

DISTRICT PLAN REVIEW

CHAPTER 26: HISTORIC HERITAGE

SUBMISSION TO THE QUEENSTOWN LAKES DISTRICT COUNCIL

23 OCTOBER 2015

1. BACKGROUND TO IPENZ

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 16,000 Members, and includes a cross-section of engineering students, practising engineers, and senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

As the lead engineering organisation in New Zealand, IPENZ has responsibility for advocating for the protection and conservation of New Zealand's engineering heritage. IPENZ manages a Heritage Register and a Heritage Record for engineering items throughout New Zealand.

The IPENZ Engineering Heritage Register has criteria and thresholds similar to Category 1 historic places on Heritage New Zealand's New Zealand Heritage List/Rārangī Kōrero. Items on our Register have been assessed as being engineering achievements of outstanding or special heritage significance. IPENZ is still populating the Register.

The IPENZ Engineering Heritage Record includes histories of industrial and engineering items around New Zealand, and is also subject to ongoing improvements and additions.

2. GENERAL COMMENTS

2.1 INTRODUCTION

The scheduling of heritage places in the District Plans of local authorities is an important mechanism that IPENZ supports because of our objective of promoting the protection, preservation and conservation of New Zealand's engineering heritage.

The Queenstown Lakes District has a very rich heritage and in particular has a wealth of industrial and engineering heritages sites because of the area's early mining, agricultural and pastoral history and its challenging topography.

We are very pleased to see that the Proposed Plan includes much of this industrial and engineering heritage and our submission supports their inclusion, suggests some changes to QLDC heritage Categories, and suggests some additional items for inclusion in the Plan.

2.2 IMPROVEMENTS TO SEARCHABILITY

We believe the heritage landscape listings need more detail, such as listing all the features that are included as contributing to the landscape's heritage values. This would increase transparency and make the listings more searchable. In addition map references would also be useful. We believe an indication of what listed sites are within the area, without having to cross-reference with the maps would also be beneficial for users.

3. DISTRICT PLAN ITEMS THAT IPENZ HAS ON ITS REGISTER AND RECORD

There are some items that are currently included on the IPENZ Register and Record which are also included in the QLDC Proposed District Plan. We support their retention in the Proposed Plan. These items are as follows:

3.1 KAWARAU FALLS DAM (REF. NO. 40)

The Kawarau Falls Dam was completed in 1926 and to the casual observer it might be mistaken for a bridge since State Highway 6 passes along it. However, it was built as a mining dam, albeit an unusual one.

The Kawarau Gold Mining Company was formed in 1922 to build the dam. The object of building it was to dry up, more or less, the riverbed down the Kawarau River so that gold, supposedly located in the bed, could be recovered. As it turned out this object was frustrated by the return flow of the Shotover River entering the Kawarau River just before the gorge. Therefore, the dam project was deemed a failure.

The gates are of the Stoney Roller design, an arrangement whereby the water load on the gate is transferred to the piers by a set of rollers held in a steel frame. This type of gate was invented and patented by F.G.M. Stoney in the late 19th century. The use of this type of gate for the Kawarau Dam may be the earliest use of Stoney Roller Gates in New Zealand.

3.2 KAWARAU GORGE SUSPENSION BRIDGE (REF No.41)

The Kawarau Gorge Suspension Bridge was added to IPENZ's Engineering Heritage Register on 19 April 2011.

This bridge is an impressive structure which crosses a ravine forged by the Kawarau River. This important landmark was completed in late 1880, and is an exemplar of the contemporary regional vernacular type of bridge.

As a key route to the Central Otago goldfields, in the late 19th century people campaigned hard for a road bridge to replace the existing punt service across the Kawarau River between Cromwell and Queenstown. As such, the Lake County Council launched a comprehensive roading programme in the late 1870s, which included an extensive expansion of the roads and the construction of the Kawarau Gorge Suspension Bridge.

For over 80 years the Kawarau Gorge Suspension Bridge was a key link in the road network of the area and State Highway 6. However, by the mid 20th century modern traffic requirements were over and above the capacity of the ageing single-lane bridge, and it was replaced by a new highway bridge in 1963.

The Kawarau Gorge Suspension Bridge is a structure of outstanding importance in New Zealand's engineering heritage as the legacy of the eminent late 19th century New Zealand engineer, H. P. Higginson, and is a lasting tribute to the technical skill of those in his project team. A major infrastructure project at the time, this landmark bridge is also of considerable heritage value as a vestige of a formerly vital Kawarau River crossing and state highway bridge.

3.3 LOWER SHOTOVER BRIDGE (REF No.45)

This bridge is a compound Pratt truss bridge, with tall concrete piers, and was designed by eminent engineer, James Edward Fulton (1854–1928) in 1909. This bridge replaced a structure further down the Shotover River which had proven expensive for the Lake County Council to maintain because it was susceptible to the region's frequent floods.

However, construction at the new road bridge was interrupted and significantly delayed because of a legal dispute between the contractors, Wellington-based firm Johnston, and the County Council. This arose because the contractor did not follow the specifications for one of the piers. In 1913 the County Council asked the Public Works Department (PWD) to complete the job. The County Council were vindicated for taking legal action against the contractor because the pier in question collapsed during a flood shortly before the PWD took over construction.

Starting virtually from scratch, the PWD completed the bridge on 14 April 1915, and was officially opened by William Fraser (1840–1923), Minister of Public Works, a few days later.

In the early 21st century the Lower Shotover Bridge no longer carried vehicle traffic, instead it was primarily used as a support for an irrigation pipeline. As such, the bridge had deteriorated due to neglect and was subsequently restored and completed in 2005 and included the replacement of the Lower Shotover Bridge's deck and handrails.

3.4 ONE MILE CREEK HYDRO-ELECTRIC STATION (REF No.96)

The One Mile Creek Hydro-electric station provided electric power to Queenstown from September 1924, replacing an acetylene plant for lighting that failed in June 1923.

A reinforced concrete arch dam about 12 metres (m) high and 1 m average thickness supplied water to the power station (near the Lake Wakatipu shoreline) under a static head of 150 m. A Boving pelton wheel was installed to drive a 60 kilowatt generator. The operation of the station was fully automatic.

As demand increased the station's generation was supplemented by a diesel plant used to cope with peak demand and low stream flows.

The One Mile Creek Station was purchased by the Central Otago Electric Power Board in 1945 and continued generating until 1966 when it was closed down. The headworks were bought back by the Queenstown Borough Council for water supply purposes.

In 2002 the One Mile Powerhouse Restoration Trust was formed to restore the powerhouse building and install replicas of the original equipment of 1924. This project was completed in 2005.

3.5 SKIPPERS CANYON SUSPENSION BRIDGE (REF NO. 45)

Skippers Canyon Suspension Bridge was added to IPENZ's Engineering Heritage Register on 28 May 2013.

This bridge was constructed between 1898 and 1901, providing access to the remote former gold mining settlement of Skippers. It is one of the highest and longest span late 19th and early 20th century New Zealand bridges.

The Skippers Canyon Suspension Bridge was part of a project undertaken by the New Zealand Government and Lake County Council to open up the area surrounding the Shotover River to gold mining. Transporting heavy quartz gold mining equipment required an upgraded bridge and County Engineer, John Black (1856–1914) designed the new bridge.

The bridge was officially opened by the Minister for Mines, James McGowan (1841–1912) in March 1901. Even though the settlement at Skippers was abandoned by the 1940s, the bridge remained in use by local farmers, and following the creation of the Mount Aurum Recreation Reserve in 1985, it now provides access to the remains of the former settlement.

The Skippers Canyon Suspension Bridge is a special and dramatic structure of engineering and historic value. The use of reinforced concrete in the bridge's towers reflects this material's growing popularity in bridge building at the turn of the 20th century. The remote location posed considerable challenges for engineers and contractors, and therefore it is also a testament to their professional skill.

3.6 T.S.S. EARNSLAW BERTH (REF NO. 37)

The largest steamship built in New Zealand, *T.S.S. Earnslaw* is now one of the world's last coal-fired passenger steamers. The ship is unique in that the hull was constructed in Dunedin, dismantled, transported to Kingston and fitted out for use on Lake Wakatipu. The hull and machinery, including the boilers and engines, were designed and built in New Zealand.

When launched in 1912 the Earnslaw was an extension of the New Zealand Railways network from its terminus at Kingston. The development of the Wakatipu Basin owes much to the steamer for the role that it played in the servicing of Queenstown, Glenorchy, Kinloch and several major sheep stations on the shores of Lake Wakatipu.

With present day road and air services the role of the ship is now that of a unique relic of early history, still servicing the remote sheep stations on the western shore of the lake, but better known as a tourist and entertainment attraction for which it has an international reputation.

4. SUPPORT FOR EXISTING ITEMS IN THE PROPOSED PLAN

Other items that do not appear on the IPENZ Engineering Heritage Register or Record but are supported for retention, as is, in the Proposed District Plan are shown in Appendix 1.

5. SUGGESTED IMPROVEMENTS

There are a number items in the Proposed District Plan that we do have some comments on and would like to see these addressed. These items and our comments are as follows:

- Antrim Engines Slipway and Cradle, Kelvin Peninsula (Ref. 3, QLDC Cat 2) seems to encompass the Kelvin Heights slipway, the winch house which has the *Antrim* engine, and also the *Antrim's* former boiler. We believe these features should be included in the District Plan. If the proposed listing is intended to include these features clarity would be achieved by noting the specific features.

The *Antrim* Engine was awarded an IPENZ Engineering Heritage Recognition plaque in 1996. The engine, boiler and slipway have ongoing heritage importance as significant aspects of local transport and tourism infrastructure.

- Bullendale Hydro Electric Dynamo and Mining Site (HNZ 5601) seems to be included in the Proposed District Plan as the Bullendale Township listing (Ref No.140, QLDC Cat 2). The Bullendale Hydro Electric Dynamo and Mining Site is a Heritage NZ Category 1 Historic Place.

This site is of outstanding national significance as it was the site where the use of hydro-electricity was pioneered for industrial purposes in 1886. The survival of so much of the overall system, including the major parts of the original dynamos and electric motor, makes this an internationally significant industrial and engineering heritage site.

Therefore, we believe it should be a Category 1 in the District Plan. We recognise that an Archaeological Authority would be required modify or destroy this site, which is a protection measure external of the District Plan.

- Stone Water Race (Ref. 42, HNZ No. 5224, QLDC Cat 3). This is a Heritage NZ Category 2 Historic Place. We believe it should be Category 2 in the Plan to be consistent with the QLDC category of rare infrastructure items such as the Arrowtown Cobbled Gutters (Ref. 305, No. 2086). We recognise that an Archaeological Authority would be required modify or destroy this site, which is a protection measure external of the District Plan.
- Wakatipu Flourmill Complex (Ref. 76, HNZ No. 2241, QLDC Cat 3). This is a Heritage NZ Category 2 Historic Place and the surviving structures recall the importance of grain growing in the region in the 19th century. We believe this should be Category 2 in the District Plan to ensure consideration for internal heritage fabric.

6. MISSING ITEMS

There are some items that do not appear in the Proposed District Plan that we believe should be. These are:

6.1 PLEASANT TERRACE WORKINGS (HNZ No. 5175)

These workings do not appear as a listing in the Proposed Plan. It is unclear whether they are included in the Skippers Heritage Landscape. This is an outstanding gold mining site which shows the impressive scale of 19th and early 20th century workings and illustrates the era's mining technologies.

6.2 SEW HOYS BIG BEACH CLAIM HISTORIC AREA (HNZ No. 7545)

This HNZ Historic Area is not in the Proposed Plan. Sew Hoy's mining company had a special claim in the late 1880s. The success of his mining companies, and the development of a new type of dredge used first at Big Beach, provided the foundation for Sew Hoy's later notable operation at Nokomai.

6.3 WONG GONG'S TERRACE HISTORIC AREA (HNZ No. 7549)

This HNZ Historic Area is not in the Proposed Plan. The main features are Gong's store site, and his irrigation reservoir. The area incorporates the main storage dam in Wong Gong Creek and part (but not all) of the supply race. It is unclear whether this is included in the Skippers Heritage Landscape.

6.4 OTHER FEATURES

We also believe that an aspect of local heritage importance which is not represented in the proposed District Plan is infrastructure associated with the history of recreational skiing, which is a key characteristic of the region.

Another possible inclusion we would support is the Arrowtown Irrigation Scheme.

7. CONCLUSION

We appreciate the opportunity to make this submission and are able to provide further clarification if required.

For more information, please contact:

Karen Astwood

Heritage Advisor

Email Karen.astwood@ipenz.org.nz

Phone 04 474 9659

PO Box 12241, Wellington 6144

ITEMS IN THE PROPOSED PLAN SUPPORTED BY IPENZ

APPENDIX 1

Item name	Reference	Comment
Ah Lum's Store	Ref. 324, HNZ No. 4366, QLDC Cat 1	Part of a gold mining settlement which is an important aspect of the region's industrial heritage.
Ah Wak's Lavatory	Ref. 312, HNZ No. 2084, QLDC Cat 2	Part of a gold mining settlement which is an important aspect of the region's industrial heritage.
Arrowtown Powder Magazine	Ref. 302, HNZ No. 2108, QLDC Cat 3	Contributes to the region's industrial heritage because it was a storehouse for dangerous goods, such as the explosives used in gold mining.
Ballarat St. Bridge	Ref. 36, HNZ No. 7097, QLDC Cat 1	A rare remaining example of early masonry bridge construction. We note this is included in the Ballarat Street Historic Area which is on the New Zealand Heritage List (HNZ No.7070).
Cobbled Gutters - Arrowtown	Ref. 305, HNZ No. 2086, QLDC Cat 2	These gutters (or channels) are very rare remaining examples of early town infrastructure.
Davis Brother's Siphon	Ref. 706, HNZ No. 5606	This is part of the Bullendale Phoenix Gold Mine and is discussed in the Submission above.

Edith Cavell Bridge	Ref. 35, HNZ No. 4371, QLDC Cat 1	This is important as a relatively early reinforced concrete arch bridge dating from 1917.
Invincible Mine Buddle Site	Ref. 704, HNZ No. 5604	This gold mining site is an important aspect of the region's industrial heritage.
Invincible Mine Buddle Site	Ref. 703, HNZ No. 5603,	This gold mining site, including a battery, is an important aspect of the region's industrial heritage.
Kingston Flyer Railway	Ref. 411, QLDC Cat 2	This was a vital component the region's transport infrastructure.
Kinloch Saw Mill Settlement	Ref. 705, HNZ No. 5605	This represents an aspect of timber milling in the late 19th century, which is an important part of the region's industrial heritage.
Luggate Flourmill	Ref. 544, HNZ No. 3242, QLDC Cat 1	This flourmill was constructed in 1881 and represents an important aspect of the region's industrial heritage.
Mining Tunnel Oxenbridge Tunnel	Ref. 707, HNZ No. 5607	This represents a feature of gold mining which is an important aspect of the region's industrial heritage.
Roaring Meg Power Station	Ref 94, QLDC Cat 3	This place has engineering heritage value because it is a characteristic example of an early-mid 20 th small scale New Zealand hydro-electric power station.
Skippers Road	Ref. 5, HNZ No. 7684, QLDC Cat 2	This road provided access to many early gold mines which is an important aspect of the region's industrial heritage.
Twelve Mile Creek Sluicing Site	Ref. 709, HNZ No. 5909	This represents a key feature of gold mining which is an important aspect of the

		region's industrial heritage.
Wakatipu Lime Company Kilns	Ref. 708, HNZ No. 5608, QLDC Cat 3	The site of several 1880s lime kilns which are an important aspect of the region's industrial heritage.
Wharf Kingston	Ref. 404, QLDC Cat 3	This was a vital component the region's transport infrastructure.
Glenorchy Heritage Landscape	Ref. 26.12.7 and the associated feature: Ref 238	The landscape and its features are associated with gold mining – an important aspect of the region's industrial heritage.
Skippers Heritage Landscape	Ref. 26.12.1 and associated buildings, structures and features: Refs. 19, 45, 55 and 218	The landscape and its features are associated with gold mining – the associated infrastructure and settlement are important aspects of the region's heritage.
Macetown Heritage Landscape	Ref. 26.12.10 and associated buildings, structures and features: Refs. 6, 304, 385 and 387	The landscape and its features are associated with gold mining - an important aspect of the region's industrial heritage.
Moke Lake and Sefferton Heritage Landscapes	Ref. 26.12.4	These landscapes are associated gold mining - an important aspect of the region's industrial heritage.