

Mitigation Treatments

The DART Rail Management and Real Estate Departments would coordinate with DGNO regarding potential impacts to freight operations during the movement of the track. Coordinating track outage during construction can minimize the impact on freight operations in areas of switching activity.

3.7 Biological and Natural Resources

3.7.1 Wetlands

This section presents the assessment of potential impacts to wetlands resulting from the construction of the proposed DART Rail to Rowlett. Early coordination with the USACE was undertaken on August 23, 2005. Further coordination with the agency will be conducted through completion of final design. This coordination will include the preparation and review of a USACE Section 404 permit and development of mitigation plans, as necessary.

Impact Assessment

Emergent wetlands (0.25 acre) and bottomland hardwood systems (13.7 acres) were found within 150 feet of the existing rail that crosses the Rowlett Creek 100-year floodplain. It is assumed that the majority of these wetland systems would be avoided by the proposed DART Rail to Rowlett Alignment being constructed on aerial structure, which would span the entire Rowlett Creek floodplain. It is assumed that direct impacts would be minor and primarily consist of the placement of support pilings for the aerial structure.

However, the aerial structure is estimated to have minor shading impacts to wetlands in the Rowlett Creek floodplain as the proposed DART Rail to Rowlett Alignment at this location would be constructed just north of the existing rail line. These impacts are not anticipated to be significant. In addition, impacts to these systems would result from temporary use during construction. The construction scenario would be closely coordinated with the USACE to minimize impacts.

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Discharge of fill material into waters of the U.S. requires authorization by the USACE. A Nationwide Permit is one of several permits that may authorize a Section 404 discharge. Portions of the existing wetland systems may be directly impacted by the proposed DART Rail to Rowlett, and wetlands may be partially filled or subject to temporary short-term construction impacts. As a result, mitigation may be required for these areas. However, it is premature to state whether or not compensatory mitigation would be required for any particular crossing of a water of the U.S. until sufficient information describing likely project impacts becomes available during final design. Section 3.13.7 provides a discussion of wetland protection measures to be undertaken during construction.

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Section 404 Coordination. The proposed DART Rail to Rowlett would result in the discharge of dredged and fill material into waters of the U.S. Any action or project that would require the dredging or fill of wetland and floodplain areas would be subject to Section 404 of the CWA permitting requirements and are defined under the rules contained in 33 CFR 320 through 330.

As the proposed DART Rail to Rowlett approaches final design, a meeting between DART staff, consultants, and the USACE-Fort Worth District will be held. The purpose of this meeting is to introduce the USACE to the project, study process, and project area to determine what information should be prepared to meet USACE requirements. Following this meeting, a Wetland Delineation Report and permit application will be prepared and forwarded to the USACE for review and comment. Construction methods would be designed to protect wetlands to the greatest extent possible. If less than ½-acre or 500 linear feet of waters of the U.S. and less than 1/10th-acre of wetlands are to be impacted, than the proposed DART Rail to Rowlett would require authorization under the USACE Nationwide Permit 14 – Linear Transportation Crossings. Should impacts exceed those stipulated under Nationwide Permit 14, the construction of the proposed DART Rail to Rowlett would require authorization by an Individual Permit. Further coordination with the USACE will continue through the completion of the preliminary and final design including the identification of the need for and type of mitigation treatments.

3.7.2 Geology and Soils

Impact Assessment

The proposed DART Rail to Rowlett would have minimal effect on geological resources. Impacts to soils as a result of construction would include the removal of vegetation, mixing of soil horizons, exposure of soil, and loss of topsoil productivity in areas which are not currently paved. Short-term increased susceptibility to wind and water erosion and sedimentation would also occur, especially during the construction process. However, construction would not cause any long term geological issues.

As stated in Section 2.6.3, approximately 36 percent of the DART Rail to Rowlett Study Area contains prime farmland soils, consisting of Branyon Clay, Burleson Clay, Heiden Clay, Lewisville Silty Clay, and Trinity Clay. However, as no federal funding is to be applied to the proposed project, coordination with the NRCS in accordance with the Farmland Protection Policy Act (FPPA) is not required. In addition, as the proposed DART Rail to Rowlett largely takes place within existing ROW and the majority of the surrounding area is currently developed with little agrarian use, impacts to prime farmland soils would be minimal.

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No mitigation treatments would be required.

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3.7.3 Vegetation

Impact Assessment

Clearing and grading for installation of the proposed DART Rail to Rowlett would result in the removal of vegetation. Additional impacts to vegetation would occur from the movement of heavy equipment, stockpiling of construction materials, erosion, and establishing access roads for construction. Construction of the proposed DART Rail to Rowlett would impact many trees within the existing ROW. Trees adjacent to the aerial structure and large trees with branches that overhang within the ROW would have to be removed or trimmed. Areas requiring fill embankment to support the proposed LRT rail would be impacted to the greatest extent. These areas would have to be cleared and graded to accommodate the proposed side slopes. However, impacts to natural vegetation within park areas, namely the Rowlett Creek Preserve, would be minimized.

Much of the proposed DART Rail to Rowlett Corridor is already developed due to the existing freight rail and adjacent urban land uses and the majority of the native vegetation in these areas has been disturbed. It is anticipated that impacts to vegetation would primarily be limited to the existing ROW, with the exception existing within the drainage easements and temporary construction easements immediately adjacent to the existing ROW. Within these easements, Maintained Yards, and the existing ROW is the prevalent vegetation type. This vegetative community provides the lowest quality of wildlife habitat when compared to other vegetation types within the DART Rail to Rowlett Study Area (e.g., shrubland and woodland) and typically consists almost entirely of invasive and non-native species. However, a large pocket of native vegetation exists within the Rowlett Creek Preserve located within the Rowlett Creek floodplain. Field investigations in this area revealed the presence of a variety of mature hardwood species such as American elm, cedar elm, pecan, box elder, green ash and hackberry.

The City of Garland's *Tree Preservation Ordinance* (Chapter 34, Article I) and the City of Rowlett's *Tree Ordinance* (Chapter 98, Article II) generally prohibit the removal of protected trees without first obtaining a permit; the permit holder must then mitigate for the loss by replacing the protected trees with selected, city-approved tree species. According to the City of Garland, a tree must have a diameter-at-breast height (dbh) of at least six inches to be protected and the type of replacement depends on the species of the tree removed. The City of Rowlett requires that trees having a dbh of at least eight inches qualify for protection.

For the portions of the proposed project within the existing rail ROW, DART would be exempt from both of these ordinances for the following reasons:

- In Garland, tree removal that occurs due to the installation, operation, or maintenance of city-sponsored public works facilities, including transportation projects such as the proposed action, are exempt from the *Tree Preservation Ordinance*.
- In Rowlett, projects occurring in ROW that is owned or leased by a government entity prior to the effective date of the Tree Ordinance, as is the case for the proposed project, are exempt from the ordinance.

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DART must, however, comply with this ordinance should tree removal be proposed outside the existing ROW within the City of Rowlett. At this time, no such tree removals requiring a permit from the City of Rowlett are proposed. A tree survey will be conducted to determine whether the felling of any protected trees within the acquisition areas is required. During final design, any necessary mitigation pursuant to the tree ordinance would be determined. Though not bound by the municipal tree ordinances of the cities of Garland and Rowlett, DART's policy is to preserve existing vegetation and trees to the greatest extent possible.

As discussed in Section 3.7.1, impacts to delineated wetlands within the ROW would be minimized by erecting the new LRT line on an aerial structure through the entire extent of the Rowlett Creek 100-year floodplain. However, short-term impacts to wetland and riparian vegetation as a result of construction of the proposed project would occur. The extent of these impacts would not be determined until the method of construction is finalized.

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An aerial structure over the Rowlett Creek 100-year floodplain would minimize impacts to native wetland and mature hardwood vegetation within the ROW. Mitigation required under the *Rowlett Tree Ordinance* for the removal of protected trees in the proposed drainage and temporary construction easements would be determined once results of the tree survey and design are finalized. Vegetation disturbed during construction of the proposed project would be replaced and restored to as close as possible to the existing conditions. In areas adjacent to the proposed construction, vegetation impacts would be limited to temporary clearing during construction, followed by re-vegetation once ground-clearing activities have been completed. No other mitigation treatments would be required.

3.7.4 Wildlife and Threatened and Endangered Species

Impact Assessment

The proposed DART Rail to Rowlett would have little effect on wildlife populations. As the existing ROW is currently occupied by the MKT freight line and the majority of the land adjacent to the track is urbanized, the potential habitat associated with the proposed DART Rail to Rowlett Corridor is generally disturbed. Wildlife habitat of the highest quality within the proposed DART Rail to Rowlett Corridor lies within the Rowlett Creek Preserve and Rowlett Creek floodplain. The proposed aerial structure through this area would allow wildlife to freely access the preserve and not present a barrier.

During the preliminary site reconnaissance, it was found that habitat elements for some state and federally listed threatened and endangered species are found in the project area. These species include the bald eagle (*Haliaeetus leucocephalus*), wood stork (*Mycteria americana*), and timber/canebrake rattlesnake (*Crotalus horridus*). However, none of these species or any other threatened or endangered species listed for Dallas County were detected during field investigations. Additionally, according to the USFWS, there have been no threatened and endangered species sightings recorded within the study area.

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Some wildlife would be temporarily displaced from the ROW in areas that would be cleared for construction of the proposed DART Rail to Rowlett. Long term impacts would be mitigated through re-vegetation, as discussed in Section 3.7.3. Existing vegetation or habitat would be replanted along the disturbed project areas.

3.8 Water Resources and Floodplains

The following section summarizes existing water resources in the proposed DART Rail to Rowlett Corridor, specifically the Rowlett Creek 100-year floodplain, which a significant portion of the proposed alignment passes through.

3.8.1 Water Resources

Impact Assessment

The proposed DART Rail to Rowlett would operate along the existing rail corridor from the DART Downtown Garland LRT Station to Centerville Road. Mills Branch is crossed within this section of the alignment, just west of SH 78. Impacts to Mills Branch would be associated with the construction of a new culvert. Approximately 380 linear feet of the creek would be directly impacted as a result of the proposed project (**Table 3-8**).

Table 3-8: Impacts to Surface Waters

Name	Type of Impact	Estimated Direct Impacts* (LF)
Mills Branch	Culvert	380.58
Rowlett Creek Floodplain Tributary #1	Aerial structure pilings	150.07
Rowlett Creek	Aerial structure pilings	125.23
Rowlett Creek Floodplain Tributary #2	Aerial structure pilings	124.69
Rowlett Creek Floodplain Tributary #3	Culvert	149.54
Long Branch Creek	Bridge	N/A

Source: LOPEZGARCIA GROUP, 2006

Note: *Impacts to surface waters within the project area are estimated at this time. Complete calculation of impacts will be derived upon completion of final design

After the DART Rail to Rowlett Alignment crosses Centerville Road, the LRT line would become aerial and traverse above the entire length of the Rowlett Creek 100-year floodplain for 2,600 feet along an American Association of State Highway and Transportation Officials Type IV concrete bridge with 90-foot spans. Rowlett Creek and three unnamed tributaries would be crossed by this aerial structure. Impacts to these waters would be minimal and occur solely in the vicinity of the proposed bridge pilings.

