Tooele Army Depot-South Area
Attachment 6
General Facility Description

General Facility Description [Utah Admin. Code R315-270-14, Utah Admin. Code R315-264-18]

1.0 General Description [Utah Admin. Code R315-270-14(b)(1)]

1.1 Tooele Army Depot (TEAD), located immediately west of Tooele City includes two installations, the TEAD North and South Areas. The TEAD North Area, adjacent to Tooele City, was originally known as the Tooele Ordnance Depot (TOD), and functioned as a storage depot for World War II supplies, ammunition, and combat vehicles. In 1949, TOD assumed command of the South Area. In 1962, following a transfer to a new command, the TOD was re-designated the TEAD. The South Area was later realigned under the U.S. Army Chemical and Biological Defense Command (now the US Army Chemical Materials Activity (CMA)) and re-designated the Deseret Chemical Depot (DCD). In 2013 DCD's mission was completed and the facility was transferred back to TEAD and became the Tooele Army Depot-South Area (TEAD-S).

1.2 The primary mission of TEAD-S (the Facility) for the storage and demilitarization of chemical warfare agents has been completed. This permit has been modified to reflect these changes. This permit is specifically for the storage of hazardous wastes and demilitarization of conventional munitions by Open Detonation (OD) at the Facility. The general types of hazardous wastes stored at the Facility shall be:

1.2.1 Waste Munitions;
1.2.2 Waste from corrective action cleanup program;
1.2.3 Waste from industrial activities including vehicle and equipment maintenance;

1.3 The Facility is located approximately 12 miles south of Tooele City in Tooele County, Utah. Figure 6-1, Tooele Army Depot-South Area-General Site Topographic Map, shows the general layout of the Facility, including permitted storage facilities, topographic contours, and other physical site characteristics. Solid Waste Management Unit (SWMU) locations are shown in Figure 6-2, Tooele Army Depot-South Area-SWMU Location Map. The following is a general description of the processes that generate hazardous waste at the Facility.

Figure 6-1 General Site Topographic Map

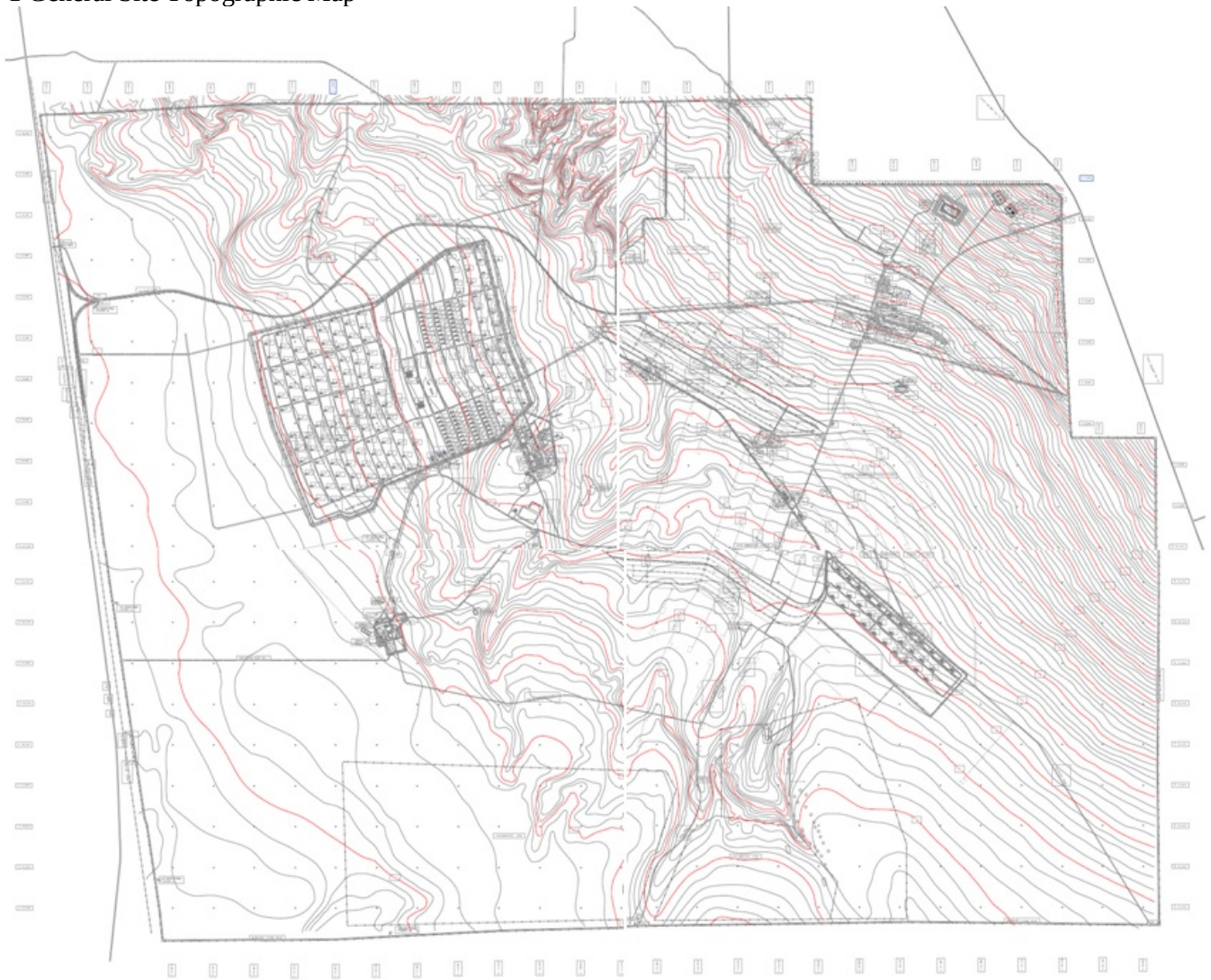
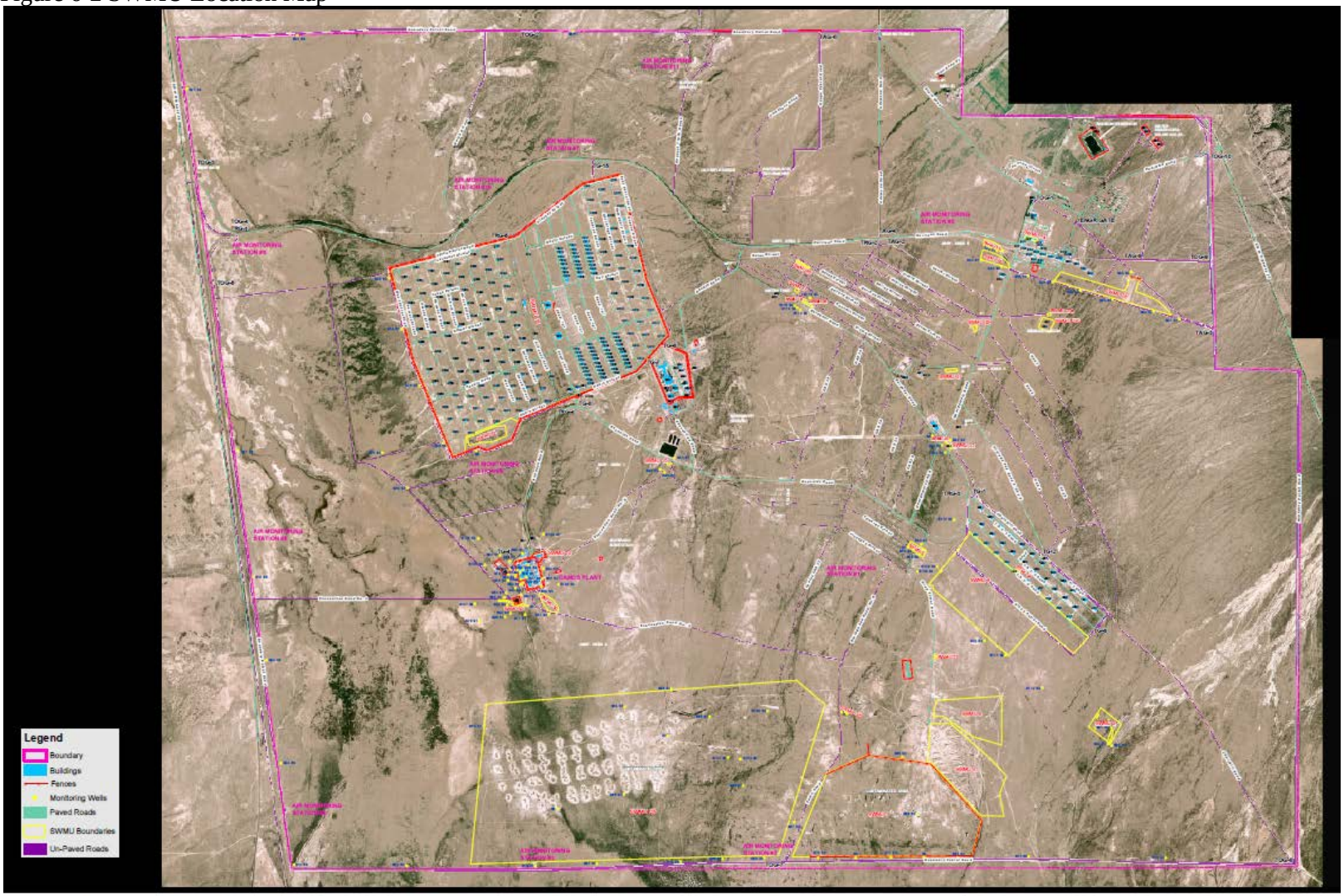


Figure 6-2 SWMU Location Map



2.0 Reserved

3.0 Reserved

4.0 Environmental Restoration and Decontamination Operations

4.1 The Facility has ongoing environmental restoration projects. These projects include monitoring well installation and Resource Conservation and Recovery Act (RCRA) corrective actions that generate investigative wastes (e.g., drill cuttings, used personal protective equipment (PPE), purge water). Environmental restoration activities bring equipment and vehicles into contact with contaminated media such as soil and groundwater. Equipment and vehicles used for these projects are decontaminated, generating waste decontamination solutions. Investigative wastes and waste decontamination solutions shall be contained, labeled, and disposed of according to Division and Environmental Protection Agency (EPA) regulations.

5.0 Miscellaneous Operations

5.1 A variety of other operations generate small quantities of hazardous wastes, including paints, adhesives, solvents, and spent filters from used gas masks. Additional items may occasionally be generated. In these instances, the Permittee shall either submit a permit modification to add such items to their permit, or the items shall be stored in an onsite storage area and properly disposed of.

5.2 SWMUs are areas in which solid and hazardous wastes may have been placed or released. A number of SWMUs have been identified at the Facility during the RCRA Facility Assessment and subsequent field investigations at the Facility.

5.3 The OD Area is located in the southeastern corner of TEAD-S. The OD Unit has been used since the 1940s for demilitarization activities of munitions detonation in pits. There are currently 20 pits that are permitted to be used at the OD Area.

6.0 Overview of the Storage Process

6.1 Hazardous wastes managed at the Facility can be divided into two categories: agent-related wastes and non-agent-related wastes.

6.2 Agent-related wastes include agent-contaminated materials, such as decontamination solutions. Waste bulk items, and agent-related wastes shall be managed in accordance with the Utah Admin. Code.

6.3 Permitted storage areas store agent-related waste and non-agent-related waste.

6.4 Attachment 1, Table 1-1-1, RCRA Hazardous Waste Designation and Rationale and Table 1-1-2, Hazardous Waste Streams and Storage Areas identifies hazardous wastes stored at the Facility's hazardous waste management units, their associated waste codes, and provides a brief discussion about the hazardous wastes. More detailed descriptions of the Facility hazardous waste management units appear in Attachment 12 (Container Management) which describes container management.

7.0 Agent-Related Hazardous Waste Generated and Stored

7.1 The Utah Admin. Code lists waste chemical agents and agent-related secondary wastes and residues as acutely hazardous wastes as defined in Utah Admin. Code R315-261-31 and Utah Admin. Code R315-261-33. Neat waste nerve, military and chemical agents of all types shall be assigned a waste code of P999. Residues from the demilitarization, treatment and testing of all types of nerve, military and chemical agent shall be assigned a waste code of F999.

8.0 Agent-Related Wastes

8. 1 Wastes contaminated with agent shall be stored in igloos permitted for storage of hazardous waste. Wastes may include metal parts, energetic components, dunnage, used PPE, charcoal, and other absorbents and filters. Storage requirements and configurations are identified in Attachment 12 (Container Management).

8.2 Non-Agent-Related Hazardous Wastes Generated and Stored

8.2.1 Non-agent-related hazardous wastes are generated at the Facility during the performance of remediation activities and industrial support activities such as building maintenance, small construction projects, and office operations. Non-agent-related hazardous wastes are segregated in containers by compatibility, and are transported to and stored at onsite storage facilities before being transferred to an approved offsite Treatment, Storage, and Disposal Facility (TSDF). Alternatively, they are transported to and stored at a permitted hazardous waste storage unit to await transfer to an approved offsite TSDF.

9.0 Topographic Map [Utah Admin. Code R315-270-14(b)(19)]

9.1 Figure 6-1, General Site Topographic Map, shows surface water features, fence lines, and roads. It also depicts the primary Facility access point, the Facility's legal boundaries, and area topography in accordance with the requirements of Utah Admin. Code R315-270-14(b)(19).

10.0 Water-Related Features

10.1 The Facility is located in the Rush Valley, a basin located in the basin and range region of the western United States. The topography of the drainage basin is generally smooth and uniform, sloping to the southwest from the facility to the Rush Valley floor. The valley floor drains northwest to Rush Lake, approximately 11 miles from the facility. Few well-defined natural drainage channels exist in the Facility vicinity. The soils are permeable and can easily absorb the 100-year precipitation event, expected to be about 3.2 inches. Ponding or pooling of runoff waters does not generally occur. The Great Salt Lake, located approximately 75 miles from the Facility, is about 850 feet lower in elevation than the Facility.

11.0 Surrounding Land Uses

11.1 The Facility is surrounded mostly by federally owned land, administered by the Bureau of Land Management, some State of Utah owned land and some privately owned land. There are no injection or withdrawal wells within the boundaries of the permitted container storage units.

12.0 Wind Rose

12.1 A wind rose for the Facility is shown in Figure 6-4. The wind rose indicates a prevailing wind speed from the southeast greater than 5.1 mph for more than 16% of the recorded period. Wind comes from the northwest at about 1.5 to 3.1 mph for about 12% of the recorded period.

13.0 Reserved

14.0 Regional Hydrology, Geology, Meteorology, and Land Use [Utah Admin. Code R315-270-23(b)]

14.1 Geology

14.1.1 The Facility is located in the basin and range physiographic province that extends from western Utah to California and from southeastern Oregon to Arizona. Basin and range geology is characterized by alternating parallel zones of uplifted and down-dropped fault blocks, which are known as horsts and grabens, respectively, and typically result from a period of regional tectonic extension. Uplifted horsts form mountain ranges that surround the down-dropped basins.

14.1.2 The valley in which the Facility is located, the Rush Valley, is a graben feature and is bounded by uplifted horst features of the Stansbury Range to the west and the Oquirrh Range to the east, both of which rise steeply from the valley floor. As is typical of basin and range geology, the boundary between the Rush Valley basin and adjacent mountain ranges is defined by one or more normal faults, which are indicative of the extensional forces that resulted in the current structural geology of the area. The northern terminus of the Rush Valley is defined by South Mountain, which has a much smaller vertical rise than the major ranges to the east and west, but still effectively blocks any runoff to the north. From the Facility, the Rush Valley extends south for many miles.

14.1.3 The stratigraphy of the Rush Valley basin is generally composed of a series of alluvial fans interbedded with evaporite deposits. The alluvial fans are outwash features from the surrounding mountain ranges. Due to the steep gradient of the mountainsides, the alluvial fans often extend thousands of meters into the basin. Evaporite deposits consist primarily of evaporite minerals such as halite and gypsum and are a common feature in closed basins of the Western U.S. At one time, these deposits were minerals dissolved in precipitation runoff that periodically accumulates in depressions within the Rush Valley. As the accumulated water evaporates, the minerals remain to form deposits on the valley floor. With time, alluvial fans cover the deposits, resulting in the interbedded stratigraphy seen today. The soft sediments of the valley are underlain by crystalline basement rock at great depth.

14.1.4 The topography of the Rush Valley is generally flat, but with low-lying ridges, swales, and gulleys interspersed throughout the valley floor. The Facility occupies a small rise on the east side of the valley. The eastern boundary of the facility is roughly one-eighth mile west of the toe of the Oquirrh Range mountain front. Across the Facility, the surface slopes gently downward to the west and north to the north-south trending centerline of the Rush Valley floor. The valley floor is nearly flat in the vicinity, with a slight gradient to the north toward Rush Lake and South Mountain.

14.2 Meteorology and Hydrology

14.2.1 The climate of the Rush Valley is extremely arid, with very low annual precipitation and high evapotranspiration. Refer to Figure 6-4 for a wind rose that illustrates prevailing wind directions.

14.2.2 The valley floor drains northwest to Rush Lake, which is approximately 5 miles from the Facility. A few well-defined natural drainage channels exist on the eastern side of the Facility. These channels are products of the erosion that results from sporadic flash flood events on the western flanks of the Oquirrh Range. The soils are permeable and can easily absorb the 100-year precipitation event, expected to be about 3.2 inches. Ponding or pooling of runoff generally does not occur at the Facility. Virtually all precipitation or runoff evaporates or infiltrates into the soil. A small amount of infiltrated water percolates into deep aquifer storage, although most remains in shallow groundwater systems and eventually discharges into Rush Lake at the north end of Rush Valley. The only way that water is naturally removed from Rush Valley is via evapotranspiration.

14.3 Land Use

14.3.1 The Facility is a military facility operated by the US Army Joint Munitions Command (JMC). The installation is surrounded by some state-owned land, some privately owned land, but mostly by federally owned land administered by the Bureau of Land Management.

14.4 Seismic Standard [Utah Admin. Code R315-270-14(b)(11)(i)-(ii), Utah Admin. Code R315-264-18(a)]

14.4.1 TEAD-S is an existing facility and as such is exempt from compliance with seismic standards.

14.5 Floodplain Standard [Utah Admin. Code R315-270-14(b)(11)(iii)-(iv), Utah Admin. Code R315-264-18(b)]

14.5.1 No Federal Insurance Administration 100-year floodplain maps of the Facility exist. Nonetheless, it has been determined that the Facility is outside of the 100-year flood plain and not subject to flooding. No floods have occurred at the Facility during the more than 70 years it has been in existence and there is no history of flooding in the area, so a 100-year flood in the vicinity of the Facility would be insignificant. The overall drainage gradient for the Facility is 1 percent or greater. The southeastern corner of the Facility, which is the lowest elevation point within the Facility, is 35 to 40 feet higher in elevation than Rush Lake, which would be the accumulation point of floodwaters in the Rush Valley.

14.6 Traffic Patterns [Utah Admin. Code R315-270-14(b)(10)]

14.6.1 Access to the Facility is via State Highway 198, connecting State Highway 73 to the main (north) gate; and via State Highway 73 directly, connecting to Doolittle Road and the east gate (Figure 6-1). Both State Highways are two-lane, undivided, asphalt concrete roads zoned at 55 mph. Neither highway is heavily traveled. The intersections of Highways 73 and 198 and Doolittle Road and Highway 73 are simple interchanges with no left turn lanes or traffic islands. Traffic control at the Highway 73/198 interchange is via a yield sign on Highway 198. Traffic control at the Doolittle Road /Highway 73 intersection is via a yield sign on Doolittle Road.

14.6.2 In the past, the Facility's west gate has been used for munitions shipments. Presently, no traffic is allowed through the west gate and the gate is kept locked except for emergencies. State Highway 36 is a two-lane, undivided, asphalt-concrete road. The Highway 36 / Harrison Road intersection is a simple interchange with traffic control via a yield sign on Harrison Road.

14.6.3 Generally all traffic, including government vehicles, commercial carriers, and privately owned vehicles, follows the primary traffic route. Only security vehicles, conventional munitions transportation vehicles, and maintenance vehicles travel off the primary route.

14.7 Estimated Traffic Volume

14.7.1 Vehicle traffic on the Facility property is variable and changes depending on the activities taking place at the Facility.

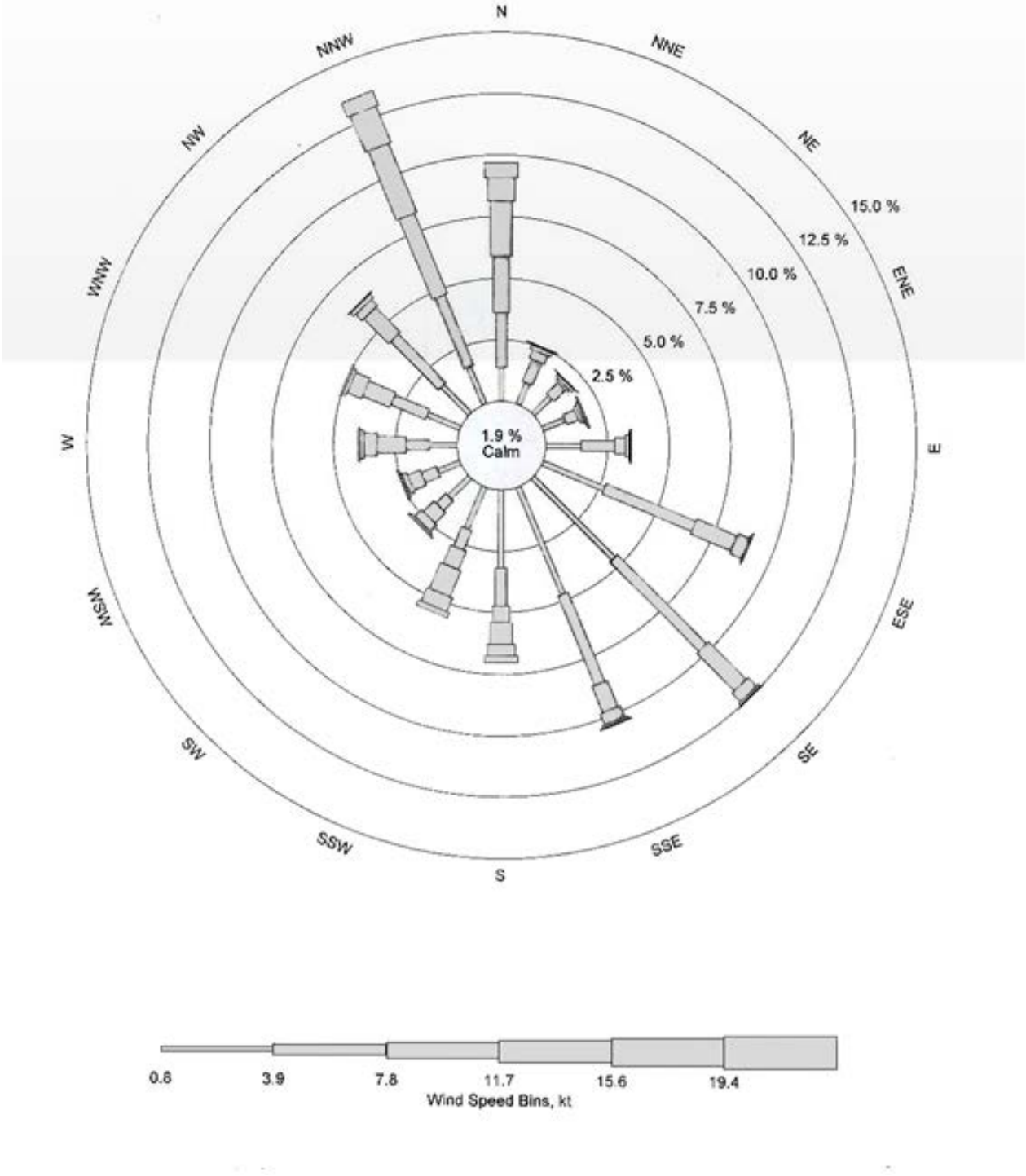
14.8 Traffic Control

14.8.1 Due to low volume of traffic at the Facility, traffic control measures are simple. Speed is restricted to 30 mph unless otherwise posted, 20 mph is posted in building and office areas, and 40 mph is posted for most of the primary traffic route. All blind or hazardous turns are marked and posted at reduced speeds. Yield signs control traffic at all major intersections. All railroad grade crossings are marked with signs. Traffic control enforcement is by security personnel.

14.9 Road Surfacing and Load Bearing Capacity

14.9.1 In general, all main routes to the HW management units are asphalt/concrete bituminous. Secondary roads are gravel or earthen. All roads at the Facility are designed for a maximum load-bearing capacity of 18,000 lbs per axle.

Figure 6-4: Wind Rose



Windrows: Based on weather data from the installations Tower 9 (centrally located on the installation for the period 01/01/01 through 12/31/01