

## **1.0 GENERAL INFORMATION**

### **1.1 Location**

The facility covered under this Storm Water Pollution Prevention Plan (SWPPP) is Dallas Executive Airport (RBD). RBD is owned by the City of Dallas and is operated under the direction of the Department of Aviation (DOA). RBD is located 6.5 miles southwest of downtown Dallas within the City of Dallas, Dallas County, Texas. The general vicinity of the airport is shown on *Figure 1-1*. Pertinent location information includes:

Latitude: 32° 40' 51" N  
Longitude: 96° 52' 06" W  
Area: Approximately 1,035 acres  
Elevation: 660 feet above Mean Sea Level (MSL)

### **1.2 Facility Information**

RBD is a general aviation airport within the territorial jurisdiction of the City of Dallas, Texas. It is designated as one of four reliever airports with respect to air traffic at Dallas Love Field and the Dallas/Fort Worth International Airport. The airport serves the citizens of Dallas, Duncanville, Oak Cliff and surrounding areas with access to the national air transport system.

The general layout of RBD is shown in *Figure 1-2*. RBD has two runways (RWYs): RWY 13/31 (length: 6,452 feet), and RWY 17/35 (length: 3,801 feet). The width of both runways is 150 feet. RBD is capable of handling routine landings of aircraft weighing 60,000 pounds; the runway is considered stressed at 110,000 pounds. Airport operations are approximately 125,000 flights annually. The Texas National Guard Armory occupies ten acres of the southwestern portion of the airport, and the Dallas Police Department maintains a helicopter unit in readiness on airport property.

In addition to the DOA facilities, there are a number of tenants, subtenants, and contractors operating at the airport. In conjunction with the DOA, they provide a variety of ground support and aviation-related services. Services provided at RBD by DOA and tenants et al, include aircraft fueling, aircraft re-conditioning, aircraft maintenance, hangar space rental, and charter services. Fire-fighting response is accomplished by City of Dallas Fire Station #49, located on the east side of the airport at the intersection

of Challenger and Hampton Roads. *Exhibit 1*, located in the back of this report, presents a site map for RBD.

### **1.3 Climatic Characteristics**

The weather at RBD is typical of areas in north central Texas. Dallas County has a warm to temperate, humid, continental climate with a prevailing south wind. The summers are long and hot with an average daily maximum temperature of 94.9°F. Winters are short and mild, characterized by clear, cold weather with an average high temperature of 56.8°F, and an average daily low temperature of 35.3°F. Occasional freezes occur. Rainfall is uniformly distributed throughout the year, with a slight peak in precipitation during the spring months due to frequent thunderstorm activity. Annual precipitation averages approximately 34 inches; seasonal snowfall average is 3.1 inches and occurs on an average of 1.1 days per annum (U.S. Department of Agriculture).

### **1.4 Watershed Characteristics**

RBD occupies approximately 1,035 acres in the Trinity River Basin. The total drainage area of the Trinity River is 17,969 square miles, encompassing 34 counties. There are 21 major reservoirs totaling approximately 317,000 acres within the Basin, which is divided into 41 segments. The headwaters of the Trinity are formed by four forks—the West Fork, Clear Fork, Elm Fork and East Fork. RBD lies within the sub-drainage basin of Fivemile Creek, ultimately connecting to Stream Segment 0805 of the Trinity River Basin.

RBD is drained on all sides by tributaries of Fivemile Creek. The majority of RBD is located in Flood Hazard Zone X, an area of minimal flooding well outside of the 100-year floodplain. There are two areas in the northwest and southwest portions of RBD that are located within Flood Hazard Zone AE, which is defined as a 100-year floodplain with established base flood elevations. These floodplains are associated with Old Hickory Branch and the South Prong of Fivemile Creek. For a location of RBD with respect to the existing floodplain, see *Figure 1-3*.

A storm drainage system collects storm water runoff from throughout the various parts of the airport, and channels it into either Crow Creek or the South Prong of Fivemile Creek, which are both tributaries of Fivemile Creek, as shown on *Exhibit 1*.

## **1.5 Airport Drainage Basins**

Topographical elevations in the area of RBD range from 687 feet MSL, in the western portion of the airport, to 570 feet MSL along the northern boundary. The official elevation of the airport is 660 feet MSL. The topography of the airport is relatively flat.

The airport has a storm sewer system that conveys storm water from the terminal, parking lots, aircraft ramps, taxiways, and runways to tributaries of Fivemile Creek. There are nine relatively distinct drainage basins that are depicted in *Exhibit 1*. Drainage Basin A drains into Old Hickory Branch, which discharges into Crow Creek. Drainage Basin B drains into an unnamed tributary of Crow Creek. Drainage Basin C discharges into an unnamed tributary of Woody Branch. Drainage Basins D through G drain into unnamed tributaries of the South Prong of Fivemile Creek. Drainage Basin H drains directly into the South Prong of Fivemile Creek, while Drainage Basin I discharges into the City of Dallas' Municipal Separate Storm Sewer System (MS4). The South Prong of Fivemile Creek is a tributary of Woody Branch. Both Crow Creek and Woody Branch are tributaries of Fivemile Creek.

### **1.5.1 Drainage Basin A**

The storm water drainage system for Drainage Basin A has storm water inflow at the western edge of the airport property. Storm water draining from Westmoreland Road and associated off-site industry and business facilities discharges into Old Hickory Branch, which is a tributary of Crow Creek. This basin also collects runoff from a solid waste transfer station located outside of the airport property boundary. The southern portion of this drainage basin receives runoff from the highest elevation on the airport property. From this point, storm water flows north under the approach end of RWY 13/31 and into Old Hickory Branch. Storm water from the infield system is collected and flows via storm drains to ditches to Old Hickory Branch. Storm water leaves the airport from Drainage Basin A via Outfall No. 1. Drainage Basin A is the largest drainage basin and is approximately 432 acres in size.

### **1.5.2 Drainage Basin B**

Drainage Basin B drains approximately 188 acres of the airport and includes storm water from the infield and northern hangar section of the airport. This drainage basin removes storm water from the eastern half of RWY 17/35 until its intersection with RWY 13/31. The operations building, terminal, transit taxi facility, and Fire Station No. 49 are located within this basin. Storm water runoff originating from south

of Challenger Road is collected by grassy ditches and is directed to an unnamed tributary of Crow Creek. Storm water leaves the airport from Drainage Basin B via Outfall No. 2. This basin contains multiple fuel storage areas, maintenance facilities, and aircraft storage areas.

### **1.5.3 Drainage Basin C**

Drainage Basin C collects storm water runoff from an open area located between Mariner Road and Hampton Road. Storm water from Drainage Basin C leaves the airport via Outfall No. 3 and enters an unnamed tributary of Woody Branch. This drainage basin encompasses approximately 14 acres.

### **1.5.4 Drainage Basin D**

Drainage Basin D collects storm water runoff from a portion of the infield area between RWY 13/31 and Taxiway S. This basin includes the blast fence and run-up area of RWY 13/31, multiple aircraft storage and maintenance areas, the police helicopter facility, and a fuel farm. The U.S. Post Office and office buildings on Hampton Road are located within this basin on airport property; however, these facilities are not included as co-permittees in this SWPPP. A small portion of the infield drainage system between RWY 13/31 and Taxiway S is connected to the system in Drainage Basin E. Therefore, if storm water runoff to this infield system exceeds its capacity, it will overflow into the Drainage Basin E system and discharge to Outfall No. 5. Drainage Basin D is approximately 82 acres in size and drains to Outfall No. 4, which in turn empties into an unnamed tributary of the South Prong of Fivemile Creek.

### **1.5.5 Drainage Basin E**

Drainage Basin E collects storm water runoff from the area located south of the intersection of RWY 13/31 and RWY 17/35. This basin discharges to Outfall No. 5, which is an unnamed tributary of the South Prong of Fivemile Creek. Drainage Basin E has an area of approximately 94 acres.

### **1.5.6 Drainage Basin F**

Drainage Basin F, approximately 97 acres in size, collects storm water runoff from the area south of the intersection of RWY 13/31 and RWY 17/35 and west of RWY 17/35. This basin includes runoff from a portion of the Texas National Guard (TXNG) Armory. The facility has an aboveground storage tank in addition to several fuel trucks; however, the TXNG has requested to not be included as a co-permittee in

this SWPPP. The Federal Aviation Administration (FAA) remote transmitter and receiver antennae site, ceilometer, and weather station are also located within this basin. Drainage Basin F discharges at Outfall No. 6 into an unnamed tributary of the South Prong of Fivemile Creek.

#### **1.5.7 Drainage Basin G**

Drainage Basin G collects storm water runoff from the portion of the TXNG not drained by Drainage Basin F. The remainder of the basin is undeveloped. Drainage Basin G is comprised of approximately 44 acres, and discharges via Outfall No. 7 into an unnamed tributary of the South Prong of Fivemile Creek.

#### **1.5.8 Drainage Basin H**

Drainage Basin H is approximately 68 acres in size and drains an undeveloped area located in the southwestern portion of the airport property. This basin includes the airport property located south of Redbird Lane. Storm water runoff from Drainage Basin H leaves the property at Outfall No. 8, which is the South Prong of Fivemile Creek.

#### **1.5.9 Drainage Basin I**

Drainage Basin I is comprised of the airport property located southeast of the main airport boundary. This basin is approximately 16 acres in size and is entirely undeveloped. Storm water runoff from Drainage Basin I generally flows toward Hampton Road and Redbird Lane and discharges into the MS4. However, there is an inlet (Outfall No. 9) located along Hampton Road that collects a portion of the runoff from Drainage Basin I before discharging into the MS4.