

116 AIRFIELD PAVEMENTS - OTHER

Included in this basic category are airfield pavements, other than runways, taxiways, and aprons, such as washracks, rinse facilities, compass calibration pads, arming/de-arming pads, GCA pads, blast protective pavement, line vehicle parking, towways, ordnance handling pads, fire and rescue vehicle alert pads, and tactical support van pads.

116 10 AIRCRAFT WASHRACK PAVEMENT (SY)

Aircraft washracks are provided at all air installations for cleaning of aircraft in conjunction with periodic maintenance. For criteria for an aircraft freshwater rinse facility, see Category Code 116 15. A minimum of one washrack is required at each NAS, NAF, and equivalent Marine Corps facilities. The total number required at an installation depends on numbers and types of on-board aircraft.

Type A. An 803 square-yard washrack (Type A) can service 80 VA/VF or similar size aircraft or 40 rotary wing aircraft, or a combination of both. The number of combined aircraft that can be serviced on a Type A pad can be determined from the following equation: The number of VA/VF (or similar size) aircraft plus two times the number of helicopters equals 80.

EXAMPLE: 40 VA/VF plus 20 helicopters as $40 + 2(20)$ does not exceed 80.

Type B. An 1,822 square-yard washrack (Type B) can service 20 VF aircraft or 80 cargo transport aircraft, or a combination of both. The number of combined aircraft that can be serviced on a Type B pad can be determined from the following equation: four times the number of patrol aircraft (VP) plus the number of cargo aircraft equals 80.

EXAMPLE: 18 VP and 8 cargo as $4(18) + 8$ does not exceed 80.

The normal location of the washracks is adjacent to the hangar with access pavement provided as required. Utilities and an antipollution drainage system are provided.

A utilities control building with a gross area of approximately 630 square feet is planned with each washrack. It houses detergent metering equipment, air compressor, detergent mixing tank, water heater, utility controls, sanitary facilities for personnel, if required, and storage space for cleaning equipment. A detergent storage tank is located outside of the utilities control center and may be below ground.

For layout and design criteria for washracks, see NAVFAC DM-21 and NAVFAC P-272.

116 15 AIRCRAFT RINSE FACILITY (SY)

An aircraft rinse facility provides an unattended taxi-through, treadle operated, freshwater deluge system to rinse aircraft. The aircraft rinse facility is required at each Navy and Marine Corps air installation having

aircraft subject to accelerated corrosion due to low-level over-water operations or a corrosive atmosphere at the installation. A facility of appropriate type is planned for each type of aircraft normally stationed at the airfield.

Type 1 is for rotary wing aircraft and has a gross area of 910 SY

Type 2 is for VP type aircraft and has a gross area of 1,710 SY

Type 3 is for VF or VA type aircraft and has a gross area of 910 SY

Access taxiways (Code 112 10) and vehicle roads (Code 851 10) are programmed with the rinse facility as required. The facility should be located in proximity to the most frequently used taxiway and as near to the hangar area as possible. A water supply and drainage area are required.

See NAVFAC P-272 and NAVFAC DM-21 for design criteria.

116 20 AIRCRAFT COMPASS CALIBRATION PAD (SY)

An aircraft compass calibration pad is a paved area in a magnetically quiet zone where the compass in the aircraft is calibrated. There are two types of calibration pads:

Type I is used with the magnetic compass calibration set.

Type II pad includes a compass rose and turntable and may be used either with or without the compass calibration set.

Either pad handles one aircraft at a time. A minimum of one pad is provided at each station, however, additional pads may be required based on local demand. The time required to calibrate one aircraft compass using the magnetic compass calibration set is 2 hours. When using a Type II compass calibration pad without the magnetic compass calibration set, approximately 1 hour is required.

Existing paved areas located where earth's magnetic field is uniform are suitable for use as compass calibration pads. New Type II pads with compass rose and turntable are planned only where required for aircraft not adaptable to the magnetic compass calibration set.

Minimum distances from potential magnetic interference structures to the center of the pad are: 275 feet to the centerline of the nearest taxiway or towway; 225 feet to underground metal conduits and piping; 275 feet to the edge of aircraft and vehicle parking areas; 500 feet to underground powerline; 600 feet to overhead steam lines, a.c. power lines and/or equipment, nearest edge of railroad tracks, nearest portion of building containing any magnetic material; 1,000 feet to d.c. power lines and/or equipment.

The access taxiway to the calibration pad is oriented to facilitate moving the aircraft onto the pad, headed toward magnetic north. Each pad requires a target placed at a known but arbitrary bearing at a distance of approximately one-half mile from the pad and visible from both the aircraft and the compass calibration set. The gross area required for a compass calibration pad exclusive of access taxiway is 1,600 square yards.

For design criteria, see NAVFAC DM-21.

116 35 ARMING AND DE-ARMING PAD (SY)

This pad provides a paved area for activating or deactivating weapons systems on-board aircraft. It is utilized at all Navy and Marine Corps air installations where gunnery, rocketry, and/or missile firing are conducted. The average time for arming an aircraft is 20 minutes, and for de-arming an aircraft, 30 minutes. All aircraft on the pad may be either armed or de-armed simultaneously; however, arming and de-arming cannot occur simultaneously on the same pad. The number of pads at an installation depends upon the demand at that installation. The pads are sited at either end of the primary runway and, if additional pads are required, at either end of the crosswind runways.

Type A. The gross area of the Type A pad is 3,910 square yards. The Type A pad will accommodate simultaneously four UH1E or four OV10A aircraft.

Type B. The gross area of the Type B pad is 8,400 square yards. The Type B pad will accommodate simultaneously four VA or four VF aircraft.

Type C. The gross area of the Type C pad is 10,900 square yards. The Type C pad will accommodate simultaneously two VP aircraft.

Aircraft utilizing the pad normally park parallel to the runway but in any case they park headed in the direction providing the maximum length of undeveloped space along the extended longitudinal centerline of the aircraft. In no case is arming or de-arming of propelled armament conducted when the aircraft is headed towards inhabited areas on or near the air installation.

For design criteria, see NAVFAC DM-21. A waiver to airspace clearance criteria is not required when the arming and de-arming pad is sited as shown in DM-21.

116 40 GROUND CONTROLLED APPROACH PAD (SY)

The ground controlled approach pad is a paved hardstand provided to support the GCA equipment in operating position. The hardstand must be a minimum of 40 by 80 feet with the long dimension perpendicular to the runway centerline. The number of hardstands required depends on the number of approach directions necessary to provide instrument landings in all weather conditions. Technical manuals for the respective equipment describe acceptable locations for the pad.

116 42 BLAST PROTECTIVE PAVEMENT (SY)

Blast protective pavement is provided adjacent to the runway threshold and end turnoff for all runways except those at basic training propeller aircraft fields. The width of the blast pavement is 100 feet except for master jet air stations where the width shall be 125 feet. See NAVFAC DM-21 for design criteria.

116 45 LINE VEHICLE PARKING (SY)

Line vehicle parking spaces contiguous to taxiway and parking aprons are allocated to mobile equipment assigned for flight line use. See Table 116-45 for space requirements.

TABLE 116-45
Line Vehicle Parking

Equipment	Area (Sq. Yds.)
Tow tractor	20
Refueling truck	47
Refueling trailer	70
Mobile electric power plant	12
Oxygen trailer	8
Utility jeep	11
Bomb truck	20
Bomb trailer	14
Industrial flatbed truck	9
Industrial platform truck	9

Parking for aircraft fire and rescue vehicles are provided separately. See Category Code 141 20, Fire and Rescue Station and 116 60, Fire and Rescue Vehicle Alert Pad.

Parking areas shall be selected to permit optimum efficiency in the use of equipment (for example, squadron vehicles will normally be assigned space close to the squadron maintenance hangar) and to conform to lateral safety clearances for existing and projected airfield pavements. Where weather requires and the clearances permit, shelter for line vehicles may be provided.

See NAVFAC DM-21 for typical layout, clearances, and shelters.

116 50 TOWWAY (SY)

A towway is a paved roadway used for towing fixed or rotary wing aircraft from one area to another. It differs from a taxiway in that aircraft do not move on it under their own power. Towways may be authorized at air installations where it is necessary to tow aircraft from one operational area to another and in some instances, particularly at air installations with jet aircraft, to minimize noise conditions. Towway pavement is normally provided at industrial seaport air installations where carrier berthing facilities include those for unloading and loading of aircraft. Pavement marking, particularly centerline, should be provided, and lighting provided if operations are to be conducted at night. In some cases, towways will be on existing streets and roads or abandoned runways and taxiways which may be tailored for this use.

Such modification will include reconstruction or strengthening of listing facilities to support the maximum aircraft loading that will be superim-

posed at each location, as well as provision for adequate horizontal and vertical clearances. Jet blast criteria and shoulder specification need not be considered.

Towways are planned for air installations based upon the installation mission and type aircraft to be moved.

For towway widths and clearances, see NAVFAC DM-21.

116 55 ORDNANCE HANDLING PAD (SY)

An ordnance handling pad is provided for air installations where there is a requirement for loading or off-loading explosives from cargo aircraft and where no apron is available for use without violating explosive safety distance criteria. The pads are designed for use by cargo aircraft and will generally vary in size depending on the type of ordnance being handled and the number and type of aircraft to be loaded/unloaded simultaneously. However, where an ordnance handling pad is required to support either the C-5, C-141, or Boeing 747 aircraft, an 8,600 square yard pad is required. (See Figure 116 55.)

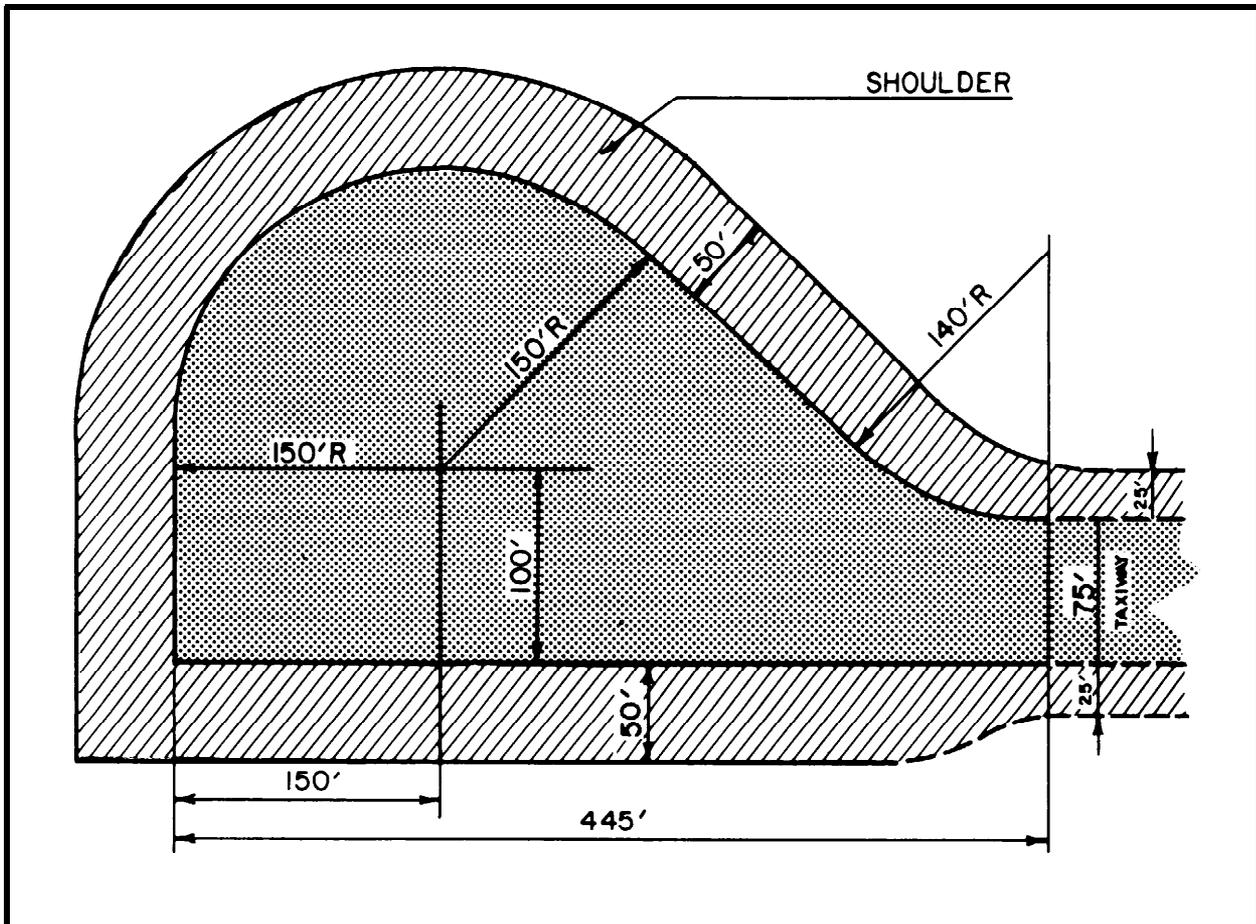


FIGURE 116 55
Ordnance Handling Pad
(For C-5, C-141, and Boeing 747)

The ordnance handling pad shall be sited in accordance with the airfield explosive prohibited areas and quantity distance standards published in NAVORD OP-5 - Volume I, latest revision (Ammunition Ashore Handling, Stowing and Shipping). Also, the ordnance pad should be located SO as not to violate the primary surface extending 750 feet on each side of the runway centerline, the 7:1 lateral transition slope, or other pertinent airfield flight safety criteria. Barricades shall be provided where required by quantity distance criteria or where their installation will produce a net reduction in construction and land acquisition costs.

Consideration should be given to utilizing an existing arming/de-arming pad (Category Code 116 35) for ordnance handling provided the arming/de-arming pad is sited in accordance with the guidelines stated above.

For design criteria, see NAVFAC DM-21.

116 56 COMBAT AIRCRAFT ORDNANCE LOADING AREA (SY)

Description. The combat aircraft ordnance loading area is primarily an apron where explosives are loaded/off-loaded from combat aircraft departing and/or returning from weapons training flights. This area is required where there is not space available on the parking apron for loading mass-detonating ordnance which will meet the explosive quantity-distance requirements specified in NAVSEA OP-5, Volume I (Ammunition and Explosives Ashore-Safety Regulations for Handling, Storing, Production, Renovation and Shipping). The weapons are not armed on this apron, see Category Code 115 35, Arming and De-arming Pad.

Policy. Due to the ordnance handling taking place on this apron, its location with respect to other facilities shall be determined using the quantity-distance requirements and explosive prohibited areas specified in NAVSEA OP-5, Volume I. The apron shall be separated from any inhabited building by the inhabited building distance based on the total quantity of explosives (Net Explosive Weight) to be handled on the apron at one time. In addition, the airfield safety clearances specified in NAVFAC P-80.3, Airfield Safety Clearances apply and:

- a. The apron must be outside of the runway primary surface
- b. Parked aircraft shall not penetrate any transitional surface
- c. No objects shall be sited within 100 feet of the edge of this apron

Criteria. There is no standard size for a combat aircraft ordnance loading area. The area required is a function of the number of aircraft to be simultaneously loaded/unloaded and the class and net explosive weight of the ordnance to be carried by each aircraft. Aircraft on the apron shall be separated from each other by the above ground magazine (unbarricaded, K=11) distances specified in OP-5, Volume I. The greater the net explosive weight on the aircraft, the greater the required separation. However, as a minimum, the aircraft spaces shall be separated by not less than the A, B, C, and D dimensions specified for parking aprons, Category Code 113 20. Peripheral taxilanes shall be provided as required to provide safe access to parking spaces. For aircraft with less than 70 foot

wingspan, a 75 foot wide peripheral taxilane will provide sufficient wing-tip clearance for a single aircraft to taxi past parked aircraft (assumes a ten foot clearance between outermost tire of the taxiing aircraft and the edge of pavement). For aircraft with a wingspan of 70 feet or greater, the peripheral taxilane width shall be determined using the clearance criteria shown in Figure 113 20E, Category Code 113 20. The minimum peripheral taxilane width shall be 75 feet.

The apron most likely will have to be sized to accommodate several loading situations. For example, parking locations could be spaced such that twelve aircraft could each be loaded with 500 lbs net explosive weight or six aircraft, parked in alternate spaces, could each be loaded with 5000 lbs net explosive weight. The maximum net explosive weight to be on the apron at one time shall be used in determining the explosive quantity distance arcs for the apron. These arcs shall be measured from the edge of the apron pavement, including the peripheral taxilanes. Justification shall be provided for the number of aircraft and the net explosive weight per aircraft chosen for sizing the apron.

Strong consideration shall be given to providing a joint use apron for ordnance handling from cargo aircraft, Category Code 116 55, and the combat aircraft ordnance area if these operations can be scheduled on a non-concurrent basis. If supporting facilities such as an ordnance operations building, or fixed point utility system are required, they shall be individually justified.

116 60 FIRE AND RESCUE VEHICLE ALERT PAD (SY)

This facility provides parking area for Immediate Response Alert Vehicle. The purpose of the Immediate Response Alert is to:

- (1) Observe all landings and take-offs.
- (2) Respond immediately to any aircraft accident.
- (3) Provide timely rescue of personnel involved in emergencies.

The pad should be large enough to park one P-4A truck and should be located no closer than 150 feet from the runway edge. The pad should not include a protective shelter or any other structure, which would violate airfield safety clearance criteria. See NAVFAC P-80.3, Airfield Safety Clearances, for guidance. The pad should be connected to the runway by a 16 foot wide access roadway. If there is no access to the alert pad other than from the runway, the parking space should be widened as required to allow the truck sufficient space to turn around.

P-4A CRASH TRUCK DIMENSIONS

Weight.....	=	46,600 pounds
Width.....	=	9 feet
Length.....	=	30 feet
Inside turning radius.....	=	50 feet

Normally there will be one alert pad per air station. However, multiple alert pads will be required when more than one runway is in use and operations cannot be observed from a single vantage point. The optimum location is on either side of the runway and near the middle of the airfield, but may vary depending upon the best observation of the runway. Consideration should be given to maximum utilization of existing abandoned pavements prior to construction of an Alert Pad.

Normally electrical power is not provided to the Alert Pad. However, when power is required to charge the truck batteries, requirements must be individually justified. For additional information see NAVAIR 00-80R-14 Aircraft Firefighting and Rescue NATOPS Manual.

116 65 TACTICAL SUPPORT VAN PAD (SY)

This facility consists of a hardstand with utilities to accommodate relocatable Tactical Support Center Vans. The Tactical Support Centers normally consist of 10 to 15 modular vans (9' wide x 8' high x 32' long) arranged in groups of 3-5 vans which are connected by corridors. The Tactical Support Center is an automated shore base facility in support of P-3 and S-3 Anti-Submarine missions. This facility will be programmed only upon specific direction from NAVAIRSYSCOM.