Military engineers had a long history of involvement in British warfare; Cromwell's army included six engineers. Constituted under the Board of Ordnance, the designation Royal Engineers was nominated in 1787, second only to the Royal Artillery in precedence. Unlike other requirements, the Royal Engineers required educational training and competence.

Politically these bodies were controlled by the British War Office - with minor variations - during the period in question.

In Tasmania the Royal Engineers implemented changing British and colonial responses to the housing, treatment and punishment of convicts. Conflicts arose over this policy, the Royal Engineers considering many decisions wasteful. The housing of the military and the erection of defence fortifications were also under their jurisdiction. Many examples of these survive in Tasmania.

The Royal Engineers served in Tasmania from 1835 to the early 1870s. The extent of their involvement in colonial construction has been overlooked until recently. This has been due to lack of understanding of the workings of British colonial administration. The removal of military records following the withdrawal of regiments in the 1860s to 1870s, and the restructuring of government departments in the post-Imperial period (coupled with a haste to forget), has also obscured the function of colonial era departments. Jim Kerr's Design for Convicts is the first detailed study of the Royal Engineers' involvement in construction in the Australian penal colonies. (1)

The arrival of the Royal Engineers in Van Diemen's Land followed difficulties experienced with the Civil Engineering Department, headed by John Lee Archer, and followed a recommendation by New South Wales' Governor Bourke. The previous insistence on private contractors had resulted in building delays and costs such as those experienced with the 1833 Launceston Female "House of Correction". (2)

The Royal Engineers assumed responsibility for convict and military buildings, fortifications and hospitals. From Archer's Civil Engineering Department were inherited the Hobart and Launceston Male Prisoners Barracks and Female Factories (Port Arthur and other penal stations), Military Barracks at Hobart (Anglesea Barracks; extant) and Launceston, plus those at New Norfolk and other inland settlements. Responsibility for hospitals also included provision for the invalid and insane. In addition, as prison chapels became part of British prison reform policy, the Royal Engineers were responsible for their construction, as were guard houses, military cells and goals, gunpowder magazines and the maintenance of a convict marine.

The stay of the Royal Engineers in Tasmania (then Van Diemen's Land) was characterised by a lack of co-operation between the Royal Engineers and the Convict Department. Kerr refers to the 'continuous endeavours of the Convict Engineers and Commissariat Departments to thwart and circumvent each other'. (3) Conflict existed also between the C.R.E. - Ordnance Officers and the Lieutenant Governor, and between the Commandant of Port Arthur, the largest penal settlement in the island, and other Convict Department officials.

Disputes over status, ranks and priority - including a rigid insistence on protocol by C.R.E.s and Ordnance - were coupled with delays, jealousies and ineptitude of senior officials and at least one Lieutenant-Governor (Wilmot). The Home Government urged ever greater economy, even while exporting an increasing number of prisoners to be housed, clothed and employed. As the British Government auditors, planners, designers and engineers, The Royal Engineers
were in a cleft stick, with suggestions amended or rejected - and also themselves rejecting direction from Lieutenants-Governor. Not surprisingly, Latrobe reported in 1847 that C.R.E. Victor and his department were disheartened by the constant change of plan and frequent abandonment of works, so much so that the C.R.E. viewed the whole duty imposed upon him with distrust, if not disgust. Victor, Hamilton, Twiss, Hadden, Delves-Boughton and Chesney - all experienced delay and all initiated challenges.

The C.R.E.'s conflict with the Lieutenant-Governor and convict authorities arose because of the pragmatic approach of the Royal Engineers. The classification of prisoners hindered work, if, for example, all the most skilled 'mechanics' (or tradesmen) were in the one gang - or under sentence for a trivial breach of rules. The convict officials insisted on punishment for its own sake; consequently projects were delayed. Prison officers, such as the Port Arthur Commandant Charles O'Hara Booth, saw buildings as a means to imposing discipline, even in their construction.

Despite the annoyance and orders in triplicate, Ordnance supplied the tools, glass, hinges, paint, and so on, without which the Convict Department could not function.

Conflict between the Commanding Royal Engineer and the Lieutenant-Governor of Van Diemen's Land began shortly after the arrival of Captain Roger Kelsall, Royal Engineer. The first Royal Engineer in Australia, Kelsall, arrived in Hobart Town on the brig 'Layton', on 10 December 1835, only one day before George Barney, the first Royal Engineer appointed to New South Wales, reached Sydney. Kelsall succeeded the civil engineer - architect, John Lee Archer. In charge of Ordnance was storekeeper, Robert Douglas and Robert Howe, Clerk of Works.

Within six months of arrival, Kelsall had completed a tour of inspection of Van Diemen's Land and compiled a detailed description of all goals, military barracks, stores and hospitals, in the colony for which Ordnance was responsible. These were situated in both centres of population and areas where land was being converted to farming. They ranged from Hobart to Launceston, through the midlands towns of Ross and Campbelltown, and extended to George Town, Westbury in the north, plus New Norfolk, Richmond and the penal station of Port Arthur, Point Puer, Eaglehawk Neck and the coal mines on Tasman Peninsula in the south of the island. A set of 90 coloured drawings in duplicate was completed by convict architect Henry Laing, depicting all structures on the Tasman Peninsula.

Conflicts between Royal Engineers and their superiors also were over the authority and independency of the Ordnance branch, and the Royal Engineer himself. In 1836, clashes occurred between Kelsall and the new Lieutenant-Governor, John Franklin, a naval captain. This first dispute typified many of the disagreements between the C.R.E. and the colony's appointed head. Kelsall assumed that, being responsible for all aspects of convict and military buildings, and stores, the convicts and the produce of their labour were also under the control of the Royal Engineers.

Kelsall requested that not only should he be able 'to draw upon the produce of the labour of the prisoners' but that 'instructions be given to the principal Superintendent of Convicts to furnish mechanics and labourers when required, by the Royal Engineers Department at any of the stations in the command'. Kelsall believed that the Home Government, of which he was a representative, should have 'a priority claim to such labour which can be advantageously employed in the reduction of the Ordnance estimates'.

Without giving notice to Franklin, Kelsall wrote to the Master General and the Honorable Board of Ordnance, arguing for the autonomy of the Royal Engineer and Ordnance. The C.R.E.'s decision to circumvent Franklin's authority was in response to the Lieutenant-Governor's refusal to give priority claim to the convict labour from Port Arthur. In addition, Kelsall had demanded that the Commandant of Port Arthur, Captain Charles O'Hara Booth, 'be instructed to that effect'. In reply, Colonial Secretary
Montague stated that although priority claim would be given to Port Arthur's produce Kelsall's preferential demand for mechanics and labourers was unacceptable.

Protesting to the Honorable Board of Ordnance, Kelsall complained of the 'interference' of the Commandant at Port Arthur and requested the Board to remove the difficulty. While the C.R.E. saw the penal station in pragmatic terms, providing hardware for H.M. Government's building programme, Commandant Booth saw Port Arthur, as Kelsall himself noted - as a place for the discipline of convicts.(10)

Kelsall believed that Booth, not having experience of building techniques, etc., should leave 'the works and Establishment under the charge of the Ordnance Officers'.(11) The C.R.E. made a barely concealed criticism of Booth for 'extravagant expenditure' of stores at Port Arthur, which the Ordnance were prevented from checking. Kelsall decried the unnecessary intervention of the officer (Booth), who 'cannot be supposed to be capable of conducting professional works, which consist of buildings, repairs, shipwright works, shoemakers, establishment, timber, etc. for convict and colonial purposes. Coal mines, rail roads, many of which are not necessary except to give convicts employment'.(12)

Booth was obviously stung by Kelsall's comments, but the C.R.E.'s written apology (signed by Kelsall and Storekeeper Douglas), concedes only that the Commandant was a 'zealous officer', while insisting still on their paramount responsibilities and duties as Ordnance Officers.

Despite the eventual rebuff to Kelsall from the Home Office, which insisted that Kelsall and the officers of Ordnance be responsible to the Lieutenant Governor, the central role given to Royal Engineers gave them unadmitted power. The authority to draft and approve plans and provide hardware and so on for the convict department made them de facto controllers of the Department. Kelsall and Booth played a delicate game of out-maneuvering one another, each blaming the other for delays in the planning and erection of sites on Tasman Peninsula.

The Foremen of Works employed by the Royal Engineers for on-site construction were, apart from the Ordnance Foreman, civilians as were other office staff in Hobart and Launceston.(13) The position of Foreman of Works at Port Arthur thus created a special problem; as an appointee of the Royal Engineers was he to be able to circumvent the Commandant? Franklin refused to allow the Port Arthur Foreman of Works, William Carte, to become part of Ordnance, insisting that the Commandant - ('He and he only') - was responsible for 'the conduct of every person and for the progress of every work'.(14) The hard-swearin William Carte, was 'already charged with...inspecting every work at Tasman Peninsula'. In addition, Carte held a dual role as Superintendent of Convicts at Port Arthur, both positions held from 1833 to 1848.

Franklin, thoroughly offended by Kelsall's cavalier treatment, was probably only too willing to defend the independence of his friend, O'Hara Booth. (The two shared a mutual respect, as evidenced in Booth's Journal. The Ordnance Officers in turn resented the authority of Franklin over their departmental work in connection with the convict service - Franklin being disdainfully referred to as 'a naval officer'.(15)

Despite the apparent independent status of Carte as Foreman of Works and Superintendent of Convicts at Port Arthur, Commandant Booth and the Lieutenant-Governor relied on Kelsall for drafting plans and elevation of structures on Port Arthur and the Tasman Peninsula and for providing iron-ware, paint, leather, and so on for the working of the penal station. In 1839, Carte was appointed Acting Foreman of Works on the Ordnance, Franklin's former decision thus being reversed, and the reality of the pivotal role of Ordnance formally recognised.(16)

Conflict over rank and relative status of officers requires an understanding not only of the personalities, but the military traditions of the period. In regimental precedence, the Royal Engineers were second only to the Royal Artillery, while Booth's regiment was the 21st or Royal Scots Fusileers. Booth's journal also refers to
Kelsall upon his first visit to Port Arthur in 1836 as 'acting rather strangely', in not accepting Booth's hospitality. In 1837, the C.R.E. was promoted to Major. Booth referred to him as 'old Kelsall', although only 10 years his senior.\(^{(17)}\)

From 1837 to 1840, Kelsall was involved with expanding buildings at Port Puer penal settlement near Port Arthur, for an increasing number of boy convicts. Kelsall's 1840 plan, amended by Booth, was approved by Franklin.\(^{(18)}\)

For this and other building works, Ordnance supplied nails, hinges, locks, glass, plus linseed turpentine, paint ochre and whiting.\(^{(19)}\)

During the early 1840s, the structure of the Ordnance Department in Van Diemen's Land was firmly established, with two sections headed by the Commanding Royal Engineer, the Ordnance Storekeeper and his deputy. Three branches of the Royal Engineers existed, its headquarters being at Macquarie Point, Hobart Town, with out-stations at Launceston, New Norfolk and in 1844, Norfolk Island. The Store and Cash Branch were located at the New Wharf, and the Barrack Branch at Anglesea Barracks, Hobart.\(^{(20)}\) A temporary civilian workforce, headed by acting foreman of works, included overseers of (convict) blacksmiths, carpenters, and sail-makers, and clerks.\(^{(21)}\)

In 1839, suggestions for the construction of the granary at Port Arthur came from the Commissariat Officer, Roberts; the idea of a corn mill and granary appealed to Franklin and Booth. Receiving a communication from the Royal Engineer concerning the erection of a water-mill, Foreman of Works, Carte, travelled to 'Hobart Town per whale boat'.\(^{(22)}\) Consequently, C.R.E. Kelsall was asked to prepare a drawing for dam and site with sets of water-driven mill stones, and also a treadmill.\(^{(23)}\) Conflict over the appropriateness of a treadmill provides a perfect example of the clash of roles and expectations of R.E.Kelsall and the penal station commandant Booth. Kelsall was opposed to the treadmill on practical grounds as an unnecessary expense, while Booth thought the addition essential, as it provided 'a description of labour at times much required on the settlement'.\(^{(24)}\) The plan for the treadmill was eventually forwarded, and included provision for working a 'circular saw for cutting timber'. Convict Henry Laing also drew plans for this complex.

Booth used a delaying tactic on the mill to try to force the completion of the new buildings at Point Puer, and the erection of a new military barrack - also designed by the Royal Engineers. The military at Port Arthur, like the convicts at this time, were living in rough timber huts and barracks.\(^{(25)}\) The delay on the mill was conveniently blamed on the C.R.E. The mill was finally approved and work begun in early 1842, near the end of Kelsall's tour of duty when the work was supervised by Alexander Clarke, civilian engineer and millwright recommended by Kelsall. Clarke and Victor, the second C.R.E., worked closely on the construction of the mill and granary, with Clarke consulting Victor on aspects of the mill's construction, including whether the wheel should be over, or undershot (the former being chosen).\(^{(26)}\)

Booth was prepared to initiate construction at Port Arthur without the final approval of the C.R.E. Lack of plans for a proposed building, he noted 'will not altogether prevent our proceeding with the building in its present stage'. Booth apparently took advantage of the 1842 change-over in C.R.E. from Kelsall to Victor, to construct a two-storeyed parsonage. The new C.R.E. found his comments - requested by the Lieutenant Governor - were unnecessary, 'the building being already constructed'.\(^{(27)}\)

In 1840, the Royal Engineers had also been responsible for inspection of the steam-driven engine-pump provided by Alexander Clarke for draining water from the Coal Mines, Tasman Peninsula. Situated on the north-western tip of the Peninsula, these deposits were extensively mined by convict labour in the worst form of punishment available on the Peninsula. The Royal Engineer Overseer of Blacksmiths, Mr Robinson, gave the technical approval to the 10 h.p. steam engine, imported from Scotland and valued at 600 pounds.\(^{(28)}\)

Fortifications were one area of
responsibility where the Royal Engineers appear to have been unchallenged. In 1839 Kelsall advised the British Home Office of the defence requirements of the Derwent and Tamar Rivers. The plans drawn show an intricate series of intersecting firing lines on the headlands on either side of Sullivans Cove, Hobart - Mulgrave Battery on Battery Point and Fort Arthur (later the Queens Battery) on the northern headland Macquarie Point - (now the site of the Canotagh).(29) Across the river a battery proposed for Kangaroo Point theoretically gave cover to Hobart Town. (The Kangaroo Point Battery was finally built in the late 1880s). Kelsall's recommendations for an enlarged battery in Battery Point resulted in the construction of the 10-gun Prince of Wales Battery in 1840-43.(30) This was above the earlier Mulgrave battery. The eleven-gun Queens Battery was commenced in 1842 and in 1855 renamed the Prince Albert Battery. In 1854, Lieutenant-Governor Denison, Royal Engineer, had a smaller two-gun battery constructed in Hobart below Franklin Square in line with Dave Street, and next to the old Government House.(31)

Hospitals, 'principally intended for convicts in government service', were another responsibility of the Royal Engineers.(32) Prior to the 1840s, hospitals were either huts in country areas, or dilapidated timber structures in the larger centres of Hobart, Launceston and New Norfolk. Following a typhoid epidemic in 1840, a board of enquiry, which included Kelsall, recommended the establishment of a new building. This was commenced in 1842 and completed in August 1843.

Poor diet, and the effects of heavy work and prison isolation, resulted in an increasing number of invalid and insane patients who had to be housed. The Royal Engineers were responsible for such buildings. In 1836-38 Kelsall's department provided additional accommodation at the New Norfolk Asylum and Lunatic Hospital. (Extant)(33). Here worked the largest party attached to the Royal Engineers outside Hobart and Launceston.

At Port Arthur, a two-storeyed sandstone hospital for 100 patients was erected in 1842. Even before completion, Franklin believed the hospital too large for the settlement.(34) The 1867 Asylum also stands at Port Arthur.

Changes in England and to the treatment of prisoners in the late 1830s had far-reaching effects in Van Diemen's Land, both for the Royal Engineers and for the prisoners. Coupled with the end of transportation to New South Wales in 1840, these resulted in three new methods of housing convicts - the Pentonville or 'model' prison and the Parkhurst or juvenile prison, plus the probation system. The Royal Engineers, first under Kelsall and then his successors Victor, Hamilton and Twiss, had to cope with these new forms of institutionalised punishment with their cells, bars and isolation wards. These were aspects of penal control not experienced in the colony until then, except for hardened and insane inmates.

The response to the arrival in Van Diemen's Land of large numbers of convicts was the creation of the probationary system, an expedient method of handling prisoners 'en masse'. Convicts were housed and worked in gangs according to their class, while on probation - hence probation stations. These were situated on the frontiers of white settlement in Tasmania, often in inhospitable terrain, where gangs were expected to clear and farm land.

Probation stations, and their related hiring stations, dotted the island. They were spread from Southport in Southern Tasmania to Jerusalem 1841 (now Colebrook) beyond Richmond, to Rocky Hills and Fingall 1841 (east coast) and Marlborough and others in the central highlands to Deloraine and Mersey in the north-west.(35) On Tasman Peninsula, stations were built at Impression Bay, (now Premaydena), Saltwater river and the cascades - (now Koonya) - these last three being the most complete extant evidence of the probationary system. At these stations were erected not only the convict housing referred to by Kerr, but also the hospitals, military barracks and cells for supervising soldiers. They were necessary to protect the surrounding settlers from escapees from the chaotic probationary gangs, as the convict population increased by 40 percent in four
years and ex-convicts failed to find work in the worsening depression.\(^{(36)}\) At Deloraine, a barrack was required 'for the protection of neighbouring settlers, so long as that place is retained as a probation station'.\(^{(37)}\) Military cells were also needed to protect locals from rowdy and sometimes violent soldiers.

The decentralised probation stations stretched the colonies' resources to the limit, while the British Home Office pressed for tighter financial control. Before departing in November 1842, Kelsall had been involved in supervising the early stages of the probationary system. In November 1841, he designed a 'House of Correction for 400 female convicts'.

C.R.E. Victor explained the delay in providing drawings for a hospital at Port Cygnet on the Huon River (site of a probation station) being due to an estimate being prepared for 'a range of separate cells at the Prisoners Barracks, Hobart Town'.\(^{(38)}\)

Meanwhile, the new trends from the United Kingdom began to take effect, as Franklin and then his successor Wilmot were urged - in a contradictory demand - to isolate prisoners at penal stations. Kelsall designed the separate apartments on Maria Island on this principle. However, his plans were discarded in favour of those designed by the British prison reformers. The call to isolate prisoners was reinforced by reports that the 'nameless crime' - homosexuality - was practised where male (and female) convicts were grouped in dormitory sleeping quarters.

The Van Diemen's Land convict department had been altered to encourage implementation of the new prison system then in vogue in the United Kingdom. At the centre of this new approach was Captain J Jebb, Royal Engineer, designer of the trial or model prison at Pentonville. The Royal Engineers in Tasmania were increasingly expected to adopt the plans, aims and designs of Capt. Jebb and the Inspector of Prisons. This system of absolute isolation was designed to tame the most mutinous spirit. The implementation of these new prison systems was left to the second C.R.E. In 1842 Kelsall advertised his 'powerful grey horse' of 16 hands for sale, from his home in Fitzroy Place, and returned to England.\(^{(39)}\) (Kelsall retired from the Royal Engineers and returned to farm in Victoria, and is buried at the Eastern Cemetery, Geelong - the first Australian and possibly the only Royal Engineer from Tasmania buried in the country. His headstone in the East-Geelong cemetery reports his death on 26 March 1861.) Kelsall's successor, J C Victor, Brigade Major, was senior to his Lieutenant-Governor Franklin and undoubtedly, more competent than Franklin's bumbling successor, Eardley Wilmot.\(^{(40)}\) Inevitably, Victor clashed with his superiors. From September 1844, Victor had the help of three other Royal Engineers - Captain John Twiss, who proceeded to take charge at Launceston, and Lieutenant W C Hadden and Captain R G Hamilton, who became C.R.E. Norfolk Island, when his outpost came under the jurisdiction of the island and colony. Twiss was absent in Western Australia and South Australia for part of 1846, advising on fortifications.\(^{(41)}\)

The island colony's public works expanded as settlers alienated more and more land. Consequently, C.R.E. Victor was directed by Franklin to work with W P Kay, architect and director of public works, in a newly organised public service department.\(^{(42)}\) Victor objected to this directive, insisting on a distinction between civil and military service. Apparently he was unable to accept that the island had a growing free enterprise economy, particularly in the north.

The C.R.E. inherited the new administrative control of convicts in Van Diemen's Land, headed by the administrator of the Convict Department - Comptroller General Hampton. C G Hampton and his friend James Boyd, an ex-Pentonville instructor and future Port Arthur commandant, were both enthusiastic advocates of the effects of isolation and supervision made possible by the model prison at Pentonville. Boyd and Hampton advocated their versions of prison design based on the claim, 'upon the Pentonville plan'...*even when the difference were more marked than the similarities*'.\(^{(43)}\) The Royal Engineers were expected to respond to both the soul-less idealism of the model

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prison and the herding of prisoners under the probationary system.

Victor, unable to control or check the use of Ordnance stores at the scattered probation stations, refused to supply them. He also expressed his displeasure behind Franklin's back and, like Kelsall, was reprimanded. He also expressed his displeasure behind Franklin's back and, like Kelsall, was reprimanded. The lessening role of the Royal Engineer in the Convict Depot resulted in the sacking of six acting Foremen of Works. Victor's duties were now confined to the construction of such new buildings as may have been authorised at Hobart Town and Launceston, the maintaining and repair of existing permanent convict buildings and the convict marine, etc.

Although not in direct control of probation stations, the Royal Engineers had in fact expanded responsibilities. In 1845 these included the Feme Prison Hulk 'Anson', moored in the Derwent River north of Hobart, the New Norfolk Lunatic Asylum (extant), and the Queen Orphanage, New Town (extant), the latter recently having been handed over from colonial service.

In 1845, Victor drafted plans for a new boys' prison at Safety Cove, Port Arthur, replacing the poorly-sited Point Puer. These were based on the Parkhurst model-prison for juvenile offenders on the Isle of Wight, as suggested by Mitchell and Horne, the Point Puer Superintendents. Part of buildings on this site remain. In 1846 the C.R.E. was asked to prepare plans for 50 apartments and exercise yards as at Pentonville, and which are fully detailed in Major Jebb's published plans. By October 1847, Victor had forwarded the plans. The prison finally opened in December 1849, although not without conflict, this time over the use of a chapel. Hampton felt this aspect of religious indoctrination which isolated prisoners essential to a 'rigid system of discipline'. On the grounds of economy, Victor was not convinced. The model prison still stands at Port Arthur.

During Victor's period, the Royal Engineers built a permanent residence on the site of the timber yard at the mouth of Hobart Rivulet. The two-storeyed neo-Gothic building was erected 1847-8 (extant and to be restored). Of strategic significance, the Royal Engineers Yard and buildings dating from John Lee Archer's time, originally faced across the port toward Anglesea Barracks. Thus the military held the headland and high vantage points around Sullivan's Cove, Hobart Town.

The arrival of a new Governor, Denison, who had been a Captain in the Royal Engineers, again resulted in a conflict with C.R.E. Victor. Denison, although Governor, was in the invidious position of being lower in rank to the new Lieutenant Colonel Victor. Denison (who had worked on the Rideau Canal, Canada), recommended the construction of Franklin Wharf, Hobart. Victor criticised the project as uneconomical, communicating his views to the Board of Ordnance, England, only to be severely reprimanded by Earl Grey. Before leaving in December 1848, Victor supervised the construction of a gunpowder magazine on the Domain, Hobart, for use by the military and merchants. He also was responsible for the military goal, five courts, and a wing of barracks, all at Anglesea Barracks.

The demands on the Royal Engineers - Ordnance were graphically outlined in 1847. Storekeeper Douglas complained of understaffing, and the impossibility of supplying wants of 20,000 male and female prisoners, in clothing, bedding, barracks and hospitals, utensils and likewise implements, tools and other stores...required...of labour works in Van Diemen's Land and Norfolk Island, with a view of carrying out the new system of convict discipline'. (i.e. the probationary system.)

The number of persons to be requisitioned had grown from 500 troops and 4,000 convicts in 1837, to 3,000 troops and 20,000 convicts in 1847.

What became of an elderly R.E.? Victor had shown little sympathy for an elderly engineer, Lieutenant Simmons, believing employing a person not fully capable 'vicious in principle'. That the other staff were not happy in Van Diemen's Land is evidenced by other correspondence. Storekeeper Douglas complained of the high

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cost of living, describing the island as 'this penal station'.(55) The first Clerk of Works, Howe, had been ordered home for acquiring 'habits which materially impair his efficiency'.(56)

Captain Twiss, the new C.R.E. following Victor's departure in 1848, also came into conflict with Lieutenant-Governor Denison. With Twiss as C.R.E. and Denison Royal Engineer as Lieutenant-Governor, there were two initiators of engineering works. Denison had brought two subalterns of his own corps to Van Diemen's Land; Lieutenant Chas. Stanley (private secretary) and Lieutenant Andrew Clarke, on duty as a Royal Engineer. Twiss concerned himself with the convict and military sections, while Denison involved himself in wharf construction, swamp-drainage, fortifications, dams and irrigation. He also helped form the Royal Society, and to it contributed papers on horticulture, wet and dry docks, public health and sewerage. He supervised the improvement of the Midland Highway into a first class turn-pike. Bridges were built at various sites in the colony, including at Dunrobin on the Derwent River, with the aim of opening new country to the west.(57)

Denison also encouraged coal mining, a non-sectarian education and ordered the building of a twin-hulled steam ferry for the trans-Derwent Run. This craft, the 'Kangaroo', built of Tasman Peninsula timber, ran from 1855 to 1926.

Denison bore the brunt of criticism during the anti-transportation agitation and attracted criticism for his support of its continuation. His rather brutal view of the purposes of penal servitude contrasted with the reformatory nature approach then current, and possibly explains his apparent willingness to leave prison design to Twiss. That Denison was out of touch with current prison reform is shown in a letter to Jebb, Royal Engineer, Inspector of Prisons, United Kingdom. Denison disagreed with Jebb's reformist ideas, based on separation and silence and instead, believed in 'real and efficient punishment'.(58)

Boyd's appointment to Port Arthur in 1848, signified the most dramatic change in the administration of the penal settlement, as a 'professional' prison manager assumed control from the soldier commandants.

The prevalence of 'abnormal practices' amongst male convicts resulted in the demand for separate sleeping compartments for convicts. Twiss was responsible for redesigning prison accommodation, as required by Hampton and Boyd, at the Hobart Prisoners' Barracks, Maria Island and Port Arthur. The little-used penitentiary, with separate apartments, the ruins of which survive at Port Arthur. By the time of conversion in 1854-7, Boyd was Civil Commandant at Port Arthur.

Denison meanwhile initiated the arrival of a party of 15 Royal Sappers and Miners led by John Hawkins, R.E. This party, previously engaged in the Ordnance survey of Great Britain, carried out land and trigonometrical surveying throughout the island. Hawkins, unlike his Royal Engineer peers, 'cheerfully undertook any duty...conducive to the public benefit'. The military surveyors, however, aroused the ire of the Legislative Council, who believed their presence stopped the employment of civil surveyors.(59)

Captain Twiss continued the tradition of insubordination to the Lieutenant-Governor, by refusing to allow Akers, R.E., to be paid by Ordnance for surveying a line of road between Hamilton and New Norfolk. Twiss again relayed his feelings to the Inspector General of Fortifications. Once moved, the Van Diemen's Land C.R.E. was reminded that he was 'to furnish every assistance...toward Colonial Services'.(60)

Following the gold discoveries in Victoria, the transportation of convicts ceased in 1853. These events coincided with the departure of Twiss in March 1853 and the return of Captain Hamilton as C.R.E., while Akers and Lichner were still present. In 1854, Akers commanded a section of howitzers which, with infantry, went to the Victorian goldfields, following the Eureka outbreak. (See footnote.) Denison's resignation in 1856 coincided with the naming of 'Tasmania'; a year later, Hamilton was the only Royal Engineer stationed in the island.(61)
The role of the Royal Engineer was not over. The convict and ex-convict population had aged, so that accommodation was needed for the geriatric and insane. A scandal involving C.R.E. Hamilton erupted in 1856, when he and Boyd, the Port Arthur civil commandant, and May, superintendent of the Hobart Penitentiary, were found to have used prison labour at Port Arthur to procure sandstone for erecting houses in their joint names. From 1860 to 1871, when the British regiment departed, there was a winding down of the Royal Engineers' involvement with convict responsibilities. Instead they became involved in self-defence and fortifications both before and after the military exodus.

C.R.E. W E Delves-Broughton continued the tradition of conflict with the civil head of the colony - by now the Government and Governor. The C.R.E. refused to hand over possession of buildings to the colonial government, until ordered to. Delves-Broughton leaked this and other matters to the press. His successor, F R Chesney, was appointed commander of the southern-volunteer division in 1863, as a local militia was mounted to replace the British imperial regiments. He was anxious about an outbreak by the decrepit inmates of Port Arthur, urging better defences there. (62) The C.R.E. at the time of the 1871 withdrawal regiments was Brevet Major Warren, who supervised construction of the Alexandra Battery at One Tree Point, Sandy Bay, in 1870-71. (63) As convict numbers grew, especially following the cessation of transportation to New South Wales in 1840, the demands on the Royal Engineer and Ordnance multiplied. The Royal Engineers implemented policies which were increasingly unpopular with the non-convict population, many aspects of which the Royal Engineers considered uneconomic and wasteful. Their chief responsibility was, as they believed, to protect the British military chest from wasteful expenditure. A conflict of interest existed between the colonies' moves toward free enterprise and self-government, and the Royal Engineers, who viewed the penal system as a military operation. Frustration was felt at their inability to control the convict work force, mechanics and their products. Their supervision had been given to other 'lesser' corps prior to the arrival of the Royal Engineers in 1835. The belated introduction in 1850 of convicts to Western Australia had no such conflict. There the Royal Engineers were given the task of building and reforming convicts. The lessons of Van Diemen's Land had apparently been learnt. (65) Other lessons had not. The Royal Engineers' later involvement in fortifications anticipated the bastion mentality, common until the fall of Singapore in World War Two. Buildings inherited by the Tasmanian government formed the basis of social welfare policy in the State. The New Norfolk Mental Health Complex still includes part of that designed by the Royal Engineers. Anglesea Barracks still houses Australian military regiments.

An assessment of the role played by the Royal Engineers in Tasmania needs to be set against the wider expectations and demands which the British government placed on them during the Imperial period. The Royal Engineers' actions must also be seen as an outcome of British attitudes to the treatment of prisoners - (and thereby reflecting British society), the provisions of defences - (and therefore British foreign military policy) and the provision of health and welfare. This in turn reflects the prevailing explanations for poverty, where the sufferer was blamed, rather than society.
Charles S Akers, water colourist, sketcher and Royal Engineer, kept an illustrated journal held by the Dixon Library, Sydney. He was discontented with his stay in Van Diemen's Land, 'because it is too quiet a country and with too little excitement in it, to satisfy me - but I am ordered there'. He complained that 'our duty here is almost solely that of building and keeping in repair, barracks for convicts'. However, he enjoyed the social life and married the daughter of the Commanding Officer, Col. H Despard.


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These fall into two categories; colonial records held by State Archives, Hobart, and micro-film copy of documents from the Public Record Office, London. In the former, correspondence of Colonial Secretary's Office, Hobart, (C.S.O.) was mainly used. In the latter, British records of the War Office (W.O.) were researched. These form part of the Australian Joint Copying Project, a microfilming venture initiated in 1945 by the National Library and the Public Library of N.S.W., to copy relevant documents relating to Australia. Hence references to Reel numbers, and sections of reels or 'Pieces'.

The War Office, through the Board of Ordnance, was responsible for supervision of the Royal Engineer.

WO....War Office
C50....Colonial Secretary's Office
GO....Governor's Office
EC....Executive Council

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