initial forum (Air Quality and Blasting) regarding how the session was run and the effectiveness of the collaboration. Hence modifications were made to the second and third subsequent CAFs addressing traffic and truck movements. Consequently feedback from these subsequent CAFs was more positive.

> *I must acknowledge the vast improvement in the conduct of the CAF on Traffic and Transport last Wednesday evening compared to the earlier CAF on Air Quality and Blasting.*
>
> *You gave us plenty of opportunity to ask and comment. Thank you.*
>
> *Clearer understanding of the process of Daracon. Good opportunity to express concerns.*

Unfortunately limited feedback was again provided on the delivery of the noise and social CAFs – with feedback from only two participants received on the Social CAF with these largely critical of the process.

Key to the intent of the CAFs has been a desire for Daracon to:

- Look to the community for advice and opinions in formulating solutions and incorporate them into the decisions to the maximum extent possible.
- Acknowledgement that there may be elements where Daracon and the community do not align.
- Take away ideas that are identified and discussed that cannot be solved at the CAF and come back to the community with how those ideas will be considered.

During engagement activities in 2020 and in light of COVID-19 health restrictions in place since March 2020, the ability for the community to participate in face-to-face community meetings was reduced with Daracon and the Umwelt project team moving to online based engagement through the establishment of a Social Pinpoint (SPP) page and hosting of the Noise CAF via an online forum. Noise CAF presentation and discussions were recorded and uploaded onto the SPP page. One on one personal interviews via telephone and face to face were also offered to those who did not wish to use online mechanisms.

The level of distrust in the community with respect to information provision and transparency was still notable with many stakeholders perceiving that Daracon and Umwelt had planned Round Two consultations to coincide with COVID restrictions, in order to 'divide and conquer'.

> *The Action Group Committee stated to Daracon and Umwelt that they are attempting to push the Project through under the cover of COVID and that is a disgrace. The Committee was also disappointed to learn at the Meeting that Daracon and Umwelt plan to abandon any community workshops, meetings or group forums to communicate with residents about the proposed project and impacts. Instead Daracon and Umwelt are planning to rely solely on website-based consultation with the community and an individual interview and meeting approach we say is designed to 'Divide and Conquer. – MCQAG, Paterson Psst October Edition*
>
> *I think they are doing the sneaky, trying to get this going during COVID, so that people can't have public meetings and can't rally after they received their 'holiday brochure' in the mailbox. – Round Two*

I like to eyeball people (face to face). I don't like to do things remotely and I know that they are using COVID to hide behind that. – Round Two

Face to Face but I understand that is hard to do during COVID-19 restrictions. Second best preference: phone call. Newsletters are good. I'm not highly technical, but the video conference that was held last week (MCQAG 10/09/2020) worked ok. – Round Two

By email correspondence is the best way. Meetings are problematic to get to (especially with COVID restrictions in place now), but they seem to fall on a day/time that you can't get to. I work in the afternoon/nights, so it's harder for me to attend. – Round Two

During Round One engagement (2018) for the SIA, participants were asked about their level of satisfaction with these project design changes. While it was acknowledged by some that the changes were a move in the right direction, it was felt that there was still a way to go with the majority (71.4%) of those consulted noting that their current issues of concern were 'not addressed at all'. Participants noted that there was not enough consideration of community feedback and that the Project refinements were not considered substantial enough.

Following this initial round of consultation for the SIA, additional Project changes and refinements were made including:

- Further reduction in the proposed extraction limits.
- Further reduction to road transportation volumes and peak hourly truck movements.
- Further reductions in operating hours.
- A reduction in the proposed Project disturbance footprint.
- Reduction in the proposed quarry operation approval term.

During Round Two engagement, community members were asked to provide additional feedback on the additional Project design changes. However, as demonstrated at the consultation outcomes included at **Appendix 7** levels of satisfaction with these Project design changes were still reported as low. With a number of participants stating confusion regarding why the Project was constantly changing and some stating that the changes were not substantial enough.

To support ongoing and transparent engagement with the community, during 2020 Daracon employed an experienced community engagement specialist to facilitate ongoing community engagement and to be a constant point of contact for the community in the future should the Revised Project be approved.

Daracon also have an existing formal complaints line. Having a formal grievance mechanism in place, provides an additional back-up procedure to ensure that rights-holders have access to remedy. Apart from signalling that the Project is compliant with its conditions and responsibilities, a genuine commitment to the proper functioning of grievance mechanisms would build trust, maintain and grow the Project's social licence to operate, reduce harm in the community, and reduce business risk (Vanclay, Esteves, Aucamp, & Franks 2015, 54).

As reported at **Section 4.5.2**, perceptions of both Daracon and the Martins Creek Quarry amongst those who have participated in consultation activities for the Revised Project are quite low.

Daracon doesn't have a social licence or public trust.

The perception is that the quarry has not dealt honestly in the past.

Ongoing, inclusive and transparent consultation will be required to support co-existence between the Project and the community. It will be important that interested community members and neighbouring property owners have timely access to detailed information about the Revised Project and its progress and are involved in ongoing engagement about the Revised Project's potential impacts and mitigations.

To address decision making and engagement, Daracon will develop a SIMP and a Community Engagement Strategy, that details how they will monitor, managed and evaluate social impact and engage with stakeholders should the Revised Project be approved. Further detail on the elements of the SIMP can be found in **Section 8.0**.

Table 7.27 outlines community identified mitigation measures and the measures that Daracon proposes to adopt to further enhance engagement relating to the Revised Project and provide information to the community.

Daracon has committed to continuing to engage proactively with local and regional community representatives, providing information regarding Project updates and assessment and monitoring of environmental results. In 2020, Daracon has appointed a dedicated Community Liaison Representative as a mechanism to continue to develop its relationship with local landholders and other stakeholders, with this role to continue should the Revised Project be approved. The importance of this role has been acknowledged during a discussion with some stakeholders with one consulted business stating that the role *gave the community a voice.*

Table 7.27 Summary of Mitigation and Enhancement Strategies – Decision Making Systems

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
	• Greater company consideration of community issues • Genuine engagement and collaborative approach • More responsible behaviour • Contribute to the community ($) • Discounted products available to local groups • Greater transparency in information	• Ongoing engagement of Daracon's existing dedicated Community Liaison Representative and ongoing engagement with the community • Establishment of a new CCC and ongoing evaluation of its effectiveness • Improved accessibility and delivery information provision that targets identified concerns • Community Contributions Program • Development of a SIMP for the Project

When considering both the history of the Project in the community along with the above mitigation measures, the perceived lack of trust in decision-making and engagement processes, is assessed as *likely* with m*inor* consequence, and has been ranked as a ***high*** social risk (refer **Table 7.28**).

Table 7.28 Summary of Revised Project Impact – Decision Making Systems

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Project assessment process	Decision-making systems	Engagement, communication and information provision Distrust of Daracon and process	Martins Creek SSC Paterson SSC Vacy SSC Localities along the haul route	Project life	Proximal residents / community members to the quarry and haul route	Hjgh	High (B2)
			Broader Dungog and Maitland LGA communities	Project life	Broader community	Moderate	Moderate (C2)

7.8 Access to and Use of Ecosystem Services

Impacts to surroundings also relate to the access to, and use of, ecosystem services which include concerns raised by stakeholders in relation to impacts of the Revised Project on biodiversity and land use (flora and fauna), water and ecology and greenhouse gases.

7.8.1 Biodiversity

As discussed at **Section 6.8.1** , consultation participants indicated having concerns with respect to the loss of environmental values through potential harm to native fauna such as koalas, platypus, birdlife, kangaroos, pygmy bats, quolls, echidnas and orchids. In particular there were concerns expressed regarding how these species may be affected by expansion and land clearing activities for the quarry with some stakeholders believing that the amount of native wildlife in the area may already be declining with endangered species may be particularly threatened.

During Round Two consultation impacts to biodiversity were more salient, with participants stating they had increased concerns for the cumulative impacts to wildlife including koalas in particular, given the recent bushfires (in Summer 2019/2020) and increased media relating to the impact of land clearing on koala habitat as a result of the Brandy Hill Quarry Expansion Project (approved in 2020).

The Brandy Hill and Seaham Action Group commissioned a scientific report to further investigate use of the area by breeding female koalas and wildlife researchers, residents and campaigners argued that the site of the proposed Brandy Hill extension is important koala habitat. In August 2020 the '30 days to Save Port Stephens Koalas' campaign was launched in a further effort to save this habitat.

A comprehensive biodiversity assessment report (BAR) and biodiversity offset strategy (BOS) was prepared for the Revised Project in accordance with relevant Guidelines (see Conacher 2020).

The total Revised Project area, including the proposed footprint for the Dungog / Gresford Road intersection upgrade and the new main access road and intersection off Dungog Road, is 127 ha in size and will require the disturbance of an area of approximately 22 ha of native vegetation.

The assessment, which included a koala habitat assessment as per the State Environmental Planning Policy (Koala Habitat Protection) 2020, identified a number of key biodiversity values within or adjoining the Study Area. However, it determined that the Revised Project Area is not considered to be core koala habitat.

The assessment also determined that construction and operation of the Revised Project will result in a range of direct impacts on biodiversity values within the proposed disturbance footprint of the Revised Project including the loss of native vegetation and fauna habitats, habitat fragmentation or isolation, altered hydrology regimes and the potential incremental decline in quality and extend of habitat as a result of clearing works and works associated with the construction and operation of the Revised Project.

It concluded that there would be minor indirect impacts associated with deterioration in water quality, dust, noise and vibration, decline in genetic diversity, weeds and feral animals during the construction and operational phases. However, with the implementation of the mitigation measures outlined below and once the proposed rehabilitation has become established, the long-term connectivity of the area is expected to be improved. These indirect impacts were also identified to be similar to those experienced with the historic and more recent operations at the quarry and will therefore not expected to substantially change as a result of the proposed Revised Project.

Further information is provided at Section 6.10 of the ADA report with the specialist report included at **Appendix K** of the ADA.

7.8.1.1 Mitigation and Predicted Impacts (Mitigated)

The originally proposed project has been revised to minimise the environmental impacts associated with the Revised Project whilst maximising the economic resource recovery. As a result of consideration of alternative quarrying options, the proposed additional disturbance area for the Revised Project has been reduced from 30.5 ha to 17 ha and approximately 13.5 ha of undisturbed vegetation in the former East Pit (Lot 21 DP 773220) is no longer proposed to be disturbed as part of this application.

When this Project design change was presented during consultation activities, several stakeholders surveyed felt that a reduction in the proposed disturbance area would benefit native flora and fauna and satisfaction ratings of 3 or 5 out of 7 were frequently reported. However the overall average satisfaction rating reported was still 2.7 out of 7 with distrust of the company highlighted as a strong reason for lower satisfaction ratings and others believing that the disturbance area is still too great.

The following quotes summarise stakeholder sentiment in relation to the proposed changes.

We are seeing Koalas on Black Rock Road, they are being pushed down here, so I think that's good to reduce the footprint. (Brandy Hill is also pushing them down), so the less disturbance of Koala habitat, the better.

It's an improvement as its less interference with the natural vegetation/bush. That was the area that they were extracting from illegally.

It is an improvement, but not a big one. Wait till we find some koalas there? I can see the possibility of that being a problem.

That's nearly 50 acres, it's better than it was, but it is still not acceptable.

Not at all, reduction is not enough - 13.5ha is far too much, they are a quarry, it's not a mine.

Suspicious, if they get the extension to mine that area, then in another 10 years they will get another one, until they reach the figure, they actually want to achieve.

Aside from reductions in the footprint for the Revised Project, a number of mitigation measures would be put in place to manage ecological impacts and protect relevant ecological habitat. Identified management measures to minimise the potential for impacts on biodiversity (flora and fauna) include:

- Implementation of a Flora and Fauna Management Plan which outlines suitable clearing methods and protection measures to minimise impacts to biodiversity.
- Environmental site induction of site clearing contractors.
- Completion of pre-clearing surveys to relocate fauna species.
- Supervision of clearing works by a qualified and experienced ecologist to ensure that the procedures outlined in the Flora and Fauna Management Plan are implemented.
- Fencing and signposting of the outer quarry footprint to prevent accidental over clearing.
- Completion of clearing works outside of the Koala breeding season of August to February, where Koalas are observed during pre-clearing surveys.
- Implementation of an Environmental Site Management Plan to manage environmental impacts associated with erosion, sedimentation, water quality, noise, dust and vibration.

Daracon is also committed to the effective rehabilitation and closure of the Martins Creek Quarry at the cessation of operations. This will be achieved through progressive rehabilitation and managing quarry operations to work towards the final rehabilitation and closure of the site.

Rehabilitation at the quarry has already commenced in various forms to date including:

- reshaping and revegetation of overburden and spoil material
- rehabilitation (topsoil spreading and re-seeding) of shaped areas
- passive regeneration within areas of existing vegetation where adequate canopy seed sources are available.

Several final land use options are available for the site. The currently preferred final land use will focus on promoting the rural landscape by establishing native grassland or exotic pastures in low lying areas whilst focusing on the re-introduction of pockets of woodland species across the benches consistent with endemic vegetation types. However, the final land use will be subject to further investigation during the development of detailed quarry closure plan to be prepared three years prior to the cessation of quarrying activities. This will be prepared in consultation with the community via the CCC.

Table 7.29 summarises the mitigation measures that Daracon propose to adopt relating to biodiversity, along with proposed strategies to address the ecological impacts of the Revised Project.

Table 7.29 Summary of Mitigation and Enhancement Strategies - Biodiversity

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
	• Plant more trees • Effective rehabilitation of the site	• Reduced disturbance area • Implementation of a Flora and Fauna Management Plan which outlines suitable clearing methods and protection measures to minimise impacts to biodiversity • Preparation of a Biodiversity and Offset Management Plan • Preparation of a Rehabilitation Management Plan

Biodiversity and land management impacts relating to the Revised Project were ranked as a *high* perceived stakeholder risk with proposed mitigation measures in place, it is predicted that impacts on biodiversity from the Revised Project would be *unlikely* to occur with *minimal* consequence and are therefore considered a *low* social impact (refer to **Table 7.30**).

Table 7.30 Summary of Revised Project Impact – Biodiversity / Ecological Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Surroundings	Ecological impacts – biodiversity and land management	Martins Creek SSC	Project life	Residents proximal to the quarry	High	Low (D2)
					Wider Dungog and Maitland LGAs	High	Low (D2)

7.8.2 Water

Only a very small number of consulted stakeholders raised the Revised Project's impact on surface water quality (2 in Round 1 and 3 in Round 2) with comments largely centring on discharges to water from the quarry and the impacts this may be having on local water bodies such as the Paterson River and local creeks and dams.

Overall, in the context of the local community, given the level of concerns raised, water was considered of low stakeholder significance.

Technical assessments have been undertaken for both surface water and groundwater and the results are explained in detail in the respective sections of the ADA report (Sections 6.9 and 6.8). A summary is provided below.

Surface Water and Water Balance

The comprehensive Surface Water Impact Assessment (SWIA), including an Operational Water Balance Study, determined that while the Revised Project has the potential to impact on natural and existing surface water systems, that the quarry's discharge water quality is expected to continue to meet the existing relevant criteria as outlined within the quarry's environmental protection licence and that overall, impacts on downstream water quality and availability associated with the Revised Project are expected to be negligible with respect to flows in the Paterson River and similar to previous operations at the quarry.

It was also determined that there will be no impacts to regional water supply infrastructure.

Daracon will also investigate opportunities to increase the quantity of captured runoff reused for operational demands to offset any potable water imports.

Groundwater

A groundwater assessment was also undertaken for the Revised Project using a combination of analysis of data collected during quarry operations and linear analytical modelling methods (Section 6.8 of the ADA).

This assessment has determined that the Revised Project is unlikely to have any impact on the groundwater or groundwater users. The small water take associated with the extension is within the licensed volume and the estimated impacts do not exceed the minimal impact considerations outlined in the New South Wales Aquifer Interference Policy (2012).

7.8.2.1 Mitigated and Predicted Impacts (Mitigated)

To manage potential impacts on both surface and groundwater a Water Management Plan (WMP) will be developed for the Revised Project that further defines management and measures and monitoring for both surface water and groundwater. This will make provision for:

- Ongoing reporting of monitoring and dewatering results on an annual basis, with a meaningful summary of results maintained on Daracon's website.
- Decommissioning and replacement of relevant bores beyond the extent of the quarry as the extraction area extends.
- Continue to annually report to the Natural Resources Access Regulator and DPIE the quarterly groundwater level logging results and water quality monitoring results.

It is also intended that the final landform will incorporate two final voids (West Pit and East Pit) that are predicted to fill with runoff from upslope catchments and remain as permanent water bodies that will periodically spill to the downstream environment. Final void water quality is expected to be similar to that of runoff from the surrounding catchment.

Further water management system monitoring (inventories, usage and discharges) and groundwater modelling will be undertaken as part of closure planning to inform the final void recovery model and refine the ongoing surface water licencing estimate.

The Revised Project's WMP will include the proposed Water Management System (WMS), revised Erosion and Sediment Controls (ESCs), amenities water management details, the proposed surface water monitoring program and Triggered Action Response Plans (TARPs) to allow Daracon to actively monitor the effectiveness of the WMS and update water management practices on a regular basis as required.

Potable water from the amenities water reticulation system will be sampled on a six-monthly basis and analysed to ensure the water meets the requirements of the Australian Drinking Water Guidelines (National Health and Medical Research Council 2011). The amenities water supply tank will be inspected monthly for any potential contamination with organics or other materials.

In summary, in relation to surface water and groundwater, the mitigated social risk is considered *'low'* (unlikely with a minor consequence); with a stakeholder perceived impact of *'low.'*

Table 7.31 Summary of Revised Project Impact - Water

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of operations	Surroundings Way of life Water – surface and ground	Water - Access to surface and ground water	Martins Creek SSC Broader Dungog LGA	Project life	Residents proximal to the quarry Paterson River visitors and users Bore users	Low	Low (E2)

7.9 Culture and Heritage

Concerns regarding impacts on cultural heritage were not raised in any discussions with broader community stakeholders unless specifically prompted as issue and even then, identified levels of concern were low.

It has therefore been ranked as a *low* perceived stakeholder risk for the broader community. However given the identified interest in cultural heritage by Aboriginal stakeholders via active participation in the completion of cultural heritage surveys, it is ranked as *moderate* for perceived stakeholder risk for this stakeholder category.

During discussions with community stakeholders concern was expressed on the heritage values of the buildings within the village of Paterson given its proximity to the quarry, and potential damage to these buildings and associated values, particularly given it was the village's historical character that had attracted a number of the village's residents to the areas in the first place and it is also these values on which locals were proud and tourism within the locality is based. Impacts on the heritage values were largely identified by stakeholder participants in the context of potential damage to and impacts on these due to blasting activities and ongoing heavy vehicle movements through town.

130-year-old buildings… would love to see Paterson stay the beautiful old town that it is. - Round One

Most of Paterson village is heritage. - Round One

Historic heritage more broadly within the area are also highly valued. During engagement to support the Dungog Shire Council's Strategic Plan 2030 (2018e), residents of the LGA saw the history and heritage of the LGA as important to the sense of community. The Plan states:

> *Dungog Shire is fortunate to enjoy a rich cultural heritage which has shaped our community in many ways, influencing our way of life, economy and demographics. Local identity is a key feature of our towns and villages who are very proud of their history. (Dungog Shire Council 2018e,13)*

The town of Dungog and other towns and villages in the LGA including Vacy, Martins Creek and Paterson were established during the early to mid-1800s. During this time, the area had a strong agricultural and farming focus with the area being used for wine, graphs, citrus, tobacco, arrowroot, horse breeding, timber, dairy cattle, poultry and sheep and cattle grazing (refer to **Section 5.10.2**). Today agriculture, particularly beef cattle farming, is still a key industry for the LGA.

However, quarrying also has a long history in the locality. During the early 1900s there were three quarries in the Martins Creek area, with the quarry now known as the Martins Creek Quarry having started operations in 1914. Ingle (1990, 1) states that the:

> *district has been partly rural but predominately industrial since stone quarrying begin in the first decade of the twentieth century. With only one quarry operating in the 1990's there is the added dimension of Martins Creek becoming a dormitory suburb for Newcastle and Maitland as well as housing retired industrial workers and farmers.*

Similarly, in their submission in objection to the original EIS, MCQAG 'acknowledge the historical significance of the site, it has co-existed and provided local employment for ~100 years within these communities' (MCQAG Submission).

Paterson itself has a long history of its many character buildings documented in various historical records. Australia Post Historical Section has records of the Paterson Post Office dating back to 1832 when the post office was first established, although originally thought to be located at the Old Banks (western bank of the Paterson River). At that time, there were only a small number of post offices outside of Sydney (Paterson Historical Society 2021). In 1885 the Post office and Telegraph Office opened at the current Paterson Post office site (Paterson River History 2021).

The town has a strong history of preserving historic structures, many of which were built in the 1800's as illustrated in **Table 7.32**. Many of these buildings along with other private residences also of heritage significance are featured on the Paterson Historical Town Walk, an annual event guided by a representative of the Paterson Historical Society.

Paterson village is considered a Heritage Conservation Area, the Dungog Development Control Plan (Part C) provides the following statement of significance:

> *The older parts of Paterson are significant within the lower Hunter as a rare example of a compact, essentially nineteenth century village which is set within a dramatic rural backdrop. Nestling in the Paterson River Valley with uninterrupted vistas in all directions to substantially cleared hills the older parts of this village are set on a street pattern which is dictated by relief and which retains most of its original half-acre allotments. Built development is close to street frontages, with narrow separations, giving a compact built-up appearance to both residential and commercial development. Reflecting the mainly Victorian and federation ages of buildings most have steep galvanised iron roofs, high single or double storeyed timber or masonry walls with high narrow window openings, 'traditional' paint colours, often bullnosed verandahs and turn-of-the-century decorative details. There is much intrusive modern signage in the commercial parts. There also has been some modern infill building and a great deal of both repairs/maintenance and fencing has*

been done using inappropriate modern materials but much of this is unseen behind older residential and commercial buildings. (Dungog Development Control Plan, Part C)

Additional description of the Paterson Heritage Conservation Area and the impacts of the Revised Project can be found at Section 6.11 of the ADA (Heritage Impact Statement).

Table 7.32 Examples of Heritage Buildings in Paterson

Building	Details
Paterson Post Office	Opened in 1885 and also served as the Telegraph Office
Paterson Tavern	Built in 1882 as the Commercial Hotel. Expanded in c. 1911 to the west which is now the restaurant area
CBC B&B	Former branch of the CBC Bank. The building was completed in 1902 and was the only bank ever operated in Paterson The branch closed in 1979 and became a private residence. It was later restored and reopened in 2001 as the CBC B&B.
St Paul's	St Paul's Church of England was consecrated in 1845 by Bishop Broughton. The church has been a continued place of workshop since then. Many early settlers and landholders, including notable families and veterans of the Napoleonic wars are buried in its graveyard.
Court House Hotel	Opened in 1876. The business began in 1864 as the Cricketers Arms, down on the river flats just north of the village. It was demolished after a flood in 1875 and the materials used to rebuild on the current site close to the Court House. It is now only half its former size due to a fire in 1960.
Former School of Arts	Original Paterson School of Arts open in 1884 alongside the Court House Hotel. It was designed by Maitland Architect JW Pender.
Former St Ann's Presbyterian Church	Opened in 1842 and was one of the oldest Presbyterian Churches in Australia until decommissioned in 2009
Court House Museum	Operated as a museum since 1974 in the former Court House that was built in 1858 and extended in 1863. The Court House officially closed in 1967.

Source: Paterson Historical Society, Paterson Town Walk



Figure 7.8 Paterson Village – Paterson Post Office (c.1975) and Former CBC Bank (date unknown)

Source: Paterson Historical Society Flickr: https://livinghistories.newcastle.edu.au/nodes/view/14661, livinghistories.newcastle.edu.au/nodes/view/14663

To highlight the heritage and other values to visitors to the town, the Paterson Historical Society has recently developed a walking tour app and accompanying audio guide for visitors to the village. The heritage values of the locality have also been documented in the book 'Portraits of Paterson' (Pitkin 2020) which documents the history of Paterson including information about the older buildings, businesses and families living in Paterson during the 1900s and the outcomes of interviews with locals.

7.9.1 Assessment Outcomes

An Aboriginal Cultural Heritage Assessment Report was prepared in support of the EIS (Monteath & Powys 2016) prepared for the Original Project by Niche Environmental and Heritage (Niche), in consultation with RAPs and Knowledge Holder groups to assess the Aboriginal cultural heritage values of the Project Area and surrounds. This assessment included background investigations, consultation with Aboriginal stakeholders, and a cultural heritage survey conducted with Aboriginal stakeholders.

While the assessment found that the expansion of the quarry as proposed by the Original Project would harm one Aboriginal object (AHIMS #38-4-0214), the site could not be re-located during the field survey and the listed isolated artefact could not be found. It was therefore concluded that the site was located on highly disturbed land and it was highly unlikely that artefacts survived in sub-surface deposits due to the lack of soil observed in the area.

Two Aboriginal objects (AHIMS #38-4-0213 and #38-4-0215) are approximately 2.5 km from the new access road and outside the proposed disturbance footprint for the Revised Project.

During the ADA / RtS, a heritage impact statement was also prepared to assess the potential heritage impacts associated with the Revised Project's primary haulage route, involving:

- potential vibration impacts (if any) of the proposed number and frequency of trucks on the structural integrity of listed heritage items
- potential impacts to the significance of the conservation area as a result of the number and frequency of trucks travelling through a conservation area, and
- the impacts of proposed intersection upgrade works on the curtilage and significance of listed items and any conservation areas.

The scope of the assessment was limited to the above specifically to respond to the request for additional assessment contained within the submissions received from Dungog Shire Council, the DPE and the Heritage Division of OEH. The Historical Heritage Assessment prepared by Niche Environment and Heritage to support the Original EIS (Monteath & Powys 2016) addressed all non-haulage route components of the Original Project to the satisfaction of the DPE and other relevant government agencies.

The following identified historic heritage items were assessed for potential vibration exposures and blast overpressure from the Revised Project:

- Martins Creek railway buildings and quarry
- House, 'Gostwyck'
- The Gostwyck bridge
- Corner's flour mill
- House, 'Hayward'.

Predictions of ground vibration and blast overpressure for the identified historic heritage items were found to be well below the applicable criteria for all modelled charge masses.

The heritage assessment determined that the only physical works that will occur in association with a heritage item or area as part of the proposed haulage route are within the Paterson heritage conservation area (HCA), at the intersection of Duke and King Streets in the village of Paterson, and in proximity to the locally listed Gostwyck Bridge. In this regard, the assessment concluded that:

- The proposed Duke and King Streets intersection upgrade will not result in any identified adverse visual or physical impacts to the heritage significance of the Paterson HCA or individually listed heritage items located therein.
- The proposed bridge approach upgrade at the Gostwyck Bridge will not result in any physical impacts to this item as the works will be outside the listed curtilage for this item. Further, the works will in no way visually impact the aesthetic significance or setting of the bridge.

As identified at **Section 7.3.1** above, with regards to vibration impacts associated with truck movements, the key factors in determining vibration impacts are irregular road surfaces and vehicle speed therefore vibration impacts generally only arise when a heavy vehicle hits a pothole, speed bump or other irregularity at speed and the energy from the impact is then transferred through the ground to adjoining buildings.

The road surface within the Paterson Heritage Conservation Area is a bitumen pavement and, when properly maintained, does not contain irregulates that would induce significant vibration impacts. Daracon will be making contributions to the Shire of Dungog under a yet to be negotiated under VPA.

The assessment has determined that proposed mitigation measures such as reduced vehicle speeds through Paterson, in combination with Daracon's financial contributions to the Shire of Dungog towards road maintenance, means that vibration impacts from trucks to result in adverse impacts and structural damage to heritage buildings in Paterson are unlikely.

The outcomes of the heritage assessment do not discount the broader heritage values that obviously exist from a community perspective, particularly within the village of Paterson and the possible impacts on these value as a result of the quarry's operations, in particular truck movements. Therefore, in addition to the above, Daracon will also investigate opportunities in collaboration with the Paterson Historical Society for supporting the conservation of heritage buildings or local community projects focused on these objectives in its community investment program when selecting possible community sponsorship projects.

7.9.2 Mitigation and Management Measures

The following mitigation measures are proposed as part the Revised Project to minimise historic heritage related impacts and associated values:

- Daracon committed to contribute to road maintenance costs associated with truck haulage and these funds will enable Dungog Council to ensure road conditions within Paterson are appropriately maintained.

- Insertion of a requirement in the Driver Code of Conduct to report any substantial road pavement irregularities in Paterson, with these reports being passed on the Dungog Council for attention.

- Directions to be given to drivers alerting them of any identified road irregularities to enable them to minimise speeds where these occur when driving through Paterson.

- Daracon committed to reducing truck speeds through Paterson to 40 km/hr, with further reduction to 20-25km/hr around the King Street and Duke Street intersection.

- All kerb and other road infrastructure to be reinstated following the proposed works within the Paterson Village HCA to replicate that removed to allow for the King / Duke Street intersection works.

Community identified mitigation and management measures regarding management of possible impacts on heritage values have been summarised at **Table 7.33**, along with Daracon proposed onsite management strategies for the Revised Project.

Table 7.33 Summary of Mitigation and Enhancement Strategies - Heritage

Impact Theme (s)	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Aboriginal Cultural Heritage	• Heritage conservation	• Implementation of a Cultural Heritage Management Plan • Discovery and management of Aboriginal objects and places during operations and should be conducted in consultation with the Registered Aboriginal Parties (RAPs) and OEH. • RAPs to be consulted and further survey completed to inform any further mitigation measures required as part of the final design and construction process for the new access road, prior to the commencement of land clearing.
Historic Heritage	• Repairing damaged bridges • Heritage conservation	• Contribution to road maintenance costs via the VPA • Substantial road pavement irregularities in Paterson to be reported under Driver Code of Conduct • Reduced truck speeds • Daracon community investment strategy to focus on projects and sponsorships targeting project impacts and identified areas of community concern and need, e.g. conservation of heritage buildings and values.

Considering the mitigation measures outlined above, it is considered un*likely* that the Revised Project would have an impact on Aboriginal cultural heritage, with a *minor* consequence and is therefore ranked as a ***low*** social impact.

With regards to regards to the potential for damage to historical heritage buildings, values and associated character, based on the outcomes of the technical assessment and proposed mitigation measures to be put into place, it is also expected to be *unlikely* with a *minor* consequence and is therefore ranked being as a ***low*** social impact.

Table 7.34 Summary of Revised Project Impact – Heritage and Culture

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of operations	Culture Community Surroundings	Damage to historical heritage buildings and values	Paterson SSC	Project life	Paterson residents, users and businesses	High	Low (D2)
Presence of operations	Culture Community Surroundings	Aboriginal cultural heritage and values	Martins Creek SSC	Project life	Aboriginal stakeholders	Low	Low (D2)

7.10 Cumulative Impacts

Concerns were raised by nine (9) stakeholders during consultation activities and relation to the cumulative impacts of the quarry in the locality and broader region given the existence of a number of other quarries and industries in the broader area and the combination of impacts such as dust and truck movements, namely associated with both the Brandy Hill Quarry and Martins Creek Quarry. These issues were identified more frequently in Round 1 (7 stakeholder interviews) compared to Round 2 (2 interviews) consultation activities which is of note as the Brandy Hill Quarry extension had been approved by the completion of the second round of engagement activities.

Cumulative impacts raised during Round 1 were again not just referred to in terms of quarrying activities specifically but about impacts being exacerbated when being experienced in combination with other activities such as living in a flight path of planes and helicopters, nearby to operating coal trains and movement of local farming trucks.

Reference in discussions was also made to the fact that ongoing residential developments in Bolwarra was also affecting traffic travels.

Local development means that traffic levels in Bolwarra are already significant. Cumulative impacts becoming unsustainable. – Round Two

Technical assessments of the Revised Project have determined that it will not cumulatively interact with any other mining, petroleum or extractive industry operations or known resources. The nearest quarry is Brandy Hill Quarry, located approximately 20 km away from the Martins Creek Quarry.

An assessment of the cumulative operational noise impacts as a result of the Revised Project was not required as there are no other industries present within the immediate locality, or likely to be introduced into the locality in the future.

The air quality assessment determined that cumulative particulate matter $PM_{2.5}$ concentrations are predicted to remain below both the 24-hour and annual average criteria.

The blasting and vibration assessment also determined that due to the significant distance from other industry, including quarrying operations, cumulative impacts associated with blasting are not considered likely.

Cumulative impacts associated with truck movements and traffic have been addressed previously at **Section 7.3.1**.

7.11 Predicted Impact Summary

The following table provides an overall summary of the social impacts in relation to the Revised Project as discussed in the sections above. Fears and aspirations relate to one or a combination of the social impact categories, and as such, for the purpose of this assessment, it is suggested that all of the identified impacts fall within the fears and aspirations category.

Table 7.35 Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
Presence of operation – product haulage	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Impacts on social amenity and surroundings due to truck volumes and disruptions	Martins Creek SSC Paterson SSC Vacy SSC Localities along the haulage route, i.e. Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Quarry near neighbours (including Martins Creek Village)	Iterative changes and revisions to proposed project Capped number of truck movements Truck speed limits in built up areas Reduced hours of quarry operation No trucks through Paterson prior to 6.45am No product haulage on Saturdays or from 24 December until 7am 2 January / or whatever is first working day after New Year (unless required for declared emergencies) Revised Driver Code of Conduct Traffic Management Plan including provision for regular monitoring of driver behaviour Road maintenance contributions via VPA to improve and maintain existing road conditions and extent to which impacts may be felt Community Contributions Program designed to enhance amenity in the local community where possible Planning quarry activities around extra traffic days, e.g. community significant events Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times	High	High (C3)	Traffic study indicates that there is sufficient capacity in the existing road network to accommodate the proposed traffic movements associated with the Revised Project both during construction and operation activities.
					Visitors / users/ residents of Paterson village Paterson businesses	As above No trucks through Paterson prior to 6.45 am Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times Truck speed limits of 20-25 km/hr when travelling through the intersection of King and Duke Streets in Paterson Provision of Camera Monitoring Station at the King and Duke St Intersection to enable truck identification as required	High	High (B3)	
					Residents along the proposed haul route to Melbourne Street, East Maitland	As above	High	High (C3)	
					Other road users along the proposed haul route – Maitland & Dungog LGAs	Road maintenance contributions via VPA to improve existing road conditions	Moderate	Moderate (C2)	Better existing road conditions may result in reductions to extent to which impacts are felt by road users in Maitland vs Dungog, e.g. less vibration, noise

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Impacts on social amenity and surroundings due damage to infrastructure from trucks	Martins Creek SSC Vacy SSC Tocal SSC Woodville SSC Mindaribba SSC Paterson SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Road users along the proposed haul route	All loaded trucks entering and leaving the quarry will always be covered, except during loading and unloading. Road maintenance contributions via VPA to improve road condition Driver Code of Conduct requires reporting of road maintenance issues	Moderate	Low (D2)	Daracon will contribute towards road maintenance and pavement upgrades via VPA however have no guarantee as to how Council spends these funds and timing of this.
	Way of Life Surroundings Community Health and Well being	Impacts on social amenity and surroundings due trucks movements causing public safety risks (interactions with people and vehicles)	Paterson SSC	Project life	Visitors / users/ residents of Paterson village	Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times No product haulage on Saturdays or from 24 December until 7am 2 January / or whatever is first working day after New Year (unless required for declared emergencies) Planning quarry activities around extra traffic days/ community events Truck speed limits of 20-25 km/hr when travelling through the intersection of King and Duke Streets in Paterson Reduced speed through Paterson village and other built up areas Provision of Camera Monitoring Station at the King and Duke St Intersection to enable truck identification as required. Regular consultation with local bus companies School visit program to encourage road safety awareness Reduced truck movements Investigation of the use of radar variable message signs Code of Conduct – driver training relating to buses	High	Moderate (D3)	Reduction of truck movements during weekends and periods of higher community activity.
			Haul route localities		Other road users, pedestrians, cyclists along the haul route		High	Moderate (D3)	
	Way of Life Surroundings Access to and use of infrastructure, services and facilities Community Health and Well Being	Impacts on social amenity and surroundings due cumulative impacts of trucks movements	Dungog LGA Maitland LGA	Project life	Local road and regional users on the Haul route	Removal of haul route 2 as primary haul routes Maintaining regular communications with Hanson via its Daracon Community Liaison Officer with the equivalent role within Hanson to identify ongoing issues of community concern, possible cumulative issues and joint responses to these.	Moderate	Low (C1)	Traffic Impact Assessment has made an allowance for background traffic growth of 2 % per year up to 2030 (10 year period) to account for the cumulative impact of other projects in the region. Two signalised intersections (Pitnacree Road / Melbourne Street / Lawes Street and Melbourne Street / New England Highway) are predicted to suffer from increasing delays due to the continual traffic growth along the New England Highway in this location rather than a direct impact of the Revised Project.

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
Product haulage	Way of Life Surroundings Livelihood Community Health and Well Being	Impacts on social amenity and surroundings - truck noise	Vacy SSC Paterson SSC Paterson SSC Tocal SSC Woodville SSC Mindaribba SSC Bolwarra SSC Bolwarra Heights SSC Duns Creek SSC Dungog LGA Maitland LGA	Project life	Residents along the proposed primary haul route	Road maintenance contributions via VPA to improve road condition Reporting of any identified substantial road pavement irregularities Capped number of truck movements Truck speed limits in built up areas	High	High (C3)	Noise impact assessment shows that existing road traffic noise levels (i.e. without quarry trucks) exceed the criteria for most relevant sensitive receivers due to the proximity of the receiver to the road and existing traffic rates.
				Project life	Visitors / users/ residents of Paterson village Paterson businesses		High	High (C3)	
				Year 1-4 of Project	Station St residents		High	High (B3)	New Access Road and Extension of the Quarry's rail spur by end Year 4
					Dungog Road residents proximal to new access road		High	Moderate (C2)	
				Year 4 onwards	Station St residents	New access road	High	Low (E2)	Dedicated access road onto Dungog Road to be commissioned as early as possible, and by the end of Year 4, from project approval.
					Dungog Road residents proximal to new access road		High	High (B3)	
				Project life	Other residents immediately proximal to the Quarry	As above	High	Moderate (C2)	
Onsite Quarry operations	Way of Life Health and Well-being Surroundings Community	Impacts on social amenity from quarry noise, e.g. use of equipment, plant operations and train loading affecting social amenity	Martins Creek SSC Vacy SSC Dungog LGA	Project life	Residents proximal to the Quarry	Reduced hours of operation No product haulage on Saturdays Real time noise monitoring, reporting and response protocol Noise attenuation, e.g. bund, walls, barriers Relocation of train loading facilities to the northern end of the East Pit by extending the rail spur Use of new smaller quieter trucks onsite Relocation of machinery and stockpiles Revised pit design	High	High (C3)	
				Year 1-4 of Project	Residents within Station Street, Cory Street Grace Avenue and along Dungog Road	As above, but excluding the extension of rail spur and new access road	High	High (B3)	
				Year 4 onwards	3 Station St residents (night time exceedances due to train loading)	Additional noise mitigation measures specific to these properties	High	High (C4)	
				Year 4 onwards	Residents within Station Street, Cory Street, Grace Avenue and along Dungog Road	Reduced hours of operation New access road and upgraded rail spur in place	High	Moderate (C2)	

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
Onsite Quarry operations - blasting	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to blasting noise and vibrations	Martins Creek SSC Vacy SSC Dungog LGA	Project life	Residents proximal to the quarry	Reductions of operating hours Reduced blasting windows and frequency Updated Blast Management Plan Installation of additional permanent blast monitor Ongoing implementation of detailed blast design processes Independent monitoring of blasting activities and publishing of results Proactive noise management system	High	Moderate (C2)	
					Wider Dungog LGA	As above	Low	Low (E1)	
Product haulage	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to changes to air quality from truck movements	Martins Creek SSC Vacy SSC Localities along the haul route	Project life	Residents proximal to the quarry Residents along the haul route	As above New bitumen sealed quarry access road up to the wheel wash All trucks leaving the quarry will use wheel wash facility All loaded trucks entering and leaving the quarry will always be covered, except during loading and unloading	High	Low (D2)	Based on modelling, Emissions from truck diesel exhausts travelling on public roads are not expected to result in any adverse air quality air quality impacts based on modelling
Onsite Quarry operations (including blasting)	Way of Life Health and Well-being Surroundings Community	Social amenity impacts due to changes to air quality from onsite operational activities	Martins Creek SSC Vacy SSC Dungog LGA	Project life	Residents proximal to the quarry	As above. Reduced quarry operating hours Process that considers operational, geological and environmental constraints, with the design and size of each blast determined to meet these constraints and meet blasting criteria. Independent monitoring Use of blasting methods to minimise air overpressure and flyrock, e.g. not firing the blast if the wind speed is greater than 2m/s, smaller hole diameters, blasts maximum 5 to 6 rows deep and orientation of faces so not directly facing nearest residences and fire blasts away from potentially affected residences. Reductions of operating hours Reduced Quarry footprint Progressive rehabilitation activities Updates to existing onsite air quality management, e.g. enclosure of fixed plant, use of watersprays, covered truck loads Additional dust deposition gauge	High	Low (D2)	Very little change in contribution from the Revised Project is expected beyond the Project Area boundary, for all particulate matter classifications with no exceedances of the EPA criteria at any of the sensitive receiver locations. Emissions from blasting and associated fumes are not expected to result in any adverse air quality impacts, based on model predictions which show compliance with EPA criteria.
Presence of the Quarry - construction of new access road	Way of Life Health and Well-being Surroundings Access to and use of infrastructure, services and facilities	Surroundings and social amenity – noise and dust	Martins Creek SSC Vacy SSC	1 year	Dungog Road residents proximal to new access road	Construction methodology Construction hours Keeping people informed	Low	High (B2)	

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
Presence of the operation – product haulage	Way of Life Health and Well-being Surroundings Livelihood	Sense of community – Cohesion, character, sense of place, rural lifestyle due to truck movements / product haulage	Paterson SSC	Project life	Residents / businesses of Paterson village	Reductions in truck movement and quarry operating hours Community sponsorship program to focus on community and amenity enhancement projects Community Engagement Strategy Monitoring and evaluating the success of mitigation measures via a SIMP No product haulage on Saturdays and further reductions I truck movements between 3 and 6pm on weekdays Community monitoring diary	High	High (C3)	
Presence of the operation – product haulage	Way of Life Health and Well-being Surroundings Livelihood	Sense of community – Cohesion, character, sense of place, rural lifestyle due to truck movements / product haulage	Martins Creek SSC Localities / communities along the haul route	Project life	Proximal quarry neighbours Localities / communities along the haul route	As above	High	High (C3)	
Presence of the operation – onsite quarrying activities	Way of Life Health and Well-being Surroundings	Sense of community – Cohesion, character, sense of place, rural lifestyle	Martins Creek SSC Vacy SSC	Project life	Proximal Quarry neighbours	As above	High	High (C3)	
Presence of the Quarry	Way of Life Health and Well -being Livelihood	Presence of the quarry and its activities creating increased levels of stress and anxiety	Paterson SSC Martins Creek SSC Vacy SSC	Project life (possibility for decline over time for some)	Paterson residents and businesses Residents proximal to the Quarry	As above re reduced quarry operating hours and truck movements Community Engagement Strategy Establishing regular ongoing community engagement in relation to impact monitoring and management activities Improved information provision and community involvement, e.g. monitoring outcomes Establishment of a Community Consultative Committee Designated community liaison officer – open door policy	High	High (B3)	
			Localities along the haul route	Project life (possibility for decline over time for some)	Residents along the haul route		High	High (C3)	
			Broader Dungog / Maitland LGAs	Early Project stages	Broader community		Low	Low (C1)	
Presence of the Quarry	Way of Life Health and Well-being Surroundings	Impacts on health and well-being - exposure to emissions from truck movements/ traffic	Martins Creek SSC Paterson SSC Localities along the haul route	Project Life	Residents proximal to the Quarry Residents / businesses along the haul route	Reductions of operating hours Reduced Quarry footprint Progressive rehabilitation activities Updates to existing onsite air quality management, e.g. enclosure of fixed plant, use of watersprays, covered truck loads Additional dust deposition gauge Proactive air quality management	Moderate	Low (D2)	
	Way of Life Health and Well-being Surroundings	Impacts on health and well-being - exposure to emissions to air due from quarrying activities	Martins Creek SSC Vacy SSC	Project life	Residents proximal to the Quarry Quarry employees and contractors		Moderate	Low (D2)	Monitoring and modelling undertaken under the assessment also suggested that the Revised Project is not expected to cause adverse air quality impacts with respect to crystalline silica.
			Workforce			Onsite Work Health and Safety measures in place at Quarry for employees		Moderate (D3)	
Presence of the Quarry	Way of Life Personal and property rights	Declining property values due to Quarry operations and ongoing presence of trucks	Martins Creek SSC Vacy SSC	Project Life	Property owners proximal to the Quarry	Reductions of operating hours Extensive noise, air quality and blast controls Reduced truck movements	High	Moderate (C2)	
			Localities along the haul route	Project Life	Property owners along the haul route		High	Moderate (C2)	

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
			Dungog LGA Maitland LGA	Project Life	Broader regional LGA	Ongoing monitoring of concerns regards to this issue via the Community Engagement Strategy Ongoing monitoring of property values via the SIMP	Low	Low (D1)	
Presence of the Quarry	Way of Life Personal and property rights	Property damage due to blasting	Martins Creek SSC Vacy SSC	Project life	Property owners proximal to quarry	Property inspections Reduced blasting window Independent monitoring will be conducted 3 times in the first year, every 5 years thereafter. Implementation of Blast Management Plan On written request, property inspections of any privately-owned land within 500 metres of an approved extraction area to establish the baseline condition of any buildings and structures or to have a previous property inspection updated in response to a written request from the owner.	High	Low (D2)	Ground vibration and airblast overpressure levels can be managed effectively within relevant EPA blast emission criteria.
		Property damage due to truck movements	Haulage route	Project life	Road users along the haulage route	Reduced truck movements All loaded trucks entering and leaving the quarry will always be covered, except during loading and unloading. Road maintenance contributions via VPA	High	Low (D2)	Improved road conditions due to road maintenance activities funded by the VPA
Presence of the Quarry	Way of Life Personal and property rights	Economic livelihood – impacts on local businesses	Paterson SSC	Project life	Paterson businesses	Reduced quarry operations and truck movements No product haulage on Saturdays Reduced truck movements between 3-6pm weekdays Speed limit reductions in built up areas Local investment in key community enhancement projects that support local business, tourism	High	Moderate (D3)	Accommodation provider businesses key business is wedding visitors and weekenders / weekend traffic.
			Haulage route	Project life	Businesses along the haul route		Moderate	Low (D2)	
Presence of the Quarry	Way of Life Personal and property rights	Economic livelihood and employment opportunities	Dungog, Maitland Port Stephens LGAs	Project life	Local / regional residents	Local employment and procurement policy to enable supporting businesses and recruiting locally where possible	Low (positive)	Moderate + (C2)	
					Local business / suppliers		Low (positive)	Moderate + (C2)	
			Lower Hunter region	Project life	Regional business / suppliers / Employees		Moderate (positive)	High + (B3)	
		Delivery of key materials to infrastructure Projects	Broader Hunter region NSW	Project life	Regional and NSW construction industry		Moderate (positive)	High+ (B3)	

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Key Mitigation Measures	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)	Comments / Assumptions
Project assessment process	Decision-making systems	Engagement, communication and information provision Distrust of Daracon and processes	Martins Creek SSC Paterson SSC Vacy SSC Localities along the haul route	Project life	Proximal residents / community members to the Quarry and haul route	Engagement of new consultants for ADA process Revised reports and assessment documentation Establishment of new CCC Ongoing employment of a dedicated Community Liaison Officer Improved accessibility and delivery information provision such as monitoring outcomes Trialling of a Community Impact Monitoring Diary Community engagement plan and implementing	High	High (B2)	
			Broader Dungog and Maitland LGA communities	Project life	Broader Dungog and Maitland LGA communities	As above	Moderate	Moderate (C2)	
Presence of the operation	Surroundings	Ecological impacts – biodiversity and land management	Martins Creek SSC	Project life	Residents proximal to the Quarry	Reduction in Quarry footprint / reduced disturbance area Flora and Fauna Management Plan Biodiversity and Offset Management Plan Rehabilitation Management Plan Staged clearing Progressive rehabilitation	High	Low (D2)	
					Wider Dungog and Maitland LGAs		High	Low (D2)	
Presence of operations	Surroundings Way of life Water – surface and ground	Water - Access to surface and ground water	Martins Creek SSC Broader Dungog LGA	Project life	Residents proximal to the Quarry Paterson River visitors and users Bore users	Revised Water Management Plan	Low	Low (E2)	
Presence of operations	Culture Community Surroundings	Damage to historical heritage buildings and values	Paterson SSC	Project life	Paterson residents, users and businesses	Reduced quarrying operations Contribution to road maintenance costs via the VPA Reporting of substantial road pavement irregularities Work with local heritage groups to identify possible enhancement projects via Community Contributions and Sponsorship program	High	Low (D2)	
Presence of operations	Culture Community Surroundings	Aboriginal cultural heritage and values	Martins Creek SSC	Project life	Aboriginal stakeholders	Implementation of a Cultural Heritage Management Plan Consultation with RAPs to inform any further mitigation measures required as part of the final design and construction process for the new access road, prior to the commencement of land clearing.	Low	Low (D2)	

8.0 Management and Enhancement of Social Impacts

This section provides further detail on the proposed strategies to be implemented in response to the predicted social impacts associated with the Revised Project and relates to those impacts that have been evaluated as significant and ranked as moderate and high as a result of their respective likelihood and consequence social impact ratings.

While the section focuses on the mitigation of negative social impacts, strategies to enhance positive social impacts in relation to the Revised Project, particularly in the local community and surrounding area where the project is located, are also presented where they have been identified. The strategies proposed also include measures to address any impacts that are of ***'high'*** concern to potentially affected people and groups, but which are not considered significant from a technical perspective.

As noted in the SIA Guideline (DPE 2017), strategies need to be developed to ensure that there is a clear connection between the measure proposed and the significant social impact being mitigated or enhanced. Strategies to be implemented may differ in their effectiveness and/or ability to alleviate impacts, with some residual social impacts remaining, in the case of negative impacts. The acceptability of any residual impact remaining post implementation will also be discussed. Furthermore, certain measures may collectively address a number of different negative social impacts and potentially enhance positive impacts.

The SIA Guideline (DPE 2017), outlines that mitigation measures may be:

- **Performance-based** – identify performance criteria that must be complied with to achieve an appropriate outcome, but do not specify how the outcome is to be achieved, demonstrating why the performance criteria are appropriate.

- **Prescriptive** – that outlines actions that need to be taken or things that must be done, with justification as to why this approach is appropriate by providing scientific evidence, or referencing relevant guidelines or case studies.

- **Management-based** – where potential impacts can be satisfactorily avoided or mitigated by implementing known management approaches.

Significant changes have been made to the Project design and operational parameters to minimise impacts as much as possible as part of the assessment process, details of these changes are summarised at **Section 2.1** with further detail provided in the ADA/ RtS. These Project design changes have, where possible, incorporated early community feedback and suggestions on the project, expressed through submissions on the Original Project EIS and since, to the greatest extent possible and where practicable.

During both Round 1 and Round 2 of engagement, key Project changes were presented to stakeholders, who were asked to indicate their level of satisfaction with the proposed changes. These project changes were met with mixed feedback, with the majority of stakeholders indicating that many of these still did not go far enough. Detailed analysis of views expressed to each of the Revised Project's iterative changes has been included at **Appendix 7**.

Given that the Revised Project relates to the continuation of operations at the existing Martins Creek Quarry (albeit in a substantially modified form) there are a number of existing management-based strategies and approaches in place at the quarry that would continue to be applied should the Revised Project proceed, however these have also been modernised to reflect the current time and also to reflect the larger proposed scale of the operation. These approaches/strategies are summarised throughout Chapter 7 and are further defined in the ADA / RtS.

Strategies that are proposed to address the significant social impacts relating to the Revised Project have been developed through review of:

- Strategies identified in the technical assessments for the ADA / RtS.
- Existing Daracon management approaches.
- Relevant projects and studies relating to social impact management.
- Social team experience across other projects.
- Community identified strategies (as identified through the SIA engagement program - both during personal meetings, the series of issue specific CAFs – and also additional sources such as submissions on the EIS and a survey of community residents undertaken by MCQAG).

8.1 Proposed Project Mitigation and Enhancement Strategies

As noted above, a suite of Project mitigation and enhancement strategies and measures are proposed to address significant social impacts predicted as part of the Revised Project. While certain strategies address specific social and environmental impacts, others serve to address a number of the salient social impact categories and themes, given the interrelated nature of social impacts. Therefore, each of the strategies proposed may address social risk to varying degrees.

Additional social criteria have also been considered in the development of relevant strategies, including an assessment of the vulnerability of key stakeholders to impacts and how these are experienced, particularly locality residents that reside in close proximity to the quarry and the haulage route.

Table 8.1 provides a summary of the key strategies proposed to be implemented by Daracon should the Project proceed, with further details of these strategies and programs provided in the sub sections below.

Table 8.1 Proposed Mitigation and Enhancement Strategies by Significant Predicted Social Impacts

Strategy	Strategy Term	Strategy Type	Surroundings / Social Amenity	Sense of Community	Personal and Property Rights	Health and Well Being	Culture and Heritage	Ecosystems / Biodiversity / Ecology	Economic / Livelihood	Engagement
Existing Strategies that will be Substantially Revised and Continued										
Environmental Management Plans - Noise, Air Quality, Blasting, Traffic, Heritage	Project Life	Management-based								
Daracon Community Contributions and Sponsorship Program	Project Life	Prescriptive								
New Proposed Strategies										
Community Engagement Strategy	Project Life	Management-based								
Social Impact Management Plan (SIMP)	Project Life	Management-based								
Local Employment and Procurement Policy	Project Life	Prescriptive								
Voluntary Planning Agreement (VPA)	Project Life	Prescriptive								

8.2 Community Engagement Strategy

In recognition of the existing strained relationship with elements of the local community and of the view that historic engagement activities have been considered inadequate, Daracon proposes to develop a more structured Community Engagement Strategy that affords further development of company-community relationships through regular and effective engagement and communication.

This strategy will assist in guiding the quarry's future community engagement and social investment activities.

The key objectives of the Community Engagement Strategy will be to assist Daracon to:

- focus current engagement activities within the community on those issues of key concern to the community, (as identified through the SIA consultation program)
- ensure that the quarry's community contributions and sponsorships are focused on identified community preferences and areas of need
- track and monitor community issues and perceptions of the quarry over time and evaluation of the success of management to manage social impacts.

The strategy will therefore target:

- **Information provision and engagement:**
    - Ongoing targeted provision of information that addresses the quarry's day to day operations in general and future development and expansion plans more specifically.
    - Engagement mechanisms that will assist in further identifying and predicting any additional consequences and impacts associated with the Revised Project should it be approved.
- **Monitoring and management:** addressing the continued management and monitoring of community concerns identified via the stakeholder engagement program.
- **Social investment / community contribution projects:** a more strategic and structured approach to community investment and sponsorships that targets sponsorship of local community projects, through the restructuring of existing community group sponsorship guidelines to:
    - include criteria with a focus on specific project preferences that are aligned to the Port's and community preferences; and
    - increase existing recognition and awareness of Port's role in the community.

Information Provision and Engagement

Consultation with residents as part of the SIA at Round 1, revealed that emails, newsletters and the local paper were the most preferred method of information provision on the Revised Project. In addition, based on feedback from consultation participants to date, other suggestions to improve engagement and communication efforts have included:

- a genuine engagement and collaborative approach
- regular (quarterly) provision of monitoring outcomes – although the environmental monitoring report format was not a preferred mechanism

- improvements in blasting notifications system
- regular information provision and community engagement and accessibility of information.

Daracon will also make the following information and documents publicly available on its website:

- all current statutory approvals
- all approved strategies, plans and programs required under conditions of a development consent
- minutes of CCC meetings
- regular reporting on the environmental performance and comprehensive summaries of the monitoring results
- contact details to enquire about the development or to make a complaint
- a complaints register, updated monthly
- copies of Annual Reviews and audit reports prepared as part of any Independent Environmental Audit of the Revised Project and Daracon's response to the recommendations in any audit report.

It is acknowledged that while much of the above is already available to the public in various forms – particularly on the Daracon website - it has been made apparent that accessibility and the ease of locating and reviewing this information has been limited in the past.

Monitoring and Management

Daracon will continue to employ a dedicated Community Liaison Representative to manage the ongoing engagement associated with the Revised Project and monitoring and management commitments relating to social and environmental impacts as detailed in the SIMP (refer to **Section 3.0** for further detail on the SIMP) and other environmental management plans.

Specific activities to facilitate monitoring to ensure that community concerns, with respect to the quarry's existing and future operations are well managed include:

- preparation of a SIMP that addresses the Revised Project (**Section 3.0**)
- ongoing monitoring via engagement.

Daracon is also committed to trialling a Community Monitoring or Social Impact Diary whereby representative residents along the transport route and proximal to the quarry are asked to record for example, traffic issues in a diary format for feedback to the CCC or to the Daracon Community Representative as appropriate. Such a program will allow for integration of community collected data with operational data from site, e.g. comparison of perceived and actual blasting times or noise exceedance, etc. and encourages community participation in monitoring and management. This could also be used in conjunction with other community monitoring mechanisms, e.g. personal dashcam recordings.

8.3 Daracon Community Contributions and Sponsorship Program

While Daracon has an existing community contributions and sponsorship program, it is intended within this is a targeted focus on the Martins Creek Quarry that is more strategically focused on the allocation of contributions and donations and allows the company to work with the local community to effectively manage the negative impacts of the operation and to enhance any potential benefits of the quarry.

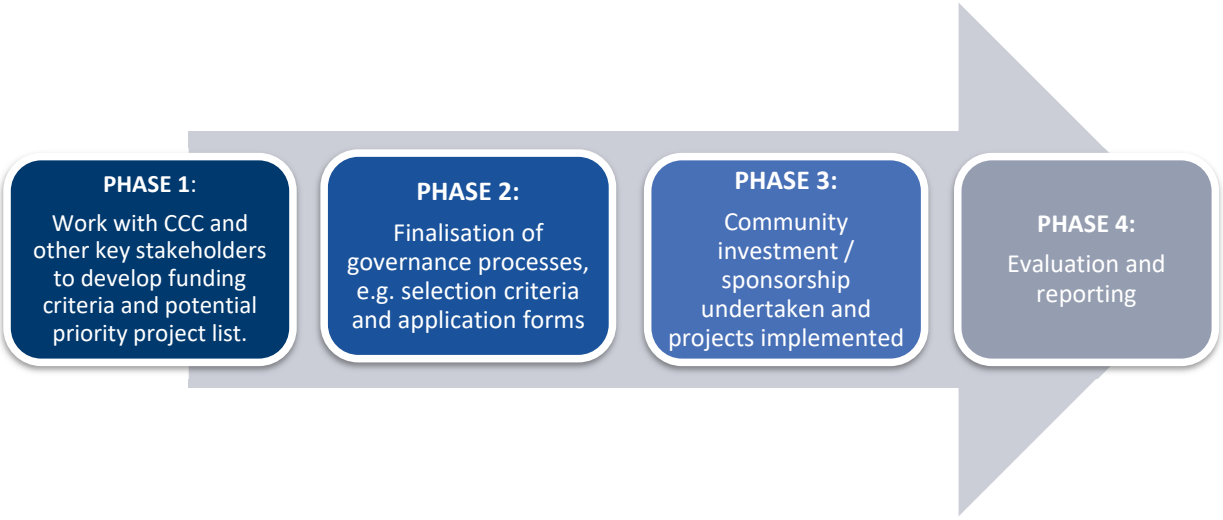
The Program would be funded through a monetary contribution by Daracon. It is intended that the quantum of the monetary contribution and mechanism for management of the Program will be resolved following Revised Project approval, and implemented once the scope and timing of projects to be funded has been agreed.

The focus for the revised Daracon's Community Contributions and Sponsorship Program would therefore include:

- Mitigating the direct and indirect impacts of the quarry on the local community.
- Enhancing positive impacts associated with the presence of the operation in the community.
- Working collaboratively with local residents and key stakeholders to focus on sponsorships and in-kind contributions that target impact areas and enhance local values with a focus on Martins Creek and the village of Paterson.
- Developing Projects and programs that are consistent with community needs, values and aspirations.
- Contributing to local communities and better targeting investment spend locally.

The existing donations and sponsorship program would see a shift towards assessing applications and distribution of donations to community-led initiatives, with a clear set of criteria for assessment of applications with funding criteria aligning with the areas of focus arising from the SIA and identified community needs. This is to be achieved through the development of a Community Contributions and Sponsorship policy that includes funding criteria and a process to determine priorities. Community investment and sponsorships will only be in strict accordance with this policy.

The establishment of funding criteria will involve key stakeholders therefore it is intended that the development of criteria for this investment will be determined in collaboration with the CCC once formed. It will be managed from the Martins Creek quarry. Having a dedicated community relations officer to manage the program will ensure local level insight and an understanding of community needs is combined with the company's existing donations management and administration. Below provides an example of a proposed approach to the development and implementation of the Community Contributions and Sponsorship Program:



Investments made via the Community Contributions and Sponsorship policy will not replace the responsibilities of government and associated spending under the yet to be negotiated VPA.

Suggestions for a range of projects and sponsorship opportunities have been presented by community members during engagement activities and also identified within the MCQAG survey of the community (2015). These suggestions along with opportunities also identified by Daracon are presented at Table 8.2 and will be considered in collaboration with the CCC should the project be approved**.**

Table 8.2 Potential Sponsorship and Community Investment Projects

Theme	Description
Sense of Community	• Provision of support (monetary and in-kind) to local community organisations e.g. Paterson Historical Society • Paterson ad Martins Creek village entry signs (sponsor local design competition) • Support for local festival/events, heritage-based tourism • Assistance to local social, and sports clubs • Beautification of parks and public amenities at Martins Creek and Paterson e.g. parks, recreational grounds • Support for local events e.g. Carols in the Park • Sale of quarry product to local landscapers at reduced costs for local purchase
Education	• Road safety programs - Big Trucks, Little People – school based road safety education program • Youth focused programs • Support for local schools
Environment	• Native animal care and rehoming / Native animal trust • Native bush regeneration • Weed eradication programs • Landcare.

Theme	Description
Heritage / Tourism	• Maintain or enhance local heritage buildings / values within Paterson village • Support for heritage-based tourism

8.4 Local Employment and Procurement Policy

While quarries do not typically have high workforce numbers, Daracon will seek to continue to employ and procure from local sources to the greatest extent possible to enhance any economic benefits of the Revised Project in the locality where possible.

This policy will seek to:

- increase employment opportunities for those within the local community who are interested in pursuing employment with Daracon by advertising locally
- offer apprenticeships and traineeships to local youth
- maximise the use of local suppliers in procurement activities at the quarry where feasible.

8.5 Voluntary Planning Agreement

Should the Revised Project be approved, Daracon will be required to make annual financial contributions to both Dungog Shire Council and Maitland City Council in the form of a VPA, in accordance with section 7.11 of the EP&A Act. These VPAs are still subject to negotiation.

While Daracon is not responsible for how contributions are used by the Councils, and it is anticipated that contributions would largely be put towards the maintenance of roads used for haulage of quarry products, it is possible that the VPA could also contribute towards meeting other local community needs and aspirations. The VPA has not been finalised at the time of preparation of this report and is subject of ongoing consultation.

9.0 Monitoring of Social Impacts

Monitoring and evaluation are key components of an SIA process to identify any unanticipated impacts that may arise as a result of a Project; with the analysis and research conducted for a SIA, providing a foundation for the ongoing monitoring and adaptive management of social impacts over the life of a SSD resource Project.

Daracon will develop a Social Impact Management Plan (SIMP) that defines and guides the monitoring and evaluation activities for the Martins Creek Quarry. The SIMP will be developed in accordance with the SIA Guideline and will:

- identify opportunities to enhance positive and mitigate negative social and economic impacts of the Revised Project on affected communities
- detail adaptive management and mitigation strategies to address potential impacts of the Revised Project identify appropriate stakeholder responsibilities
- identify appropriate monitoring, reporting and review mechanisms, including the purpose of monitoring and the parameters that will be monitored and how and when monitoring data will be collected
- outline a process to engage with relevant stakeholders and communities, with a focus on practical mechanisms for the community to collaborate and record their observations and experiences of social impacts and any proposed community participation in monitoring
- include an incident notification and reporting process, including providing applicable information to the community
- develop a process for reviewing the above elements to assess whether they are still appropriate, and whether any new issues have emerged that should be included in ongoing monitoring
- develop a process for making monitoring results and associated information publicly available, including any revisions to the monitoring and management framework.

The Community Engagement Strategy outlined at **Section 8.2**, will guide the evaluation and implementation of social impact management and mitigation measures.

The SIMP would outline suitable and proportionate social impact monitoring and adaptive management arrangements for the Revised Project that include the above elements, as well as proposed timing and frequency of monitoring and public reporting of results.

Proponents should also consider strategies to involve potentially affected people and groups in the adaptive management approach, including (but not limited to) grievance and feedback mechanisms; and where relevant, existing and potential management and enhancement strategies employed to manage the predicted risks should be outlined.

9.1 Monitoring Effectiveness

This section outlines a high-level overview of a framework for monitoring socio-economic change in relation to the Revised Project, and how this relates to Project-related activities. In doing so, the framework would gather data that can be used to assess the effectiveness of mitigation and enhancement measures and initiatives over time.

It is considered best practice in social outcomes measurement to draw upon a range of methods, data sources, indicator and data types (e.g. objective vs. subjective, qualitative vs. quantitative; leading versus lagging indicators). Therefore, the proposed monitoring framework should draw upon multiple methods, which may include:

- **Monitoring socio-economic trends:** that would provide context to interpret data from other elements of the framework and provide an appreciation of community change.

- **Monitoring organisational inputs and outputs:** which would provide an understanding of what the quarry is contributing to the community e.g. in relation to employment, community investment, VPA arrangements

- **Monitoring outcomes of inputs and outputs**: which would provide an understanding of what impact community sponsorships are having in the community e.g. outcomes of the Community Investment Program.

- **Monitoring objective indicators of impact** which would seek to confirm that Daracon is monitoring key risks and trends in relation to key impact areas identified through the SIA process e.g. monitoring of key impacts such as noise and air quality, traffic etc through dedicated environmental management plans.

- **Monitoring community perceptions of impact** (e.g. feelings of trust towards Daracon, local residents' experiences of social impacts), which would be confirmed via regular engagement with the community to confirm emerging issues and ensure that impacts are identified proactively. For example, community surveys or monitoring diaries as discussed in **Section 8.2**.

This five-component model is summarised in **Figure 9.1**. Drawing upon a broad range of complementary datasets and methods, as described above, the proposed framework would be robust and balanced and would provide a complete picture of change associated with the Revised Project.



Figure 9.1 Proposed Framework for Monitoring Social Impacts and Community Change

The five components of the proposed model are all inter-related and serve to assist interpretation of the other elements. For instance, community perceptions of impact would be influenced by long-term socio-economic trends but can be verified through objective indicators of impact.

The proposed framework would be further developed in the SIMP in consultation with Daracon, the DPIE, the CCC and other and key stakeholders.

10.0 Conclusion

The SIA has been conducted in accordance with the Department of Planning, Industry and Environment (DPIE) Social Impact Assessment Guidelines (2017) and has involved a comprehensive range of assessment and engagement methods to identify, predict and assess the social impacts associated with the Revised Project.

The SIA has provided a detailed social baseline profile for the context in which the Revised Project is located, including an analysis of issues and opportunities facing the key communities of interest, with a focus on the broader Dungog LGA and communities proximal to the quarry and the haulage route across differing community capital areas. Discussion of key developments and events in the LGA has been used to understand the process of communities' response to change.

Engagement with the community has been a key component of the SIA program and has been supported by documentary and data review.

The SIA has identified a range of perceived social issues and impacts that Daracon would need to manage as a part of the Revised Project. Throughout the ADA and SIA process, a range of Project design changes have been implemented to address these concerns; with mitigation and enhancement strategies identified, where possible, to minimise social impacts of the Revised Project.

As outlined in **Sections 6.0** and **7.0**, the level of concern relating to the Revised Project varies across stakeholder groups and geographic location.

Key negative social impacts predicted include impacts relating to social amenity (as a result of traffic related impacts); changes to sense of community and community cohesion and culture. In addition to these impacts, stakeholders have raised concerns relating to noise, personal safety, livelihoods and health and wellbeing impacts.

Positive impacts of relevance include potential economic benefits to the region and State through employment, procurement and business opportunities. The Project will also lead to a secured availability of construction materials for markets across NSW.

As has been highlighted in the SIA, project development brings benefits and costs that are not always evenly distributed across individuals and stakeholder groups and as a result, where social impacts are predicted it is the role of a SIA to outline how such impacts can or cannot be managed.

A number of mitigation and enhancement strategies are proposed to address potential social impacts relating to the Revised Project where possible including:

- Development of a dedicated Martins Creek Quarry Community Investment Program that strategically focuses the allocation of contributions and donations and allows the company to work with the local community to effectively manage the negative impacts of the operation and to enhance any potential benefits of the quarry.
- Local employment and procurement policy.
- A revised Community Engagement Program that seeks to monitor ongoing community and stakeholder concerns and evaluate the success of management and mitigation measures. It will also target stakeholder identified engagement and information preferences.

- Implementation of a Voluntary Planning Agreement with the Dungog Shire Council and Maitland City Council.

- Implementation of environmental management plans. Development and implementation of a SIMP for the ongoing monitoring and management of social impacts, with community engagement informing its development.

These mitigation and enhancement measures have been identified to, where possible, address the social impacts identified and are based on a combination of stakeholder engagement and feedback and practitioner expertise on other project developments. The development of a SIMP will allow for the ongoing tracking of the success of implemented mitigation measures in addressing identified issues of concern and enhancing opportunities associated with the Revised Project to the greatest extent possible.

11.0 References

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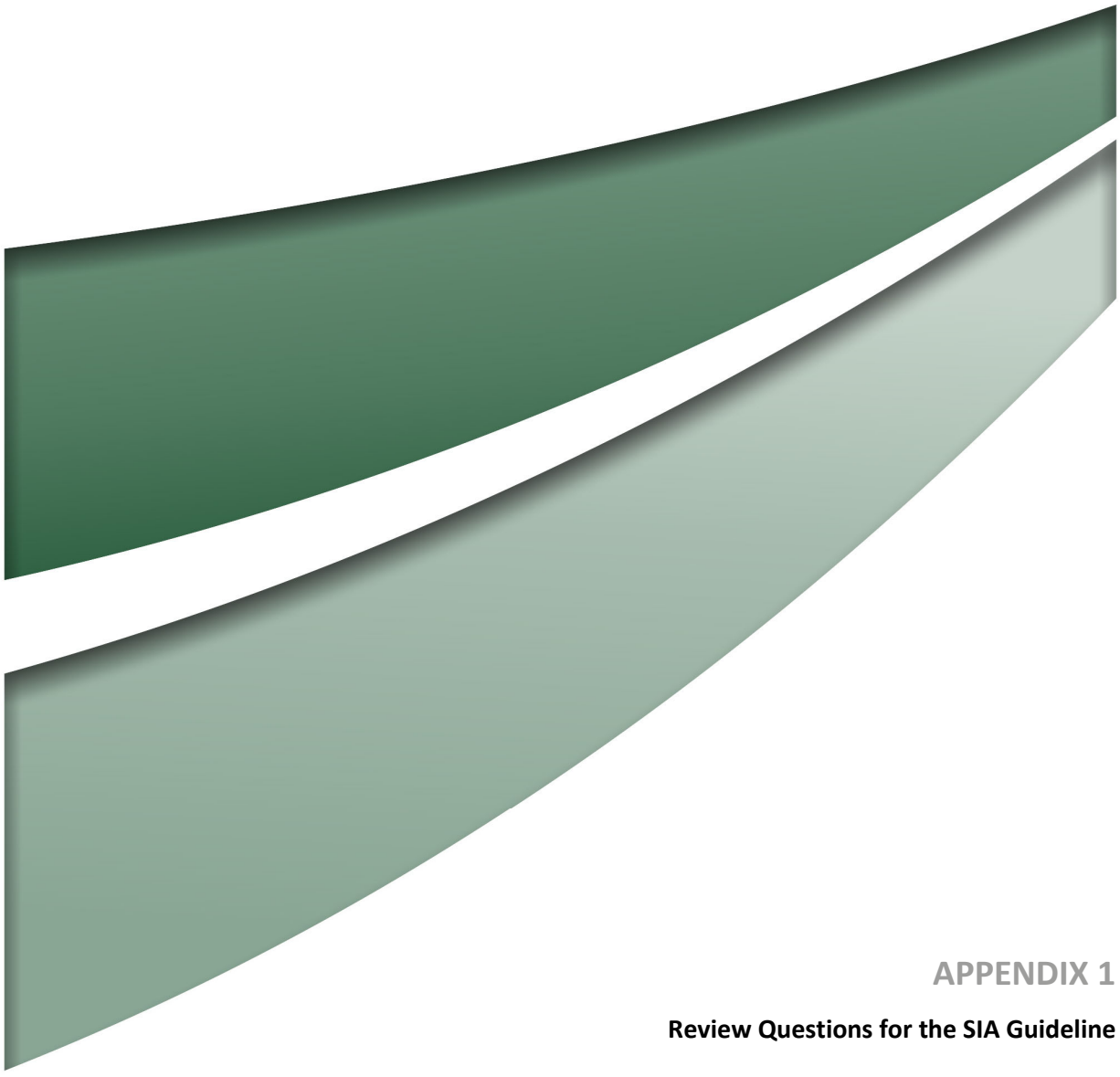
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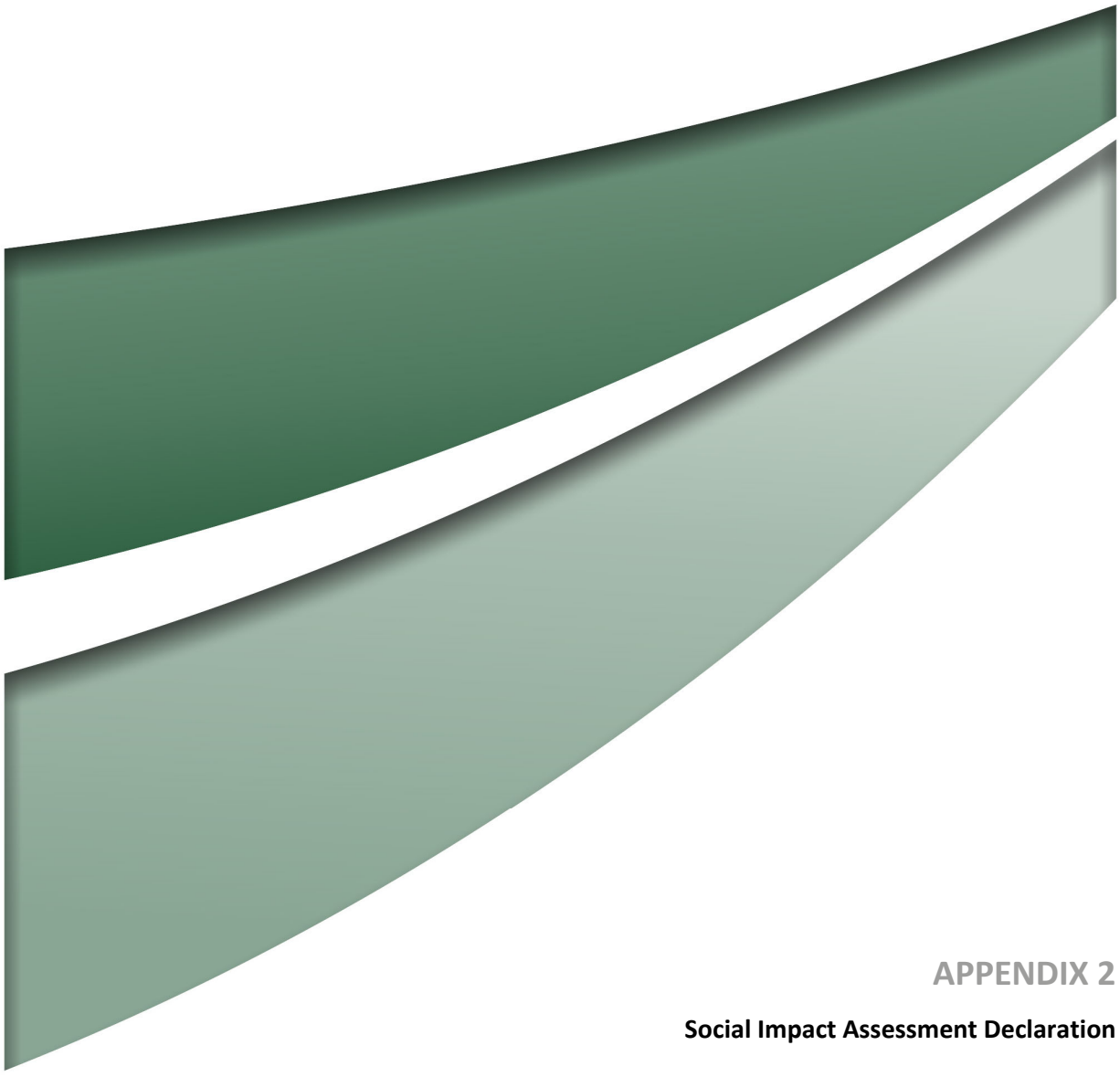
APPENDIX 1

Review Questions for the SIA Guideline

SIA Review Question	Response Addressed in Section
General	
1. Has the applicant applied the principles in Section 1.3? How?	**Entire SIA**
2. Does the lead author of the Scoping Report meet the qualification and skill requirements in Box 2?	**Appendix 3***
3. Does the lead author of the SIA component of the EIS meet the qualification and skill requirements in Box 4?	**Appendix 3**
4. Has the lead author of the SIA component of the EIS provided a signed declaration certifying that the assessment does not contain false or misleading information?	**Appendix 2**
Community engagement for social impact assessment (Section 2)	
5. Does the SIA include adequate explanations of how the engagement objectives have been applied? How?	**Section 3.0**
6. Does the SIA demonstrate that there has been a genuine attempt to identify and engage with a wide range of people, to inform them about the project, its implications and to invite their input? How?	**Section 3.0**
7. Does the SIA demonstrate that an appropriate range of engagement techniques have been used to ensure inclusivity and to ensure the participation of vulnerable or marginalised groups? How?	**Section 3.0**
Scoping – area of social influence (Section 3.1)	
8. Does the Scoping Report identify and describe all the different social groups that may be affected by the project?	**Sections 3.0 and 4.0***
9. Does the Scoping Report identify and describe all the built or natural features located on or near the project site or in the surrounding region that have been identified as having social value or importance?	**Sections 5.0 and 6.0**
10. Does the Scoping Report identify and describe current and expected social trends or social change processes being experienced by communities near the project site and within the surrounding region?	**Section 5.0**
11. Does the Scoping Report impartially describe the history of the proposed project, and how communities near the project site and within the surrounding region have experienced the project to date and others like it?	**Section 4.0 and 5.5**
Scoping – identifying social impacts (Section 3.2, Appendix A and Appendix B)	
12. Does the Scoping Report adequately describe and categorise the social impacts (negative and positive), and explain the supporting rationale, assumptions and evidence for those categories?	**Section 6.0**
13. How has feedback from potentially affected people and other interested parties been considered in determining those categories? Does the Scoping Report outline how they will be engaged to inform the preparation of the SIA component of the EIS?	**Section 6.0**
14. Does the Scoping Report identify potential cumulative social impacts?	**Section 6.7**
Social baseline study (Appendix C – Section C1)	
15. Does the SIA component of the EIS discuss the local and regional context in sufficient detail to demonstrate a reasonable understanding of current social trends, concerns and aspirations?	**Section 5.0**
16. Does the SIA component of the EIS include appropriate justification for each element in the social baseline study, and provide evidence that the elements reflect the full diversity of views and potential experiences in the affected community?	**Section 5.0**
17. Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?	**Section 5.0**
Prediction and analysis of impacts (Appendix C – Section C2)	
18. Does the SIA component of the EIS include an appropriate description of the potential impacts in terms of the nature and severity of the change and the location, number, sensitivity and vulnerability of the affected stakeholders?	**Section 7.0**
19. Does the SIA component of the EIS identify potential impacts at all stages of the project life cycle?	**Section 7.0**

SIA Review Question	Response Addressed in Section
20. Does the SIA component of the EIS appropriately identify and justify any assumptions that have been made in relation to its predictions?	**Section 7.0**
21. Does the SIA component of the EIS include appropriate sensitivity analysis and multiple scenarios to allow for uncertainty and unforeseen consequences? If relevant, does it include comparisons with studies of similar projects elsewhere?	**Section 7.0**
Evaluation of significance (Appendix C – Section C3)	
22. Does the SIA component of the EIS explain how impacts were evaluated and prioritised in terms of significance?	**Section 7.0**
23. Does the evaluation of significance consider cumulative aspects where relevant?	**Section 7.0**
24. Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?	**Section 7.0**
Responses and monitoring and management framework (Appendix C – Sections C4 and C5)	
25. Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the project, and justify these measures?	**Section 7.0 and 8.0**
26. Does the SIA explain and justify measures to secure and/or enhance positive social impacts?	**Section 7.0 and 8.0**
27. Does the SIA component of the EIS impartially assess the acceptability, likelihood and significance of residual social impacts?	**Section 7.0**
28. Does the SIA component of the EIS propose an effective monitoring and management framework?	**Section 8.0 and 9.0**
Modifications (Introduction – application)	
29. Are the social impacts associated with the modification expected to be new or different (in terms of scale and/or intensity) to those that were approved under the original consent? If yes, apply the review questions above to the SIA component of the environmental assessment	**NA**

* Note a Scoping Report was not completed for this SIA, refer to Section 1.1 for SIA requirements.



APPENDIX 2

Social Impact Assessment Declaration

umwelt
Environmental & Social Consultants

Inspired People
Dedicated Team
Quality Outcomes

Social Impact Assessment Declaration

Revised SIA Prepared by:

Name	Umwelt Australia Pty Ltd - Social Team
Project Director	Ms Karen Lamb Principal Social Consultant
Qualifications	Bachelor of Science (Resource and Environmental Management) Masters – Environmental Law Masters – International and Community Development

In Respect of:

Proponent Name	Daracon Group Pty Ltd (Daracon)
Proposed Development	Martins Creek Quarry

Declaration

I, Karen Lamb, declare that the information contained within the Revised Social Impact Assessment for the Martins Creek Quarry Project:

- Is in accordance with the Environmental Impact Assessment (EIA) process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
- Meets the form and content requirements of the Department of Environment and Planning's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE 2017).
- Is neither false nor misleading.

Signature

K. Lamb.

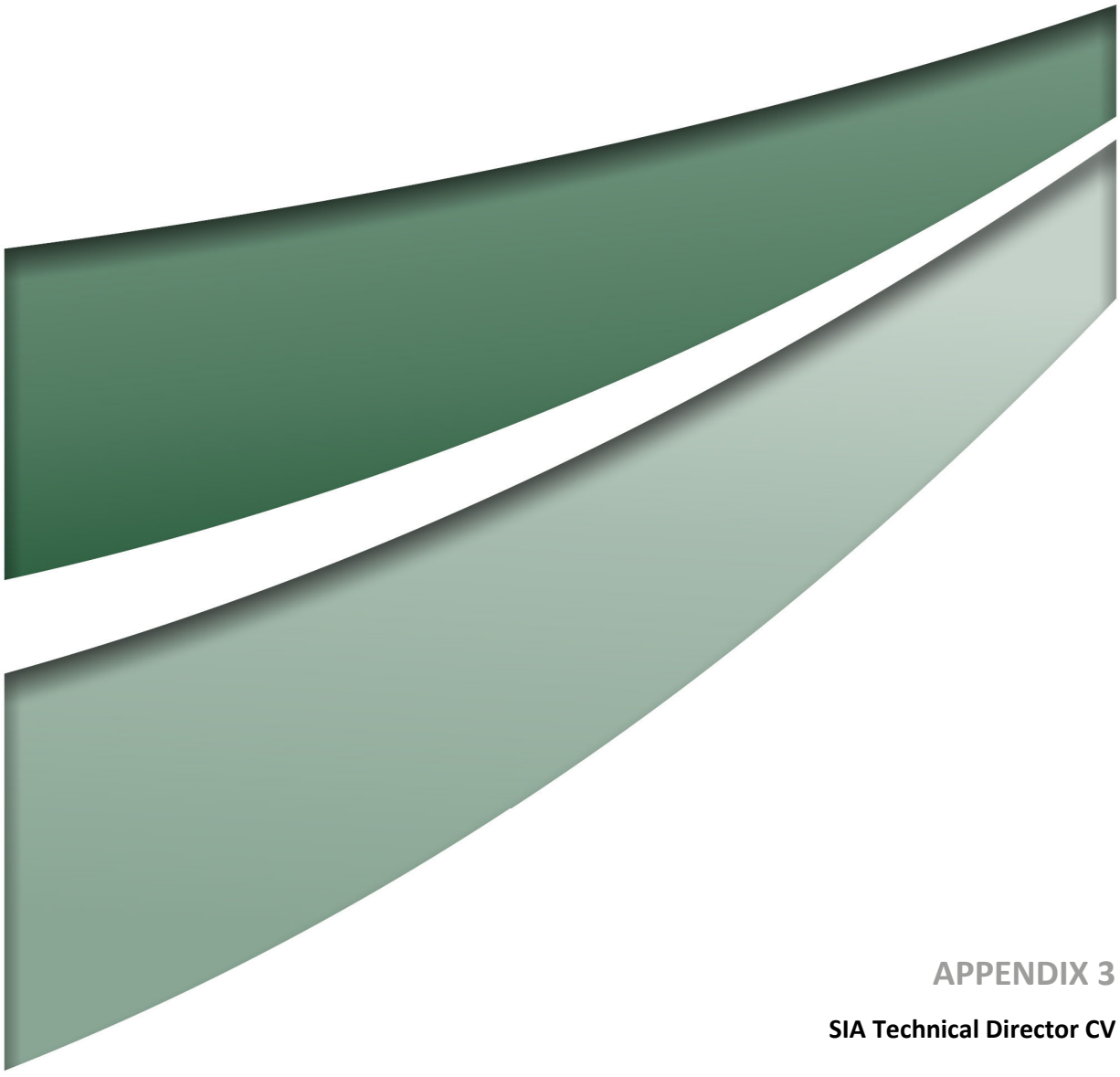
Date 25 May 2021

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APPENDIX 3

SIA Technical Director CV



umwelt Environmental & Social Consultants

Karen Lamb

Principal Social Consultant

Karen is a Principal Social Consultant with Umwelt with over 20 years consulting experience, is qualified with a Bachelor of Science (Resource and Environmental Management), a Graduate Diploma and Masters in Environmental Law and a Masters in International and Community Development and has held a number of positions with mainstream multi-disciplinary consulting practices.

Karen's varied background – spanning environmental science, social impact assessment, environmental law and policy and international and community development – has provided her with a range of experience. She has managed numerous multi-disciplinary projects, has prepared and implemented social and environmental assessments and management programs; and has facilitated a range of community and stakeholder consultation activities in both the developed and developing world. She has had a broad range of experiences in her career to date both in Australia and overseas and has been involved as an environmental and community development specialist in the implementation of a range of projects both within Australia and overseas.

Karen has strong experience in managing complex projects, understands the Australian regulatory environment, and has delivered Environmental, Social and Health Impact Assessment (ESHIA) reports which fulfil both company and regulatory requirements. She has also worked with several large resource companies to develop their Social Impact Management Plans.

She has been the project manager for numerous large social impact assessments, including projects undertaken for Chevron, Iluka Resources, Xstrata Coal, Alcoa Australia and a number of government agencies.

Having also worked for a number of government agencies/centres and not for profit associations in policy/program roles Karen is very familiar with policy and program development and the establishment of agency/community partnerships.

Qualifications/Affiliations:	Bachelor of Science (Resource and Environmental Management) Masters – Environmental Law Masters – International and Community Development
Years Experience:	20
Specialisation:	Project management, Social and economic impact assessment, Health impact assessment (HIA), Social impact management and monitoring, Stakeholder and Community engagement, Social Research, Social performance evaluation and monitoring, Social investment planning, Community perception surveys

Relevant Project Experience

Mines and Quarries

Iluka Resources | Mid West Social Impact Assessment| 2021 -current| | Project Manager | Preparation of a regionally focused SIA to support the preparation of a broader Social Strategy to underpin Iluka's current and future operations and projects in the Mid West region of Western Australia.

Rio Tinto | Pilbara Operations| 2020| Secondment for the provision of inhouse support to the Communities and Social Performance team.

Newcrest | Cadia Valley Operations Socio-Economic Study | 2020| Project Manager | Project manager for a Socio-Economic Study to develop a comprehensive social and economic baseline for the Cadia Valley Operations located in the Central West region of NSW.

Daracon Group | Martins Creek Quarry| 2018 -current| Project Manager | Project Director for an SIA prepared as part of a broader Amended Development Application and Response to Submission process for the Martins Creek Quarry Extension Project.

Independence Group Pty Ltd (IGO) | Social Impact Assessment and Community Consultation Program | Project Manager | Dec 2018-2019 | Project managed the completion of a social impact assessment and supporting stakeholder engagement program for IGO's Nova Operation based near Norseman in the Shire of Dundas. This program involves field based engagement with members of the Ngadju community in Kalgoorlie, Norseman and Esperance along with members of the Board of the Ngadju Native Title Aboriginal Corporation (NNTAC).

South 32 | Eagle Downs Gap Analysis and Housing and Accommodation Assessment |2019 | Project Manager| Updates to reflect changes in the social environment, social impacts and opportunities associated with the Eagle Downs project since the time of the original EIS with a particular focus on housing and accommodation and related mitigation strategies.

South32 | Social Baseline Profile and Impact and Opportunities Assessment | Project Manager | April 2018-Dec 2018 | Project managed the preparation of Social Baseline Studies for the South32's operations at Cannington (Queensland), TEMCO (Tasmania) and Worsley Alumina (Western Australia). Follow up impact and opportunities assessments were also undertaken for TEMCO and Cannington in line with internal company guidelines and to inform the company's ongoing social impact management and community investment activities.

Glencore Coal Assets Australia |Key Stakeholder and Community Perception survey | NSW and QLD | 2018 | Project Manager| Extensive community perception survey involving interviews with over 900 community members and key stakeholders across a number of mining regions in proximal communities where GCAA operations are located in both QLD and QLD.

Rio Tinto | Weipa Social Baseline Profile | Project Manager | 2017-2018 | Karen project managed and authored the Socioeconomic Baseline Study of Communities within the Western Cape region of Queensland (QLD), including Weipa; Aurukun; Mapoon; Napranum; the Northern Peninsula Area (NPA); and other key communities in the Cape York region to provide detail and analysis in regard to the social and economic context that support Rio Tinto's operations and future growth of the Cape York region. This study involved direct engagement with key stakeholders (primary data sources), to inform and validate profile outcomes where possible

Holcim | Various Projects | Project Manager | 2008 - 2020 | SIA and community involvement programs relating to quarry developments in WA and NSW. Provider of stakeholder engagement support and advice for Perth-based projects.

Social Assessment and Appraisal Program | Iluka | Western Australia | Project Manager | 2012 | Managed the delivery of a large Social Assessment and Appraisal Program to examine the performance of Iluka's current operating sites across in Victoria, South Australia and Western Australia. Involved identifying community and stakeholder perceptions about Iluka and its operations and the development of an improvement plan to guide social investment and impact management activities.

Golden Grove Social Impact and Community Needs Assessment | MMG | Western Australia | Project Manager | 2013 | Managed implementation of a Social Impact and Community Needs Assessment to support broader mine closure planning activities.

Cameco | 2011 | Social Consultant | Social and Health Impact Assessment (SHIA) and engagement program for the Kintyre Uranium Project, Pilbara region, WA.

Worsley Alumina | Worsley operations in WA | 2009 |Project Manager | Managed the delivery of a Social Issues and Impact Assessment Program to examine the performance of Worsley's operations in the south west of WA.

Glencore | Various Projects | 2011-2021| Team member| Provision of support within project teams delivering comprehensive SIAs, social impact management plans, community needs assessment and stakeholder engagement for a range of Glencore mines in the Hunter Valley and Western Coalfields, NSW.

- Glendell Continued Operations Project
- Bulga Optimisation and Extension Project
- Mangoola 6 Modification Project and Mangoola Continued Operations Project
- United Project
- Baal Bone Closure Plan - SEIA, Western Coalfields.

Infrastructure

Sydney Motorway Corporation | Community and Social Impact Management Planning for the New M5 WestConnex Project | Project Manager | 2017-2018 | The project involved the development of a Community and Social Management Plan and associated Community Cohesion Plan including consultation with internal and external stakeholders.

Stakeholder Engagement Strategy | Carnegie Wave Energy| Western Australia | Project Manager | 2012 | Preparation of a Stakeholder Engagement Plan for a proposed wave energy project.

Landcorp | Shenton Park Hospital Site | Project Manager | 2017-current | SIA and community engagement for the redevelopment of the Shenton Park Hospital Site, Shenton Park, WA.

Community Involvement Program | Bunbury Port Authority| Western Australia| Project Manager | 2007 & 2013 | Development of a Community Involvement Program to assess community perceptions of the Bunbury Port and its future expansion plans; and to focus the Port's investment program in the Bunbury region.

Abigroup/MRWA| Mitchell Freeway Widening Project | Community & Stakeholder Manager | 2012-2013 | Development of the Community and Stakeholder Engagement Plan in conjunction with the Abigroup/LendLease broader project team and MRWA. Provision of technical advice and input into consultation tools such as the development of key messages, letters to potentially affected landholders and businesses, FAQs, project newsletter and construction notifications etc.

Community Involvement Program | Esperance Port Authority | Western Australia | Stakeholder Engagement Project Manager | 2007 & 2013 |Managed and implemented a Community Involvement Program to assess community perceptions of the Esperance Port Authority relating to lead handling and transportation. Implemented an ongoing community engagement strategy to manage and monitor community issues.

Government

Department of Communities (Housing) / Gumula Aboriginal Corporation | Project Director | Aboriginal survey and engagement to support the development of a 'case for change' to support an application for funding for an Aboriginal Transitional Housing Program in the Pilbara Region, WA.

Department of Communities (Housing) | Evaluation of the West Kimberley Transitional Housing Program (WKTHP) | Project Manager | 2017-2018 | Summative and evaluation of the WKTHP - a Royalties for Regions (RfR) funded initiative to deliver 60 transitional houses for indigenous households in Broome (40 houses) and Derby (20 houses).

Department of Regional Development (WA) | RfR Fuel Card Survey | Project Manager | 2016 | Evaluation of the Royalties for Regions (RfR) Fuel Card Scheme across WA; Housing Evaluation for RfR funded housing projects across WA.

Department of Regional Development and Lands (WA) | Royalties for Regions Program | Project Manager | 2014-2015 | Evaluation of a number of housing projects across WA funded under the Royalties for Regions program.

Commonwealth Department of Climate Change | Climate change impacts on the Pilbara's oil and gas sector | Project Manager | 2008 | Application of Social analysis and community sensitivity methodologies to demonstrate local level socio-economic flow-on of climate change impacts on the Pilbara oil and gas sector.

Oil and Gas

Chevron (Australia) | Wheatstone Project I Project Manager | 2008-current | Involvement in the preparation of an integrated Social and Health Impact Assessment for the Wheatstone Project and associated technical studies. In-house secondment to Chevron as a Social Impact Specialist. Project management of the ongoing annual community perception survey of the Onslow community.

Social Impact Management Plan | INPEX | Project Manager | WA & NT | 2011-2013 | Project Manager for the preparation of a Social Impact Management Plan for the Ichthys Project - construction of a LNG plant in close proximity to Darwin, NT.

Department of State Development | Kimberley LNG Project | Project Manager | 2011 | Development of the social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project and associated precinct.

Strategic Assessment Review | Department of State Development | Western Australia | Project Manager | 2011 | Development of the social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project.

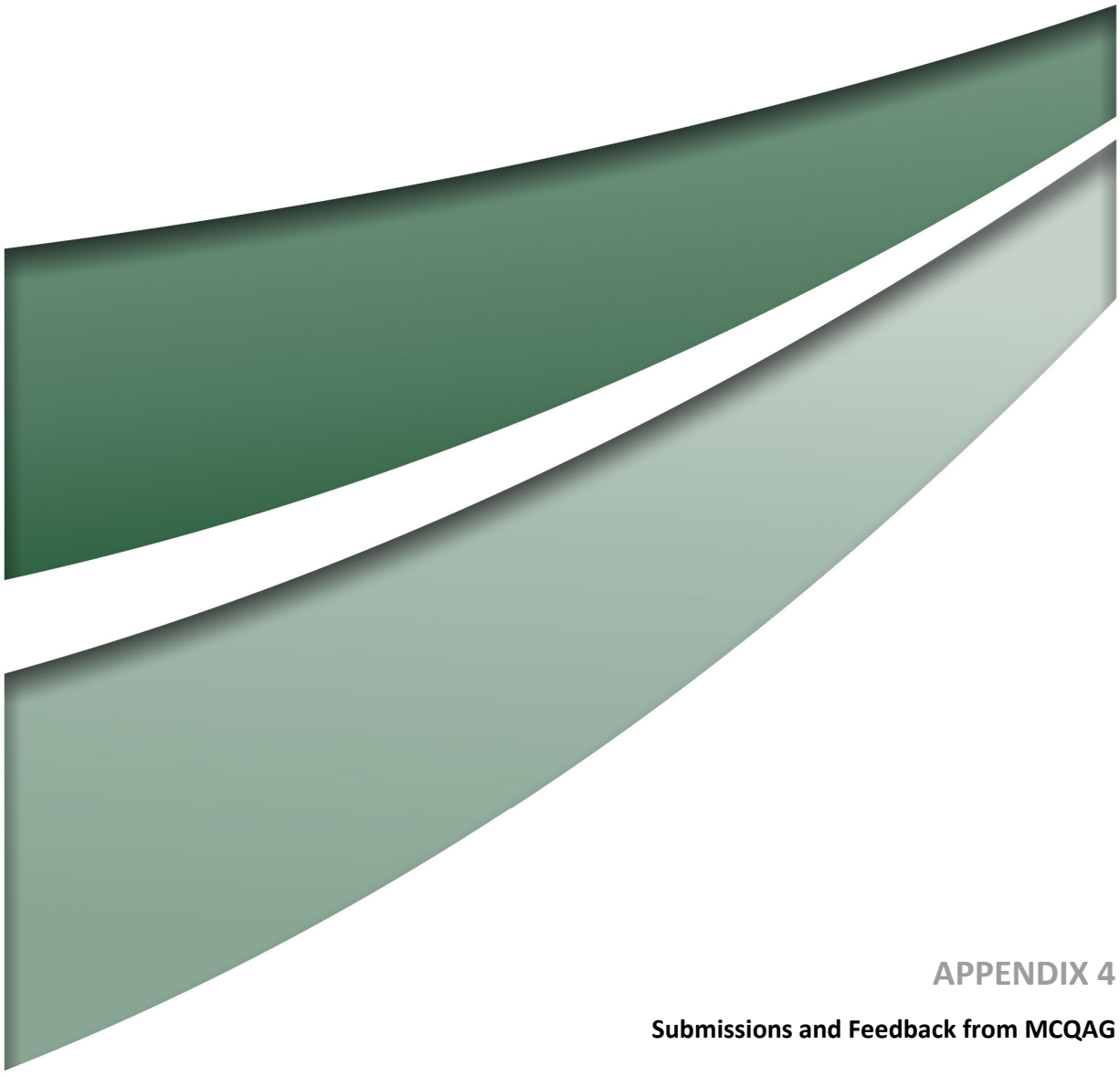
Worsley Alumina Social Issues and Impact Management Program | Western Australia | Project Manager | 2009 | Managed the delivery of a Social Assessment Program to examine the performance of Worsley's operations in the south west of WA.

Public Environmental Review (PER) | Grainol | Western Australia | Project Manager | 2007 | Managed the PER process for a proposed bio ethanol plant in the East Rockingham Industrial Park, Western Australia.

Defence

IFAP/Ramboll | Community Consultation Program | Stakeholder Engagement Manager| 2017 | Karen managed engagement with households in North Lake to inform residences and other stakeholders such as local government regarding an upcoming drilling program to establish if there has been any migration of PFAS from the IFAP site.

Defence/Jacobs| Stakeholder Engagement Program | 2017 | Provision of stakeholder engagement support to Jacobs for the Gingin Satellite Airfield PFAS Investigation.



APPENDIX 4

Submissions and Feedback from MCQAG

Martins Creek Quarry Action Group PO Box 128 Paterson NSW 2421 T: 0413 616 677 www.mcqag.org

MCQAG
Martins Creek Quarry Action Group

Karen Lamb

Umwelt

75 York Street

Teralba

NSW 2284

1 February 2019

Transmitted by Email

RE: MCQAG meeting with Umwelt 9 January 2019

Dear Ms Lamb

Thank you for dialling in from Perth with myself and Mark Walker on the 9th of January at your Teralba Office with Umwelt's Trish McDonald, Sarah Bell and Peter Tatnell. The purpose of the meeting was to provide to you and your staff, a presentation previously made to Barbara Crossley and Tim Browne on the 26th of March 2018 that presents a synopsis of the history and issues of Martins Creek Quarry from our association's perspective. We have attached a copy of the presentation to this letter in Attachment 1 for your records.

Discussion

As discussed at the meeting Martins Creek Quarry has a controversial history stretching over more than a decade. The issues, impacts and community objection to the present unlawful extraction scale (and the scale now proposed as part of SSDA14_6612) have been the subject of;

- Four community meetings and numerous public consultation sessions that have stretched from 2007 to 2016 involving Key Insights, Railcorp, Peterkin Consulting, Daracon, NSW Department of Planning, NSW Department of Premier & Cabinet, NSW EPA and now Umwelt,
- An abandoned Part 3a application by Railcorp which sought a 600Ktpa scale approval in 2009,
- A class IV proceeding brought by Dungog Shire Council against Railcorp in 2010,
- 14 CCC meetings convened by Daracon during 2014/15,
- Multiple hundreds of objecting submissions as part of the SSDA14_6612 public exhibition process in November 2016,
- A class IV proceeding brought by Dungog Shire Council against Daracon related companies the hearings of which confirms the unlawful operations at the site and included evidence and affidavits attesting to the impacts upon residents and the villages of Paterson, Vacy and Martins Creek and

- Umwelt's one on one interviews with residents in 2018

Having regard to the history and consultation detailed in the presentation, we communicated to you our concern and queried how many different ways and times must the community be required to submit their position and objection to Daracon and Umwelt regarding the current (and proposed) operational scale of the facility and the planned product transport mode that presently excludes any committed use of rail. The historical submissions and objections in the above forums contain substantiated and observable adverse effects on amenity. The current operations and the refined SSDA scale and transport mode is untenable and intolerable for many having regard to the rural and village amenity of residents who reside adjacent to the facility and haulage routes.

We expressed our concern in regard to the proposed Collaborative Assessment Forums planned by Umwelt where it appears members of the community will be presented with the results of more technical studies similar we presume in results to those presented in 2014/15 CCC meetings and within the November 2016 exhibited EIS to support and justify refined but still grossly excessive project parameters. It appears on face value that Daracon and Umwelt are simply going to attempt to grind the community down - again.

As detailed in our Submission of 12 December 2016 and as discussed with Ms Crossley and Mr Browne on the 26th of March 2018. Our view is that a precautionary approach should be taken, because Technical Guidelines and Technical Study findings alone do not exhaust the assessment of likely impacts under 4.15(1) (previous 79C) of the EPA Act , more over Technical Guidelines and Technical Studies alone do not cover all aspects of social impacts nor do they cover all aspects or impacts on or to amenity. Our view is supported by numerous case law authorities.

As discussed, we communicated, as we have done in our meetings with Umwelt and Daracon previously on 26th March 2018, 22nd May 2018 and 18th December 2018 that MCQAG considers the current refined project scale (1.1Mtpa, 60 truck movements per hour and 280 truck movements per day) as being a completely unacceptable proposal because;

a) we have already experienced this annual, daily and hourly scale during the unlawful operations occurring from the site in 2014 to present day and these experiences provide specific and concrete effects of the proposed SSDA expansion,
b) the impacts experienced by our committee and membership from current operations are in fact real and are not perceived and feared from a proposal that presupposes a planned operation obtaining an approval,
c) amongst others, those impacts include at times untenable and intolerable impacts to residential, rural and village amenity where the pleasantness of rural outdoor life, connectedness, sense of belonging, social fabric, activity centre and village function are severely impacted upon by the scale of onsite operations and the scale of off-site transport by many hundreds of heavy vehicle movements along the haulage routes and
d) the refined project parameters fails to address all of the issues documented in our submission dated 16th December 2016.

Requests

At our meeting with you in Teralba we made the following requests;

1. That the notes taken by your scribe at the Umwelt/Daracon/MCQAG meeting of 18 December 2018 be transmitted in daft to MCQAG for our review
2. That Mark Walker be provided with a copy of his interview record between himself and Umwelt's Jaqueline Bessa
3. That links to analogous SSDA project decisions in New South Wales with similar parameters and specifically with hundreds of daily heavy vehicle movements along haulage routes that impact upon sub arterial roads and rural village activity centres be provided to MCQAG

Closing

In closing as MCQAG has stated many times before; we seek modern approvals (and appropriate scale and transport limits) over the operations such that the facility and impacted residents around the facility (impacted by dust, blasting, rock hammering and industrial noise) and along the haulage route can continue to co-exist as they have done for over 100 years but, with the restoration of rural amenity and amelioration of impacts that recent operations and the proposal will and have had.

We request that any future expanded operation over and above the existing 300tpa limit be by rail export only and that road export be limited to 24 trucks loads per day (as per 1990 EIS). The scale and proposed operational parameters presented in the currently refined project are still unacceptable to MCQAG committee & membership, the impacts and the issues (particularly those detailed in our 16th December 2016 submission) and experienced in 2014/15 by residents are not remedied by the current "revised project parameters".

We respectfully request that Daracon and Umwelt re-consider project parameter refinements and our group's requests as the response to submissions report is prepared.

Thank you for your time on this matter.

Yours Faithfully



James Ashton

MCQAG Secretary

CC: Umwelt – Tim Browne, Barbara Crossley, Trish McDonald, Sarah Bell and Peter Tatnell

CC: Daracon – Adam Kelly

Attachment 1 – Presentation made to Umwelt 9 January 2019



Umwelt Presentation

MCQAG | Confidential

MCQAG

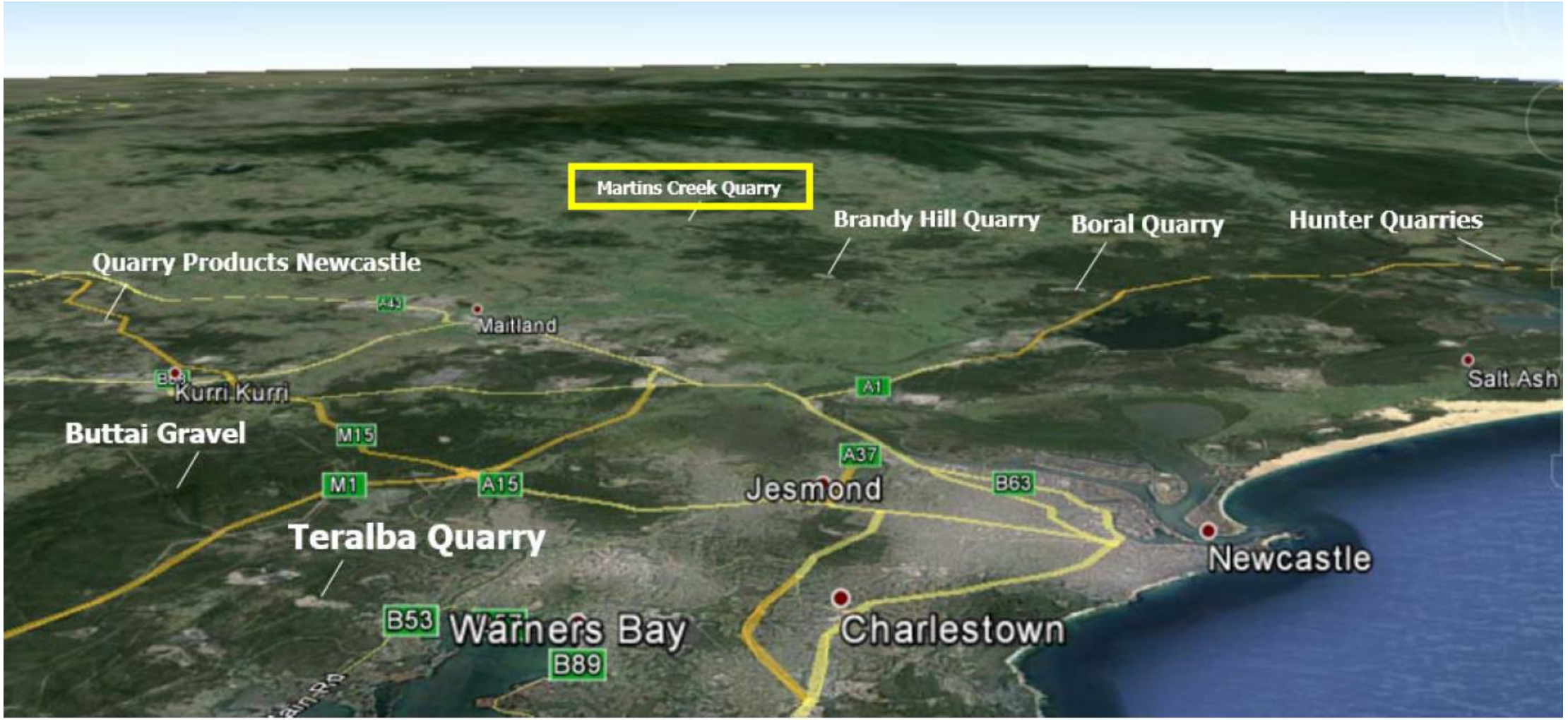
Martins Creek Quarry Action Group

MCQAG Community Group

- Incorporated 2014
- Memberships from Upper Hunter, Maitland & Port Stephens electorates
- +12 impacted communities
- Formed to represent communities
  - Current impacts of illegal operations
  - Impacts from proposed expansion (1.5MMtpa, 24hr ops, 100,000 trucks pa)
- Mission Statement
  - Seek Government recognition regarding this incompatible land use
  - Counter the proponents EIS with expert reports
  - Seek modernized approvals that reflect existing consent conditions

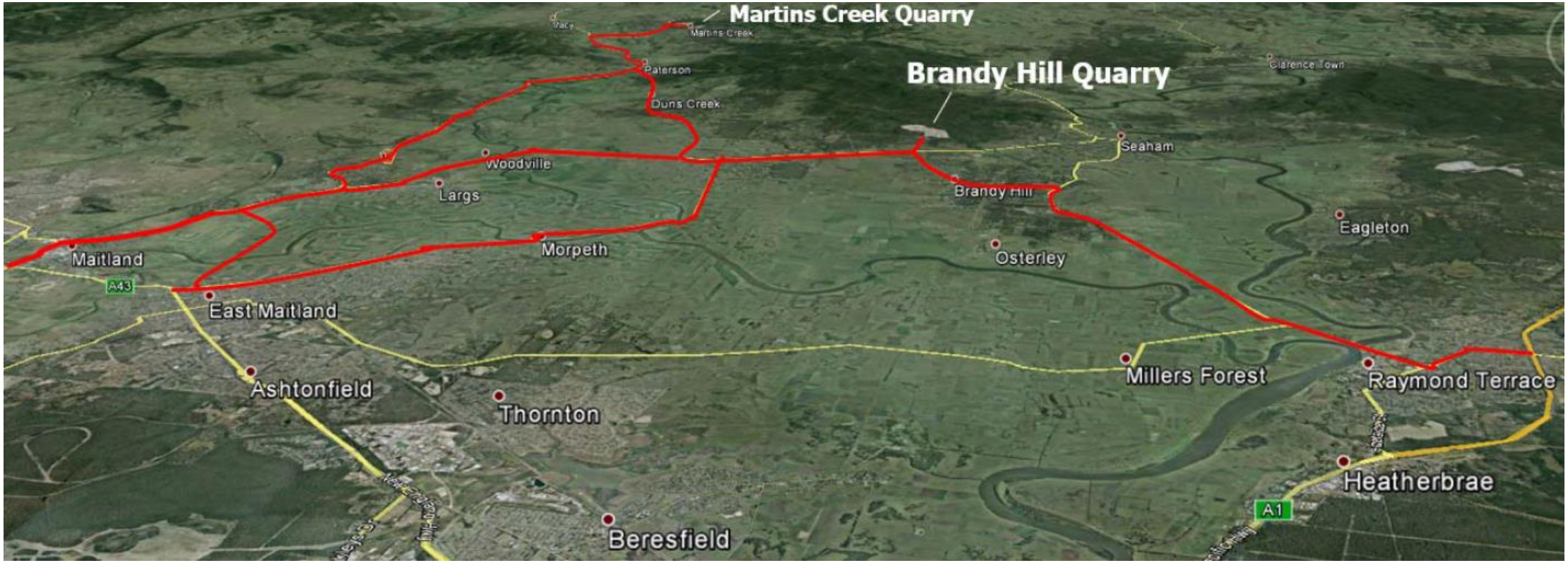
MCQAG
Martins Creek Quarry Action Group

Location



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Martins Creek Quarry Action Group

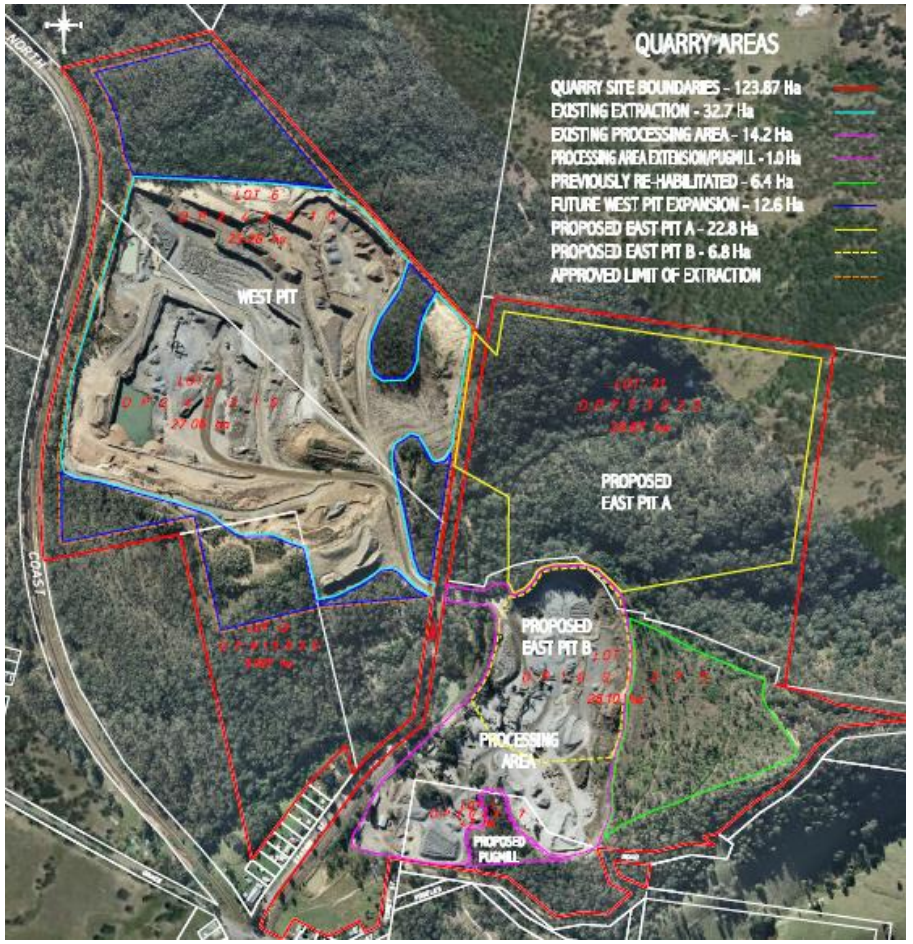
Location



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Location

- Lot 1 – Eastern Pit / Processing Area
- Lot 5 & 6 Western Pit
- Lot 23 proposed new pit area
- Existing Rail Loading Facility Lot1



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Martins Creek Quarry Action Group

History

- **Early 1900's** established for rail ballast for main northern line Lot 1 (original pit and processing area state owned and operated by Railcorp)
- **19XX** Lots 5 & 6 purchased by Noel Mitchell
- **1990** DA submitted for Lot 5 & 6 for a "Rail Ballast Quarry"
- **1991** Consent issued by Dungog Shire Council (DSC), 5 hectare clearing, 24 trucks per day, 70% product by rail, 330,000T pa, Lot 1 existing use rights
- **1999** Scheduled activity requiring an EPL. Scale based limit 100,000 to 500,000 T
- **2003 to 2007** EPL scale base limits breaches
- **2004** Railcorp and quarry Mgr make submission which is accepted by DSC that outlining continuing use rights of 450,000tpa
- **2007** MCQ Quarry Mgr lodges D.A for tertiary crushing plant, committed to no increase in truck movements
- **2007** Public meeting with Railcorp & community - +200 attendees, opposition against any expansion and the current scale
- **2007** S.58 variation increasing EPL scale based limit to 2,000,000 T
- **2007** Railcorp attempted to commence Part 3A approval process. Enviro constraints identified and limited expansion to 600Ktpa
- **2008** following multiple environmental studies and draft reports Railcorp formally advise DSC they will not be proceeding with the Part 3A approval
- **2007 – 2010** DSC make ongoing representations to Ministers and operators seeking resolution to variation error.
- **2010** Railcorp agree to settle out of court with DSC. Commercial in confidence agreement limiting extraction to 550,000tpa and agree to upgrade Paterson main street
- **2010 – 2012** MCQ for sale by Railcorp
- **2012** Noel Mitchell purchased Lot 1 & Daracon purchased processing equipment
- **Nov 2012 –** prior to the transaction occurring Daracon obtained legal advice and were informed that existing approvals to "quarry" at the site were doubtful
- **Dec 2012** Railcorp abandon MCQ. Daracon entity (Buttai Gravel P/L) begins operating the quarry under a lease arrangement from Noel Mitchell.
- **2014** Daracon sales & extraction increases due to project demands
- **2014** community unrest towards 600 truck movements per day, blasting, dust, outside hours operations
- **July 2014** Closed meeting with Paterson, Martins Creek, Brandy Hil, Bolwarra Residents, Daracon, DSC, PSC, MCC, EPA and state government representative
- **2014** David Mingay wrote to DSC advising that he would request the EPA vary the EPL from 2000,000tpa back down to 500,000tpa
- **July 2014** public meeting Paterson, ~250 residents, Daracon, EPA, DSC attend
- **2015** DSC commenced Class IV proceedings against Daracon & OEH
- **2015** Daracon commence SSD process for new approvals
- **Nov 2016** SSDA exhibited
- **Nov 2016** DoP Public Meeting attended by Daracon, DoP, DPC, DSC and ~250 residetns
- **Dec 2016** Hearing No.1 - Daracon attempts to defer the court case
- **Feb-April 2017** Hearing No.2 - LEC court case heard over 5 weeks, multiple affidavits lodged by residents regarding impacts (quarrying, transport etc)

History ctd

- **April 2017 to October 2018** community awaits LEC decision
- **2018 Umwelt** commences work on RTS
- **Oct 2018** LEC hands down a decision confirming quarrying operation occurring unlawfully by in large without proper consents
- **Dec 2018** Daracon lodge a Notice of Motion in Land & Environment Court to have stay on orders extended indefinitely
- **Jan 2019** Daracon launches an appeal on the Oct 2018 LEC decision

Current Consent Conditions

1. The development being conducted in such a manner so as not to interfere with the amenity of the neighbourhood in respect of noise, vibration, smell, dust, waste, water, wast products or otherwise;

Development: An Extractive Industry ("Designated Development") being a quarry, winning material primarily for railway ballast.

Product Delivery

Quarry products are shipped by rail and road. The distribution is 70% by rail and 30% by road vehicles. The road vehicles used consists of a fleet made-up as follows:

The proposal is to develop a "new" quarry on land adjacent to the existing "old" Martins Creek quarry. The existing infrastructure at the "old" quarry, that is crushing plant, other fixed plant, mobile plant, haul roads and staff will be retained. Haul roads will connect the "new" quarry with the "old" quarry. The "new" quarry will occupy about 5 ha and another 5 ha will be required for haul roads and setbacks.

Product Transportation

6. The applicant shall not permit the transport of more than 30% of the quarry products, by road without the further specific approval of Council.

Truck movements have been estimated on the basis that 30% of the annual production of 265,000 tonnes of all products is removed by road. Twenty three tonnes per load has been taken as an average load of the fleet vehicles. Operations at 5.5 days per week for 50 weeks per year gives 12 loads per day, thus 24 truck movements per day. The destination of these trucks will depend on regional demand. The majority of truck deliveries are to the south.

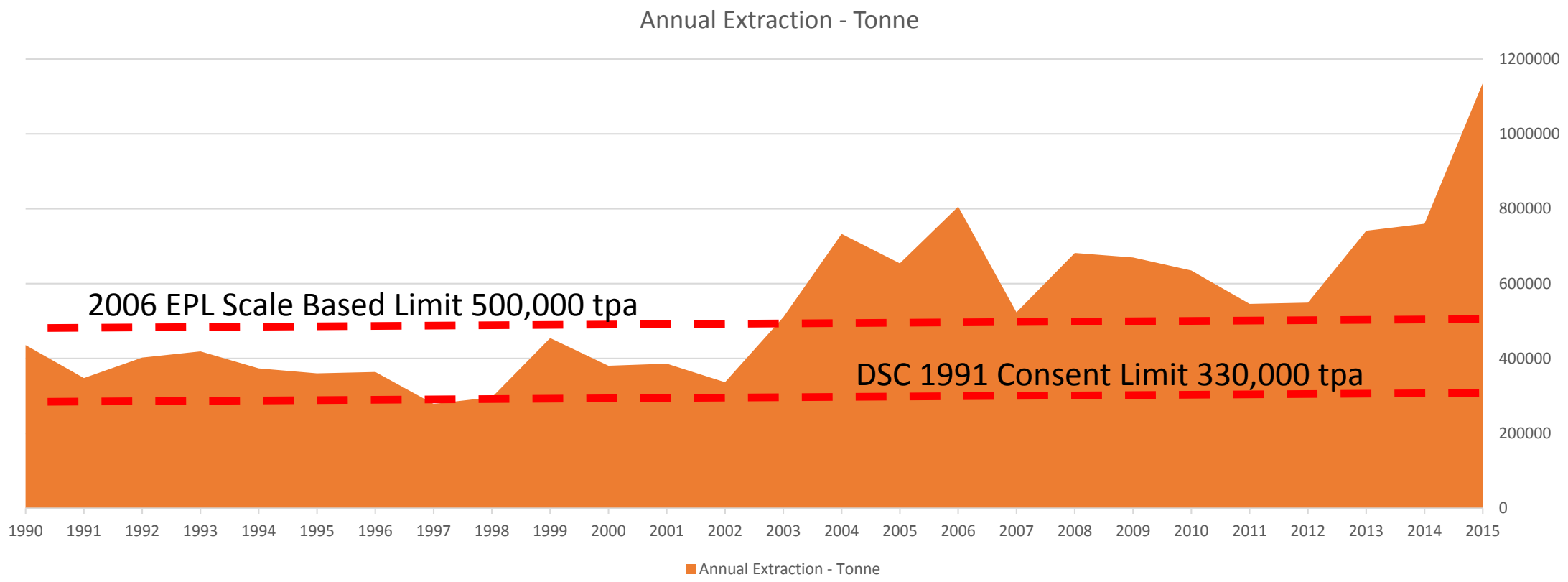
Hours of Operation

15. (a) Normal hours of operation -

Monday to Saturday	7am to 5pm
Sundays and Public Holidays	No operations

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Extraction History



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Existing Built Environment Values

- Martins Creek Village, heritage listed buildings & infrastructure, hall, school, heritage listed single lane timber bridges
- Vacy, rural lifestyle large lot subdivisions, modern dwellings, surrounding MCQ, farming (dairy, beef, poultry, equine)
- Paterson, activity centre, heritage listed commercial and residential, Village shopping precinct, churches, parks, geographically constrained by Paterson River & topography, heritage listed timber lane bridges
- Butterwick & Brandy Hill large lot, rural life style
- Tocal agricultural college, DPI Office, wedding venue
- Woodville, village, hall, churches, wedding venues, heritage listed timber bridge
- Bolwarra, Lorn & East Maitland, urban residential, child care, churches, parks, commercial precincts





MCQAG
Martins Creek Quarry Action Group

Existing Natural Environment Values

- Topography includes Paterson & Allyn River valleys and alluvials and Barrington volcanics
- MCQ site known to contain EPBC threatened species including Slatey Redgum and Koala habitat
- Rich in rural and village amenity
- Location for tourism, day visitors & weddings
- Gate way to Barrington Tops National Park



Community Values

- Incorporated into DSC Community Strategic Plan
- Community Strategic Plan informs and shapes the DSC 2014 LEP
- Orderly development and the planning scheme of the area embodied and under pinned by the DSC 2014 LEP
- DSC 2014 LEP is a **relevant planning policy** to be considered in SSDA14_6612

"To enhance the character, including the cultural and built heritage, of each village."

"To promote the rural amenity….."

"to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,"

MCQAG
Martins Creek Quarry Action Group

Community Survey Report

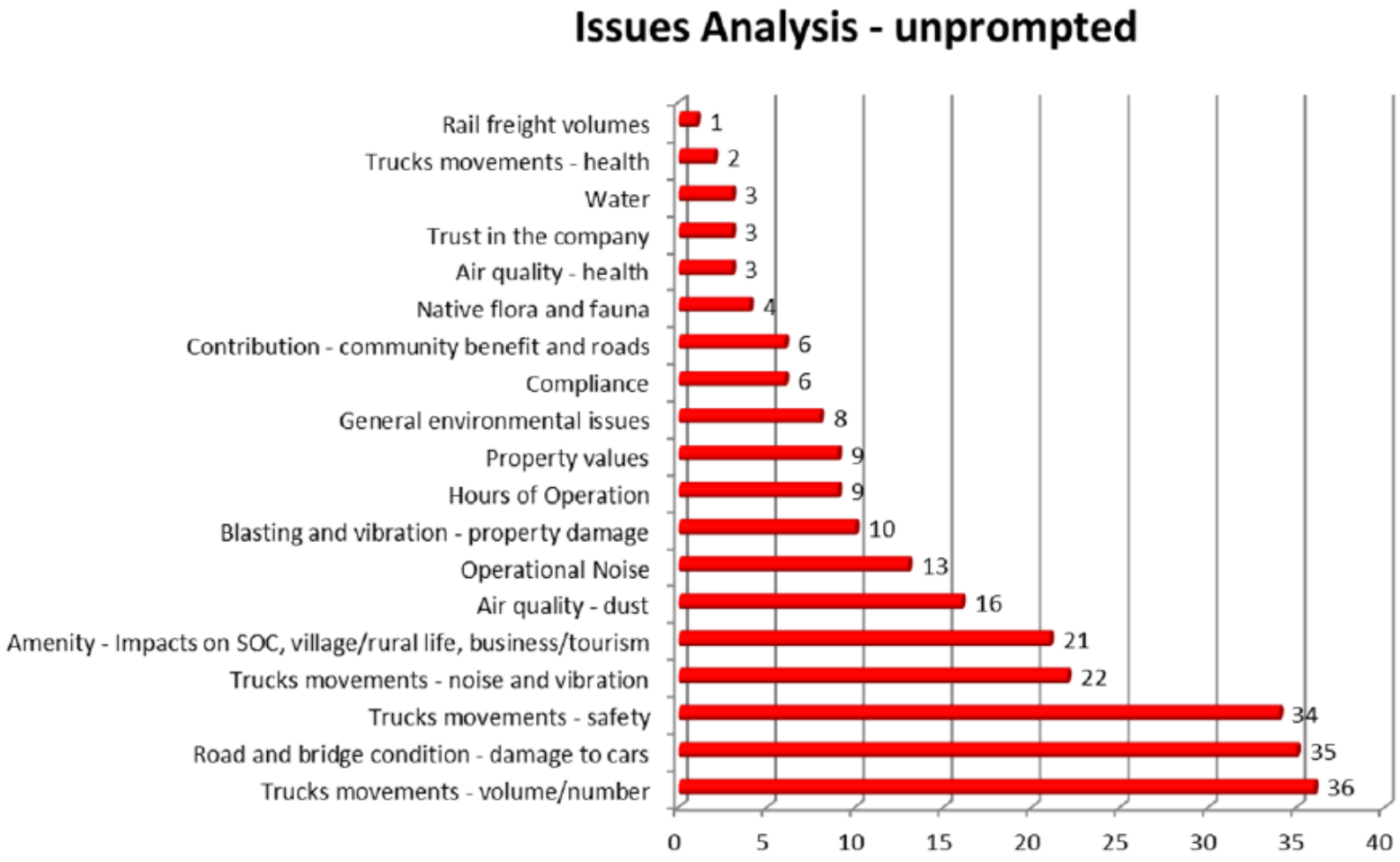
- Online surveys (community & businesses) by MCQAG
- June to Aug 2015, results provided to Daracon & DoP
- Respondents from all three electorates



Top of Mind Associations Word Cloud

MCQAG
Martins Creek Quarry Action Group

Community Survey Report



MCQAG
Martins Creek Quarry Action Group

Impacts

- Impacts documented in a) MCQAG 2015 Community Survey, b) 2016 individual submissions opposing SSDA14_6612 and c) MCQAG 2016 submission opposing SSDA14_6612 all reflect the impacts documented in **evidence and recorded in affidavits from multiple lay witnesses** and experts referred to in 2017 LEC court case
- These affidavits attest to the daily impacts (industrial off-site impacts and haulage route impacts) incurred due to the current scale of operations at MCQ

Key Concerns

- SSDA fatigue, 12 years of issues, is the proponent attempting to grind the community down?
- The proponent has not obtained a social licence to operate
- Resident's issues with the proposed development are not perceived fears they are in fact real and already experienced impacts owing to Daracon's unlawful operation of the facility to date
- Our key concerns are documented in our supplementary submission dated 16th December 2016 (located on SSDA14_6612 DoP Website)
- As communicated to Umwelt and Daracon on 22nd May 2018, 26th July 2018 and 18th Dec 2018;
  - The refined project (1.1Mtpa, 60 trucks per hour, 280 trucks per day) is completely un acceptable to MCQAG committee, membership and many impacted residents because the proposed annual, daily and hourly scale of operations does not address the issues raised in the MCQAG 16th December 2016 submission. The refined scale is intolerable at best and un live able at worst. The proposed scale of operations results in unacceptable amenity and social impacts for residents surrounding the site and along the transport route (including Vacy, Paterson, Bolwarra, Butterwick, Brandy Hill, Lorn etc) and unacceptable road safety outcomes to village activity centres along the haulage route
  - Furthermore the refined project fails to address the offsite impacts incurred by members and residents surrounding the facility from dust, industrial noise and vibration.

Requests

- Umwelt/Daracon revise the refined project scale downwards in order to address the issues raised in MCQAG submission SSDA14_6612 dated 16th December 2016

Martins Creek Quarry Action Group PO Box 128 Paterson NSW 2421 T: 0413 616 677 www.mcqag.org

MCQAG
Martins Creek Quarry Action Group

Barbara Crossley

Umwelt

75 York Street

Teralba

NSW 2284

4 November 2020

CC: Karen Lamb, Sarah Bell, Trish McDonald, Adam Kelly, Darren Robson, Louise Neville

RE: MCQAG meeting with Daracon and Umwelt

Via Email

Dear Ms Crossley,

1. Further to the presentation made to MCQAG by Umwelt and Daracon on the 10th September 2020. We write to confirm the issues and concerns raised by MCQAG at that meeting. We have included in Attachment 1 our prepared statements that were delivered to attendees aurally during the meeting.

Project Refinement

2. We understand from your presentation that in relation to the Martins Creek Railway Ballast Quarry State Significant Development Application SSDA6612 (the Proposal), recent refinements have been made that include but are not limited to:

    - 1,100,000tpa extraction
    - 500,000tpa transport by road
    - 600,000tpa transport by rail
    - 280 truck movements per day
    - 50 truck movements per hour
    - Proposed utilization of a haul route (Route 1) that would pass through the rural, residential and village areas of Martins Creek Village, Vacy, Paterson Village, Bolwarra Heights, Bolwarra and East Maitland before reaching the New England Highway
    - Year 1 to year 4 transport of all road material via Station Street and Grave Avenue through the Village of Martins Creek to reach haul Route 1
    - Year 5 to year 25 transport of product via a new entrance and bridge on to Dungog Road
    - Extraction of material from areas not currently permitted
    - Extraction and processing of material for purposes beyond railway ballast (i.e. general aggregate and construction material)

3. Relevantly the 1991 Consent and 1990 Environmental Impact Statement (1990 EIS) that relates to existing operations on parts of the lands upon which the current Proposal is based contains key environmental safeguards, pollution controls and impact protection measures.

4. The key environmental safeguards and mitigations in the 1990 EIS included limiting the scale of the operation to 300,000 tonne of railway ballast sales per annum, limiting trucking to 24 movements (12 loads) per day and requiring not greatly more than 30% of the product to be transported by road.

5. His Honour Justice Molesworth in Dungog Shire Council v Hunter Industrial Rental Equipment Pty Ltd (No 2) [2018] NSWLEC 153 held [132] that *the incorporation of the 1990 DA and its associated 1990 EIS is by necessary implication, to remove ambiguity and uncertainty, so as to bring clarity as to how to read the 1991 Consent in its proper context.* MCQAG agrees with his Honour's comments that that these documents provided *key environmental and amenity management component of the railway ballast quarry*. His Honour went on to say [324] *that increasing truck traffic to (improperly) accommodate the transport of greatly more quarry product by road, can be presumed, as a starting consideration, to likely interfere with the amenity of the neighbourhood*

6. ***MCQAG strongly objects to the proposed operational increases presented above because the proposed scale is an unacceptable departure from the original environmental safeguards and amenity management components of the existing development that were designed, approved and implemented to protect the local environment and impacted residents.***

7. Furthermore, as you and your client are well aware by now, from resident's submissions, interviews, public meetings, collaborative assessment forums, Dungog Shire Council court case pleadings and witness affidavits, the lived experiences and impacts from the unlawful Martins Creek Quarry operations were significant, unwieldy and often unliveable. When one carefully reads the decision Dungog Shire Council v Hunter Industrial Rental Equipment Pty Ltd (No 2) [2018] NSWLEC 153 readers are enlightened by expert and lay witness evidence, accepted by the primary judge regarding the impacts to the lives of residents. His Honour held in relation to the scale of unlawful operations occurring at the Site prior to the conclusion of court proceedings that [338] *on the basis of the evidence before it, that there is indeed an impact on the amenity of the neighbourhood…..*

8. ***Since Martins Creek Railway Ballast Quarry was brought into compliance with the law and current consent conditions the improvement to the amenity of the many impacted residents has been life altering. Residents have had their rural and village amenity restored.***

9. Residents are no longer impacted by the "lived experience" of unrelenting movement of class 9 trucks originating from Martins Creek Railway Ballast Quarry. The historic village of Paterson is no longer physically split in two by the "lived experience" of hours upon hours of daily class 9 quarry trucks. Visitors and residents alike attending the activity centre of Paterson no longer have the "lived experience" of their conversations interrupted by streams of quarry truck traffic. Customers and residents no longer have the "lived experience" of fear for their safety as they cross the road to access local shops. Visitors and residents enter and exit their vehicles now without feeling as though one is taking their life into their own hands and residents and village users no longer have to question whether or not to do their shopping in Maitland "because the quarry trucks are bad this week".

10. The rural ambiance of both village activity centre and many residential dwellings along the haul route and surrounding the site now, quite normally, contains significant uninterrupted atmosphere of the natural environment (i.e. birds singing, insect chorus and the noise of the breeze in the trees).

11. Furthermore residents are no longer impacted 6 days per week by the "lived experience" of industrial noise, vibration and dust coming from both the western and eastern lands of the site and

until September 2020 (When Daracon undertook a campaign of additional rock extraction from Lot 5 for railway ballast production) residents have been free from the lived experience of blasting damage and the need to "brace" for another impact. We note from the primary judgment a reference by his Honour to a lay witnesses affidavit outlining the lived experiences relating to the blasting impacts emanating from the site [338] "it has now become so intense that the ferocity of the blast led me to believe an earthquake was rumbling up the road, shaking the house and rattling the windows. This is not something you quietly adapt to, it delivers the same instinctive fear every time".

12. Life with Martins Creek Railway Ballast Quarry, now operating in accordance with current consent conditions has been unimaginably pleasurable for many residents.

13. ***Given the current lawful baseline is that which we have pleasurably experienced for the last 12 months MCQAG asserts that the refined project parameters (in terms of hourly, daily and annual scale and intensity) detailed above are completely unacceptable.***

14. They are unacceptable because the refinements do not address the issues raised in MCQAG's submission dated 16th December 2016. Moreover, they do not address the lived experiences, issues and impacts raised by residents in the Blasting and Traffic Collaborative Assessment Forums of 2019. Furthermore as discussed the proposed use of Station Street (being a residential cul-de-sac and local road with an AADT of <20 light vehicles of local traffic and who's intersection with Grace Avenue also transects the Northern Railway line) from year 1 to 4 for the movement of up to 280 trucks per day is also completely unacceptable.

15. The current refinement if approved would see the re-introduction of unacceptable impacts and lived experiences at a comparable scale (both hourly and daily) to those that have already been experienced between 2007 and 2019 (emanating from the site and along the haulage routes). These impacts have scarred and effected so many already in this community.

Status of Environmental Studies

16. We understand from your presentation that several environmental and technical studies are still incomplete, and a number are still being revised following the NSW Department of Planning's request to respond to submissions.

17. We understand that findings and conclusions from these technical and environmental studies are still unknown. We also understand from your comments during the meeting that the current refinements have come about following "Daracon pausing and reflecting" and taking into consideration amongst other things "community comment from the previous year's collaborative assessment forum feedback from residents".

18. As discussed, our groups view is that it is not possible for yourselves or the proponent to determine and finalize the appropriate scale and parameters of the development being sought approval for until these yet to be completed study findings and conclusions have been received and reviewed by Umwelt and Daracon. We therefore submit to you that it is highly inappropriate to be "pre-empting" the outcomes of these studies by making significant communications to the community in regards to the proposed scale of operations before the various environmental studies have been completed and their conclusions and recommendations have been considered and integrated into the project refinements.

19. ***We request that Umwelt suspend advice to the community that asserts revised project parameters that are not based upon study outcomes nor genuine community consultation until such studies and consultation has been conducted and completed.***

20. ***We also submit that Daracon and Umwelt have not in fact genuinely considered community and residents feedback relating to the proposed 1166% increase in trucking traffic that would result from the Proposal. Rather Daracon (as confirmed in the meeting) has taken a position on the 1166% increase in daily quarry truck movement being needed by commercial not social drivers.***

Umwelt and Daracon Staff, Roles and Responsibilities

21. We note our comment during the meeting that there is confusion within the community regarding the roles and responsibilities relating to community engagement. We understand that Sarah Bell from Umwelt is performing social impact assessment work for the Proposal. We also understand that Daracon has engaged Louise Neville as Community Relations Manager for Daracon.

22. We are of the understanding that both Daracon and Umwelt representatives have been meeting with residents jointly. We submitted to you that for a Social Impact Assessment to be conducted impartially there should be a clear differentiation between contact with residents that arises from the Umwelt Social Scientists study work versus contact with residents involving the Daracon Community Relations Manager related to general enquiries in regards to current and future operations of Martins Creek Railway Ballast Quarry. From a very fundamental basis having a Daracon Community Relations Manager or other Daracon employees in attendance when Umwelt Social Scientists are performing interviews, we suggest could greatly prejudice research interview results.

23. We have had comments from residents about their hesitance, distrust and apprehension to have anyone from Daracon approach them in regard to the SSDA and we suggest that offering to have Daracon personnel in attendance with Umwelt may also hinder social impact assessment work in obtaining the necessary interviews and information from residents.

24. As the project parameters have significantly changed (including the proposed haulage route in year 1 to 4). We confirm our understanding from the meeting that Umwelt Social Scientists will be contacting and re-interviewing residents who previously were interviewed by Umwelt's Jacqueline Bessa in 2018.

25. ***We request that where Umwelt Social Scientists are performing one on one interviews with effected residents that this work be performed at arm's length from Daracon representatives to ensure the veracity of interview and social impact assessment data.***

COIVD and Collaborative Assessment Forums

26. We understand from your presentation and the project Information sheet no.2 that Umwelt is opting to cease any further Collaborative Assessment Forums (CAFs) with local residents and instead proceed with community consultation using the social pinpoint website and individual interviews when requested by residents. We understand that Umwelt intends to rely on feedback from the social pinpoint website to inform Umwelt studies and decision making in relation to the Proposal.

27. MCQAG confirms our earlier advice to Umwelt at the 2018 update meeting that our preference was to fully participate and engage in Umwelts proposed CAFs. MCQAG confirms that an additional forum (yet to be held) on Amenity Impacts had been requested and agreed upon by Umwelt in 2018.

28. We understand that Tocal College being the location of previous Collaborative Assessment forums is a COVID safe venue. MCQAG has also reviewed the New South Wales Health COVID guidelines

and Public Health (COVID-19 Restrictions on Gathering and Movement) Order (No 5) 2020 and notes that there are no explicit prohibitions to meetings or community events so long as COVID safe guidelines are adhered to in relation to social distancing, four square metre rule and wearing of masks etc. We are of the understanding that both Tocal College and Iona Hall Woodville have registered COVID safety plans in place for the purposes of hosting COVID safe meetings, events and gatherings. MCQAG would be willing to assist in the convening of further Collaborative Assessment Forums remotely whereby residents attend one of the above referenced venues and Umwelt, Daracon and Environmental Consultants join remotely using MCQAG arranged Microsoft Teams, projector and speaker etc.

29. In relation to online websites, forums and webinars now bring solely relied upon for engagement, the NSW Department of Planning guidelines state that consideration should be given to the *Lack of technical competency of intended participants* and in relation to online interactive platforms that *not all stakeholders are comfortable participating in online forums so it should not be the sole feedback channel.*

30. As would be indicated in Umwelt's demographic data for the local areas of Martins Creek, Paterson, Vacy, Tocal, Bolwarra, Lorn and East Maitland we submit to you that there is a significant portion of the community who are aged 65 years and above. We suggest to you (as demonstrated during the evening of our meeting) that many older residents in our community are not computer literate. The choice by Umwelt and Daracon to move away from Collaborative Assessment Forum format to an online platform for project consultation is disenfranchising to these and many other residents. The information (or lack of) is difficult to access and understand on the social pinpoint website. We note at the time of writing that the social pinpoint site lists information on several pages for noise, social, biodiversity, water, cultural heritage, visual amenity, rehab and bushfire that further information is "coming soon".

31. We assert that the impacts that would have been the subject of further Collaborative Assessment forums would have ranked as having a High level of potential community and other stakeholders' impact/interest in accordance with the NSW Department of Planning Community and Stakeholder Engagement guidelines.

32. We note that relying on an online platform (and individual interviews when requested or email and telephone enquiries) for engagement of these High-Level ranked impacts, will not meet the participation outcomes required and specified in Table 4 of the guideline. Specifically, the online platform, direct interview and email contact does not provide an effective forum or mechanisms in which to;

    a. *work with the community and other stakeholders to understand their values and opinions and the opportunities to reflect these values and opinions in decision-making* nor
    b. seek feedback from the community and other stakeholders during the preparation of the relevant specialist studies. Consider tailoring this outcome with reference to a particular issue or study of interest to the community and other stakeholders which may have been captured in the Scoping Worksheet nor
    c. work with the community and other stakeholders and government agencies to identify potential management and mitigation measures that address the needs of proponents, and the community and other stakeholders nor

33. ***We strongly object to the reliance upon a web-based forum as the principle means of communication and engagement with impacted residents going forward. Whilst newsletter No.2 was distributed in the mail we can confirm that this was not received in all impacted areas. Whilst Umwelt is also relying on email and Paterson PSSST newsletter updates not all impacted residents receive this newsletter or email update.***

MCQAG's position is that if Umwelt and Daracon are unwilling or unable to convene and participate in Community and Stakeholder consultation at COVID safe venues in accordance with NSW Planning Stakeholder Engagement Guidelines and NSW Health guidelines then the consultation and engagement should be suspended until such time as COVID-19 restrictions are lifted.

Health and wellbeing of Impacted Residents

34. As discussed at the meeting MCQAG has significant concerns for the health and well being of residents within our local community, we submit that Umwelt and Daracon should also share in these concerns. In the absence of Daracon's unlawful quarry operations and any SSDA project consultation over the prior 12 months, residents have dealt with the worst bush fire season in history which saw Paterson River Valley residents fighting fires both in the local area and around the state.

35. The impact of COVID is also directly affecting our local community which has seen the closure of some businesses in Paterson, loss of employment and reduced working hours for many. We submit to you the household stress is taking its toll on many in our community.

36. The re-emergence of Umwelt and Daracon into the fray has caused significant additional anguish and emotional concerns for many residents in a period of time when many are under already increased household and financial stress. Your conduct and lack of consideration for residents in your "re started" SSDA application is despicable. It is directly affecting the health and wellbeing of many. We have proven and specific medical health issues being raised to us by residents regarding stress, depression and anxiety brought on – or provoked by the return of Umwelt and Daracon.

37. Unfortunately, your approach and choice to re start the SSDA process during a pandemic, and with little regard for residents previously raised impacts, concerns and objections is seen as a reflection of the contempt Umwelt and your client Daracon has for the impacted residents in this area.

38. We have received comments from a number of residents who advise that it appears that Daracon and Umwelt are pushing their application through under the cover of COVID. We note that proceeding in this manner would be a significant non conformance and departure from NSW planning guidelines.

39. Many residents have approached us and advised that this is the last straw "the thought of Daracon obtaining new approval to do what they did before at a similar scale is heart wrenching … moreover is the thought that Umwelt and Daracon are continuing to ignore the primary issues and concerns that have been raised for now 13 years". A number of residents have advised us that if Umwelt and Daracon persist with the Proposed scale they will have no choice but to leave this community.

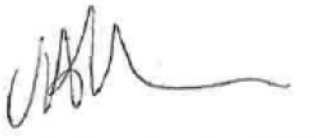
40. **We request you to acknowledge the mental health issues faced within this community from Daracon's past unlawful operations and the current SSDA process and ask that you reconsider your approach to pushing your SSDA application through during the COVID pandemic. Whilst we understand Umwelt and Daracon have a commercial imperative to proceed with the Environmental Impact Assessment process, a more reasonable approach and in fact a gesture of good will towards residents would be to; show concern for already "under stress" community and engage with them on a genuine level of care and concern after the COVID pandemic is resolved. We note, although this does not suit Daracon's commercial agenda the resource will not disappear in the meantime.**

Conclusion and Requests

41. The matters that MCQAG have raised with you at the meeting held on 10th September 2020 and within this letter are material and significant.

42. We request Umwelt and Daracon to address the issues and requests we have raised in this letter. Furthermore, until such time as Umwelt and Daracon resolves the wider issues raised in submissions and CAFs, MCQAG will remain committed to opposing this totally unacceptable and incompatible land use proposal.

Yours Faithfully



James Ashton MCQAG Secretary

0413 616 677

Attachment 1

Project Refinement

Since Martins Creek Quarry was brought into compliance with the law and its current consent conditions the amenity of the many impacted residents has been life altering.

Residents have had their rural and village amenity restored.

Residents are no longer impacted by the unrelenting movement of class 9 trucks,

the village of Paterson is no longer physically split in two by relentless movements of your unlawful quarry trucks

residents are no longer impacted 6 days per week by industrial noise coming from both the western and eastern lands of the site and

residents (until this month) have been free from blasting damage and the need to "brace" for another blast.

Life without impacts from Martins Creek Quarry, operating in accordance with current consent conditions has been unimaginably pleasurable.

Given the current lawful baseline is that which we have experienced for the last 12 months. The refined project parameters of 1.1MMtp extraction, 50 trucks per hour and 280 trucks per day is completely unacceptable.

It is unacceptable because the refinements do not address the issues raised in our submission dated 16th December 2016. Moreover, they do not address the issues raised in the blasting and traffic Collaborative Assessment Forums of 2019.

The current refinement if approved would see the re-introduction of impacts that have scarred and effected so many already in this community.

Consultation

MCQAG committee view is that the move to 100% online format for consultation is completely unacceptable.

The approach by Umwelt to suspend CAF's and move to online is disenfranchising to the impacted community.

As your social scientists would know the area is made up by a number of older residents. We submit to you that a great number of these impacted older residents are by in large computer illiterate.

By moving online, you will be excluding them from any opportunity to participate in genuine consultation.

We say that your online approach using Social Pinpoint as the only means of interacting and consulting the impacted community is contrary to the requirements laid out in the NSW Dept of Planning's Community Consultation Guidelines.

As we all know the wider community has been grossly impacted by COVID.

In Dungog alone community halls are closed, community and sports groups have been widely impacted and prevented from functioning.

Many local businesses are suffering from the effects of COVID restrictions.

But that's ok because Daracon can bullhead away and push an SSDA through "online" under the cover of COVID. For you to even contemplate to do this, is simply a reflection of the contempt your companies hold for residents of this area.

We say if Umwelt and Daracon cannot coordinate lawful COVID safe collaborative assessment forums and other consultation processes in accordance with the departments guidelines to engage with the community then the process should be suspended until such events can be held.

Martins Creek Quarry Action Group PO Box 128 Paterson NSW 2421 T: 0413 616 677 www.mcqag.org

MCQAG
Martins Creek Quarry Action Group

Barbara Crossley

Umwelt

75 York Street

Teralba

NSW 2284

11 March 2021

CC: Karen Lamb, Sarah Bell, Trish McDonald, Adam Kelly, Darren Robson, Louise Neville

RE: Social Impact Assessment Collaborative Forums

Via Email

Dear Ms Crossley,

1. Further to the Social Impact Assessment presentation made to residents on the 11th and 12th of February 2021 at the Umwelt convened collaborative assessment forums (**CAF**) in relation to SSDA 6612 (**the Proposal**).

2. We understand that on the 2nd of December 2016 Howard Reed Director of Resource Assessments as the Secretary's nominee wrote to Mr Adam Kelly requesting that he prepare a report that comprehensively addresses the submissions received on the proposal, as well as those raised in the community meeting attended by ~250 residents on the 2nd November 2016. Mr Reed also requested that the report comprehensively address the departments comments set out in Appendix 2 of that letter (**the DoP Request**).

3. We understand that the above referenced letter constituted a written notice as laid out in Section 82 (2) of the Environment, Planning and Assessment Regulations 2000.

4. As commented at the CAF event and as detailed in previous CAF events, 2016 submissions, correspondence and meetings between residents, MCQAG, Daracon and Umwelt, based on lived experiences the refined project parameters have an unacceptable impact on all forms of amenity.

5. We agree with the Australian caselaw description that the 'amenity' of a neighbourhood is, in the ordinary use of language, the quality which it has of being pleasant or agreeable … meaning the pleasantness or agreeableness of the neighbourhood as it is in fact is [sic], in pursuance of an intention that it should not become less pleasant or agreeable": *Cecil E Mayo Pty Ltd v Sydney City Council* (1952) 18 LGR (NSW) 152 at 156. We also agree with and bring to you and your Social Impact Scientist's attention Her Honour Justice Jagot's description of amenity, in CEAL Limited v Minister for Planning & ors [2007] [67] that "Amenity has consistently been described as a wide and flexible concept, embracing such matters as the character of a place and the attributes of place which a community values as important contributors to its character"

6. We are of the view that amenity impacts as described by residents in written submissions, public meetings, surveys, court affidavits and CAF forums are a key impact of the Proposal.

7. We contend that in spite of the purported results from the Umwelt noise expert during the online Noise CAF, the anticipated noise emanating from the site and the noise emanating from the heavy haulage of some 31,250 truck movements per year along the planned haul route under the Proposal will still impact receiving residents. We submit that the impact of an intrusive noise is highly dependent on the environment within which it is experienced. The environment that the noise impacts would be heard from are largely rural and village environments where the existing background noise levels are appreciably lower than the assumed background noise levels under the Noise Policies. This means that the noise generated from the site and from heavy haulage traffic will emerge from the background noise and this will cause unacceptable social impacts to nearby residents. This position is consistent with the lived experiences communicated to both Umwelt and Daracon since 2014.

8. As discussed with Umwelt at our meeting on the 26th March 2018 we noted to you at that time and in our written submission dated 16th December 2016 that considering the performance of the Proposal against objective criteria alone, within for example the NSW Road Noise or Industrial Noise Policies does not cover all types of likely impact or all aspects of amenity in so far as it deals only with one aspect of amenity being road traffic noise or industrial noise. We requested and Umwelt agreed at that meeting to decouple assessment of amenity impacts from other technical studies.

9. We understand the mitigations for the Proposal currently include various measures including project refinements to the operating hours, proposed annual limits to be transported by road and rail, new noise attenuation installations at the site, changes to the equipment and processes used onsite, construction of a new access route in circa year four of the development. Regarding the proposed haulage of product from the site by road we understand mitigations include a new access route adjoining Dungog Road, outside of this other haulage mitigations primarily rely on an administrative code of conduct for drivers. As communicated to you during the various CAF's we note for your records that to date the project refinements and corresponding mitigations do not address or resolve the issues and concerns we (and the wider impacted community) have with the Proposal.

10. Furthermore, we are concerned that other proposed mitigations raised by impacted residents with Umwelt and Daracon at previous CAFs are largely being ignored and dismissed. Many of these additional mitigations suggested by residents attending earlier CAF forums are mitigations that have been demonstrated as being reasonable and feasible in a number other modern New South Wales quarrying operations. Resident's suggested mitigations currently being ignored by Umwelt and Daracon include but are not limited to;
    i. Direct, fixed, vibration and building resonance monitoring of impacted residences.
    ii. Storage and handling of processed aggregates in fully enclosed silos onsite in lieu of using open stockpiles.
    iii. Transfer and loading of product using fully enclosed conveyors and hoppers.
    iv. Processing of 100% of secondary and tertiary materials generated at the site at an alternate offsite industrial facility
    v. Installation of additional continuous air quality monitors within impacted residential areas with data being made available in real time.
    vi. Transporting of 100% of product from the site by rail to a rail offloading facility or regional distribution centre where it can then be transported by truck to the end user.
    i. Construction of either a public or private heavy vehicle bypass road around the village of Paterson.
    ii. Assessment and use of other regional roads that presently adjoin Dungog Road and are connecting to the Pacific highway via Clarence Town.
    iii. Enforcement of real time electronic vehicle monitoring for all trucks accessing the facility.

iv. Prescribing a minimum specification for heavy vehicles accepted at the facility in terms of age, type, noise attenuation features on bins, engine noise euro specification etc.
v. Reducing the proposed hourly scale of operations in terms of total truck movements.
vi. Reducing the proposed daily scale of operations in terms of total truck movements.

Complaints regarding the Social Impact CAF

11. We write to place on record the following complaints in relation to the apparent community consultation and presentation made by yourself and Karen Lamb at the above referenced sessions.

a) To the best of our knowledge apart from a reliance on community members to have already "registered" their interest on the impossible to discover Umwelt "Social Pinpoint website", the CAF forum on Social Impacts was not advertised in print. There were very few residents who were aware of the forum invitation, in fact several attendees only discovered the forum session by word of mouth and attended at short notice. Several other residents have subsequently contacted us to express their dissatisfaction regarding not being able to participate because they simply didn't know it was being convened.

b) The presentation contained slides with significant volumes of small print. This information was at times impossible to read. Furthermore, the presentation referred to graphs and data tables that were also illegible and/or nor clearly explained by the presenter.

c) The presentation on both dates was not audio assisted. We note there were hearing impaired attendees on both days. Despite the comment and request being made on the Thursday night that several attendees could not hear the presenter, no microphone or speakers were used or made available on the following Friday session.

d) There appeared to be a significant amount of information that was intended to have been disseminated to attendees during each session. The presenter was often speaking at an extremely high speed which made it difficult to follow nor gather thoughts or notes in relation the topic being discussed. Furthermore it appeared that there was an inadequate amount of time to enable detailed discussion and explanation to occur, it was the view of many of the attendees who have contacted us that not all issues were able to be raised, discussed or worked due to time constraints.

e) The presentation contained numerous acronyms and there was an incorrect supposition that attendees had an assumed knowledge of the acronyms being used.

f) It was noted by attendees that the slide pack contained, grossly misleading comparisons of the social impact magnitude scoring (otherwise known as social risk scores) between the exhibited 2016 project parameters and the current revised project parameters. There was no commentary or comparison of social impact risk magnitudes between the baseline (present day operational impacts with the quarry operating in accordance with lawful consents) and the revised proposal.

g) Individual social impact risks were not presented, instead the presenter opted to discuss general themes that were used quite incorrectly to group individual risks and have them rolled up under key theme headings. This approach was grossly misleading, and it was not possible for attendees to understand how proposed management strategies would be used to mitigate discrete impacts and issues that have been previously raised.

h) During the presentation there was no worked examples of how magnitude scoring of a single social impact risk was established or developed. It was not clear if the risk scoring had been

developed in isolation by the social impact scientist? Whom from the community or impacted cohort contributed and provided input into the risk scoring results?

i) It was apparent from comments from impacted residents on both days that the magnitude scoring had been intentionally dumbed down to present an overly optimistic risk scoring result.

j) Both Umwelt and Daracon were unwilling to address and discuss amenity impacts outside of those types of amenity impacts that have been "apparently" resolved or deemed acceptable in technical road safety and noise studies being completed by Umwelt.

k) Outside of inept reference to traffic and noise impact technical studies, there was no discussion or response to questioning in either CAF forum by Daracon and Umwelt regarding the substantial deterioration of the Village Activity Centre Function in Paterson from the refined and completely unacceptable proposed magnitude of 40 truck movements per hour and 280 truck movements per day.

l) There was no discussion or response to questioning in either CAF forum in regards to Daracon and Umwelt having any regard to the substantial deterioration of the social fabric from the refined and completely unacceptable proposed magnitude of 40 trucks per hour and 280 trucks per day.

m) There was no discussion or response to questioning in either CAF forum in regards to Daracon and Umwelt having any consideration to the substantial deterioration of the rural and/or village amenity (being a type of amenity impact not able to be addressed or resolved from noise or other technical assessments).

n) There was no discussion or response to questioning in either CAF forum in regards to Daracon and Umwelt having any consideration to the impacts to Station Street residents from year 1 to year 4 in relation to the proposed movement of 40 truck movements per hour and 280 truck movements per day along a cul-de-sac residential street.

o) There was no discussion or response to questioning in either CAF forum regarding Daracon and Umwelt's position on the impacts to Solastalgia and Topophilia from the Proposal. Nor was there any discussion from Umwelt regarding the impacts on fauna and flora from the Proposal nor the consequential Social Impacts that might follow from this.

p) Concerningly there was little to no discussion on the social impacts to the multiple hundreds of nearest receptors located on properties immediately adjacent to the lands subject of the Proposal. Nor does it appear from the presentation that there has been any reasoned and comprehensive assessment of the social impacts of the Proposal on the Aboriginal people, particularly having regard to the proportion of Aboriginal people in the local area.

q) We note your Social Impact Scientists comment on the Thursday evening session that no consideration has been given in the Social Impact Assessment to the lived and documented experiences of traffic incidents and accidents involving historical unlawful quarry truck movements along the proposed haulage route. It was further noted that no reference to quarry traffic incidents and accidents has been made in the referenced Seeka traffic safety impact assessment.

r) It was evident from the presentation and issues being raised that your Social Impact Scientist has given no consideration to the individual personal impacts that the proposed refined project parameters will have. Particularly there has been no regard given to the well documented "lived experiences" in 2016 submissions nor LEC court affidavits attesting to the personal impacts that have occurred and that will "**Almost Certainly**" occur if the Proposal is approved as is.

s) There was no response from Daracon nor Umwelt in regards to personal submissions during the forum regarding the personal family damage already caused by the previous unlawful operations nor was there any response to impact to health and other personal impacts that have occurred due to the lived experiences and which if approved will "**Almost Certainly"** continue to occur again based on the refined project parameters.

t) Furthermore there was no discussion or commentary from the Umwelt Social Impact Scientist relating to any aspects regarding the likely substantial deterioration to peoples way of life, the changes to peoples community, the changes to peoples culture, the impacts on health and wellbeing and the potential distributive inequity of the Proposal.

u) There was no response from Daracon nor Umwelt in regards to downstream social impacts previously experienced during unlawful operations in Tocal, Mindarribba, Bolwarra Heights, Bolwarra and East Maitland and which if approved will "**Almost Certainly"** continue to occur again based on the refined project parameters.

v) There was no response from Daracon nor Umwelt in regards to cumulative impacts of the Proposal with Brandy Hill Quarry operations simultaneously hauling product along Tocal Road previously experienced during unlawful operations in Bolwarra Heights, Bolwarra and East Maitland and which if approved will "**Almost Certainly"** continue to occur again based on the refined project parameters.

w) The forum was not collaborative. The forum was primarily a show and tell event. There was no seeking of input or collaborative discussion. Attendees were told to write their thoughts on post it notes, these post it notes were not collected or collated at the end of the Thursday session. There was no exploration and detailed discussion about the lived experiences. It would appear the Umwelt and Daracon were treating this as a tick and flick exercise.

x) It has been previously noted in submissions that the environment surrounding the site and along the haulage route is uniquely rural. Outside of shoulder periods the local noise environment consists of wind in trees, inspects, lawn mowers and intermittent light vehicle traffic. As detailed in submissions the intrusive industrial noise and traffic noise generated by the proposal will have unacceptable impacts based on the lived experiences of individuals. Although based on past CAF's Umwelt suggest the predicted noise level will meet acceptable noise policy criteria, we say based on lived experiences and the currently proposed scale, residents will continue to have annoyance reactions to the intrusive noise from quarrying operation and trucking movements for the life of the proposal. This persistent annoyance we submit will have social impacts. There was no discussion or commentary from the Umwelt Social Impact Scientist relating to the negative social impacts that are "**Almost Certain"** to be caused by resident's annoyance reaction to the Proposal-related noise impacts during the CAF sessions.

y) Although previously communicated to the Umwelt Social Impact Scientist, there was no acknowledgement or discussion on the impact that continuous streams of quarry haulage traffic will have to the village amenity. Setting aside the noise impacts, the physical presence of hundreds upon hundreds of trucks almost every day will "**Almost Certainly"** cause irreparable damage and substantial deterioration to the amenity and fabric of Paterson (more over Station St Martins Creek between year 1 and year 4). As detailed in our 16th December 2016 submission and as is documented in lived experiences the magnitude and physical presence of trucking proposed under the refined proposal will have (and did have during unlawful operations) the effect of physically dividing the village in two. There was no discussion or commentary from the Umwelt Social Impact Scientist relating to any of these social impact aspects during the CAF sessions.

z) It was communicated to the Social Impact Scientist during the CAF that the unlawful operations and this subsequent proposal has already resulted in change to the local area. It was noted that there was likely in the future to be further change, community composition, cohesion and character. Attendees brought to the attention of your Social Impact Scientist that there had already been the departure of valued neighbours and community members directly attributable to the experiences of unlawful operations and prospect of Umwelt and Daracon bull heading an expansion proposal through the system. It was brought to the attention of Umwelt and Daracon during the CAF that there are known cases of numerous residents who are preparing to sell and exit the area pending the progress of the Proposal owing to the lived experiences of the unlawful operations and past conduct of Daracon. There was no discussion or commentary from the Umwelt Social Impact Scientist relating to any of these "**Almost Certain"** to occur social impact aspects during the CAF sessions.

aa) When requested for her professional opinion as to whether she believed the social impacts and proposed mitigations were acceptable the Social Impact Scientist refused to provide that opinion to attendees at the Thursday session. We note that the Technical Supplement to support the Social Impact Assessment Guideline for State-significant projects October 2020 requires the author to *explain and justify why they expect each proposed measure to be effective and discuss how acceptable any residual negative social impacts are likely to be for affected people*.

Existing Key Environmental Controls and Lived Experiences

12. We outlined the existing consents and key environmental safeguards that apply to the current operations in our letter to you on the 4th of November 2020 paragraph 3 & 4. In that letter we also outlined to you with reference to interviews, public meetings, submissions lay and expert affidavits the concurrence of the trial Judge's concurrence that during the unlawful operations there was indeed an impact on amenity. We highlighted to you in that letter and in previous CAF forums that the change in amenity due to the quarry now operating in accordance with the 1991 consent has for many been "life changing". We outlined what the ambiance the qualities of the local area were now like with the Martins Creek Railway Ballast Quarry operating in accordance with its 1991 consent terms.

13. The rural ambiance of both village activity centre and many residential dwellings along the haul route and surrounding the site, "**affecting many people in a widespread area"**, now, quite normally, contains significant uninterrupted atmosphere of the natural environment (i.e. birds singing, insect chorus and the noise of the breeze in the trees).

14. MCQAG strongly objects to the operational increases proposed by yourself and Daracon because the proposed scale is an unacceptable departure from the original environmental safeguards and amenity management components of the existing development that were designed, approved and implemented to protect the local environment and impacted residents. ***We request the Umwelt Social Impact Scientist to have regard to the environmental safeguards and amenity management components of the existing lawful consent and to provide baseline social impact risk scoring developed with community member participation that provides a true comparison between the 1991 parameters and the refined Proposal parameters***

15. Residents are no longer impacted by the "lived experience" of unrelenting movement of class 9 trucks originating from Martins Creek Railway Ballast Quarry. The urban areas of Bolwarra Heights and East Maitland are relieved from the continuous unlawful streams of Martins Creek Quarry trucks. The historic village of Paterson is no longer physically split in two by the "lived experience"

of hours upon hours of daily unlawful class 9 quarry trucks. Visitors and residents alike attending the activity centre of Paterson no longer have the "lived experience" of their conversations interrupted by streams of quarry truck traffic. Customers and residents no longer have the "lived experience" of fear for their safety as they cross the road to access local shops. Visitors and residents enter and exit their vehicles now without feeling as though one is taking their life into their own hands and residents and village users no longer have to question whether or not to do their shopping in Maitland "because the quarry trucks are bad this week". Based on the refined parameters of the Proposal, if approved, the above impacts will "**Certainly**" occur again.

16. Furthermore residents are no longer impacted 6 days per week by the "lived experience" of industrial noise, vibration and dust coming from both the western and eastern lands of the site and residents have been free from the lived experience of blasting damage and the need to "brace" for another impact. We note from the primary judgment a reference by his Honour to a lay witnesses affidavit outlining the lived experiences relating to the blasting impacts emanating from the site [338] "it has now become so intense that the ferocity of the blast led me to believe an earthquake was rumbling up the road, shaking the house and rattling the windows. This is not something you quietly adapt to, it delivers the same instinctive fear every time". Based on refined parameters of the Proposal, if approve, the above impacts will "**Certainly"** occur again.

17. Life with Martins Creek Railway Ballast Quarry, now operating in accordance with current consent conditions has been unimaginably pleasurable for many residents.

18. ***Given the current lawful baseline is that which we have pleasurably experienced for the last 12 months MCQAG asserts that the refined project parameters (in terms of hourly, daily and annual scale and intensity) detailed above are completely unacceptable.***

Conclusion and Requests

19. It is apparent from the presentations of 11th and 12th of February that Umwelt as a whole and your Social Impact Scientist more directly are seem to be opting to ignore other types of amenity impacts and social impacts not related to noise, blasting dust and vibration.

20. It was evident from your Social Impact Scientist's presentation that Umwelt and Daracon are incorrectly calculating the residual risk ranking of social risks that were presented during the CAF. Having regard for the current "refined parameters" of the proposal and the mitigations presently suggested by Umwelt, when one considers the air quality impacts, the industrial noise impacts around the site, the heavy vehicle impacts along the haulage route, the social impacts to residents and the local community outlined above, the Proposal is "**Almost certain**" to have a "**Major**" impact on the amenity of the locality resulting in an "**Extreme or Very High**" social risk ranking (see Figure 5 page 42 of the guideline and table 7 page 17 of the Technical Supplement).

21. The current residual risk ranking of **Extreme** and **Very High** social impacts based on the current Proposal and refinements is completely unacceptable to MCQAG and our financial membership.

22. We request Umwelt and Daracon to address the issues and short comings that we have raised in this letter to all attendees of the Social CAF by way of written correspondence and/or follow up forums.

23. Furthermore, until such time as Umwelt and Daracon respond and resolves the wider issues raised in submissions and CAFs, MCQAG will remain committed to opposing this totally unacceptable and incompatible land use proposal.

24. We understand the above complaints and issues constitutes a noncompliance with Mr Reeds request for a response to submissions in so far as the issues and concerns raised in this CAF and and earlier CAF's on Noise, Air Quality, Blasting and traffic have not resulted in the Community's issues or concerns being addressed or resolved.

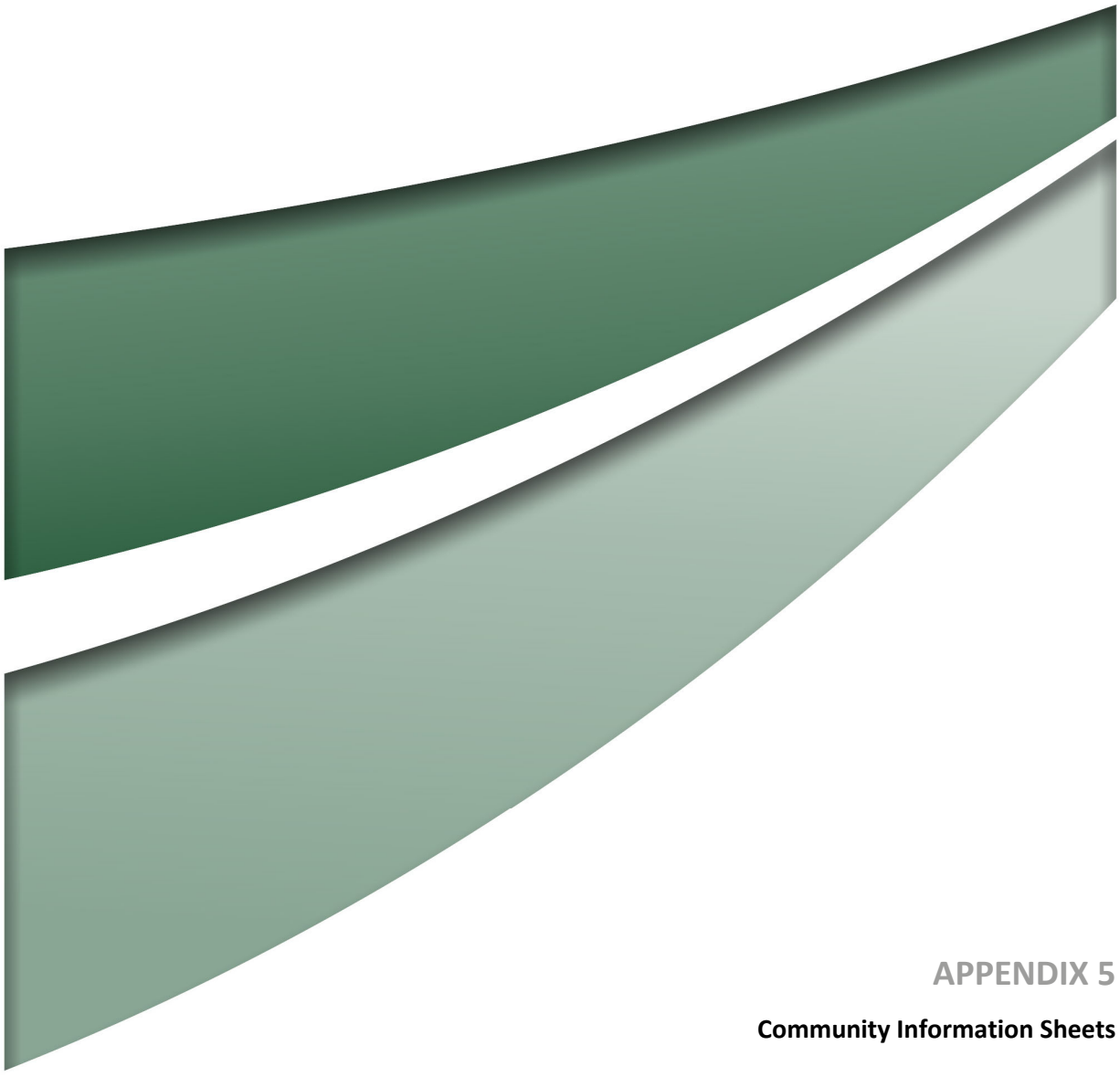
25. MCQAG committee requests a response to the above submissions within 7 days so as to comply with the guidelines, failing which will we be required to report such failings to the Department of Planning.

Yours Faithfully



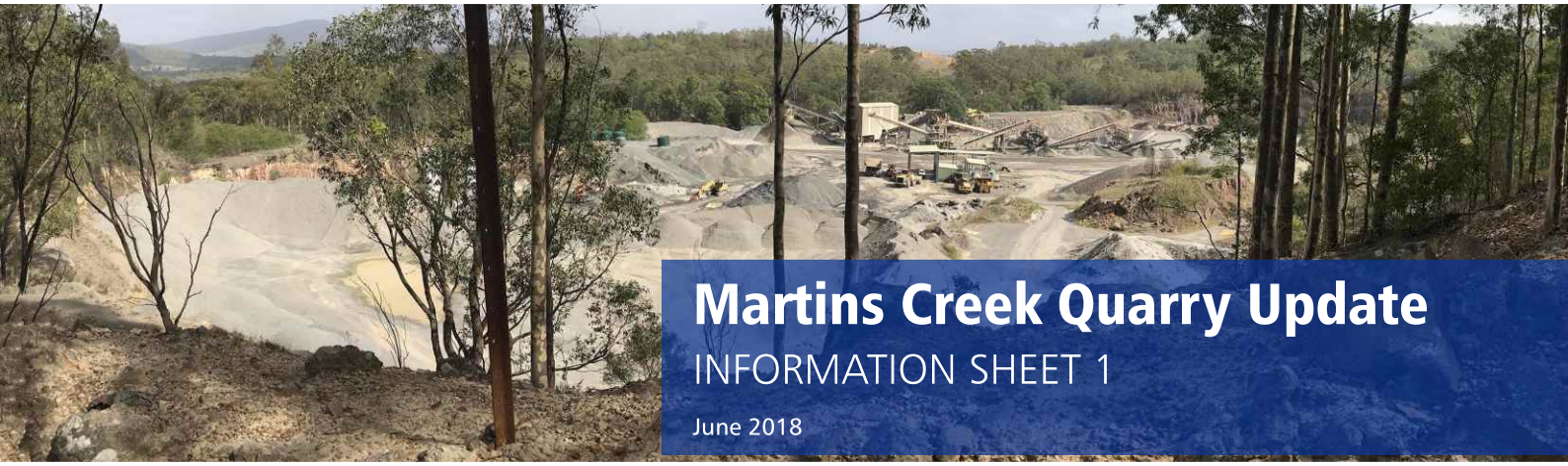
James Ashton MCQAG Secretary

0413 616 677



APPENDIX 5

Community Information Sheets



Martins Creek Quarry Update

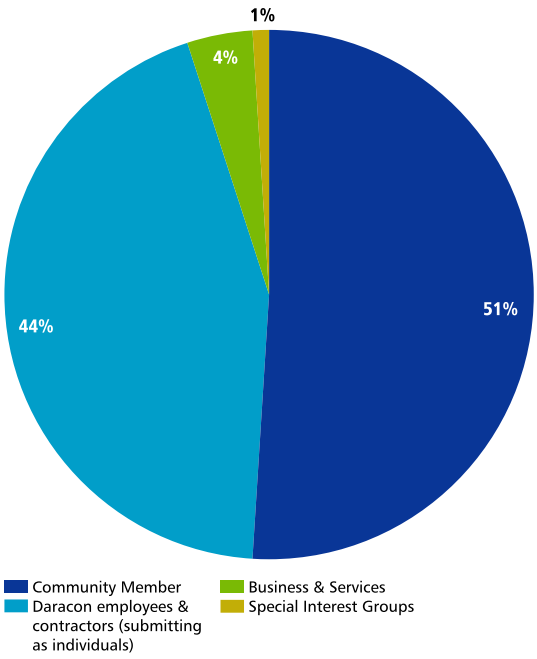
INFORMATION SHEET 1

June 2018

Background

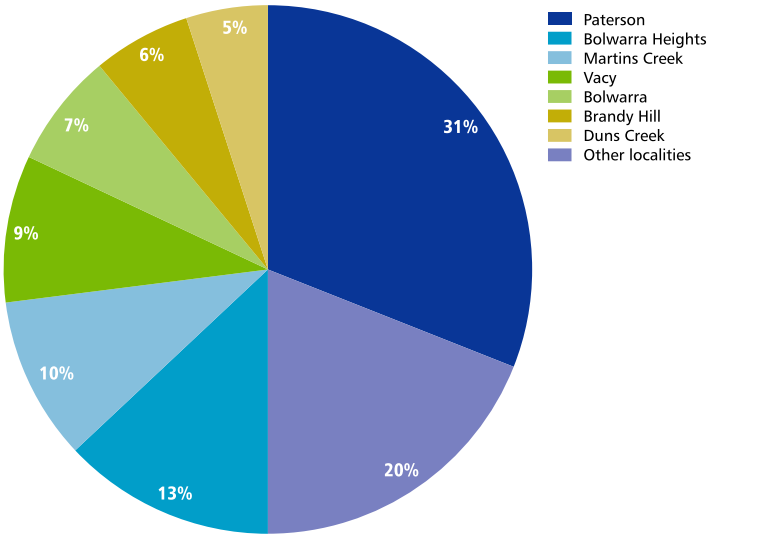
In September 2016, Daracon submitted an Environmental Impact Statement (EIS) to the Department of Planning and Environment (DP&E) to support an application for a proposed expansion of the Martin's Creek Quarry and to consolidate all existing consents and operations under a single development consent.

The EIS was on public exhibition between 13 October and 24 November 2016 and during that time about 900 submissions were received from both government agencies and the broader public. Of these, a total of 878 individual submissions were made from non-Government agencies and members of the public, including community members, local businesses and service providers, community groups and Daracon employees and contractors.



Community Submissions by Category of Stakeholder Group

The majority of community member submissions were received from Paterson, followed by Bolwarra Heights, Martins Creek and Vacy with a number of submissions also received from other localities.



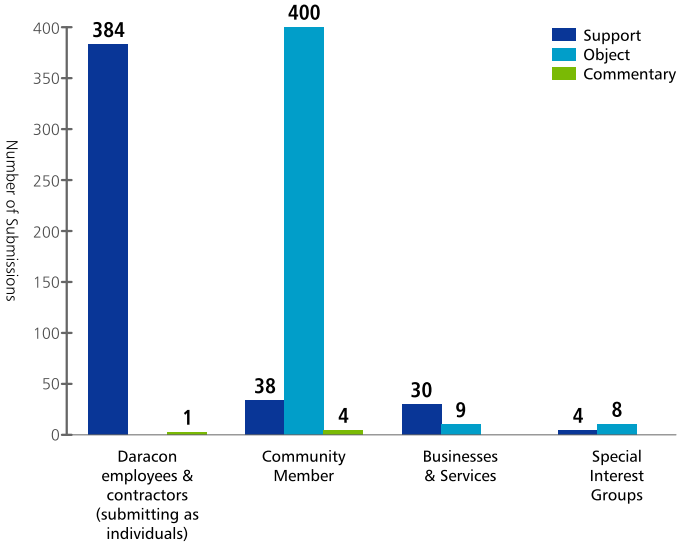
Due to the complexity and nature of submissions, Daracon has engaged Umwelt, an organisation experienced in assessing similar resource projects. Umwelt is a specialised environmental and social consultancy and will assist in completing a review of submissions and refinement of the Project. A full analysis of all submissions has been undertaken to understand the key environmental and social issues. As a result of submissions on the Project, Daracon and Umwelt are undertaking a Project refinement process to reduce environmental and social impacts whilst maintaining an economically viable Project.

This information sheet:

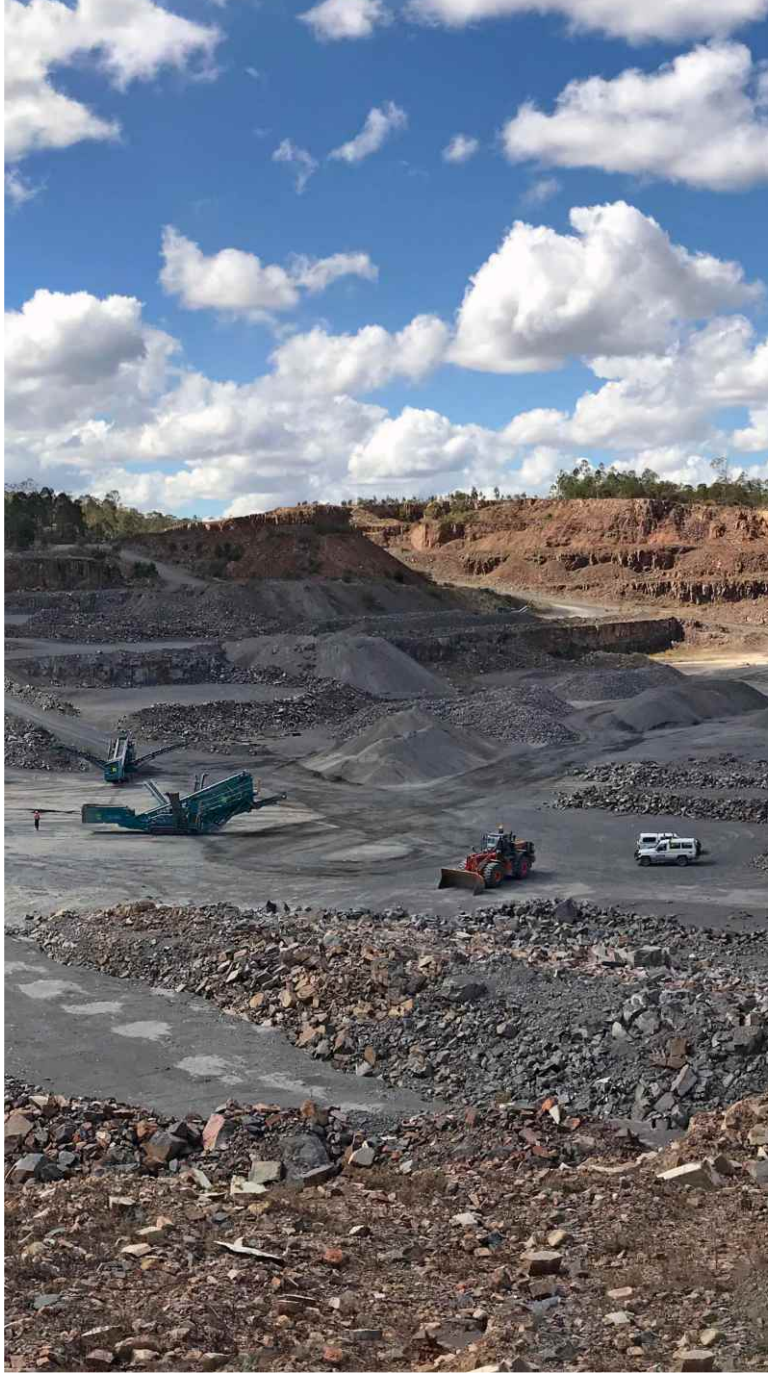
- Provides a summary of the key community issues raised during the public exhibition process and within associated submissions;
- Outlines proposed project refinements that are currently being considered by Daracon in consultation with technical specialists;
- Introduces the technical studies that are currently being undertaken to assess the refined proposal; and
- Provides an overview of the proposed engagement process moving forward, including inviting community stakeholders to participate in the future community engagement process.

What we have heard…

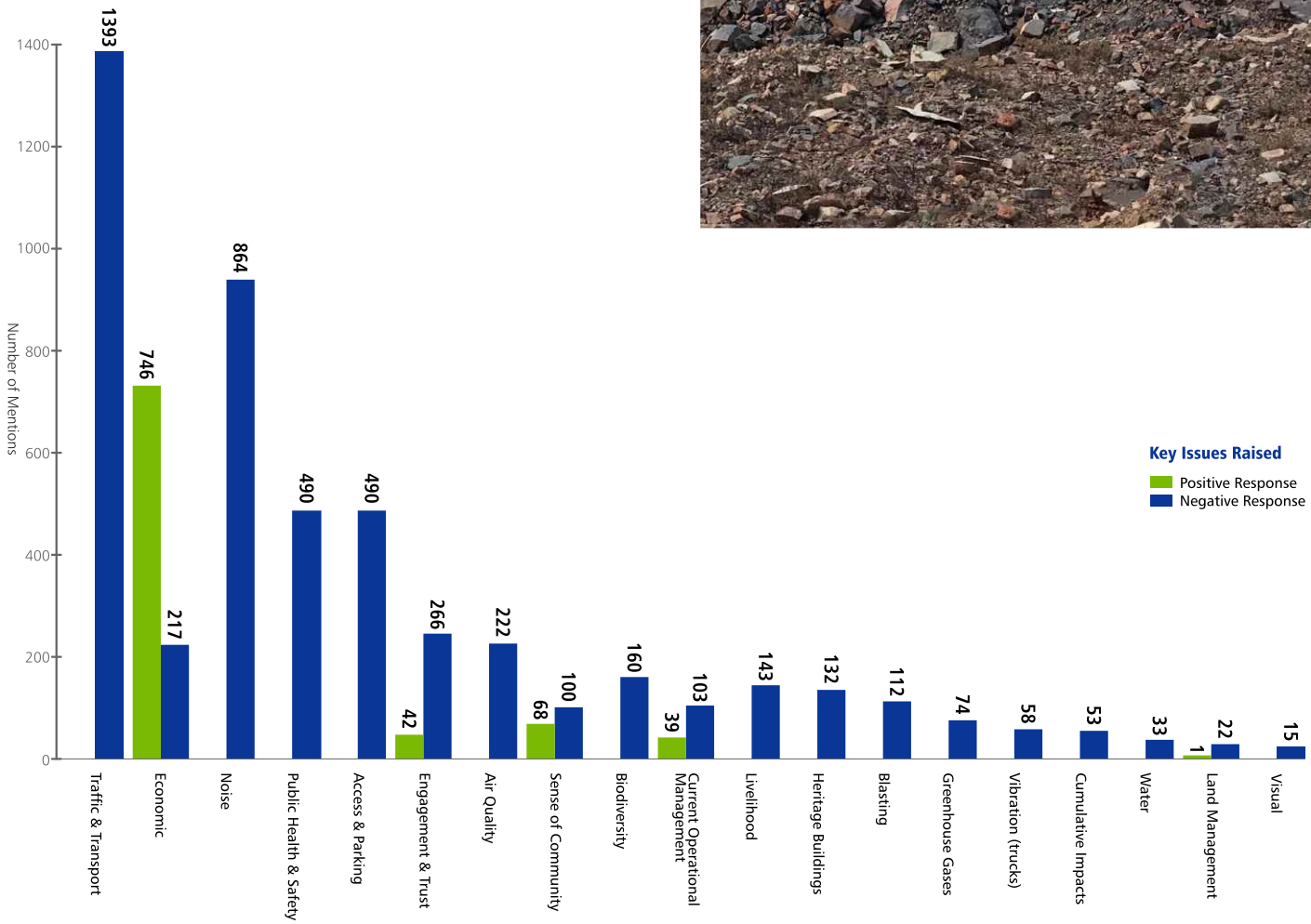
Of the 878 individual submissions that were received from members of the public during the public exhibition stage, approximately 50% opposed the project and approximately 50% were in support. A high number of those expressing support were from stakeholders with an existing relationship with Daracon, such as employees, contractors and suppliers.



Project Support by Stakeholder



Multiple issues were raised in each individual submission. The following graph illustrates these issues.



'Your Say' in Detail…

The following sections provide an overview of the nature of issues and impacts identified in the submissions received.

Traffic and Transport

Many of the issues raised in submissions were linked to concerns associated with the proposed increase in traffic and truck movements due to increased quarry production volumes and the flow on effects of this increase on existing road infrastructure and amenity of the community.

"The number of the proposed truck movements is totally unacceptable."

"The roads through Bolwarra Heights, Tocal, Paterson and up to Martins Creek are struggling with current traffic load, and were never designed/built to handle the heavy traffic."

There was also concern expressed regarding the ability of existing local roads and associated infrastructure to cope with increased truck movements and resulting road damage, increasing potential for safety issues.

"The increased road haulage will destroy the roads."

"The historic single lane bridge over the Paterson River on Dungog Road is also clearly prone to damage by increased heavy traffic flows."

Submissions also questioned why the company had not considered rail as an alternative for the movement of their product.

"The quarry has its own rail line, why put people's lives at risk? Why not make them do a rail expansion and ship it out by rail?"

Road User Safety

Submissions also detailed concerns related to potential impacts of road user safety – particularly for pedestrians, cyclists and motorists – as a result of increased traffic movements.

"Current traffic levels are already proving to be unsafe with the speed and volume of heavy vehicles moving through the built up community, passing by a school and retail shops and residential homes."

"There is no pedestrian crossing in the township for pedestrians to safely cross while up to 80 trucks per hour pass through the town."

"The safety of children, old people, dog walkers etc. is going to be at risk."

"Martins Creek Road ….is a narrow road with dangerous blind corners and hills to traverse for other drivers in the area."

Access

A number of submissions on current truck movements and concerns related to impeding local residents' ability to move around the community easily, e.g. make turns at intersections or turn out of their driveways; and that any further increase in trucks would exacerbate access issues.

"The current proposed access road onto Dungog Road, is not in a safe place at the top of a rise with visibility of traffic coming from Dungog side limited."

"What about trying to leave your driveway safely? "

"It would, for example, make it almost impossible for residents of the Hunterglen to join Paterson Road because of the traffic."

"As noted above, there were also concerns raised regarding the safety aspects of the shared use of public road infrastructure and pathways."

'Your Say' in Detail (continued)...

Noise

Submissions have also noted concerns relating to noise levels in the area due to quarrying operations generally, and truck movements and use of other machinery as well as blasting activities.

"There are days when there is continuous noise from the crushers and other machinery"

"I live off Martins Creek Road a stone throw away from the quarry and have to now listen to the droning noise of trucks and machinery clucking away."

"The possibility of additional trains 24 hours per day and the associated wheel squeal, engine noise and carriage jaunting will make sleep difficult for all members of our family"

"Trucks at decent times during the weekdays are acceptable, just. Trucks late at night and on weekends is unjust, cruel and a sign of greed."

"The noise level and frequency of the truck traffic is already unacceptable, let alone increasing it to 80 truck movements per hour."

Blasting

"The ever increasing blasting and production noise from as early as 6.00am is very disruptive for retired, elderly, school children and shift workers"

"The noise from the extra blasting and extra trucks will greatly impact on our lives."

"The explosions during the day are absolutely deafening around the area"

Air Quality

"The dust and fumes from the truck affect the air quality in the area and the emissions from the diesel contain substances that can increase the risk of lung cancer and, therefore this proposal to increase tonnage is hazardous for the community and should be stopped"

"The dust settles on the roof that collects my drinking water and the dust emissions particles I must now drink have polluted my water. I now have to spend money on a filter to safely consume the water"

Amenity

Submissions also documented concerns related to impacts on the amenity of the local community due to increases in noise, dust and traffic and in particular on the village atmosphere of Paterson township and the locality.

"The Martins Creek Quarry expansion will destroy the current rural village atmosphere."

"We bought this property for the tranquillity and distance from the busy built up areas."

"We come to Paterson for peace and quiet, and yet in some ways it is noisier than in the middle of the Sydney CBD."

"Impact amenity of residents near and enroute to the quarry via onsite and associated offsite activities."

"Hours of operation should be limited to times that will not cause disturbance to residents associated with normal sleep times, particularly prior to daylight."

'Your Say' in Detail (continued)...

Trust and Engagement

It is also apparent from the submission review process that levels of trust in Daracon are currently low due, in part, to operational activities, but also to the perception that the company has not undertaken satisfactory and participatory engagement with the community and other stakeholders as part of the EIS process to date.

"There is deep rooted distrust in the community against Daracon, because of the dishonesty"

"How possibly have they engendered trust with such past behaviour?"

"The proponent should be required to undertake a comprehensive community consultation"

"The Proponent has failed to consult with the wider community and local businesses"

Economic

Despite the issues identified, it is important to also acknowledge that a number of submissions were received that have provided their support for the project, due to the potential for future employment opportunities, provision of enhanced employment security for existing employees and suppliers, contribution to economic growth in the region and also due to existing and potential future community contributions.

"Daracon has given me stable, continuous employment."

"The construction industry relies on the Quarry as one of only a couple of hard rock suppliers in the region."



Project Refinements…

Since the submission of the EIS Daracon has identified a number of refinements to the proposed project that aim to reduce impacts when compared to those previously proposed in the EIS. Each of these along with operating times associated with processing are currently being assessed by a range of technical specialists and may be subject to further refinement as result of the environmental impact assessment process. These refinements include:

A reduction in total production





A maximum of 900,000 tonnes per annum transported via road

A 25% reduction in laden truck movements per hour (maximum 30 laden trucks per hour) from the quarry





A 35% reduction in laden truck movements per day (maximum 140 laden trucks per day) from the quarry

No loading of product into trucks prior to 7am





No in pit extraction operations (quarrying) prior to 7am

Where to from here…

Feedback from government agencies and the broader community has informed the proposed process moving forward.

Daracon and Umwelt are completing a review to identify potential options to refine the project, whilst maintaining an economically viable operation. This includes consideration of environmental and social impacts which has determined that the production level previously proposed will be reduced in addition to reducing the proposed number of hourly and daily laden truck movements. Umwelt and the team of specialists are also currently undertaking:

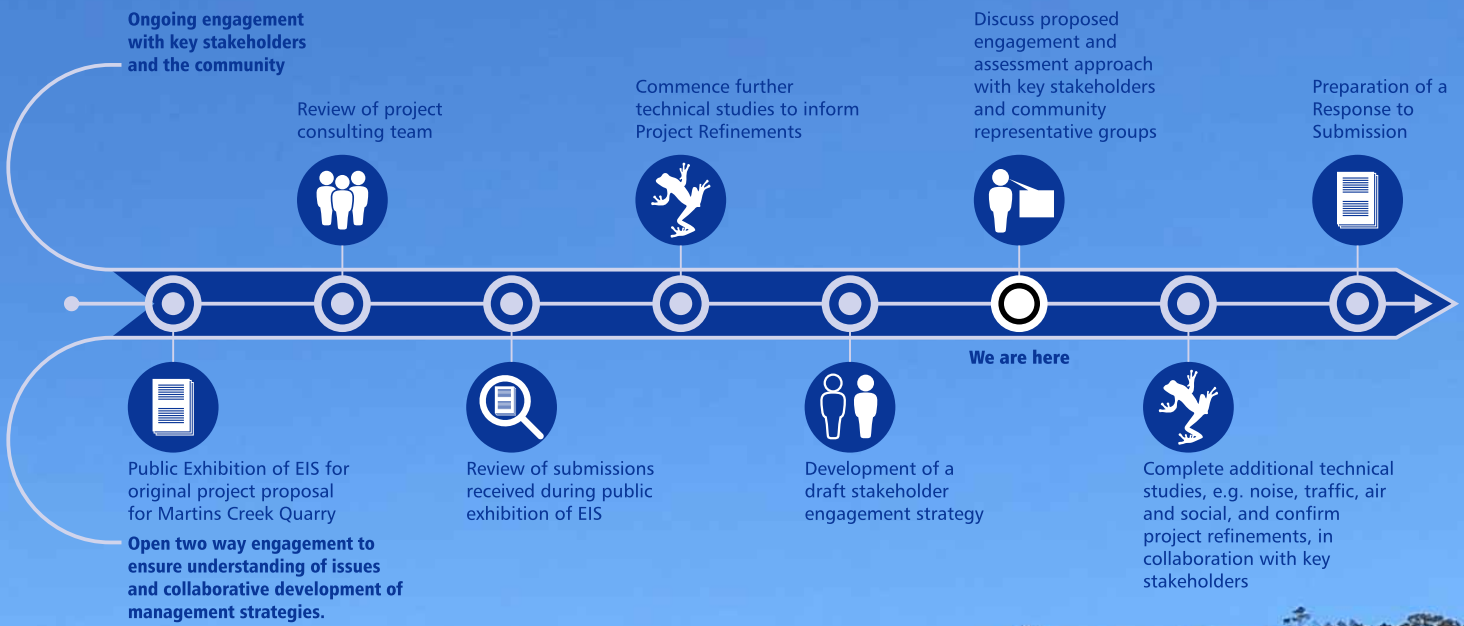
- Additional detailed modelling to assess potential air quality and noise impacts, and to review and refine relevant mitigation measures;
- The collection of updated traffic data and detailed traffic surveys to inform updated road and intersection designs;
- Updates and revisions to a number of the previous technical assessments to reflect proposed project refinements and to address relevant issues raised in government and community submissions on the EIS.

All of the above will inform a Response to Submissions document to be submitted to DP&E.

Social impact and community consultation specialists from Umwelt have also been developing a revised stakeholder engagement strategy with a focus on providing further opportunities for active consultation and collaboration with the community. Such a process will enable relevant parties to work together on the identification of project related impacts and appropriate management and mitigation measures. Further information on this process is provided below.

As you are aware, hearings in the Land and Environment Court case were completed in mid-April 2017. We were initially advised by the court that a judgement would be provided in December 2017. We specifically delayed commencing consultation to incorporate the outcomes of the court case into the next round of consultation. Our latest advice from the Court was that a decision will not be made until mid-April but at the time of printing this newsletter a decision had not been provided. Given that the approvals process has been delayed for nearly 12 months we need to commence the consultation ahead of the judgement from the court.

There will be opportunities as part of ongoing consultation program to specifically discuss the outcomes of the court case when the decision is handed down.





How can I be involved? More Information?

A key component of our current activities is collaboration with community stakeholders. Over the next few months the consultant team will be meeting with key community groups and requesting individual meetings with residents potentially affected by the Project.

A series of collaborative assessment forums are also planned. Forums will focus on confirming our understanding of key issues, sharing and seeking feedback on proposed project refinements, in addition to providing detail on the progress of revised technical study methodologies and outcomes, including key studies such as traffic, noise, air quality and blasting.

We will also be seeking to work with key stakeholders in the identification and development of potential mitigation and enhancement measures to address these issues/impacts.

If you would like to be involved in, or kept updated, of these sessions and their outcomes, please register your interest by calling **0436 606 529** or emailing **social-team@umwelt.com.au**.



Thank you

Contact Information

We understand and appreciate your submissions to date and look forward to your further input and feedback as the Project progresses.

umwelt
Environmental & Social Consultants

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Martins Creek Quarry Update

INFORMATION SHEET 2

July 2020

Introduction

This information sheet provides an update on the Martins Creek Quarry Project and associated activities since our last contact with the community. It outlines some of the key Project changes that have been made in light of our discussions with stakeholders and input provided by members of the community. It also provides information on the proposed next steps for the Project and the Amended Development Application and Response to Submissions (ADA & RTS) process.

Project Update

From October 2018, Martins Creek Quarry (the Quarry) operated in accordance with an Interim Environmental Management Plan (IEMP) which placed limits on extraction and processing volumes, truck numbers and operating hours.

The IEMP was revised along the way, to incorporate additional controls. During the period 11 February 2019 to 24 September 2019, the Quarry operated in accordance with the most recent IEMP as agreed to with Dungog Shire Council. This comprised the following key operating and transport parameters:

- Extraction and processing of material limited to 125,000 tonnes per three-month period
- Product transport by road limited to 75,000 tonnes per two-month period, with a maximum of 90 laden trucks per day and 20 laden truck per hour
- No transport of product was permitted on weekends or public holidays

On 24 September 2019, the Quarry was placed into limited operations within the parameters of the existing consent deemed as approved by the Court of Appeal.

Project Timeline

SEP 2017
Umwelt engaged to review submissions and commence further technical studies

JUL-SEP 2018
- Face to face meetings held with 78 community members
- Stall at Vacy Fair in September 2018

OCT 2018 - JAN-FEB 2019
- October 2018: Implementation of an IEMP, placing limits on extraction and processing volumes, truck numbers and operating hours
- January & February 2019: Quarry commences operation under successive revised IEMPs which included payment of road maintenance contributions to Dungog Shire Council and further reductions in truck numbers

MAR -JUL 2019
- March 2019: Air Quality and Blasting Collaborative Assessment Forum (CAF)
- July 2019: Traffic and Transport CAF

SEP 2019
Quarry placed into a limited operation

LATE 2019 MID 2020
Daracon reviewed and considered community input and completed further project feasibility investigations, detailed quarry design amendments, and proposed additional mitigation measures

JUL 2020
WE ARE HERE
- Interactive Social Pinpoint project site launched with a range of online engagement features
- Ongoing engagement with community
- Community Information Sheet No.2 distributed

Complete final technical studies based on revised project parameters and stakeholder engagement

Summary of assessment outcomes and proposed mitigation measures provided on Social Pinpoint

Community Information Sheet No. 3 distributed providing a summary of the outcomes of the assessments

Submission of the ADA & RTS to DPIE for adequacy review

What has been happening since quarry operations changed in September 2019?

Since the change to Quarry operations, Daracon have considered community input and have completed further project feasibility investigations, detailed quarry design refinements, and proposed additional mitigation measures. Activities have included further investigations into, and consideration of, the following:

- Resource optimisation and quarry plan refinements to minimise environmental and community impacts
- Commercial and operational elements in relation to operating hours, annual production volumes to be transported by road and peak truck volumes
- Rail spur extension options to optimise rail transport volumes, reduce disturbance footprint and minimise noise
- Rail transport/unloading options
- Noise investigations seeking to further mitigate impact on residents in Station Street and the village of Martins Creek
- Further engineering design work on the intersection of King and Duke Streets Paterson based on community feedback provided at the Traffic and Transport Collaborative Assessment Forum (CAF)
- Further engineering design work on the proposed Quarry access off Dungog Road
- Additional targeted fauna monitoring
- Traffic and transport mitigation measures following community feedback at the Traffic and Transport CAF

Key Project Changes

Since the EIS for the Original Project was publicly exhibited in late 2016, Daracon has committed to a number of key Project changes. Some of these proposed changes were communicated in our previous information sheet in June 2018 and through consultation activities undertaken at that time. They included key Project design changes and additional mitigation and management measures to minimise the Project's environmental and social amenity impacts such as reductions in proposed extraction limits, changes to Quarry operating hours and truck movements.

Following further community engagement and input provided during late 2018 and 2019 and the change to Quarry operations in September 2019, Daracon has undertaken further quarry planning and design activities to optimise use of the existing resource and minimise environmental and community impacts.

As a result, the Revised Project now includes a number of further amendments and improvements including:

- Reduced road transportation volumes and peak hourly truck movements
- Refined operational hours
- Reduced proposed Project disturbance footprint
- Reduced proposed Quarry operation approval term, to 25 years from 30 years

A summary of these are outlined below with additional information available for viewing online at **https://umwelt.mysocialpinpoint.com/martins-creek-quarry**



Key feature	Original Project (exhibited 2016)	Revised Project (2018)	Revised Project (2020)
Extraction and transport limits			
Quarry operation approval term	30 years	No change	25 years
Quarry extent	Proposed additional disturbance 28.2 ha	Proposed additional disturbance 30.5 ha (including new access road)	Proposed additional disturbance 17 ha (including new access road) - a reduction of 13.5 ha
Extraction limit	1.5 Mtpa	1.1 Mtpa	No change
Road transport limit	Up to 1.45 Mtpa by road	Maximum 900,000 tpa by road	Maximum 500,000 tpa by road
Rail transport limit	Up to 50,000 tpa by rail	Material will also be transported by rail	Up to 600,000 tpa by rail. Subject to market requirements at a later date, Daracon may seek DPIE approval to increase the amount transported by rail, on a campaign basis.
Truck limits per day	Maximum 215 laden trucks per day	Maximum 140 laden trucks per day	No change
Truck limits per hour	Maximum 40 laden trucks per hour	Maximum 30 laden trucks per hour	Maximum 25 laden trucks per hour
Hours of operation			
In pit quarry operations	6.00 am to 6.00 pm Monday to Saturday	• 7.00 am to 6.00 pm Monday to Saturday • No in-pit mobile crushing in the West Pit	No change
Evening/night crushing and processing activities	6.00 am to 10.00 pm	• No operations during evening period (6.00 pm to 10.00 pm) • No operations during night period (10.00 pm to 7.00 am) • No crushing or processing prior to 7.00 am Monday to Saturday	No change
Sales loading and stockpiling for road transport	5.30am to 7.00pm Monday to Saturday	• No loading of product trucks prior to 7.00am Monday to Saturday • No Quarry trucks through Paterson prior to 6.45am Monday to Saturday	• No loading of product trucks prior to 7.00am Monday to Friday • No Quarry trucks through Paterson prior to 6.45am Monday to Friday • No Quarry sales on Saturday
Loading and overnight parking	Loading and parking of trucks on site overnight	Unladen trucks to return to the Quarry between 6.00 pm and 7.00 pm Monday to Friday to park in the Quarry overnight and be loaded during this time in readiness for departure from 7.00 am the following morning	Provision for up to 10 unladen Daracon trucks (not contractors) to return to the Quarry between 6.00 pm and 7.00 pm Monday to Friday to park in the Quarry overnight and be loaded during this time in readiness for departure from 7.00 am the following morning. (Note: in the case of trucks loaded on Friday evening, departure will be no earlier than 7.00 am Monday morning.)
Train loading and rail transport	24 hours / 7 days per week	No change	No change
General Maintenance and Environmental Management Controls	Not specified	24 hours / 7 days per week as required	24 hours / 7 days per week as required, including vehicles/trucks moving in and out of the site for maintenance purposes, as required

The additional Project changes further reduce environmental and social impacts compared to those associated with the Original Project.

Changes to how we inform and engage

As noted above, during 2019 Daracon and Umwelt, together with relevant technical specialists held a number of subject specific Collaborative Assessment Forums (CAFs) with members of the community to discuss outcomes of technical studies that had been undertaken to date on air quality, blasting and traffic and transport.

Daracon has employed an experienced community engagement specialist to facilitate ongoing community engagement and to be a point of contact for the community.

Daracon is committed to continuing this dialogue with interested members of the community and other stakeholders and keeping you informed. As we progress through the assessment process we would particularly like to:

- Hear your views on the Revised Project
- Continue to share the outcomes of the technical studies as they are completed
- Identify proposed management and mitigation strategies and seek your input into additional possible strategies to address identified impacts.

Given the recent COVID-19 pandemic and the associated need for social distancing, we have made some changes to the way in which we engage with the community on the Martins Creek Quarry Project to allow for continued stakeholder and community input on Project matters.

What does engagement look like for now?

We have adopted an online engagement platform as a key tool that will allow community members to:

- Access the latest information about Project design changes and technical study outcomes to date
- Participate in discussion forums and surveys
- View project presentations

Information regarding the noise, economic and social assessments and current proposed mitigation measures will be primarily provided through our Social Pinpoint site with interested community members invited to provide feedback on outcomes and have input into proposed management measures. Other updates to assessments and proposed mitigation strategies, following community input, will also be provided on the Social Pinpoint site. We are excited about the opportunity that this platform provides for enhanced transparency and continued engagement.

We will also continue to engage in targeted discussions with particular stakeholder groups and interested members of the community as appropriate and to seek feedback on specific issues and aspects of the Project.

How can I be involved?

We want to continue to consult and involve the community as we continue through the assessment process. If you would like to access Project information and have your say please visit: **https://umwelt.mysocialpinpoint.com/martins-creek-quarry** and follow the links.

Daracon and Umwelt understand that the use of online mechanisms for engagement is not possible for all members of our community. Therefore, if you would like information delivered to your letterbox or to have a personal discussion with a member of the Project team, please contact us on the details provided below.



Thank you.

We look forward to your further input and feedback as the Project progresses.

Contact information

DARACON Group

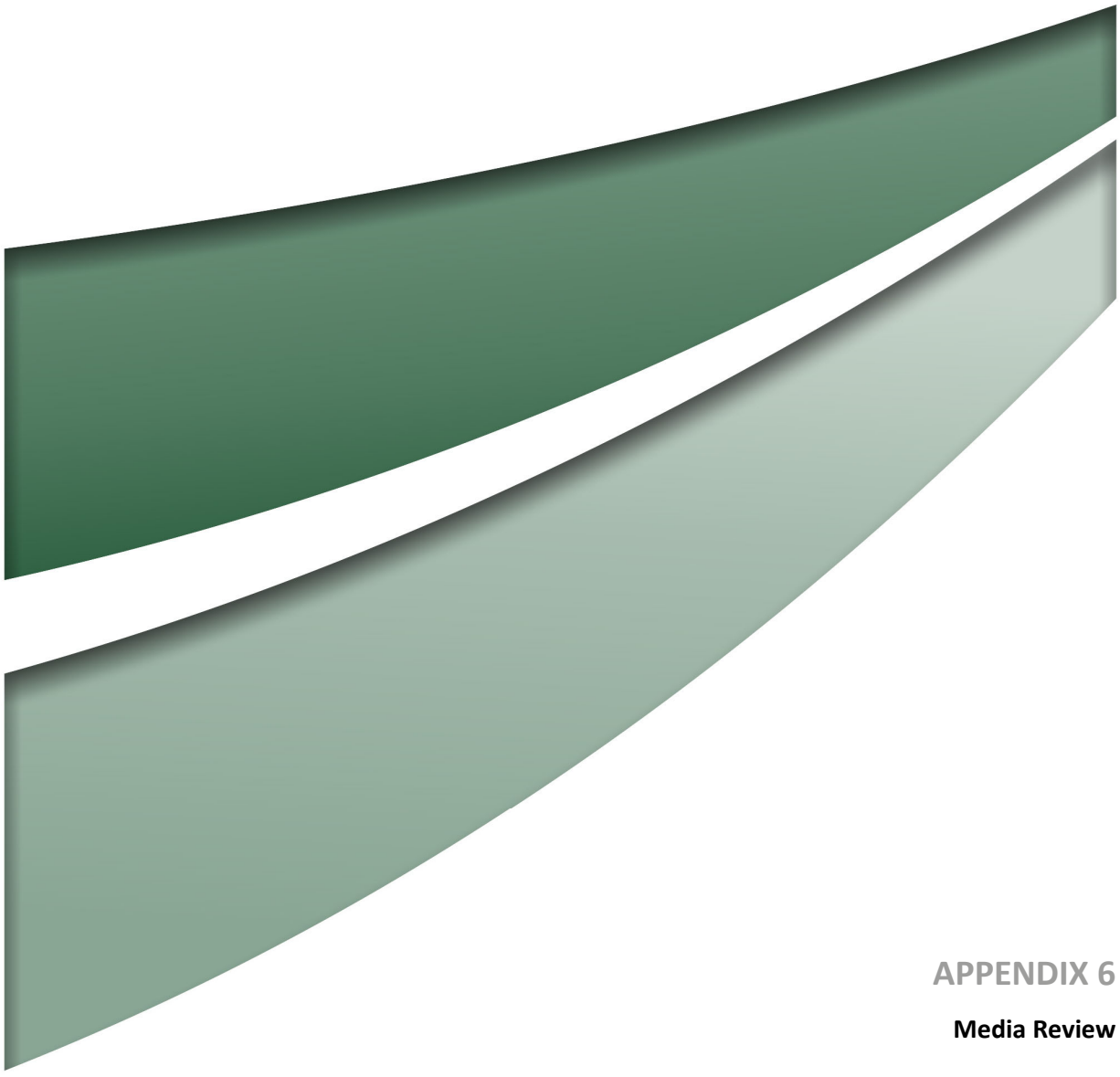
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APPENDIX 6

Media Review

Media Issues and Opportunities

The media also provides a key source of information on the social context, including details about community opinion, political actions, economic and industry development. Consequently, a media analysis was undertaken as part of this SIA, in order to identify key topics and issues of relevance in the Project area over the period July 2014 to March 2021 (refer to **Table 6.1**).

Articles were sourced from a number of media outlets including The Newcastle Herald, the Dungog Chronicle, the Maitland Mercury and ABC News.

Common issues that have emerged through a review and analysis of media relevant to local community and the broader region include:

- Infrastructure and Government Funding
- Quarry Operations
- Economic Stability
- Environmental Factors

Infrastructure: Dungog Shire has a number of infrastructure issues with the main one being the state of the Shire's roads and the cost to repair those roads with a limited rates base. Merging with surrounding Shire's of either Port Stephens or Maitland has been suggested and resulted in suggestions to share services between councils. More recently the Dungog Shire has received funding for the replacement and upgrade of roads and bridges.

Mining operations: Negative feedback around Daracon's Martins Creek Quarry has been ongoing. Issues mentioned, centre on the number of truck movements through the locality once the extension is approved and concerns about the impact of transporting the Quarry's product on residents. Issues around existing operations have resulted in action from the Shire council.

Economic stability: the Dungog Shire region has been encouraged to diversify their economy following a lull in dairy prices, droughts and floods and difficulties following state funding. The region is focussing on tourism as a promising direction for future economic efforts and such efforts invested in events such as the Dungog Festival. The Dungog Festival is a celebration of the arts, local food and rural life held annually, although was cancelled in 2020 due to the COVID-19 pandemic.

Water: Drought across the Hunter Valley has been affecting agricultural communities, with a call to the State government to offer financial relief. Issues around water flow from the quarry and into watercourses arose and were addressed by the EPA.

Dungog floods: in 2015 Dungog experienced horrendous floods that caused infrastructure problems, economic problems and a range of issues for individuals residing in the area. The floods are mentioned in a number of news articles since 2015.

Bushfires: Following devastating bushfires throughout NSW in 2019-2020, the Dungog Shire Council is set to receive $100,000 grant from the Australian Government Bushfire Community Recovery and Resilience Fund (BCRRF). Funds are designed to promote community well-being, and to ensure social and future resilience.

Table 6.1 Media Review (Umwelt 2021)

Date	Headline/ Summary	Source
Infrastructure Requirements and Associated Funding		
2 March 2021	**23 bridges in Dungog shire to be replaced** *Twenty three bridges in the Dungog Shire will be replaced under the NSW Government's $500 million Fixing Country Bridges program.* *Michael Johnsen MP, Member for Upper Hunter announced $16.4million in funding to better connect regional communities and increase resilience to natural disasters.* *Mr Johnsen said replacing old timber bridges means improved community connections to schools, towns and jobs, allowing easier movement of freight and delivering better outcomes for road safety.*	Dungog Chronicle
29 September 2020	**Dungog shire to receive $100,000 in bushfire resilience grants** *Minister for Agriculture, Drought and Emergency Management David Littleproud said the Australian Government continues its commitment to bushfire impacted communities on their journey to recovery.* *Dungog Shire Council is to receive $100,000 from the Bushfire Community Recovery and Resilience Fund (BCRRF).* *The BCRRF, administered by Resilience NSW, is providing more than $25 million to promote community well-being, social and future disaster resilience.*	Dungog Chronicle
20 March 2020	**Upper Hunter MP Michael Johnsen announces $3.9 million to fix Williams, Summer Hill, Junction and Camerons bridges** *THE Upper Hunter is set to benefit from a share of $86 million being invested into road and bridge projects across regional parts of the state through the latest round of the NSW Government's Fixing Country Roads program.* *Almost $3.9 million will be spent on four important infrastructure developments within the Muswellbrook, Dungog and Upper Hunter local government areas (LGAs).*	Hunter Valley News

11 March 2020	**Cr John Connors reassures residents it's business as usual** *Dungog's new mayor says it's business as usual for the shire despite the changes at the top.* *Cr John Connors was elected as mayor, unopposed, at an extraordinary meeting on Monday, February 2, following the resignation of Cr Tracy Norman from the role.* *Before coming on to council, Cr Connors had been openly critical of the previous council's decision not to accept Port Stephens Council's offer to merge. He said that issue is firmly off the table.* *Cr Connors said the special rate variation would still go ahead as planned with the increase in revenue used for infrastructure as originally intended.*	Dungog Chronicle
25 February 2020	**Commonwealth-State Disaster Recovery Funding Arrangements now include Dungog** *Residents and businesses affected by recent storms can now apply for assistance under the jointly funded Commonwealth-State Disaster Recovery Funding Arrangements.* *A further 15 local government areas across NSW have been included in the scheme to help councils, residents and businesses heavily impacted by the recent storms, flooding and cyclone.*	Dungog Chronicle
23 September 2019	**Dungog Shire Council plans for a rural lands strategy** *Dungog Shire Council will form a new committee - which will include three community members - to provide feedback throughout the development of its Rural Lands Strategy.* *The strategy aims to address how the council will manage and protect its agricultural and environmental lands, allow for sustainable rural residential living and facilitate new opportunities for tourism and rural industry.*	Newcastle Herald
26 August 2019	**Hunter Water announce water restrictions to begin in Lower Hunter on September 16** *Water restrictions will be introduced in Port Stephens for the first time in 25 years in response to the state's worst drought on record.* *Level one water restrictions will be in effect across the Lower Hunter area from September 16...* *"This time last year we were down to 80 per cent [water capacity]. Now, we're getting close to 60 per cent. That's a big difference."*	Dungog Chronicle

13 May 2019	**IPART gives partial nod to application for a rates increase** *The average Dungog Shire Council rates will increase by $135 a year from July 1.* *The Independent Pricing and Regulatory Tribunal (IPART) advised the council on Monday that its application for a Special Rate Variation (SRV) was successful - under amended conditions.* *IPART said in its report that the partial approval will allow the council to continue to fund operating and capital expenditure for its road network, timber bridges and community buildings, enhance its financial sustainability and begin to reduce its infrastructure backlog.*	Dungog Chronicle
1 April 2019	**Federal Budget has $20m for Clarence Town Road** *Clarence Town Road is to be upgraded with a $20 million injection of federal government funding.* *Federal Member for Lyne Dr David Gillespie said the funding will deliver targeted upgrades along the full length of the road between Raymond Terrace and Dungog.*	Dungog Chronicle
25 March 2019	**Delays on Gostwyck Bridge possible until September** *Roads and Maritime Services is carrying out the work on Dungog Road which is expected to be completed by late September, weather permitting.* *The work will include spray sealing the bridge deck, temporary pier installation, scour work and removal of the site compound.*	Maitland Mercury
21 January 2019	**NSW Government spends $6 billion on new and upgraded schools across the state** *The six new and 11 renovated or upgraded schools are part of the NSW Government's multi-billion-dollar strategy to ease the squeeze in overcrowded schools.* *Education Minister Rob Stokes said the strategy is about future-proofing schools.* *"We're talking about a $6 billion spend over the next four years — bigger than we've ever seen in NSW," he said.*	ABC News

6 November 2018	**Dungog and Clarence Town share in state funding** *Clarence Town has been the recipient of over $1.5 million in State Government funding for sporting facilities. The funding was given for 5 projects including upgrades to playgrounds, sporting and community facilities. Mayor Tracy Norman believes the grant will make the towns an even more attractive place to work and raise a family.* *The Dungog Shire Community Centre will also be reimbursed the money it spent during the months following the 2015 storm after a petition from the community was taken to Parliament.*	Dungog Chronicle
8 June 2018	**Fairfax Media launches a statewide petition to help NSW farmers** *The petition urges the state government to offer farmers relief on the cost of freight, fodder, water and Local Land Service rates as well as offer the collection of livestock genetics, and restocking/replanting loans after the drought breaks. The Fairfax Media backed campaign has now been taken statewide with a call for 10,000 signatures to ensure parliamentary debate on the issue. The state government to date has only offered a $20,000 loan and farmers are calling for subsidies, saying the loan won't last very long with 62% of NSW in drought and 76% of farms in the Hunter despite recent rain. Whilst public fundraising efforts through the Buy a Bale campaign has delivered $830,000 worth of help to farmers in need.*	The Newcastle Herald
5 June 2018	**Dungog Shire is lining up for support after its bigger neighbour received $50 million from the NSW Government.** *After $50 million was given to the Mid Coast Council to fix their roads, Dungog Shire Council have been campaigning the state government to match the offering to them. Country Labour candidate for Upper Hunter, Martin Rush says Dungog's roads are some of the worst across NSW and that support is needed with a limited rates base and more than 600 km of road to maintain. The Shire's roads deteriorated significantly after the 2015 floods in the area damaged much of the road system and the roads are now seen as a safety issue. Shadow Roads Minister Jodi McKay is calling for the government to fix inequalities in road funding arrangements after Sydney City, with only 300km of roads, received more funding than Dungog Shire.*	The Newcastle Herald

23 January 2018	**Residents celebrate phone tower switch-on** *Paterson residents and businesses are now celebrating what most other towns take for granted in 2018 – making and receiving mobile phone calls. The town has been a renowned black spot for mobile phone reception with residents and visitors frustrated by the lack of mobile phone coverage.* *The new mobile base station will deliverer Telstra's 3G and 4GX mobile data to the area.* *Kevin Hawtin from the CBC Bed and Breakfast and Cafe said he has not had phone reception for the 19 years he has lived at Paterson.*	Dungog Chronicle
20 Dec 2017	**Dungog and Port Stephens councils hold merger talks** *Residents in the Dungog LGA are facing rate rises following a failed merger with the Port Stephens Council. Dungog Shire Council remains in a difficult financial position and may be forced to raise rates if it is to eat into its infrastructure backlog. Port Stephens Council is no longer motivated to merge but is willing to share services (such as IT). Original consultations with residents resulted in 54% happy to discuss a merger. Dungog Mayor Tracey Norman said the meeting was still very amicable and in good neighbourhood spirit. The proposed merger follows Dungog's involvement in three forced merger proposals as part of the state government's Fit for the Future reform at the start of the year.*	The Newcastle Herald
28 August 2017	**SES apologises for failings during deadly Dungog storm** *The head of the New South Wales State Emergency Service has admitted failings in responding to a deadly Hunter Valley storm where three residents died after an inquest into their deaths in Newcastle.* *Counsel assisting the coroner said the event on April 21, 2015 was deadly in a two-hour period from 5:00am on that day, and that the flood peak was 2.4 metres higher than flooding associated with Newcastle's Pasha Bulker storm in 2007.*	ABC Newcastle

19 April 2016	**The lasting scars of the Dungog flood and its effect on residents a year on** *The floods in Dungog killed four residents and damaged hundreds of houses. A year on and residents are fearful of the anniversary with some residents having developed PTSD surrounding the event.* *Residents in the small town had to completely rebuild their houses after the storm ravaged the area and many still feel like their new houses don't feel like home. Dungog resident Ralf Wittman says despite his own personal struggles since the floods, he is proud of how his community had rallied together over the past 12 months.*	ABC Newcastle
Quarrying Operations / Mining		
7 December 2020	**Gunlake Quarry applies to increase truck numbers on haul route** *A Marulan district resident is challenging a quarry company to 'seriously' explore rail transport as it seeks to significantly expand its operation.* *"My view is they should do that now and look at rail, do a full cost benefit analysis, not just looking at the cost to Gunlake but also to people travelling the Hume Highway. They should also make it public."* *The company has previously ruled out the rail option, including a link to Holcim's Lynwood rail siding nearby, on the basis of cost.* *Mr Wray said he wasn't opposed to the project per se but more trucks on the road were a recipe for disaster.* *"I am concerned about safety. They widened the road but there is still a hazard (a blind spot) near the junction of Red Hills and Ambrose Roads where there is a crest. In fog it is a death trap...There will be an accident, it's as simple as that," he said.* *While acknowledging the haul route had been greatly improved, Mr Wray contended that with incremental output increases over the years, Gunlake should no longer argue it couldn't afford rail transport. "(A rail link with) Holcim is the best option because it will get trucks off local roads and the Hume Highway," he said.*	Goulburn Post

27 October 2020	**NSW Koala habitat to be cleared after Brandy Hill quarry expansion approved** A koala habitat stretching 52 hectares will be cleared after Environment Minister Sussan Ley approved the expansion of the Brandy Hill quarry in NSW's Hunter Region. Ms Ley greenlit the expansion today after announcing strict new conditions for the project at Port Stephens. As part of the conditions, a 74-hectare koala habitat corridor will be established to support the local koala population. In a statement Ms Levy said she recognised the quarry proposal has been subject to a high-profile public campaign with genuine concerns about koalas and bushfire impacted areas. "The clear finding from the NSW Government and the Commonwealth Department is that Brandy Hill's expansion, to be staged over the next 25 years, will not rob the area of critical koala habitat.	9 News
3 September 2020	**Brandy Hill quarry: Koala experts from University of Newcastle urge government to consider impact on habitat in expansion approval** *Koala experts have written to the federal environment minister to recommend she block a project they say will destroy 52 hectares of prime habitat in NSW.* *University of Newcastle researchers Dr Ryan Witt and Associate Professor John Clulow were commissioned by a local action group to assess the impact of the Brandy Hill Quarry expansion in Port Stephens on the local koala population.* *The pair concluded in their report that the expansion, already approved at the state level, would sever a koala corridor, disrupt breeding processes and destroy prime koala habitat critical to the species' survival.*	The Newcastle Herald
25 June 2020	**Seaham Road residents express road safety concerns as Hanson seek to expand Brandy Hill Rock Quarry** *A fear that hundreds, if not thousands, of Raymond Terrace and Nelsons Plains residents will be heavily impacted by the doubling of truck movements to and from the Brandy Hill rock quarry has prompted a new push to halt its proposed expansion.*	Port Stephens Examiner

27 February 2020	**Port Stephens quarry quandary: New rock quarry proposal for Italia Road in Balickera** *A proposal for a new rock quarry in Port Stephens has raised concerns among at least two councillors relating to traffic safety, the number of truck movements and environmental impact.* *Australian Resource Development Group (ARDG) is seeking state planning approval for a hard rock quarry, known as 'Stone Ridge' and located within the Wallaroo state forest at Italia Road, Balickera.*	Port Stephens Examiner
29 January 2020	**Holcim cuts jobs at Marulan's Lynwood quarry operation** *A major district quarry operation has reduced shifts and cut jobs, citing a downturn in the Sydney construction market.* *Holcim made the call at its Lynwood, Marulan, hardrock quarry almost a fortnight ago. Seven permanent employees lost their positions, along with more than 30 contract and labour hire workers. Some other roles were restructured.*	Goulburn Post
24 September 2019	**Martins Creek quarry: Daracon shuts site after Land and Environment Court battle with Dungog Shire Council** *A MARTINS Creek quarry that abruptly closed today has made more than $100 million since 2012 and a "significant amount" was "unlawfully obtained", a Land and Environment Court judge was told.* *In a decision on Monday that prompted the closure Justice Sandra Duggan accepted the quarry could indefinitely and permanently close if forced to comply with conditions under a 1991 approval.* *On September 17 and 18 Daracon argued against the start of conditions restricting extractions to material for use as railway ballast, with only 30 per cent of material to be transported from the site by road.* *n a statement on Monday Daracon said it was "very disappointed with this outcome but our immediate focus will be on working with affected staff and seeking continuity of supply for our customers".* *"In the first instance, we will seek to provide staff with alternative employment opportunities within the Daracon network."*	The Newcastle Herald

27 May 2019	**Brandy Hill Quarry's proposed expansion is likely to have a 'significant' impact on the national koala population** *DESTRUCTION of 45 hectares of bush for a controversial Port Stephens quarry expansion is likely to have a "significant" impact on the national koala population, says a report for the NSW Department of Planning.* *The proposed Brandy Hill Quarry expansion at Seaham "will adversely affect habitat critical to the survival of the species", said the report which coincides with an Australian Koala Foundation warning that habitat destruction has left koalas "functionally extinct", with only 80,000 koalas likely to remain in Australia.*	Newcastle Herald
15 January 2019	**Daracon's Martins Creek Quarry is finally paying Dungog Council for road damage after big court loss** *MARTINS Creek Quarry owner Daracon has appealed a landmark decision in October that found quarry operators – including state rail agencies – unlawfully extracted and transported millions of tonnes of material over two decades.* *The appeal was lodged on January 2 as the company seeks formal approval for quarry operations at the site and while it operates under restrictions, including that only 130 laden trucks leave the site each day, with no more than 30 laden trucks per hour.*	Dungog Chronicle
9 Dec 2016	**Maitland council supports Daracon's Martins Creek Quarry Environmental Impact Statement and Bolwarra Heights Community Group and Hunter Environment Lobby are not happy** *Daracon have applied to the state government to get a modification passed which would see a five-fold increase in its operations. The Bolwarra Heights Community Group and Hunter Environment Lobby have opposed the councillors' decision after they voted in favour of the company's Environmental Impact Statement at a council meeting.* *The company said residents along the haulage routes would be exposed to a maximum of 215 truck movements a day, but residents said there could be up to 430 when considering the number of empty trucks that travel to the quarry to be filled or stored overnight.* *The community group members live on or near Tocal Road which is one of two haulage routes for quarry trucks and a spokesperson has voiced the groups concern about the extended operating hours which would see trucks on the road before and after daily operational hours.*	The Maitland Mercury

12 Oct 2016	**Daracon's expansion plans for Martins Creek Quarry go on public exhibition** *Expansion plans for Martins Creek Quarry will go on public exhibition for six weeks from October 13. The plans, which have caused concern for some residents of nearby towns, will allow the quarry to increase its maximum output five-fold to 1.5 million tonnes a year. Daracon released a statement this week announcing the company's Environmental Impact Statement had been accepted by NSW Planning and Environment after amendments being requested by the Department. Residents suggest Daracon has ignored their concerns regarding increased traffic on haulage routes in the area, however the company suggest the application had been shared with the community and many aspects had been changed following community feedback.*	The Maitland Mercury
25 Nov 2015	**Residents slam Daracon in survey over quarry concerns** *A survey of 82 people by the Martins Creek Quarry Action Group found more than 75 per cent do not believe Daracon cares about the community or its concern while around 80 per cent do not think Daracon fairly considers the community and 72 per cent of respondents say Daracon negatively affects their lives. The survey was undertaken by the Martins Creek Quarry Action Group and group chairman Darach Saunders said although the survey was presented to Daracon they were quick to dismiss it, believing it was very biased. Daracon says they have been communicating with the group about the survey and that the results are similar to what was found in their community consultation processes. Mr Saunders said it is not about looking to close the quarry but to find something sustainable and acceptable for the townships it effects.*	ABC News
7 Apr 2015	**Daracon fined $3000 over Martins Creek Quarry** *DARACON has been fined $3000 for breaching the conditions of its Environment Protection Licence at the Martins Creek Quarry.* *The EPA inspected the quarry on July 17 and August 12 and found there was poor sediment and erosion controls after issuing the company with two notices in March to improve control the damage. The issue is said to be due to inadequate water diversion controls that allowed water to flow through a hole in the fence without receiving adequate treatment. Acting Hunter manager Mitchell Bennet said the sediment laden waters could have had a major impact on aquatic organisms if it were to enter watercourses.* *If the breaches would have happened a month later, the company would've been fined up to $15,000 for each breach under the EPA's new penalties.*	The Newcastle Herald

12 Jan 2015	**Martins Creek Quarry Action Group to fight Daracon** *A new community group has been formed to lobby against controversial plans to expand operations at Martins Creek Quarry. The Martins Creek Quarry Action Group was formed late last year to make sure each small community that was affected by the quarry presented a united front in opposing the plans.* *The group - which includes residents from towns along the common freight routes of quarry trucks including Martins Creek, Paterson, Vacy, Bolwarra Heights, Brandy Hills, Wallalong and Lorn - does not want the quarry to close but want it to go back to what it was originally permitted to do and the material to be transported out of the quarry by rail.* *Daracon has recently put in a submission to hugely increase it's output and Dungog Council has publicly opposed the plans, critiquing the EPA for granting approval to Daracon without consultation from the Council.*	The Maitland Mercury
31 Jul 2014	**Daracon cop an earful at Martins Creek Quarry meeting** *Emotional residents were hostile as they questioned Daracon about its plans to apply to increase its tonnage at the Martins Creek Quarry.* *Residents were mainly upset about the 250,000 tonnes Daracon transported via road to the relief roads project at Hexham earlier this year. They fear that impact, which saw 600 truck movements through Paterson and other nearby towns between 6am and 6pm six days a week, will occur daily. The company tried to reassure the community by acknowledging that they don't believe they will have a contract to supply such great quantities often. The community are calling for materials to be moved via rail.* *Present was a representative from the DPE who are in the process of drafting the environmental requirements Daracon must follow. A resident asked for assurances that the development application process would be transparent after allegations that Daracon made donations to the Liberal Party.*	The Newcastle Herald
17 Jul 2014	**Pressure on Martins Creek to use rail** *NSW Environment Minister Rob Stokes has encouraged Dungog Shire Council to impose a condition on the Martins Creek quarry that would force 70per cent of its product on to rail transport. The quarry generates up to 600 truck movements six days a week.*	The Newcastle Herald

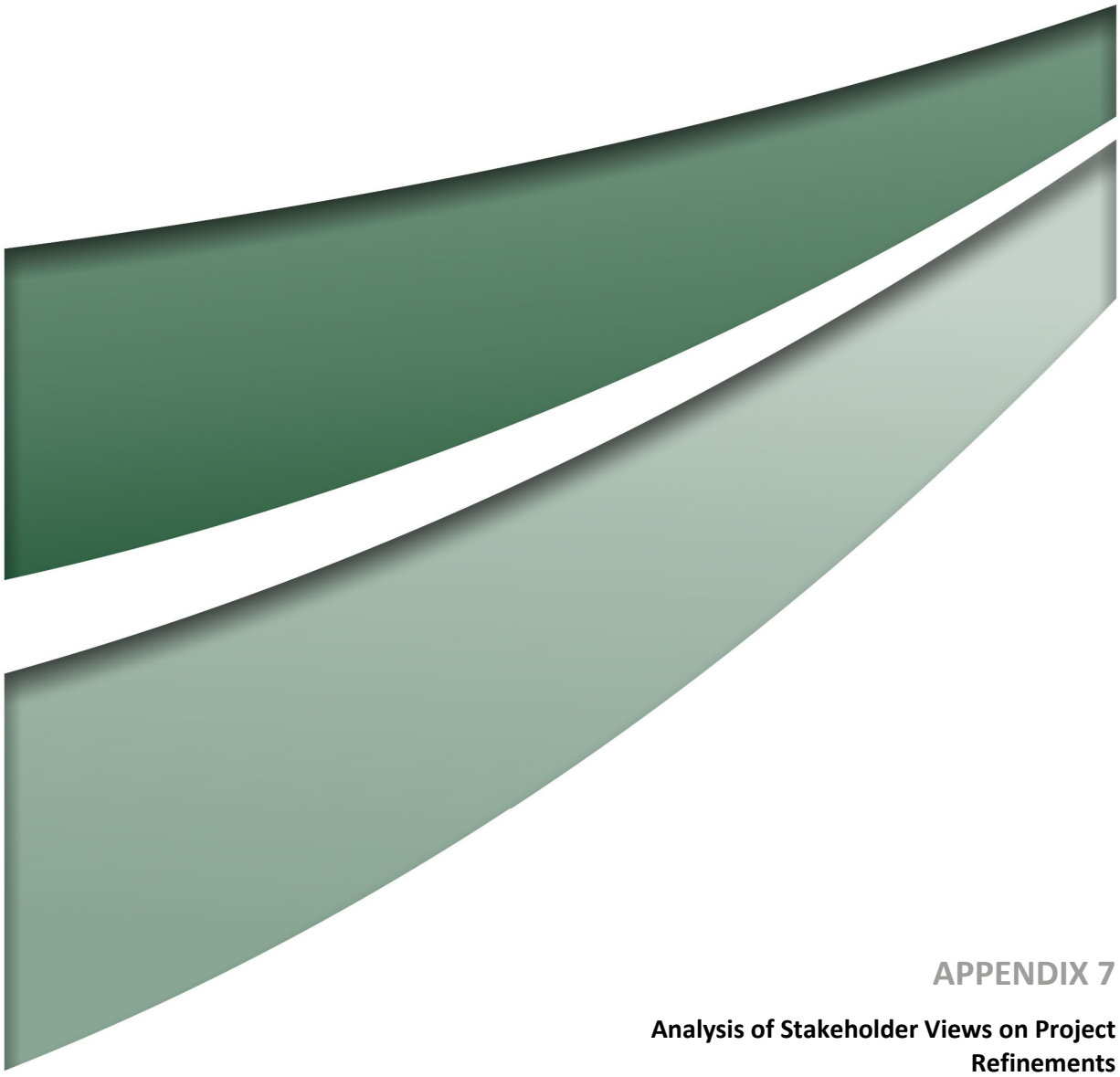
5 April 2010	**Community carries burden as RailCorp keeps on trucking, says mayor** *Trucks rumbled to and from RailCorp's Martins Creek quarry near historic Paterson village at a rate equivalent to 400 million car movements a year, carrying ballast used as rock bed for rail track, Glenn Wall said. But the big government agency did not pay for the upkeep of the roads destroyed in the process.* *The council considered the licence modification a ''trigger'' to ask RailCorp to ''regularise'' its planning consent for its quarry operations, through the Planning Minister, or through regional joint planning panels.* *The council received little response, Mr Wall said.*	The Sydney Morning Herald
Economic Development and Industry Diversification		
3 July 2020	**Court House Hotel in NSW Lower Hunter region sold prior to auction through Knight Frank** *The Court House Hotel in the Lower Hunter region of NSW is set to be brought back to life after being sold to a Maitland-based buyer for an undisclosed amount prior to auction.* *Situated in the rural township of Paterson, the freehold property has not been operational for the past 12 months, despite occupying a high-profile main street position only 25 minutes' drive from the Maitland CBD.*	The Hotel Conversation
17 March 2019	**A walking tour of Paterson village to reveal buildings' stories** *Dr Cameron Archer, President of Paterson Historical Society will host this year's Paterson Historic Walk on Sunday, 24 March at 1pm.* *The walk will take visitors around the centre of the village and describe the origins of European settlement.* *Thousands of years of Aboriginal habitation of the landscape will also be acknowledged as an introduction to the walk.*	Dungog Chronicle

29 January 2019	**Dungog Shire receives $1.332m to promote outdoor tourism** *Outdoor tourism facilities in the Dungog Shire have received a boost of $1.332 million in State Government funding. Dungog Regional Tourism (DRT) applied for the funding under round two of the Regional Growth Environment and Tourism Fund.* *"We believe the Dungog Shire has a comparative advantage for outdoor recreation whether it be camping, mountain bike riding or bushwalking," Cameron Archer, Chair of Dungog Regional Tourism, said.*	Dungog Chronicle
10 October 2018	**Paterson School of Arts Hall has new committee** *The beautiful old Paterson School of Arts Hall seems to be one of the best kept secrets in the area – but that's about to change.* *A new committee, brimming with enthusiasm and ideas, has grand plans to re-invigorate the historic hall to become a vibrant community hub which is both well used and profitable.*	Dungog Chronicle
28 March 2018	**Dungog Festival's new $10k sculpture competition set to boost Hunter tourism** *A new not-for-profit sculpture exhibition offering a $10,000 prize has partnered with this year's Dungog Festival in the New South Wales Hunter Valley. Sculpture on the Farm will display large and small works in the gardens and paddocks of the Williams River property "Fosterton", eight kilometres outside Dungog. The Dungog Festival is an annual four-day event held on the October Long Weekend.* *The town hopes that the sculpture exhibition will promote Dungog as a tourist destination and may eventually result in a permanent sculpture walk. Chair of the event Philippa Graham hopes the exhibition will give Dungog a shot at diversifying into the regional economy after it's collapse in the dairy industry.*	ABC Newcastle

23 May 2016	**Dungog farmer transitions from dairy to beef operation to survive turbulent times** *With the Australian dairy industry in turmoil after processors slashed the prices, they would pay farmers for milk, some producers are questioning their future on the land. A farmer in Dungog has turned away from his family's century old dairy farming tradition on their 1,600-hectare property to focus on the more stable beef industry.* *Dungog farmer Jamie Alison believes to survive in the dairy industry you need to have large scale farms with at least 200 – 400 cows to survive the downturns. The dairy industry has been thrown into a state of flux recently with large dairy processers announcing they will cut the price they pay farmers for milk solids.*	ABC Newcastle
11 April 2016	**Dungog residents describe merger with Gloucester as ludicrous** *Residents in the New South Wales town of Dungog have strongly rejected a merger proposal with Gloucester Council, labelling the plan "ludicrous and unthinkable". The NSW Government has proposed the merger as part of its Fit for the Future plan to slash the amount of councils across the state.* *A public inquiry held a hearing in Dungog this morning, where more than 25 people spoke out against a merger with Gloucester. Not one of the locals who addressed the public inquiry was for the proposed amalgamation. Dungog councillor Linda Bowden believes all available evidence suggests that a merger would place both councils at financial risk. Cr Bowden criticised the government for not allowing councils access to the very KPMG document on which their modelling is based on.*	ABC Newcastle
26 October 2015	**Thousands descend on Dungog for festival** *Organisers of the Dungog Festival say it has been a roaring a success, with travellers coming from as far as Europe to support the event. The four-day festival wrapped up yesterday after showcasing the best of film, food, heritage and music the region has to offer.* *The Festival's Managing Director Tracy Norman is thrilled with the support and hopes the festival will grow in coming years. Ms Norman said visitors were keen to throw their support behind Dungog with many donating to help those impacted by the recent floods.*	ABC Newcastle

5 September 2015	**Dungog businesses urged to consider new tourism opportunities** *Councillor Tracey Norman, owner of Dungog's historic Munni house, believes the community has a strong future.* *Ms Norman is working to establish an artisan cheese factory, education centre and ecotourism resort on the old dairy farm she bought from Hunter Water after the Tillegra Dam idea was abandoned. She says she sees a really positive future for the district and businesses need to look to new tourism opportunities. Ms Norman believes tourism is the answer for diversifying the region due to it's existing natural attributes and believes a farmgate idea with various cottage industry food production for people to come and look at is a great start.*	ABC News
21 August 2015	**State sells Tillegra dam land to private owners** *THE 6000 hectares of land that Hunter Water bought for the now defunct Tillegra dam is back in private hands, including those of at least one local who wants to revive dairy farming in the area and boost its tourism potential.* *''We're looking at some good employment opportunities for the people of Dungog. It's a real passion of mine, the youth of Dungog particularly, and giving them a reason to stay around Dungog after they leave school,'' she said.* *The $477 million dam was announced then dumped years later by the former Labor government.* *The state government has instead introduced water wise rules for the region, and Hunter Water plans to expand the pipeline connecting its network to the Central Coast, providing for the transfer of up to 11 billion litres of water a year should the region's dam levels plummet.*	The Newcastle Herald

History and Social Profiling		
4 November 2020	**Portraits of Paterson brings valley history to life** *Alison has structured the book around memories, places and buildings.* *It is largely focused on the 20th and 21st century history of Paterson and district, an area which sorely needed addressing according to Dr Archer.* *"Her interviews were able to delve into the everyday lives of locals, where they lived and worked which means that we now know much more about local buildings, businesses and the village in general," he said.* *Rather than relying on photographs Alison enlisted the support of Val Anderson to sketch every building which is covered in the book.*	Dungog Chronicle



APPENDIX 7

Analysis of Stakeholder Views on Project Refinements

7.0 Stakeholder Views of Project Design Changes

7.1 Summary

During the course of the Amended Development Application (ADA) and consultation programs held with community participants, several Project design changes have been undertaken and presented during consultation activities. Key project features that have undergone change that stakeholders were asked to comment on are summarised at **Table 7.1** below. Further details of all project parameters and features is provided within the ADA / RtS.

It is important to note that a number of additional project changes were made following consultation activities and that the key changes that are presented within this section are as presented during engagement activities when asking stakeholders to comment.

Examples of further project changes that have occurred since this time include:

- Restriction of proposed maximum daily truck movements to only occur up to 50 days per year.
- Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times.
- Planning quarry activities around extra traffic days/ community events.
- No road haulage of quarry product from 24 December until 7am 2 January / or whatever is first working day after New Year (unless required for declared emergencies).

Table 7.1 Key Project Design Changes

Project Feature	Original Project (as per exhibited EIS, 2016)	Round One Project Revisions (2018)	Round Two Project Revisions (2020)
Extraction limits	• Total extraction of up to 1.5Mtpa with up to 1.45 Mtpa on road for quarry sales transportation	• Total extraction up to 1.1Mtpa with up to a maximum of 900,000tpa a on road for quarry sales transportation	• Total extraction up to 1.1Mtpa
Product Transportation	• Majority by road, approximately 50,000 tonnes by rail	• Materials will also be transported by rail	• Road and rail transportation, with a cap of up to 500,000 tpa by road
Reduction in the proposed additional disturbance area	• Original Project Disturbance Area 82.8ha, including previously cleared areas	• Proposed additional disturbance 30.5 ha (including new access road)	• Revised Project Disturbance Area 66 ha, including previously cleared areas – a reduction of 16.8 ha

Project Feature	Original Project (as per exhibited EIS, 2016)	Round One Project Revisions (2018)	Round Two Project Revisions (2020)
Truck movements	• Maximum 215 loaded product trucks / day (430 movements per day) • Maximum 40 loaded product trucks (80 movements) / hour	• Maximum 140 loaded product trucks / day (280 truck movements) • Maximum 30 loaded product trucks (60 movements) / hour	• Maximum 140 loaded product trucks / day (280 truck movements) for 50 days per year, otherwise 100 trucks (200 movements) • Maximum 20 loaded product trucks (40 movements) / hour between 7.00 am and 3.00pm • Maximum 15 loaded product trucks (30 movements) / hour between 3.00pm and 6.00pm.
Quarry Operating Hours	• In pit quarrying operations – 6am to 6pm Monday to Saturday	• In pit quarrying operations – 7am to 6pm Monday to Saturday • No in-pit mobile crushing in the West Pit	• In pit quarrying operations – 7am to 6pm Monday to Saturday but blasting of quarry material only between 11-3pm Monday to Friday
	• Sales loading and stockpiling for road transport – 5.30am – 7pm Monday to Saturday. • Pugmill mixing and binder delivery operations - 4.30 am to 10.00 pm Monday to Friday, 4.30 am to 6.00 pm Saturday	• No loading of trucks prior to 7am Monday to Saturday	• No quarry trucks through Paterson prior to 6.45am Monday to Friday • No road haulage of product on a Saturday

*Since the time of consultation being undertaken, maximum truck movements per hour have been decreased from 25 to 20 loaded product trucks (50 to 40 movements) per hour.*

Levels of stakeholder satisfaction and associated issues of concern discussed during the presentation of proposed project design changes, as presented during both Round One and Round Two, are addressed in the following sections.

By way of overall summary, consultation participants during initial consultation activities in Round One were asked to comment on how Daracon's proposed refinements to the Project (Revised Project) compared to the Project as presented in the original EIS (Original Project) and the extent to which the proposed change addressed their identified issues and concerns. Some consulted at this initial round acknowledged that some of the refinements were a move in the right direction, however for some it was felt that there was still a way to go, with the majority of those consulted at that time noting that their current issues of concern were *"not addressed at all"* (50 or 71.4%) or that only a few of their concerns had been addressed (11 or 1.4%) (refer to **Figure 7.1**).

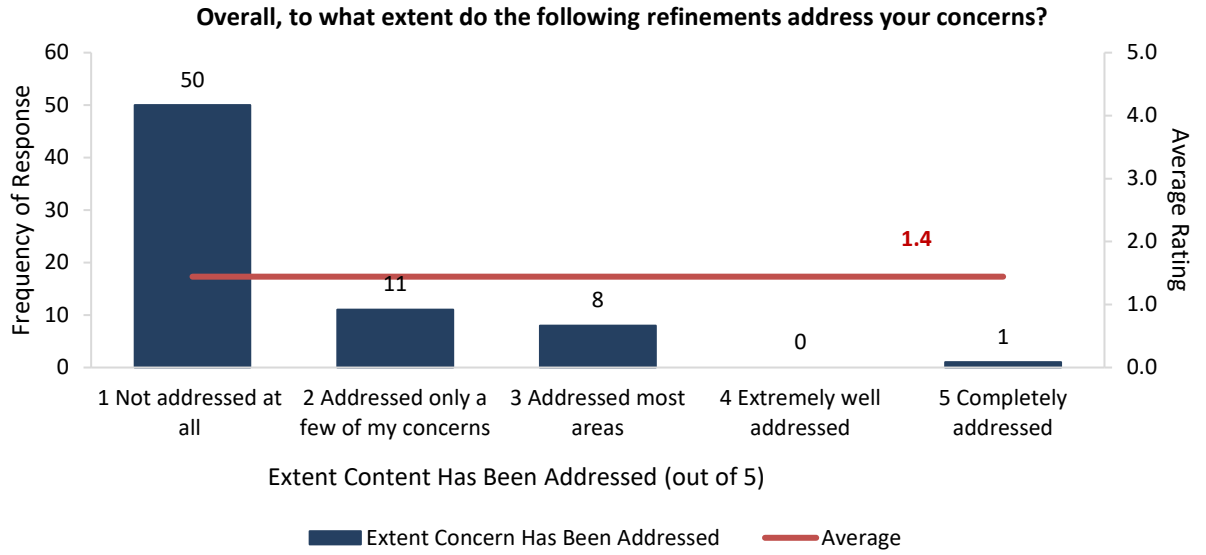


Figure 7.1 Overall, to what extent do the following refinements address your concerns? (Round One)

Round One: n = 78, 10 missing

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When assessing average ratings for each key change, all Project refinements received low ratings, with no loading before 7am and no in pit quarrying activities prior to 7am both receiving an average rating of 2.2 out 5, equating to *"addressed only a few of my concerns".* All other refinements received an average rating of less than 2 out 5 **(Figure 7.2).**

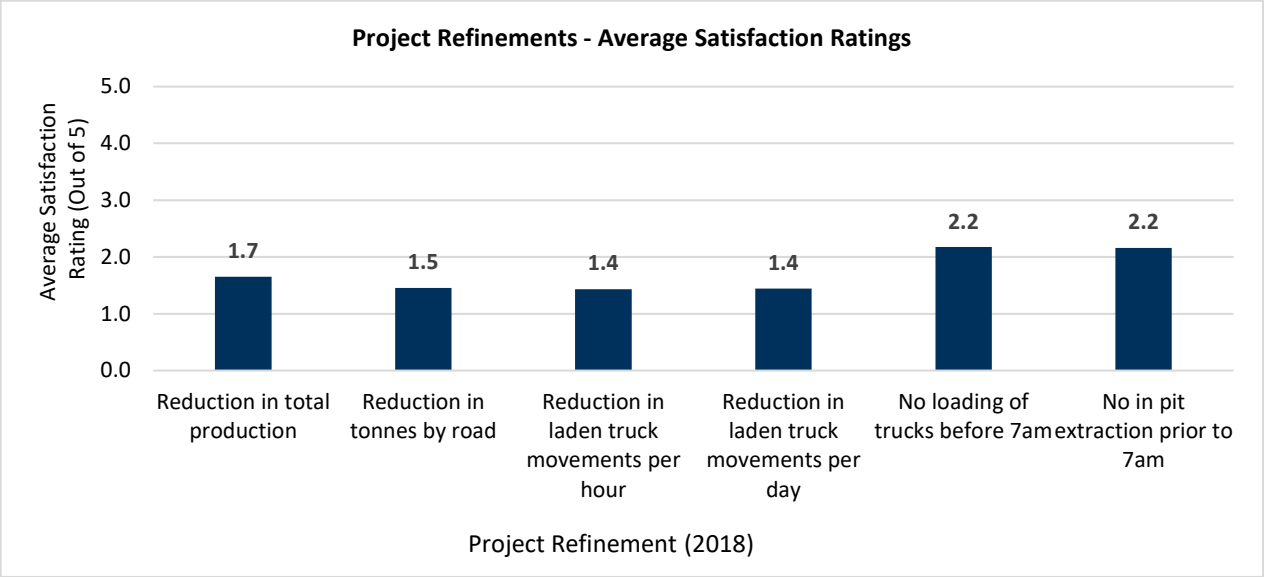


Figure 7.2 Proposed Project Refinements – Average ratings of extent that concern has been addressed, (Round One)

Average Satisfaction Ratings: 1=Not addressed at all; 2=Addressed only a few of my concerns; 3=Addressed most areas; 4=Extremely well addressed; 5=Completely addressed

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It also noted during these discussions that what had been termed by Daracon and the Umwelt Project team as refinements could not really be considered as such.

"Using the word 'refinements' incenses our community." - Round One

"It's sickening to use the word 'refinements', we as a community are not stupid. Stop treating us as such; it makes my blood boil when they use that word." - Round One

"They [refinements] haven't addressed other issues such as road damage, speeding, danger to drivers." - Round One

Similarly, at Round Two, when further proposed design changes were discussed, consulted stakeholders were this time asked to note their reported level of satisfaction for particular proposed design changes on a scale of 1 to 7, where 1 was 'not at all satisfied' and 7 was 'very satisfied'. Levels of satisfaction with proposed changes were again low with the highest levels reported at Round 2 with regards to the following project changes:

- An increase in product being transported by rail (3.7 out of 7).
- Proposed changes in the operating hours, with trading at the Quarry to be ceased on Saturdays (3.0 out of 7).
- Reduction in disturbance area (2.7 out of 7) **(Figure 7.3).**

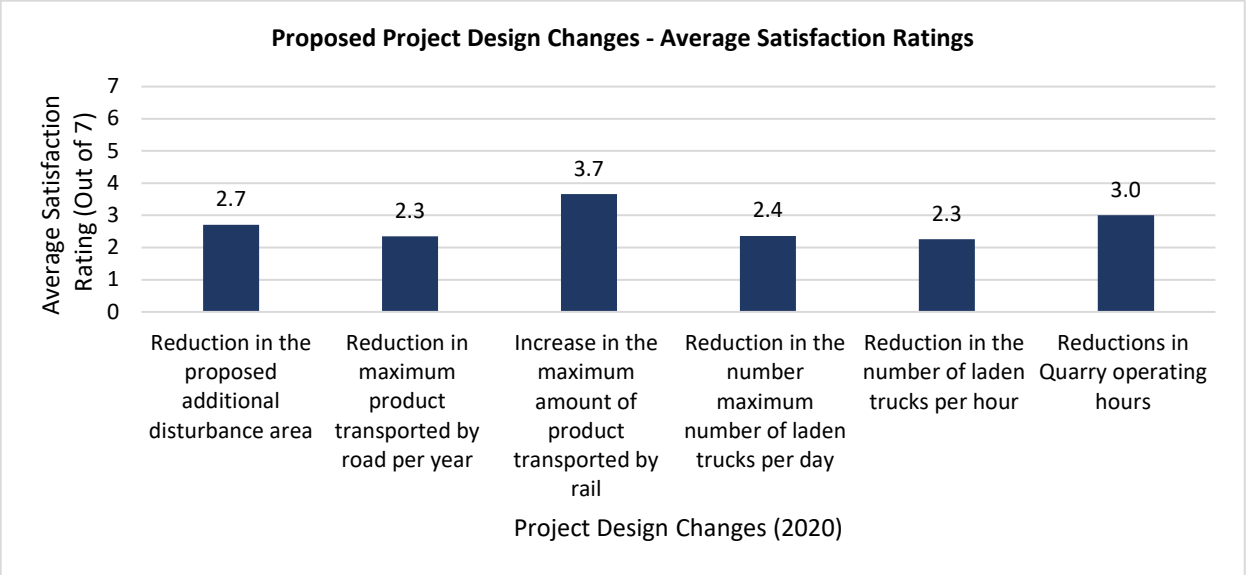


Figure 7.3 Proposed Project Design Changes – Average satisfaction ratings (Round Two)

Level of Satisfaction Rating: 1=Not at all satisfied to 7=Very Satisfied.

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I rated the proposed changes high because you're trying and that is the most important thing. – Round Two

Associated commentary when providing ratings was also laden with scepticism and distrust with some consulted community members stating that the proposed figures presented (and documented in Community Information Sheet 2) were unreliable or that further application amendments would be sought by the company in the future, to ensure that the original 2016 or 2019 proposed figures were reached.

Stakeholders further rejected Daracon's ability to monitor the transportation of 500,000 tonnes per annum by road and 600,000 tonnes by rail. Stakeholders noted a preference for an agency or government department such as DPIE or the EPA, be responsible for monitoring Quarry extraction and transportation rates. Stakeholders frequently expressed a strong sense of distrust and resentment toward the company, and many cited that this had increased in intensity following the Land and Environment Court judgement in 2019 that found that previous operations had not been compliant with development consent requirements. The following specific observations were made during discussions regarding Project refinements and each of the proposed changes.

7.2 Production Levels and Extraction Limits

During Round One discussions it was felt that there could still be further reductions in total production levels from the 1.1Mtpa (down from 1.5Mpta) that was presented at that time. It was noted by one consulted stakeholder that this level was *"still a disaster in numbers of [truck] movements"* and that associated impacts could be ameliorated by moving more product by rail (**Figure 7.4**).

"Reduction in per annum by road - still too high via road." -Round One

It was also acknowledged that what was being termed as a reduction in total production was still an increase in what was already approved to be extracted from the Quarry.

"Reduction in total production – it is still a big increase." - Round One

"Need a baseline to work off. They're shifting down which is good, but we need the baseline to give context." - Round One

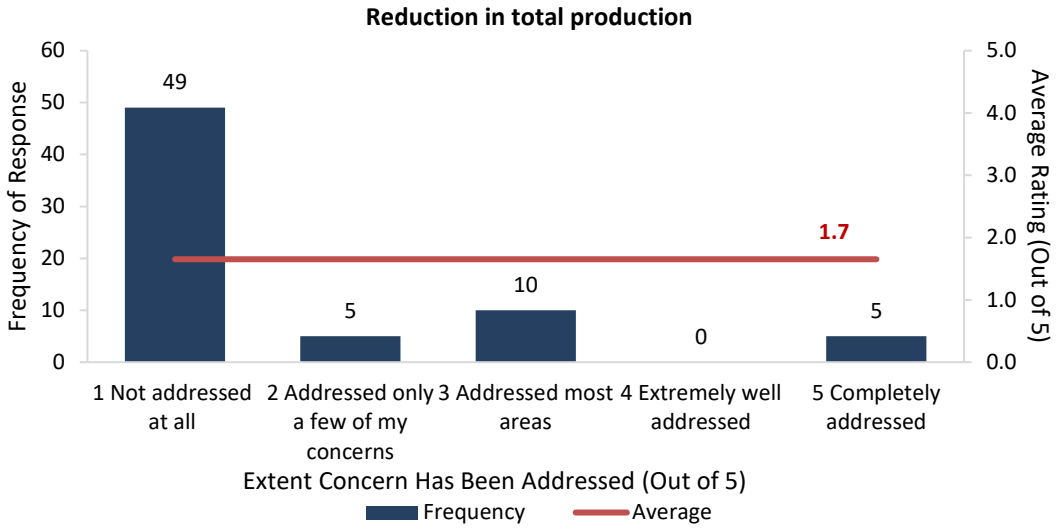


Figure 7.4 Extent Concern has been addressed - Proposed reduction in total production (Round One)

Round One: n = 78, 9 missing

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7.3 Product Transportation Methods

With regards to the transportation of product, it was again noted during Round One that the proposed refinements with regards to reductions in the amount of product to be transported by road was still significantly more than was currently approved to be transported and that it was the fact that road was the main transportation mechanism that had been causing the issues, with rail still identified as a preferred means of transport (**Figure 7.5**).

"Would still like to see it moved by rail. They could acquire the house." - Round One

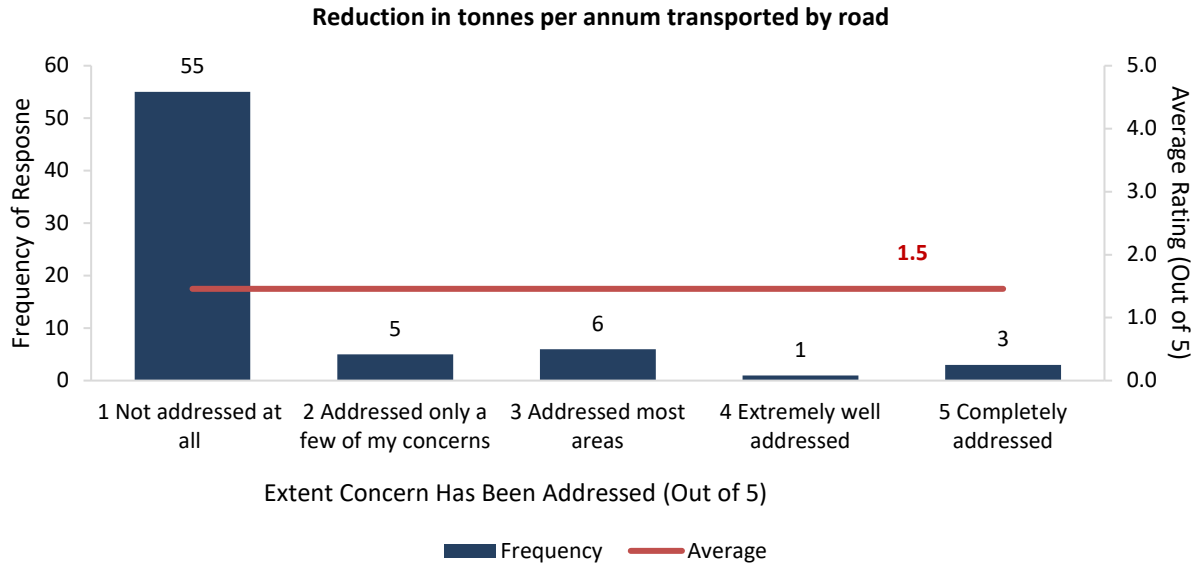


Figure 7.5 Extent Concern has been addressed - Proposed reduction in tonnes being transported by road (Round One)

Round One: n = 78, 8 missing

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This was a consistent message delivered through all consultation activities with discussions during the Traffic and Transport CAF heavily focused on these discussions. During the two CAF sessions dedicated to traffic and transport assessment outcomes and possible management strategies, community participants queried the viability of rail as an option to transport the majority of Quarry products and raised questions about the existing rail capacity and available unloading facilities. In particular, it was generally agreed that the community would like to see more rail transport used, to reduce the number of trucks on the haul route.

During Round 2 when asked to comment on their level of satisfaction with a proposed reduction in maximum product transported by road per year from 1.45 million tonnes per annum (Mpta) to 500,000 tonnes per annum (tpa), distrust and the ability to monitor the levels of materials transported by road were strong themes related to this change. Fifty-Seven (57) participants (or 60%) indicated a satisfaction score of 1 out of 7 (**Figure 7.6**). Accompanying commentary revealed that the community held a strong belief that approval limits will be breached and that their social amenity and public safety would continue to be under threat by the volume of trucks transporting product through the townships of Paterson and Bolwarra Heights (**Table 7.2**).

It is worth noting however, that conversely one consulted stakeholder rated a low satisfaction rating (2 out of 7) to the proposed change in product transported by road, stating that this change is not beneficial for the company and that they would prefer to see an increase in levels, not a decrease.

"This is a blatant restriction of business and the locals should be ashamed of their attitude."

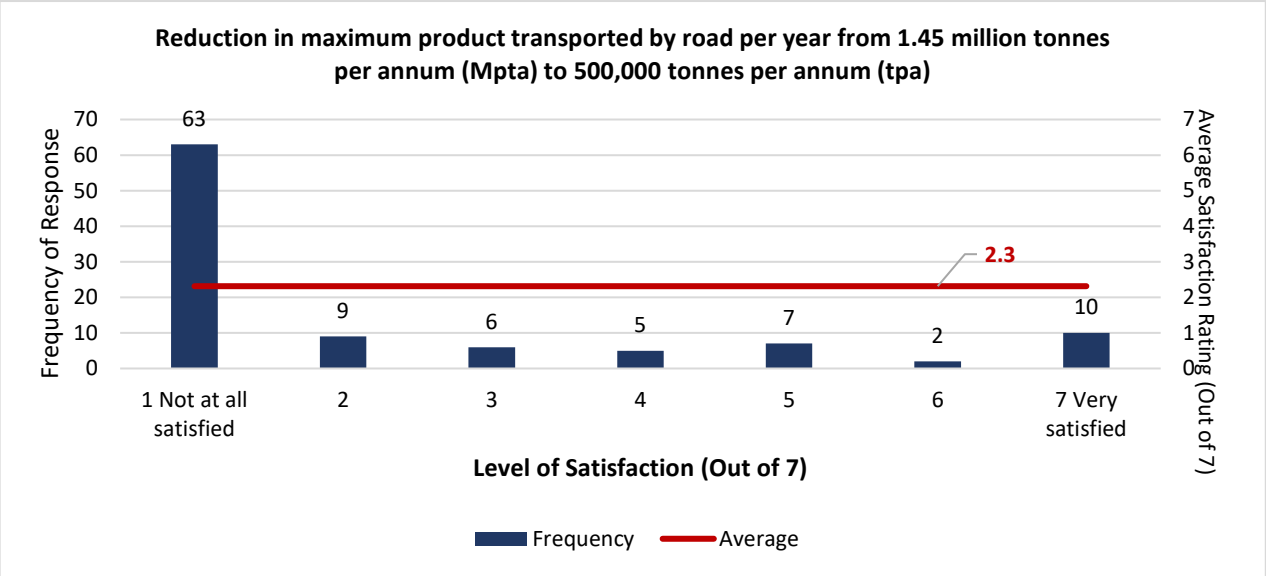


Figure 7.6 Satisfaction Rating - Reduction in maximum product transported by road per year (Round Two)

Round Two: n=114, 12 missing)

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Table 7.2 Stakeholder Comments - Reduction in maximum product transported by road (Round Two)

Reduction in maximum product transported by road per year from 1.45 million tonnes per annum (mpta) to 500,000 tonnes per annum (tpa)	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Decision – Making Processes (Distrust)	*The truck decreases don't seem to match the product being taken by rail or the overall amount to be quarried. I think that the trucks may be increased again? The numbers to me don't add up.* *Have shown in the past they are dishonest and will not comply.* *They don't count the empty trucks so numbers are not accurate.* *Not impressed at all, I don't think the numbers add up. I found that the transport changes were very minor and the true numbers of trucks on the road is not counted both ways. The numbers are only half of what is going to happen.* *As long as that is 24 trucks a day as per existing approval. But they are a ballast quarry, not an aggregate quarry, as they're trying to get through as a State Significant Development.* *That's still 180 tonnes more than the approved 320mtpa. I would oppose that and I would oppose Daracon as the operator who are still trying to extract 1.1 mtpa, not 320mtpa.* *Precedence has shown that these figures will not be adhered to.* *It's much better than it was, but there will always be a time that Daracon will say that they will take more out by road.* *Who will monitor that, who is the compliance officer that monitors this?*
Truck Volumes and Movements	*If I say it's a great idea, it follows that I should support the transport by road of 50 vehicles per hour, which I don't.* *Anything through these little towns is going to be destruction. It's still 500,000 more than what's happening here at the moment. It's a tactic they use - ask for twice as much as they wanted and then negotiate down. Anything above what they should have been doing is too much for this social and economic environment.* *Still too much by road.* *Large trucks going through small towns in not an option.* *This will still allow too many truck movements through suburbs.* *The number of trucks that would take would be too many.* *Still much too high. I don't accept those figures per annum.* *This is way too much still (not in keeping with lawful levels) and will cause enormous congestion to the roads between here and all along the route past East Maitland and beyond.*
Rail Preferred	*It all depends on how they are going to transport it, so no, I'm not happy with that. It should all go by rail.* *I don't want them coming pass at all. It should all go by rail.* *If they went by rail, the community wouldn't have a problem.* *Still too much. I realise that people need the product, but it's too noisy with all the trucks. Put it all on the rail.* *Concerned about what will happen if they can't get proposed amount on rail.* *All of the material should be transported by rail as Martins Creek Quarry is unique in having the rail infrastructure already in place.*

Reduction in maximum product transported by road per year from 1.45 million tonnes per annum (mpta) to 500,000 tonnes per annum (tpa)	
Social Amenity	*Completely not satisfied, we are enjoying the fact that no transport is happening currently by road. It's still way too high.* *More truck movements equal no peace.* *Remains disruptive & destructive on roads, buildings & village life.* *I'm happy with the last 18 months of no trucks. I want nothing! I don't know how the council are letting them reopen.* *This is the same amount extracted in 2014 at the height of the negative impact on the community." – Round Two* *Holistically – 500,000 tpa is unacceptable due to the noise, vibration and air pollution impacts on my house and the amenity of my backyard.* *This scale of production also significantly impacts on village amenity – now [that the trucks have stopped] people ride their pushbikes through the village and the amenity of the village has changed since the quarry has stopped and all of that will be reversed if it is operating at 500,000 tpa.* *Surely alternative resources and sites that do not impact communities would be a better option for the environment and communities.*
Public Safety	*I have experienced difficulty in opening the car door safely when I am parked there.* *That quantity out of a quarry is too dangerous for that township and for further afield too. The road that goes through Bolwarra, that road is not the kind of road that is made for this.* *That amount transported is dangerous for walkers, car drivers.* *Having travelled that road, we have Tocal, the school, parking issues and safety for a multitude of people.* *There are road safety issues that I have had to deal with and live with. From fears when me and my family have to walk across the road to walk to the shops. Fears for my family and friends entering and exiting their cars when they visit and they trying to get in and out of the car on the shared lane.*
Livelihood Impacts	*My friends and family that own businesses in Paterson – I am concerned about the viability of their businesses. When the trucks were running, my household would make a conscious decision not to shop at Paterson and shop elsewhere due to the quarry trucks.*
Stakeholder Comment - Neutral	
Neutral - General	*Obviously, an improvement.* *It's a reduction which is tremendous, but it leaves me disappointed that it's still too great.* *Yes its an improvement, but it needs to be no trucks per year.* *A big improvement, but still should have never have got to 1.5 as it was illegal, so it's an irrelevant reduction.* *It's still going to put trucks on the road. We weren't that concerned, as we're not on the main truck route.* *Doesn't bother me one bit – didn't bother me before either.*
Stakeholder Comment - Positive	
Positive - General	*As long as this reduction does not impact the supply of gravel to local users, e.g., when trucks not going through Paterson.* *At least they're trying. They're trying to meet people halfway.* *Much better.* *Very happy, I think that was my biggest concern, was the amount of traffic on the road.*

With regards to the proposed increase in the maximum amount of product transported by rail, this was met with the most positive responses for stakeholders surveyed (20, or 20%), with an average rating of 3.6 out of 7 (**Figure 7.7).** There were however a large number of stakeholders (35 or 35%) who remained sceptical that Daracon would abide by this change and felt that further expansions would be sought in the future to increase transportation by road, or that the time taken to increase the rail infrastructure to support this change, would be too great to alleviate social amenity impacts discussed in **Section 7.3** (**Table 7.3**).

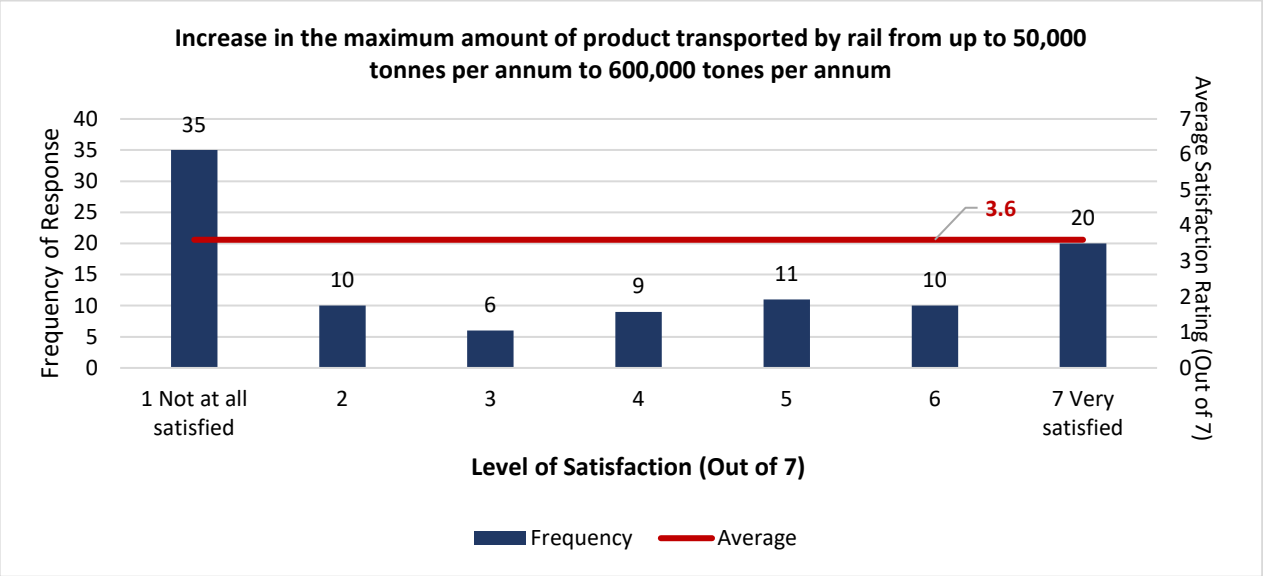


Figure 7.7 Satisfaction Rating - Increase in maximum product transported by rail (Round Two)

Round Two: n=114, 13 Missing

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Table 7.3 Stakeholder Comments - Increase in maximum product transported by rail (Round Two)

Increase in the maximum amount of product transported by rail from up to 50,000 tonnes per annum to 600,000 tonnes per annum	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Negative - General	*Not nearly enough.*
Decision – Making Processes (Distrust)	*I don't trust them at all. I suspect that this proposed change is a bit of white washing. I don't actually believe they will commit to it. The fact that it wouldn't come online until year 4 shows a lack of commitment.* *Who is monitoring how much goes by rail vs road amounts? A breach just drags on for years and erodes more trust. Fines are not enough.* *They are not promising that amount by rail, the way it was worded was a 'possibility that it might be that'. In view of Daracon's past, I don't think that will eventuate.* *That's way above the approved 320mtpa.* *Quarry was already supposed to be using the rail network, has failed to do so, cannot be trusted.* *We need rail reports and guarantee no works will be undertaken until the rail is fully operational.*
Rail Preferred	*The majority of product needs to go by rail. We are a lifestyle community.* *Still only a one, because this is only an incremental increase and they should be pushing for more on the rail. They need to go 100% by rail. The community has expressed this previous sentiment that they feel more comfortable with the Project if it goes by rail.* *I feel that is good, but if they take more of what is going by road, it would be better. All by rail would be a better idea. Martins Creek has a rail sliding and therefore if it means building a depot at the other end than having to haul around through these rural towns, then that's the best way to go. The profits are substantial and if you have to have a one-off cost, then that is worth it in my opinion.* *All product should be taken by rail.* *Why cannot all product be railed to and unloaded at Hexham and trucked from there? I realise this would be more expensive, but it is a twenty-five-year life.* *Still not enough.* *Should be increased beyond the 600,000 tonnes limit.*
Social Amenity	*Noise of loading will probably be heard from my place. They would have to invest in a new loader, or they would have to work all through the night. It is a positive, but I don't want to give them anything, so rate everything a 1/7.* *Appreciate rail consideration but concerned about the effects on residents that live along the rail line.* *I'm against that as well, we don't need that tonnage on the rail - the rail link through Paterson would be continually congested - crossing there - they would have to put a single track in, which would mean more land taken.*

Increase in the maximum amount of product transported by rail from up to 50,000 tonnes per annum to 600,000 tonnes per annum	
Stakeholder Comment - Neutral	
Neutral - General	*That's much better, but they are saying it will 'happen in the future', so therefore they're still going to take a lot out by road in the meantime.* *Moving in the right direction. Economic analysis of that needs to be considered. Need to model worst case/best case and in between to give economic impacts of the Project. Would be best to have this now (and not have to wait for the final document) so that the population can look at that to show why. It needs to be validated.* *Not fully informed, only received a brochure in the mailbox.* *Right from very start, rail usage was less impactful to those along road ways and the amount of traffic, so any greater use of rail is of benefit I think, but only what was originally allowed in the original DA. It's hard to imagine that amount by rail, but its less impactful, the roads can't take these trucks.* *There are quarries in NSW that are transporting 100% to market via rail, would need to be 100% by rail for a ten.*
Stakeholder Comment - Positive	
Positive - General	*Top marks.* *I think that is fabulous that there will be less trucks and more going out by rail. Some people have noticed more trains there already, and the people on the train line don't seem to be worried about the trains being used.* *Obviously, an improvement. When it's the total on the rail, then it will be great.* *We're still impacted by the railway, but it is much better to be going by rail, than by truck.* *I think that's marvellous; I'd like to see it all go by rail. There will have to be an expenditure on infrastructure, but it is possible. There is a significant benefit to our community and country, but the problem is it's going through Paterson and that's what needs to change.* *I'm happy with that.* *That's what I was after originally.* *That's a positive thing.* *Definitely better, a hell of a lot. I support it by rail.* *Delighted with that idea. I'd be happy if they took it all out by rail.* *The more the merrier.* *Better than none – it's a starting point.*

7.4 Reductions in Truck Movements (Per Hour and Per Day)

7.4.1.1 Reduction in the Maximum Number of Laden Trucks Per Day

In regards to the proposed reduction in laden truck movements both by per hour and by day, during Round One it was considered that a lot of the current issues associated with noise was due to poor road conditions and the damage that was being caused to the roads by truck movements and that there would still be an *"overwhelming number of trucks"* on the roads, despite the numbers reducing (**Figure 7.8**).

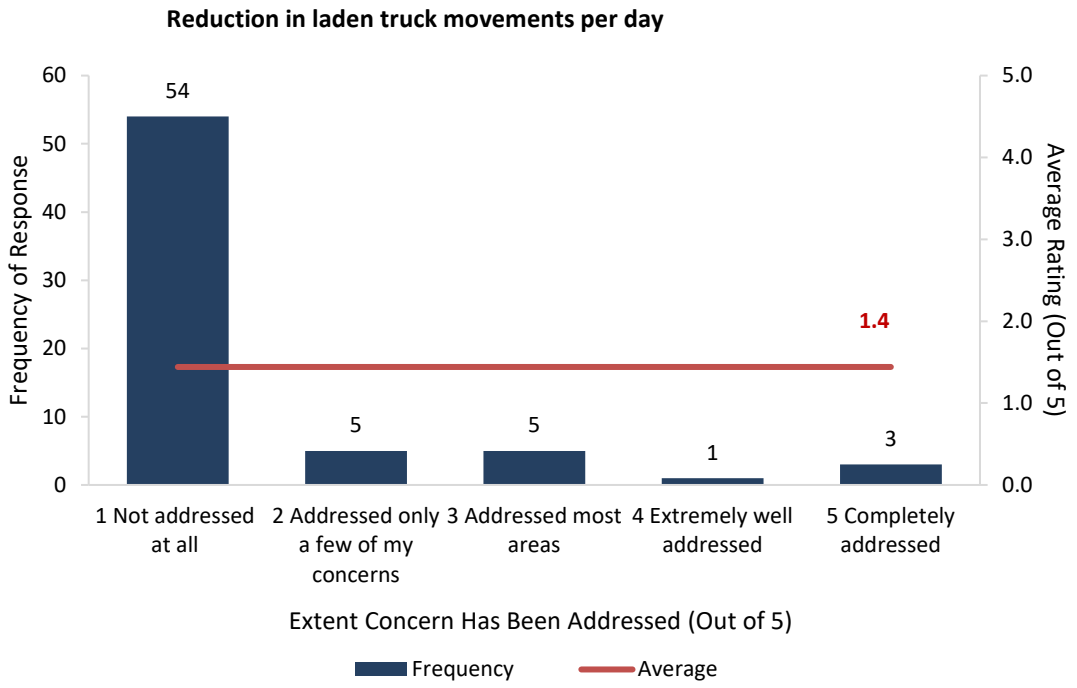


Figure 7.8 Extent Concern has been addressed - Proposed reduction in laden truck movements per day (Round One)

Round One: n = 78, 10 missing

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During Round Two, consulted stakeholders were presented with even further reductions in the maximum number of laden trucks – both per hour and per day.

The proposed reduction in the maximum number of laden trucks per day was met with high levels of dissatisfaction amongst consulted stakeholders with 62 (or 61%) *'not at all satisfied'* and receiving an average satisfaction rating of 2.3 out of 7 (**Figure 7.9**). Responses associated with negative satisfaction ratings all centred around distrust in the company, social amenity and public safety (**Table 7.4)**.

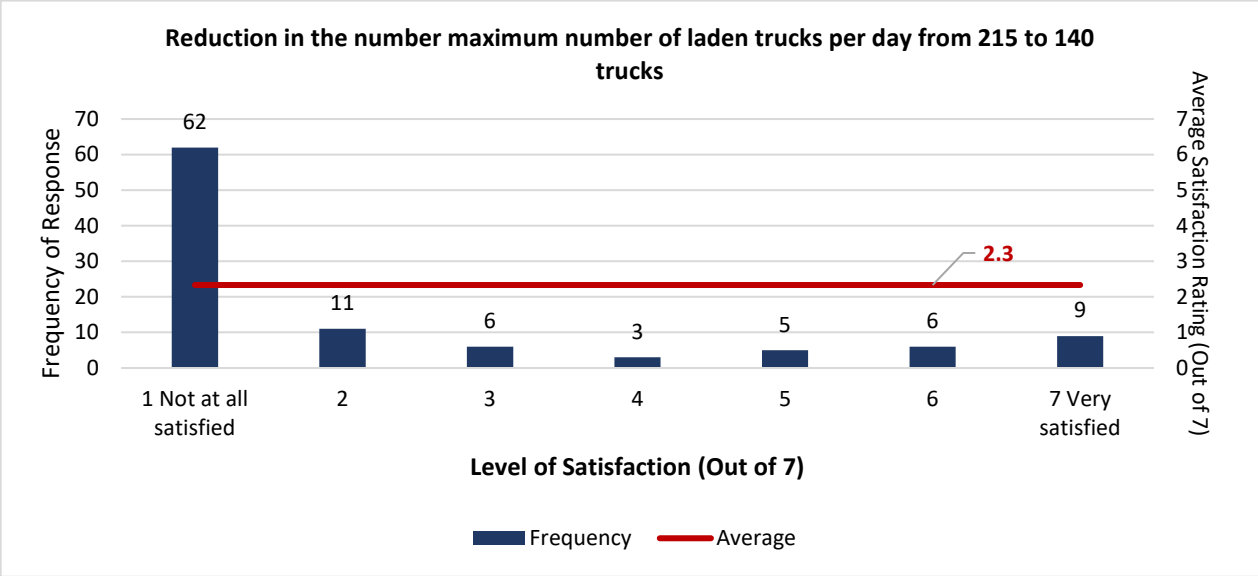


Figure 7.9 Satisfaction Rating – Reduction in maximum number of laden trucks per day (Round Two)

Round Two: n=114, 12 Missing)

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Table 7.4 Stakeholder Comments - Reduction in maximum number of laden trucks per day

Reduction in the number maximum number of laden trucks per day from 215 to 140 trucks	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Negative - General	*I don't want any trucks.* *Not acceptable.* *Still not enough.*
Truck Volumes and Movements	*Still equals 280 plus many other business's large trucks per day are too many.* *140 trucks going through our towns is still way too many.* *The traffic is so bad as it is, we get the thoroughfare from Dungog, there are so may estates up there, especially at peak hour.* *It was tail to tail 8-9hrs per day, if it's halved it will be 30 sec intervals.* *140 trucks too many. If they were only delivering the occasional delivery to local customers, that is controllable, and I don't believe there would be resistance for limited local deliveries.* *Not going to answer that, it would imply that I'm satisfied with the reduction, but I am not satisfied by any road transport.* *50 trucks maximum.* *No trucks should be allowed to pass the township of Paterson.* *Everyone talks about the number of laden truck movements, but they have to travel both ways, and empty trucks make more of an impact noise wise. So can't count only laden trucks - its disingenuous.* *Too many big trucks on unsuitable roads.* *This is still one truck every 3.5 minutes through Paterson village.* *Too many trucks going through residential areas.*

Reduction in the number maximum number of laden trucks per day from 215 to 140 trucks	
Decision – Making Processes (Distrust)	*The original figure was astronomical, and the new figure is still unreasonable.* *They talk about the maximum number of 140 laden trucks per day and 25 laden trucks per hour, but there is no mention of empty trucks, so there will be more going past.* *They don't count the empty trucks, so numbers are not accurate.* *Not impressed - I don't think the numbers add up. I found that the transport changes were very minor and the true numbers of trucks on the road is not counted both ways.* *You double that number immediately and that become unsustainable for a place like Paterson.* *As long as that is 24 trucks a day as per existing approval.* *The unladen trucks are far more of an impact on the community. The actual number of trucks will be 280 per day. Therefore a 7am - 6pm operation will result in a truck every 2 min 35 sec.*
Social Amenity / Public Safety	*Still too many. It's been so nice since its stopped, the peace and quiet. Putting my grandchildren on the bus, I'm not worried about the trucks (safety at Dungog Road Bus Stop).* *Still very excessive and disturbance for ambiance of village and safety is still too high.* *The local roads cannot adequately cope with this number of truck movements. I was almost pushed off my pushbike by a Daracon truck a few years back. They are not suitable in this area.* *That is not relevant. Until you can show what the community amenity value is sustainable. They haven't assessed the background conditions that would allow that to be met. It's meaningless, because is it sustainable for 280 trucks (as there are returning trucks) for the social amenity of the community?* *Too many trucks per day, try living and sleeping along these roads.* *The current amount is unacceptable because I have a lived experience of that volume of trucking past my house and in the village that I live in and it is unacceptable. In particular because of the current baseline post September 2019 – everyday feels like a Sunday in Paterson. We aren't reminded every day that we are living on a quarry haul road and we don't incur that effect anymore of having the village transected by trucks.*
Stakeholder Comment - Neutral	
Neutral - General	*It's an improvement, but nowhere near enough.* *It's a reduction which is great, but it is still too much still.*
Stakeholder Comment - Positive	
Positive - General	*Happy with that.* *Positive about balancing the community impact and production, however I don't want the reduction of trucks to limit supply of products to local users.* *That's better and using the rail is reducing the trucks so that's a good thing.* *I'm okay with that.* *Good outcome.*

7.4.1.2 Reduction in the Maximum Number of Laden Trucks Per Hour

When asked to comment on their level of satisfaction associated with a reduction in the maximum number of laden trucks per hour, stakeholders largely found it hard to separate their responses toward changes to truck volumes per day or per hour and many simply reiterated their comment to the previous question. The overall sentiment during both rounds of consultation was that the volume of trucks per day was too high, therefore the number per hour was also too excessive **(Figure 7.10** and **Figure 7.11).**

The proposed reduction down to 50 truck movements per hour received an average satisfaction rating of 2.3 out of 7 during Round Two consultations, and the highest dissatisfaction rating, with 63 stakeholders (or 62%),*'not at all satisfied'* (**Figure 7.11**). A selection of stakeholder comments are provided in **Table 7.5.** It should be noted that since the time of consultation being undertaken, maximum truck movements per hour have again been decreased to 20 one-way movements or 40 laden movements per hour.

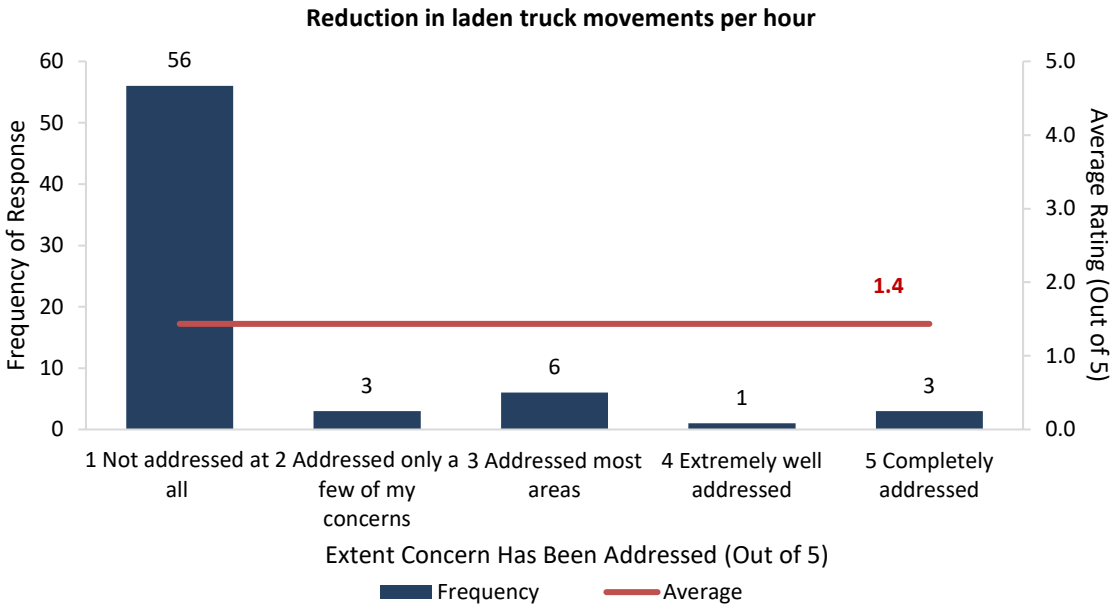


Figure 7.10 Extent Concern has been addressed - Proposed reduction in laden truck movements per hour (Round One)

Round One: n = 78, 9 missing

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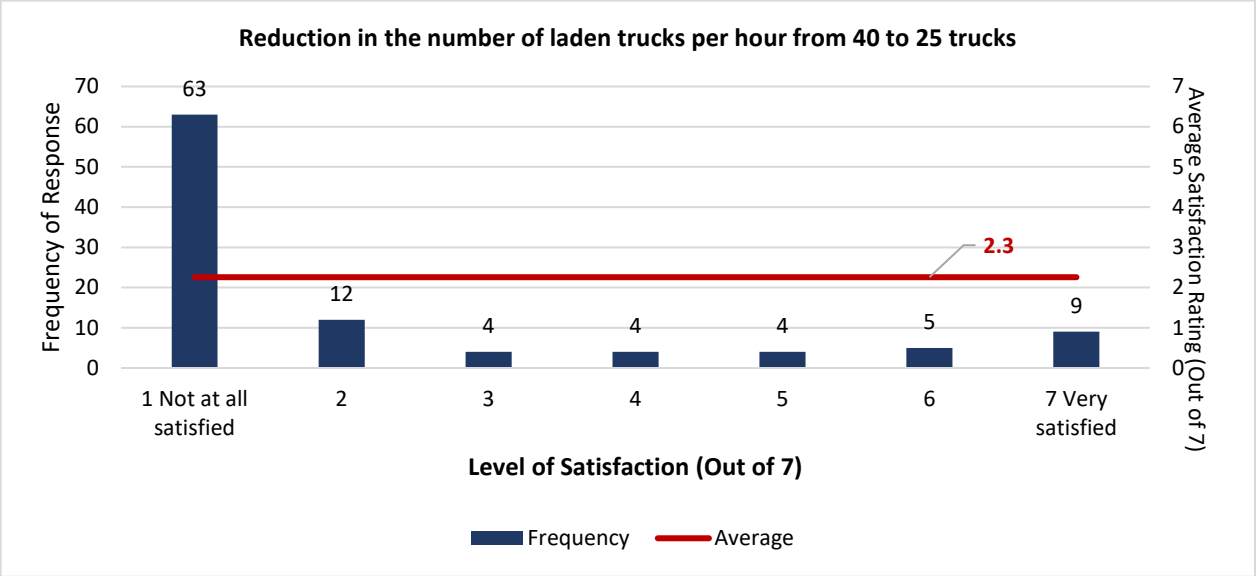


Figure 7.11 Satisfaction Rating – Reduction in maximum number of laden trucks per hour (Round Two)

Round Two: n=114, 13 Missing

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Table 7.5 Stakeholder Comments - Reduction in maximum number of laden trucks per hour (Round Two)

Reduction in the number of laden trucks per hour from 40 to 25 trucks one way	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Negative - General	*I don't want any trucks.* *That's no difference.*
Truck Volumes and Movements	*50 a minute. Should be no trucks going through Paterson, so can't answer.* *A ballast quarry doesn't need more than 24 trucks, it's bullshit what they're proposing.* *25 is still 50 movements, couple that with Brandy Hill transport of product (cumulative effects of the trucks on the road is still high).* *That's one truck every 2.3 minutes, ridiculous.* *Still too many.* *It was never 40, it was 300 plus, so doesn't fly.* *I'd like it about ten.* *25 laden trucks is way too many for the road infrastructure and the community.* *Would be zero if possible.* *Five trucks an hour is the only acceptable amount for all concerned, roads and our community.* *Still totally unworkable given the narrowness of the roads and the fact that the trucks are passing through townships.*

Reduction in the number of laden trucks per hour from 40 to 25 trucks one way	
Decision – Making Processes (Distrust)	*I don't want any going by road. They talk about the maximum number of 140 laden trucks per day and 25 laden trucks per hour, but there is no mention of empty trucks, so there will be more going past.* *They don't count the empty trucks, so numbers are not accurate. It's really 50, that's one a minute, nothing has changed.* *I get that the maximum numbers can be quite variable, but this allows Daracon to exceed those limits and I'm quite concerned about that. They say a maximum of 25 per hour, but if you times that by 12 hours, that exceeds it by nearly double. I think that it leaves a gap that they could use to exceed their limits.* *Daracon want it to go their way, but I can't see little changes from what they were previously doing when they were operating illegally.* *Not acceptable. No-one trusts them, it's actually 50 there and back. They lie to people.*
Social Amenity / Public Safety	*That's 50 trucks per hour, that's one every one and a quarter minutes. If your 60 years old, hard of hearing and park on one side and want to go to the shops on the other side, there's a high chance that you will get squished.* *It's 50, amenity issues: noise worse with unladen. Safety issues remain.* *Still very excessive and disturbance for ambiance of village and safety is still too high.* *25 is still a lot of trucks. I think about the peak school times. Children are literally standing on the side of the road waiting for their bus, that is double the amount, with the empty coming back, so still a lot of trucks and at peak school times.* *There are no pedestrian crossings, and people are ducking across, people aged 50-80-year-old, but that is the reality, people want to duck across the street.* *None would be best; the noise pollution in Paterson caused by the trucks is not acceptable.* *We would apologise to guests for the trucks rumbling past waking them up in the morning. We would often need to stop our conversations mid-sentence when the trucks went past and stop until the trucks had passed.*
Health and Wellbeing	*This is sapping the life out of me. The lived experience is from living from 2009 to 2019 and experiencing those said proposed trucking rates was in many cases unliveable. My wife would call up crying because of the truck's impacts affecting our house. It's affecting our health. We would consciously decide if we could go outside the house or not.*
Stakeholder Comment - Neutral	
Neutral - General	*Same, it's an improvement but nowhere near enough.* *It's a reduction which is great but it is still too much still.*
Stakeholder Comment - Positive	
Positive - General	*Yes definitely better.* *It's better than 40, that wouldn't be a bad thing.* *Hell of a lot better, better that it was less, but better.*

7.5 Quarry Operating Hours

As highlighted at **Table 7.1** above, a reduction in the operating hours of the Quarry was presented during both rounds of engagement with this reduction being in reference to the times at which **truck loading activities** could start and also actual **in pit extraction operations** and **operating hours** at the Quarry.

During Round One, there were mixed views from consulted stakeholders with regards to delaying of truck loading activities until later in the morning at 7am, as to the value of this, with it noted by stakeholders that the "*7am refinement is a good start." - Round One*

It is worth noting that the proposal to not load trucks before 7am had the largest portion of respondents 7, or 10%) indicating that it had completely addressed their concern. Those who rated it as not addressing their concerns believed that this refinement may result in a negative impact in how trucks would interact with morning traffic and that this change would not necessarily stop trucks coming through Paterson early and lining up on the road in preparation for the Quarry to open.

"That would be better"- Round One

"Might put more truck interactions closer to people getting out of bed"- Round One

"Increase in morning traffic will be significant." - Round One

"They still have to get in there - they will/are idling on the road at 4.30am/5am." - Round One

"Time of Operations has been changed for the better I think, but we need transparency." - Round One

It was also felt that this may simply result in increases in morning traffic and the potential for this increase in truck movements to coincide with school drop off times when there may be more local community traffic and children trying to cross the road.

"Moving loading of trucks might put more truck interactions closer to people getting out of bed." - Round One

"Loading after 7am - still has an impact on sleep, learning and safety." - Round One

It was also noted that this would not really address the key issue of early morning truck noise disturbing sleep, as this would not stop trucks from queuing outside the Quarry.

"A 7am start time doesn't matter because they start [queuing up] at 530am anyway." - Round One

"They still have to get in there - they are idling on the road at 4.30am/5am." - Round One

With regards to restricting in pit extraction prior to 7am, it was again felt that this refinement was a move in the right direction, particularly for those who live next to the Quarry; however, there was a belief expressed by some there still may be other noises experienced prior to this time, such as the driving of trucks and the level of impact generated by early morning quarrying activities, despite the reinforcement that there would no activities prior to 7am (**Figure 7.13**).

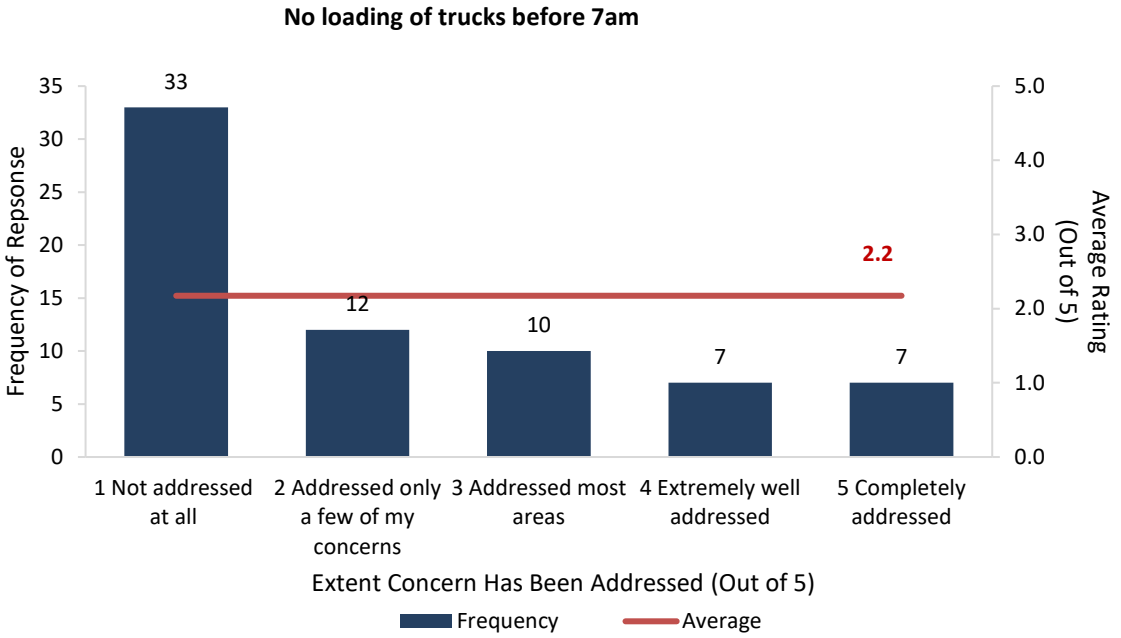


Figure 7.12 No loading of trucks before 7am (Round One)

Round One: n = 78, 9 missing

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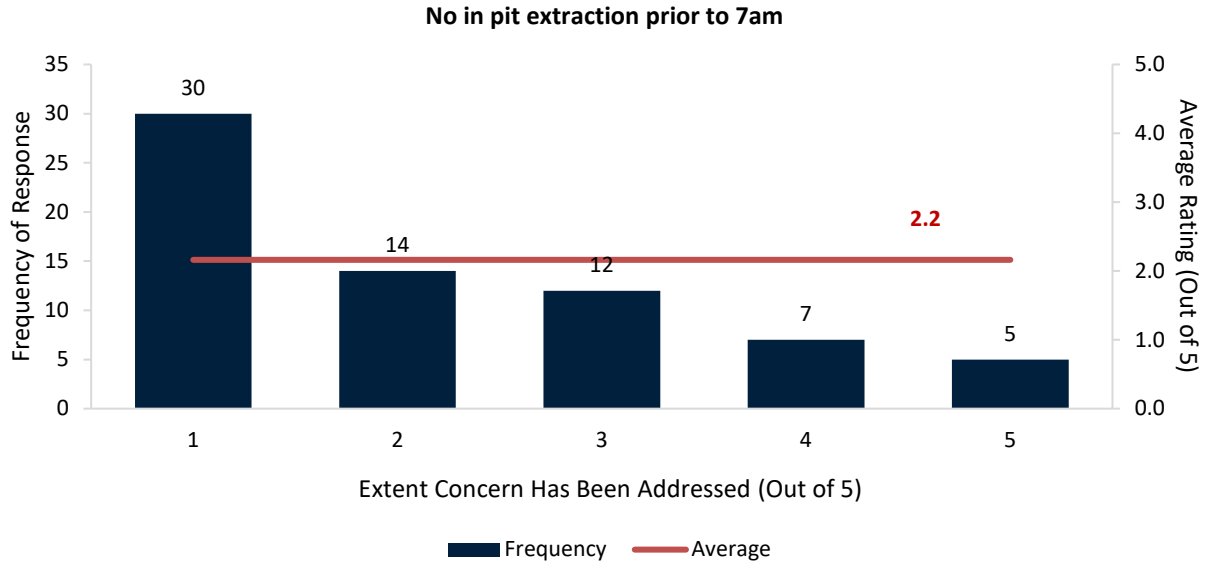


Figure 7.13 No in pit extraction prior to 7am (Round One)

Round One: n = 78, 10 missing

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In relation to proposed reductions to start times and hours of operation that were presented during Round Two, many stakeholders felt this was an improvement on previous operations with more than 25% (30 participants) scoring 5 or above out of 7 for their satisfaction rating (**Figure 7.14**). However similar to Round One, views were still divided, as some stakeholders believed that a 7am start time was appropriate, but the overall operational hours of 7am-6pm were still too long and stakeholders would prefer these shortened with social amenity and impacts to livelihoods and tourism raised as reasons for the company to further reduce operational hours (**Table 7.6**).

It should be noted that three (3) stakeholders felt that operations should continue on Saturdays, particularly for local sales and delivery.

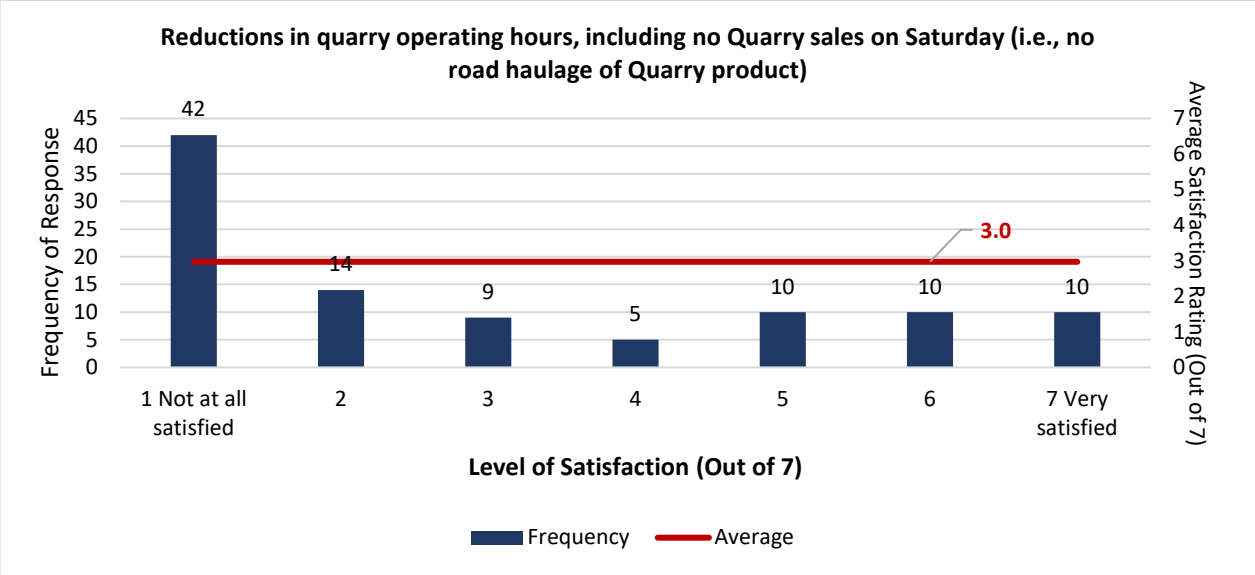


Figure 7.14 Satisfaction Rating – Reduction in Quarry operating hours (Round Two)
Round Two: n=114, 1 Missing)
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Table 7.6 Stakeholder Comments - Reduction in Quarry operating hours (Round Two)

Reductions in Quarry operating hours, including no Quarry sales on Saturday (i.e. no road haulage of Quarry product)	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Negative - General	*Not happy.* *Don't want any at all.* *I don't think it's enough. From my perspective, if it was a greenfield site, there would be no way a quarry would be approved, the fact it is an existing quarry, should be giving it minimal allowance, rather than what they're after. The rock won't deteriorate over time, it can still be extracted at the original rate, it will just take longer to extract. From a community perspective, there will always be demand for rock, so why exhaust the resource quickly, just extract it slowly.* *No quarry!*

Reductions in Quarry operating hours, including no Quarry sales on Saturday (i.e. no road haulage of Quarry product)	
Operational Hours	*I was not supportive of hours they were doing; he was trying to be greedy and working 24/7. We didn't want to be shoved off the road. 7am is still early. Starting at 8am is more appropriate.* *Seems very early starts and late finishes to me.* *I don't like them going so long - 4pm at the most.* *Start times - they always starts earlier to try and getting their loads quicker. There is always stuff happening before the trucks leave the Quarry.* *Hours need to be reduced. 6am start means trucks go through residential areas as early as 4:30am. Not acceptable.* *Absolutely no weekend work.* *[Close] Fridays from 12pm until Monday 9am would be the only fair thing to do for the locals quality of life.* *No Quarry sales on the whole weekend and public holidays.*
Decision – Making Processes (Distrust)	*Hours are too long and the Quarry should be shut down from previous breaches that made our lives hell along Tocal Road. They can adjust the hours now, but they will just keep pushing the boundaries.*
Local Sales Preferred	*Would be great if it was open for local area sales on Saturday as a lot of people do road/driveway repairs on Saturdays.* *No Saturday truck movements means that local operators may have difficulty getting access to product through the week.* *The Quarry should still be allowed to operate Saturday morning provided no material is transported by road.*
Social Amenity	*The impact of Quarry operations is still far too much for local residents.* *I think by not operating with extended hours is really just hiding the Quarry from the tourists. It does nothing for the people actually living in the community.* *From 7am to 6pm is still a long day. People come here to have a beer at the pub and they don't want to see trucks every minute or so all day.* *That should include crushing time too, not crushing at 6 am, don't they know it's a village, a township, don't they know that?* *The hours are still 11 per day and 24 hours 7 days per week for train loading and maintenance. This will have a continual detrimental effect on people living close to the quarry and will negatively affect our life enjoyment and mental health, not to mention house values.*

Reductions in Quarry operating hours, including no Quarry sales on Saturday (i.e. no road haulage of Quarry product)	
Stakeholder Comment - Neutral	
Neutral - General	*That's fine but I can still hear the crushers up there. I don't want any trucks on any day, they should take it all by train.* *My main concern is the road.* *Glad that they are not doing it on Saturday. But not happy with the overall hours of operation, would rather all operations stop on Saturday, including the environmental management and general maintenance, to stop the dust and noise for those living close by.* *The hours are good, they have come back in line with what I call 'daylight hours'. The only thing I have a concern about is when they say that maintenance of trucks/fixed plant is allowed on weekends. If the maintenance was contained to limit noise/dust than ok, but it will still mean that trucks will be coming in/out of site. There should be no movements outside those hours. It feels non-committal to this.* *Very pleased that nothing will be happening on Saturday (that would be a 7), but I'm still concerned about the start time 7am. It's too early, I would prefer an 8am start.* *I approve a reduction but it impacts on the Martins Creek residents.* *Well I have to say that I am completely satisfied with it but I don't want to show that I am happy.*
Stakeholder Comment - Positive	
Positive - General	*Happy with 7am start: don't start at 5am. There are people sleeping here. So, I love the 7am start. You're not allowed to mow the lawn or build before 7am, so let's all go with the same start time.* *I think that's good, certainly to give some sort of a break to the area, and to Paterson in particular, which can get quite touristy on the weekends.* *Monday to Friday is good, and 7am-6pm is ok, we don't want anything outside those hours.* *That's a good idea.* *Not a problem with that.* *Great that there are no sales Saturday.* *Yes, I'm fine with that.* *I really would not object to that. I think that is a reasonable time to start at 7am.* *Hours during the week had no effect on us, but I'd say Saturday hours are a good thing, as it's quite a busy little place on Saturdays.* *This is an improvement on 7 day operations.* *Its nice to have some quiet on the weekend at least.*

7.6 Reduction in the Proposed Additional Disturbance Area

During discussions held at Round Two, the proposal to reduce the amount of land disturbed for the Project was presented. Several stakeholders surveyed felt that a reduction in the proposed disturbance area would benefit native flora and fauna and ratings of 3 or 5 out of 7 were frequently reported by 13 and 12 stakeholders, respectively (**Figure 7.15**). The overall average rating of 2.6 out of 7 however, overshadowed any positive ratings for this design change, with distrust of the company highlighted as a strong reason for lower satisfaction ratings and others believing that the disturbance area is still too great (**Table 7.7**).

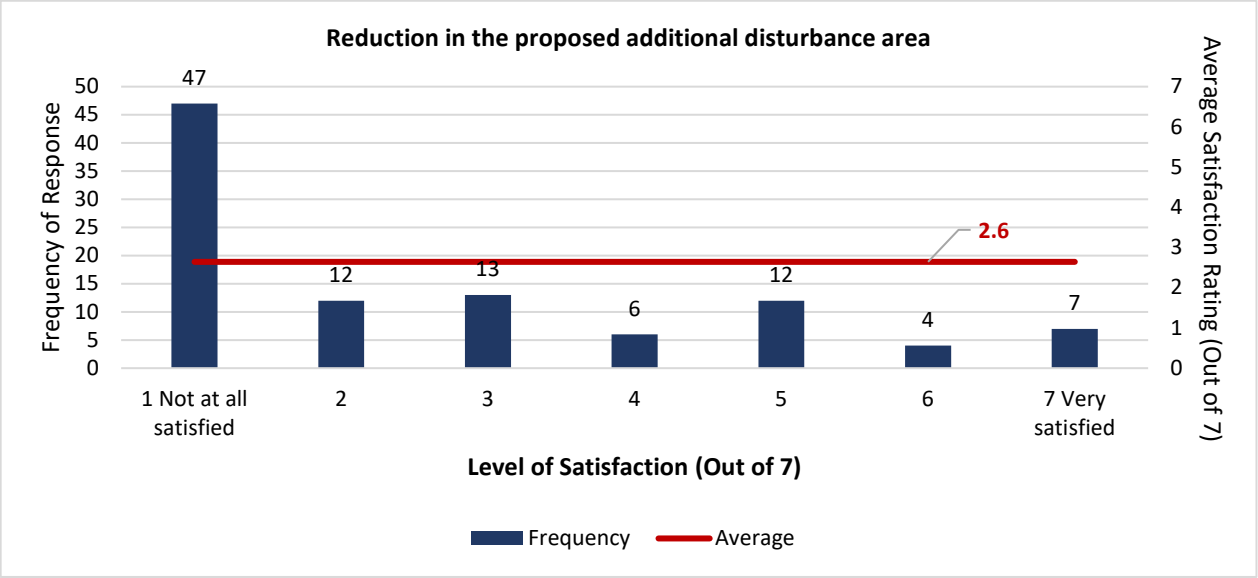


Figure 7.15 Satisfaction Ratings - Reduction in proposed disturbance area

Round Two: n=114, 12 Missing

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A selection of stakeholder comments made when discussing the Project design change are provided at **Table 7.7** below.

Table 7.7 Stakeholder Comments - Reduction in proposed disturbance area (Round Two)

Reduction in the proposed additional disturbance area	
Stakeholder Comment - Negative	
Theme	**Stakeholder Comment**
Decision – Making Processes (Distrust)	*Don't trust the company to comply.* *Not really satisfied, they'll do what they want to do. I'd prefer not to see it happen at all.* *No change - its all just smoke and mirrors. They're just trying to bamboozle the community.* *Suspicious, if they get the extension to mine that area, then in another 10 years they will get another one, until they reach the figure, they actually want to achieve.* *Mine should not be operating, has been operating outside of its license conditions, cannot be trusted.* *I have no satisfaction with all of them – when I believe that the quarry shouldn't be open.* *Sadly history of Daracon and what they promise is false.*
Biodiversity and Land Use	*Detrimental to local fauna particularly koalas & squirrel gliders, phascogale etc habitat & flora e.g., native orchids.* *It is an improvement, but not a big one. Wait till we find some koalas there? I can see the possibility of that being a problem.* *We need to preserve our flora in order to preserve our native fauna.*

Reduction in the proposed additional disturbance area	
Disturbance Area - Size	*That's nearly 50 acres, it's better than it was, but it is still not acceptable.* *There is no reduction.* *That's a decision for Daracon and really it's obviously linked to sales in and what they can carry out. Shouldn't be. Back to where we started.* *Not at all, reduction is not enough - 13.5ha is far too much, they are a quarry, it's not a mine.* *I think the quarry is in the wrong place altogether, the area is wrong.* *The area of land carved out by the quarry is too large now. Another 17 ha over the next 25 years would be catastrophic for the local environment, flora and fauna and local people living in this area.*
Social Amenity	*Concerned about the disturbance to community.* *To me it's been an increase, and now I can see the crusher plant as we speak - in my lounge room, had quietness for 18 months.* *The impact on the communities and the surrounding area is too great.*
Stakeholder Comment - Neutral	
Neutral - General	*The extent of the quarry doesn't affect me personally.* *Not much difference, not impressed.* *Neither here, nor there.* *Doesn't worry us at all* *Prefer not to rate as I haven't had a close look at what's been left vs what is taken - is it rubbish area or does it have economic value? Commenting on a reduction.* *I do not live close enough to the Quarry so I cannot comment on the direct disturbance area*
Stakeholder Comment - Positive	
Positive - General	*I'm happy with that.* *Well, it's better.* *Any change is good.* *Certainly better.* *It's a good outcome.* *It is an improvement on what was originally proposed.*
Biodiversity and Land Use	*We are seeing Koalas on Black Rock Road, they are being pushed down here, so I think that's good to reduce the footprint. (Brandy Hill is also pushing them down), so the less disturbance of Koala habitat, the better.* *Improvement as its less interference with the natural vegetation/bush. That was the area that they were extracting from illegally.* *Reduced clearing better for the environment, including dust reduction and smaller area is easier for rehabilitation.*
Decision-Making Processes	*I can't see that that's a problem, it is reduced, so that's a good thing. As long as they don't turn around once they have started production and start ramping up again. There is a trust issue that they abide by these limits.*

7.7 Intersection Design Changes

As a part of the Traffic CAFs held in July 2019 (discussed in **Section 3.0**), three design options were proposed in relation to the King Street and Duke Street intersection within the village of Paterson.

Although discussions held at Round Two did not specifically address levels of satisfaction with the proposed intersection designs, stakeholders offered unprompted concerns associated with its design and delivery.

Several themes emerged, including safety concerns and the loss of carparking which would further reduce social amenity and sense of place (**Table 7.8**). One stakeholder suggested that any changes would need to consider the current infrastructure in place, before any modifications began and to communicate these changes to the public.

Table 7.8 Stakeholder concerns with proposed intersection design changes (Round Two)

Theme	Stakeholder Comments
Infrastructure	*"Impact with trucks through Paterson on the Corner - needs to be altered. (There is a lot of optic fibre cables under there - so they will need to do their homework. It will be expansive to remove that and how to keep the communications going during any works."*
Safety	*"Will need to go very slow around that corner with 50 movements per hour. Pedestrian access: can't have crossings but has to be safe to cross, it would hold up the traffic to have pedestrian crossings. Can't have overpasses as oldies can't do it. It can take 10 mins to cross the road sometimes. If older people try and cross the road, they are scared that the trucks will cut the corner to get passed one another."* *"Not safe to cross the road from the Post Office to the Cafe. The thought of that many trucks around that corner, is scary. There is a T- intersection at the northern end (Duke/King Street) and a blind dog leg at the southern end. I can't think of any other place with that level of safety concern for the community."* *"They need to use the rail and they need to reduce safety concerns at the Post Office intersection (King and Duke Streets)."*
Car Parking	*"I don't think there should be parking outside the post office."* *"Is he considering using the block of land for parking? It might be hard to access?"* *"Currently the workers park in the customer carparks."* *"I don't like the idea of the Post Office car park being removed. That carpark is for the elderly. They will have to cross on the corner and so will people with children, so less safe as they will now have to cross the road. It just adds another danger. They can park outside the front of the business, pick up their parcels and go again."* *"Don't want the pedestrian crossing".* *'Don't want to lose our car parking".* *"Can you add parking lines? Some people don't know where to park so lines would be beneficial/"* *I believe Daracon have bought a block of land for parking spots. It's a positive move and an indication of how keen they are to get the product out with minimal disturbance. People have got used to pulling up outside PO/Cafe and I'm sure there will be paradigm shift for people to get used to having to park and walk, there will probably be a negative response to that, but I think it's a positive.* *The proposed car park is not safe to access it will require vehicles to cross across what will be a "four way intersection of traffic to enter and exit". The truck intensity will serve to provide a physical divide between one side of the road and the other as was experienced in 2014-2019 by Daracons illegal operations*



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