The Special Signal Services (SSS) Women and Native Military Corps: Operators and Guards at the WWII Secret Radar Stations of the Western Cape, South Africa

Lynn Harris

South African radar operators, who played a role in protecting the strategic sea route around the Cape, deserve more recognition and research attention (Figure 1). This rugged and rocky coastline was a supply lifeline for Allied troops voyaging between the Indian and Atlantic oceans. Some of the remaining features of this surveillance system are secret observation structures, radar stations, and military barracks hidden and camouflaged in the mountains and cliffs overlooking the ocean. These remote outposts were staffed with "station girls" like Doreen Harris (my mother-in-law) and Shelia Lloyd, her fellow service woman. At the start of the war, men worked the stations, but by 1941 as the need for men in active service increased, women with university credentials were recruited and trained as radar operators. African men, enlisted in the Native Military Corps armed with traditional weapons like *assegaais,* guarded the outposts.

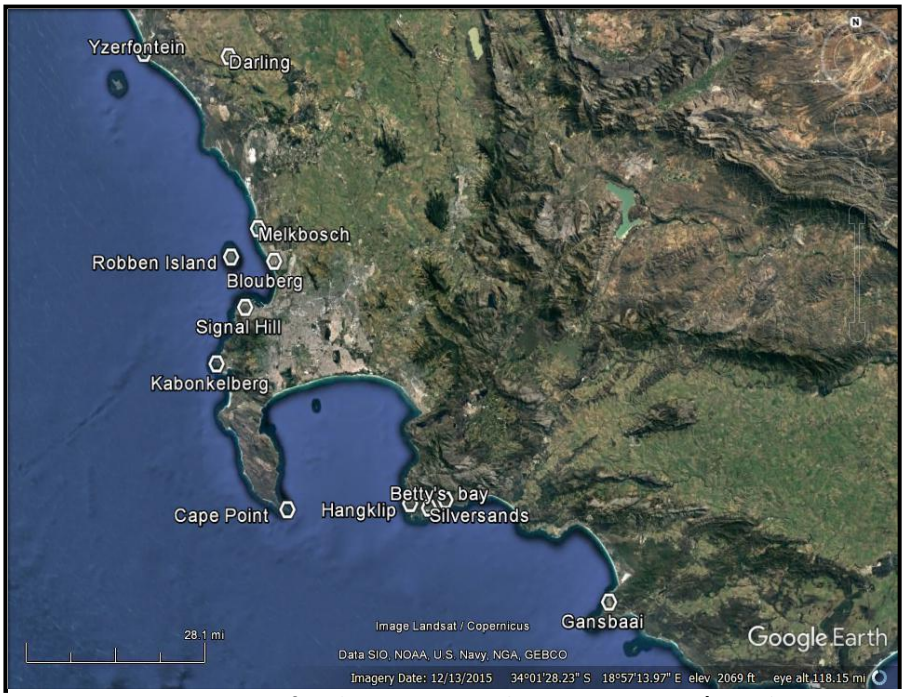

Figure 1. Locations of Radar Stations in the Western Cape (Google Maps Created by the author.)

The young women were part of the South African military unit known as the Special Signal Services (SSS). By 1945 there were fifty SSS stations along the South African coast, including seventeen in the

Figure 2. Sergeant Doreen Russell

Western Cape (Figure 1). By this time around 507 women were part of the unit with at least 28 women serving as high ranking officers. Doreen Russell (married name Harris) was a SSS Sergeant who served in the Simon's Town and Cape Point area of the Cape. She grew up in Lesotho (then Basutoland) with her two brothers where her father was a District Commissioner. Doreen attended an all-girls public boarding school, Rustenburg Girl's High, in Rondebosch, Cape Town. After graduating she completed a degree in Social Sciences at the University of Cape Town prior to joining the SSS (Figure 2).[1]

The coastal radar operator's experiences are relayed through several sources including interviews, 16mm motion film made in 1944 and 1945, testimonies published in a South African military history journal and local historical society collections in Simons Town, the South African naval base community.[2] Collection A3377 named *Radar at the Bernard Price Institute*, held at the Archives and History office at Witwatersrand (WITS) University, is an excellent source of primary materials and images for researchers. This institute was the main training facility for radar specialists under the direction of Brigadier B. J. Schonland who served as Professor and head of the Geophysical Unit at WITS at the time. The SSS division of the South Africa Corps of Signals (SACS) was a relatively small specialist unit not linked to any other military force. Yet their contribution to the war effort was considered significant. Most fellow South African servicemen and women in other units knew very little about the SSS, or their Native Military Corps installation guards, and because of the continued secrecy after the war, few records survived. Even veterans, indoctrinated with the philosophy that "loose lips sink ships" are hesitant to talk about their experiences long after their SSS service. Another contributing factor was that many Western Cape Afrikaners were Nazi sympathizers during the war and there was a strong public lobby for South Africa to join the Germans. There was additional concern that Africans were being exposed to German propaganda, and that their leaders' grievances were being exploited to make them pro-Nazi victory. As a result of this, South Africa's own wide-ranging radar activities have largely been

ignored by historians. The ruins of the radar surveillance infrastructure system, buried in vegetation, littered with trash, decorated by graffiti and lovers locks, are neglected by heritage resource agencies and overlooked as educational tourism assets. Mountain hikers, members of the Radar Masters Group, and an occasional visitor with a specialist interest group frequent the ruins.[3]

Figure 3. Marching and PT (Images courtesy of Harris family)

The historical narrative of these SSS women, native guards and mountain monuments, as icons to their service, deserve to be showcased. Recruitment of suitable candidates took place at universities. Few details of the assignments were provided to the recruits and they were required to take an oath of secrecy. They were essentially regarded as "secret agents" of coastal surveillance. Training lasted six weeks where they practiced competitive marching drills, fitness trials and acrobatic activities like human pyramids (Figure 3). Afterwards they completed specialist training in coastal artillery operations mostly on Robben Island. Male training officers were initially skeptical of the recruit's abilities as women, but soon came to accept and even boast about their capabilities.

> …when I was faced with the problem of training the first group of female artillery specialists on Robben Island during World War II…presumably to satisfy some doubting senior male officer that female intellect was capable of comprehending of the Fortress Plotter, the Battery Plotting Table, the Position Finder etc. etc.! …I decided to treat them exactly like male recruits giving them basic parade ground training first and then matching them to training sites to undergo the full gunnery equipment. course…Their response was magnificent and so enraptured were they with the process that this became standard procedure with each subsequent course using both male and female instructors producing I am sure one of the smartest and most efficient female Corps in the Commonwealth armies. They were the corps d'elite and they knew it. [4]

The women were provided with military kits attending to every detail from toothbrush to bloomers (baggy underwear dubbed "passion killers") and greenish- khaki great coats. They were given detailed instruction on the operation of radar and prepared to work in a filter room at a command center, "Freddie," or an isolated radar station with sweeping views of the ocean and coastline. The so-called secret agent "Freddie Girls" were responsible and privy to sensitive information like ship sinkings, torpedoes, u-boats in the area, tonnages and aircraft losses. The coastal station crews learnt how to live in remote places, use coastal artillery, drive and care for army vehicles, and to use radar machinery to detect locations of aircraft and ships and relay information to the filter offices.

Sheila Lloyd describes her sequence of training which was similar to that of Doreen Russell. For the initial training they all travelled to Johannesburg. In addition to radar instruction the women also took driving lessons and received a permit to drive military vehicles called "army trucks". For the second part of the course they were stationed at Green Point barracks in the vicinity of Cape Town where they learnt military discipline and went into the city each day for classes at the Headquarters office located in the former German club (Figure 4).

Figure 4. Women participating in morse code training (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-011(Historical Research Papers Archive, Johannesburg, South Africa).

After their passing out parade, officers announced assignments. During service the women often moved to different assignment and station locations. These might include city, inland or coastal venues. Lloyd commenced her service at an inland farming area in Somersveld, near Darling, focusing on aircraft spotting and enjoying the hospitality of local farm families. After that she headed to Robben Island to take a coastal artillery course, to range-find and fire the cannon, and finally to her favorite assignment at coastal stations Hangklip and Silversands on the Steenbras River. She was ecstatic about these last two stations and described the miles and miles of coastal landscape without another human in sight, with breathtaking mountains, beaches and waves, surfing and nude swimming. She does mention a need for vigilance and the dangers of baboons and snakes, plus men with telescopes supposedly looking for enemy craft!

The regular routine was 5-hour shift for a pair of operators, sometimes very quiet and boring, and at other times so busy there was not even a chance to put on a kettle for a cup of tea. One JB (for Johannesburg) operating woman turned a handle to rotate the aerial while waiting for echoes (blips) on the cathode ray tube and determining the bearing on an engraved metal scale. Another woman marked plots on a map of the area. Although the coastal operators like Doreen and Sheila relayed the information, they were not always aware if they picked up an enemy ship. Neither did they know the results of the other stations, as this was the role of the filter room operator women, plus the results were usually cloaked in a great deal of secrecy. Each of these coastal stations consisted of a radar installation, a technical equipment workshop, and dining and

leisure facilities (Figures 5-7). If there were both men and women at a station (men were technicians and women operators) facilities were in separate structures divided by a pole fence. None could enter the facility without submitting formal permissions paperwork. Gates into the facility were guarded around the clock by the Native Military Corps armed with *assegaai*s (spears used in indigenous warfare).[5]

Figure 5. Operator on duty at a radar station looking for targets (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-020, Historical Research Papers Archive, Johannesburg, South Africa).

Figure 6. Recorder on duty plotting the position of the target (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-020, Historical Research Papers Archive, Johannesburg, South Africa).

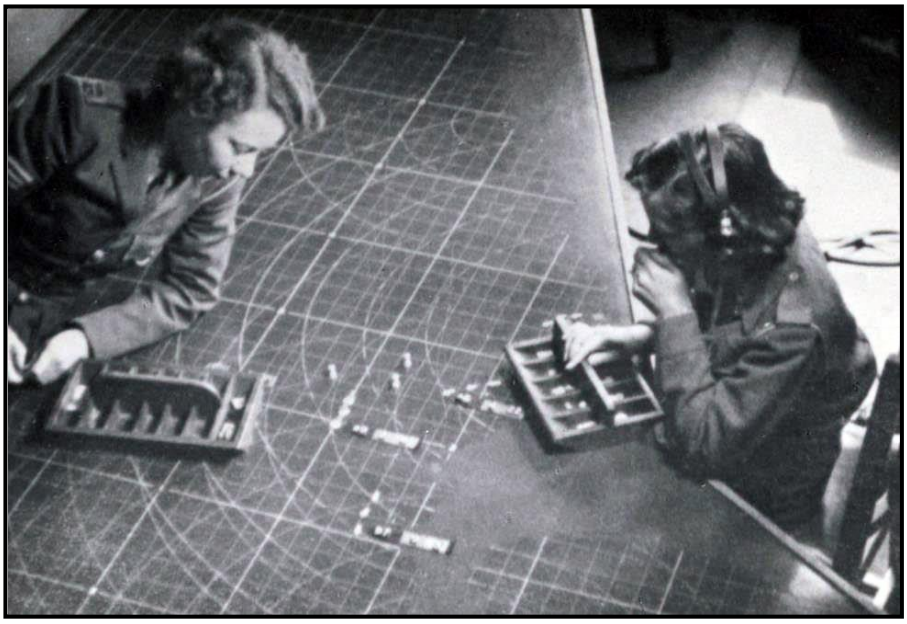

Figure 7. The Filterers (Freddie Girls) placing counters on a large map and determining the probable course and spread of the target (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-020, Historical Research Papers Archive, Johannesburg, South Africa).

The Native Military Corps. (NMC) comprising 4000 African men, were recruited for the purpose of guarding sensitive military installations in the Union. The recruiting operation for guards was conducted by the Department of Native Affairs, assisted by the chiefs and headmen from rural areas. Many Africans were apparently recruited with the promise that life would be better for those who had helped with the war. The expectation was that political concessions of some kind would be given after the war. The initial intent was to serve the Union of South Africa in a non-combatant role not only as guards, but also in other operations as motor transport drivers, motor mechanics, carpenters, builders, boot makers, stretcher-bearers, medical aids, clerks, typists, and telephone operators. They were paid a daily wage and expected to serve the duration of the war anywhere in Africa as required. Those Africans recruited for service from the British Protectorates of Bechuanaland and Basutoland were promised arms, but when they arrived, were instead given *knobkerries* and *assegais* so as not to upset the Africans from the Union. These were also the arms usually carried by the black police, so it was not unusual for a guard job. During this war emergencies had more than once arisen in the battle zone where arms had been issued to some of them. Recruitment of Africans into the Union Defense Force was very successful; so much so that at the end of the recruitment period 80,479 African men had been recruited into the Native Military Corps.[6] There are several pertinent primary documents relating

to Corps rank and payment in the Xuma A.B. papers, collection AD843, housed in the Historical Papers Research Archives, University of Witwatersrand, Johannesburg.

Figure 8. South African Native Military Corps (Ministry Of Information Second World War Colour Transparency Collection (photographs) by: War Office official photographer, Photo number TR 1262 "An Askari native guards an aircraft with an assegai" Courtesy Imperial War Museum

Their uniform of African khakis was complemented by the popular slouch hat (also worn by the South African Native Labour Corps in WW1) and the "Red Oath" volunteer tabs on epaulettes, worn by all members of the South African Armed Forces who volunteered to take part in WW2 and join the services (from all ethnic and cultural origins). The NMC insignia consisted of an African Elephant with the South African coat of arms and encapsulated in a wreath (Figure 8).

The SSS stations in the Simons town area, where Doreen Russel served, were most likely located in what is today the Cape Point Nature Reserve. The stations or FOP's (Forwards Observation Points) built on strategic promontories and clandestine cliffs had code names: Cobra (at Slangkop), Bosch (at Olifantsbosch), Vasco (at Cape Point), Diaz (overlooking the False Bay on the Point), Crow (at Scala), and Blue Gums (between Miller's Point and Smitswinkel Bay). These were all completed and operational by 1942.The radar stations built into clandestine nooks of the Cape Point cliff face were operated by the SSS 61st Coastal Defense Corps – said to be composed almost entirely of women. Their exact location was top secret. Local African labor, including women, built the roads and the structures to these remote locations. They were also covered with camouflage paraphernalia to avoid visibility from a mountain peak or aircraft (Figures 9-12).

Figure 9. Local African labor recruited for roadbuilding (image credits to Collection Radar at Bernard Price Institute, No. A3377-017, Historical Research Papers Archive, Johannesburg, South Africa).

Figure 10. View from the Station at the end of Cape Point (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-017, Historical Research Papers Archive, Johannesburg, South Africa).

Figure 11. Building a Radar Station at the Cape (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-017, Historical Research Papers Archive, Johannesburg, South Africa).

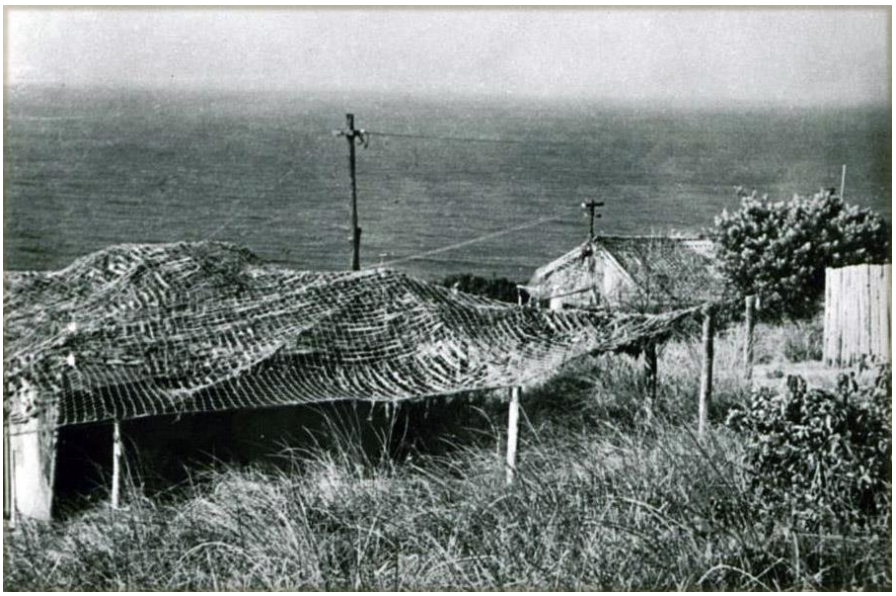

Figure 12. Camouflaging a Radar Station (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-019, Historical Research Papers Archive, Johannesburg, South Africa).

There are also unconfirmed anecdotes about one man who would join the fishermen in False Bay with a rod and tackle that had been rigged to create an antenna with which he would signal coded messages of military activity to enemy ships! [7]

By late 1942, with an increase in shipping losses around the Cape, some of the long-awaited Allied radar equipment arrived. One of the great wartime technological innovations, the revolutionary *cavity magnetron*, was at the crux of two new 10 cm CD (coastal defense) radars in octagonal wooden structures. These were Type NT 273-S and had been made for the Royal Navy. The small parabolic aerials projected a very narrow radar beam ideal for detecting U-boat conning towers and sometimes even periscopes. One of these sets was erected on Signal Hill and the other one at Cape Point. From 1943 the COL (Chain Overseas Low) radars began to arrive. They had been specially adapted for tropical conditions and operated at 200 MHz with a four-tier horizontal dipole aerial. The map-like television-type display was called the 'plan position indicator' or PPI. The COL was ideal for tracking shipping and low-flying aircraft. Most of the JBs around the coast were gradually replaced. However, some of the original radars continued to send in satisfactory readings throughout the war, thanks especially to the skills of the dedicated operators involved. Generally, the enemy craft seemed to suspect that South Africa had its own coastal radar and tended to keep quite far out at sea [8] (Figure 13-14).

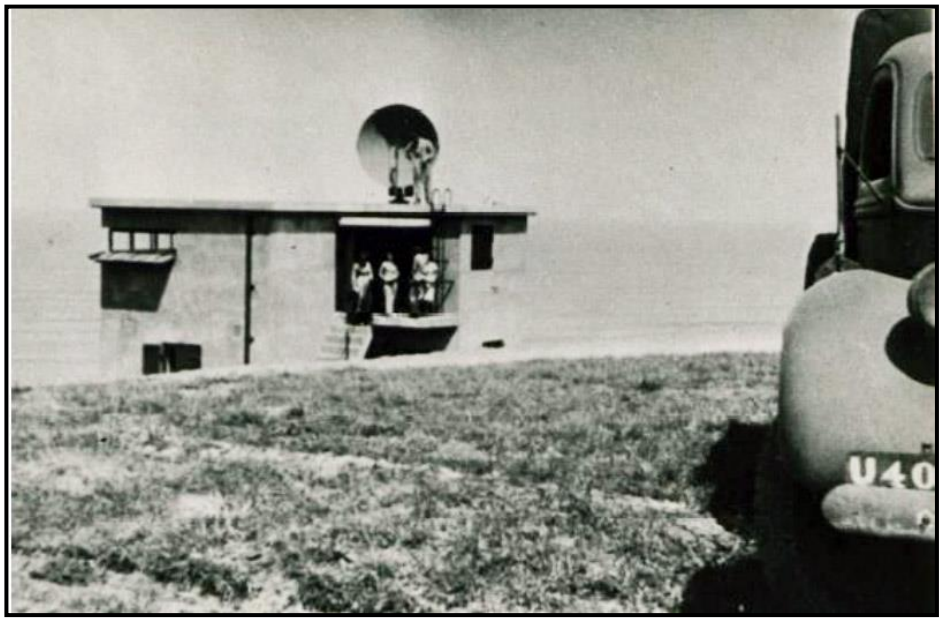

Figure13. Coastal Defense (CD) Radar set (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-016, Historical Research Papers Archive, Johannesburg, South Africa).

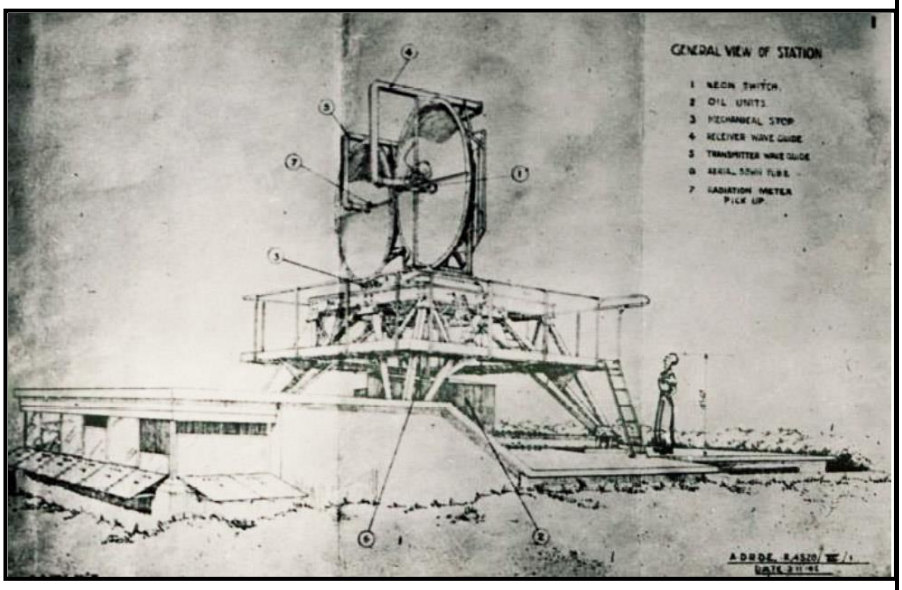

Figure 14. Hand drawn sketch plan showing labelled features Coastal Defense (CD) Radar set (image credits to Collection Radar at Bernard Price Institute, No. A3377-A-016, Historical Research Papers Archive, Johannesburg, South Africa).

Historic Structures in Cape Point

Cape Point is situated 60km south-west of Cape Town and is a Nature reserve that forms part of Table Mountain National Park and also a Natural World Heritage Site. The Nature reserve consists of 7 750 hectares of ground that includes a wide variety of fauna and flora, bucks (antelope), baboons and Cape Mountain Zebras as well as over 250 bird species. While there is little information at the visitor center about the World War II ruins and no hiking maps, showing locations or descriptions for available visitors, the Park website recently added a blog

feature discussing the installations.[9] Since 2014 East Carolina University has visited the ruins with history and maritime studies students participating in a Summer Study Abroad. As part of a field exercise the group collected GPS readings of locations, made notes about the condition of the sites, and took videos and photographs of the architectural features, as well as the flora and fauna in the proximity.

Site A

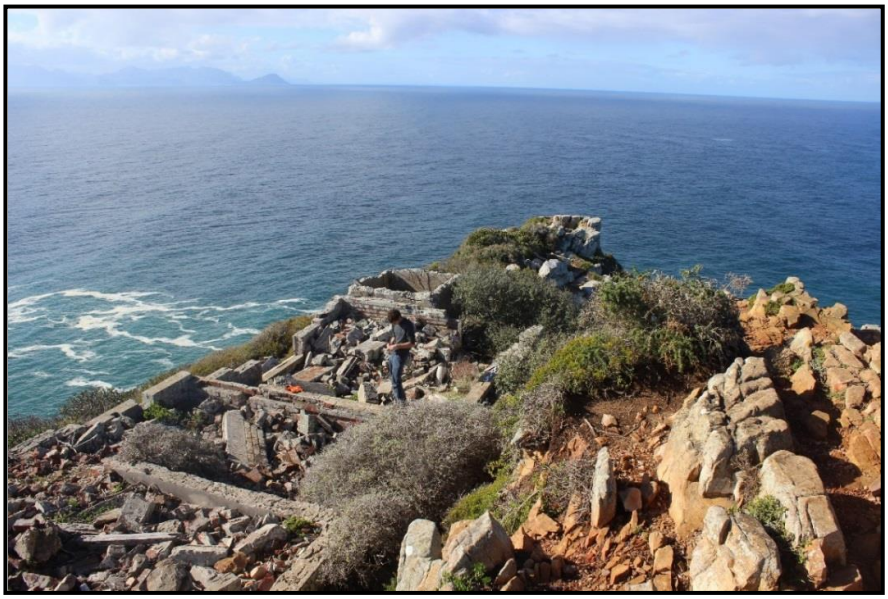

Figure 15. Site A at Cape Point (ECU Photograph).

Four collapsed square brick structures filled with sections of collapsed walls, brick rubble (some with remnants of black paint), wooden beams, pipe, sections of asbestos roofing, and metal hardware. On the west side is a small cliff, a stairway and east is the ocean. It is above the old lighthouse at the lower portion of the point. There is a gateway leading from the public path to the ruins. Location is 34 degrees 20' 20.5" South 018 degrees 24'42.2" East.

Site B.

A typical Radar Lookout station comprising a single square structure with rectangular wrap around viewing slot facing towards the ocean. Wood trim runs along along the interior viewing port and below the ceiling (5cm thick). The exterior wall facades have circular inscribed scrolling and painted camouflage green and brown. The scalloped cement edging around the roof would likely serve as camouflage from the air, presenting a less regular edge and blending in with the round boulders. Rocks and boulders decorated the roof to make it seem part of the rocky environment. Similar camouflage techniques were evident at the Bosch radar observation structure (Site E). The walls are 25cm thick. Three cement stanchion blocks to support radar

equipment each 55cm high, are situated near the east façade. Metal girder rod supporters outline the wrap-around viewing port. A heavy metal exit door is built into the north wall. There are rivets along the interior border and door handle and the door is marked BRITISH STEEL. Three metal stair rungs on the west interior wall lead to a raised area. Iron ring handhold are fastened to the wall on either side. The ceiling or interior roof is made out of rebar and gravel cement. A small western raised octagonal podium for radar equipment (2.50 meters square) is housed in an upper level room above the stairway. Location is 34 degrees 21" 20.3' South 018 degrees 29" 40.7' East.

Figure 16. Site B. Radar Lookout Station view of front façade (ECU Photograph).

Figure 17. Site B. Radar Lookout Station view of side façade (ECU Photograph).

Figure 18. Site B. Interior showing the doorway, roof beams and stairway (ECU Photograph).

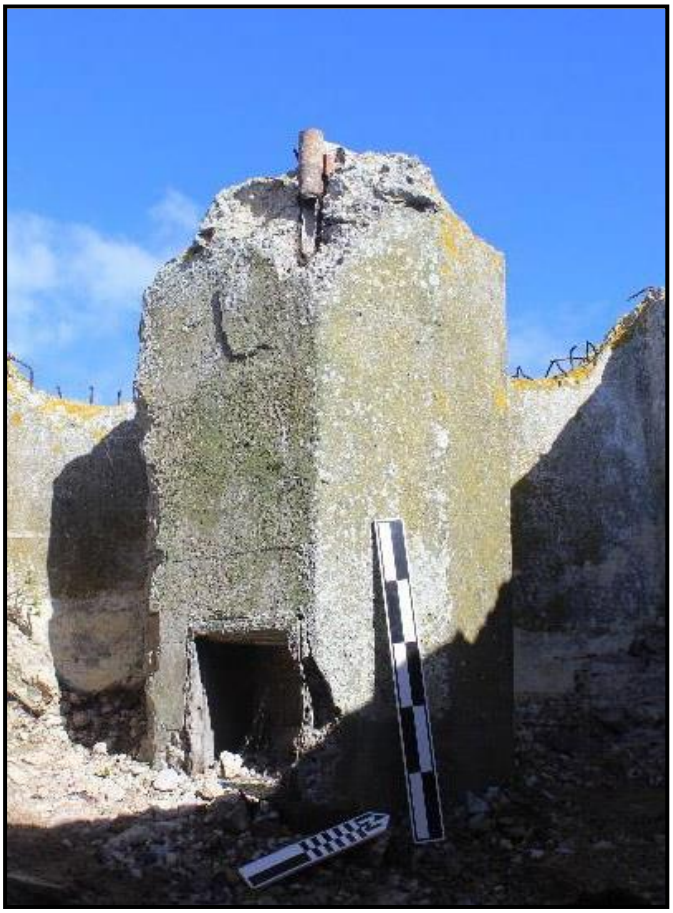

Figure 19. Site B Showing stairway to upper room and octagonal equipment podium (ECU Photograph).

Site C and D

This is an enclosed 2.33 square meter structure built with iron rebar and cement. On top, in the southwest top corner is a small square hole. To the north and up the ridge, brick rubble extends indicating other deteriorated structures. Location: 34 degrees 21.0" 19.9' South 018 degrees 29.0" 39.9' East. To the north is another square enclosed structure that appears unstable with cracks in the roof. It is similar rebar and cement construction. The view from the square roof port shows the unit is split into an eastern and western chamber with two ventilation pipes per chamber. Location is 34 degrees 21.0' 19.2" South 018 degrees 29.0' 38.0" East

Figure 20. Site C square structure made from cement and rebar. Contains an inscription "S.A.E.C. 1942" (ECU Photograph).

Site E.

The rectangular brick barracks near a radar station (called "Bosch" Figure 23), similar in design to site B, is located on the cliffs above Olifantsbosch cottage. It is aligned north –south. There are 6 rooms including kitchen and bathrooms with multiple windows and doors on all facades (Figure 21). Most are filled with brick and tile rubble or overgrown with weeds. The southern end of the structure is comprised of a small bathroom (room 1) with toilet, basin and shower.

There is a window on the southern façade above the toilet. It leads into another small room (room 2) with bathroom drainage features. It is adjacent to a room, possibly a kitchen, with a fireplace in the north wall and windows facing east and west with a tiled backsplash area for a sink (Figure 22 room 3). There are air vents above a door on the west wall leading to room 4. This room has windows facing west, with a view of the survey beacon on a rocky outcrop above the house. Room 5 is the largest in the complex. It has a window on the west wall, and bundles of barbed wire, brick rubble, roof asbestos sections and wooden beams with nails at the west façade near the doorway. Room 6, at the other end of the complex, has a doorway and window on the east façade, and a window on the north. A herd of Eland (antelope) and troops of baboons live around the structure and were present at the time of fieldwork. Tracks and animals' scat are visible all around the structure. Location is 34 degrees 15.0' 52.3" South 018 degrees 23.0' 9.5" East.

Figure 21. Site E Bosch barracks embedded in a cliff and surrounded by large boulders near a radar station (ECU Photograph).

Figure 22. Site E kitchen with a fireplace and stove or sink below tiled façade (ECU Photograph).

Figure 23. Bosch Radar Observation Structure. Note the camouflage techniques with rocks around the structure and on the roof (ECU Photograph).

Future Directions

Each woman who served in the SSS during WWII has a personal historical narrative to share about their experiences. These stories may be available from the few surviving women or through their families. Research into the SA military service record group to find names of these individuals is currently underway with the assistance of the South African Military History

Organization. Women served on radar stations from the Cape around the entire coast as far as Zululand. Today the so-called SSS girls are still highly regarded as glamorous secret agents and their service is considered one of the best kept secrets of the war in South Africa. There are also perceptions of the men who served with or trained women, painting them both in a negative or positive light. They were nicknamed the "Super Snob Squad" and men debated the value of women in wartime and how it might extend to peacetime. [10] Doreen Russell noted in an interview that military men treated the SSS women very respectfully and that military service provided a resume for multiple post-war opportunities for women veterans of the SSS. Men also had opportunities, but it impacted womens opportunities more significantly (Doreen Harris interview with Leigh Harris, 2009).

Further attention may be devoted to the complex social dynamics between the women radar operators with the Native guards, and both their attitudes towards the WWII enemy. It is interesting to note that some women tried to engage more closely with the guards and to start a school for them during off-duty times. This was relayed to Headquarters and the women were given orders to stop all activities of this kind. There clearly was pro-Nazi support in South Africa at the time, despite being a British ally. Newspapers and snippets of information in local archives suggest unsubstantiated intrigues, propaganda and conspiracies surrounding the radar stations, German submarines and submariners. One of the most curious was a report that Germans were put ashore in a bay near Cape Town where they travelled by bus to the local cinema to watch films and improve their English! Communications reveal that bodies of soldiers in uniforms on occasion washed up on beaches with cinema tickets in their pockets.[11] There are a plethora of questions about German and Nazi presence at the Cape with documents likely to be housed both in South Africa and in the Nazi collections. These include pictorial, film, oral, and documentary evidence.

There are also many other radar and barrack ruins beyond the few examples we documented at Cape Point Nature reserve. These cultural icons deserve a range of interdisciplinary studies and areas of focus combining historic preservation, archaeology, gender, communication technology, maritime and military historical perspectives. The structures are valuable coastal historic monuments with untapped potential as authentic marketable tourism venues, hiking trail landmarks, small museums and even as outdoor wildlife ecosystems.

Informative signage, pamphlets, well-marked maps, and pro-active public stewardship could enhance the recreational and educational value for the public.

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Endnotes

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