PROPOSAL TO NOMINATE AN ITEM OF ENGINEERING INTEREST
ELECTRONA CARBIDE WORKS

Proposed EHRP Category	Item of Engineering Interest.		
Item Name:	Electrona Carbide Works		
Other/Former Names:	Commonwealth Carbide Company		
Locality:	North West Bay, Tasmania		
Address:	Pothana Road, Electrona, Tasmania		
Co-ordinates	*-43.05806, 147.26539*		
Current Owner:	N/A		
Original Owner:	Australian Carbide Company		
Current use:	Industrial area		
Former use:	Production of carbide and later ferro silicon.		
Proposed use:	n/a		
Item Condition:	All trace removed		
Designer:	James Gillies		
Builder:			
Original Mill Started:	1911	**Completed:**	1921
History: (100 to 600 words)	Around 1908, James Gillies began negotiations with the state government to permit the construction of a Hydro Electric Power Scheme at Tasmania's Great Lake for the purpose of providing power for his newly patented zinc smelting process and for a calcium carbide factory. Construction of the carbide factory commenced in 1917 near Snug, Tasmania. After World War One the Electrona Carbide Works began production of "carbide". Carbide was used for the production of acetylene gas for lighting and other industrial processes. Carbide was produced by mixing lime (obtained from the limestone deposits at Ida Bay) and anthracite in an electric arc furnace. After the furnace was tapped and the material solidified, the material was crushed before being shipped to the market. It was said to have been the only manufacturer of carbide in the southern hemisphere. At one stage it was difficult to obtain the high purity carbon electrodes for the furnaces and the company made their own until a better supplier of high quality electrodes was identified.		

	Due to onerous requirements in the Complex Ores Act 1909, bad weather, difficulties with suppliers, jealous local interests, the government decided to take over the Hydro Electric component in 1914, near the completion of that project. All Gillies had left was the carbide works and little cash flow. Carbide production started in 1922 and in 1923 the government foreclosed and then ran the plant with Gillies' son, Percy, as Works Manager. In 1934 Commonwealth Carbide Co, was formed in London to purchase the works. The works were later sold to other interests, including Electrona Carbide Company, and it continued to operate until 1979. It was badly affected by the 1967 bushfires. With falling demand for carbide, and significant equipment failures in 1979, the works were sold to Pioneer Silicon Industries and they modified the plant to produce ferro silicon. Ferro silicon was made from 1988. Unable to make a profit the plant was closed in August 1991 and all traces have been removed.
Description: **(100 to 600 words):**	The Carbide Works was established at Electrona in 1917 by James Gillies, the originator of the Great Lake scheme of hydro-electricity. Purest quality limestone was shipped from Ida Bay, reduced to lime by burning in a kiln, then roasted with anthracite in an electric furnace to produce high-grade carbide, calcium carbide. In 1923, the government foreclosed on Gillies, and ran the plant until it was taken over by the Commonwealth Carbide Company of London in 1934. The furnace was shut down in the early 1980s due to falling world market prices. The smelter was refurbished and ferro silicon production started in 1987. Overseas competition again led to the operation becoming uneconomic and the silicon smelter was finally closed in 1991.
Engineering Significance:	The first electrolytic industry in Tasmania
Webpage Summary: **(200 to 300 words)**	Electrona Carbide works were to be part of a large integrated project to produce hydro electricity for the electrolytic refining of complex zinc ores and the manufacture of calcium carbide. The proponent was James Gilles who held patents to the electrolytic refining of zinc. The hydro development, Waddamana – Great Lakes, was completed not long after the Government foreclosed on Gillies. The Carbide Works were completed in 1921 but due to strong overseas competition was unable to survive and it was taken over by the government. Through a succession of owners the plant continued to operate until 1979. Calcium carbide was produced by mixing lime sourced from the high purity limestone deposit at Ida Bay in southern Tasmania and anthracite and melting the mix in an electric arc furnace powered by hydro electricity. Gillies dream was achieved but, in the end not by him.
Engineering Theme:	Tasmanian metal treatment

Heritage Listing:	Not listed
References:	Wikipedia Companion to Tasmanian History. Journal of the Institution of Engineers Australia 1934.

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EHA Branch Chair:	Indrek Tults	**Approval Date:**	May 2025

Images:

The Carbide Works about 1920 (AOT, PH30/1/2126)