

**Project Ophir**

**Summary Report for the  
Central Otago Heritage Site Review (COHSR)**



Prepared for Otago Goldfields Heritage Trust

by

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**Front cover image** – Waldron’s Gully workings (G41/610), Blacks No.1, Ophir. View north-west towards Daniel O’Connell Bridge, Manuherikia River (centre), and Dunstan Mountains in the background

## Contents

PROJECT OPHIR SUMMARY REPORT .....	4
1 REPORTS.....	7
1.1 Fabric completeness report .....	8
1.2 Significance Report .....	8
1.3 Threat summary report.....	10
1.3.1 Current threat/s to sites .....	10
1.3.2 Potential threat/s to sites .....	12
1.4 Condition of sites .....	14
1.5 Rates of deterioration Report .....	15
2 INTERVENTION .....	16
2.1 Maintenance .....	16
2.1.1 Mactavish's hut (G41/702) in Blue Nose Gully .....	16
2.1.2 Ryan's Bendigo Hotel (G41/708), Swindon St, Ophir.....	16
2.1.3 St Andrews Presbyterian Church (G41/653), 13 Swindon St, Ophir .....	17
2.2 Stabilisation (re-instatement) .....	17
2.2.1 Daniel O'Connell Bridge (G41/694), Manuherikia River .....	18
2.2.2 Early footbridge abutment (G41/601), Manuherikia River.....	18
2.2.3 Pitches Dam Raceman's hut (G41/711), McLeod's Gully.....	18
2.2.4 Pitches Dam wall (G41/700), McLeod's Gully .....	19
2.2.5 Ryan's Bendigo Hotel (G41/708), 39 Swindon St, Ophir .....	19
2.2.6 Mactavish's Hut (G41/702), Blue Nose Gully.....	20
2.2.7 Dam wall (G41/717), Upper Waldron's Gully .....	20
2.2.8 Dam, water race and plinths (G41/710), McLeod's Gully.....	20
2.2.9 Chinese Hotel? site (G41/709), Waldron's Gully .....	21
2.2.10 Lauderburn water race and aqueducts (G41/701) .....	21
2.2.11 Golden Gate water race (G41/602) and Suspension water race (G41/719).....	21
2.2.12 Tent/hut site (G41/715), Waldron's Gully .....	22
2.2.13 Swindon St kerb and channelling (G41/707), Swindon St, Ophir .....	22
2.2.14 Stacked culvert (G41/575), Ophir Bridge Road.....	22
2.3 Restoration.....	22
2.4 Fencing .....	23
2.5 Vegetation Management .....	23
2.5.1 Pitches Dam Raceman's hut (G41/711), McLeod's Gully.....	23
2.5.2 Pitches Dam (G41/700), McLeod's Gully .....	23
2.5.3 Mactavish's Hut (G41/702), Blue Nose Gully.....	23

2.5.4	Dam, water race and plinths (G41/710), McLeod's Gully.....	23
2.5.5	Stacked culvert (G41/595), Ophir Bridge Road.....	23
2.5.6	Tent site (G41/712), gully south of Blue Nose Gully.....	23
2.5.7	Brandy Hill Tail Race (G41/698), Brandy Hill.....	24
2.5.8	Small dam and water race (G41/714), lower Waldron's Gully .....	24
3	MONITORING .....	24
3.1	Monitoring frequency recommended .....	24
3.2	Level of monitoring.....	26
3.2.1	Level One. Volunteer monitoring.....	26
3.2.2	Level Three. Specialist follow-up visits .....	26
4	INTERPRETATIVE REPORT .....	27
5	FURTHER WORK FOR PROJECT OPHIR .....	28
6	IMPROVED STATUTORY PROTECTION .....	29
6.1	Recommendations .....	29
7	FUTURE RESEARCH POTENTIAL.....	30
8	RECOMMENDATIONS FOR FUTURE HERITAGE SITE REVIEW.....	30
9	CONCLUSION.....	31
10	PRIORITIES.....	33
	REFERENCES.....	35
	APPENDIX 1 .....	36
	APPENDIX 2 .....	39
	APPENDIX 3 .....	43
	APPENDIX 4 .....	45
	APPENDIX 5 .....	46

## PROJECT OPHIR SUMMARY REPORT

This report summarises archaeological/heritage sites recorded during the initial pilot for the COHSR (Central Otago Heritage Review) to be read in conjunction with the more detailed Project Ophir Report (Briden 2021B). New archaeological/heritage sites and existing site records held with ArchSite within the Ophir Historic Area were surveyed on the ground 17-20<sup>th</sup> August 2020 (Figures 1-2). A total of 31 archaeological/heritage features/sites were recorded and loaded into the COHSR database 'knack' designed by Ina Kinski (Kinski Ltd). The majority of the recorded sites lie within the gazetted Ophir Historic Area (Heritage NZ list no. 7268).



**Figure 1.** Location of Ophir/Blacks south of Omakau indicated by red oval.



**Figure 2.** Location of recorded sites (ArchSite) upgraded and new sites recorded during Project Ophir (COHSR).

Table 1 summarises the number and type of archaeological/heritage sites recorded during Project Ophir and Figure 2 shows the approximate location of each. Of the 31 sites recorded a total of 23 (74.2%) are related to gold mining sites (includes rock shelters and hut sites) and 8 sites (25.8%) are heritage buildings located within the town of Blacks/Ophir. Of that total 6 site records (19.4%) held with ArchSite were upgraded following the site visits and 25 (80.6%) new archaeological/heritage sites not previously recorded have been lodged.

**Table 1.** Number of archaeological/heritage sites visited during Project Ophir:

Site type	Existing site records (ArchSite)	New site records (ArchSite)	TOTALS	%
Heritage buildings	4	4	8	25.8%
Gold mining sites	2	21	23	74.2%
<b>TOTALS</b>	<b>6</b>	<b>25</b>	<b>31</b>	
<b>%</b>	19.4%	80.6%		

Of the 25 new sites recorded (84%) are related to gold mining activity while four (16%) are heritage buildings located within the town of Blacks/Ophir (Table 2).

**Table 2.** Site type of new archaeological/heritage sites recorded during Project Ophir:

Site type	New site records (ArchSite)	%
Heritage buildings	4	16.0%
Gold mining sites	21	84.0%
<b>TOTALS</b>	<b>25</b>	

This summary of the field survey results include condition of site fabric and identification of those sites under greatest threat. Intervention (vegetation removal, stabilisation, mortar/mud packing and/or capping, and monitoring of sites is recommended where considered appropriate. An assessment for a stonemason will be required for the most significant sites identified during Project Ophir and for those requiring an engineer's advice.

Of the 31 sites recorded 15 sites are identified as being in need of some form of stabilisation and/or mortar packing/capping primarily of stacked stone features. Seven sites have been identified in need of urgent remedial action as a priority. A further 3 sites are considered second priority for remedial action. There are no sites recommended for salvage excavation or full restoration. Four sites require maintenance tasks such as the addition of corrugated iron sheets to reduce water damage.

Vegetation growth is a threat to sites in terms of stability particularly for the stacked schist structures within the Ophir Historic Area. Nineteen sites require cutting away of trees or shrubs to avoid future impacts to sites.

Reports on values of each site outline the present state and significance of archaeological/heritage sites recorded during Project Ophir led by Otago Goldfields Heritage Trust (OGHT). Archaeological/heritage value for each site is displayed in Table 3 (Appendix 1) along with threat/urgency criteria.

Recommended interventions are noted where appropriate to achieve stable sites into the future as per the pressure-state-response methodology of mfe (Quality Planning: Ministry for the Environment). Intervention tasks such as physical maintenance or vegetation management is required to reduce impacts to sites. Stabilisation has been identified for sites to protect the features/structures into the future. These will require stonemason assessment and work plans to determine the level of work required. Sites recommended for monitoring of site fabric/condition/threat is reported on along with frequency of monitoring site visits.

Sites have been rated with interpretative value where stories may be told of the people who worked and occupied sites recorded during each project. Pie charts with tables display quantitative data gathered during the field survey onto recording sheets and entered into the knack database.

Research has shown that many of the features/sites recorded during Project Ophir are dated pre-1900 to early 20<sup>th</sup> Century and beyond in construction and/or use. Modification to a feature or site that pre-dates 1900 to early 20<sup>th</sup> Century human activity may require archaeological assessment for a *Heritage NZ Pouhere Taonga* Authority.

Funding from the project partners has been essential in progressing this heritage inventory: Central Lakes Trust, Lotteries funding, The Trusts Community Foundation and Central Otago District Community Boards, and Otago Goldfields Heritage Trust have provided the impetus for the Central Otago Heritage Site Review to progress.

Signed:

On behalf of the project partners:





# 1 REPORTS

The following reports outline the present state and significance of heritage sites recorded during Project Ophir the first Central Otago Heritage Review (COHSR) project organised by the Otago Goldfields Heritage Trust (OGHT). Each site has been ranked according to relevant heritage values that include: fabric, technological/architectural, rarity, historical, cultural associations, and interpretative value. Fabric value includes the condition of a site, structure or building. Table 4 lists the ranking system developed from a set of criteria to determine archaeological heritage value and threat/urgency for each site recorded during Project Ophir (based on criteria reported on by SCHIP 2012: 8, 28-29).

**Table 4.** Ranking criteria for archaeological/heritage value and threat/urgency:

Archaeological/heritage value	Threat/urgency
<ul style="list-style-type: none"><li>• fabric</li><li>• technological</li><li>• architectural</li><li>• rarity</li><li>• cultural/historic</li><li>• interpretative</li></ul>	<ul style="list-style-type: none"><li>• condition</li><li>• threat</li><li>• urgency</li></ul>

Archaeological/heritage value for each site is displayed in Table 3 (Appendix 1) along with threat/urgency criteria. Significance is accorded to those sites with the highest criteria ranking for archaeological/heritage values and threat and urgency criteria for each site. If the condition score is low the site is considered to be in good condition and if the score is larger (highest) the site is ranked in increasing bad condition either heavy vegetation infestation or stonework collapse. Threat is a ranking of impacts to sites recorded during Project Ophir and urgency is the recommended response time to intervene (by vegetation management or stabilisation) and to determine priorities.

Sites have been rated with interpretative value where stories may be told of the people who worked and occupied sites recorded during each project. Pie charts with tables display quantitative data gathered during the field survey onto recording sheets and the data entered into the knack database.

Intervention has been recommended where tasks such as physical maintenance or vegetation management is required to reduce impacts to sites. Stabilisation has been identified for sites to protect the features/structures into the future. These will require stonemason assessment and work plans to determine the level of work required. Sites recommended for monitoring of site fabric/condition/threat is reported on along with frequency of monitoring site visits. Maps (Figures 3-6: Appendix 2) show locations of the sites recorded during Project Ophir by their corresponding GPS identifiers listed in Table 5 (Appendix 3).

The registration report for the Ophir Historic Area (HA) was written in 1995 (Heritage NZ). The information collated during Project Ophir has greatly increased the knowledge of sites located within the HA that are not individually identified by the Heritage NZ Heritage Assessment reports. The registration for the Ophir Historic Area requires upgrading to include these newly recorded sites as does inclusion in the CODC District Plan listings (Table 3: Appendix 1).



1.1 Fabric completeness report

The majority of sites recorded during Project Ophir have suffered some form of fabric loss (Figure 7, Table 6). Over half (58%) of the 31 sites recorded have partial loss or modification (18 sites). Over 29% of sites have major loss or modification to fabric (9 sites) and 1 site (6.45%) has complete loss with no fabric remaining on site: Front Gully Reef (G41/705). One site is noted as an unknown loss of fabric (Ophir Peace Memorial Hall G41/716). Figure 8 shows the location of these sites.

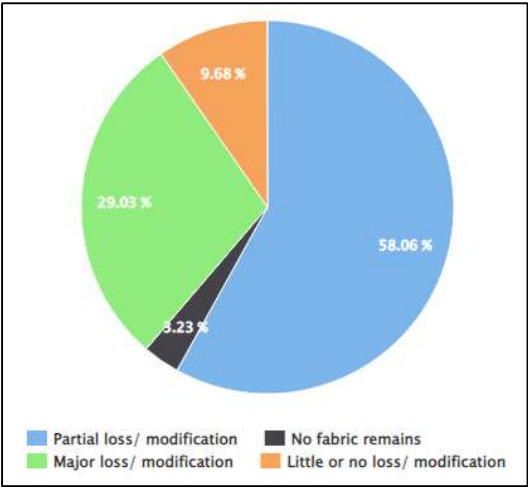


Figure 7. Percentage of fabric loss to sites.

Completeness	Count
Little or no loss/ modification	3
Major loss/ modification	9
No fabric remains	1
Partial loss/ modification	18
Total number of sites	31

Table 6. Count of fabric loss (completeness).

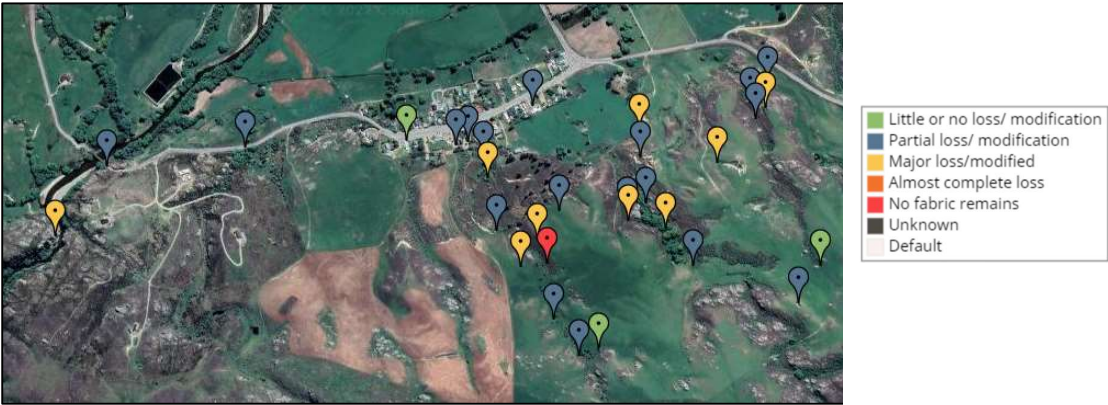


Figure 8. Completeness of sites showing location.

1.2 Significance Report

Table 7 and Figure 9 provide a summary of the value ranking and percentages as recorded in the field by the survey teams. Figure 10 shows the approximate location of the ranked sites. These values were later expanded by the lead archaeologist to take into account further criteria to interpret significance value for each site (Table 3: Appendix 1). Rock shelters would rate the highest

significance ranking if future test pitting (and/or radiocarbon dating) provides evidence of early Māori occupation due to their rarity in the high country of Central Otago.

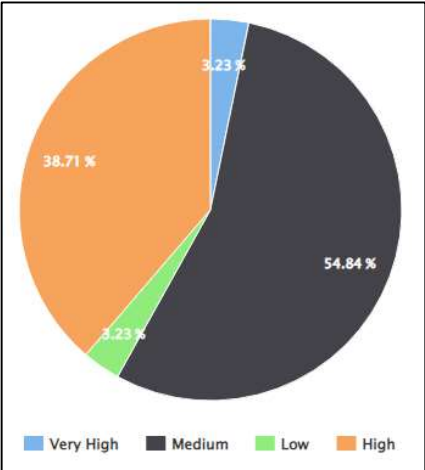


Figure 9. Percentage of ranked significance.

One site (3.2%) has been ranked of highest importance/significance in Blacks/Ophir’s history (Tables 7-8, Figure 9): the Daniel O’Connell Bridge (G41/694) spanning the Manuherikia River. High significance is held by 12 sites (38.7%) listed in Table 3 (Appendix 1) followed by 17 sites (54.8%) ranked medium significance. One site is considered to be low value.

Importance / Significance	Count
High	12
Low	1
Medium	17
Very High	1
Total number of sites	31

Table 7. Count of ranked significance.



Figure 10. Location of sites with rated significance.

**Table 8.** Highest ranked sites of significance value criteria:

Site	NZAA Site record: ArchSite	Fabric	Technological architectural	Rarity	Cultural/historic	Interpretative	SUB-TOTAL
Daniel O'Connell Bridge	G41/694	25	25	25	25	25	<b>125</b>
Early footbridge abutment	G41/601	15	25	25	25	25	<b>115</b>
St Andrews Church	G41/653	20	20	20	25	25	<b>110</b>
Peace Memorial Hall	G41/716	20	15	20	25	25	<b>105</b>
Mactavish's Hut	G41/702	20	15	20	25	20	<b>100</b>
Rammed earth stables	G41/708	20	15	20	20	25	<b>100</b>

Key to table 8:

Value score (sub-total)	Ranking
120 - 125	Very high
90 - 115	High
60 - 85	Medium
30 - 55	Low
0 - 25	Very low

### 1.3 Threat summary report

#### 1.3.1 Current threat/s to sites

The majority of the 31 sites recorded have some type of impact from threats either a current threat/s or a potential threat/s (Table 9, Figure 11). Five sites (16.1%) are currently considered at high risk of threat impacting fabric and over 35% are considered at medium risk (11 sites, Figure 12). Close to 42% of sites (13 sites) are recorded at low risk from threats and over 6% are rated very low threat (2 sites). Figure 13 shows the location of these sites. Photographs are included below in the section on intervention.

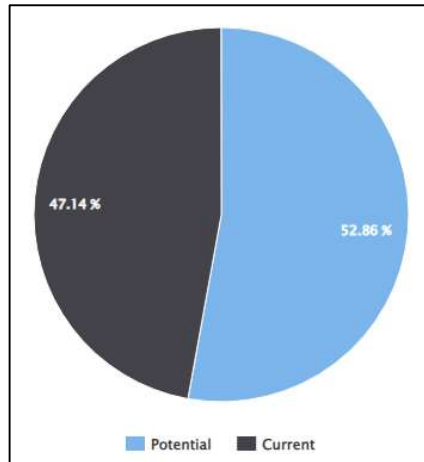
Threat Summary	Count
High	5
Low	13
Medium	11
Very Low	2
<b>Total number of sites</b>	<b>31</b>

**Table 9.** Numbers of sites with level of threat/s.

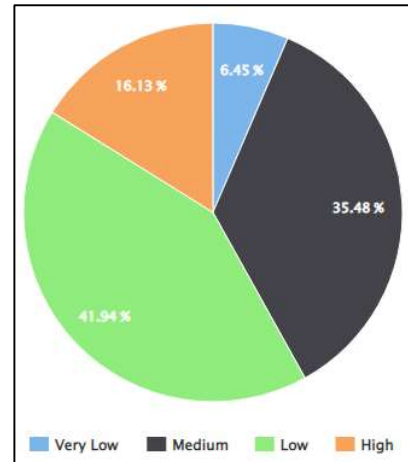
The five sites considered at high risk from threats are:

- Ryan's Bendigo Hotel Stables (G41/708, GPS 375), 39 Swindon St
- early footbridge abutment (G41/601, GPS 033), Manuherikia River
- Pitches Raceman's hut (G41/711, GPS 113) McLeod's Gully
- Pitches Dam (G41/700, GPS 111-112), McLeod's Gully
- Lauderburn Water Race aqueduct (G41/701, GPS 102-103)

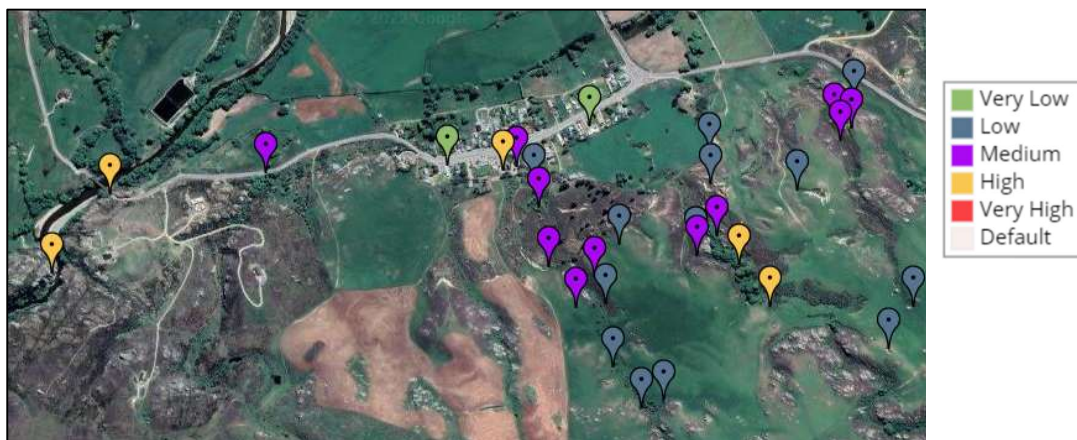
Identified threats to sites are further broken down by the type of threat (Figure 13, Table 10). Erosion and vegetation clearance are rated the highest current threats to sites at Blacks/Ophir (8 sites each). Animals appear to be impacting 4 sites and land uses have impacted on 3 sites. Fossicking has been recorded for two sites in Waldron's Gully: the tent site (G41/715) and Waldron's hut site (G41/613) and 2 sites by visitor impacts or vandalism.



**Figure 11.** Percentage of current threat and potential threats to sites.



**Figure 12.** Percentages of rated threat/s to sites.



**Figure 13.** Location of sites showing current level of threat.

One of the threats recorded to archaeological sites has been continued ploughing of the hill spurs through the past decades and a lack of site management such as vegetation clearance. Ploughing out 19<sup>th</sup>-21<sup>st</sup> Century water races from the landscape is not a permitted activity. Figures 14-15 show the Blacks landscape at its eastern boundary before the ploughing out of the races from the open slopes/spurs dated March 1976 (Retrolens). The Lauderburn Water race (G41/701) and header races are visible and a domestic water race to Mactavish's hut (G41/702) diverts further south up gully. Green's Reef is noted centre of figure.

Vegetation is impacting on hut sites without regular maintenance. Willow trees have grown in the gully's where dams are located and stacked stone walling/revetment of features such as huts, dam walls and water races are slowly eroding from a lack of maintenance.

**Table 10.** Type of threat to sites. Some sites have multiple threats.

Threat	Current	Potential
Adjacent Land Use	0	1
Animals	4	9
Erosion	8	9
Fossicking	2	3
Land Uses	3	4
Vegetation clearance	8	4
Visitor impacts/ vandalism	2	4
<b>Total</b>	<b>27</b>	<b>34</b>

Willow trees are growing in both dams in McLeod's Gully, upstream from the lower dam (G41/710) at GPS 119 to Pitches Dam (G41/700, south-west to the tent site at GPS 114). Most of the sites in the McLeod's Gully below Pitches Dam require vegetation clearance to reduce risk to site fabric and stability to stacked schist structures. A secondary consideration is to be able to view the features. Vegetation includes willow trees, elderberry and briar.

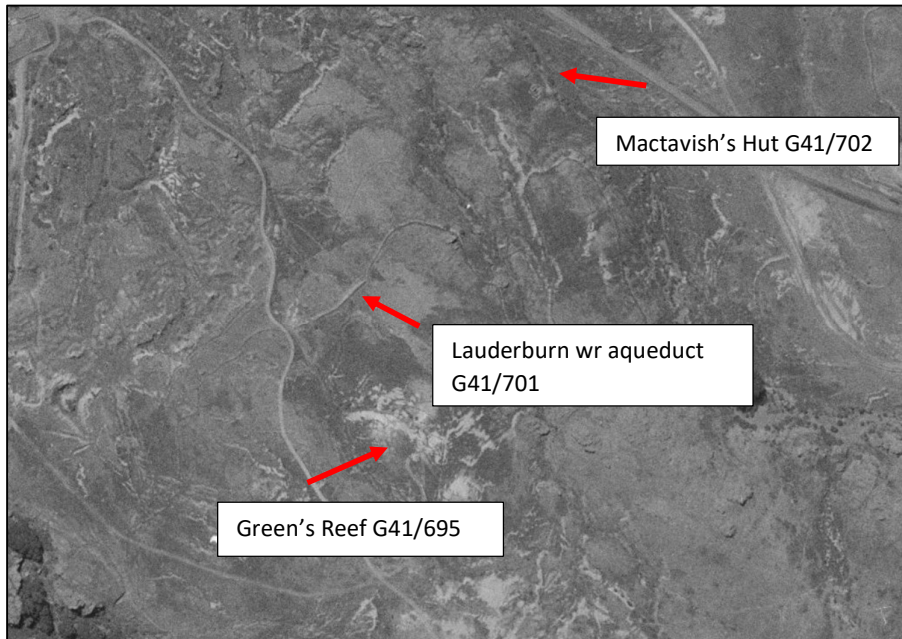
Threats to the stacked schist culvert (G41/595, GPS 376, rated medium threat) beneath Ophir Bridge Road include impacts from roading and maintenance (laying of gravel and re-sealing), and vegetation management. A willow is tree growing against the eastern extent of stacked walling on the south side of the culvert and spillage of roading material (gravels) from re-sealing Ophir Bridge Road is filling in the channel at the eastern extent of the stacked walling on the north (lower) side of the road.

### 1.3.2 Potential threat/s to sites

Potential threats that could impact sites into the future were recorded for the majority of the 31 recorded sites (52.8%, Figure 11, Table 10). Animals and erosion are considered to be potential threats to 9 sites into the future with 4 sites each potentially being impacted by land uses, vegetation clearance and visitor impacts/vandalism. Three sites could be impacted by fossicking and one site by adjacent land use.



Eastern side of Blacks Commonage, Blacks/Ophir (west of Ida Valley Omakau Road)



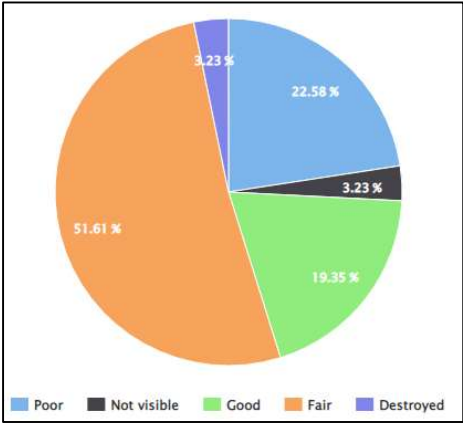
**Figure 14.** Aerial dated 3<sup>rd</sup> March 1976 (SN2941: Retrolens). Green's Reef lower arrow with Lauderburn Water Race aqueduct north of the reef (arrow in centre). Mactavish's hut (top arrow to right).



**Figure 15.** Same area as Figure 11 (Aerial dated 2021: Google Earth).

1.4 Condition of sites

The condition of sites were rated by the visible loss of fabric such as crumbling mortar packing and collapsing stone from stacked walls as perceived by the field recorder and lead archaeologist. The condition of each site has been rated from poor to excellent (Figure 16, Table 11). Figure 17 shows the location of each site with different coloured tabs showing rated fabric condition.



**Figure 16.** Percentage of the rated condition of sites.

Condition	Count
Destroyed	1
Fair	16
Good	6
Not visible	1
Poor	7
Total number of sites	31

**Table 11.** Count of rated condition of sites.



**Figure 17.** Rated condition of site fabric.

Over half of the 31 sites (16 sites 51.6%) were considered to be in fair condition and 6 sites (16.13%) were considered to be in good condition. A further 7 sites were recorded in poor condition (22.5%) and 1 site (3.2%) is no longer visible (Front Gully Reef G41/705, Waldron’s Gully). One site the Waldron hut site (G41/613) is sub-surface with no above ground fabric remaining.



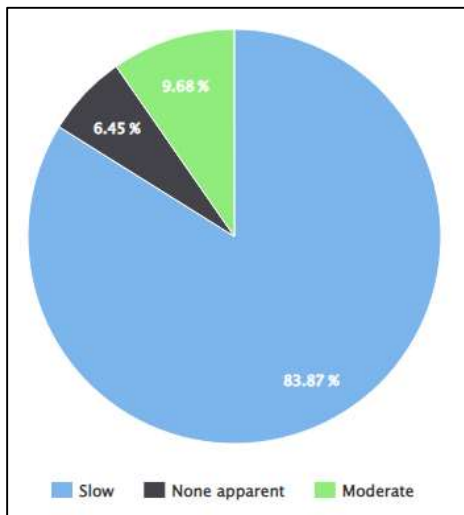
Fabric such as mud huts or stacked stone huts and buildings are impacted by severe frosts and extremes of heat. Recommendations for remedial work of built heritage must take into account the temperature extremes common at Ophir.

Mortar packed stacked walling may have gaps which may impact stability due to a lack of continued maintenance and replacement. Not all rock stacking will contain mortar packing – some are dry stacked walling which is generally the case with water race revetment supporting the water race channels. Vegetation and tree growth can be a hindrance to stacked stone walling (revetment) and dam walls due to a lack of maintenance and use.

### 1.5 Rates of deterioration Report

The majority of sites recorded are deteriorating at a slow rate (26 sites, 83.87%: Figures 18-19, Table 12) while three sites are considered deteriorating at a moderate rate:

- early Manuherkikia footbridge (G41/601)
- Pitches Dam Raceman's hut (G41/711)
- stacked aqueduct (G41/712)



**Figure 18.** Percent showing deterioration of site fabric.



**Figure 19.** Rates of deterioration noted for sites.

Rate of deterioration	Count
Moderate	3
None apparent	2
Slow	26
Total number of sites	31

**Table 12.**  
Count  
indicating  
deterioration  
of structures.

Two sites do not appear to be deteriorating at a rate that is noticeable: St Andrew's Church (G41/653) and Front Gully Reef (G41/705).

## 2 INTERVENTION

Priority sites have been identified where intervention is recommended. Table 13 (Appendix 4) lists the sites with intervention recommended for physical maintenance, stabilisation and/or vegetation management. Priority sites are those ranked with highest significance followed by those with high significance, and medium significance.

Fencing a site brings with it future obligations to maintain vegetation. Stabilisation means carrying out maintenance work into the future that may be required such as re-stacking fallen stones and mortar packing and capping walls. Built heritage may require painting, clearing of guttering, mud wash or plastering, drainage work or clearing behind huts to reduce moisture to the back wall.

The *Heritage NZ Pouhere Taonga* Sustainable Management of Historic Heritage Guidance Information Sheet 11 is to be referred to as a guide to repair and maintenance of the historic buildings and structures within the Ophir Historic Area.

Volunteer efforts combined with landowner care will see an improvement in a site's stability into the future. Vegetation clearance will enable views to be had of sites previously lost under a sea of scrub. This will benefit visitor enjoyment and appreciation of a heritage site.

### 2.1 Maintenance

Four sites require maintenance tasks (detailed below).

#### 2.1.1 Mactavish's hut (G41/702) in Blue Nose Gully

Mactavish's hut (G41/702, GPS 097, Plate 1) in Blue Nose Gully requires maintenance for improving drainage and moisture accumulating along the rear wall. The roof guttering has fallen from the roof along the rear wall. Recommended maintenance tasks include replacing window panes, have the chimney cleared, bird-proof walls and roofing, and replace the guttering. End wall stone work requires the addition of mortar to stabilise the stone. Vegetation is to be cleared and the sediment that has built up around the base of the rear wall is to be dug out to promote drainage. The sediment clearance should be monitored by an archaeologist and any artefacts uncovered are recorded. Ensure run off from the guttering leads away from the hut walls.

#### 2.1.2 Ryan's Bendigo Hotel (G41/708), Swindon St, Ophir

Ryan's Bendigo Hotel Stables (G41/708, GPS 375, Plate 2) are suffering from severe scalloping of the rammed earth rear wall. The stables require the addition of corrugated roofing iron sheets to extend beyond the rear wall and the existing corrugated iron sheets c.20cm to reduce rainwater eroding and scalloping out the rammed earth of the wall.

Modification is recommended to the Ryan's Bendigo Hotel Stables roof (G41/708, GPS 375) by adding on corrugated iron sheeting to extend out past. This should provide shelter from rainfall to reduce impacts of the severe water damage to the rear wall.



**Plate 1.** Mactavish's hut (G41/702, GPS 097), Blue Nose Gully. View south-east.



**Plate 2.** View north-east to west side wall (left) and south rear wall (to right) of Ryan's Bendigo Hotel Stables (G41/708, GPS 375: Sarah Gallagher).

### 2.1.3 St Andrews Presbyterian Church (G41/653), 13 Swindon St, Ophir

The St Andrews Presbyterian Church (G41/653, GPS 432), 13 Swindon St, requires removal of cluster flies from under the flashing in the vestry.

## 2.2 Stabilisation (re-instatement)

Nineteen sites have been reported in need of stabilisation tasks by the survey teams during Project Ophir. The majority of features recorded require a skilled stonemason to advise on levels of intervention. It is good practice for significant heritage sites that a maintenance plan and repair specification schedule is prepared by heritage professionals. The *Heritage NZ Pouhere Taonga* Sustainable Management of Historic Heritage Guidance Information Sheet 11 informs and guides the repair and maintenance of historic buildings and structures.

The following hut sites and stacked stone features including bridge abutments, stables, dam walls and water races, are recommended specialist stonemason assessment of priority sites outlined below. The following sites require either one or more of the following tasks to be carried out: mortar packing, capping the top of the walls, and/or partial re-stacking to stabilise structural integrity, and management of any drainage or moisture issues. Vegetation growth impacting site fabric will be discussed below.

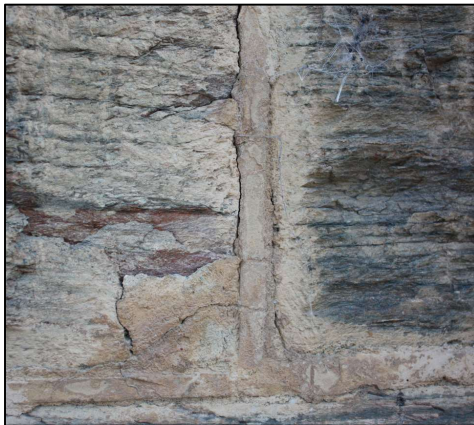
- Daniel O'Connell Bridge (G41/694, GPS 408), Manuherikia (Plate 3)
- Early footbridge abutment (G41/601, GPS 033), Manuherikia River (Plate 4)
- Pitches Dam Raceman's hut (G41/711, GPS 113), McLeod's Gully (Plates 5-6)
- Pitches Dam wall (G41/700, GPS 111-112), McLeod's Gully (Plates 7-8)
- Ryan's Bendigo Hotel Stables (G41/708, GPS 375) 39 Swindon St (Plate 9), Ophir
- Dam (G41/717, GPS 123-124, Plate 10), Upper Waldron's Gully
- Dam, water race and plinths (G41/710, GPS 117-119, Plates 11-12), McLeod's Gully
- Chinese Hotel? site (G41/709, GPS 122, Plate 13), Waldron's Gully



- Water Race revetment sections (Lauderburn Water Race G41/701, Golden Gate Water Race G41/602 and Suspension Water Race G41/719), especially in the vicinity of the dams: Pitches Dam (G41/700, GPS 111-112) and McLeod's Gully dam (G41/710, GPS 119)
- Lauderburn Water Race aqueduct (G41/701, GPS 102-103, Plate 14), Specimen Gully
- Lauderburn Water Race possible aqueduct (G41/712, GPS 100, Plate 15), west of Blue Nose Gully
- Tent/hut site (G41/715, GPS 380, Plate 16), Waldron's Gully
- Swindon St kerb and channelling (G41/707), Swindon St, Ophir
- Stacked culvert (G41/575, GPS 595, Plates 17-18), Ophir Bridge Road

### 2.2.1 Daniel O'Connell Bridge (G41/694), Manuherikia River

Some of the packing between the stone work of the Daniel O'Connell Bridge abutment (G41/694, GPS 408) is cracking (Plate 3, Figure 3: Appendix 2). A specialist stone mason is required to determine correct mortar mix to apply to the stonework and whether it is best practice to remove any existing concrete mortar. CODC are responsible for the maintenance of the Daniel O'Connell Bridge.



**Plate 3.** Cracked packing in the stone work of Daniel O'Connell Bridge abutment (G41/694, GPS 408).



**Plate 4.** Early footbridge abutment (G41/601, GPS 033), true right bank Manuherikia River, Blacks/Ophir (T Davis). View south.

### 2.2.2 Early footbridge abutment (G41/601), Manuherikia River

Blocks of green schist are slowly eroding from the abutment of the early footbridge (G41/601, GPS 033, Plate 4, Figure 3: Appendix 2) spanning the Manuherikia River south of the Daniel O'Connell Bridge. It is recommended an experienced stonemason assess and reports on the condition and stability of the stone stacking of the schist culvert (G41/595) west of Ophir Township beneath Ophir Bridge Road (GPS 376). It is not known if the land manager has this culvert on their maintenance schedule and an engineer is already responsible for the stability of the culvert.

### 2.2.3 Pitches Dam Raceman's hut (G41/711), McLeod's Gully

Stabilisation of the hut walls and chimney of Pitches Dam Raceman's hut (G41/711, GPS 113, Plates 5-6, Figures 5-6: Appendix 2) in McLeod's Gully is required by an experienced stonemason. Mortar capping along the tops of the walls is recommended as is annual monitoring after stabilisation and capping.



**Plate 5.** Pitches Dam Raceman's hut (G41/711, GPS 113) McLeod's Gully. View south-west.



**Plate 6.** Pitches Dam Raceman's hut (G41/711, GPS 113) McLeod's Gully. View south-west.

#### 2.2.4 Pitches Dam wall (G41/700), McLeod's Gully

Mortar to be adhered to the stacked stone wall of Pitches Dam to stabilise the stonework immediately following tree removal from the dam wall (Plates 7-8, GPS 111-112, Figures 5-6: Appendix 2).



**Plate 7.** Pitches Dam wall (G41/700, GPS 111-112), McLeod's Gully. View east (M Sole).



**Plate 8.** Collapsed centre of Pitches Dam wall (G41/700, GPS 111-112), McLeod's Gully. View north-west (M Sole).

#### 2.2.5 Ryan's Bendigo Hotel (G41/708), 39 Swindon St, Ophir

The south-west wall of Ryan's Bendigo Hotel Stables (G41/708, GPS 375, Plate 9, Figure 4: Appendix 2), 39 Swindon St, has a severe longitudinal crack requiring a specialist assessment to determine the best course of action to stabilise the rammed earth wall.





**Plate 9.** View west to cracked side wall inside Ryan's Bendigo Hotel Stables (G41/708, GPS 375).

#### 2.2.6 Mactavish's Hut (G41/702), Blue Nose Gully

Adhere mortar to the end wall of Mactavish's hut and the lean-to followed by 2 yearly monitoring of the stone stability (G41/702, GPS 097, Plate 1, Figures 5-6: Appendix 2).

#### 2.2.7 Dam wall (G41/717), Upper Waldron's Gully

The dam wall (G41/717, GPS 123-124, Plate 10, Figure 5: Appendix 2) in Upper Waldron's Gully has collapsed in part requiring stabilisation to retain remaining fabric.



**Plate 10.** Dam wall (G41/717, GPS 123-124), Upper Waldron's Gully. View south-east (M Sole).

#### 2.2.8 Dam, water race and plinths (G41/710), McLeod's Gully



**Plate 11.** McLeod's Gully dam (G41/710, GPS 119). View east (M Sole).



**Plate 12.** Stacked plinths of water race (G41/710, GPS 117-118), Specimen Gully. View north-west (M Sole).

Stabilisation of the dam wall, water race revetment and the stacked plinths (G41/710, GPS 117-119, Plates 11-12, Figures 5-6: Appendix 2) in McLeod's Gully by a stonemason would ensure their long-term stability.

### 2.2.9 Chinese Hotel? site (G41/709), Waldron's Gully



**Plate 13.** Chinese Hotel? site (G41/709, GPS 122), Waldron's Gully. View north-west.



**Plate 14.** Lauderburn Water Race aqueduct (G41/701, GPS 102-103), Specimen Gully. View south-east.

The stacked stone foundation (foreground of Plate 13) and side wall of the Chinese Hotel? site (G41/709, GPS 122, Figure 5: Appendix 2) in Waldron's Gully requires stabilisation to reduce loss of fabric.

### 2.2.10 Lauderburn water race and aqueducts (G41/701)

There are two raised wall aqueducts along the alignment of the Lauderburn Water Race: the highly visible stacked stone and earthen walled aqueduct (G41/701, GPS 102-103, Plate 14) below Green's Reef in Specimen Gully, and a second possible aqueduct (GPS 100, Plate 15) constructed in stacked stone in the gully west of Blue Nose Gully. The stone/earthen wall in Specimen Gully has breached/collapsed in the centre of the wall requiring stabilisation. The stacked stone of the possible aqueduct (G41/701, GPS 100) are slowly falling from the wall and it is recommended the stonework be stabilised to prevent further collapse. A stonemason is to attend a site visit to assess requirements for the continued stability of the Lauderburn Water Race fabric.



**Plate 15.** Possible aqueduct? (GPS 100 centre left) of Lauderburn Water Race and tent site (GPS 099) in foreground marked by ranging pole (G41/712). View M Sole.



**Plate 16.** Tent/hut site (G41/715, GPS 380), Waldron's Gully. View east.

### 2.2.11 Golden Gate water race (G41/602) and Suspension water race (G41/719)

Various sections of the two major water races supplying water to the Blacks No.1 goldfield are in need of stabilisation and the addition of mortar where required. A stonemason is required to assess



the stacked revetted water races especially the sections of both water races in the vicinity of Pitches Dam (G41/700, GPS 111-112, Figures 5-6).

#### 2.2.12 Tent/hut site (G41/715), Waldron's Gully

The stacked stone foundation of this tent/hut site (G41/715, GPS 380, Plate 16) has collapsed and is partially covered by tree leaves. A check of the site by a stonemason is recommended to see if there are any stone that could be effectively reinstated by applying mortar or if the best decision is to leave the site as is.

#### 2.2.13 Swindon St kerb and channelling (G41/707), Swindon St, Ophir

Swindon St kerbing and channelling (G41/707) requires active management from rabbit damage and to infill areas where the backfill behind the kerb stones has been disturbed on the north-west side of Swindon Street. One further impact that was noted is from roading maintenance that has seen the kerbing and channelling stones covered over by roading gravels. CODC and NZTA needs to be aware of the importance of the remnant 19<sup>th</sup> Century kerbing and channelling along Swindon St at Ophir during roading activities that may impact on the fabric (gravelling and sealing activities). Signage for visitors to Swindon St could suggest parking clear of the kerb stones to avoid dislodging or impacting the 19<sup>th</sup> Century stonework.

#### 2.2.14 Stacked culvert (G41/575), Ophir Bridge Road

The north (lower) side of the stacked schist culvert (G41/575, GPS 376, Figure 3: Appendix 2) beneath Ophir Bridge Road is bowing (Plate 17) and the stone stacking is becoming loose in the eastern internal channel walling (Plate 18). A stonemason or engineer is to inspect the stacked stone culvert and determine action if required. If modification to stabilise the culvert is the chosen option communication is recommended with Heritage NZ as a *Pouhere Taonga* Authority may be required to carry out any planned work to this 19<sup>th</sup> Century stacked stone culvert (G41/575).



**Plate 17.** Stacked schist culvert (G41/575, GPS 375), north side Ophir Bridge Road. View west.



**Plate 18.** Stacked schist culvert (G41/575, GPS 375), Ophir Bridge Road. View south.

### 2.3 Restoration

Full restoration is not recommended for the heritage structures recorded in Ophir Historic Area to date.

## 2.4 Fencing

It is essential that cattle be restricted from within the Ophir Historic Area to ensure future stability and structural integrity of the many heritage sites within its bounds are maintained in their present state or recommended future stabilised state.

## 2.5 Vegetation Management

Clearing vegetation from features such as huts, water races/tail races, and gold mining areas to make them visible and provide visual reminders of past human activity in the 19<sup>th</sup> – 21<sup>st</sup> Centuries will enhance community pride and buy in for protection of the area's heritage and its management. This is to be undertaken with specialist oversight to ensure heritage fabric is impacted as little as possible by vegetation clearance or beautification programs (as per the ICOMOS New Zealand Charter 2010).

Vegetation threats have been identified at the following sites and vegetation clearance is required:

### 2.5.1 Pitches Dam Raceman's hut (G41/711), McLeod's Gully

Pitches Dam Raceman's Hut (G41/711, GPS 113, Plate 6, Figures 5-6: Appendix 2) is mostly hidden under a heavy growth of elderberry. Vegetation to be cleared by hand by cutting woody plants at ground level and pasting to reduce regrowth.

### 2.5.2 Pitches Dam (G41/700), McLeod's Gully

Pitches Dam (G41/700, GPS 419, Figures 5-6) is in need of willow tree removal both above and below the remnant dam wall. One tree is growing up against the dam wall (Plates 7-8) and will need to be timed for immediate stabilisation of the stonework. The trees are to be cut at ground level followed by brush on poisoning. Maintenance to control future weed growth will be required

### 2.5.3 Mactavish's Hut (G41/702), Blue Nose Gully

The rear wall of Mactavish's hut (G41/702, GPS 097, Plate 1, Figure 6) in Blue Nose Gully requires vegetation removal to improve drainage. The rear wall will need to be kept free of vegetation and soil build up to reduce moisture.

### 2.5.4 Dam, water race and plinths (G41/710), McLeod's Gully

Clear vegetation growth from around the dam wall and stacked schist plinths of the water race pipeline/flume (G41/710, GPS 117-119, Plates 10-11, Figures 5-6) in McLeod's Gully below Pitches Dam.

### 2.5.5 Stacked culvert (G41/595), Ophir Bridge Road

The tree growing up against the stacked schist culvert (G41/595, GPS 376, Figure 3) west of Ophir Township beneath Ophir Bridge Road is to be cut at ground level and the stump poisoned to reduce pressure on the stacked stone. This feature is not visible to passing traffic and therefore would not rate priority for stabilisation apart from being located beneath a main road and the implications to public safety.

### 2.5.6 Tent site (G41/712), gully south of Blue Nose Gully

Vegetation clearance from the collapsing stone base of the tent site G41/712 (GPS 099, Plate 15, Figure 6) would enhance its visibility.

### 2.5.7 Brandy Hill Tail Race (G41/698), Brandy Hill

The Brandy Hill Tail race (G41/698, GPS 416, Figure 6) requires clearance of vegetation that has accumulated within the channel to enhance the visibility of this large impressive tail race. Removal of rubbish is recommended but not the removal of items considered archaeological artefacts (those that date pre-1900 or early 21<sup>st</sup> Century).

### 2.5.8 Small dam and water race (G41/714), lower Waldron's Gully

Briar is growing directly against the stacked stone wall of a small dam (G41/714, GPS 378, Figure 4) across lower Waldron's Gully (to right in Plate 19) and a large tree is growing from the water outlet of the dam (to left) at the head of the stone lined water race. The upright schist lined water race requires management of the grass in order to view the striking feature leading to Swindon St (Plate 20).



**Plate 19.** View east to small dam wall (G41/714, GPS 378), lower Waldron's Gully, and Matthew Sole.



**Plate 20.** Upright stone (schist) lined water race (G41/714, GPS 378). View north-west to Swindon St. Small dam behind photo taker, lower Waldron's Gully.

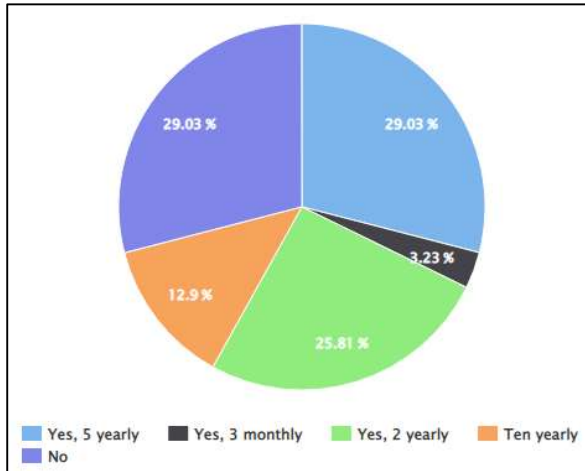
## 3 MONITORING

The purpose of monitoring is to track the condition of sites and how this may change over time. The nature of threats and how they are affecting sites is of interest as is the response taken to alleviate threats. This information will enable future responses to be adjusted to be more effective according to the pressure-state-response methodology (Quality Planning: mfe). It is the change in the state of the fabric that is required, to identify and record current and potential impacts and any change of impacts observed. These may include cracking appearing in walls, loose stone, missing stone, capping is cracking or needs replacing, vegetation or stock is impacting on structures.

### 3.1 Monitoring frequency recommended

Table 14 and Figure 20 summarise the recommended monitoring to be scheduled. Table 15 (Appendix 5) provides the full list of recommended sites for follow up monitoring. Of the 31 sites recorded one site is recommended an initial 3 monthly check of the rabbit problem to be followed up by 2 yearly monitoring:

- Swindon St Kerbing and channelling (G41/707)



**Figure 20.** Percentages and intervals of recommended monitoring of sites.

Monitoring	Count
No	9
Ten yearly	4
Yes, 2 yearly	8
Yes, 3 monthly	1
Yes, 5 yearly	9
<b>Total number of sites</b>	<b>31</b>

**Table 14.** Count of sites and interval of monitoring recommended.

Eight sites (22.8%) are recommended for 2 yearly monitoring following maintenance, vegetation clearance or reinstatement tasks (Figure 20, Tables 14-15). The sites are:

- Daniel O’Connell Bridge (G41/694, GPS 408), Ophir Bridge Road, Manuherikia River
- Early Manuherikia footbridge abutment (G41/601, GPS 033, Plate 5), Manuherikia River
- Rammed earth stables (G41/708, GPS 375), 39 Swindon St (Plates 1-3)
- Pitches Dam (G41/700, GPS 700, GPS 111-112), McLeod’s Gully (Plate 7)
- Pitches Dam Raceman’s hut (G41/711, GPS 113), McLeod’s Gully (Plate 6)
- Mactavish’s hut (G41/702, GPS 097, Plate 8), Blue Nose Gully
- Chinese Hotel? site (G41/709, GPS 122, Plate 12), Waldron’s Gully
- Stacked culvert (G41/595, GPS 376, Plates 17-18), Ophir Bridge Road

A further nine sites (29%) are recommended 5 yearly monitoring:

- Ophir Peace Memorial Hall (G41/716, GPS 377), Swindon St, Ophir
- Golden Gate Water Race (G41/602, GPS 115), McLeod’s Gully
- Lauderburn Water Race and Aqueducts x 2 (G41/701, GPS 100) gully south of Blue Nose Gully, (GPS 102-103) Specimen Gully
- Suspension Water Race (G41/719, GPS 412, 414, 425, 427), McLeod’s Gully
- Dam lower Waldron’s Gully (G41/714, GPS 378), Waldron’s Gully
- Tent site lower Waldron’s Gully (G41/715, GPS 380), Waldron’s Gully
- Dam 2 McLeod’s Gully (G41/710, GPS 119), McLeod’s Gully
- Dam 3 Upper Waldron’s Gully (G41/717, GPS 123-124), Waldron’s Gully
- Tent site (G41/712, GPS 099),

Four sites (12.9%) are recommended 10 yearly monitoring:

- Waldron's Gully/McLeod's Gully gold field (G41/610, GPS 385-389), Waldron's Gully/McLeod's Gully, Ophir
- St Andrew's Presbyterian Church (G41/653, GPS 432), Swindon St, Ophir
- Dam Upper Specimen Gully (G41/703, GPS 107), Specimen Gully, Ophir
- Brandy Hill Tail race (G41/698, GPS 418), Brandy Hill, Ophir

Nine sites (29%) out of the total 31 sites are not considered to require monitoring.

### 3.2 Level of monitoring

Two levels of monitoring are recommended: Level One Volunteer monitoring and Level Three Specialist monitoring (Table 13: Appendix 4). Level Two for an archaeologist to monitor sites is not required:

- Level One is volunteer monitoring of threats such as vegetation growth or drainage issues
- Level Three is for specialist follow up visits such as a stonemason to advise on vegetation removal and to check on stability of stacked or mortar packed features/structures and hut sites (stone or mud brick/rammed earth).

Monitoring rates of destabilisation by photo point monitoring following vegetation clearance and reinstatement works is recommended for the following priority sites:

- Early Manuherikia footbridge abutment (G41/601, GPS 033)
- Pitches Dam Raceman's hut (G41/711, GPS 113)
- Pitches Dam wall (G41/700, GPS 111-112)

Aluminium tags or pegs may be required to install onsite for camera photo monitoring from the same location.

#### 3.2.1 Level One. Volunteer monitoring

All stacked stone features such as dam walls, water/tail race revetment, hut/tent sites, and Swindon St kerb and channelling are to be monitored for stability and threats by volunteers (Level one). The site monitors are to report back on any sign that stability of a structure is increasing rapidly so a stonemason or other specialist can visit the site and assess the situation (escalate to Level Three).

Seventeen sites are recommended 2 yearly Level one monitoring including:

- Mactavish's hut (G41/702, GPS 097) on 2 yearly visits to ensure drainage and vegetation issues have been resolved along the base of the rear wall. Intervention and maintenance may be on going to ensure the hut remains a stable site into the future.
- Pitches Dam (G41/700, GPS 111-112) be monitored on 2 yearly visits to check for return willow growth and program in for clearance and poisoning if the need arises.

#### 3.2.2 Level Three. Specialist follow-up visits

Eleven stacked stone or mud brick features require a specialist stonemason assessment. A *Heritage NZ Pouhere Taonga* Authority will be required to carry out reinstatement works recommended by the stonemason. Funding will be required to carry out recommended intervention actions.

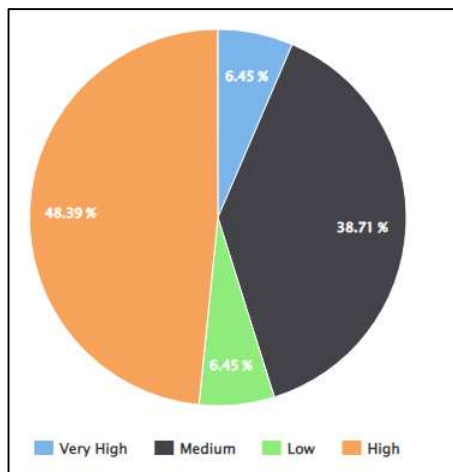


A stonemason is required to assess the monitoring data recorded (as above) to determine those in need of intervention, assess those sites (site visits required) and recommend intervention tasks to stabilise sites. At present the following sites require specialist follow-up visits:

- Daniel O’Connell Bridge (G41/694, GPS 408), Ophir Bridge Road, Manuherikia River
- stacked stone abutment of the early Blacks/Manuherikia footbridge (G41/601, GPS 033)
- stacked stone dam wall of Pitches Dam (G41/700, GPS 111-112)
- Pitches Dam Raceman’s hut (G41/711, GPS 113)

## 4 INTERPRETATIVE REPORT

A large number of the archaeological/heritage sites recorded within the Ophir Historic Area are rated high interpretative value (15 sites, 48.4%: Figure 21, Table 16) with 2 sites rating very high (6.4%): the Daniel O’Connell Bridge (G41/694) are the early footbridge abutment (G41/601) spanning the Manuherikia River.



**Figure 21.** Rated interpretative value.

Twelve of the 31 sites (38.7%) have been rated as medium interpretative value where their stories may be told to inform on the people responsible for construction of the built heritage and features remaining in the landscape from the activity surrounding a 19<sup>th</sup>-21<sup>st</sup> Century gold mining town in Central Otago.



**Figure 22.** Location of sites rated with interpretative value.

Figure 22 shows the location of the sites with interpretative value and potential. Table 3 (Appendix 1) provides a full list of sites.

Interpretive Value	Count
High	15
Low	2
Medium	12
Very High	2
<b>Total number of sites</b>	<b>31</b>

**Table 16.**  
Count of sites  
with  
interpretation  
potential.

Interpretation is recommended at all sites (Table 16) to understand the working activity and infrastructure in place from the differing time periods/layers of human involvement to connect the dots between sites. Diversity of cultures lived and worked together in this remote South Island town to service the local pastoral runs and the fluctuating number of gold miners and their families. Project Ophir has provided further information on some of the inhabitants of Blacks No.1 goldfield by working together with landowners to confirm identity and location of archaeological/heritage sites.

The social history of Blacks/Ophir is only partly known. Further research into the characters who have lived and worked at Blacks/Ophir in the early days of Central Otago's history will contribute and enhance the interpretive potential and stories behind this 19<sup>th</sup>-21<sup>st</sup> Century gold mining town. One example is the story told by Sam Leask (1998: 45) of Pitches Dam where the school children were taken for skating. One pastime was to go jumping off the bank onto the ice and sliding on your hob-nailed boots as far as you could go.

Continued mining over time and farming related activity has modified or destroyed earlier heritage features. Modification to water races/head races feeding to gold mining claims has diminished visibility of the water supply infrastructure but there is potential for interpretation to enhance an understanding of the heritage sites throughout the Ophir Historic Area.

On site panel interpretation would be suited in the town of Ophir displaying photographs and information of the main significant sites amidst the gold mining landscape in behind the town.

## 5 FURTHER WORK FOR PROJECT OPHIR

Relocate and record the two major water races bringing water to Blacks Diggings from the western side of Manuherikia River to clarify which is the Golden Gate Water Race (G41/602) and which the Suspension Water Race (G41/719).

The south-west area of the Ophir Historic Area has not been surveyed. Further work would provide a more complete picture of the water supply network and location of individual gold mining claims throughout the Ophir Historic Area (Blacks No. 1 goldfield at Ophir).

Funding is available for heritage projects from a range of agencies and local community groups are always looking for projects to involve its participants as a way of sharing and learning. Stabilising and re-instatement works, and vegetation clearance may be carried out by volunteers but only with the supervision of a qualified stonemason. For vegetation growing within or against built structures assessment and planning a program of specialist removal is required to avoid further damage to heritage features.



Clearing of rubbish on archaeological sites is not recommended by people not familiar with items dating pre-1900 that may be left scattered around or buried in pits. People like to tidy up sites and they can clear away evidence of prior use even though removal of pre-1900 artefacts from archaeological sites is prohibited under the *Heritage NZ Pouhere Taonga Act* (2014) and has been since 1975 (*Protected Objects Act*). Items/artefacts/taonga can provide dating of a sites use to determine if it fits within the framework of the Act/s.

## 6 IMPROVED STATUTORY PROTECTION

Project Ophir has shown that many significant heritage sites in Central Otago do not have site records lodged with ArchSite. This means these sites are at risk from development pressure through the RMA process as they are not flagged on Council planning maps or listings of significant heritage places. The Central Otago District Council (CODC) is the territorial authority and Otago Regional Council (ORC) the regional authority responsible for regulating natural and physical resources in the COHSR partners Project Ophir area.

The initial area Project Ophir is a Historic Area (Ophir Historic Area). Gazettal has not provided protection to parts of recorded archaeological sites or those not yet recorded that are located within the Ophir HA (The *Reserves Act* 1977). Monitoring of the heritage resource has not occurred and partial destruction continues to this day including fossicking.

Currently the grazing regime is sheep farming. If there is potential for cattle to be introduced to the area there are significant sites that should be fenced (waratah and wire is sufficient leaving a 5m curtilage around hut sites) to ensure fabric is not damaged or modified by stock rubbing against stacked walls or trampling of sub-surface fabric. Cattle can also create pugging leaving wet muddy areas that can impact by destabilising stacked wall or mud brick features without adequate drainage.

Future gold prospecting or mining opening up on any of the known gold bearing reefs at Blacks may incur modification to recorded sites and those that are not recorded.

### 6.1 Recommendations

Project Ophir has identified a further 29 sites for inclusion in relevant statutory planning documents (Table 3: Appendix 1) for added protection under the *Resource Management Act* (1991).

All recorded archaeological sites held by NZAA (ArchSite) within Ophir Historic Area be listed with Heritage NZ and the Central Otago District Council (CODC) District Plan (and maps).

Encourage locals to prepare submissions on the next round the Local Council District Plan is reviewed to include all archaeological sites (those recorded with ArchSite and those that are not recorded with ArchSite) to align with the *Heritage NZ Pouhere Taonga Act* 2014 and *Resource Management Act* 1991.

Encourage submissions to Heritage NZ to individually register significant sites in the Central Otago region.

## 7 FUTURE RESEARCH POTENTIAL

Research carried out as part of this project is backed up by ground truthing of sites and providing some of the missing gaps to those people who settled locally and across Otago. Oral histories and gathering information and photographs held by local families is an immense help in locating heritage sites on the ground as are collections held at various government and non-governmental agencies and museums. Oral histories from well informed locals is an essential part in progressing research potential for many threads of social and archaeological history.

Access to family genealogies may be improved as names of people who lived and worked at Blacks/Ophir become available through this heritage review and its accompanying research. Surface fabric of sites recorded as part of Project Ophir may be evident for family to visit and see where their forebears lived and worked so hard in an early time period of New Zealand's history. A chance to reflect back on the 19<sup>th</sup>-21<sup>st</sup> Centuries and marvel at the ingenuity of some of the early pioneers, settlers/pastoralists, miners, surveyors, gardeners/hawking, blacksmiths and storekeepers etc.

There is a gap of known history of iwi use of the Ophir Historic Area along the east bank of the Manuherikia River. Of interest is further research into the Māori trails accessing the Central South Island including the crossing points (fords) across the Manuherikia River utilised by early Māori. Two crossings/fords were drawn close by Blacks/Ophir by William Arthur in 1869, the upper crossing and a lower crossing (Field Book 1868-1871 page 126: Archives Dunedin).

Comparative analysis to determine value ranking of a site/s significance has not been carried out as part of Project Ophir. This would require research into similar site/s recorded around Otago and New Zealand to compare value/s, a process that could be carried out to adequately address significance on a local, regional and/or national level. ArchSite can provide tables of the same/similar site type/s recorded in their site record database although this database is only a partial window into our heritage sites.

## 8 RECOMMENDATIONS FOR FUTURE HERITAGE SITE REVIEW

The following areas in close proximity to Blacks/Ophir that are under-represented in the archaeological record are recommended for a heritage site review:

- Blacks Flat. There are no site records for the activity undertaken at Blacks Flat on the north side of Swindon St at Blacks/Ophir. Hamel (2001: 135) reported that the Ophir gold workings had either been flooded or ploughed out. The reference was probably to Blacks Flat.
- headwaters of Wai-iti Stream - the Wai-iti Shear Zone (mapped by Christie & Youngson 2016 Fig 7 Page 171)
- Blacks No 2 and Blacks No 3 reefing areas located on the slopes of Raggedy Range

Survey to locate the quarry where the green schist stone was sourced to supply the stonemasons who built the earliest footbridge abutments (G41/601) across the Manuherikia at Blacks/Ophir.

Clarification of where goldmining reefs were located could be achieved by engaging a surveyor to lay Survey Office Plans over an aerial to show correct boundaries of the mining claims applied for.

Response options and cost estimates for identified sites requiring priority remedial work will be sought from a specialist stonemason. Stonemason visits could be timed to coincide with regular monitoring of sites identified in Tables 3, 13 and 15 (Appendices 1-3).

Gold mining areas listed below are under-represented in the archaeological/heritage record in the Otago Region that could gain from a heritage review to identify and record sites:

<ul style="list-style-type: none"> <li>• Matakanui</li> <li>• Thompsons Gorge</li> <li>• Waikerikeri</li> <li>• Hills Creek</li> <li>• Chatto Creek</li> <li>• Tarras</li> <li>• Lowburn</li> <li>• Clyde</li> <li>• Queensberry</li> <li>• Maerewhenua</li> <li>• Livingstone</li> <li>• Hawksburn</li> <li>• Cairnmuir</li> <li>• Bannockburn</li> <li>• Happy Valley</li> <li>• Nevis</li> </ul>	<ul style="list-style-type: none"> <li>• Lake Hawea to Luggate</li> <li>• Albert Town</li> <li>• Bannockburn</li> <li>• Ripponvale</li> <li>• Glenorchy and Kinloch</li> <li>• Coal Creek and Nevis</li> <li>• Upper Waikaia</li> <li>• Cadrona</li> <li>• East slopes of Dunstan Mountains</li> <li>• Rough Ridge</li> <li>• Blackstone Hill</li> <li>• Kawarau</li> <li>• Mt Difficulty</li> <li>• Beaumont</li> <li>• Nokomai</li> </ul>
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## 9 CONCLUSION

The majority of the 31 sites recorded within the Ophir Historic Area are in need of further work including maintenance, stabilisation, follow up monitoring, historical research and improved legal protection. The current land status as the Ophir Historic Area has not been sufficient to protect its heritage sites. The most obvious modification is the ploughing out of sections of water races around the open slopes within Ophir Historic Area. The only sections remaining are those in the gullies or around outcrops where ploughing is not occurring. The water supply systems in place in the past now lie scattered across the landscape with little evidence of the inter-connectedness between sites.

The second modification easily identified is the fossicking that has occurred to two hut sites within the survey area and more has likely occurred. People using metal detectors have been noted by the author on other properties digging on pre-1900 archaeological sites in search of artefacts. This activity is occurring regularly and at times with landowner consent for access to sites. Part of our role with the Central Otago Heritage Review (COHSR) is to discourage this type of damaging activity on our dwindling heritage resource that is our common history that is not for the benefit of one.

The following are examples of modification/damage to archaeological sites that can be easily rectified:

- encourage landowners to deter people from using metal detectors on heritage sites or fossicking sites by digging for bottles or for gold
- roading management and upgrade plans to include advise to roading personnel/contractors of the presence of archaeological sites that could be impacted from proposed works

- roading personnel in charge of graveling and/or sealing are to avoid covering over the stone kerb channelling (G41/707) along both sides of Swindon St or from filling in the stacked culvert channel (G41/575) north side of Ophir Bridge Road (Figure 3: Appendix 2).

A major positive to come from the COHSR is encouraging interest among local communities in these diminishing heritage sites across Otago where incremental destruction over the years from human activity and natural decay has left us with scant reminders of the past. Strong advocacy among the local Ophir community has demonstrated the outcomes of Project Ophir may encourage landowners and other local communities to initiate and/or participate with similar projects. Some landowners are approaching OGHT for inclusion in the Heritage Review to understand the type of archaeological sites present on their land.

Significant archaeological/heritage sites located within the Ophir Historic Area at Blacks/Ophir outlined above have been confirmed. A list of these sites in order of ranking criteria is provided in Appendix 1 (Table 3). The majority of sites are related to early settlement of the area and clusters of gold mining sites based around exploitation of stone resources namely gold. Stacked stone structures related to the Blacks No 1 gold field at Blacks/Ophir have been abandoned for some time and maintenance has lapsed. Vegetation is the agent of collapse of made structures that needs to be kept in check. Intervention is required to reduce risk to heritage sites and push ahead with stabilisation of collapsing hut sites and revetment of significant features.

Further work is required to record heritage buildings in Ophir Historic Area not currently recorded with ArchSite and to update existing site records not covered under this project. Sites not yet recorded include the following:

- Blacks Hotel
- The Bungalow and huts
- Town reservoir and associated infrastructure
- Old school site
- West extent of the Ophir Historic Area

The community working with landowners and heritage groups can provide a work force capable of achieving the recommendations outlined above. It is local landowners and volunteers who will make the push to gain funding to reinstate heritage sites identified at Ophir Historic Area and to keep structures vegetation free.

There is no doubt that a heritage trail could be created at Blacks/Ophir encompassing its many gold mining sites and outstanding built heritage structures reminiscent of the 19<sup>th</sup> to early 21<sup>st</sup> Century gold mining town. This could only be achieved with landowner permissions and support.

Sections of remaining water races could be utilised on the slopes for a trail if the revetment/stone stacking is considered by a stonemason to be stable. Remedial work may be required such as mortar packing applied between stones or reinstatement of loose stones. Recommendations from the stonemason assessment will guide the community effort based around the best outcome for the heritage fabric from increased use. Modification to existing features (those dated pre-1900) will require archaeological assessment and *Heritage NZ Pouhere Taonga* Authority.

Linking in with other users in the wider area such as the Otago Central Rail Trail and accommodation providers may encourage unique opportunities for landowners, recreationists, business owners and visitors both local and abroad (pro-covid era).

Raising of new site records with ArchSite for archaeological or heritage sites recorded during the heritage inventory survey has been achieved in areas where landowners have been welcoming of the heritage effort proposed by OGHT. The Project Ophir Heritage Review has completed gaps evident in the record to date by ensuring new archaeological site records are raised in ArchSite for features/sites/built heritage recorded within the Ophir Historic Area May-June 2020. Recommendations in this report will enable correlation between management agencies and landowners/managers on which heritage sites are considered significant to enable a stable heritage resource into our future.

Project Ophir has shown that interacting with local landowners has benefits in identifying and recording knowledge of where sites are located before that knowledge is lost to history. To be able to recommend protection or management over features or sites an indication of significance is required and knowledge of the people involved.

Landowners are to be made aware of the *Heritage NZ Pouhere Taonga Act (2014)* to better understand their responsibilities for archaeological and heritage sites on their property. Proposed ground disturbance must take into account the presence of heritage sites within Ophir Historic Area that addresses and helps protect the remaining fabric from modification. Heritage site fabric such as hut sites will not survive into the future without some form of protection and maintenance. Pest plants will continue to overgrow sites and erosion will continue to degrade features/structures without human intervention.

Landowners could take advantage of interested parties and funding available to carry out intervention tasks and re-planting of sites with relevant plants, shrubs and trees. Specialist botanical advice may be required to ensure there are no further problems into the future with yet another pest species.

Drawn plans (dated 1887) of the Daniel O'Connell Bridge are held at the Hocken Library in Dunedin (ref AG-616-021/001). A copy of the drawn plan could be adhered to the Heritage NZ registration report and forwarded to Central Otago District Council (CODC) for inclusion with their District Plan listing if they do not already hold a copy.

## 10 PRIORITIES

Priority actions/tasks identified by Project Ophir include increasing protection over sites and identifying those in need of intervention to maintain a site or to stabilise existing structures to reduce risk to a site's fabric. There are a number of stacked stone features (hut sites, water races etc) requiring stabilisation and/or mortar packing within the Ophir Historic Area (Table 13: Appendix 4). A number require capping of walls to reduce water ingress and some require vegetation removal and drainage maintenance to reduce rising moisture around stacked stone foundations. Table 3 (Appendix 1) lists the priority sites requiring intervention to achieve stable site fabric. A total score has been calculated by combining heritage significance value with condition of a site, threats to the site and the urgency of intervention required.

The Daniel O'Connell Bridge (G41/694, GPS 408) ranks the highest when combining values and threat/urgency. This site is recommended for inclusion into the CODC Heritage Precinct. I would expect regular checks by a specialist engineer are carried out due to the bridge still being in use for vehicles as a secondary road.

Seven sites are considered high priority for intervention. Comments on some of these sites are listed below:

- Early Manuherikia Foot Bridge (G41/601, GPS 033) - stabilisation required to eroding stacked green schist abutment
- Rammed earth Stables (G41/708, GPS 375) - extending out the roof to protect the walls (addition of roofing iron)
- Pitches Dam Raceman's hut (G41/711, GPS 113) - requires reinstatement and stabilisation of its stacked green schist walls followed by mortar packing and capping
- Pitches Dam (G41/700, GPS 419) - stability of stacked stone dam wall and tree removal within the dam footprint
- Stacked culvert (G41/595, GPS 376) - under Ophir Bridge Road is in need of vegetation/tree management and stabilisation of the stacked stone

Sites considered second priority for stabilisation include:

- Tent site (G41/712, GPS 099-100) requires stabilisation
- Dam (G41/706, GPS 116, 119), McLeod's Gully
- Water races: Lauderburn Water Race and aqueducts (G41/701), Suspension Water Race (G41/719), Golden Gate Water Race (G41/602).

Correlation of heritage sites listed with agencies charged with protection and management of archaeological/heritage sites is required to prioritise a higher level of protection with the relevant authorities. Table 3 (Appendix 1) provides those sites already listed with Heritage NZ (Ophir Historic Area and the List) and CODC District Plan (and Heritage Schedule) and those requiring inclusion.

Oral traditions and recording of local histories is recommended for each project. Of importance are the names of those men, women and children who have lived and worked at Blacks/Ophir and verification of where these sites are located. Locals hold the history of the land they live and work in, an untapped resource of information. Further funding would be required to achieve this goal.

Encourage people to provide submissions to local council to list heritage sites on district plans when they are reviewed so their presence is visible on planning maps for the relevant agencies to better manage the forever dwindling heritage resource. Protection is not afforded to heritage sites under the RMA (*Resource Management Act 1991*) unless they are listed on the Central Otago District Council District Plan (and Heritage Schedule) or fall under the provisions of the *Heritage NZ Pouhere Taonga Act 2014*.

Visitors using the Otago Central Rail Trail will be encouraged to visit Ophir formerly known as Blacks (as outlined in the Ophir Community Plan 2015). There are many heritage sites that exist just off the main highways that could be utilised for visitor enjoyment if access can be achieved and maintenance of visitor trails be guaranteed. It is time to take in fresh stories and places to visit throughout Central Otago. Local tourism is on the rise as we progress in a world with little international visitation due to COVID.

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## APPENDIX 1

**Table 3.** Significance value criteria and threat/urgency ranking of sites recorded during Project Ophir:

Priority order	Site	Site record: ArchSite	Value						Threat/urgency				TOTAL	Recommended inclusion			
			Fabric	Technological architectural	Rarity	Cultural/historic	Interpretative	SUB-TOTAL	Condition	Threat	Urgency	SUB-TOTAL		Heritage NZ HA	Heritage NZ List	CODC Heritage Precinct	CODC Schedule
1	Daniel O'Connell Bridge	G41/694	25	25	25	25	25	125	15	20	15	50	175	In	In	1	In
2	Early footbridge abutment	G41/601	15	25	25	25	25	115	20	20	15	55	170	1	1	1	1
3	Ryan's Bendigo Hotel Stables	G41/708	20	15	20	20	25	100	25	25	20	70	170	1	1	1	1
4	Pitches Dam raceman's hut	G41/711	20	15	20	20	20	95	25	25	25	75	170	1	1	1	1
5	Pitches Dam	G41/700	20	20	15	20	20	95	20	20	20	60	155	1	1	1	1
6	Mactavish's Hut	G41/702	20	15	20	25	20	100	15	15	15	45	145	1	1	1	1
7	Swindon St kerb and channelling	G41/707	20	15	20	20	20	95	15	20	15	50	145	1	1	1	1
8	Stacked culvert	G41/595	20	15	20	20	15	90	15	20	20	55	145	1	1	1	1
9	Lauderburn Water Race & aqueduct/s	G41/701	15	15	10	20	20	80	15	20	20	55	135	1	1	1	1
10	Suspension Water Race	G41/719	15	15	10	20	20	80	15	20	20	55	135	1	1	1	1
11	Golden Gate Water Race	G41/602	15	15	10	20	20	80	15	20	20	55	135	1	1	1	1
12	Dam McLeod's Gully	G41/710	15	15	15	15	20	80	15	20	20	55	135	1	1	1	1
13	Tent site west of Blue Nose Gully	G41/712	10	15	15	15	10	65	20	20	20	60	125	1	1	1	1
14	Dam Waldron's Gully	G41/717	15	15	15	15	15	75	20	15	10	45	120	1	1	1	1
15	St Andrews Presbyterian Church	G41/653	20	20	20	25	25	110	5	0	0	5	115	In	In	1	In
16	Peace Memorial Hall	G41/716	20	15	20	25	25	105	5	0	0	5	110	In	1	In	1
17	Green's Reef	G41/695	15	20	15	20	25	95	5	0	0	5	100	1	1	1	1
18	Chinese Hotel site Waldron's Gully	G41/709	15	10	15	15	15	70	10	10	10	30	100	1	1	1	1

19	Small dam and water race lower Waldron's Gully	G41/714	10	15	15	15	15	70	20	5	5	30	100	1	1	1	1
20	Tent site Waldron's Gully	G41/715	10	10	15	15	15	65	15	10	10	35	100	1	1	1	1
21	Waldron's hut site	G41/613	5	5	15	20	15	60	15	15	10	40	100	1	1	1	1
22	Dam wall Upper Specimen Gully	G41/703	25	15	15	15	15	85	5	5	0	10	95	1	1	1	1
23	Rock shelter/tent sites McLeod's Gully x 2	G41/721	20	15	15	20	15	85	5	5	0	10	95	1	1	1	1
24	Rock shelter/tent site McLeod's Gully	G41/706	20	15	15	20	15	85	5	5	0	10	95	1	1	1	1
25	Brandy Hill gold workings and tail race	G41/698	10	5	10	15	20	60	10	10	10	30	90	1	1	1	1
26	Sluiced gulch and tailings Waldron's Gully	G41/610	15	10	10	10	15	60	10	10	5	25	85	1	1	1	1
27	Green's Reef East	G41/704	15	20	15	10	20	80	5	0	0	5	85	1	1	1	1
28	Rock shelter/tent site Upper Waldron's Gully	G41/718	15	10	15	15	15	70	5	5	0	10	80	1	1	1	1
29	Near Reef	G41/720	10	10	10	15	15	60	5	5	0	10	70	1	1	1	1
30	Front Gully Reef Waldron's Gully	G41/705	10	10	10	15	15	60	0	0	0	0	60	1	1	1	1
31	Small water race	G41/699	15	10	10	10	10	55	5	5	0	10	65	1	1	1	1
													<b>TOTAL</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>29</b>

**Keys for Table 3:**

**Value ranking criteria:**

Value score	Value Ranking (criteria)
25	Highest
20	High
15	Medium
10	Low
5	Very low
0	None

**Value ranking sub-total:**

Value score (sub-total)	Ranking
120 - 125	Very high
90 - 115	High
60 - 85	Medium
30 - 55	Low
0 - 25	Very low

**Condition/threat/urgency sub-total:**

Condition/threat/urgency score (sub-total)	Ranking
65 - 75	Very high
55 - 65	High
35 - 50	Medium
15 - 30	Low
0 - 10	Very low

Combined value ranking:

Value score combined with condition/threat/urgency (Total)	Ranking
175 - 200	Very high
145 - 170	High
115 - 140	Medium
85 - 110	Low
55 - 80	Very low
0 - 55	No threat

Heritage NZ List inclusion:

Heritage NZ List	Already included or to include
In	Already included
1	Include

## APPENDIX 2

Maps showing locations of the sites recorded during Project Ophir by their corresponding GPS identifiers listed in Table 5 (Appendix 3):



**Figure 3.** West extent of Ophir Historic Area, Manuherikia River, bounded by Ophir Bridge Road, Blacks/Ophir.





**Figure 4.** Swindon St, Blacks/Ophir. Waldron's Gully in centre.





**Figure 5.** Waldron's Gully to left and McLeod's Gully to right (area south of Swindon St), Blacks/Ophir



**Figure 6.** East extent of Ophir Historic Reserve bounded by Ida Valley Omakau Road (Swindon St to left).

## APPENDIX 3

**Table 5.** Archaeological/heritage sites recorded during Project Ophir with corresponding site record numbers, GPS identifiers and OGHT knack database entry number:

Knack entry no	Site	NZAA site no	New site record	GPS location	GPS revisit 26 June 2020
S4	Daniel O'Connell Bridge		G41/694		408 true left bank
S52	Early footbridge abutment	G41/601		033 T Davis GPS	
S43 & S46	Lauderburn Water Race		G41/701	095, 096, 101	combine with GPS 102-103 Aqueduct (c.250 elev)
S32	Mactavish's Hut		G41/702	097	
S36	Small water race		G41/699	098	west of Blue Nose Gully
S45	Tent site south of Blue Nose Gully		G41/712	tent site 099, causeway 100	
S47	Green's Reef		G41/695	105	combine with incline (GPS 104)
S48	Dam wall Upper Specimen Gully		G41/703	107	
S27	Green's Reef East		G41/704	108 - 109	
S49	Brandy Hill gold workings and tail race		G41/698		416 tail race
S38	Pitches Dam		G41/700	111 - 112 (Elevation 222-298)	424, 418 - 419
S44	Pitches Dam raceman's hut		G41/711	113 Elevation 329)	420 combine with GPS 114 (GPS 422)
S4015	Rock shelter/tent site McLeod's Gully		G41/721	114	423
S54	Water race upper - Suspension Water Race		G41/719		412, 414, 425, 427
S56	Water race lower - Golden Gate Water Race	G41/602		115 (Elevation 330)	411, 426, 428
S55	Hut site McLeod's Gully		G41/706	116	
S41	Dam McLeod's Gully		G41/710	119	combine with wr and plinths GPS 117 - 118
S35	Waldron's Hut/house site	G41/613		120 (Elevation 345)	410

S42	Chinese Hotel? site Waldron's Gully		G41/709	122 (Elevation334)	409
S37	Dam Upper Waldron's Gully		G41/717	123 - 124	
S53	Rock shelter/tent site Upper Waldron's Gully		G41/718	125	
S31	Small dam & water race lower Waldrons Gully		G41/714	378	
S24	Tent site schist base Waldron's Gully		G41715	380	
S26	Stacked culvert	G41/595		376	
S23	Ophir Peace Memorial Hall		G41/716	377	
S33	Ryan's Bendigo Hotel Stables		G41/708	375	
S34	St Andrews Presbyterian Church	G41/653			
S51	Front Gully Reef Waldron's Gully		G41/705		below wr GPS 411
S22	Swindon St kerb and channelling		G41/707		various
S50	Sluiced gully and tailings Waldron's Gully/Mcleod's Gully	G41/610		388, 389 Tailrace	combine site with GPS 385-387, 389, 413.
S4013	Near Reef		G41/720		

## APPENDIX 4

**Table 13.** Intervention, monitoring and potential interpretation recommended:

Site	Site record	Intervention and monitoring level							
		Physical Maintenance	Stabilisation	Restoration	Vegetation management	Level 1 Volunteer monitoring	Level 2 Archaeologist monitoring	Level 3 Specialist monitoring	Interpretation required
Daniel O'Connell Bridge	G41/694		1					1	1
Early footbridge abutment	G41/601		1					1	1
Lauderburn Water Race & aqueduct	G41/701		1			1			1
Mactavish's Hut	G41/702	1			1	1			1
Small water race	G41/699								1
Tent site gully west of Blue Nose Gully	G41/712		1		1	1			1
Green's Reef	G41/695								1
Dam wall Upper Specimen Gully	G41/703					1			1
Green's Reef East	G41/704				1				1
Brandy Hill gold workings and tail race	G41/698				1	1			1
Pitches Dam	G41/700		1		1	1		1	1
Pitches Dam raceman's hut	G41/711		1		1	1		1	1
Rock shelter/tent sites McLeod's Gully	G41/721								1
Suspension Water Race	G41/719		1			1			1
Golden Gate Water Race	G41/602		1			1			1
Rock shelter/tent site McLeod's Gully	G41/706								1
Dam McLeod's Gully	G41/710		1		1	1			1
Waldron's Hut/house site	G41/613								1
Chinese Hotel? site Waldron's Gully	G41/709		1			1		1	1
Dam Upper Waldron's Gully	G41/717		1			1		1	1
Rock shelter/tent site Upper Waldron's Gully	G41/718								1
Small dam and water race lower Waldron's Gully	G41/714	1	1		1	1		1	1
Tent site Waldron's Gully	G41/715		1		1	1		1	1
Stacked culvert	G41/595		1		1			1	1
Ophir Peace Memorial Hall	G41/716					1			1
Ryan's Bendigo Hotel Stables	G41/708	1				1		1	1
St Andrews Presbyterian Church	G41/653	1							1
Front Gully Reef Waldron's Gully	G41/705								1
Swindon St kerb and channelling	G41/707		1			1		1	1
Sluiced gulch and tailings Waldron's Gully	G41/610				1				1
Near Reef	G41/720								1
<b>Total</b>		<b>4</b>	<b>15</b>		<b>11</b>	<b>17</b>		<b>11</b>	<b>31</b>

Note: 1 = recommended intervention and/or level of monitoring



## APPENDIX 5

**Table 15.** Recommended monitoring frequency:

Site	Site record	Monitoring frequency					
		3 monthly	1 yearly	2 yearly	5 yearly	10 yearly	No monitoring
Daniel O'Connell Bridge	G41/694			1			
Early footbridge abutment	G41/601			1			
Lauderburn Water Race & aqueduct	G41/701				1		
Mactavish's Hut	G41/702			1			
Small water race	G41/699						1
Tent site and Lauderburn Water Race possible aqueduct?	G41/712				1		
Green's Reef	G41/695						1
Dam wall Upper Specimen Gully	G41/703					1	
Green's Reef East	G41/704						1
Brandy Hill gold workings and tail race	G41/698					1	
Pitches Dam	G41/700			1			
Pitches Dam racemans hut	G41/711			1			
Rock shelter/tent sites McLeod's Gully	G41/721						1
Suspension Water Race	G41/719				1		
Golden Gate Water Race	G41/602				1		
Rock shelter/tent site McLeod's Gully	G41/706						1
Dam McLeod's Gully	G41/710				1		
Waldron's hut site	G41/613						1
Chinese Hotel site Waldron's Gully	G41/709			1			
Dam Upper Waldron's Gully	G41/717				1		
Rock shelter/tent site Upper Waldron's Gully	G41/718						1
Small dam and water race lower Waldron's Gully	G41/714				1		
Tent site Waldron's Gully	G41/715				1		
Stacked culvert Ophir Bridge Road	G41/595			1			
Peace Memorial Hall	G41/716				1		
Ryan's Bendigo Hotel Stables	G41/708			1			
St Andrews Presbyterian Church	G41/653					1	
Front Gully Reef Waldron's Gully	G41/705						1
Swindon St kerb and channelling	G41/707	1					
Sluiced gulch and tailings Waldron's Gully	G41/610					1	
Near Reef	G41/720						1
<b>TOTAL</b>		<b>1</b>		<b>8</b>	<b>9</b>	<b>4</b>	<b>9</b>