



October 20, 2022
Project No. 1678-005-11-03

Mr. Toby Baker
Executive Director
MC-109
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Re: Parkway Transfer Station
Type V Permit Amendment Application, TCEQ Permit No. MSW-1494A
Collin County

Dear Mr. Baker:

On behalf of The North Texas Municipal Water District, please find enclosed a Type V permit amendment application to revise the layout of the Parkway Transfer Station. Included are four copies of the application for your review and comment. Parts I through IV are included, as required by the Texas Commission on Environmental Quality's (TCEQ) municipal solid waste regulations.

The purpose of this Type V Permit Amendment is to secure authorization to revise the site layout to improve efficiency and enhance operations at the existing Parkway Transfer Station, TCEQ Permit No. MSW-1494A. The existing permit boundary is not proposed to be changed by this application. The Parkway Transfer Station has provided for the municipal solid waste disposal needs of Collin County and surrounding areas for over 25 years. This permit amendment will ensure that this critical service will continue for the two transfer station's service area.

The North Texas Municipal Water District is fully committed to operating the Parkway Transfer Station consistent with TCEQ rules for the protection of human health and the environment.

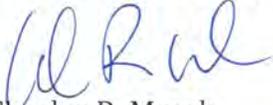
Mr. Toby Baker

October 20, 2022

We appreciate your review of this permit application and look forward to your comments. In the meantime, if you have any questions, please do not hesitate to contact me.

Sincerely,

Weaver Consultants Group, LLC



Charles R. Marsh

Project Director

Copies submitted: 1 original and 3 copies

cc: TCEQ Region 4 Office
Site Operating Record
Jeff Mayfield, P.E., North Texas Municipal Water District

Administrative and Technical Review Checklist for Municipal Solid Waste (MSW) Permits, Registrations and Amendments

This checklist is designed to provide guidance for the Municipal Solid Waste (MSW) rules found in Title 30 Texas Administrative Code (30 TAC) Chapter 330, for Type I, IV and V registration, permit, and permit amendment applications. Areas of the checklist that are shaded in gray are for information purposes only.

Please fill out application information before selecting and filling out a checklist.

Applicant Information			
Company:	North Texas Municipal Water District		
First name:	Mike	Last name:	Friesen
Applicant Title:	Assistant Deputy - Solid Waste	Prefix:	
Street Address:	PO Box 2408		
City:	Wylie	State:	Texas
		Zip code:	75098
Applicant E-Mail:	mfriesen@NTMWD.com		
Consultant Information			
First name:	Charles	Last name:	Marsh
Consultant Title:	Project Director	Prefix:	
Consultant Firm:	Weaver Consultants Group, LLC		
Consultant Address:	6420 Southwest Boulevard, Suite 206		
City:	Fort Worth	State:	Texas
		Zip code:	76109
Consultant E-Mail:	cmarsh@wcgrp.com		
Application Information			
Facility Name:	NTMWD Parkway Transfer Station		
Application Date:	10/20/2022		
CN:	601365448	MSW ID:	1494A
RN:	100535392	Authorization Type:	Permit
County:	Collin	Application Type:	Permit Amendment

ID	App. Part	Checklist Item	Item Type	Citation	Complete?	Location	Applicant Comments	Application Area
1	General	Submit all four parts of the permit, permit amendment or registration application.	Required	330.57(a) & (b)	Yes	Type V Permit Amendment Application		Format- Application
2	General	Submit TCEQ Part I Form (Form No. 0630)	Required	330.57(c)(1)	Yes	Part I - Application Form		Format- Forms
8	General	Part II of the application contains location and coordination information.	Informational	330.57(c)(2)				Format- Application
9	General	Part III of the application contains design information.	Informational	330.57(c)(3)				Format- Application
10	General	Part IV of the application contains the site operating plan.	Informational	330.57(c)(4)				Format- Application
11	General	The application should address all aspects of application and design requirements, even to show why not applicable (N/A).	Informational	330.57(d)				Format- Application
12	General	Submit data of sufficient completeness, accuracy and clarity.	Required	330.57(d)	Yes	Type V Permit Amendment Application		Format- Application
13	General	Failure to provide complete information may be cause for ED to return application.	Informational	330.57(d)				Format- Application
14	General	Provide 4 Copies for Initial Submittal (1 original and 3 copies).	Required	330.57(e)	Yes	Type V Permit Amendment Application		Format- Application
15	General	Provide 4 copies for NOD Responses including 1 copy with marked revisions (redline/strikeout).	Required	330.57(g)(6)	Yes	Application is a full replacement. No redline/strikeout copies are necessary.		Format- Application
16	General	Application must be prepared in accordance with Texas Occupations Code, Texas Engineering Practice Act, Chapter 1001 and Texas Geoscience Practice Act, Chapter 1002	Informational	330.57(f)				Format- Application
17	General	Provide a PE signature, seal and date on the title page of each bound engineering report or individual engineering plan, and on each engineering drawing.	Required	330.57(f)(1)	Yes	Type V Permit Amendment Application		Format- Application
18	General	Provide PG sign, seal, & date for applicable items	Required	330.57(f)(2)	Yes	Not applicable		Format- Application
19	General	Applications that are not sealed are incomplete and shall be returned.	Informational	330.57(f)(3)				Format- Application
20	General	Submit the application in three ring-binders	Required	330.57(g)(1)	Yes	Type V Permit Amendment Application		Format- Application
21	General	Submit Title Page with Name, Application No., Site Operator Name, Operator Name (if applicable), Location, Date Prepared and Revision Dates)	Required	330.57(g)(2)	Yes	Type V Permit Amendment Application		Format- Application
22	General	Provide Table of Contents with PE seal	Required	330.57(g)(3)	Yes	Type V Permit Amendment Application		Format- Application
23	General	Use 8.5x11 inch or 11x17 paper (folded to 8.5x11 inch)	Required	330.57(g)(4)	Yes	Type V Permit Amendment Application		Format- Application
24	General	Provide pages with date (original and revised) and sequential page numbers.	Required	330.57(g)(5)	Yes	Type V Permit Amendment Application		Format- Application
25	General	Provide legible drawings/maps	Required	330.57(h)(1)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
26	General	Provide color coding on all figures and drawings that is legible and distinct after copying in black & white	Required	330.57(h)(2)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
27	General	Provide a standard engineering scale on each figure or drawing	Required	330.57(h)(3)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
28	General	Provide a dated title block on each figure or drawing	Required	330.57(h)(4)(A)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
29	General	Provide a bar scale at least 1 inch on all figures and drawings	Required	330.57(h)(4)(B)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
30	General	Provide a revision block on all figures and drawings	Required	330.57(h)(4)(C)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
31	General	Provide a PE or PG seal ,if required, on all figures and drawings	Required	330.57(h)(4)(D)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
32	General	Include drawing number and a page number on each drawing and figure	Required	330.57(h)(4)(E)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
33	General	Include a north arrow on each map or plan drawing	Required	330.57(h)(5)(A)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
34	General	Include a reference to base map & date of most current base map used, if the map is based upon another map	Required	330.57(h)(5)(B)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
35	General	Include a legend on each map or plan drawing	Required	330.57(h)(5)(C)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing
36	General	Provide match lines and section lines that reference the drawing where the match or section is shown.	Required	330.57(h)(6)	Yes	Type V Permit Amendment Application		Format- Maps/Drawing

45	General	Acknowledge that the construction and operation of the waste management facility shall comply with Subchapter U of 30 TAC Chapter 330 (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations) or other approved air authorizations. Owners or operators of these types of facilities should consult with the Air Permits Division on or before the date that the municipal solid waste application is filed with the executive director.	Acknowledgement	330.55(a)	No			Other Authorizations
46	General	ACKNOWLEDGE THAT ALL INQUIRIES REGARDING THE operation of solid waste facilities shall be disposed of in a manner that will not cause surface water or groundwater pollution. Facilities shall provide for the treatment of wastewaters resulting from waste management activities and from cleaning and washing. Owners or operators shall ensure that storm water and wastewater management is in compliance with the regulations of the executive director .	Acknowledgement	330.55(a)	No			Other Authorizations
49	General	It is the responsibility of an owner or operator to possess or acquire a sufficient interest in or right to the use of the surface estate of the property for which a permit is issued, including the access route. The granting of a permit does neither convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the scope of the authority under which a permit is issued.	Informational	330.67(a)				General Information
51	General	Executive director approval or a permit will be required if any on-site operations subsequent to closure of a landfill facility involve disturbing the cover or liner of the landfill.	Informational	330.67(c)				General Information
52	General	It is the responsibility of an owner or operator to obtain any permits or approvals that may be required by local agencies such as for building construction, discharge of uncontaminated waters into ditches under control of a drainage district, discharge of effluent into a local sanitary sewer system,	Informational	330.67(d)				General Information
58	General	IF AT ANY TIME DURING THE PERIOD OF THE FACILITY THE owner or operator becomes aware of any condition in the permit or registration that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the facility in compliance, the owner or operator shall submit to the executive director requested changes to the permit or registration in accordance with 30 TAC §305.62 or §305.70 and must be approved prior to their	Informational	330.73(a)				General Information
60	General	THE OWNER OR OPERATOR SHALL OBTAIN AND SUBMIT certification by a Texas-licensed professional engineer that the facility has been constructed as designed in accordance with the issued registration or permit and in general compliance with the regulations prior to initial operation. The owner or operator shall maintain that certification on site for	Informational	330.73(d)				General Information
61	General	After all initial construction activity has been completed and prior to accepting any solid waste, the owner or operator shall contact the executive director and region office in writing and request a pre-opening inspection. A pre-opening inspection shall be conducted by the executive director within 14 days of notification by the owner or operator that all construction activities have been completed, accompanied by representatives of the owner or operator and the engineer	Informational	330.73(e)				General Information

62	General	until the executive director has confirmed in writing that all applicable submissions required by the permit or registration and this chapter have been received and found to be acceptable, and that construction is in compliance with the permit or registration and the approved site development plan. If the executive director has not provided a written or verbal response within 14 days of completion of the pre-opening inspection, the facility shall be considered approved for	Informational	330.73(f)					General Information
63	General	Identify if the Regulated Entity or Customer has any delinquent fees	Required	330.59(h), 330.671, 330.675	No			No delinquent fees	Delinquent Fees
64	Part I	Provide a copy of the application, including all revisions and supplements on a publicly accessible Web site	Required in Part I Form	330.570(k)					Part I Form
65	Part I	Provide the commission with the Web address link for the application materials	Required in Part I Form	330.570(k)					Part I Form
66	Part I	Signature Page must have signature and notarization	Required in Part I Form	330.59(a)(1)					Part I Form
67	Part I	Applicant's name, mailing address & phone no.	Required in Part I Form	330.59(a)(1)					Part I Form
68	Part I	Description of the nature of the business	Required in Part I Form	330.59(a)(1)					Part I Form
69	Part I	Activities that require a permit (conducted at the facility)	Required in Part I Form	330.59(a)(1)					Part I Form
70	Part I	Location description, facility name & mailing address	Required in Part I Form	330.59(b)(1); 305.45(a)(1)					Part I Form
71	Part I	Access routes	Required in Part I Form	330.59(b)(2)					Part I Form
72	Part I	Lat & Long of the facility	Required in Part I Form	330.59(b)(3)					Part I Form
73	Part I	Lat & Long, depicted	Required in Part I Form	330.59(b)(3)					Part I Form
74	Part I	All maps should show the facility location	Required in Part I Form	330.59(c)(1)(A)					Part I Form
76	Part I	All maps should show other structures or locations regarding the regulated facility and associated activities.	Required in Part I Form	305.45(a)(6)					Part I Form
77	Part I	At least one map with a scale not less than 1 inch = 1 mile	Required in Part I Form	305.45(a)(6)					Part I Form
78	Part I	Permit/Registration boundary and 1 mile beyond to show the following:	Required in Part I Form	330.59(c)(1)(B)					Part I Form
79	Part I	Wells, springs, surface water bodies:	Required in Part I Form	305.45(a)(6)(A)					Part I Form
80	Part I	Character of adjacent land including public roads, towns, development as residential, commercial, agricultural, etc.	Required in Part I Form	305.45(a)(6)(B)					Part I Form
81	Part I	Location of any waste disposal activities conducted on the tract but not included in the application	Required in Part I Form	305.45(a)(6)(C)					Part I Form
82	Part I	General location map, TXDOT, scale of 1/2 inch = 1 mile and most current map used	Required in Part I Form	330.59(c)(2)					Part I Form
83	Part I	Land Ownership Map, within 1/4 mile & mineral interest ownership.	Required in Part I Form	330.59(c)(3)(A)					Part I Form
84	Part I	Land Ownership List both in hardcopy and electronic form (alternatively pre-printed mailing labels)	Required in Part I Form	330.59(c)(3)(B)					Part I Form
85	Part I	Legal description of property or other documentation of ownership	Required in Part I Form	330.59(d)(1)(A)					Part I Form
86	Part I	If plated, plat record with county, book, page number and acreage information	Required in Part I Form	330.59(d)(1)(B)					Part I Form
87	Part I	Signed, sealed and dated surveyed metes and bounds description of the facility	Required in Part I Form	330.59(d)(1)(C)					Part I Form
88	Part I	Signed & sealed metes & bounds drawing	Required in Part I Form	330.59(d)(1)(D)					Part I Form
89	Part I	Signed property owner affidavit	Required in Part I Form	330.59(d)(2)					Part I Form
90	Part I	Acknowledge that State may hold owner responsible	Required in Part I Form	330.59(d)(2)(A)					Part I Form
92	Part I	Acknowledge that the owner & State shall have access during life of the facility and during closure	Required in Part I Form	330.59(d)(2)(C)					Part I Form
94	Part I	Verified legal status of applicant and list of persons with 20% or more ownership in the facility	Required in Part I Form	330.59(e)					Part I Form
95	Part I	Ownership status as federal, state, private, public or other	Required in Part I Form	305.45(a)(2)					Part I Form
96	Part I	List of all Texas solid waste sites that the owner or operator has owned or operated within the last ten years. The site name, site type, permit or registration number, county, and dates of operation shall also be	Required in Part I Form	330.59(f)(1)					Part I Form
97	Part I	Submit a list of all solid waste sites in all states, territories, or countries in which the owner or operator has a direct financial interest. The type of site shall be identified by location, operating agency, name, and address of the regulatory agency, and the name under which the site was operated.	Required in Part I Form	330.59(f)(2)					Part I Form
98	Part I	Small employ a licensed solid waste facility supervisor before operating.	Required in Part I Form	330.59(f)(3)					Part I Form

99	Part I	Names of principals & supervisors owner or operators organization together with previous affiliations with other organizations involved with solid waste activities	Required in Part I Form	330.590(f)(4)				Part I Form
101	Part I	Signatory meets 305.44, documentation of delegated signatory authority	Required in Part I Form	330.590(g)				Part I Form
102	Part I	Corporations - signed by a corporate officer	Required in Part I Form					Part I Form
103	Part I	Partnership or proprietorship - signed by a general partner or proprietor	Required in Part I Form					Part I Form
104	Part I	Municipality, public agency - signed by an executive officer or elected official	Required in Part I Form					Part I Form
105	Part I	Signatory certification statement	Required in Part I Form					Part I Form
106	Part I	Hazardous Waste Management	Required in Part I Form	305.45(a)(7)(A)				Part I Form
107	Part I	Underground Injection Control	Required in Part I Form	305.45(a)(7)(B)				Part I Form
108	Part I	NPDDES	Required in Part I Form	305.45(a)(7)(C)				Part I Form
109	Part I	Prevention of Significant Deterioration	Required in Part I Form	305.45(a)(7)(D)				Part I Form
110	Part I	Nonattainment Program	Required in Part I Form	305.45(a)(7)(E)				Part I Form
111	Part I	NESHAPS	Required in Part I Form	305.45(a)(7)(F)				Part I Form
112	Part I	Ocean dumping permit	Required in Part I Form	305.45(a)(7)(G)				Part I Form
113	Part I	Dredge & fill permit	Required in Part I Form	305.45(a)(7)(H)				Part I Form
114	Part I	Licenses under the TRCA	Required in Part I Form	305.45(a)(7)(I)				Part I Form
115	Part I	Other environmental permits	Required in Part I Form	305.45(a)(7)(K)				Part I Form
116	Part I	Permit Application Fee is \$2050.00	Required in Part I Form	THSC 361.0675				Part I Form
117	Part I	A copy of the payment receipt to the MSW Permits Section, if paid by check.	Required in Part I Form	330.590(k)(1)				Part I Form
118	Part I	Prepared by PE, PG, or qualified person	Required in Part I Form	330.57(f)				Part I Form
119	Part I	Description of facility & systems	Required in Part I Form	305.45(a)(8)(A)				Part I Form
120	Part I	Volume, average & max rate of disposal for each place of disposal	Required in Part I Form	305.45(a)(8)(B)(i)				Part I Form
121	Part I	Physical, chemical, thermal, organic, bacteriological, radiological properties of waste	Required in Part I Form	305.45(a)(8)(B)(ii)				Part I Form
122	Part I	Other reasonable information	Required in Part I Form	305.45(a)(8)(C)				Part I Form
123	Part II	Provide the sources and characteristics of all waste to be accepted.	Required	330.610(b)(1)			Parts I/II, Section 2.1.1	Waste Acceptance Plan
124	Part II	Specify parametric limitations of each type of waste to be managed by the facility	Required	330.610(b)(1)			Parts I/II, Section 2	Waste Acceptance Plan
125	Part II	Provide a brief description of the general sources and generation areas contributing wastes to the facility. This description shall include an estimate of the population or population equivalent served by the facility.	Required	330.610(b)(1)(A)			Parts I/II, Section 2.1.2	Waste Acceptance Plan
126	Part II	Provide a descriptive narrative that describes the percentage of incoming waste that must be recovered and its intended use.	Required if Requested	330.610(b)(1)(A)			Provided upon request.	Waste Acceptance Plan
127	Part II	Provide the maximum amount of solid waste to be received daily and annually projected for five years. Provide the maximum amount of solid waste to be stored and the maximum and average lengths of time that solid waste is to remain at the facility. Provide the intended destination of the solid waste received at this facility.	Required	330.610(b)(1)(B)			Parts I/II, Section 2.1.2	Waste Acceptance Plan
130	Part II	Provide any site specific conditions that require special design considerations & possible mitigation of conditions identified under sections (b) - (o)	Required	330.61(a)			Parts I/II, Section 3	Facility Impact
131	Part II	Provide information regarding the likely impacts of the facility on cities, communities, groups of property owners, or individuals.	Required	330.61(b)			Parts I/II, Section 7.6	Facility Impact
132	Part II	Provide information on the compatibility of the facility with surrounding land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest.	Required	330.61(b)			Parts I/II, Section 7.3	Facility Impact
133	Part II	Provide information on the character of surrounding land use within one mile.	Required	330.610(b)(2)			Parts I/II, Sections 7.5 and 7.1	Existing Conditions
134	Part II	Provide information about the growth trends within five miles & directions of development	Required	330.610(b)(3)			Parts I/II, Section 7.1	Existing Conditions
135	Part II	Indicate the proximity to residences & items listed in 330.61(C)(4) & (12), ~ no. of residences & commercial establishments including direct & distance to nearest, population density, all within one-mile.	Required	330.610(b)(4)			Parts I/II, Sections 7.4 and 7.5	Existing Conditions
136	Part II	Indicate all wells and the well density within 500 ft.	Required	330.610(b)(5)			Parts I/II, Section 7.7	Existing Conditions
137	Part II	Provide any other information requested by the ED	Required	330.610(b)(6)			Provided upon request.	Existing Conditions
138	Part II	Provide data on availability & adequacy of access roads	Required	330.610(k)(1)			Parts I/II, Section 8.1	Transportation

139	Part II	Provide the existing & expected traffic volumes on access roads within one mile of the facility during the expected life of the facility.	Required	330.61(0)(2)	Yes	Parts I/II, Appendix I/IIA	Transportation
140	Part II	Provide an estimate of traffic volume generated by the facility on access roads within one mile of the facility.	Required	330.61(0)(3)	Yes	Parts I/II, Appendix I/IIA	Transportation
141	Part II	Provide documentation of coordination for roadway improvements and documentation of coordination with TXDOT for traffic and location restrictions.	Required	330.61(0)(4)	Yes	Parts I/II, Appendix I/IIA	Transportation
146	Part II	Provide notice to the airport & the FAA for MSW units within 6 miles of a small airport or within 5 miles of a large commercial airport.	Required	330.545(b)	N/A		Transportation
148	Part II	Discuss in general terms the geology and soils of the proposed site.	Required	330.61(0)(1)	Yes	Parts I/II, Section 9	Geology
152	Part II	Provide data on site specific groundwater conditions.	Required	330.61(0)(1)	Yes	Parts I/II, Section 10.1	Groundwater and Surface Water
153	Part II	Provide data on surface water at or near the site.	Required	330.61(0)(2)	Yes	Parts I/II, Section 10.2	Groundwater and Surface Water
154	Part II	Provide information on how facility will comply with applicable Texas Pollutant Discharge Elimination System (TPDES) storm water permitting requirements and the Clean Water Act, §402, as amended.. This may include the information requires by 30 TAC 330.61(k)(3)(A) & (B).	Required	330.61(0)(3)	Yes	Parts I/II, Section 10.2	Groundwater and Surface Water
155	Part II	As applicable, provide a certification statement indicating the owner/operator will obtain the appropriate TPDES permit coverage when required.	Required	330.61(0)(3)(A)	Yes	Parts I/II, Section 10.2	Groundwater and Surface Water
156	Part II	As applicable, provide a copy of permit number under an individual wastewater permit.	Required	330.61(0)(3)(B)	N/A		Groundwater and Surface Water
157	Part II	Provide the location of any water wells.	Required	330.61(0)(1)	Yes	Parts I/II, Figure I/II-4.2	Abandoned Oil and Water Wells
158	Part II	All water supply wells must be outside monitoring system or approved in the permit.	Informational	330.61(0)(1)			Abandoned Oil and Water Wells
160	Part II	Provide the location of oil & gas wells production wells may remain if identified & don't disrupt operations.	Required	330.61(0)(2)	Yes	Parts I/II, Section 2.2 and Appendix I/II C	Abandoned Oil and Water Wells
161	Part II	Production wells may remain if identified & they do not disrupt facility operations.	Informational	330.61(0)(2)			Abandoned Oil and Water Wells
162	Part II	Indicate if the facility is within the 100yr floodplain. If facility within a floodplain see location restrictions in 30 TAC Chapter 330 Subchapter M.	Required	330.61(0)(1)	Yes	Parts I/II, Section 11.1	Floodplains and Wetlands
165	Part II	Acknowledge that the construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Acknowledgement	330.61(0)(1)	Yes	Parts I/II, Section 12	Endangered Species
166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment.	Required	330.61(0)(2)	Yes	Parts I/II, Section 12 and Appendix I/II B	Endangered Species
166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(0)(2)	Yes	Parts I/II, Section 12 and Appendix I/II B	Endangered Species

167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code)	Required	330.61(e)	Yes	Parts I/II, Section 3 and Appendix I/IIA		Historical Commission
167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code). If the WWTP permit contains coordination and a review letter from the Texas Historical Commission, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(e)	Yes	Parts I/II, Section 3 and Appendix I/IIA		Historical Commission
168	Part II	Provide documentation that Parts I and II of the application were submitted for review to the applicable council of governments for compliance with regional solid waste plans.	Required	330.61(f)	Yes	Parts I/II, Appendix I/IIA		COG Review
169	Part II	Acknowledgement that the owner or operator requested a review letter from any local government, as appropriate for compliance with local solid waste plans. A review letter is not a prerequisite to a final determination on a permit or registration application.	Acknowledgement	330.61(f)	Yes	Parts I/II, Appendix I/IIA		COG Review
170	Part II	Provide a constructed map showing boundary, zoning, & land use within one mile including info from 330.61(c)(4), (5), & (10) (schools, hospitals, etc.)	Required	330.61(g)	Yes	Parts I/II, Figure I/II-7.2		Maps/Drawing s
171	Part II	Provide the prevailing wind direction with a wind rose.	Required	330.61(c)(1)	No			Maps/Drawing s
172	Part II	Provide the location of all known water wells within 500 feet of the proposed permit boundary with the state well numbering system designation for Water Development Board "located wells."	Required	330.61(c)(2)	Yes	Parts I/II, Figure I/II-4.2		Maps/Drawing s
173	Part II	Provide the location of all structures and inhabitable buildings within 500 feet of the facility.	Required	330.61(c)(3)	Yes	Parts I/II, Figure I/II-4.3		Maps/Drawing s
174	Part II	Provide the location of all schools, licensed day-cares, churches, hospitals, cemeteries, ponds, lakes, residential, commercial, & recreational areas within one mile of the facility.	Required	330.61(c)(4)	Yes	Parts I/II, Section 7.3, Figures I/II-7.1 and 4.3		Maps/Drawing s
175	Part II	Provide the location and surface type of roads used for access within one mile of the facility	Required	330.61(c)(5)	Yes	Parts I/II, Section 8.1 and Figure I/II-4.2		Maps/Drawing s
176	Part II	Provide the latitude & longitude of the facility	Required	330.61(c)(6)	Yes	Parts I/II, Section 4 and Figure I/II-4.2		Maps/Drawing s
177	Part II	Provide the location of all area streams	Required	330.61(c)(7)	Yes	Parts I/II, Figure I/II-7.1		Maps/Drawing s
178	Part II	Provide the location of all airports within six miles	Required	330.61(c)(8)	Yes	Parts I/II, Section 8.2 and Figure I/II-8.1		Maps/Drawing s
179	Part II	Indicate the property boundary of facility	Required	330.61(c)(9)	Yes	Parts I/II, Section 3 and Figure I/II-4.4		Maps/Drawing s
180	Part II	Indicate all drainage, pipeline, and utility easements within & adjacent to the facility	Required	330.61(c)(10)	Yes	Parts I/II, Figure I/II-4.4		Maps/Drawing s
181	Part II	Provide the location of all access road features	Required	330.61(c)(11)	No			Maps/Drawing s
182	Part II	Provide the location of all archaeological sites, historical sites, and sites with an aesthetic quality adjacent to the facility	Required	330.61(c)(12)	N/A			Maps/Drawing s
183	Part II	Provide a facility layout map	Required	330.61(d)	Yes	Parts I/II, Figures I/II-4.1 and I/II-4.2		Maps/Drawing s
184	Part II	A set of maps may be provided	Informational	330.61(d)				Maps/Drawing s
186	Part II	Provide the location of interior roads	Required	330.61(d)(2)	Yes	Parts I/II, Figures I/II-4.1 and I/II-4.2		Maps/Drawing s
187	Part II	Indicate the location of monitor wells	Required	330.61(d)(3)	Yes	Parts I/II, Appendix I/II G		Maps/Drawing s
188	Part II	Provide the location of all facility buildings	Required	330.61(d)(4)	Yes	Parts I/II, Figures I/II-4.1 and I/II-4.2		Maps/Drawing s
189	Part II	Provide notes on sequence of development	Required	330.61(d)(5)	Yes	Parts I/II, Figures I/II-4.4		Maps/Drawing s
190	Part II	Indicate the location of all facility fencing	Required	330.61(d)(6)	Yes	Parts I/II, Section 3 and Figure I/II-4.4		Maps/Drawing s
192	Part II	Indicate the location of site entrance roads	Required	330.61(d)(8)	Yes	Parts I/II, Section 2.1.3 and Figure I/II-4.4		Maps/Drawing s
198	Part II	Provide a general topographic maps: USGS 7.5 minute or equivalent one map at scale 1 in. = 2,000 ft.	Required	330.61(e)	Yes	Parts I/II, Figure I/II-4.2		Maps/Drawing s
199	Part II	Provide Aerial Photograph(s) that are at least 9 in. by 9 in. at scale range of one inch = 1,667-3,334 ft. that covers an area at least one mile in radius of the site. Facility boundary and fill areas (as applicable) must be shown.	Required	330.61(f)	Yes	Parts I/II, Section 6 and Figure I/II-6.1		Maps/Drawing s

200	Part II	A series of photos showing growth trends may be used	Informational	330.61(f)(2)				Maps/Drawing
201	Part II	All submitted prints & photocopies must be legible.	Informational	330.61(f)(3)				Maps/Drawing
202	Part II	Provide zoning map within two miles and a copy of any nonconforming use or special permit required for the facility.	Required	330.61(b)(1)	Yes	Parts I/II, Section 7.1 and Figure I/II-7.2		Maps/Drawing
210	Part II	No solid waste disposal operations are permitted in the 100yr floodway.	Informational	330.547(a)				Floodplains and Wetlands
211	Part II	Demonstrate that a facility located in 100 year flood plains, does not restrict the flow of the 100 yr flood, reduce temporary storage capacity, or result in washout of solid waste so as to pose a hazard to human health and the environment.	Required	330.547(b)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
212	Part II	Demonstrate that storage and processing facilities are located outside of the 100 year floodplain.	Required	330.547(c)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
213	Part II	For storage and processing facilities located within the 100 year floodplain, please provide a demonstration that the facility is designed to prevent washout during a 100 year storm event, or a conditional letter of map amendment from the Federal Emergency Management Administration.	Required	330.547(c)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
214	Part II	Acknowledge if the facility will be located in wetlands.	Acknowledgement	330.553(a) & (b)	Yes	Parts I/II, Appendix I/II-B, Section 11.2	Parts I/II, Appendix I/II-B, Section 11.2	Floodplains and Wetlands
215	Part II	Demonstrate, if located within wetlands, that there is no practicable alternative location	Required	330.553(b)(1)	Yes	Parts I/II, Appendix I/II-B, Section 11.2	Parts I/II, Appendix I/II-B, Section 11.4	Floodplains and Wetlands
216	Part II	Acknowledge that the facility's construction & operations shall not cause or contribute to violations of state water quality standards, violation of any applicable toxic effluent standard or prohibition under the Clean Water Act §307; jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, or violate any requirement under the Marine protection, Research, & Sanctuaries Act.	Acknowledgement	330.553(b)(2)(A) - (D)	Yes	Parts I/II, Sections 12 and 10.2	Parts I/II, Sections 12 and 10.2	Floodplains and Wetlands
217	Part II	submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of native wetland soils, mounds, and deposits used to support the landfill unit.	Required	330.553(b)(3)(A)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
218	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of dredged and fill materials used to support the landfill.	Required	330.553(b)(3)(B)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
219	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the volume and chemical nature of the waste managed in the landfill unit.	Required	330.553(b)(3)(C)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
220	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the impacts on fish, wildlife, and other aquatic resources and their habitat for the release of solid waste	Required	330.553(b)(3)(D)	Yes	Parts I/II, Appendix I/II-B, Section 11.1		Floodplains and Wetlands
221	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the potential effects of catastrophic release of waste to the wetlands and the resulting impacts on the environment.	Required	330.553(b)(3)(E)	Yes	Parts I/II, Section 11.1		Floodplains and Wetlands
222	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.	Required	330.553(b)(3)(F)	Yes	Parts I/II, Section 11.1		Floodplains and Wetlands
223	Part II	Sufficient information shall be provided to the ED to allow a reasonable determination to be made with respect to the demonstrations cited in 30.12AC §330.553(d).	Informational	330.553(b)(5)				Floodplains and Wetlands
224	Part II	Provide the steps taken to achieve no net loss of wetlands.	Required	330.553(b)(4)	Yes	Parts I/II, Section 11 and Appendix I/II-B		Floodplains and Wetlands
225	Part II	Acknowledge that the operation of this facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species.	Acknowledgement	330.551(a)	Yes	Parts I/II, Section 12		Endangered Species

226	Part II	The term "Harassing" means: An intentional or negligent act or omission that creates the likelihood of injury to wildlife. The term "Harming" means: An act of omission that actually injures or kills wildlife, including acts that annoy it to such an extent as to significantly disrupt essential behavioral patterns. "Taking" means: collecting an endangered or threatened species or attempting to engage in such conduct.	Informational	330.551(b)(1)				Endangered Species
227	Part II		Informational	330.551(b)(2)				Endangered Species
228	Part II		Informational	330.551(b)(3)				Endangered Species
229	Part II	Acknowledge that no solid waste unloading, storage, disposal, or processing operations shall occur within any easement, buffer zone, or right-of-way that crosses the facility.	Acknowledgement	330.543(b)	Yes			Easements and Buffer Zone
268	Part II	Submit information for on-site local geologic or geomorphologic features.	Required	330.559(c)	Yes	Part I/II, Section 9		Geology
269	Part II	Identify local human-made features or events.	Required	330.559(g)	No			Geology
270	Part III	Describe facility access control features.	Required	330.63(b)(1)	Yes	Part III-SDP, Section 2.2.1 - Section 2.2.5		General Facility
271	Part III	Submit a process design for the facility that includes items 330.63(b)(2)(A) through 330.63(b)(2)(H).	Required	330.63(b)(2)	Yes	Part III-SDP, Section 2.2.1, Figure III.2.1		General Facility
272	Part III	Submit a flow diagram(s) to describe the storage, processing, and disposal sequences for each type of waste and/or submit a schematic view drawing(s) showing phases for collection, separation and processing/disposal of each type of waste and/or feedstock/recyclable material.	Required	330.63(b)(2)(A)	Yes	Part III-SDP, Section 2.2.1, Figures III.A-1 through III.A-4		General Facility
273	Part III	Submit a schematic view drawing(s) showing phases for collection, separation and processing/disposal of each type of waste and/or feedstock/recyclable material.	Required	330.63(b)(2)(B)	Yes			General Facility
274	Part III	Provide ventilation & odor control measures for each unit.	Required	330.63(b)(2)(C)	Yes	Part III-SDP, Section 2.2.3		General Facility
275	Part III	Provide construction details of storage, processing units & components, dimensions, capacity, materials used, etc.	Required	330.63(b)(2)(D)	Yes	Part III-SDP, Section 2.2.4		General Facility
276	Part III	Provide performance data for all storage and processing units and ancillary equipment.	Required	330.63(b)(2)(D)	Yes	Part III-SDP, Section 2.2.4		General Facility
278	Part III	Submit location and engineering designs for containment of storage, processing and loading & unloading areas including fireboard.	Required	330.63(b)(2)(F)	Yes	Part III-SDP, Section 2.2.4		General Facility
279	Part III	Describe the storage and handling of grease, oil and sludge, including the maximum time waste will be on-site and details of ultimate disposition.	Required	330.63(b)(2)(G)	Yes	Part III-SDP, Section 2.2.4		General Facility
280	Part III	Provide details of effluent disposal.	Required	330.63(b)(2)(H)	Yes	Part III-SDP, Section 2.2.4		General Facility
281	Part III	Provide designs for noise pollution control.	Required	330.63(b)(2)(I)	Yes	Part III-SDP, Section 2.2.5		General Facility
282	Part III	Describe how the processing areas will be designed for proper cleaning and to prevent surface water runoff onto, into, and off the treatment areas.	Required	330.63(b)(3)(A)	Yes	Part III-SDP, Section 2.3		General Facility
283	Part III	Describe construction material used for walls and floors that can be hosed down and scrubbed.	Required	330.63(b)(3)(B)	Yes	Part III-SDP, Section 2.3		General Facility
284	Part III	Describe water or steam connections and equipment for cleaning.	Required	330.63(b)(3)(C)	Yes	Part III-SDP, Section 2.3		General Facility
285	Part III	Provide adequate floor drains and/or sumps.	Required	330.63(b)(3)(D)	Yes	Part III-SDP, Section 2.3		General Facility
286	Part III	Describe proper disposal of liquids resulting from waste processing, cleaning, and washing and provide for the treatment of waste water.	Required	330.63(b)(4)	Yes	Part III-SDP, Section 2.3		General Facility
287	Part III	Describe how facility will be designed to protect endangered species.	Required	330.63(b)(5)	Yes	Part III-SDP, Section 2.4		General Facility
336	Part III	Submit if applicable, a Floodplain development permit from any agency with jurisdiction over the proposed improvements.	Required if Requested	330.63(c)(2)(D)(iii)	Yes	Provided upon request; Part III-SDP, Section 3.2		Surface Water Drainage Report
337	Part III	Submit if applicable a Conditional Letter of Map Amendment from FEMA.	Required if Requested	330.63(c)(2)(D)(iii)	N/A			Surface Water Drainage Report
338	Part III	Submit if applicable, Corps of Engineers Section 404 Specification of Disposal Sites for Dredged or Fill Material permit for construction of all necessary improvements.	Required if Requested	330.63(c)(2)(D)(iv)	N/A			Surface Water Drainage Report
339	Part III	Provide for storage & transfer units a description of design features for the rapid processing and minimum detention of solid waste at the facility.	Required	330.63(d)(1)(A)	Yes	Part III-SDP, Section 4.1		Waste Management Unit Design
340	Part III	Provide design features for a facility to prevent the creation of nuisances or public health hazards.	Required	330.63(d)(1)(A)	Yes	Part III-SDP, Section 4.1		Waste Management Unit Design

545	Part III	Indicate that a characterization of the contaminated groundwater, including concentrations of assessment constituents as defined in §330.409.	Required	330.63(d)(7)(A)	Yes	Part III-SDP, Appendix III.C, Section 2.2		Groundwater Sampling & Analysis Plan
701	Part III	Specify in the closure plan that the operator will begin closure no later than 30 days after final receipt of waste or no later than one year if the unit has remaining capacity and additional waste may be received.	Required	330.457(d)(3)	Yes	Part III-SDP, Appendix III.C, Section 2.2		Closure Plan
702	Part III	Provide for closure activities to be completed within 180 days of initiation.	Required	330.457(d)(4)	Yes	Part III-SDP, Appendix III.C, Section 2.2		Closure Plan
704	Part III	Acknowledge that following receipt of closure documents and the inspection report by the TCEQ region, the ED may acknowledge termination of operation & closure and deem the facility permanently closed.	Acknowledgement	330.457(d)(6)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan
706	Part III	Indicate that notice of closure will be published in the newspaper of largest circulation 90 days prior to the initiation of a final facility closure. The notice shall provide the name, address, and physical location of the facility; the TCEQ authorization number; and the last date of intended receipt of waste.	Required	330.461(a)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan
707	Part III	Acknowledge that notice of closure will be provided to the ED 90 days prior to the initiation of a final facility closure and that the owner or operator will also make available an adequate number of copies of the approved final closure and post-closure plans (if applicable) for public access and review.	Acknowledgement	330.461(a)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan
708	Part III	Acknowledge that least one closure sign will be posted at every point of access and notify all persons who utilize the facility of the date of closure and the prohibition against further receipt of waste materials.	Acknowledgement	330.461(b)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan
709	Part III	Indicate that suitable barriers will be installed at all access points to adequately prevent the unauthorized dumping of solid waste at the closed facility.	Required	330.461(b)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan
710	Part III	Indicate that an Affidavit to the Public will be submitted to the ED by registered mail. If waste will remain onsite and indicate that The Owner or Operator will also record a certified notation on the deed to the facility property that the land has been used as a landfill and submit a certified copy of the modified deed to the ED.	Required if Requested	330.461(c)(1)	Yes	Part III, Appendix III.C, Section 3		Closure Plan
711	Part III	Acknowledge that a certification, signed by a P.E., will be provided within 10 days of final closure activities, verifying that final facility closure has been completed in accordance with the approved closure plan and will include all applicable documentation necessary for certification.	Acknowledgement	330.461(c)(2)	Yes	Part III, Appendix III.C, Section 3		Closure Plan
713	Part III	The owner or operator may request permission from the ED to remove the notation from the deed if all wastes are removed from the facility.	Informational	330.461(d)		Part III, Appendix III.C, Section 3		Closure Plan
714	Part III	Submit a closure plan for Storage and Processing units to remove all waste, waste residues, and any recovered materials. Units shall be dismantled and removed off-site or decontaminated.	Required	330.459(a)	Yes	Part III, Appendix III.C, Section 2.1		Closure Plan For Processing Facilities
715	Part III	Provide plans for the evacuation of all material on-site to an authorized facility and the disinfecting of all contaminated water handling units, tipping areas, processing and post-processing areas (as applicable).	Required	330.459(b)	Yes	Part III, Appendix III.C, Section 2.1		Closure Plan For Processing Facilities
716	Part III	Acknowledge that if there is evidence of a release, the ED may require an investigation, assessment, and/or corrective action.	Acknowledgement	330.459(c)	Yes	Part III, Appendix III.C, Section 2.2		Closure Plan For Processing Facilities
717	Part III	Submit a plan (if combustible material is stored outdoors) for closure of a recycling facility that includes collecting, processing and unprocessed materials, and transporting the materials to an authorized facility for disposition.	Required	330.459(d)(1)	N/A		No combustible materials stored outside	Closure Plan For Processing Facilities
718	Part III	Provide for the closure plan to be implemented (if combustible material is stored outdoors) and completed within 180 days following the most recent acceptance of processed or unprocessed materials.	Required	330.459(d)(2)	N/A			Closure Plan For Processing Facilities

737	Part III	Submit cost estimates for closure & post-closure. Existing facilities must submit a copy of the financial assurance documentation. New facilities must submit financial assurance within 60 days prior to receipt of waste.	Required	330.63(d)	Yes	Part III, Appendix III D	Closure Cost Estimates
742	Part III	Provide cost estimates to close a Recycling facility that stores combustible materials outdoors.	Required	330.505(a)(1)	N/A		Closure Cost Estimates
743	Part III	Provide a closure cost estimate that equals the costs of closure of the facility, including disposition of the maximum inventories of all waste; processed and unprocessed combustible materials stored outdoors on site during the life of the facility.	Required	330.505(a)(2)(A)	N/A	Part III, Appendix III D, Section 2	Closure Cost Estimates
744	Part III	Provide a closure cost estimate that is based on the costs of hiring a third party that is not affiliated with the owner or operator, and is based on a per cubic yard and/or short ton measure for collection and disposition costs.	Required	330.505(a)(2)(B)-(C)	Yes		Closure Cost Estimates
745	Part III	Provide for the closure cost estimate & financial assurance to be increased if conditions change which increase the maximum cost of closure at any time during the active life of the facility.	Required	330.505(a)(3)	Yes	Part III, Appendix III D, Section 3	Closure Cost Estimates
746	Part III	A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the facility.	Required if Requested	330.505(a)(4)	Yes	Part III, Appendix III D, Section 3	Closure Cost Estimates
747	Part III	Provide for the maintenance of financial assurance for Recycling facilities that store combustible materials outdoors or that pose a risk.	Required	330.505(b)(1)	N/A		Closure Cost Estimates
748	Part III	Provide for the maintenance of financial assurance until closure is approved by ED.	Required	330.505(b)(2)	Yes	Part III, Appendix III D, Section 3	Closure Cost Estimates
758	Part IV	A site operating plan shall cover all on-site units in accordance with Subchapters D & E of Chapter 330.	Informational	330.65(a)			Site Operating Plan
785	Part IV	Indicate that the facility will provide the reports required by 30 TAC §330.675 to the Executive Director.	Required	330.675	No		Site Operating Plan
988	Part IV	Provide information identifying any permit required under the TPDES and any permit requirements imposed by other agencies for a reuse, art, & septage processing facility.	Required	330.65(d)	Yes	Part IV-SOP	Site Operating Plan
989	Part IV	Identify source & characteristics of wastes that will be received and specify any limiting parameters that may influence the design and operation of the facility.	Required	330.203(a)	Yes	Part IV-SOP, Section 2.1	Site Operating Plan
990	Part IV	Provide estimate of the amount of each waste to be received daily, max amount stored at any one time, max & average time waste will remain on-site, max & average processing time, intended destination of generated wastes, & description of how 10% will be recovered, if applicable.	Required	330.203(b)	Yes	Part IV-SOP, Section 2.2	Site Operating Plan
991	Part IV	Acknowledge that 10% recovery of material for beneficial use is considered to be the recovery of fats, oil, and greases, but does not include the recovery of water.	Acknowledgement	330.203(b)	N/A		Site Operating Plan
1000	Part IV	Acknowledge that failure to achieve the relevant 10 percent recycling rate in any two quarters within any one-year period will cause a registration to terminate and will require the owner or operator of the facility to obtain a permit to continue facility operations.	Acknowledgement	330.9(g)(1)	N/A		Site Operating Plan
1001	Part IV	Provide for a quarterly report to be submitted that will include volume of waste received, percent solids, and the method of determining the percent solids, processed, disposed, and recycled or reused.	Required	330.9(g)(1)	N/A		Site Operating Plan
1002	Part IV	Provide in the quarterly report, the method(s) utilized to achieve at least 10% recycling or reuse of incoming material.	Required	330.9(g)(1)	N/A		Site Operating Plan
1003	Part IV	Submit a quarterly report that reconciles the volume of waste with the amounts on manifests, shipping documents, or trip tickets and indicate where the recyclable material was taken for recycling.	Required	330.9(g)(1)	No		Site Operating Plan

1004	Part IV	Acknowledge that the addition of any material such as lime, polymer, or flocculent added as part of the recycling process is not allowed to be considered as part of the 10% recovery of material from the waste stream and must be subtracted from the material considered as recycled.	Acknowledgement	330.9(g)(1)	N/A			Site Operating Plan
1005	Part IV	Acknowledge that diverting material from the waste stream without processing is not considered to be recycling as part of this activity.	Acknowledgement	330.9(g)(1)	N/A			Site Operating Plan
1006	Part IV	Provide the characteristics and constituent concentrations of wastes generated by the facility and indicate that documentation that all wastes leaving the facility can be adequately managed by other authorized facilities will be provided.	Required	330.205(a)	Yes		Part IV-SOP, Section 2.2	Site Operating Plan
1007	Part IV	Indicate that all wastes generated by a facility must be processed or disposed at an authorized solid waste management facility.	Required	330.205(b)	Yes		Part IV-SOP, Section 2.3	Site Operating Plan
1008	Part IV	Indicate that all wastewaters generated by a facility shall be managed as contaminated water in accordance with 330.207.	Required	330.205(c)	Yes		Part IV-SOP, Section 2.3	Site Operating Plan
1010	Part IV	Indicate that the facility shall be designed and operated to produce a sludge that is acceptable at municipal solid waste landfills and does not exceed standards specified in 30 TAC §330.205(d).	Required If Requested	330.205(d)	No			Site Operating Plan
1011	Part IV	Indicate that sludges exceeding the limits shall not be disposed in municipal solid waste landfills and must be sent to an authorized facility for further processing or disposal as a hazardous waste, as appropriate or disposed in a municipal solid waste landfill with dedicated Class 1 Industrial solid waste cells if the sludge is nonhazardous.	Required If Requested	330.205(d)	No			Site Operating Plan
1012	Part IV	The owner or operator shall not discharge contaminated water without specific written authorization.	Informational	330.207(a)			Part IV-SOP, Section 3	Site Operating Plan
1013	Part IV	Provide a plan that describes how all liquids resulting from the operation of the facility shall be disposed of in a manner that will not cause surface water or groundwater pollution.	Required	330.207(a)	Yes			Site Operating Plan
1014	Part IV	Indicate that contaminated water shall be collected and contained until properly managed.	Required	330.207(b)	Yes		Part IV-SOP, Section 3	Site Operating Plan
1015	Part IV	Indicate that leachate shall be collected and contained until properly managed.	Required	330.207(b)	No			Site Operating Plan
1016	Part IV	Indicate that collection units other than storage tanks shall have a clay or synthetic liner and the liner shall be constructed in accordance with 30 TAC §330.331(b).	Required If Requested	330.207(b)	No			Site Operating Plan
1018	Part IV	Indicate that the use of leachate & gas condensate in mining process is prohibited.	Required	330.207(c)	No			Site Operating Plan
1019	Part IV	Indicate that the facility will not discharge to a septic system.	Required	330.207(d)	Yes		Part IV-SOP, Section 3	Site Operating Plan
1020	Part IV	Indicate that off-site discharge of contaminated waters shall be made only after approval under the Texas Pollutant Discharge Act (TPDA).	Required	330.207(e)	Yes		Part IV-SOP, Section 3	Site Operating Plan
1021	Part IV	Indicate that the facility shall be designed to a facility permitted under Texas Water Code, Chapter 26 must not interfere with or pass-through the treatment facility processes or operations, interfere with or pass-through its sludge processes, use, or disposal or otherwise be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source pollution .	Acknowledgement	330.207(f)(1)	Yes			Site Operating Plan
1022	Part IV	Indicate that the daily effluent design standard for oil and grease concentration leaving the facility and entering a public sewer system shall not exceed 200 milligrams per liter, the concentration established in the wastewater discharge permit pretreatment limit or the concentration established by the treatment facility permitted under Texas Water Code, Chapter 26, the National Pollutant Discharge Elimination System, or the limits established in 30 TAC §330.207, if the discharge points do not require compliance with locally set limits.	Required	330.207(g)	No			Site Operating Plan

1023	Part IV	Indicate that lagoons, open-top storage tanks, open vessels, and underground storage units are prohibited at liquid waste transfer facilities.	Required	330.207(b)	No	Part IV-SOP, Section 4.1		Site Operating Plan
1024	Part IV	Provide plans demonstrating that all waste shall be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and shall be contained or bundled so as not to result in litter.	Required	330.209(a)	Yes	Part IV-SOP, Section 4.1		Site Operating Plan
1025	Part IV	Provide a description of on-site storage area for source-separated or recyclable materials that is separate from a transfer station or process area and provides for the control of odors, vapors, and windblown materials.	Required If Requested	330.209(b)	Yes	Part IV-SOP, Section 4.1		Site Operating Plan
1026	Part IV	Provide plans for process area or transfer stations that recover material from putrescible or liquid waste. Such plans shall provide for the storage of processed and unprocessed waste & recycled materials in enclosed buildings, vessels, or containers.	Required If Requested	330.209(c)	Yes	Part IV-SOP, Section 4.1		Site Operating Plan
1027	Part IV	Provide a plan that describes how all waste containing food wastes shall be stored in covered or closed containers that are leak-proof, durable, and designed for safe handling and easy cleaning.	Required	330.211	Yes	Part IV-SOP, Section 4.2		Site Operating Plan
1028	Part IV	Indicate that nonreusable containers shall be of suitable strength to minimize vector scavenging or rupturing.	Required	330.211(1)	N/A			Site Operating Plan
1029	Part IV	Indicate that reusable containers must be maintained in a clean condition as not to constitute a nuisance, harbor, feed, and propagate vectors.	Required	330.211(2)	Yes	Part IV-SOP, Section 4.2		Site Operating Plan
1030	Part IV	Indicate that any containers emptied manually must be capable of being serviced without physical contact with waste.	Required	330.211(2)(A)	N/A			Site Operating Plan
1031	Part IV	Indicate that containers that are mechanically handled must be designed to prevent spillage/leakage during storage, handling, and transport.	Required	330.211(2)(B)	Yes	Part IV-SOP, Section 4.2		Site Operating Plan
1032	Part IV	Provide a plan that describes how a citizen's collection stations shall be operated in accordance with 30 TAC §330.213.	Required If Requested	330.213(a)	N/A		No citizen collection station proposed.	Site Operating Plan
1033	Part IV	Indicate that it is the responsibility of the person that owns or operates the collection center to provide for the collection of deposited waste on a scheduled basis and supervise the facility in order to maintain it in a sanitary condition.	Required If Requested	330.213(a)	N/A		No citizen collection station proposed.	Site Operating Plan
1034	Part IV	A citizen's collection station may accept sharps from single-family or multi-family dwellings, hotels, motels, or other establishments that provide lodging and related services for the public. The sharps will not be considered medical waste, as defined in 30 TAC §330.3.	Required If Requested	330.213(b)	N/A		No citizen collection station proposed.	Site Operating Plan
1035	Part IV	Provide operational standards for stationary compactors that describe how they will be operated and maintained in such a way as not to create a public nuisance through material loss or spillage, odor, vector breeding or propagation.	Required If Requested	330.215(1) and (2)	No			Site Operating Plan
1036	Part IV	Indicate that a copy of the permit or registration, application, and any other plans or related documents, and as-built plans will be maintained in the site operating record and shall be made available for inspections by agency representatives or other interested parties that operator shall record & retain location restriction demonstrations, inspection records, training procedures, closure plans, monitoring, testing, analytical data relating to closure, cost estimates, financial assurance documents, all correspondence, modification, approvals, manifests, shipping documents, tickets relating to special waste, & documents as specified by the executive director in the site operating record.	Required	330.219(a)	Yes	Part IV-SOP, Section 5.1		Site Operating Plan
1037	Part IV	Indicate that trip tickets will be maintained according to the record retention provisions in 30 TAC §312.145.	Required	330.219(b)(1) - (7)	Yes	Part IV-SOP, Section 5.1		Site Operating Plan
1038	Part IV	Indicate that trip tickets will be maintained according to the record retention provisions in 30 TAC §312.145.	Required	330.219(b)(8)	Yes	Part IV-SOP, Section 5.1		Site Operating Plan

1040	Part IV	Indicate that all reports will be signed by a person who is a duly authorized as a signatory for reports. A person is duly authorized if authorized in writing by the owner or operator in accordance with 30 TAC §305.44(a) and the authorization specifies individual or position with responsibility and this written authorization is submitted to the executive director.	Required	330.219(c)(1)(A) - (C)	Yes	Part IV-SOP, Section 5.2	Site Operating Plan
1041	Part IV	Acknowledge that if the authorization to sign is not longer accurate a new authorization will be submitted.	Acknowledgement	330.219(c)(2)	Yes	Part IV-SOP, Section 5.2	Site Operating Plan
1042	Part IV	Indicate that any person signing a report shall make the certification in 305.44(b).	Required	330.219(c)(3)	Yes	Part IV-SOP, Section 5.2	Site Operating Plan
1043	Part IV	Indicate that the operator shall maintain records on-site, available for inspection by the executive director for a period consisting of the two most recent calendar years.	Required	330.219(d)	Yes	Part IV-SOP, Section 5.3	Site Operating Plan
1045	Part IV	Indicate that the results of final product testing under 30 TAC §330.613 or §332.71 will be maintained in the site operating record	Required	330.219(d)(2)	Yes	Part IV-SOP, Section 5.3	Site Operating Plan
1046	Part IV	Indicate that copies of annual reports will be maintained in the site operating record for 5 yrs.	Required	330.219(d)(3)	Yes	Part IV-SOP, Section 5.3	Site Operating Plan
1047	Part IV	Indicate that the site operating record shall be furnished and available for inspection by executive director.	Required	330.219(e)	Yes	Part IV-SOP, Section 5.3	Site Operating Plan
1048	Part IV	Indicate that the operator shall retain site operating record for the life of the facility.	Required	330.219(f)	Yes	Part IV-SOP, Section 5.4	Site Operating Plan
1049	Part IV	Indicate that the executive director may set alternative recordkeeping & notification schedules.	Required	330.219(g)	Yes	Part IV-SOP, Section 5.5	Site Operating Plan
1051	Part IV	Provide a fire protection plan that describes the source of fire protection (a local fire department, fire hydrants, fire extinguishers, water tanks, water well, etc), procedures for using the fire protection source, and employee training and safety procedures. The fire protection plan shall comply with local fire codes.	Required	330.221(c)	Yes	Part IV-SOP, Section 6	Site Operating Plan
1052	Part IV	Provide a description of the availability of water under pressure for firefighting purposes	Required	330.221(a)	Yes	Part IV-SOP, Section 6	Site Operating Plan
1053	Part IV	Provide a description of on-site firefighting equipment	Required	330.221(b)	Yes	Part IV-SOP, Section 6	Site Operating Plan
1054	Part IV	Indicate that all employees shall be trained in the contents and use of the fire protection plan.	Required	330.221(c)	Yes	Part IV-SOP, Section 6	Site Operating Plan
1055	Part IV	Provide a description of the artificial barriers, natural barriers, or a combination of both, appropriate to protect human health and safety and the environment that are used to control access to the facility and indicate that uncontrolled access to the facility shall be prevented.	Required	330.223(a)	Yes	Part IV-SOP, Section 7.1.1	Site Operating Plan
1056	Part IV	Provide a description of the minimum two lane, access road from the public road and how it is designed for expected traffic volumes and adequate turning radii.	Required	330.223(b)	Yes	Part IV-SOP, Section 7.1.2	Site Operating Plan
1057	Part IV	Provide a description of vehicle parking for equipment, employees, and visitors. Indicate that safety bumpers at hoppers must be provided for vehicles. And provide a description of the positive means to control dust and mud.	Required	330.223(b)	Yes	Part IV-SOP, Section 7.1.1	Site Operating Plan
1058	Part IV	Provide a description of perimeter control fencing that includes having lockable gates and attendant on site during operating hours. Operating and transport areas shall be enclosed by walls or fencing.	Required	330.223(c)	Yes	Part IV-SOP, Section 7.2.1	Site Operating Plan
1059	Part IV	Provide a description of the unloading areas and indicate that unloading areas will be confined to as small an area as practical and be monitored by attendant.	Required	330.225(a)	Yes	Part IV-SOP, Section 7.2.1	Site Operating Plan
1060	Part IV	Provide a description of the signs & forced access lanes used to prevent indiscriminate dumping.	Required	330.225(a)	Yes	Part IV-SOP, Section 7.2.1	Site Operating Plan
1061	Part IV	Indicate that the facility is not required to accept any solid waste that he/she determines will cause or may cause problems in maintaining full and continuous compliance	Required	330.225(b)	Yes	Part IV-SOP, Section 7.2.1	Site Operating Plan
1062	Part IV	Provide procedures to ensure that waste in unauthorized areas is removed immediately and disposed of properly.	Required	330.225(b)	Yes	Part IV-SOP, Section 7.2.1	Site Operating Plan

1063	Part IV	Provide procedures for the detection and prevention of the unloading of processing of prohibited wastes.	Required	330.225(c)	Yes	Part IV-SOP, Section 7.2.1		Site Operating Plan
1064	Part IV	Indicate that prohibited waste must be returned immediately to the transporter or generator.	Required	330.225(c)	Yes	Part IV-SOP, Section 7.2.1		Site Operating Plan
1065	Part IV	Provide a description of how storage & processing areas are designed to control and contain worst case spill or release and will account for precipitation from a 25-year, 24-hour storm.	Required	330.227	Yes	Part IV-SOP, Section 7.3		Site Operating Plan
1066	Part IV	Specify the waste acceptance and facility operating hours.	Required	330.229(a)	Yes	Part IV-SOP, Section 7.4		Site Operating Plan
1067	Part IV	The waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless otherwise approved by the executive director or commission for a permit. The operating hours for operating heavy equipment and transporting materials on- or off-site may be any time between the hours of 5:00 a.m. and 9:00 p.m., Monday through Friday, unless otherwise approved in the authorization.	Required	330.229(a)	Yes	Part IV-SOP, Section 7.4		Site Operating Plan
1068	Part IV	Specify alternative operating hours of up to five days in a calendar year to accommodate special occasions, special purpose events, holidays, or other special occurrences.	Required	330.229(b)	Yes	Part IV-SOP, Section 7.4		Site Operating Plan
1069	Part IV	Indicate that the facility will record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.	Required	330.229(d)	Yes	Part IV-SOP, Section 7.4		Site Operating Plan
1070	Part IV	Indicate that the commission's regional offices may allow additional temporary operating hours to address disaster or other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area.	Required	330.229(c)	Yes	Part IV-SOP, Section 7.4		Site Operating Plan
1071	Part IV	Indicate that a sign measuring at least 4' X 4' must be displayed at all entrances. Indicate that information on the sign must include the facility name and type, hours and days of operation, authorization number, and facility rules.	Required	330.231	Yes	Part IV-SOP, Section 7.5		Site Operating Plan
1072	Part IV	Indicate that windblown material and litter shall be collected as necessary, throughout the facility, along fences and access roads, and at the gate, at least once per day on days that the facility is in operation, to minimize unhealthy, unsafe, or unsightly conditions.	Required	330.233(a)	Yes	Part IV-SOP, Section 7.6		Site Operating Plan
1073	Part IV	Indicate the measures used to control windblown waste.	Required	330.233(a)(1)	Yes	Part IV-SOP, Section 7.6		Site Operating Plan
1074	Part IV	Provide a description of fence or screen used to minimize windblown waste if the facility is not completely enclosed.	Required	330.233(b)	N/A			Site Operating Plan
1075	Part IV	Provide procedures to encourage waste hauling vehicles to cover loads that may include posting signs, reporting offenders, and assessing surcharges.	Required	330.235	Yes	Part IV-SOP, Section 7.7		Site Operating Plan
1077	Part IV	Provide a description of all weather access roads at the facility and how the tracking of mud and debris onto public roadways will be minimized.	Required	330.237(a)	Yes	Part IV-SOP, Section 7.8		Site Operating Plan
1078	Part IV	Provide procedures use to ensure that dust from on-site and other access roadways shall not become a nuisance to surrounding areas and indicate that a water source and necessary equipment or other means of dust control shall be maintained.	Required	330.237(b)	Yes	Part IV-SOP, Section 7.8		Site Operating Plan
1079	Part IV	Provide procedures to be used to maintain on site roads and minimize depressions, ruts, and potholes.	Required	330.237(c)	Yes	Part IV-SOP, Section 7.8		Site Operating Plan
1080	Part IV	Describe screening or other means used to prevent noise pollution & adverse visual impacts.	Required	330.239	Yes	Part IV-SOP, Section 7.9		Site Operating Plan
1081	Part IV	Provide procedures used to ensure that the design capacity of the facility shall not be exceeded and that waste will not be allowed to accumulate in quantities that create a nuisance, create odors, or harbor vectors.	Required	330.241(a)	Yes	Part IV-SOP, Section 7.10		Site Operating Plan
1082	Part IV	Provide procedures that describe how unprocessed grease, grit, & seepage will only be stored up to 72hrs.	Required	330.241(a)(1)	Yes	Part IV-SOP, Section 7.10		Site Operating Plan

1083	Part IV	Provide procedures that provide for the restriction, diversion or removal of waste if the facility experiences a significant work stoppage.	Required	330.241(b)	Yes	Part IV-SOP, Section 7.10		Site Operating Plan
1084	Part IV	Provide an alternative processing/disposal procedures for when facility is inoperable for more than 24hrs.	Required	330.241(c)	Yes	Part IV-SOP, Section 7.10		Site Operating Plan
1085	Part IV	Provide procedures for washing down all working surfaces in contact with waste at least weekly or twice per week for facilities that operate continuously.	Required	330.243(b)	Yes	Part IV-SOP, Section 7.11		Site Operating Plan
1086	Part IV	Provide procedures to ensure that wash water shall not be allowed to accumulate without proper treatment.	Required	330.243(b)	Yes	Part IV-SOP, Section 7.11		Site Operating Plan
1087	Part IV	Provide procedures that demonstrate that wash water shall be collected & disposed of in an authorized manner.	Required	330.243(c)	Yes	Part IV-SOP, Section 7.11		Site Operating Plan
1088	Part IV	Acknowledge that air emissions from municipal solid waste facilities must not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.	Acknowledgement	330.245(a)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1090	Part IV	Provide a description of odor-retaining containers & vessels used to store liquid and solid waste.	Required	330.245(c)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1091	Part IV	Provide a description of how the facility has been designed and will be operated to provide adequate ventilation and prevent nuisance odors from leaving boundary of facility	Required	330.245(d)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1092	Part IV	Indicate that air pollution emission capture & abatement equipment shall be cleaned and maintained per manufacturer's recommendations and as necessary so that the equipment efficiency can be adequately maintained.	Required	330.245(e)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1093	Part IV	Provide a description of the measures/equipment, in accordance with 30 TAC §330.245(f)(1) - (4), that will be used to control odor at the facility.	Required	330.245(f)(1) - (4)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1094	Part IV	Indicate that the process areas that recover material from solid waste that contains putrescibles shall be maintained totally within an enclosed building and describe how openings to the process area shall be controlled to prevent releases of nuisance odors from leaving the property boundary of the facility.	Required	330.245(g)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1095	Part IV	Provide a description of how facility shall be designed to allow a minimal time of exposure of liquid waste to the air and minimize waste contact with air during unloading of liquid waste into the facility.	Required	330.245(h)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1096	Part IV	Acknowledge that the reporting of emissions events shall be made in accordance with §101.201 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements) and reporting of scheduled maintenance shall be made in accordance with §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements).	Acknowledgement	330.245(i)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1097	Part IV	Provide procedures for the control of ponded water to avoid its becoming a nuisance and alleviate any objectionable odors	Required	330.245(n)	Yes	Part IV-SOP, Section 7.12		Site Operating Plan
1098	Part IV	Indicate that facility personnel will be trained in the appropriate sections of the facility's health and safety plan.	Required	330.247	Yes	Part IV-SOP, Section 7.13		Site Operating Plan
1099	Part IV	Indicate that the facility shall provide potable water and sanitary facilities for all employees and visitors.	Required	330.249	Yes	Part IV-SOP, Section 7.14		Site Operating Plan

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1494A
TYPE V PERMIT AMENDMENT APPLICATION**

Prepared for
North Texas Municipal Water District
October 2022
Revised January 2023

Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

This document is issued for permitting purposes only.



CONTENTS

PART I	APPLICATION FORM
PARTS I/II	GENERAL APPLICATION REQUIREMENTS
PART III	FACILITY DESIGN REPORT
PART IV	SITE OPERATING PLAN





Texas Commission on Environmental Quality

Part I Application Form for New Permit, Permit Amendment, or Registration for a Municipal Solid Waste Facility

Application Tracking Information

Facility Name: NTMWD Parkway Transfer Station

Permittee or Registrant Name: North Texas Municipal Water District

MSW Authorization Number: 1494A

Initial Submission Date: 10/20/2022

Revision Date: _____

Instructions for completing this Part I Application Form are provided in [TCEQ 00650-instr](#)¹. Include a [Core Data Form \(TCEQ 10400\)](#)² with the application for the facility owner, and another Core Data Form for the operator if different from the owner. If you have questions, contact the Municipal Solid Waste Permits Section by email to mswper@tceq.texas.gov, or by phone at 512-239-2335.

Application Data

1. Submission Type

Initial Submission Notice of Deficiency (NOD) Response

2. Authorization Type

Permit Registration

3. Application Type

New Permit

Permit Major Amendment Permit Limited Scope Major Amendment

New Registration

¹ www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf

² www.tceq.texas.gov/goto/coredata

4. Application Fee

Amount

- \$2,050—New Landfill Permits, and Landfill Permit Major Amendments Described in 30 TAC [305.62\(j\)\(1\)](#)
- \$150—Other Permits, Landfill Limited Scope Major Amendments, Permit Amendments for Storage and Processing Facilities, and Registrations

Payment Method

- Check
- Online through ePay portal www3.tceq.texas.gov/epay/

If paid online, enter ePay Trace Number: 582EA000509899

5. Application URL

For applications other than those for arid exempt landfills, provide the URL address of a publicly accessible internet web site where the application and all revisions to the application will be posted.

<https://www.ntmwd.com/parkway-transfer-station>

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

- Applicant Agent in Service Consultant

Contact Name: _____

Title: _____

Email Address: _____

7. Alternative Language Notice

Use the Alternative Language Checklist on Public Notice Verification Form TCEQ-20244-Waste-NORI, TCEQ-20244-Waste-NAPD, or TCEQ-20244-Waste-NAORPM available at www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_notice.html to determine if an alternative language notice is required.

Is an alternative language notice required for this application?

- Yes No

Indicate the alternative language: _____

8. Public Place for Copy of Application

Name of the Public Place: Haggard Library
 Physical Address: 2501 Coit Road
 City: Plano County: Collin State: TX Zip Code: 75075
 Phone Number: 972-769-4250

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

Yes No

If "Yes", indicate the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

Yes No

If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."

11. Permits and Construction Approvals

Mark the following table to indicate status of other permits or approvals.

Table 1. Permits and Construction Approvals.

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under Texas Solid Waste Disposal Act			x
Underground Injection Control Program under Texas Injection Well Act			x
National Pollutant Discharge Elimination System Program under Clean Water Act; Waste Discharge Program under Texas Water Code, Chapter 26	x		
Prevention of Significant Deterioration Program under Federal Clean Air Act (FCAA); Nonattainment Program under the FCAA			x
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA			x

Permit or Approval	Received	Pending	Not Applicable
Ocean Dumping Permits under Marine Protection Research and Sanctuaries Act			x
Dredge or Fill Permits under Clean Water Act			x
Licenses under the Texas Radiation Control Act			x
Other (describe): Air Permit	x		
Other (describe):			

12. Facility General Information

Facility Name: Parkway Transfer Station

Contact Name: Mike Friesen Title: Assistant Deputy - Solid Waste

MSW Authorization Number (if existing): 1494A

Regulated Entity Reference Number: **RN** 100535392

Physical or Street Address (if available): 4030 West Plano Parkway

City: Plano County: Collin State: TX Zip Code: 75093

Phone Number: 972-596-8709

Latitude (Degrees, Minutes Seconds): N 33° 00' 38.5"

Longitude (Degrees, Minutes Seconds): W 96° 46' 24.4"

Benchmark Elevation (above mean sea level): 702.84 feet

Description of facility location with respect to known or easily identifiable landmarks:

Facility is located adjacent to the Plano Animal Services facility.

Access routes from the nearest United States or state highway to the facility:

From State Highway 190, exit Coit Road and go north, turn left on West Plano Parkway, turn left approximately 2,000 feet and next to Plano Animal Control, proceed to TS entrance.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

Yes No

13. Facility Types

- Type I Type IV Type V
 Type IAE Type IVAE Type VI

14. Activities Conducted at the Facility

- Storage Processing Disposal

15. Facility Waste Management Units

Check the box for each type of waste management unit proposed.

- Landfill Unit(s) Container(s)
 Incinerator(s) Roll-off Boxes
 Class 1 Landfill Unit(s) Surface Impoundment
 Process Tank(s) Autoclave(s)
 Storage Tank(s) Refrigeration Unit(s)
 Tipping Floor Mobile Processing Unit(s)
 Storage Area Compost Pile(s) or Vessel(s)
 Other (specify):

16. Description of Proposed Facility or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or permit conditions if the application is for an amendment.

The permit amendment application includes the construction of a new loading tunnel along the west wall of the existing transfer station building. The application also includes an increase in capacity from the currently permitted 770 tons/day to 1,500 tons/day, averaged over 365 days per year.

17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: North Texas Municipal Water District
Customer Reference Number: **CN** 601365448
Contact Name: Mike Friesen Title: Assistant Deputy - Solid Waste
Mailing Address: P.O. Box 2408
City: Wylie County: Collin State: TX Zip Code: 75098
Phone Number: 972-442-5405
Email Address: mfriesen@ntmwd.com
Texas Secretary of State (SOS) Filing Number: _____

Operator (if different from Site Operator)

Name: _____
Customer Reference Number: **CN** _____
Contact Name: _____ Title: _____
Mailing Address: _____
City: _____ County: _____ State: _____ Zip Code: _____
Phone Number: _____
Email Address: _____
Texas Secretary of State (SOS) Filing Number: _____

Consultant (if applicable)

Firm Name: Weaver Consultants Group, LLC
Consultant Name: Charles R. Marsh
Texas Board of Professional Engineers Firm Registration Number: F-3727
Contact Name: Charles R. Marsh Title: Project Director
Mailing Address: 6420 Southwest Boulevard, Suite 206
City: Fort Worth County: Tarrant State: TX Zip Code: 76109
Phone Number: 817-735-9770
Email Address: cmarsh@wcgrp.com

Agent in Service (required for out-of-state applicants)

Name: _____
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

18. Facility Supervisor License

Indicate the level of Municipal Solid Waste Facility Supervisor license, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, Subchapter F that the individual who supervises or manages the operations will obtain prior to commencing operations.

Class A Supervisor License Class B Supervisor License

19. Ownership Status of the Facility

Business Type

Corporation County Government
 Individual State Government
 Sole Proprietorship Federal Government
 General Partnership Other Government
 Limited Partnership Military
 City Government Other (specify): Special Legislative District

Facility Owner

Does the Site Operator (Permittee or Registrant) own all the facility units and all the facility property?

Yes No

If "No", provide the following information for other owners.

Owner Name: _____

Mailing Address: _____

City: _____ County: _____ State: TX Zip Code: _____

Phone Number: _____

Email Address: _____

20. Other Government Entities Information

Texas Department of Transportation

District: Dallas

District Engineer's Name: Ceason Clemens, P.E.

Mailing Address: 4777 E. Highway 80

City: Mesquite County: Dallas State: TX Zip Code: 75150

Phone Number: 214-320-6100

Email Address: ceason.clemens@txdot.gov

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: _____
Contact Person's Name: _____
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

City Mayor Information

City Mayor's Name: John Muns
Mailing Address: 1520 K Avenue
City: Plano County: Collin State: TX Zip Code: 75074
Phone Number: 972-941-7107
Email Address: mayor@plano.gov

City Health Authority

Authority Name: Plano Environmental Health Department
Contact Person's Name: _____
Mailing Address: 1520 K Avenue, Suite 210
City: Plano County: Collin State: TX Zip Code: 75074
Phone Number: 972-941-7143
Email Address: envhealth@plano.gov

County Judge Information

County Judge's Name: Chris Hill
Mailing Address: 2300 Bloomdale Road, Suite 4192
City: McKinney County: Collin State: TX Zip Code: 75071
Phone Number: 972-548-4623
Email Address: chill@collincountytx.gov

County Health Authority

Agency Name: Collin County Health Care Services
Contact Person's Name: Candy Blair, RN
Mailing Address: 825 N. McDonald Street, Suite 130
City: McKinney County: Collin State: TX Zip Code: 75069
Phone Number: 972-548-5500
Email Address: hc@collincountytx.gov

State Representative Information

District Number: 66
State Representative's Name: Rep. Matt Shaheen
District Office Mailing Address: 6504 Legacy Drive #LL1
City: Plano County: Collin State: TX Zip Code: 75024
Phone Number: 469-642-8708
Email Address: _____

State Senator Information

District Number: 8
State Senator's Name: Sen. Angela Paxton
District Office Mailing Address: 604 W. Watters Road, Suite 100
City: Allen County: Collin State: TX Zip Code: 75013
Phone Number: 972-908-3424
Email Address: _____

Council of Governments (COG)

COG Name: North Central Texas Council of Governments
COG Representative's Name: Mike Eastland
COG Representative's Title: Executive Director
Mailing Address: 616 Six Flags Drive
City: Arlington County: Tarrant State: TX Zip Code: 76011
Phone Number: 817-640-3300
Email Address: meastland@nctcog.org

River Basin Authority

Authority Name: Trinity River Authority
Contact Person's Name: _____
Watershed Sub-Basin Name: Floyd Branch - White Rock Creek
Mailing Address: 5300 S. Collins
City: Arlington County: Tarrant State: TX Zip Code: 76018
Phone Number: 817-467-4343
Email Address: _____

U.S. Army Corps of Engineers District

Indicate the U.S. Army Corps of Engineers district in which the facility is located:

- Albuquerque, NM
- Galveston, TX
- Ft. Worth, TX
- Tulsa, OK

Local Government Jurisdiction

Within City Limits of: Plano

Within Extraterritorial Jurisdiction of: NA

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing, or disposal of municipal or industrial solid waste?

Yes No

If "Yes", provide a copy of the ordinance or order as an attachment.

Signature Page

Site Operator or Authorized Signatory

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Jennafer P. Covington Title: Executive Director

Email Address: jcovington@ntmwd.com

Signature: *Jennafer Covington* Date: 1/5/23

Operator or Principal Executive Officer Designation of Authorized Signatory

To be completed by the operator if the application is signed by an authorized representative for the operator.

I hereby designate _____ as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Operator or Principal Executive Officer Name: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said Jennafer P. Covington

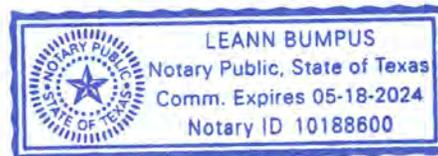
On this 5th day of January, 2023

My commission expires on the 18th day of May, 2024

Leann Bumpus

Notary Public in and for

Collin County, Texas



Note: Application Must Bear Signature & Seal of Notary Public

Part I Attachments

Refer to instruction document 00650-instr for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Supplementary Technical Report	Parts I/II Section 2
Property Legal Description	Parts I/II Section 13
Property Metes and Bounds Description	Parts I/II Section 13
Facility Legal Description	Parts I/II Section 13
Facility Metes and Bounds Description	Parts I/II Section 13
Metes and Bounds Drawings	Parts I/II Section 13
On-Site Easements Drawing	Parts I/II Section 4
Land Ownership Map	Parts I/II Section 5
Landowners List	Parts I/II Section 5
Mailing Labels (printed and electronic)	Parts I/II Section 5
Texas Department of Transportation (TxDOT) County Map	Parts I/II Section 4
General Location Map	Parts I/II Section 4
General Topographic Map	Parts I/II Section 4
Verification of Legal Status	Parts I/II Section 15
Property Owner Affidavit	Parts I/II Section 14
Evidence of Competency	Parts I/II Section 16

Attachments Table 2. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
<input type="checkbox"/> TCEQ Core Data Form(s)	
<input type="checkbox"/> Signatory Authority Delegation	
<input checked="" type="checkbox"/> Fee Payment Receipt	
<input type="checkbox"/> Confidential Documents	
<input type="checkbox"/> Waste Storage, Processing and Disposal Ordinances	
<input type="checkbox"/> Final Plat Record of Property	

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
<input type="checkbox"/> Certificate of Fact (Certificate of Incorporation)	
<input type="checkbox"/> Assumed Name Certificate	
Other (describe):	
Other (describe):	
Other (describe):	



Texas Commission on Environmental Quality Plain Language Summary of Municipal Solid Waste Permit or Permit Amendment Application

Applicants are required by public notice rules in Title 30 Texas Administrative Code, Chapter 39, Section [39.405\(k\)](#)¹ to provide this summary of an application.

A. Purpose of the Proposed Facility

Transferring solid waste from collection vehicles to larger vehicles with more capacity for transfer to a landfill.

B. Information About the Applicant

Name: North Texas Municipal Water District

Applicant Type: Type V

Facility Name: Parkway Transfer Station

Permit Application Number: 1494A

Customer Number (CN): CN601365448

Regulated Entity Reference Number (RN): RN100535392

C. Location of the Proposed Facility

Facility Address (or description of site location if no address):

4030 West Plano Parkway, Plano, TX 75093

Link to Map of Facility Location ([TCEQ Location Mapper](#)²): <https://arcg.is/0m9r0X>

D. Information about Facility Operation

What types of waste would be received?

No change to the types of waste received is proposed. Household Waste, Brush, Yard Waste, Commercial Solid Waste, Industrial Waste (Nonhazardous) (Class 2 Industrial Solid Waste, Class 3 Industrial Solid Waste), Construction-Demolition Waste, Special Waste (used oil (for recycling only), used oil filters from internal combustion engines (for recycling only), whole used or scrap tires or tire pieces (for recycling only), white goods)

What geographical area would the wastes come from?

Service Area consists of Allen, Frisco, McKinney, Plano, Richardson, and the surrounding area.

¹ www.tceq.texas.gov/goto/view-30tac

² www.tceq.texas.gov/gis/hb-610-viewer

What days and hours would the facility operate?

No change to the facility hours is proposed. MON through SAT 7:00 am - 7:00 pm.
Heavy equipment operation 5:00 am to 9:00 pm MON through SAT

At what rate would wastes be accepted?

306.5 tons per day (in 2021) averaged over 365 days.

How would wastes be managed?

The existing transfer station facility consists of a pre-cast concrete tilt wall building. A new top-loading tunnel is proposed to facilitate transferring the waste. Waste material is unloaded on the tipping floor within the building then top loaded into the transfer trailers stationed in the tunnel and hauled to an area landfill.

E. Pollution Control Methods

What methods would the facility use for containing wastes and odors, and monitoring for releases?

All waste processing and storage (except for white goods/metals, and tires) will occur within the building. Storage of waste will not exceed 72 hours and will average 24 hours. To control odors, routine tipping, sorting and transfer operations will be confined within the building. The following measures will be employed to assist in air pollution/odor control:

- Buffer zones onsite; • Odor mister system as necessary;
- Covering transfer trucks; • No liquid waste or sludges accepted;
- Special procedures for odorous loads as described in Part III 2.2.3;
- Cleaning all working surfaces that come in contact with waste at least weekly as described in Part IV 7:11.

What methods would the facility use or require for preventing litter or spills, and for cleanup of litter and spills?

Policing of litter and fugitive debris at the facility entrance area will be performed as part of a scheduled routine. Any litter scattered throughout the site, including along fences and access roads, and at the gate will be collected at least daily on the days the facility is in operation. Any spills will be contained within the building, analyzed as appropriate, and properly handled. The 500-gallon fuel tank container and used-oil container will be double walled to protect against spills. The storage area for white goods/tires is curbed and any water within the curbed area will be collected and disposed appropriately.

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1494A**

TYPE V PERMIT AMENDMENT APPLICATION

**PARTS I/II
GENERAL APPLICATION REQUIREMENTS**

Prepared for
North Texas Municipal Water District
September 2022



Prepared by
Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

This document is issued for permitting purposes only.

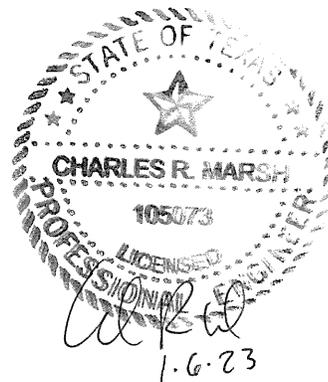
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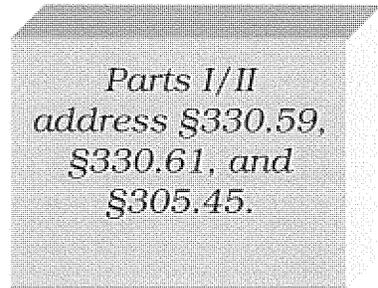


LIST OF ACRONYMS

CFR – Code of Federal Regulations
CWA – Clean Water Act
FCAA – Federal Clean Air Act
FEMA – Federal Emergency Management Agency
MSL – Mean Sea Level
MSW – Municipal Solid Waste
NCTCOG – North Central Texas Council of Governments
NESHAPS – National Emission Standards for Hazardous Pollutants
NOI – Notice of Intent
NTMWD – North Texas Municipal Water District
NWIS – National Water Information Systems
PCBs – Polychlorinated Biphenyls
PSD – Prevention of Significant Deterioration
SIC – Standard Industrial Code
SOP – Site Operating Plan
SSDRD – Select Submitted Drillers Report Database
SWPPP – Stormwater Pollution Prevention Plan
TAC – Texas Administrative Code
TCEQ – Texas Commission on Environmental Quality
TPDES – Texas Pollutant Discharge Elimination System
TS – Transfer Station
TWDB – Texas Water Development Board
TxDOT – Texas Department of Transportation
UIC – Underground Injection Control
WCG – Weaver Consultants Group
WOTUS – Waters of the US
WUD – Water Utility Database

1 INTRODUCTION

The Parkway Transfer Station (TS) is an existing Type V municipal solid waste (MSW) TS facility located within the city limits of Plano, Texas, currently permitted under TCEQ Permit No. 1494. The existing facility is located approximately 400 feet southwest of W. Plano Parkway in Collin County, Texas. The proposed improvements will provide enhanced operations and a more efficient means to transfer MSW and recyclable materials that are generated in the North Texas Municipal Water District (NTMWD) (that currently consists of Allen, Frisco, McKinney, Plano, and Richardson) and surrounding areas (the “service area”). The purpose of this Type V Permit Amendment Application is to amend the existing TCEQ permit for the site to allow for the expansion of the facility.

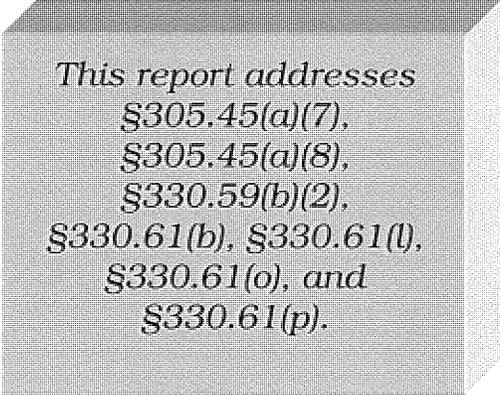


The General Application Requirements section (Parts I and II) of this permit amendment application for the Parkway TS has been prepared consistent with the applicable State of Texas requirements set forth in Title 30 Texas Administrative Code (TAC). Section 2, Supplementary Technical Report, presents an overview of the project and a detailed facility description as well as the types of waste that will be accepted at the facility. The remaining portions of the General Application Requirements section of the permit amendment application present information on specific existing conditions on and around the TS and legal matters of the entities involved in the application process. The General Application Requirements have been combined in accordance with Title 30 TAC §330.57(c)(2).

2 SUPPLEMENTARY TECHNICAL REPORT

2.1 Facility Description and Project Overview

The Parkway TS is an existing permitted municipal solid waste TS facility located within the city limits of Plano, Texas. The existing facility is located approximately 400 feet southwest of W. Plano Parkway in Collin County, Texas. The longitudinal and latitudinal geographic coordinates for the Parkway TS are shown in Section 4.



*This report addresses
§305.45(a)(7),
§305.45(a)(8),
§330.59(b)(2),
§330.61(b), §330.61(l),
§330.61(o), and
§330.61(p).*

The proposed improvements will provide enhanced operations and a more efficient means to transfer MSW and recyclable materials that are generated in the service area to an area landfill. The TS also provides services to contractors and self-haulers (i.e., cars and pickups). This service area is based on economic conditions, and the facility may accept waste from areas other than those identified above.

The quantity and types of waste to be transferred at the proposed facility, as well as the site design and site operations, are discussed in the following subsections.

2.1.1 Waste Acceptance Plan

The existing transfer station facility consists of an approximate 10,000 square foot pre-cast concrete tilt wall building. A metals/white goods, and tire drop-off center is located southeast of the existing TS building. The concrete building is about 110 feet long and 90 feet wide. The proposed Type V transfer station facility will consist of the existing TS facility and the addition of a new top-loading tunnel against the west wall of the TS building.

The major classifications of solid waste to be accepted at the improved Parkway TS include household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste. Each classification of waste is defined in Title 30 TAC §330.3 and summarized below:

- **Household Waste:** Any solid waste (including garbage, trash) derived from households (including single family and multi-family residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas); does not include brush.
- **Brush:** Cuttings or trimming from trees, shrubs, or lawns and similar materials.
- **Yard Waste:** Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than six inches in diameter, that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls.
- **Commercial Solid Waste:** All types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.
- **Industrial Waste (Nonhazardous):** Solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations, classified as follows:
 - Class 2 Industrial Solid Waste – Any individual solid waste or combination of industrial solid wastes that are not described as Hazardous, Class 1, or Class 3, as defined in Title 30 TAC §335.506 (relating to Class 2 Waste Determination).
 - Class 3 Industrial Solid Waste – Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable as further defined in Title 30 TAC §335.507 (relating to Class 3 Waste Determination).
- **Construction-Demolition Waste:** Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.
- **Special Waste:** Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment. Only the following special wastes will be accepted at this facility:
 - used oil (for recycling only);
 - used-oil filters from internal combustion engines (for recycling only);
 - whole used or scrap tires or tire pieces (for recycling only); and
 - white goods.

Consistent with Title 30 TAC §330.15(e), the facility will not accept the following:

- Regulated Hazardous Waste other than from Conditionally Exempt Small Quantity Generators (CESQG). Municipal hazardous waste from a CESQG may be accepted provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- Polychlorinated Biphenyl (PCB) wastes, as defined under 40 Code of Federal Regulations, Part 761.
- Items containing chlorinated fluorocarbons (CFCs), such as refrigerators, freezers, and air conditioners, unless the generator or transporter provides written certification that the CFCs have been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. These appliances may be accepted without certification at the discretion of NTMWD staff and stored until removed from the facility by a third party recycler who will engage a certified operator to properly remove the CFC's.
- Liquid waste which does not pass EPA Method 9095 Paint Filter Test unless it is bulk or non-containerized liquid waste that is:
 - household waste other than septic waste;
 - contained liquid waste and the container is a small container similar in size to that normally found in the household waste; or
 - in a container designated to hold liquids for use other than storage.
- Regulated Asbestos Containing Materials.
- Lead acid storage batteries.
- Used oil filters from internal combustion engines.
- Whole or used scrap tires.
- Radioactive materials.
- Associated hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes);
- Class 1 industrial nonhazardous waste;
- Untreated medical waste;
- Septic tank pumpings;
- Grease and grit trap wastes;
- Wastes from commercial or industrial wastewater treatment plants, air pollution control facilities, and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40

CFR, Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR, Section 261.33(e) or (f);

- Incinerator ash;
- Sludges.

2.1.2 Projected Transfer Rate

The Parkway TS will serve residences and businesses, including those in the Service Area. The TS received approximately 111,865 tons during the 2021 fiscal year beginning September 1, 2020 and ending August 31, 2021.

Waste will be transferred to a permitted Type I MSW facility on a daily basis except for extenuating circumstances such as inclement weather or mechanical breakdown. As economic conditions, population growth, and waste generation rates change, the volume of incoming waste may vary.

The estimated maximum annual waste acceptance rate for the facility for five years is shown in the following table.

NTMWD Fiscal Year ¹	Waste Acceptance Rate	
	Daily ² (tons per day)	Annually (tons per year)
2021	306.5	111,865
2022	308	112,424
2023	309.5	112,986
2024	311	113,551
2025	312.5	114,119

¹ The fiscal year runs from September to August.

² Averaged over 365 days per year.

As shown below, the average population equivalent using the above projected maximum waste acceptance rates varies from 122,600 persons to 125,000 persons. As the transfer station Service Area conditions change, adjustments to the service area population may occur. The population equivalent of the areas served was calculated as follows:

$$\frac{(306.5 \text{ tons/day})(2,000 \text{ lbs/ton})}{(5 \text{ lbs/person/day})} = 122,600 \text{ persons}$$

$$\frac{(312.5 \text{ tons/day})(2,000 \text{ lbs/ton})}{(5 \text{ lbs/person/day})} = 125,000 \text{ persons}$$

The transfer station is limited by the Application to receive a maximum of 1,500 tons per day of waste, averaged over 365 days per year. This throughput is not a limit of design. A maximum of 700 tons of waste can be stored at the facility within the enclosed building. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid

waste will not be stored overnight at the facility except for extenuating circumstances such as inclement weather or mechanical breakdown. Non-stored wastes will be transported daily to a permitted Type I MSW landfill.

2.1.3 Facility Design Report

The site plans included within this permit amendment application set forth the overall design and operating characteristics of the improved TS facility. Figures showing the proposed Type V TS facility layout are presented in Appendix IIIA of the Facility Design Report (Part III). A summary of the proposed development to expand the existing facility is listed below.

- The TS building is an existing, pre-cast concrete tilt wall building with an area of approximately 10,000 square feet.
- The proposed transfer station tunnel on the west side of the building will allow waste to be top loaded into the transfer trucks and be hauled to an area landfill.
- Transfer trucks, collection vehicles, and self-haul vehicles will all enter the site from W. Plano Parkway and be routed through the site to mitigate consolidation and cross-traffic intersections.
- The collection vehicles will enter the transfer station building through the north side entrance bay, and unload waste onto the tipping floor. Collection trucks will then exit the transfer station building through the bay along the east side of the building, and follow the route to exit the facility.
 - All tipping will occur within the transfer station building. The commercial vehicles will tip on the tipping floor away from the self-haul vehicles. All tipped material will be stored on the tipping floor and pushed by wheel loaders toward the proposed tunnel located along the west wall of the building. This configuration provides the most efficient method to load trailers.
 - Proposed push walls will help store the material tipped. These push walls are located on the northwest and southwest sides of the tipping floor. The majority of the material will be stored near the two push walls. Sorting the materials will aid in the transfer of said materials to the transfer trucks.
- Transfer trucks will access the site via West Plano Parkway and will enter the loading tunnel from the south. After loading is complete, the transfer trucks will exit the north end of the tunnel. They will continue along the site entrance road to West Plano Parkway to exit the facility.
- One bay for self-haul tipping currently exists at the facility and will continue to be used to allow for one to two self-haul vehicles to enter the facility and unload along the south wall of the building. Once the material is tipped, some self-haul vehicles will be routed to the scalehouse and exit the facility.

2.1.4 Site Operating Plan

The SOP for the proposed Parkway TS is presented in Part IV of this permit amendment application. The site will be operated by appropriately-trained personnel. The SOP details the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

2.2 Abandoned Oil and Water Wells

2.2.1 Water Wells

A water well search was conducted by ERIS, for an area within one mile of the permit boundary, including within the facility boundary. The results by ERIS revealed that there are two water wells within 1 mile of the permit boundary, including within the permit boundary. Refer to Figure I/II-4.2 for their locations and distance from the TS permit boundary. Refer to Appendix I/IIC for excerpts from the ERIS report.

No existing or abandoned water wells are known within the facility. In accordance with §330.61(l)(1), if during the operations of the facility a water well is discovered within the facility, NTMWD shall, within 30 calendar days after discovery, provide written certification to the TCEQ that all such wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the TCEQ or other state agency.

2.2.2 Oil and Gas Wells

An oil and gas well search was conducted by ERIS, for an area within 500 feet of the permit boundary including within the facility boundary. The results by ERIS revealed that there were no producing well locations or plugged wells located within the study area. Refer to Appendix I/II C for excerpts from the ERIS report.

2.3 Texas Historical Commission Review

A Texas Historical Commission coordination letter is included in Appendix I/IIA. The Historical Commission concluded that no historic properties will be affected by the proposed TS development.

2.4 North Central Texas Council of Governments

The proposed Type V facility is consistent with the Regional Solid Waste Management Plan for the North Central Texas Council of Governments (NCTCOG). A letter documenting coordination with the NCTCOG is included in Appendix I/IIA.

In addition, Parts I/II of this application was submitted to the NCTCOG on October 21, 2022.

2.5 Internet Posting

In accordance with Title 30 TAC §330.57(i), a complete copy of this permit amendment application will be posted to the internet at the following publicly accessible website: <https://www.ntmwd.com/projects/parkway-transfer-station>. All future revisions or supplements to this permit amendment application will also be posted at the same location. This internet posting is for informational purposes only. The TCEQ website will also contain information regarding the filing of this permit amendment application along with a link to the above-mentioned web address.

2.6 Other Permits/Authorizations

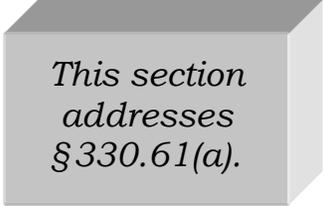
In accordance with Title 30 TAC §305.45(a)(7), the related permits and authorizations for the facility are summarized in Table 2-1.

**Table 2-1
Other Permits/Authorizations**

Description	Status
Hazardous Waste Management program under the Texas Solid Waste Disposal Act	No submittal is required nor been applied for under the Hazardous Waste Management Program under the Texas Solid Waste Disposal Act.
Underground Injection Control (UIC) program under the Texas Injection Well Act	No submittal is required nor been applied for under the Underground Injection Control Program under the Texas Injection Well Act.
Texas Pollutant Discharge Elimination System (TPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26	The Parkway TS will maintain the current Notice of Intent (NOI) for the Parkway TS. The facility SWPPP will be revised and implemented prior to operating the improved facility. The current TCEQ TPDES MSGP Authorization Number for this site is TXR05AN09.
Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act	No submittal for a Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA) is required or has been applied for.
Nonattainment Program under the Federal Clean Air Act (FCAA)	No submittal is required or has been applied for under the Nonattainment Program under the FCAA.
National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the FCAA	No submittal is required nor been applied for under the NESHAPS preconstruction approval under the FCAA.
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	No submittal is required nor have ocean dumping permits been applied for under the Marine Protection Research and Sanctuaries Act.
Dredge or fill permits under the Federal Clean Water Act	No submittal is required nor have dredge and fill permits been applied for under the Federal Clean Water Act.
Licenses under the Texas Radiation Control Act	No submittal is required nor have licenses been applied for under the Texas Radiation Control Act.
Subsurface area drip dispersal system permits under Texas Water Code, Chapter 32.	No submittal is required nor has a subsurface area drip dispersal system permits been applied for under Texas Water Code, Chapter 32.
Air Permit requirements in Title 30 TAC §116.110 and §106.534	Transfer stations operating in compliance with the Texas Solid Waste Disposal Act are permitted by rule. Documentation will be kept on site to demonstrate that the site will meet the requirements of Title 30 TAC §106.534 at the time the facility is constructed. If air pollution emission capture and abatement equipment is utilized, it will be properly maintained and operated consistent with Title 30 TAC §330.245(e).
Other environmental permits	No other submittal is required, nor have other environmental permits been applied for.

3 EXISTING CONDITIONS SUMMARY

The existing conditions of the site are shown on Figure I/II-3.1. The proposed Parkway TS permit boundary encompasses 7.73-acres. The south boundary is formed by the Kansas City Southern Railroad. The east and west boundary is formed by industrial/commercial properties, and the north boundary is formed by City of Plano properties.



*This section
addresses
§ 330.61(a).*

As shown on Figure I/II-3.1, the existing site topography is elevated along the north, south and east sides of the transfer station. The remaining portion of the permit area is relatively flat and/or has a slight gradient. The TS building is at the highest elevation on the property. The TS facility and other operations vary in elevation from approximately 714 to 690 feet above mean sea level (ft-msl). The surrounding area consists primarily of residential, light industrial property, transportation corridor, retail/office property, and industrial/commercial property.

There are no site specific conditions that require special design considerations, possible mitigation of surrounding area land uses, transportation infrastructure, soils and geology, ground and surface water, abandoned oil and water wells, floodplains and wetlands, endangered species, significant archaeological or historic resources conditions, or sites with exceptional aesthetic qualities. Each of the criteria set forth in Title 30 TAC §330.61(h) through (o) are discussed in detail in Sections 7 through 13.

The existing facility is surrounded by a 6-foot tall chain link fence and natural or manmade buffers/streetways that protect the public from exposure to potential health and safety hazards and discourage unauthorized or uncontrolled disposal of solid or hazardous material. The natural barriers include a creek along the northwest and west boundaries and a tree line along the south boundary.

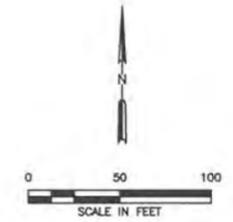
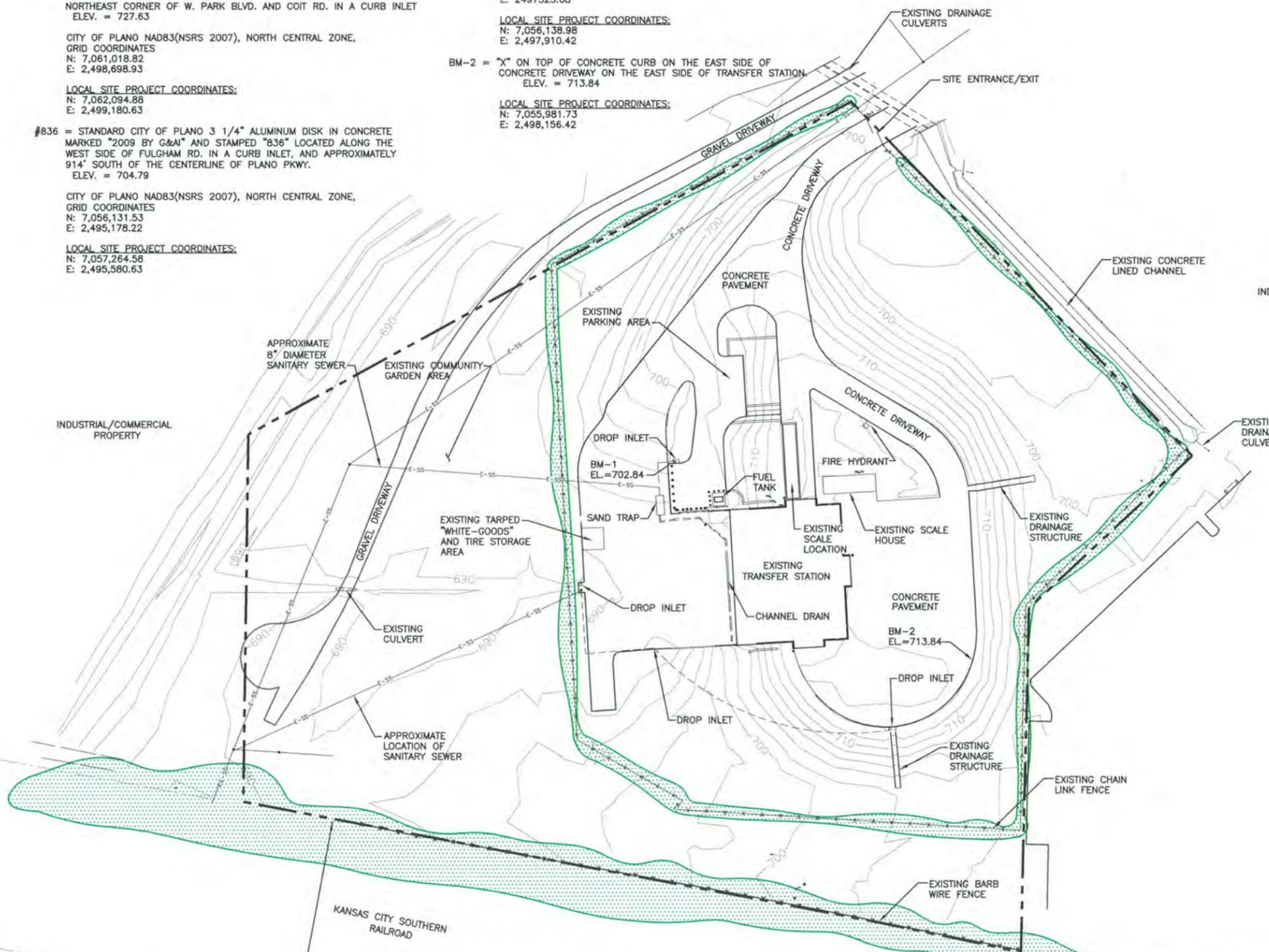
CITY BENCHMARKS USED FOR CONTROL

- #103 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE STAMPED "H-2" LOCATED IN THE PAVEMENT ALONG PLANO PKY. APPROXIMATELY 660' EAST OF THE INTERSECTION OF COIT RD., AND ACROSS FROM AN ENTRANCE TO THE DALLAS MORNING NEWS. ELEV. = 715.95
- #821 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "821" LOCATED NEAR THE NORTHEAST CORNER OF W. PARK BLVD. AND COIT RD. IN A CURB INLET. ELEV. = 727.63
- CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,061,018.82
E: 2,498,698.93
- LOCAL SITE PROJECT COORDINATES:
N: 7,062,094.88
E: 2,499,180.63
- #836 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "836" LOCATED ALONG THE WEST SIDE OF FULGHAM RD. IN A CURB INLET, AND APPROXIMATELY 914' SOUTH OF THE CENTERLINE OF PLANO PKWY. ELEV. = 704.79
- CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,056,131.53
E: 2,495,178.22
- LOCAL SITE PROJECT COORDINATES:
N: 7,057,264.58
E: 2,495,580.63

SITE BENCHMARKS

- BM-1 = "X" ON NORTH END OF CONCRETE WALL ON THE WEST SIDE OF TRANSFER STATION. ELEV. = 702.84
TEXAS COORDINATE SYSTEM OF 1983, NAD83(2011)[epoch 2010.00], NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,055,044.04
E: 2,497,525.68
- LOCAL SITE PROJECT COORDINATES:
N: 7,056,138.98
E: 2,497,910.42
- BM-2 = "X" ON TOP OF CONCRETE CURB ON THE EAST SIDE OF CONCRETE DRIVEWAY ON THE EAST SIDE OF TRANSFER STATION. ELEV. = 713.84
- LOCAL SITE PROJECT COORDINATES:
N: 7,055,981.73
E: 2,498,156.42

CITY OF PLANO PROPERTIES



LEGEND

--- --	PERMIT BOUNDARY
-x-x-x-x-x-x-	EXISTING FENCE
710	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
(Green hatched area)	EXISTING VEGETATION BUFFER (SEE NOTE 3)
E-SS	EXISTING SEWER LINE

- NOTES:**
1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017. PROJECT CONTROL COORDINATES SHOWN HEREON ARE A LOCAL PROJECTION OF THE TEXAS STATE PLANE COORDINATE SYSTEM OF 1983, NAD83, NORTH CENTRAL ZONE. SAID COORDINATES HAVE BEEN SCALED TO SURFACE USING A PROJECT COMBINED SCALE FACTOR OF 1.00015421 FROM AN ORIGIN OF 0,0, AND HAVE BEEN ROTATED AND TRANSLATED FROM CITY OF PLANO BENCHMARKS #821 AND #836 GRID LOCATIONS TO THE "LOCAL SITE PROJECT COORDINATES" SHOWN HEREON.
 2. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY & ASSOCIATES, INC.
 3. THE SITE HAS A VEGETATION BUFFER SCREEN ALONG THE SOUTHERN BOUNDARY ADJACENT TO THE RAILROAD TRACKS. THIS EXISTING VEGETATION BUFFER WILL REMAIN UNDISTURBED. ADDITIONALLY, THE SITE HAS AN EXISTING VEGETATION BUFFER ALONG THE FENCE LINE TO THE NORTH, SOUTH, EAST, AND WEST. THE MAJORITY OF THE EXISTING VEGETATION BUFFER WITHIN/ALONG THE FENCE ROW WILL REMAIN UNDISTURBED WITH THE EXCEPTION OF THE SOUTHWEST CORNER TO ALLOW FOR A PROPOSED DRIVEWAY EXTENSION. THE EXISTING VEGETATION BUFFER CONSISTS OF NATURALLY OCCURRING TREES AND UNDERGROWTH, PRIMARILY INCLUDING HACKBERRY AND CEDAR ELMS RANGING IN HEIGHT FROM 6 FEET TO 25 FEET.
 4. SITE ENTRANCE ROAD IS OWNED BY NTMWD BUT NOT INCLUDED IN THE PERMIT BOUNDARY.



0:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 3.1-EXISTING SITE CONDITIONS.dwg, Farrington, 1.2

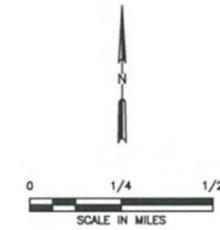
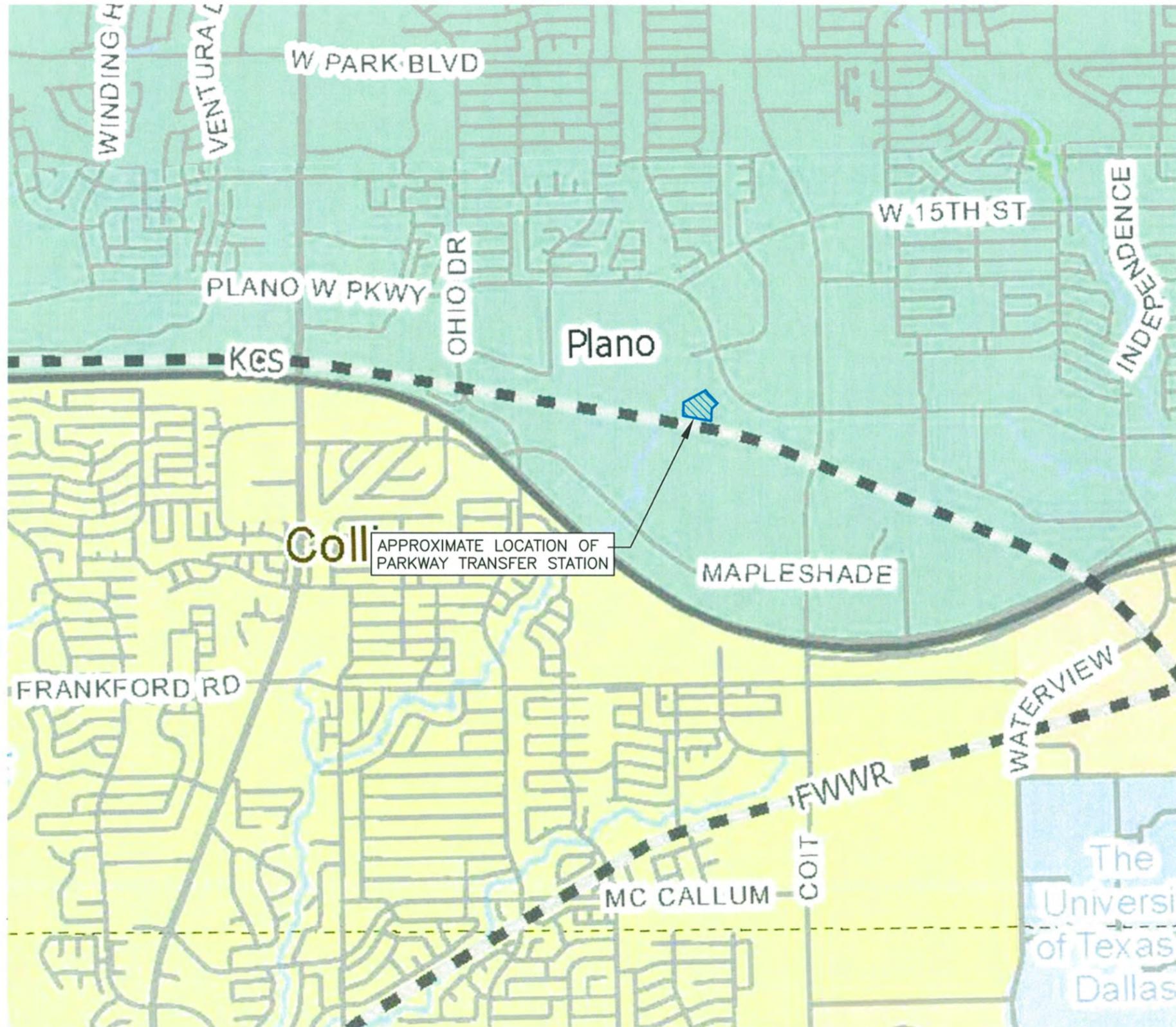
<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION EXISTING SITE CONDITIONS NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS						
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 3.1-SITE ENTRANCE ROAD.DWG								
DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVQ	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION				WWW.WCGRP.COM FIGURE 1/II-3.1
NO.	DATE	DESCRIPTION							
Weaver Consultants Group TBPE REGISTRATION NO. F-3727									

4 MAPS

A site location map and general topographic map are presented on Figures I/II-4.1 and I/II-4.2. Structures and inhabitable buildings located within 500 feet are shown on Figure I/II-4.3. The longitudinal and latitudinal geographic coordinates for the Parkway TS are 33°0'39"N, 96°46'25"W.

*This section addresses
§330.59(c), §330.61(c),
§330.61(e),
§305.45(a)(6)(A), and
§305.45(a)(6)(C).*

Figure I/II-4.1 and Figure I/II-4.2 show surface water bodies in accordance with Title 30 TAC §330.59(c)(1) and §305.45(a)(6)(A). Figure I/II-4.2 shows and/or indicates wells and springs in accordance with Title 30 TAC §330.59(c)(1) and §305.45(a)(6)(A). As noted in Figure I/II-4.2, no springs exist within a one-mile radius of the site.



- Unincorporated Community
- ⊕ County Seat
- ✚ Border Crossing
- ⚰ Cemetery
- Cemetery (Inside City)
- ⊕ Deep Draft Port
- ⊕ Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

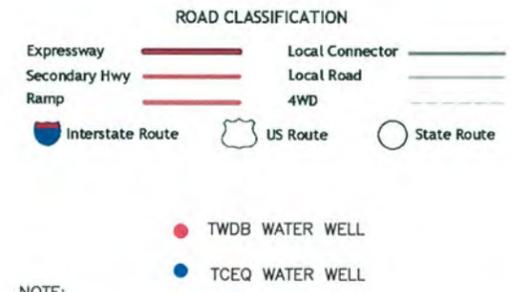
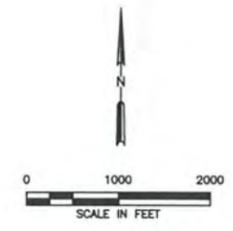
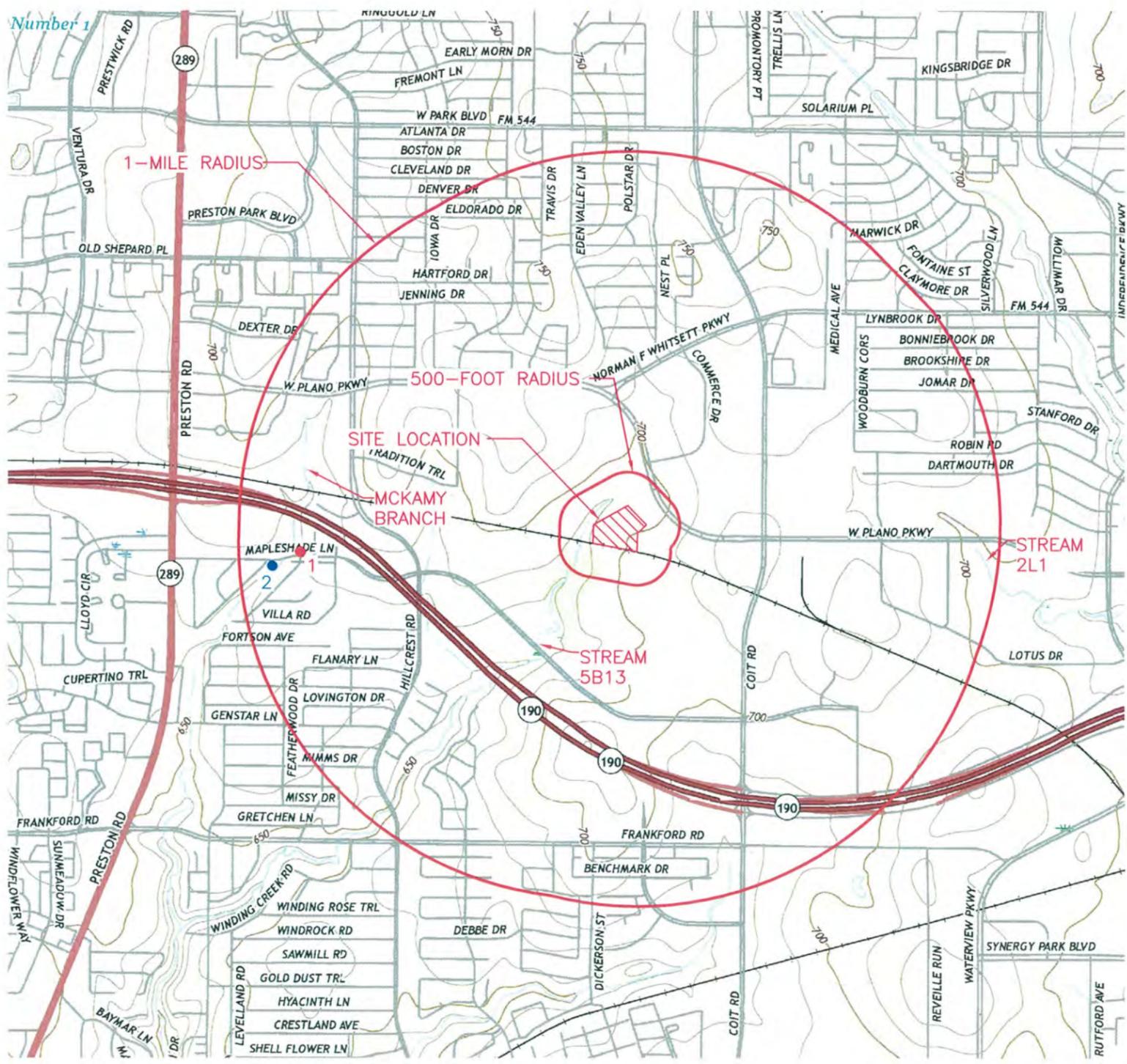
NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION SITE LOCATION MAP NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS									
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.1-SITE LOCATION MAP.DWG											
DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVG	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION							WWW.WCGRP.COM
NO.	DATE	DESCRIPTION										
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		FIGURE 1/II-4.1										

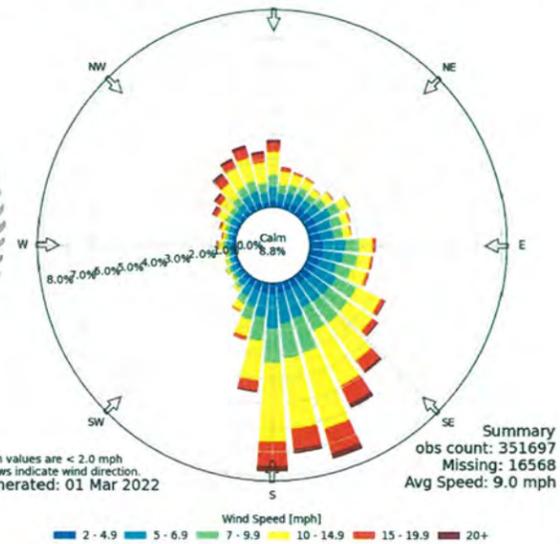
O:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 4.1-SITE LOCATION MAP.dwg, farrington, 1:2



NOTE:
 1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (ADDISON, TX, 2016, PLANO, TX, 2016, AND HEBRON, TX 2016)

SITE LOCATION
 33° 0' 39" N
 96° 46' 25" W

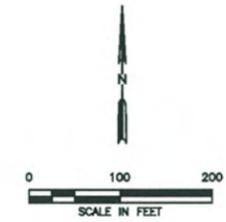
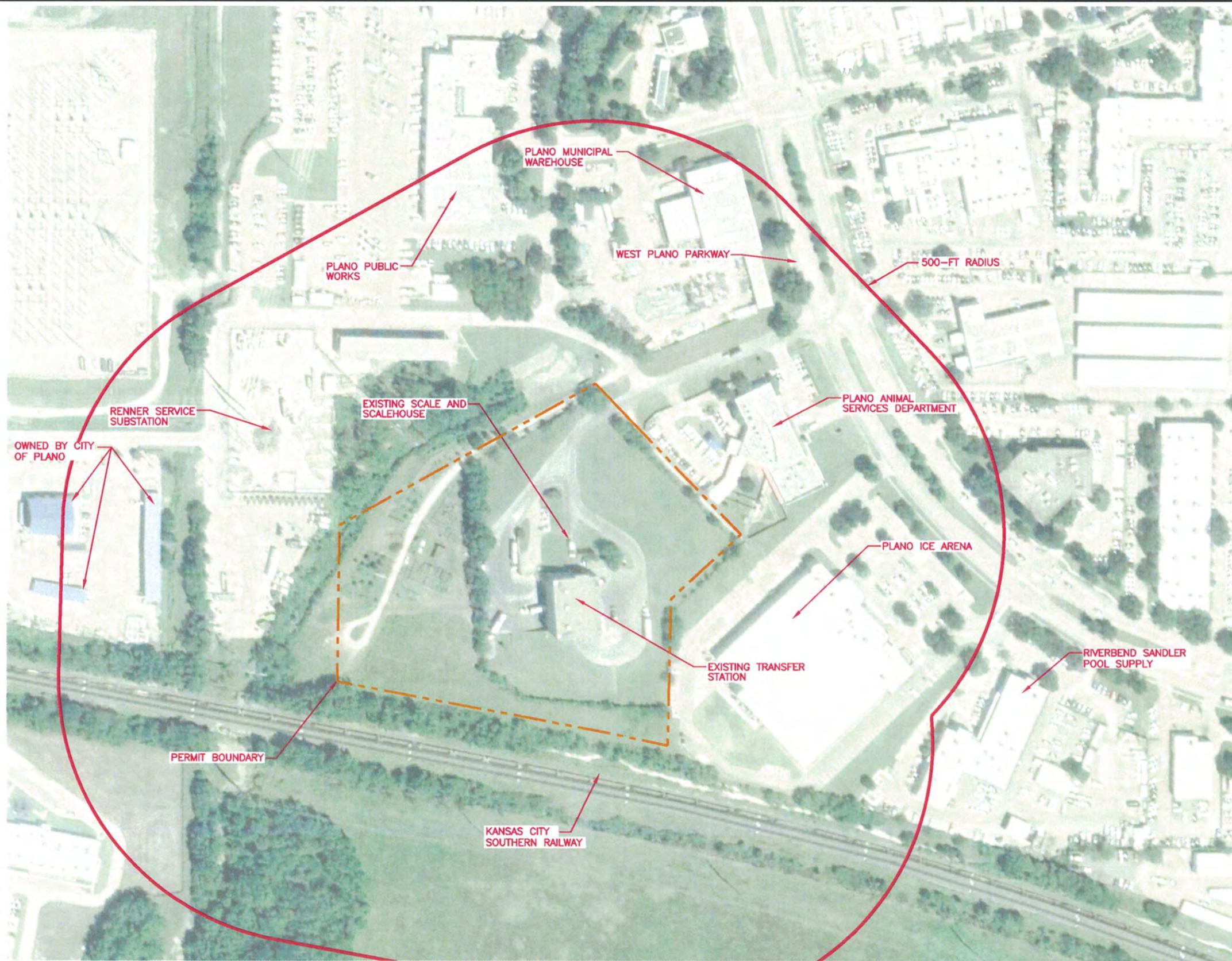
[ADS] DALLAS/ADDISON ARPT
 Windrose Plot
 Time Bounds: 31 Jan 1974 07:00 PM - 01 Mar 2022 02:55 AM America/Chicago



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION GENERAL TOPOGRAPHIC MAP
	DATE: 04/2017 FILE: 1678-005-11 CAD: FIG 4.2-GENERAL TOPO MAP.DWG			NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JVG	REVISIONS		WWW.WCGRP.COM
Weaver Consultants Group TBPE REGISTRATION NO. F-3727	NO. DATE DESCRIPTION	FIGURE 1/II-4.2	

O:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 4.2-TOPO MAP.DWG, Farrington, 1:2

O:\1070\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 4.3--AERIAL PHOTOGRAPH.dwg, Farrington, 1:2



LEGEND
 - - - - - PROPERTY BOUNDARY

- NOTES:**
1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.
 2. ALL STRUCTURES WITHIN 500 FEET OF THE PERMIT BOUNDARY ARE SHOWN ON THIS FIGURE.

STATE OF TEXAS
 ★
 CHARLES R. MARSH
 105073
 PROFESSIONAL ENGINEER
CR
 10.13.22

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION AERIAL PHOTOGRAPH NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS															
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.3--AERIAL PHOTOGRAPH.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JYQ	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																	
NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-4.3															

CITY BENCHMARKS USED FOR CONTROL

#103 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE STAMPED "H-2" LOCATED IN THE PAVEMENT ALONG PLANO PKY. APPROXIMATELY 660' EAST OF THE INTERSECTION OF COIT RD. AND ACROSS FROM AN ENTRANCE TO THE DALLAS MORNING NEWS. ELEV. = 715.95

#821 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "821" LOCATED NEAR THE NORTHEAST CORNER OF W. PARK BLVD. AND COIT RD. IN A CURB INLET. ELEV. = 727.63

CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,061,018.82
E: 2,498,698.93

LOCAL SITE PROJECT COORDINATES:
N: 7,062,094.88
E: 2,499,180.63

#836 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "836" LOCATED ALONG THE WEST SIDE OF FULGHAM RD. IN A CURB INLET, AND APPROXIMATELY 914' SOUTH OF THE CENTERLINE OF PLANO PKWY. ELEV. = 704.79

CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,056,131.53
E: 2,495,178.22

LOCAL SITE PROJECT COORDINATES:
N: 7,057,264.58
E: 2,495,580.63

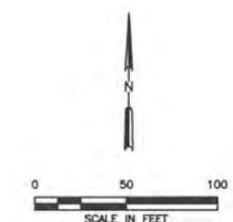
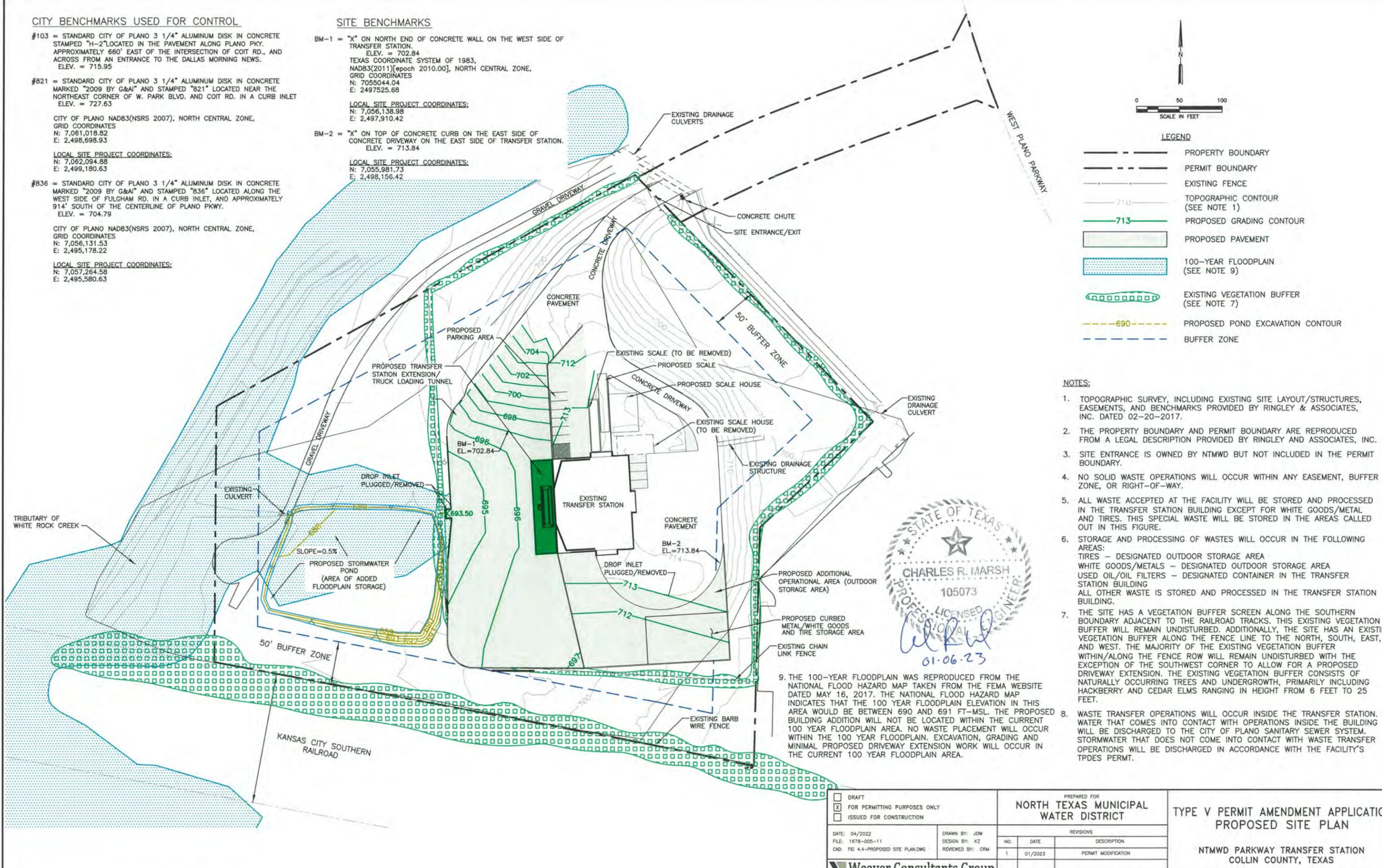
SITE BENCHMARKS

BM-1 = "X" ON NORTH END OF CONCRETE WALL ON THE WEST SIDE OF TRANSFER STATION. ELEV. = 702.84
TEXAS COORDINATE SYSTEM OF 1983, NAD83(2011)[epoch 2010.00], NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,055,044.04
E: 2,497,525.68

LOCAL SITE PROJECT COORDINATES:
N: 7,056,138.98
E: 2,497,910.42

BM-2 = "X" ON TOP OF CONCRETE CURB ON THE EAST SIDE OF CONCRETE DRIVEWAY ON THE EAST SIDE OF TRANSFER STATION. ELEV. = 713.84

LOCAL SITE PROJECT COORDINATES:
N: 7,055,981.73
E: 2,498,156.42



LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	713 PROPOSED GRADING CONTOUR
	PROPOSED PAVEMENT
	100-YEAR FLOODPLAIN (SEE NOTE 9)
	EXISTING VEGETATION BUFFER (SEE NOTE 7)
	690 PROPOSED POND EXCAVATION CONTOUR
	BUFFER ZONE

NOTES:

- TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
- THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.
- SITE ENTRANCE IS OWNED BY NTMWD BUT NOT INCLUDED IN THE PERMIT BOUNDARY.
- NO SOLID WASTE OPERATIONS WILL OCCUR WITHIN ANY EASEMENT, BUFFER ZONE, OR RIGHT-OF-WAY.
- ALL WASTE ACCEPTED AT THE FACILITY WILL BE STORED AND PROCESSED IN THE TRANSFER STATION BUILDING EXCEPT FOR WHITE GOODS/METAL AND TIRES. THIS SPECIAL WASTE WILL BE STORED IN THE AREAS CALLED OUT IN THIS FIGURE.
- STORAGE AND PROCESSING OF WASTES WILL OCCUR IN THE FOLLOWING AREAS:
TIRES - DESIGNATED OUTDOOR STORAGE AREA
WHITE GOODS/METALS - DESIGNATED OUTDOOR STORAGE AREA
USED OIL/OIL FILTERS - DESIGNATED CONTAINER IN THE TRANSFER STATION BUILDING
ALL OTHER WASTE IS STORED AND PROCESSED IN THE TRANSFER STATION BUILDING.
- THE SITE HAS A VEGETATION BUFFER SCREEN ALONG THE SOUTHERN BOUNDARY ADJACENT TO THE RAILROAD TRACKS. THIS EXISTING VEGETATION BUFFER WILL REMAIN UNDISTURBED. ADDITIONALLY, THE SITE HAS AN EXISTING VEGETATION BUFFER ALONG THE FENCE LINE TO THE NORTH, SOUTH, EAST, AND WEST. THE MAJORITY OF THE EXISTING VEGETATION BUFFER WITHIN/ALONG THE FENCE ROW WILL REMAIN UNDISTURBED WITH THE EXCEPTION OF THE SOUTHWEST CORNER TO ALLOW FOR A PROPOSED DRIVEWAY EXTENSION. THE EXISTING VEGETATION BUFFER CONSISTS OF NATURALLY OCCURRING TREES AND UNDERGROWTH, PRIMARILY INCLUDING HACKBERRY AND CEDAR ELMS RANGING IN HEIGHT FROM 6 FEET TO 25 FEET.
- WASTE TRANSFER OPERATIONS WILL OCCUR INSIDE THE TRANSFER STATION. WATER THAT COMES INTO CONTACT WITH OPERATIONS INSIDE THE BUILDING WILL BE DISCHARGED TO THE CITY OF PLANO SANITARY SEWER SYSTEM. STORMWATER THAT DOES NOT COME INTO CONTACT WITH WASTE TRANSFER OPERATIONS WILL BE DISCHARGED IN ACCORDANCE WITH THE FACILITY'S TPDES PERMIT.

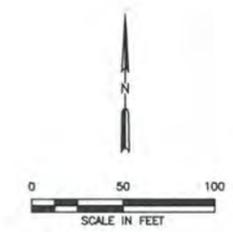
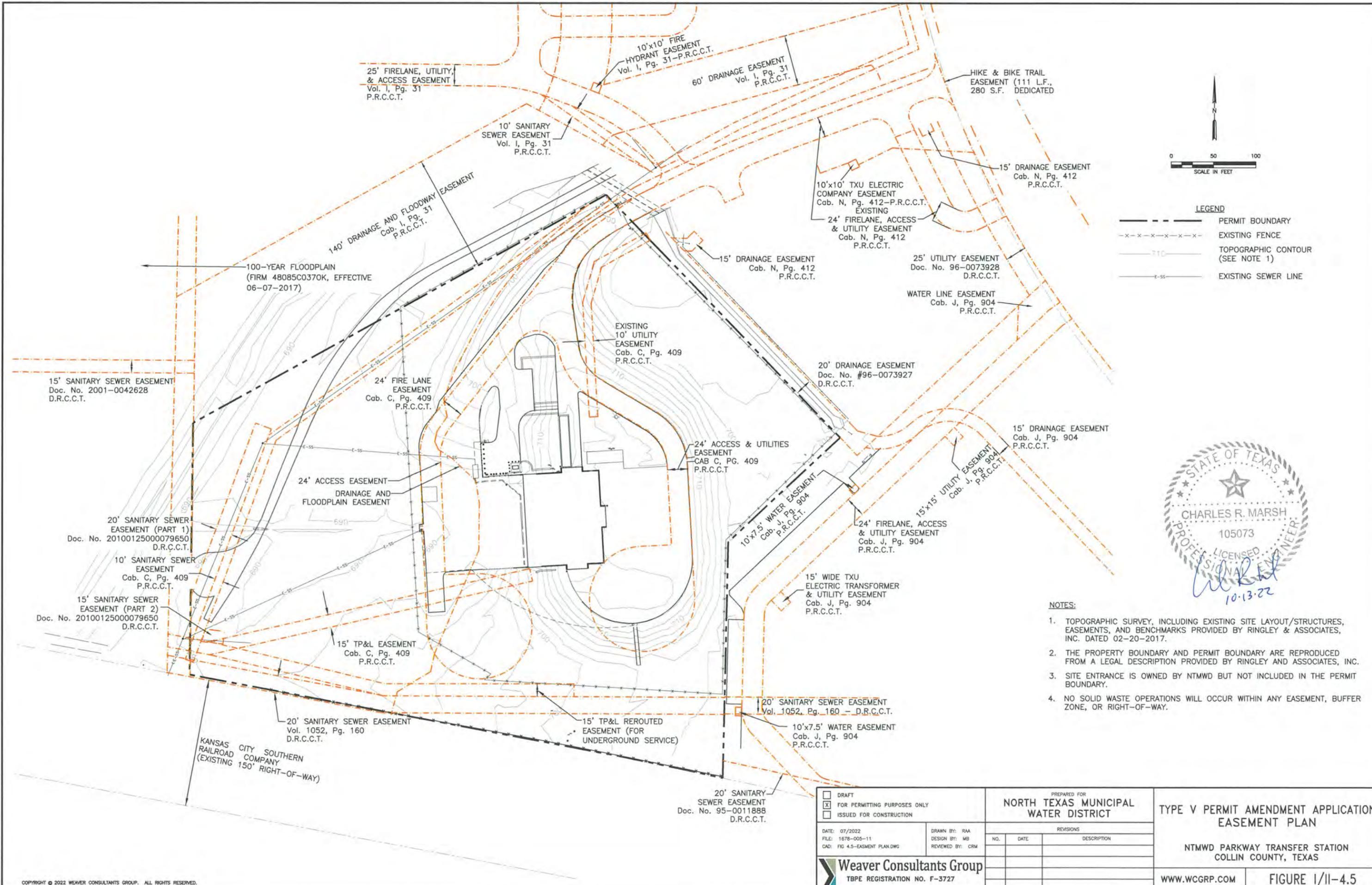


9. THE 100-YEAR FLOODPLAIN WAS REPRODUCED FROM THE NATIONAL FLOOD HAZARD MAP TAKEN FROM THE FEMA WEBSITE DATED MAY 16, 2017. THE NATIONAL FLOOD HAZARD MAP INDICATES THAT THE 100 YEAR FLOODPLAIN ELEVATION IN THIS AREA WOULD BE BETWEEN 690 AND 691 FT-MSL. THE PROPOSED BUILDING ADDITION WILL NOT BE LOCATED WITHIN THE CURRENT 100 YEAR FLOODPLAIN AREA. NO WASTE PLACEMENT WILL OCCUR WITHIN THE 100 YEAR FLOODPLAIN. EXCAVATION, GRADING AND MINIMAL PROPOSED DRIVEWAY EXTENSION WORK WILL OCCUR IN THE CURRENT 100 YEAR FLOODPLAIN AREA.

0:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-11\CLEAN\FIG 4.4 - PROPOSED SITE PLAN.dwg, P. Ruffington, 1:2

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION PROPOSED SITE PLAN						
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.4-PROPOSED SITE PLAN.DWG		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>01/2023</td> <td>PERMIT MODIFICATION</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	01/2023
NO.	DATE	DESCRIPTION							
1	01/2023	PERMIT MODIFICATION							
DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS							
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM		FIGURE 1/11-4.4					

0:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 4.5 - EASEMENT PLAN.dwg, P:\R\fig\04b, 1-2



LEGEND

--- (dashed line)	PERMIT BOUNDARY
-x-x-x-x-x-x-x-x-x-x-	EXISTING FENCE
--- (solid line with 'T10' label)	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
--- (solid line with 'E-SS' label)	EXISTING SEWER LINE



- NOTES:**
1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
 2. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.
 3. SITE ENTRANCE IS OWNED BY NTMWD BUT NOT INCLUDED IN THE PERMIT BOUNDARY.
 4. NO SOLID WASTE OPERATIONS WILL OCCUR WITHIN ANY EASEMENT, BUFFER ZONE, OR RIGHT-OF-WAY.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION EASEMENT PLAN NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	
	REVISIONS			
DATE: 07/2022 FILE: 1678-005-11 CAD: FIG 4.5-EASEMENT PLAN.DWG	DRAWN BY: RAA DESIGN BY: MB REVIEWED BY: CRM	NO.	DATE	DESCRIPTION
 TBPE REGISTRATION NO. F-3727				
		WWW.WCGRP.COM		FIGURE 1/II-4.5

5 PROPERTY OWNERS LIST AND MAP

The following list (Table 5-1) and figure (Figure I/II-5.1) provide the names, mailing addresses, and locations of the “Adjacent and Potentially Affected Landowners” around the facility. The list is based on appraisal district records of the Collin Central Appraisal District as of September 26, 2022 and includes tracts within 1/4 mile of the permit boundary. Refer to Figure I/II-5.1, Property Owners Map, for location of the properties. The numbers on the landowners list correspond to the numbers listed on Figure I/II-5.1. The Collin Central Appraisal District records do not list mineral rights ownership records.

*This section
addresses
§330.59(c)(3) and
§305.45(a)(6)(D).*

TABLE 5-1 PROPERTY OWNERS LIST

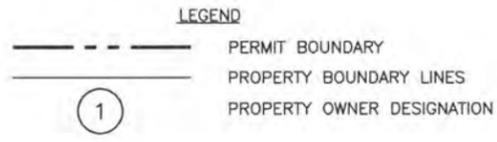
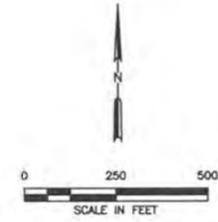
- | | |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <p>1. CITY OF PLANO
4840 EAST PLANO PKWY
PLANO TX 75086</p> | <p>11. AUTO WEB HOLDING LLC
2311 MIDWAY RD
CARROLLTON TX 75006</p> |
| <p>2. NORTHLAND DEVELOPMENTS INC
2601 AVENUE OF THE STARS
FRISCO TX 75034</p> | <p>12. 1200 COMMERCE LC
C/O FI BUSH
15 GLENHEATHER CT
DALLAS TX 75225</p> |
| <p>3. T & T DEVELOPMENT LTD.
4016 WEST PLANO PKWY STE 100
PLANO TX 75093</p> | <p>13. PLANO ANUSA LLC
200 SW 1ST AVE F114
FORT LAUDERDALE FL 33301</p> |
| <p>4. DAVENPORT MOTOR COMPANY
4010 WEST PLANO PKWY
PLANO TX 75093</p> | <p>14. AREA 19 LLC
PO BOX 29046
PHOENIX AZ 85038</p> |
| <p>5. SHARBAF PROPERTIES LLC
4464 W PLANO PKWY
PLANO TX 75093-5623</p> | <p>15. CARS-DB4 LP
8484 WESTPARK DR STE 200
MCLEAN VA 22102</p> |
| <p>6. COIT CORNERS PLANO LTD
7052 SKYWAY
PARADISE CA 95969</p> | <p>16. WEST PLANO RV & BOAT STORAGE LP
3838 OAKLAWN AVE STE 1720
DALLAS TX 75219</p> |
| <p>7. HUFFINES PLANO PROPERTIES LP
1001 COIT ROAD
PLANO TX 75075</p> | <p>17. DAR PROPERTIES 18 LLC
2600 N CENTRAL EXPY STE 400
RICHARDSON TX 75080</p> |
| <p>8. SH 746-755 LLC
SOVRAN SEKF STORAGE
6467 MAIN STREET STE 200
WILLIAMSVILLE NY 14221</p> | <p>18. HERRING INVESTMENTS LTD
4225 WEST PLANO PKWY
PLANO TX 75093</p> |
| <p>9. PLANO PARKWAY 4011 LLC
4018 SCENIC ORCHARD LN
RICHMOND TX 77407</p> | <p>19. ONCOR ELECTRIC DELIVERY COMPANY
PO BOX 139100
DALLAS TX 75313</p> |
| <p>10. PLANO PARKWAY BUILDING LTD
4031 WEST PLANO PKWY STE 100
PLANO TX 75093</p> | <p>20. AIP PLANO LLC
1504 EAGLE CT STE 9
LEWISVILLE TX 75057</p> |

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

- | | |
|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 21. CHARTER SCHOOL SOLUTIONS
9303 W SAM HOUSTON PKWY S STE 155
HOUSTON TX 77099 | 26. UNIVERSITY BUSINESS PARK PHASE II LTD & ETAL
ONE ARTS PLAZA
1722 ROUTH ST STE 770
DALLAS TX 75201 |
| 22. PLAIN OLD TEXAS LLC
809 SHORECREST DR
SOUTHLAKE TX 76092 | 27. CROW-BILLINGSLEY LTD NO 10
1722 ROUTH ST STE 770
DALLAS TX 75201 |
| 23. PS LPT PROPERTIES INVESTORS
701 WESTERN AVE
GLENDALE CA 91201 | 28. SOUTHWEST COIT SELF STORAGE LP
2100 LAKESIDE BLVD STE 425
RICHARDSON TX 75082 |
| 24. GEMINI INVESTMENTS LLC
16869 65 TH AVENUE STE 319
LAKE OSWEGO OR 97035 | 29. REM ASSET HOLDINGS LP
PO BOX 262529
PLANO TX 75026 |
| 25. SRP BHH PLANO LP
8343 DOUGLAS AVENUE STE 350
DALLAS TX 75225 | 30. SPIKE DIAMOND PLANO LTD & WJMP
ENTERPRISES LTD & JOSEY SPRING PARTNERS LLC
3838 OAK LAWN AVE STE 1416
DALLAS TX 75219 |

*In accordance with Title 30 TAC §330.59(c)(3), the availability of mineral ownership beneath the facility has been investigated. Based on conversations with the Collin Central Appraisal District, their public records do not include mineral ownership.

0:\1078\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 5.1-LAND OWNER MAP.DWG, FARFINGTON, 1:2



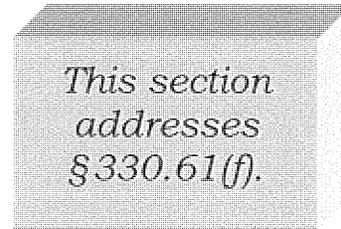
- NOTES:**
1. PROPERTY BOUNDARIES REPRODUCED FROM COLLIN COUNTY TAX APPRAISAL WEBSITE.
 2. 1 REFERS TO PROPERTY OWNERS LISTED ON PROPERTY OWNERS LIST IN SECTION 5, PROPERTY OWNERS LIST AND MAP.
 3. THIS LINE REPRESENTS A 1/4-MILE DISTANCE FROM THE PERMIT BOUNDARY.
 4. PROPERTY OWNERS LIST WAS DEVELOPED FROM COLLIN CENTRAL APPRAISAL DISTRICT RECORDS AS OF SEPTEMBER 26, 2022.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION LAND OWNER MAP NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS															
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 1/II-5.1-LAND OWNER MAP.DWG	DRAWN BY: CLR DESIGN BY: CRA REVIEWED BY: JVO	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">REVISIONS</th> </tr> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																	
NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-5.1															

6 AERIAL PHOTOGRAPH

An aerial photograph of the proposed Type V TS site and surrounding area (minimum of one-mile radius from the site) is presented on Figure I/II-6.1.





1-MILE RADIUS

W 15TH STREET

WEST PLANO PARKWAY

COIT ROAD

OHIO DRIVE

WEST PLANO PARKWAY

KANSAS CITY SOUTHERN RAILWAY

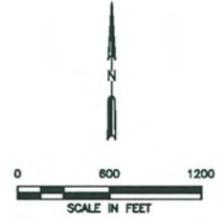
MAPLESHADE LN.

COIT ROAD

PRESIDENT GEORGE BUSH TURNPIKE

HILLCREST ROAD

FRANKFORD ROAD



LEGEND

- - - PERMIT BOUNDARY
- 1-MILE RADIUS

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.



<input type="checkbox"/> DRAFT	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	REVISIONS NO. DATE DESCRIPTION	
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY			
<input type="checkbox"/> ISSUED FOR CONSTRUCTION			
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 6.1-AERIAL PHOTOGRAPH.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JNQ	Weaver Consultants Group TBPE REGISTRATION NO. F-3727	

**TYPE V PERMIT AMENDMENT APPLICATION
AERIAL PHOTOGRAPH**

NTMWD PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS

WWW.WCGRP.COM

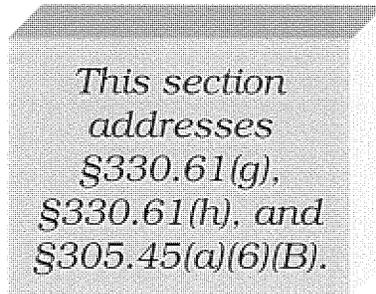
FIGURE 1/II-6.1

O:\1070\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 6.1-1 1 MILE RADIUS.dwg, rarrington, 1:2

7 LAND USE

7.1 Character of Surrounding Land and Land Use

A land use evaluation was performed for the area within one mile of the Parkway TS permit boundary. Land use information is summarized in the following maps.



- Figure I/II-7.1 (Land Use Map – Aerial). This map highlights land use within a one-mile radius of the site on an aerial photograph.
- Figure I/II-7.2 (Land Use-Zoning Map). This map indicates the City of Plano Zoning designations within two miles of site.
- Figure I/II-7.3 (Cities within 5 Miles – Aerial). This map is used to show area cities within 5 miles.

7.2 Location and Zoning

The Parkway TS is located within the city limits of Plano, Texas. The site is located approximately 1.75 miles north of the Collin-Dallas County line in Collin County. Land use within a one mile radius is shown on Figure I/II-7.1.

Zoning in the vicinity of the site is shown graphically on Figure I/II-7.2. As shown, the Parkway TS is located within the Plano city limits. The primary zoning designations within one mile of the site include residential, light industrial property, transportation corridor, retail/office property, and industrial/commercial property.

As shown on Figure I/II-7.2, the 7.73-acre permit boundary is presently zoned light industrial, which provides for the continued operation of a transfer station.

7.3 Surrounding Land Use

Land use within a one-mile radius of the permit boundary is a mix of residential, light industrial, transportation corridor, retail/office, and industrial/commercial

property. The properties located immediately north and west are light industrial; immediately to the south is bounded by the Kansas City Southern Railroad followed by undeveloped land; and properties to the east are primarily light industrial.

**Table 7-1
Zoning within 2 miles of Permit Boundary**

Land Use	Acres	Percent
Residential	1,064.1	47.8
Light Industrial	247.1	11.1
Retail/Offices	313.9	14.1
Industrial/Commercial	104.6	4.7
Urban/Mixed	153.6	6.9
Transportation Corridor	160.3	7.2
Agriculture/Open Space	133.6	6.0
Planned Development	46.7	2.1
NTMWD Parkway Transfer Station	7.75	0.1

The nearest residential neighborhood to the site is located approximately 2,000 feet north of the permit boundary. There are 5 hospitals, 6 schools/daycares, and 2 churches within one mile of the permit boundary. There are no cemeteries within one mile of the permit boundary.

7.4 Growth Trends of the Nearest Community

The permit boundary is located completely within the city limits of the City of Plano. Census data and the projected population growth was used to determine the growth trend (or percent change in population) for the service area. The average annual growth rates are presented in Table 7-2. The population projections were calculated based on data obtained from the Texas Water Development Board (TWDB), 2021 Regional Water Plan.

**Table 7-2 Growth Trends
Average Annual Growth Rate**

Community	2020-2030	2030-2040	2040-2050	2050-2060
Service Area	0.50%	0.66%	1.42%	1.01%

As shown on Figure I/II-7.3, the area appears to be mostly developed, therefore it is anticipated that growth will be minimal.

7.5 Proximity to Residences and Other Uses

The existing TS building is located in a predominately light industrial area, undeveloped area, and transportation corridor. The highest area land usage within 1-mile of the permit boundary is residential. The nearest residences are approximately 2,000 feet north of the permit boundary and 3,500 feet south of the permit boundary.

7.6 Impact on Surrounding Areas

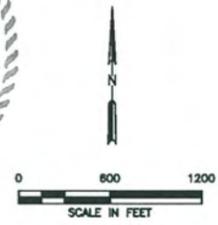
The use of this land for the enhanced transfer station site represents a compatible land use for the following reasons.

- The Transfer Station received its permit in 1982 and has been in operation since 1984.
- As discussed in Section 2.3, the TS is consistent with the Regional Solid Waste Management Plan for the NCTCOG. A letter documenting coordination with the NCTCOG is included in Appendix I/IIA.
- The TS is surrounded by many industrial/commercial facilities.
- All waste transfer operations will occur within the transfer station building.
- The TS is allowed by the current zoning classification.
- The TS will not adversely impact human health or environment.

7.7 Oil and Water Wells

According to a March 2022 report completed by ERIS, there are no known oil or gas wells located within 500 feet of the proposed TS site. A one-mile water well search was conducted for the TS site and identified only two water wells within one mile of the proposed TS site. The results of this search are summarized in Section 2.4 and excerpts from the ERIS report are included in Appendix I/IIC.

0:\1078\05\TYPE V PERMIT APPLICATION\PARTS 1-II\FIG 7.1-1 LAND USE MAP.dwg, Farrington, L&E

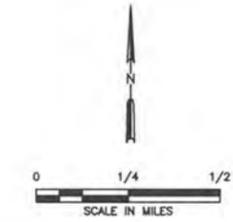
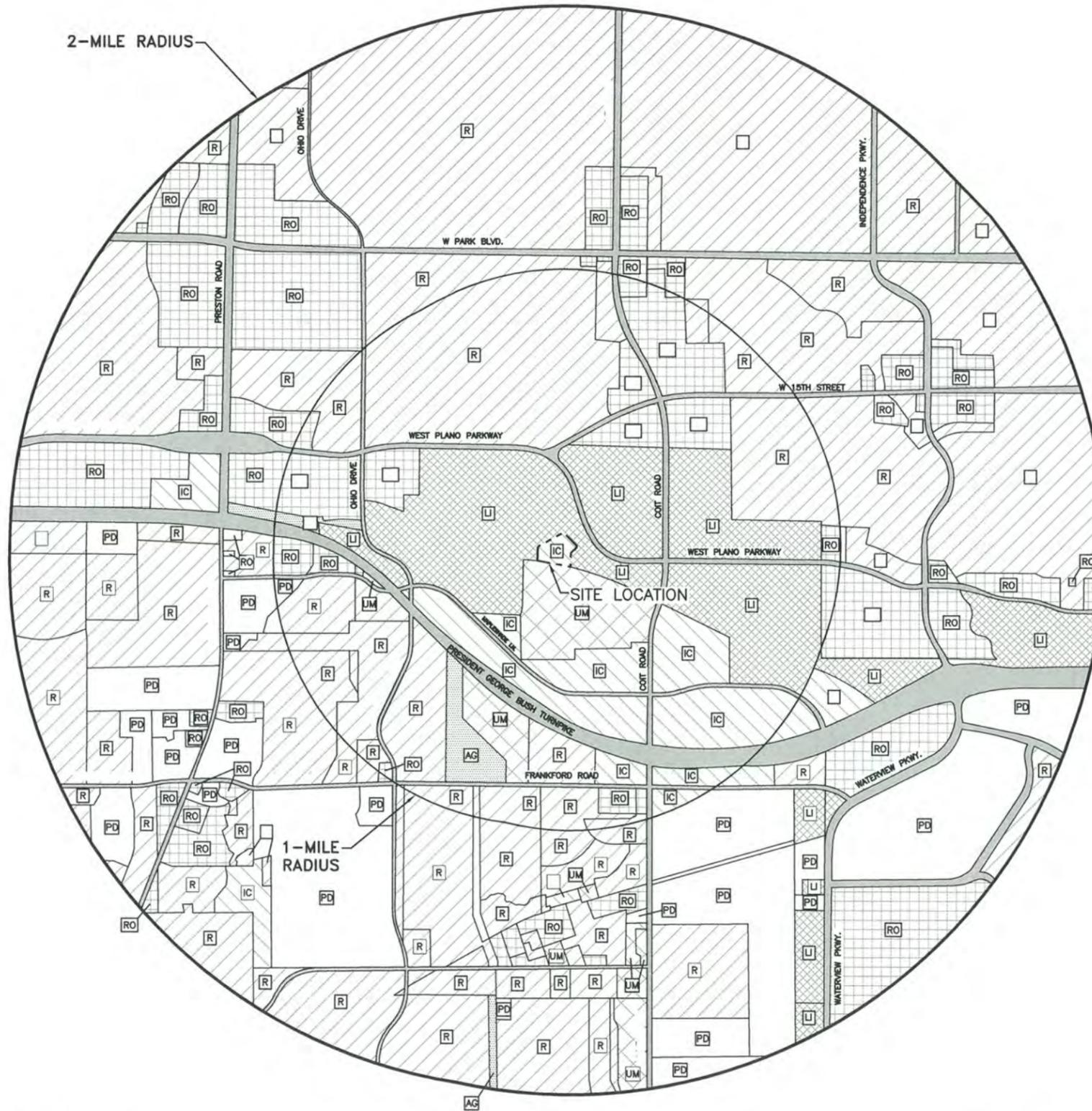


LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY
IC	INDUSTRIAL/COMMERCIAL
UM	URBAN MIXED-USED
LI	LIGHT INDUSTRIAL
RG	RETAIL/GENERAL OFFICE
R	RESIDENTIAL
HD	HOSPITAL/DOCTOR
	EXISTING STREAM

- NOTES:**
1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.
 2. LAND USE IS SHOWN ONLY WITHIN THE 1-MILE BOUNDARY.
 3. SITE ACCESS ROADS WITHIN 1 MILE OF THE SITE INCLUDE WEST PLANO PARKWAY, COIT ROAD, AND STATE HIGHWAY 190 (PRESIDENT GEORGE BUSH TURNPIKE).
 4. EXCEPT AS OTHERWISE SHOWN, LAND USE IS PREDOMINANTLY LIGHT INDUSTRIAL, INDUSTRIAL/COMMERCIAL, AND RESIDENTIAL.
 5. REFER TO FIGURE I/II-7.3 FOR ZONING.
 6. THERE ARE 5 HOSPITALS, 6 SCHOOLS/DAYCARES, AND 2 CHURCHES WITHIN A 1-MILE RADIUS OF THE SITE. THERE ARE NO CEMETERIES WITHIN THE 1-MILE RADIUS.
 7. REFER TO SECTION 3, FIGURE I/II-3.1 AND SECTION 5 FOR EASEMENT INFORMATION.
 8. REFER TO FIGURE I/II-4.3 FOR INFORMATION REGARDING STRUCTURES AND INHABITABLE BUILDINGS WITHIN 500 FEET OF THE PERMIT BOUNDARY.
 9. THERE ARE NO LAKES OR PONDS WITHIN THE 1-MILE RADIUS.
 10. ALL PAVED ROADS TO BE USED NORMALLY BY NTMWD TO ACCESS THE FACILITY WITHIN THE 1-MILE RADIUS ARE EITHER ASPHALT OR CONCRETE.

<input type="checkbox"/> DRAFT	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION LAND USE MAP													
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS													
<input type="checkbox"/> ISSUED FOR CONSTRUCTION		WWW.WCGRP.COM FIGURE I/II-7.1													
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 7.1-LAND USE MAP.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JNQ	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	DESCRIPTION									
NO.	DATE	DESCRIPTION													
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		REVISIONS													



LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY
	TRANSPORTATION CORRIDOR
	AGRICULTURE/OPEN SPACE
	RESIDENTIAL
	INDUSTRIAL/COMMERCIAL
	URBAN/MIXED
	LIGHT INDUSTRIAL
	RETAIL/OFFICES
	PLANNED DEVELOPMENT



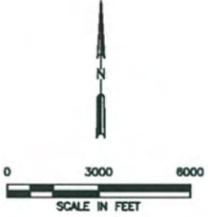
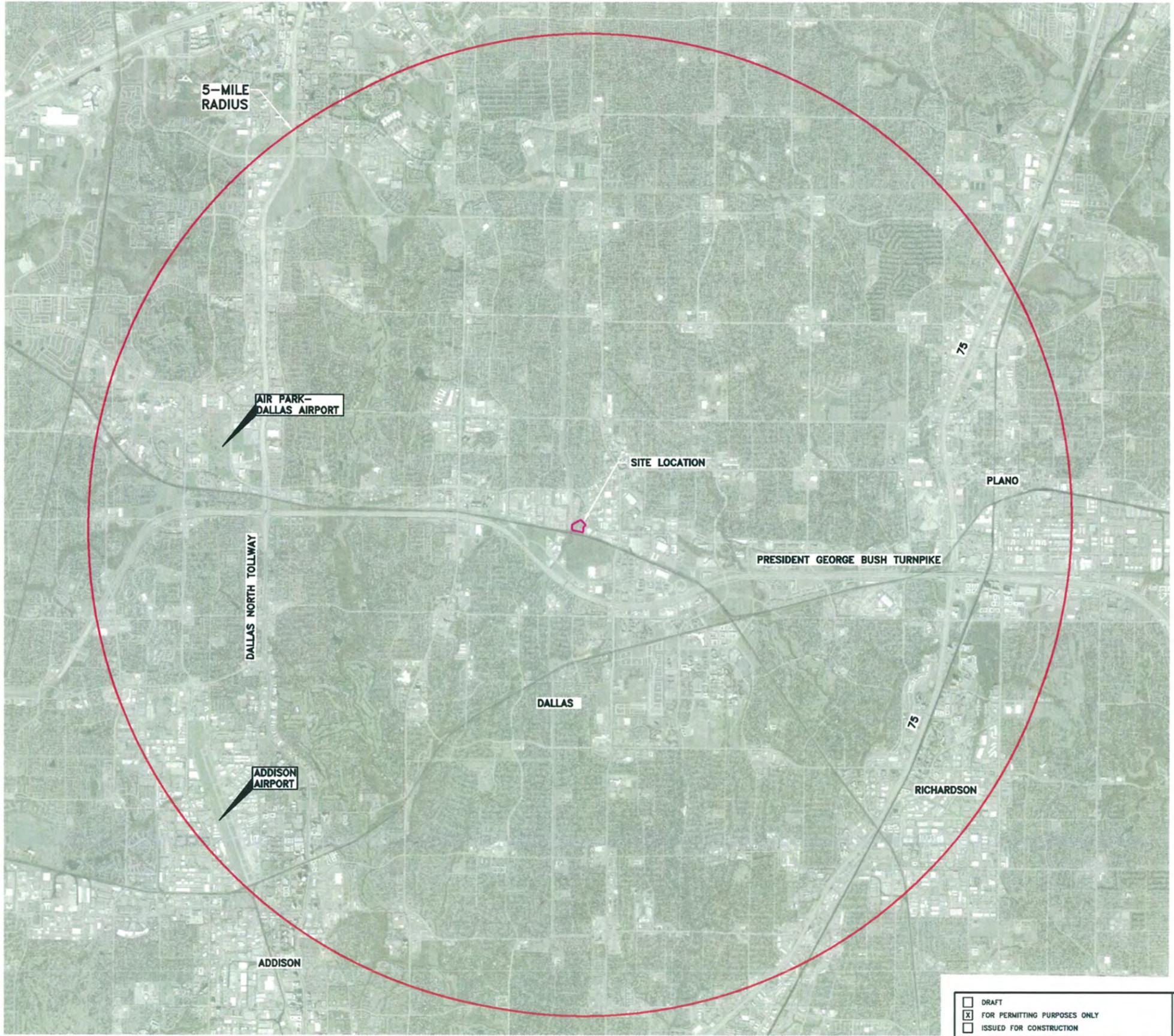
ZONING WITHIN 2 MILES OF PERMIT BOUNDARY		
TRANSPORTATION CORRIDOR	-	7.2%
AGRICULTURE/OPEN SPACE	AG	6.0%
RESIDENTIAL	R	47.8%
INDUSTRIAL/COMMERCIAL (SEE NOTE 2)	IC	4.8%
URBAN/MIXED	UM	6.9%
LIGHT INDUSTRIAL	LI	11.1%
RETAIL/OFFICES	RO	14.1%
PLANNED DEVELOPMENT	PD	2.1%
TOTAL		100.00%

- NOTES:**
- PLANO ZONING MAP DOES NOT EXTEND SOUTH OF PRESIDENT GEORGE BUSH TURNPIKE. DALLAS ZONING MAP WAS USED TO DETERMINE ZONING SOUTH OF PRESIDENT GEORGE BUSH TURNPIKE AND WEST OF WATERVIEW PARKWAY AND THE RICHARDSON ZONING MAP WAS USED SOUTH OF PRESIDENT GEORGE BUSH TURNPIKE AND EAST OF WATERVIEW PARKWAY.
 - NTMWD PARKWAY TRANSFER STATION IS INCLUDED IN INDUSTRIAL/COMMERCIAL ZONING.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION PLANO ZONING NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS					
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 7.2-PLANO ZONING.DWG		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION	
NO.	DATE	DESCRIPTION					
Weaver Consultants Group TBPE REGISTRATION NO. F-3727	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVO	WWW.WCGRP.COM FIGURE 1/II-7.2					

O:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-11\FIG 7.2-ZONING MAP.dwg, r arffington, 1:2

D:\1678\05\11\PERMIT APPLICATION\PARTS 1-II\FIG 7.3-5 MILE RADIUS.dwg, mbsd\mbsd\1:2



LEGEND

— 5-MILE RADIUS

NOTE:
 1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED DECEMBER 2020.



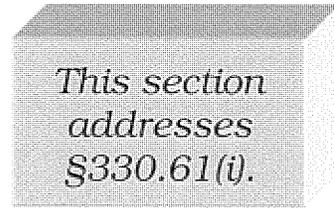
<input type="checkbox"/> DRAFT	PREPARED FOR	NORTH TEXAS MUNICIPAL WATER DISTRICT
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY		
<input type="checkbox"/> ISSUED FOR CONSTRUCTION		
DATE: 04/2022	DRAWN BY: SRF	REVISIONS
FILE: 1678-005-11	DESIGN BY: CRA	
CAD: FIG 7.4-AERIAL PHOTOGRAPH.DWG	REVIEWED BY: JVQ	NO. DATE DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		

TYPE V PERMIT AMENDMENT APPLICATION	
CITIES WITHIN 5-MILE RADIUS	
NTMWD PARKWAY TRANSFER STATION	
COLLIN COUNTY, TEXAS	
WWW.WCGRP.COM	FIGURE 1/II-7.3

8 TRANSPORTATION

8.1 Traffic Information

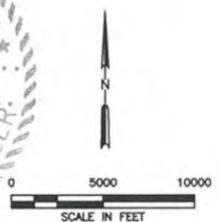
Vehicles bound for the Parkway TS will access the site using West Plano Parkway. West Plano Parkway, Coit Road, and State Highway 190, also known as President George Bush Turnpike (PGBT), are the only access roads within one mile of the site.



Consistent with Title 30 TAC §330.61(i), a traffic study for the transfer station was completed in March 2022 and submitted to TxDOT on September 29, 2022. The traffic study is included in Appendix I/IIA (refer to the TxDOT tab).

8.2 Airport Impact

There are two public-use airports within six miles of the facility. Air Park-Dallas Airport is located approximately 3.5 miles northwest of the site, and Addison Airport is located approximately 4 miles southwest of the permit boundary, refer to Figure I/II-8.1. In accordance with Title 30 TAC §330.61(i)(5), an airport impact evaluation of the facility is required only for landfill units and landfill mining operations, and thus is not required for a transfer station.



- AIRPORTS**
- Other than hard-surfaced runways
 - Hard-surfaced runways 1500 ft. to 8069 ft. in length
 - Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
 - Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location.
- All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.
- ADDITIONAL AIRPORT INFORMATION**
- Private "Pvt" - Non-public use having emergency or landmark value
 - Military - Other than hard-surfaced; all military airports are identified by abbreviations AFB, NAS, AAF, etc.
 - Heliport Selected
 - Unverified
 - Abandoned - paved having landmark value, 3000 ft. or greater
 - Ultralight Flight Park Selected
- Fuel - available Mon thru Fri 10:00 A.M. to 4:00 P.M. depicted by use of ticks around basic airport symbol. Consult Supplement for details and for availability at airports with hard-surfaced runways greater than 8069 ft.
- ★ Rotating airport beacon in operation Sunset to Sunrise
- OBJECTIONABLE** - Airport may adversely affect airspace use.
- TOPOGRAPHIC INFORMATION**
- Power Transmission Line
 - Mountain Pass 11823 (Elevation of Pass)
 - Aerial Cable
 - Lookout Tower
 - 618 (Elevation Base of Tower)
- Pass symbol does not indicate a recommended route or direction of flight and pass elevation does not indicate a recommended clearance altitude. Hazardous flight conditions may exist within and near mountain passes.

X Dallas National
 Defense Airspace TFR
 Check NOTAMS

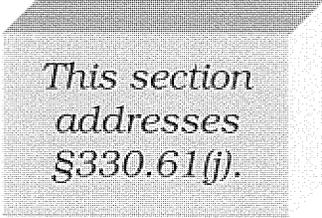
- NOTES:**
- THIS MAP REPRODUCED FROM THE FAA DALLAS-FORT WORTH SECTIONAL AERONAUTICAL CHART 95TH EDITION DATED JANUARY 27, 2022.
 - THE NEAREST AIRPORTS TO THE PERMIT BOUNDARY ARE AIR PARK DALLAS LOCATED 3.5 MILES NORTHWEST, AND ADDISON AIRPORT LOCATED 4 MILES SOUTHWEST.

O:\1678\05\TYPE V PERMIT APPLICATION\PARTS I-II\FIC 8.1-AIRPORT MAP.dwg, mbahmani, 1:2

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR INFORMATION PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION AREA AIRPORTS
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 1/II-8.1-AERIAL PHOTOGRAPH.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVG	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-8.1

9 GENERAL GEOLOGY AND SOILS STATEMENT

According to the Dallas Sheet of the Geologic Atlas of Texas, the Parkway TS permit boundary is located on the Cretaceous-age Austin Chalk. The upper and lower deposits consist of predominantly light gray, massive chalk with some calcareous clay interbeds. The middle consists of mostly thin-bedded marl with interbeds of light gray, massive chalk. The Austin Chalk Formation is approximately 600 feet thick.



*This section
addresses
§330.61(j).*

The Web Soil Survey of Collin County, Texas indicates the soils beneath the existing TS are classified as Houston Black Clay and Austin Silty Clay. The slopes for these soils range from 0 to 3 percent. The Houston Black Clay soils are moderately well drained and clayey. The Austin Silty Clay soils are well drained and relatively shallow with silty clay from 0 to 29 inches followed by bedrock. Both soils have low permeability.

10 GROUNDWATER AND SURFACE WATER STATEMENT

10.1 Groundwater Statement

According to the Texas Water Development Board (TWDB), saturated sandstones in the Woodbine Formation are the most common source of groundwater in the county. As this minor aquifer is confined in the county, groundwater flow generally mirrors the formation's dip of about 1 degree to the southeast. TWDB data indicate the top of the Woodbine Aquifer is approximately 950 feet beneath the site.

*This section
addresses
§330.61(k).*

10.2 Surface Water Statement

The permit boundary for the TS is located between the drainage basins of two unnamed headwater streams. The two streams drain to the northeast and then south, eventually merging with White Rock Creek located approximately 4 miles to the south.

The majority of the onsite and offsite runoff that enters and exits the permit boundary drains north and northwest into small tributaries of an unnamed stream.

The TS improvements have been developed to achieve the following goals.

1. Prevent a discharge of solid wastes or pollutants adjacent to or into the water in Texas.
2. Prevent a discharge of pollutants into waters of the United States.
3. Prevent a discharge of dredged or fill material to waters of the United States.
4. Prevent a discharge of nonpoint source pollution to waters of the United States.
5. Avoid adverse alteration of existing drainage patterns.

The TS facility improvements will consist of a transfer station extension/truck loading tunnel, access tunnel improvements, and additional operational area; refer to Figure I/II-4.1 for proposed improvements. The building extension will be

developed as a transfer truck tunnel and will improve the efficiency of the site. Drainage from the improvement area is designed to maintain the current drainage patterns on the permit boundary and will prevent the offsite discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to minimize surface water running onto, into, and off the processing area.

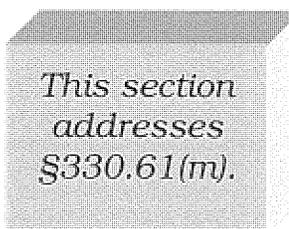
The TS facility will operate in such a manner as to prevent discharge of pollutants into waters of the state or United States as defined by the Texas Water Code and the Federal Clean Water Act. The site is subject to the TCEQ's stormwater permit requirements and hereby certifies that it will continue to operate under the TPDES General Permit for Stormwater Discharges, under Standard Industrial Code (SIC) 4212 (Transportation and Warehousing).

The site will maintain the current Notice of Intent (NOI). The facility SWPPP will be revised and implemented prior to operating the improved facility. The site's current TCEQ TPDES MSGP Authorization number is TXR05AN09.

11 FLOODPLAIN AND WETLANDS STATEMENT

11.1 Floodplain Statement

As shown on Figure I/II-11.1 and Figure I/II-11.2, a portion of the TS facility is located within the 100-year floodplain. The nearest FEMA defined floodplain is located west of the community garden, within an unnamed tributary of White Rock Creek. The proposed transfer station extension/truck loading tunnel will not be located within the current 100-year floodplain; only excavation, grading, and a portion of the driveway extension will occur within the 100 year floodplain (refer to Figure I/II-4.4). A Flood Study was submitted to the City of Plano on April 29, 2020 and was approved on May 8, 2020. A copy of the City of Plano approval letter is included in this section. Additionally, no waste storage or processing facilities will be located in the 100 year floodplain.



11.2 Wetlands Statement

Weaver Consultants Group (WCG) performed a determination of “waters of the US” (WOTUS) (including wetlands) for the TS facility. The jurisdictional determination consisted of a pre-field literature review and a site assessment. A copy of the report can be found in Appendix I/IIB. Based on the information included in the report, there are no WOTUS located within the Project Site.



City of Plano
1520 K Avenue
Plano, TX 75074

P.O. Box 860358
Plano, TX 75086-0358
Tel: 972.941.7000
plano.gov

May 8, 2020
FLDS20-00002

Claire Harvey, E.I.T.
Weaver Consultants Group
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109

Re: Review of Floodplain Study Submittal – **Summary of Flood Study Parkway Transfer Station**

Dear Ms. Harvey,

We have completed a technical review of the *Summary of Flood Study Parkway Transfer Station* dated April 29, 2020. As a result of this review, we believe that the stream hydraulics associated with the proposed reclamation at the North Texas Municipal Water District Transfer Station at 4030 W. Plano Parkway along Stream 5B13 generally conforms to City of Plano, floodplain ordinance, regulations, and policies.

The following comments are a result of this review:

1. The proposed project seems to have no significant impact on water surface elevations on Stream 5B13.
2. The proposed project seems to have no significant impact on velocities on Stream 5B13.
3. Valley storage loss on Stream 5B13 due to the proposed project does not exceed the maximum allowable of 15% for minor streams.

Based on this information, the City of Plano grants **Approval**.

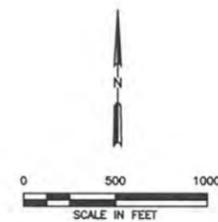
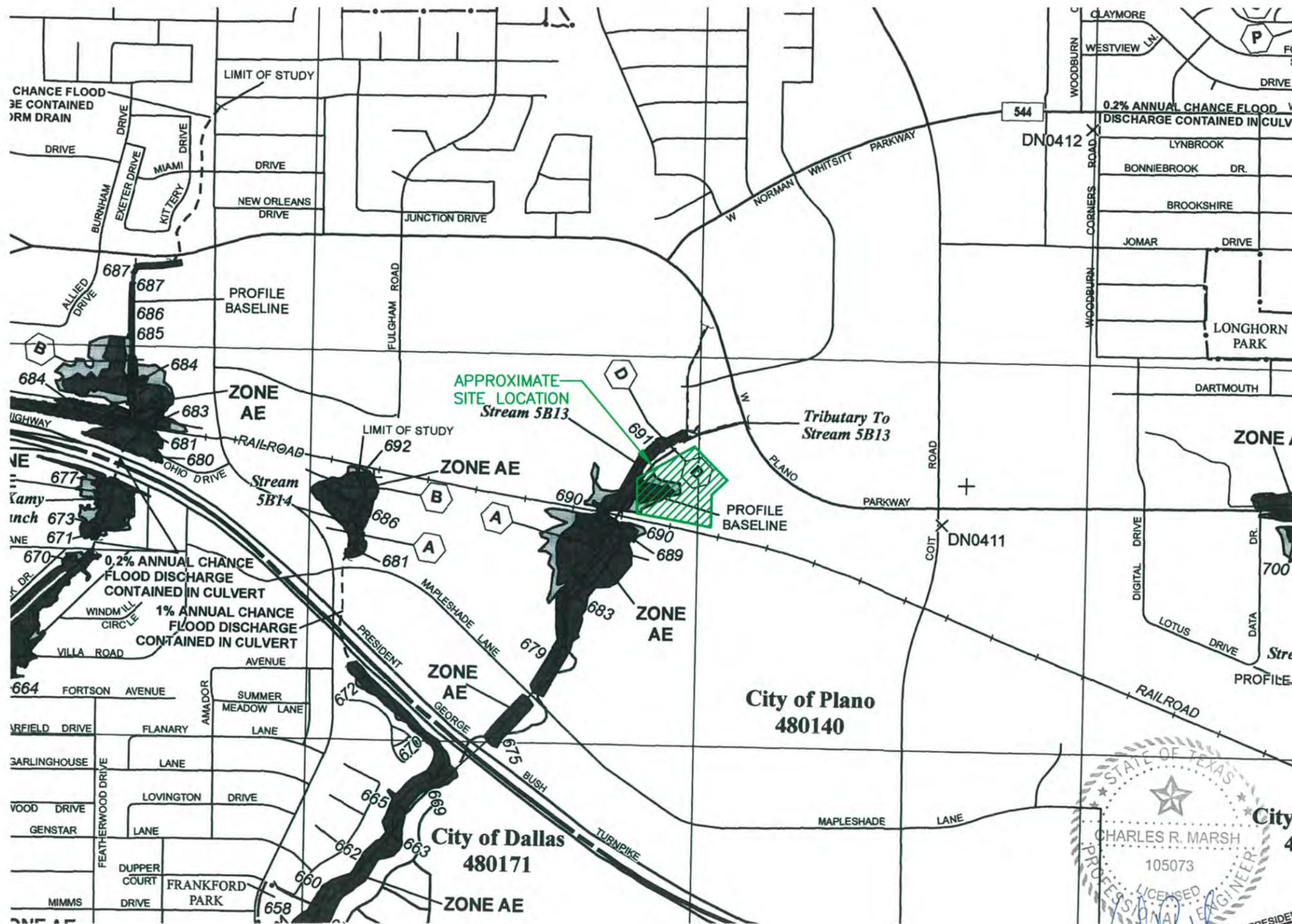
Do not hesitate to contact me if you have further questions or comments concerning this review. Please include the reference “**FLDS20-00002**” on all correspondence.

Sincerely,

Russell P. Erskine

Russell P. Erskine, P.E., CFM
Senior Engineer
972-941-7589
rerskine@plano.gov

D:\1678\05\TYPE V PERMIT APPLICATION\PARTS I-II\FIG 11.1-FIRM.dwg, sford, 1:2



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

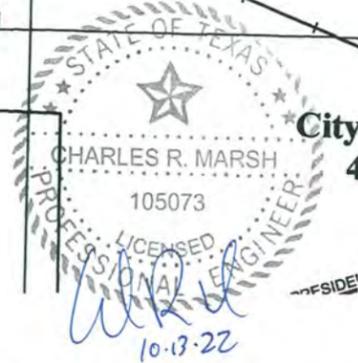
- Floodplain boundary
- Floodway boundary
- Zone D Boundary
- CBRS and OPA Boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A-A Cross section line
- 23-23 Transect line
- Culvert, Flume, Penstock or Aqueeduct
- Road or Railroad Bridge
- Footbridge

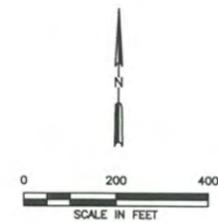
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

- 1000-meter Universal Transverse Mercator grid values, Zone 14
- 5000-foot grid ticks: Texas State Plane coordinate system, North Central Zone (FIPS 4202), Lambert Conformal Conic Projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ML5 River Mile



NOTE:
 1. FLOODPLAIN INFORMATION PROVIDED BY FEMA FIRM PANEL 0370K FOR COLLIN COUNTY, TEXAS AND INCORPORATED AREAS REVISED JUNE 7, 2017.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION FLOOD INSURANCE RATE MAP										
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 11.1 FIRM MAP.DWG												
DRAWN BY: JOW DESIGN BY: CRA REVIEWED BY: JVQ	REVISIONS		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS										
	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			NO.	DATE	DESCRIPTION							
NO.	DATE	DESCRIPTION											
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE I/II-11.1										



- LEGEND**
- PROPERTY BOUNDARY
 - PERMIT BOUNDARY
 - Cross-Sections
 - Base Flood Elevations
- Flood Hazard Zones**
- 1% Annual Chance Flood
 - Regulatory Floodway
 - Special Floodway
 - Area of Undetermined Flood Hazard
 - 0.2% Annual Chance Flood
 - Future Conditions 1% Annual Chance Flood Hazard
 - Area with Reduced Risk Due to Levee
- LOMRs**
- Effective
- Map Panels**
- Digital Data
 - Unmodernized Maps
 - Unmapped

- NOTES:**
- NATIONAL FLOOD HAZARD INFORMATION PROVIDED BY FEMA NATIONAL FLOOD HAZARD MAP, UPDATE OCTOBER 10, 2017.
 - THE 1% AND 0.2% ANNUAL CHANCE FLOOD AREA RESPECTIVELY REPRESENT THE 100 YEAR FLOODPLAIN AND 500 YEAR FLOODPLAIN. THE NATIONAL FLOOD HAZARD MAP INDICATES THAT THE 100 YEAR FLOODPLAIN ELEVATION IN THIS AREA WOULD BE BETWEEN 690 AND 691 FT-MSL. THE PROPOSED BUILDING ADDITION WILL NOT BE LOCATED WITHIN THE CURRENT 100 YEAR FLOODPLAIN AREA. NO WASTE PLACEMENT WILL OCCUR WITHIN THE 100-YEAR FLOODPLAIN. EXCAVATION, GRADING AND MINIMAL PROPOSED DRIVEWAY EXTENSION WORK WILL OCCUR IN THE CURRENT 100 YEAR FLOODPLAIN AREA.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION NATIONAL FLOOD HAZARD MAP
DATE: 04/2022 FILE: 1678-005-11 CAD: FG 11.2-FLOOD HAZARD MAP.DWG	DRAWN BY: JOW DESIGN BY: CRA REVIEWED BY: JVO	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE I/II-11.2

O:\1678\005\TYPE V PERMIT APPLICATION\PARTS I-II\FIG 11.2-FLOOD HAZARD MAP.dwg, Farrington, 1:2

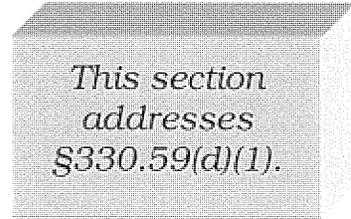
12 PROTECTION OF ENDANGERED SPECIES

WCG conducted a threatened and endangered species study for the TS area to determine whether the project would have an adverse effect on threatened and endangered species and/or their habitat. Based on the information included in the report, the facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of an endangered or threatened species as described in TAC §330.61(n)(1). Therefore, this facility will be in compliance with all applicable federal, state and local laws regarding threatened and endangered species. A copy of the report can be found with the WOTUS determination in Appendix I/IIB.

*This section
addresses
§330.61(n).*

13 LEGAL DESCRIPTION

A legal description of the 7.73-acre permit boundary is included on the following pages. The area within the permit boundary is owned by NTMWD. The current ownership record for the property may be found in Cabinet C, Page 409 of the Collin County Clerk Records Department.



LEGAL DESCRIPTION

North Texas Municipal Water District
7.730 Acres
Part of Lot 1, Block 1
Parkway Transfer Station Addition
City of Plano
Collin County, Texas

BEING 7.730 acres of land, situated in the City of Plano, in the Martha McBride Survey, Abstract No. 553 and being part of Lot 1, Block 1 of Parkway Transfer Station Addition, an addition to the City of Plano, according to the Final Plat thereof, recorded in Cabinet C, Page 409, Plat Records, Collin County, Texas (P.R.C.C.T.) being the same as that certain called 7.914 acre tract described in a deed from the City of Plano to North Texas Municipal Water District, recorded in Volume 1300, Page 806 Deed Records, Collin County, Texas (D.R.C.C.T.), SAVE & EXCEPT that certain parcel of land described in a Boundary Line Agreement, recorded in Document No. 20100831000916260, D.R.C.C.T. and said parcel being more particularly described by metes & bounds as follows:

BEGINNING at a 1/2 inch iron rod, topped with a plastic cap, stamped "HALFF", found on the south line of the above described Lot 1, Block 1 and the northerly right-of-way line of the Kansas City Southern Railroad Company (150' wide right-of-way) and said point being the southeast corner of that certain called 0.776 acre tract of land described in a Boundary Line Agreement, dated August 13, 2010 and recorded in Document No. 20100831000916260, Deed Records, Collin County, Texas (D.R.C.C.T.) and same being the easterly southeast corner of Lot 1, Block 1 of Renner SVC Substation, an addition to the City of Plano according to the Final Plat thereof, recorded in Volume 2010, Page 251, P.R.C.C.T. and said point bears South 79 deg. 14 min. 01 sec. East – 27.43 feet from the original southwest corner of Lot 1, Block 1 of Parkway Transfer Station Addition;

THENCE: North 00 deg. 44 min. 32 sec. East, departing from said railroad right-of-way, along the common line of said Parkway Transfer Station Addition and Renner SVC Substation, a distance of 297.40 feet to a 1/2 inch iron rod, topped with a red plastic cap, stamped "RPLS 4701" (hereinafter referred to as "with cap"), set for corner on the original north line of said Parkway Transfer Station Addition and same being the most southerly corner of Lot 1, Block 1 of Westside Service Station Addition, Phase II, an addition to the City of Plano, according to the Final Plat thereof, recorded in Cabinet I, Page 31, P.R.C.C.T.;

THENCE: North 61 deg. 01 min. 05 sec. East, along the common line of said Parkway Transfer Station and Westside Service Station additions, a distance of 556.74 feet to a 1/2 inch iron rod with cap, set for the most northerly corner of the above described 7.914 acre tract;

THENCE: South 43 deg. 59 min. 00 sec. East, along the northeasterly line of said 7.914 acre tract, at a distance of 74.54 feet, passing a 1/2 inch iron rod topped with plastic cap, stamped "Pacheco Koch", found for the west corner of Lot 1, Block 1 of Plano Animal Shelter Addition,

an addition to the City of Plano, according to the plat thereof recorded in Cabinet N, Page 412, P.R.C.C.T. and continuing along the common line said Parkway Transfer Station and Plano Animal Shelter additions for a total distance of 398.00 feet to a 1/2 inch iron rod, topped with a plastic cap, stamped "RPLS 3740", found for the southwest corner of said Plano Animal Ice Arena, an addition to the City of Plano, according to the Final Plat thereof, recorded in Cabinet J, Page 904, P.R.C.C.T.;

THENCE: South 47 deg. 01 min. 45 sec. West, along the common line of said Parkway Transfer Station and Plano Ice Arena additions, a distance of 180.93 feet to a 1/2 inch iron rod, topped with a plastic cap, stamped "RPLS 3740", found for an angle corner of said additions;

THENCE: South 01 deg. 21 min. 00 sec. West, continuing along said common line, a distance of 278.00 feet to a 1/2 inch iron rod, topped with a plastic cap, stamped "RPLS 3740", found for the southeast corner of said Parkway Transfer Station Addition and the southwest corner of said Plano Ice Arena, on the northerly right-of-way line of the above mentioned Kansas City Southern Railroad and said point being in a non-tangent curve to the left, having a radius of 6,950.60 feet, a central angle of 01 deg. 14 min. 41 sec. and a chord that bears North 78 deg. 51 min. 15 sec. West- 150.99 feet;

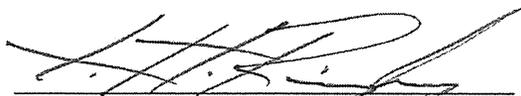
THENCE: Along the common line of said Parkway Transfer Station and Kansas City Southern Railroad and with said curve to the left, an arc distance of 151.00 feet to a 1/2 inch iron rod with cap, set for corner at the end of said curve;

THENCE: North 79 deg. 14 min. 01 sec. West, continuing along the common line of said Parkway Transfer Station Addition and railroad, a distance of 488.78 feet to the POINT OF BEGINNING and containing 336,706 square feet or 7.730 acres of land.

Note:

The Bearing Base of this Plat is South 43° 59' 00" East, along the Northeasterly line of Lot 1, Block 1, of the Parkway Transfer Station Addition recorded in Cabinet C, Page 409, of the Plat Records, Collin County, Texas.

Prepared Under My Hand & Seal,
This 30th Day of April, 2018.



Lawrence H. Ringley, R.P.L.S.
State of Texas, No. 4701

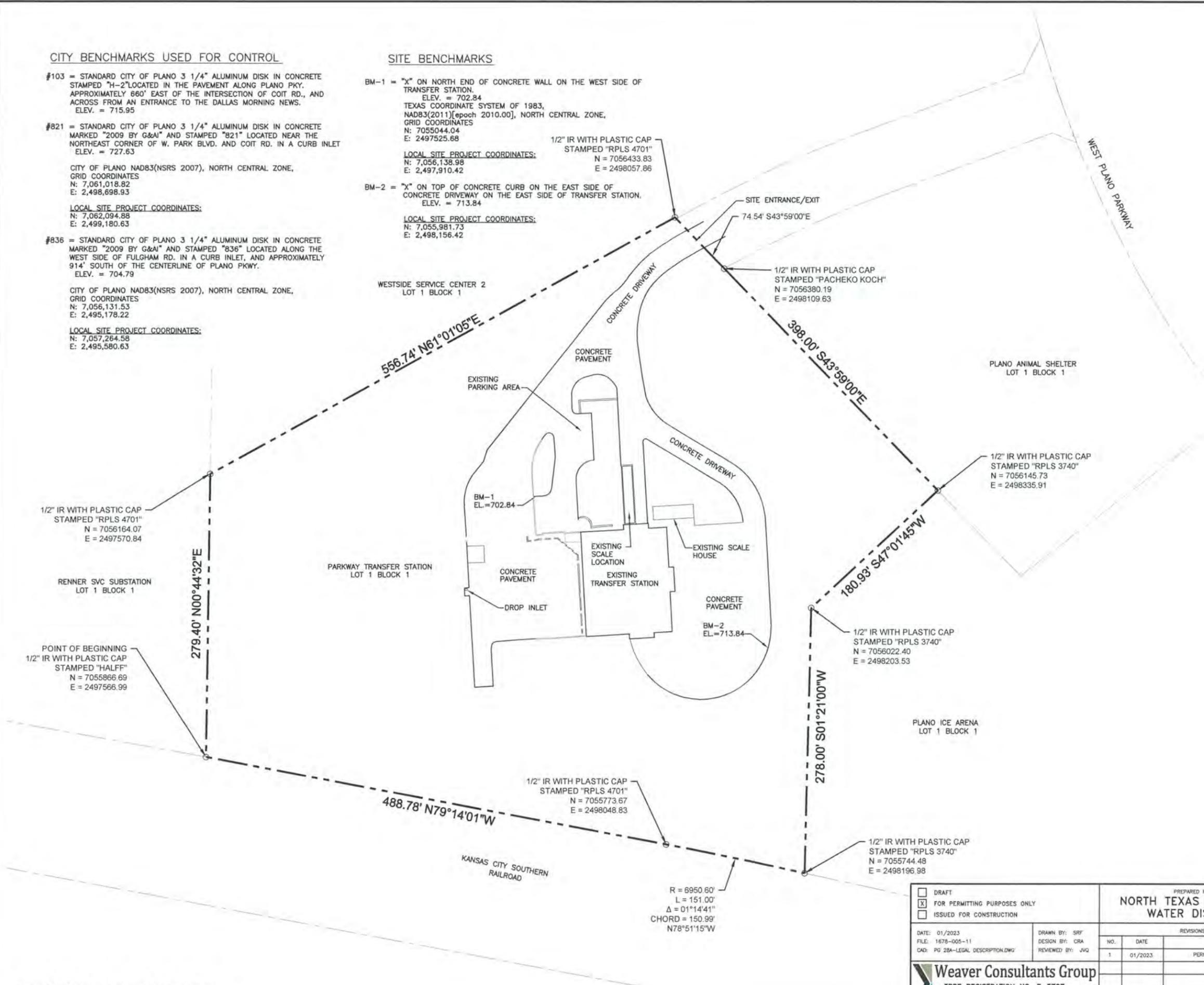
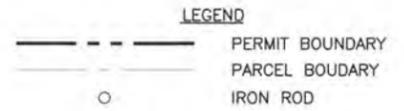
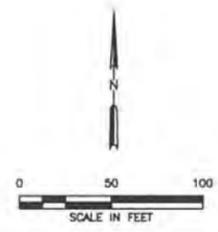


CITY BENCHMARKS USED FOR CONTROL

- #103 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE STAMPED "H-2" LOCATED IN THE PAVEMENT ALONG PLANO PKY. APPROXIMATELY 660' EAST OF THE INTERSECTION OF COIT RD., AND ACROSS FROM AN ENTRANCE TO THE DALLAS MORNING NEWS. ELEV. = 715.95
- #821 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "821" LOCATED NEAR THE NORTHEAST CORNER OF W. PARK BLVD. AND COIT RD. IN A CURB INLET. ELEV. = 727.63
- CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,061,018.82
E: 2,498,698.93
- LOCAL SITE PROJECT COORDINATES:
N: 7,062,094.88
E: 2,499,180.63
- #836 = STANDARD CITY OF PLANO 3 1/4" ALUMINUM DISK IN CONCRETE MARKED "2009 BY G&A" AND STAMPED "836" LOCATED ALONG THE WEST SIDE OF FULGHAM RD. IN A CURB INLET, AND APPROXIMATELY 914' SOUTH OF THE CENTERLINE OF PLANO PKWY. ELEV. = 704.79
- CITY OF PLANO NAD83(NSRS 2007), NORTH CENTRAL ZONE, GRID COORDINATES
N: 7,056,131.53
E: 2,495,178.22
- LOCAL SITE PROJECT COORDINATES:
N: 7,057,264.58
E: 2,495,580.63

SITE BENCHMARKS

- BM-1 = "X" ON NORTH END OF CONCRETE WALL ON THE WEST SIDE OF TRANSFER STATION. ELEV. = 702.84
TEXAS COORDINATE SYSTEM OF 1983, NAD83(2011)[epoch 2010.00], NORTH CENTRAL ZONE, GRID COORDINATES
N: 7055044.04
E: 2497525.68
- LOCAL SITE PROJECT COORDINATES:
N: 7,056,138.98
E: 2,497,910.42
- BM-2 = "X" ON TOP OF CONCRETE CURB ON THE EAST SIDE OF CONCRETE DRIVEWAY ON THE EAST SIDE OF TRANSFER STATION. ELEV. = 713.84
- LOCAL SITE PROJECT COORDINATES:
N: 7,055,981.73
E: 2,498,156.42



- NOTES:**
1. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY & ASSOCIATES, INC.
 2. SITE ENTRANCE ROAD IS OWNED BY NTMWD BUT NOT INCLUDED IN THE PERMIT BOUNDARY.
 3. THE BEARING BASE OF THE LEGAL DESCRIPTION IS S 43°59'00" E ALONG THE NORTHERLY LINE OF LOT 1, BLOCK 1, OF THE PARKWAY TRANSFER STATION ADDITION.

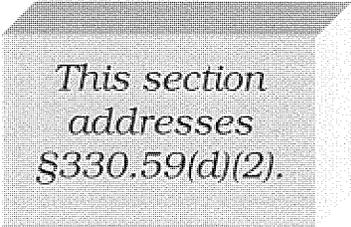


<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION LEGAL DESCRIPTION EXHIBIT NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
	DATE: 01/2023 FILE: 1678-005-11 CAD: PG 28A-LEGAL DESCRIPTION.DWG		
DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVG	REVISIONS		WWW.WCGRP.COM
DATE: 01/2023 FILE: 1678-005-11 CAD: PG 28A-LEGAL DESCRIPTION.DWG	NO. 1 DATE 01/2023	DESCRIPTION PERMIT MODIFICATION		PAGE 1/II 28A

O:\1678\05\TYPE V PERMIT APPLICATION PARTS 1-II\CLEAN\PG 1-II 28A-LEGAL DESCRIPTION.DWG, r ar f.rington, 1:2

14 PROPERTY OWNER AFFIDAVIT

The property owner affidavit is included on the following pages.



*This section
addresses
§330.59(d)(2).*

PROPERTY OWNER AFFIDAVIT

STATE OF TEXAS §
COUNTY OF COLLIN §

On this day, _____, on behalf of the NTMWD, appeared before me, the undersigned notary public, and after I administered an oath to her upon her oath she said:

"My name is Jennafer P. Covington. I am more than 21 years of age and capable of making this affidavit."

The NTMWD, hereafter referred to as the site owner, acknowledges that:

- The NTMWD is filing with the Texas Commission on Environmental Quality a Major Permit Amendment request to provide enhanced operations for a more efficient means to transfer MSW and to increase the currently permitted waste capacity from 770 tons per day to 1,500 tons per day averaged over 365 days per year for Parkway Type V municipal solid waste transfer station on real property located in Collin County, Texas, being more particularly described in Parts I/II - Section 13 of the permit amendment application.
The NTMWD acknowledges that the State of Texas may hold the property owner of record, either jointly or severally responsible for the operation, maintenance, and closure and postclosure care of the facility.
The NTMWD acknowledges that the owner or operator of the site and the State of Texas shall have access to the Site during the active life and postclosure care period, if required, after closure for the purpose of inspection and maintenance.

Jennafer P. Covington (name)
Executive Director (title)

Jennafer Covington
Signature

10/13/2022
Date

SWORN TO AND SUBSCRIBED BEFORE ME by Jennafer P. Covington on the 13th day of October, 2022, which witness my hand and seal of office.



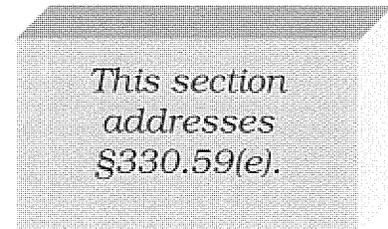
Shawwna Helmberger
Notary Public in and for the State of Texas

Shawwna Helmberger
Printed Name

My Commission Expires 06/29/2026

15 LEGAL AUTHORITY

The certificates provided on the following pages document the legal status of the applicant.



Court of January 6, 1915, creating the same and shall have all the powers, rights and privileges conferred upon drainage districts by Title 128, Chapter 7 of the Revised Civil Statutes of Texas, 1925, as amended.

Sec. 3. The fact that the public interest requires that the territory embraced in the District, as hereby enlarged, created and established, be included within the District, creates an emergency and an imperative public necessity that the Constitutional Rule requiring bills to be read on three several days in each House be suspended; and said Rule is hereby suspended, and this Act shall take effect and be in force from and after its passage, and it is so enacted.

Passed the Senate, February 7, 1951: Yeas 28, Nays 0; April 4, 1951, Senate concurred in House amendment: Yeas 27, Nays 0; passed the House, April 3, 1951, with amendment: Yeas 129, Nays 0. Approved April 20, 1951. Effective April 20, 1951.

NORTH TEXAS MUNICIPAL WATER DISTRICT

CHAPTER 62⁶³

S. B. No. 141

An Act creating "North Texas Municipal Water District," a conservation District under Article XVI, Section 59, of the Constitution comprising the territory contained within the cities of Garland, Princeton, Plano, Mesquite, Wylie, Rockwall, Farmersville, McKinney, Forney, and Royce City, for the purpose of providing a source of water supply for municipal, domestic and industrial use and processing and transporting the same; providing for the annexation of additional territory thereto; providing for a Board of Directors for the government of said District; authorizing the District to do all things necessary to make available for municipal and industrial uses, the water from Lavan Dam and Reservoir now being constructed by the United States Government on the East Fork of the Trinity River pursuant to such rights as the District may acquire in such reservoir, water from underground sources, and water it may obtain by purchase, lease and operation contracts with cities, persons, firms, corporations and public agencies and agencies of the United States Government; permitting sale of surplus water for irrigation purposes; authorizing the issuance of bonds and providing for the payment and security thereof; prescribing conditions under which cities may withdraw from the District; making applicable to the District Title 52 relating to eminent domain and certain General Laws relating to water control and improvement districts; prescribing other powers of the District; enacting other provisions relating to the subject; and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. By virtue of Article XVI, Section 59 of the Texas Constitution, there is hereby created a conservation and reclamation district to be known as "North Texas Municipal Water District", (hereinafter called "District") which shall be a governmental agency and a body politic and corporate.

Sec. 2. The District shall comprise all of the territory which was contained within the cities of Garland, Princeton, Plano, Mesquite, Wylie, Rockwall, Farmersville, McKinney, Forney, and Royce City on March 1, 1951; provided, however, that no defect in the definition of the boundaries of any of said cities or in any past or future proceedings for the annexation of territory to any of said cities shall affect the validity of the District hereby created or any of its powers or duties. It is hereby found that all of the land thus included in said District

63. Vernon's Ann.Civ.St. foll. art. 8197f.

will be benefitted by the improvements to be acquired and constructed by said District.

Sec. 3(a). All powers of the District shall be exercised by a board of directors. Such directors shall be appointed by majority vote for the governing body of each of the cities contained in the District. In appointing the first directors for a city containing 5,000 population or more according to the most recent Federal Census, the governing body of such city shall appoint one director who shall serve to and including May 31, 1952, and one who shall serve to and including May 31, 1953. In May, 1952, and in May of each year thereafter, the governing body of such city shall appoint one director for the two year term beginning on June 1 of that year. In appointing the first director for a city of less than 5,000 population, according to the most recent Federal Census, the governing body of such city shall appoint one director who shall serve to and including May 31, 1952. In May, 1952, and in May of each even year thereafter, the governing body shall appoint one director for the two year term beginning on June 1 of that year. Each director shall serve for his term of office as herein provided, and thereafter until his successor shall be appointed and qualified. No person shall be appointed a director unless he resides in and owns taxable property in the city from which he is appointed. No member of a governing body of a city, and no employee of a city, shall be appointed as director. Such directors shall subscribe to the Constitutional oath of office, and each shall give bond for the faithful performance of his duties in the amount of \$5,000.00, the cost of which shall be paid by the District. A majority shall constitute a quorum.

(b) Each director shall receive a fee of \$20.00, for attending each meeting of the board, provided that not more than \$40.00 shall be paid to any director for meetings held in any one calendar month. Each director shall also be entitled to receive \$20.00 per day devoted to the business of the District and to reimbursement for actual expenses incurred in attending to District business provided that such service and expense are expressly approved by the Board.

Sec. 4. The board of directors shall elect from its number a president and a vice-president of the District, and such other officers as in the judgment of the board are necessary. The president shall be the chief executive officer of the District and the presiding officer of the board, and shall have the same right to vote as any other director. The vice-president shall perform all duties and exercise all powers conferred by this Act upon the president when the president is absent or fails or declines to act. The board shall also appoint a secretary and a treasurer who may or may not be members of the board, and it may combine those offices. The treasurer shall give bond in such amount as may be required by the board of directors, but in no event less than \$100,000.00. The condition of such bond shall be that he will faithfully account for all money which shall come into his custody as treasurer of the District. The board shall appoint all necessary engineers, attorneys and other employees. The board shall adopt a seal for the District.

Sec. 5. Other territory may be annexed to the District in the following manner:

(a) A petition praying for such annexation signed by fifty, or a majority of the qualified voters of the territory who own taxable property therein, and who have duly rendered the same to the city (if situated within a city or town) or county for taxation shall be filed with the board of directors of the District. The petition shall describe the territory by metes and bounds or otherwise unless such territory is the same as that contained in a city or town, in which event it shall be

sufficient to state that the territory to be annexed is that which is contained within such city or town.

(b) If the board of directors finds that the petition complies with, and is signed by the number of qualified persons required by the foregoing sub-section, that the annexation would be to the interest of the territory and the District, and that the District will be able to supply water to the territory, it shall adopt a resolution stating the condition, if any, under which such territory may be annexed to the District, and requesting the Board of Water Engineers of the State of Texas (or any board or body succeeding substantially to the powers and duties of said Board of Water Engineers) hereinafter called "State Board", to annex said territory to the District. A certified copy of such resolution and of the petition shall be filed with the State Board.

(c) The State Board shall adopt a resolution declaring its intention to call an election in the territory for the purpose of submitting the proposition of whether or not such territory shall be annexed to the District, and fix a time and place when and where a hearing shall be held by the State Board on the question of whether the territory will be benefitted by the improvements, works, and facilities then owned or operated or contemplated to be owned or operated by the District. Railroad right-of-way, transmission lines and other property of electric and gas utilities which are not situated within the defined limits of an incorporated city or town will not be benefitted by improvements, works and facilities which the District is authorized to construct; therefore it is provided that no railroad right-of-way or transmission lines and other property of electric and gas utilities shall hereafter be annexed to the District except such right-of-way and transmission lines and other property of electric and gas utilities as are contained within the limits of an incorporated city or town then or theretofore annexed to the District.

(d) Notice of the adoption of such resolution stating the time and place of such hearing, addressed to the citizens and owners of property in such territory shall be published one time in a newspaper designated by the State Board at least ten days prior to the date of such hearing. The notice shall describe the territory in the same manner as required or permitted by the petition.

(e) All persons interested may appear at such hearing and offer evidence for or against the intended annexation. Such hearing may proceed in such order and under such rules as may be prescribed by the State Board, and the hearing may be recessed from time to time. If, at the conclusion of the hearing, the State Board finds that all of the lands in such territory will be benefitted by the present or contemplated improvements, works or facilities of the District, the State Board shall adopt a resolution calling election in the territory to be annexed, stating therein the date of the election, the place or places of holding the same, and appointing a presiding judge for each voting place who shall appoint the necessary assistant judges and clerks to assist in holding the election.

(f) Notice of such election, stating the date thereof, the proposition to be voted upon and the conditions under which the territory may be annexed, or making reference to the resolution of the board of directors for that purpose, and the place or places of holding the same, shall be published one time in a newspaper designated by the State Board at least ten days before the day set for the election.

(g) Only qualified electors who reside in, and who own taxable property in such territory and who have duly rendered the same to the city (if situated within a city or town) or county in which it is situated

for taxation shall be qualified to vote in said election. Returns of said election shall be made to the State Board.

(h) The State Board shall canvass the returns of the election and adopt a resolution declaring the results thereof. If such resolution shows that a majority of the votes cast are in favor of annexation the State Board shall enter an order annexing said territory to the District, and such annexation shall thereafter be incontestable except in the manner and within the time for contesting elections under the general election law. A certified copy of said order shall be recorded in the deed records of the county in which the territory is situated.

(i) The State Board, in calling the election on the proposition for annexation of territory, may include as a part of the same proposition a proposition for the assumption of its part of the tax supported bonds of the District then outstanding, and those theretofore voted but not yet sold, and for the levy of an ad valorem tax on taxable property in said territory along with the tax in the rest of the District for the payment thereof.

(j) After territory is added to the District, the board of directors of the District may call an election over the entire District for the purpose of determining whether the entire District as enlarged shall assume the tax supported bonds then outstanding and those theretofore voted but not yet sold and whether an ad valorem tax shall be levied upon all taxable property within the District as enlarged for the payment thereof, unless such proposition is voted along with the annexation election and becomes lawfully binding upon the territory annexed. Such election shall be called and held in the same manner as elections for the issuance of bonds as provided in this Act.

(k) If no newspaper is published in territory to be annexed, the notices shall be posted in three public places therein.

Sec. 6. When any city, the territory of which is hereafter annexed to the District, contains 5,000 inhabitants or more according to the most recent Federal Census, the governing body of the city shall appoint one director for the term ending the following May 31, and one director for the term ending one year after the following May 31, and in May of each year shall appoint one director for a two year term the same as provided in this Act for cities originally included in the District. If such city contains less than 5,000 inhabitants according to the most recent Federal Census, the governing body of the city shall appoint one director whose term shall expire the following May 31, and in May of each second year thereafter shall appoint one director for a two year term. Whenever such city may later attain a population of 5,000 or more according to the Federal Census, it shall thereafter be entitled to two directors to be appointed as herein provided.

Sec. 7. The District is hereby empowered to acquire any and all rights in and to storage and storage capacity in Lavon Reservoir and the right to take water from such reservoir to be created by Lavon Dam now being constructed by the United States Government across the East Fork of the Trinity River in Collin County, Texas, which will impound certain storm and flood waters and the unappropriated flow of the East Fork of the Trinity River and its tributaries, by complying with Chapter 1, Title 128, Revised Civil Statutes, as amended, and pursuant to any contract or contracts which the District may make with the United States Government in reference to such rights, and to develop or otherwise acquire underground sources of water, after obtaining a permit from the Board of Water Engineers of the State of Texas. The District is also empowered to construct or otherwise acquire all works, plants and other facilities necessary or useful for the purpose of diverting,

further impounding or storing such water, processing such water and transporting it to cities and others for municipal, domestic and industrial purposes. To the extent permissible under the contract with the United States Government and its agencies, the District may dispose of surplus waters under its control for irrigation purposes. No works for the diverting of water from said impounding dam shall be constructed until the plans therefor are approved by the Board of Water Engineers of the State of Texas; provided that the District shall apply to and obtain authority from the Board of Water Engineers of the State of Texas for authority to appropriate water from the Trinity River.

Sec. 8. For the purpose of carrying out any power or authority conferred by this Act the District shall have the right to acquire land and easements within and without the District (including land above the probable high water line around any such reservoirs) by condemnation in the manner provided by Title 52, Revised Civil Statutes, as amended, relating to eminent domain. This District is hereby declared to be a municipal corporation within the meaning of Article 3268 of said Title 52. The amount of and character of interest in land and easements thus to be acquired shall be determined by the board of directors.

Sec. 9. Any construction contract requiring an expenditure of more than \$25,000.00 shall be made after publication of a notice to bidders once each week for two weeks, before awarding the contract. Such notice shall be sufficient if it states the time and place when and where the bids will be opened, the general nature of the work to be done, or the material, equipment or supplies to be purchased, and states where and the terms upon which copies of the plans and specifications may be obtained. The publication shall be in a newspaper published in the District and designated by the board of directors.

Sec. 10. (a) For the purpose of providing a source of water supply for cities and other users for municipal, domestic and industrial purposes, as authorized by this Act, and for the purpose of carrying out any other power or authority conferred by this Act, the District is empowered to issue its negotiable bonds to be payable from such revenues or taxes, or both revenues and taxes, of the District as are pledged by resolution of the board of directors. Pending the issuance of definitive bonds the board may authorize the delivery of negotiable interim bonds or notes, eligible for exchange or substitution by use of the definitive bonds.

(b) Such bonds shall be authorized by resolution of the board of directors and shall be issued in the name of the District, signed by the president or vice-president, attested by the secretary and have the seal of the District impressed thereon. They shall mature serially or otherwise in not to exceed forty years and may be sold at a price and under terms determined by the board of directors to be the most advantageous reasonably obtainable, provided that the interest cost to the District, calculated by use of standard bond interest tables currently in use by insurance companies and investment houses does not exceed 6% per annum, and within the discretion of the Board, may be made callable prior to maturity at such times and prices as may be prescribed in the resolution authorizing the bonds, and may be made registerable as to principal or as to both principal and interest.

(c) Bonds may be issued in more than one series and from time to time as required for carrying out the purposes of this Act.

(d) The bonds may be secured by a pledge of all or part of the net revenues of the District, or by the net revenues of any one or more contracts theretofore or thereafter made or other revenues specified by resolution of the board of directors. Any such pledge may reserve the

right, under conditions therein specified, to issue additional bonds which will be on a parity with or subordinate to the bonds then being issued. The term "net revenues" as used in this section shall mean the gross revenues of the District after deduction of the amount necessary to pay the cost of maintaining and operating the District and its properties.

(e) For the purposes stated in Section 10 (a) hereof, and subject to the conditions prescribed in Section 13 (a) hereof, the District is also empowered to issue bonds payable from ad valorem taxes to be levied on all taxable property therein, or to issue bonds secured both by and payable from such taxes and the revenues of the District. Where bonds are issued payable wholly or partially from ad valorem taxes, it shall be the duty of the board of directors to levy a tax sufficient to pay the bonds and the interest thereon as such bonds and interest become due, but the rate of the tax for any year may be fixed after giving consideration to the money received from the pledged revenues which may be available for payment of principal and interest to the extent and in the manner permitted by the resolution authorizing the issuance of the bonds.

(f) Where bonds payable wholly from revenues are issued, it shall be the duty of the board of directors to fix, and from time to time to revise, the rates of compensation for water sold and services rendered by the District which will be sufficient to pay the expense of operating and maintaining the facilities of the District and to pay the bonds as they mature and the interest as it accrues, and to maintain the reserve and other funds as provided in the resolution authorizing the bonds. Where bonds payable partially from revenues are issued, it shall be the duty of the Board to fix, and from time to time to revise, the rate of compensation for water sold and services rendered by the District which will be sufficient to assure compliance with the resolution authorizing the bonds.

(g) From the proceeds from the sale of the bonds, the District may set aside an amount for the payment of interest expected to accrue during construction and a reserve interest and sinking fund, and such provision may be made in the resolution authorizing the bonds. Proceeds from the sale of the bonds may also be used for the payment of all expenses necessarily incurred in accomplishing the purposes for which this District is created, including expenses of issuing and selling the bonds.

(h) In the event of a default or a threatened default in the payment of principal of or interest on bonds payable wholly or partially from revenues, any court of competent jurisdiction may, upon petition of the holders of 25% of the outstanding bonds of the issue thus in default or threatened with default, appoint a receiver with authority to collect and receive all income of the District except taxes, employ and discharge agents and employees of the District, take charge of funds on hand (except funds received from taxes unless commingled) and manage the proprietary affairs of the District without consent for hinderance by the directors. Such receiver may also be authorized to sell or make contracts for the sale of water or renew such contracts with the approval of the court appointing him. The court may vest the receiver with such other powers and duties as the court may find necessary for the protection of the holders of the bonds.

Sec. 11. The District is authorized to issue refunding bonds for the purpose of refunding any outstanding bonds authorized by this Act and interest thereon. Such refunding bonds may be issued to refund more than one series of outstanding bonds and combine the pledges

for the outstanding bonds for the security of then refunding bonds and may be secured by other or additional revenues. The provisions of this law with reference to the issuance by the District of other bonds and their approval by the Attorney General and the remedies of the holders shall be applicable to refunding bonds. Refunding bonds shall be registered by the Comptroller upon surrender and cancellation of the bonds to be refunded, but in lieu thereof, the resolution authorizing their issuance may provide that they shall be sold and the proceeds thereof deposited in the bank where the original bonds are payable, in which case the refunding bonds may be issued in an amount sufficient to pay the interest on the original bonds to their option date or maturity date, and the Comptroller shall register them without concurrent surrender and cancellation of the original bonds.

Sec. 12. Any bonds (including refunding bonds) authorized by this law, not payable wholly from ad valorem taxes, may be additionally secured by a trust indenture under which the trustee may be a bank having trust powers situated either within or outside of the State of Texas. Such bonds within the discretion of the board of directors may be additionally secured by a deed or trust lien upon physical properties of the District and all franchises, easements, water rights and appropriation permits, leases, and contracts and all rights appurtenant to such properties, vesting in the trustee power to sell the properties for payment of the indebtedness, power to operate the properties and all other powers and authority for the further security of the bonds. Such trust indenture regardless of the existence of the deed of trust lien may contain any provisions prescribed by the board of directors for the security of the bonds and the preservation of the trust estate, and may make provision for amendment or modification thereof and the issuance of bonds to replace lost or mutilated bonds. Any purchaser under a sale under the deed of trust lien, where one is given, shall be the owner of the properties, facilities and rights so purchased and shall have the right to maintain and operate the same.

Sec. 13 (a). No bonds payable wholly or partially from ad valorem taxes (except refunding bonds) shall be issued unless authorized by an election at which only the qualified voters who reside in the District and who own taxable property therein and who have duly rendered the same for taxation, shall be qualified to vote at said election, and unless a majority of the votes cast at said election is in favor of the issuance of the bonds. No election for the issuance of bonds secured either wholly or partially by a pledge of ad valorem taxes shall be ordered until the board of directors is able to and does publish, in the manner in this section prescribed, a summary of the improvements to be financed with the proceeds of bonds to be issued. If at such time the District has not provided facilities for delivering water to any city within the District, and if such summary of improvements does not include provision for delivering water to such city, the District shall cause to be published in such city notice of its intention on a date therein specified to call an election involving the issuance of bonds, wholly or partly secured by a pledge of ad valorem taxes, and containing the summary of the proposed improvements. Such notice shall be published at least once in a newspaper published in or having general circulation in such city, the date of publication being at least 14 days prior to the date on which the District intends to adopt a resolution ordering such election. The District shall also mail a copy of such notice to the Mayor of such city at least 14 days prior to the date on which the election is to be ordered. If, prior to the date so designated for the calling of the election, the governing body of such city, so notified, shall adopt a resolution to

the effect that the District has not provided facilities for delivering water to such city and does not propose to provide the facilities necessary for such purpose with the proceeds from the proposed tax-supported bonds and on a reasonable cost basis; and it is to the best interests of the people of the city that such city be eliminated from the District for all purposes; and seeking withdrawal from the District; and if prior to the date designated for such election a certified copy of such resolution is delivered to the District and to the State Board of Water Engineers at Austin, Texas, the District shall not proceed with the calling of such election until the State Board of Water Engineers shall have acted finally upon such request for withdrawal from the District. Upon receipt of the certified copy of the resolution requesting such withdrawal the Board of Water Engineers shall fix a date for a hearing on the request, giving written notice thereof both to the city and to the District. If at the hearing the Board of Water Engineers finds that no facilities have been made available to the city and that none will become available to the city because of the proposed tax-supported bond issue for the delivery of water to the city, and upon a reasonable cost basis, the board shall enter an order eliminating the city from the District. The necessity for such hearing will be avoided if the District files with the board a consent to the elimination of such territory.

But if the board shall find either that such facilities are available or will be provided from the proceeds of the proposed bonds for the providing of such facilities upon a reasonable cost basis, it shall enter an order denying the request for withdrawal. After such order by the Board of Water Engineers shall have been entered, the District may proceed with the ordering of such election with such city either eliminated or retained in its boundaries as may have been prescribed in such order. Bonds not payable wholly or partially from ad valorem taxes may be issued without an election.

(b) Such election may be called by the board of directors without a petition. The resolution calling the election shall specify the time and places of holding the same, the purpose for which the bonds are to be issued, the maximum amount thereof, the maximum maturity thereof, the form of the ballot, and the presiding judge for each voting place. The presiding judge serving at each voting place shall appoint one assistant judge and at least two clerks to assist in holding such election. Notice of the election shall be given by publishing a substantial copy thereof in one newspaper published in each city contained in the District for two consecutive weeks. The first publication shall be at least twenty-one days prior to the election. In any city in which no newspaper is published, notice shall be given by posting a copy of the resolution in three public places.

(c) The returns of the election shall be made to and canvassed by the board of directors of the District.

(d) The General Laws relating to elections shall be applicable to elections held under this section of this law, except as otherwise provided in this law.

Sec. 14. After any bonds (including refunding bonds) are authorized by the District, such bonds and the record relating to their issuance shall be submitted to the Attorney General for his examination as to the validity thereof. Where such bonds recite that they are secured by a pledge of the proceeds of a contract theretofore made between the District and any city or other governmental agency or district, a copy of such contract and the proceedings of the city or other governmental agency or District authorizing such contract shall also be submitted to the Attorney General. If such bonds have been authorized and if

such contracts have been made in accordance with the Constitution and Laws of the State of Texas he shall approve the bonds and such contracts and the bonds then shall be registered by the Comptroller of Public Accounts. Thereafter the bonds, and the contracts, if any, shall be valid and binding and shall be incontestable for any cause.

Sec. 15. The District is authorized to enter into contracts with cities and others for supplying water to them. The District is also authorized to contract with any city for the rental or leasing of, or for the operation of the water production, water supply, water filtration or purification and water supply facilities of such city upon such consideration as the District and the city may agree. Any such contract may be upon such terms and for such time as the parties may agree, and it may provide that it shall continue in effect until bonds specified therein and refunding bonds issued in lieu of such bonds are paid.

Sec. 16 (a). The board of directors shall designate one or more banks within the District to serve as depository for the funds of the District. All funds of the District shall be deposited in such depository bank or banks, except that funds pledged to pay bonds may be deposited with the trustee bank named in the trust agreement, and except that funds shall be remitted to the bank of payment for the payment of principal of and interest on bonds. To the extent that funds in the depository banks and the trustee bank are not insured by the F. D. I. C. they shall be secured in the manner provided by law for the security of county funds.

(b) Before designating a depository bank or banks, the board of directors shall issue a notice stating the time and place when and where the Board will meet for such purpose and inviting the banks in the District to submit applications to be designated depositories. The term of service for depositories shall be prescribed by the Board. Such notice shall be published one time in a newspaper or newspapers published in the District and specified by the board.

(c) At the time mentioned in the notice, the board shall consider the applications and the management and condition of the banks filing them, and shall designate as depositories the bank or banks which offer the most favorable terms and conditions for the handling of the funds of the District and which the board finds have proper management and are in condition to warrant handling of District funds. Membership on the board of directors of an officer or director of a bank shall not disqualify such bank from being designated as depository.

(d) If no applications are received by the time stated in the notice, the Board shall designate some bank or banks within or without the district upon such terms and conditions as it may find advantageous to the District.

Sec. 17. The District is authorized to acquire water appropriation permits directly from the Board of Water Engineers of the State of Texas; or from owners of permits. The District is also authorized to purchase water or a water supply from any person, firm, corporation or public agency, or from the United States Government or any of its agencies.

Sec. 18. All bonds of the District shall be and are hereby declared to be legal and authorized investments for banks, savings banks, trust companies, building and loan associations, savings and loan associations, and insurance companies. Such bonds shall be eligible to secure the deposit of any and all public funds of the State of Texas, and any and all public funds of cities, towns, villages, counties, school districts, or other political corporations or subdivisions of the State of Texas; and such bonds shall be lawful and sufficient security for said deposits to

the extent of their value, when accompanied by all unmatured coupons appurtenant thereto.

Sec. 19. The accomplishment of the purposes stated in this Act being for the benefit of the people of this State and for the improvement of their properties and industries, the District in carrying out the purposes of this Act will be performing an essential public function under the Constitution and shall not be required to pay any tax or assessment on the project or any part thereof, and the bonds issued hereunder and their transfer and the income therefrom, including the profits made on the sale thereof, shall at all times be free from taxation within this State.

Sec. 20 (a). The tax rolls of the cities situated within the District, and within territory hereafter annexed, are hereby adopted and shall constitute the tax rolls of the District until assessments and tax rolls shall be made by the District.

(b) Prior to the sale and delivery of District bonds which are payable wholly or partially from ad valorem taxes the board of directors shall appoint a tax assessor and collector and a board of equalization and cause taxes to be assessed, valuations to be equalized, and tax rolls to be prepared. General laws applicable to water control and improvement districts with reference to tax assessors and collectors, boards of equalization, tax rolls and the levy and collection of taxes and delinquent taxes shall be applicable to this District, except that the board of equalization to be appointed each year by the board of directors shall consist of one member residing in each city then contained in the District.

Sec. 21 (a). The board of directors of the District shall have the power to adopt and promulgate all reasonable regulations to secure, maintain and preserve the sanitary condition of all water in and to flow into any reservoir owned by the District, or which by contract or otherwise it may control, to prevent waste of water or the unauthorized use thereof, to regulate residence, hunting, fishing, boating, and camping, and all recreational and business privileges, along or around any such reservoir or any body of land, or easement owned or controlled by the District.

(b) Such District may prescribe reasonable penalties for the breach of any regulation of the District, which penalties shall not exceed fines of more than \$200.00, or imprisonment for not more than thirty days, or may provide both such fine and such imprisonment. The penalties hereby authorized shall be in addition to any other penalties provided by the laws of Texas and may be enforced by complaints filed in the appropriate court of jurisdiction; provided, however, that no rule or regulation which provides a penalty for the violation thereof shall be in effect, as to enforcement of the penalty, until five days next after the District may have caused a substantive statement of the particular rule or regulation and the penalty for the violation thereof to be published, once a week for two consecutive weeks, in the county in which such reservoir is situated, or in any county in which it is partly situated. The substantive statement so to be published shall be as condensed as is possible to afford an intelligent direction of the mind to the act forbidden by the rule or regulation; one notice may embrace any number of regulations; there must be embraced in the notice advice that breach of the particular regulation, or regulations, will subject the violator to the infliction of a penalty; and there also shall be included in the notice advice that the full text of the regulations sought to be enforced is on file in the principal office of the District, where the same may be read by any interested person. Five days after the second publication of the notice hereby required, the advertised regulation shall be in

effect, and ignorance of any such regulation shall not constitute a defense to a prosecution for the enforcement of a penalty; and the rules and regulations authorized hereby, after the required publication, shall judicially be known to the courts and shall be considered of a nature like unto that of valid penal ordinance of a city of the State.

(c) It further is expressly provided the District shall have the power to employ and constitute its own peace officers, and any such officer or any county peace officer shall have the power to make arrests when necessary to prevent or abate the commission of any offense against the regulations of the District, and against the laws of the State of Texas, when any such offense or threatened offense occurs upon any land, water, or easement owned or controlled by the District; or to make such arrest at any place, in case of an offense involving injury or detriment to any property owned or controlled by such District.

Sec. 22. The District is authorized to establish or otherwise provide for public parks and recreation facilities, and to acquire land adjacent to any reservoir in which said District owns water storage rights for such purposes; provided, however, that no money received from taxation or from bonds payable wholly or partially from taxation shall be used for such purpose.

Sec. 23. It is provided, however, that the District shall not exercise any of the power or authority conferred by this Act unless and until the establishment of this District is confirmed at an election held throughout the District. After the passage of this Act the Board of Water Engineers of the State of Texas shall order separate elections to be held in each of the cities contained in the District, at which elections there shall be submitted the question of whether or not the establishment of this District shall be confirmed. Notice of said election shall be published in a newspaper published in each of the cities once each week for two weeks; the first notice shall be at least fourteen days prior to the date set for the election. The Board of Water Engineers shall appoint a presiding judge for each of the voting places and each of the presiding judges shall appoint at least two judges and two clerks to assist him in holding the election. Only qualified voters who reside in the District and who own taxable property therein and who have duly rendered the same for taxation shall be qualified to vote at said election. If a majority of the votes cast at the election held separately in each city is in favor of confirmation, the Board of Water Engineers shall so declare, and thereafter the District shall have all of the powers and authority conferred by this Act. It is provided, however, that the proposition to be submitted at such election shall specify that the District shall be confirmed to include each city in which the majority vote favors confirmation and the District shall contain only those cities in which the majority vote favored confirmation the same as though the other cities had not been included in this Act.

Sec. 24. If any provision of this Act or the application thereof to any person or circumstance shall be held to be invalid or unconstitutional, the remainder of the Act, and the application of such provision to other persons or circumstances, shall not be affected thereby.

Sec. 25. It is hereby found that notice of intention to apply for the passage of this Act has been published in the locality where the matter and things to be affected hereby are situated, which notice stated the substance of this law, and was published at least thirty days prior to the introduction into the Legislature of this bill, and in the manner provided by law, and the time, form and manner of giving said notice is hereby approved and ratified. The evidence of the foregoing was exhibited in the Legislature before the passage of this Act.

Sec. 26. The fact that additional sources of water are immediately and urgently needed in the District hereby established, creates an emergency and an imperative public necessity requiring that the Constitutional Rule that bills be read on three several days be suspended; and such Rule is hereby suspended, and this Act shall take effect from and after its passage, and it is so enacted.

Passed the Senate, March 12, 1951: Yeas 25, Nays 1; April 4, 1951, Senate concurred in House amendments: Yeas 29, Nays 0; passed the House, April 4, 1951, with amendments: Yeas 121, Nays 0.

Approved April 20, 1951.

Effective April 20, 1951.

HOSPITALS—TAXES

CHAPTER 63

S. B. No. 200

An Act amending Section 3, Chapter 219, Acts of the 40th Legislature, 1927, Regular Session, as amended by Section 2, Chapter 295, Acts of the 49th Legislature, 1945, Regular Session; and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. That Section 3 of Chapter 219, Acts of the 40th Legislature, 1927, Regular Session, page 322, as amended by Section 2, Chapter 295, Acts of the 49th Legislature, 1945, Regular Session, be amended⁶⁴ so as to hereafter read as follows:

"Section 3. A direct tax of not over Fifty (50¢) Cents on the valuation of One Hundred (\$100.00) Dollars may be authorized and levied by the Commissioners Court of such county for the purpose of erecting buildings, or additions thereto, or other improvements and equipment, and for operating and maintaining such hospital; provided that all such levies of taxes shall be submitted to the qualified tax-paying voters of the county, and a majority vote shall be necessary to levy the tax. Successive elections may be held to authorize additional taxes hereunder, provided the total tax shall not exceed the maximum hereinabove provided."

Sec. 2. The fact that in the counties of this state having a population of 200,000 or more inhabitants there have been several epidemics of poliomyelitis, which cases are ordinarily treated only in city-county hospitals; and the fact that expenses of operation have so increased within the last few years that many children and other patients are suffering and their lives and health are being unnecessarily jeopardized due to the lack of hospital rooms, beds and facilities, creates an emergency and an imperative public necessity that the Constitutional Rule requiring bills to be read in each House on three several days be suspended; and said Rule is hereby suspended, and this Act shall be in force and effect from and after its passage, and it is so enacted.

Passed the Senate, March 19, 1951: Yeas 30, Nays 0; passed the House, April 11, 1951: Yeas 134, Nays 0.

Approved April 20, 1951.

Effective April 20, 1951.

64. Vernon's Ann.Civ.St. art. 4437a, § 3.

Art. 8280—141. North Texas Municipal Water District

Section 1. By virtue of Article XVI, Section 59 of the Texas Constitution, there is hereby created a conservation and reclamation district to be known as "North Texas Municipal Water District", (hereinafter called "District") which shall be a governmental agency and a body politic and corporate.

Sec. 2. The District shall comprise all of the territory which was contained within the cities of Garland, Princeton, Plano, Mesquite, Wylie, Rockwall, Farmersville, McKinney, Forney, and Royce City on March 1, 1951; provided, however, that no defect in the definition of the boundaries of any of said cities or in any past or future proceedings for the annexation of territory to any of said cities shall affect the validity of the District hereby created or any of its powers or duties. It is hereby found that all of the land thus included in said District will be benefitted by the improvements to be acquired and constructed by said District.

Sec. 3(a). All powers of the District shall be exercised by a board of directors. Such directors shall be appointed by majority vote for the governing body of each of the cities contained in the District. In appointing the first directors for a city containing 5,000 population or more according to the most recent Federal Census, the governing body of such city shall appoint one director who shall serve to and including May 31, 1952, and one who shall serve to and including May 31, 1953. In May, 1952, and in May of each year thereafter, the governing body of such city shall appoint one director for the two year term beginning on June 1 of that year. In appointing the first director for a city of less than 5,000 population, according to the most recent Federal Census, the governing body of such city shall appoint one director who shall serve to and including May 31, 1952. In May, 1952, and in May of each even year thereafter, the governing body shall appoint one director for the two year term beginning on June 1 of that year. Each director shall serve for his term of office as herein provided, and thereafter until his successor shall be appointed and qualified. No person shall be appointed a director unless he resides in and owns taxable property in the city from which he is appointed. No member of a governing body of a city, and no employee of a city, shall be appointed as director. Such directors shall subscribe to the Constitutional oath of office, and each shall give bond for the faithful performance of his duties in the amount of \$5,000.00, the cost of which shall be paid by the District. A majority shall constitute a quorum.

(b) Each director shall receive a fee of \$20.00, for attending each meeting of the board, provided that not more than \$40.00 shall be paid to any director for meetings held in any one calendar month. Each director shall also be entitled to receive \$20.00 per day devoted to the business of the District and to reimbursement for actual ex-

penses incurred in attending to District business provided that such service and expense are expressly approved by the Board.

Sec. 4. The board of directors shall elect from its number a president and a vice-president of the District, and such other officers as in the judgment of the board are necessary. The president shall be the chief executive officer of the District and the presiding officer of the board, and shall have the same right to vote as any other director. The vice-president shall perform all duties and exercise all powers conferred by this Act upon the president when the president is absent or fails or declines to act. The board shall also appoint a secretary and a treasurer who may or may not be members of the board, and it may combine those offices. The treasurer shall give bond in such amount as may be required by the board of directors, but in no event less than \$100,000.00. The condition of such bond shall be that he will faithfully account for all money which shall come into his custody as treasurer of the District. The board shall appoint all necessary engineers, attorneys and other employees. The board shall adopt a seal for the District.

Sec. 5. Other territory may be annexed to the District in the following manner:

(a) A petition praying for such annexation signed by fifty, or a majority of the qualified voters of the territory who own taxable property therein, and who have duly rendered the same to the city (if situated within a city or town) or county for taxation shall be filed with the board of directors of the District. The petition shall describe the territory by metes and bounds or otherwise unless such territory is the same as that contained in a city or town, in which event it shall be sufficient to state that the territory to be annexed is that which is contained within such city or town.

(b) If the board of directors finds that the petition complies with, and is signed by the number of qualified persons required by the foregoing sub-section, that the annexation would be to the interest of the territory and the District, and that the District will be able to supply water to the territory, it shall adopt a resolution stating the condition, if any, under which such territory may be annexed to the District, and requesting the Board of Water Engineers of the State of Texas (or any board or body succeeding substantially to the powers and duties of said Board of Water Engineers) hereinafter called "State Board", to annex said territory to the District. A certified copy of such resolution and of the petition shall be filed with the State Board.

(c) The State Board shall adopt a resolution declaring its intention to call an election in the territory for the purpose of submitting the proposition of whether or not such territory shall be annexed to the District, and fix a time and place when and where a hearing shall be held by the State Board on the question of whether

the territory will be benefitted by the improvements, works, and facilities then owned or operated or contemplated to be owned or operated by the District. Railroad right-of-way, transmission lines and other property of electric and gas utilities which are not situated within the defined limits of an incorporated city or town will not be benefitted by improvements, works and facilities which the District is authorized to construct; therefore it is provided that no railroad right-of-way or transmission lines and other property of electric and gas utilities shall hereafter be annexed to the District except such right-of-way and transmission lines and other property of electric and gas utilities as are contained within the limits of an incorporated city or town then or theretofore annexed to the District.

(d) Notice of the adoption of such resolution stating the time and place of such hearing, addressed to the citizens and owners of property in such territory shall be published one time in a newspaper designated by the State Board at least ten days prior to the date of such hearing. The notice shall describe the territory in the same manner as required or permitted by the petition.

(e) All persons interested may appear at such hearing and offer evidence for or against the intended annexation. Such hearing may proceed in such order and under such rules as may be prescribed by the State Board, and the hearing may be recessed from time to time. If, at the conclusion of the hearing, the State Board finds that all of the lands in such territory will be benefitted by the present or contemplated improvements, works or facilities of the District, the State Board shall adopt a resolution calling election in the territory to be annexed, stating therein the date of the election, the place or places of holding the same, and appointing a presiding judge for each voting place who shall appoint the necessary assistant judges and clerks to assist in holding the election.

(f) Notice of such election, stating the date thereof, the proposition to be voted upon and the conditions under which the territory may be annexed, or making reference to the resolution of the board of directors for that purpose, and the place or places of holding the same, shall be published one time in a newspaper designated by the State Board at least ten days before the day set for the election.

(g) Only qualified electors who reside in, and who own taxable property in such territory and who have duly rendered the same to the city (if situated within a city or town) or county in which it is situated for taxation shall be qualified to vote in said election. Returns of said election shall be made to the State Board.

(h) The State Board shall canvass the returns of the election and adopt a resolution declaring the results thereof. If such resolution shows that a majority of the votes cast are in favor of annexation the State Board shall enter an order annexing said territory to the District, and such annexation shall thereafter be incontestable

except in the manner and within the time for contesting elections under the general election law. A certified copy of said order shall be recorded in the deed records of the county in which the territory is situated.

(i) The State Board, in calling the election on the proposition for annexation of territory, may include as a part of the same proposition a proposition for the assumption of its part of the tax supported bonds of the District then outstanding, and those theretofore voted but not yet sold, and for the levy of an ad valorem tax on taxable property in said territory along with the tax in the rest of the District for the payment thereof.

(j) After territory is added to the District, the board of directors of the District may call an election over the entire District for the purpose of determining whether the entire District as enlarged shall assume the tax supported bonds then outstanding and those theretofore voted but not yet sold and whether an ad valorem tax shall be levied upon all taxable property within the District as enlarged for the payment thereof, unless such proposition is voted along with the annexation election and becomes lawfully binding upon the territory annexed. Such election shall be called and held in the same manner as elections for the issuance of bonds as provided in this Act.

(k) If no newspaper is published in territory to be annexed, the notices shall be posted in three public places therein.

Sec. 6. When any city, the territory of which is hereafter annexed to the District, contains 5,000 inhabitants or more according to the most recent Federal Census, the governing body of the city shall appoint one director for the term ending the following May 31, and one director for the term ending one year after the following May 31, and in May of each year shall appoint one director for a two year term the same as provided in this Act for cities originally included in the District. If such city contains less than 5,000 inhabitants according to the most recent Federal Census, the governing body of the city shall appoint one director whose term shall expire the following May 31, and in May of each second year thereafter shall appoint one director for a two year term. Whenever such city may later attain a population of 5,000 or more according to the Federal Census, it shall thereafter be entitled to two directors to be appointed as herein provided.

Sec. 7. The District is hereby empowered to acquire any and all rights in and to storage and storage capacity in Lavon Reservoir and the right to take water from such reservoir to be created by Lavon Dam now being constructed by the United States Government across the East Fork of the Trinity River in Collin County, Texas, which will impound certain storm and flood waters and the unappropriated flow of the East Fork of the Trinity River and its trib-

utaries, by complying with Chapter 1, Title 128, Revised Civil Statutes, as amended, and pursuant to any contract or contracts which the District may make with the United States Government in reference to such rights, and to develop or otherwise acquire underground sources of water, after obtaining a permit from the Board of Water Engineers of the State of Texas. The District is also empowered to construct or otherwise acquire all works, plants and other facilities necessary or useful for the purpose of diverting, further impounding or storing such water, processing such water and transporting it to cities and others for municipal, domestic and industrial purposes. To the extent permissible under the contract with the United States Government and its agencies, the District may dispose of surplus waters under its control for irrigation purposes. No works for the diverting of water from said impounding dam shall be constructed until the plans therefor are approved by the Board of Water Engineers of the State of Texas; provided that the District shall apply to and obtain authority from the Board of Water Engineers of the State of Texas for authority to appropriate water from the Trinity River.

Sec. 8. For the purpose of carrying out any power or authority conferred by this Act the District shall have the right to acquire land and easements within and without the District (including land above the probable high water line around any such reservoirs) by condemnation in the manner provided by Title 52, Revised Civil Statutes, as amended, relating to eminent domain. This District is hereby declared to be a municipal corporation within the meaning of Article 3268 of said Title 52. The amount of and character of interest in land and easements thus to be acquired shall be determined by the board of directors.

Sec. 9. Any construction contract requiring an expenditure of more than \$25,000.00 shall be made after publication of a notice to bidders once each week for two weeks, before awarding the contract. Such notice shall be sufficient if it states the time and place when and where the bids will be opened, the general nature of the work to be done, or the material, equipment or supplies to be purchased, and states where and the terms upon which copies of the plans and specifications may be obtained. The publication shall be in a newspaper published in the District and designated by the board of directors.

Sec. 10. (a) For the purpose of providing a source of water supply for cities and other users for municipal, domestic and industrial purposes, as authorized by this Act, and for the purpose of carrying out any other power or authority conferred by this Act, the District is empowered to issue its negotiable bonds to be payable from such revenues or taxes, or both revenues and taxes, of the District as are pledged by resolution of the board of directors.

Pending the issuance of definitive bonds the board may authorize the delivery of negotiable interim bonds or notes, eligible for exchange or substitution by use of the definitive bonds.

(b) Such bonds shall be authorized by resolution of the board of directors and shall be issued in the name of the District, signed by the president or vice-president, attested by the secretary and have the seal of the District impressed thereon. They shall mature serially or otherwise in not to exceed forty years and may be sold at a price and under terms determined by the board of directors to be the most advantageous reasonably obtainable, provided that the interest cost to the District, calculated by use of standard bond interest tables currently in use by insurance companies and investment houses does not exceed 6% per annum, and within the discretion of the Board, may be made callable prior to maturity at such times and prices as may be prescribed in the resolution authorizing the bonds, and may be made registerable as to principal or as to both principal and interest.

(c) Bonds may be issued in more than one series and from time to time as required for carrying out the purposes of this Act.

(d) The bonds may be secured by a pledge of all or part of the net revenues of the District, or by the net revenues of any one or more contracts theretofore or thereafter made or other revenues specified by resolution of the board of directors. Any such pledge may reserve the right, under conditions therein specified, to issue additional bonds which will be on a parity with or subordinate to the bonds then being issued. The term "net revenues" as used in this section shall mean the gross revenues of the District after deduction of the amount necessary to pay the cost of maintaining and operating the District and its properties.

(e) For the purposes stated in Section 10 (a) hereof, and subject to the conditions prescribed in Section 13 (a) hereof, the District is also empowered to issue bonds payable from ad valorem taxes to be levied on all taxable property therein, or to issue bonds secured both by and payable from such taxes and the revenues of the District. Where bonds are issued payable wholly or partially from ad valorem taxes, it shall be the duty of the board of directors to levy a tax sufficient to pay the bonds and the interest thereon as such bonds and interest become due, but the rate of the tax for any year may be fixed after giving consideration to the money received from the pledged revenues which may be available for payment of principal and interest to the extent and in the manner permitted by the resolution authorizing the issuance of the bonds.

(f) Where bonds payable wholly from revenues are issued, it shall be the duty of the board of directors to fix, and from time to time to revise, the rates of compensation for water sold and services rendered by the District which will be sufficient to pay the ex-

pense of operating and maintaining the facilities of the District and to pay the bonds as they mature and the interest as it accrues, and to maintain the reserve and other funds as provided in the resolution authorizing the bonds. Where bonds payable partially from revenues are issued, it shall be the duty of the Board to fix, and from time to time to revise, the rate of compensation for water sold and services rendered by the District which will be sufficient to assure compliance with the resolution authorizing the bonds.

(g) From the proceeds from the sale of the bonds, the District may set aside an amount for the payment of interest expected to accrue during construction and a reserve interest and sinking fund, and such provision may be made in the resolution authorizing the bonds. Proceeds from the sale of the bonds may also be used for the payment of all expenses necessarily incurred in accomplishing the purposes for which this District is created, including expenses of issuing and selling the bonds.

(h) In the event of a default or a threatened default in the payment of principal of or interest on bonds payable wholly or partially from revenues, any court of competent jurisdiction may, upon petition of the holders of 25% of the outstanding bonds of the issue thus in default or threatened with default, appoint a receiver with authority to collect and receive all income of the District except taxes, employ and discharge agents and employees of the District, take charge of funds on hand (except funds received from taxes unless commingled) and manage the proprietary affairs of the District without consent or hinderance by the directors. Such receiver may also be authorized to sell or make contracts for the sale of water or renew such contracts with the approval of the court appointing him. The court may vest the receiver with such other powers and duties as the court may find necessary for the protection of the holders of the bonds.

Sec. 11. The District is authorized to issue refunding bonds for the purpose of refunding any outstanding bonds authorized by this Act and interest thereon. Such refunding bonds may be issued to refund more than one series of outstanding bonds and combine the pledges for the outstanding bonds for the security of then refunding bonds, and may be secured by other or additional revenues. The provisions of this law with reference to the issuance by the District of other bonds and their approval by the Attorney General and the remedies of the holders shall be applicable to refunding bonds. Refunding bonds shall be registered by the Comptroller upon surrender and cancellation of the bonds to be refunded, but in lieu thereof, the resolution authorizing their issuance may provide that they shall be sold and the proceeds thereof deposited in the bank where the original bonds are payable, in which case the refunding bonds may be issued in an amount sufficient to pay the in-

terest on the original bonds to their option date or maturity date, and the Comptroller shall register them without concurrent surrender and cancellation of the original bonds.

Sec. 12. Any bonds (including refunding bonds) authorized by this law, not payable wholly from ad valorem taxes, may be additionally secured by a trust indenture under which the trustee may be a bank having trust powers situated either within or outside of the State of Texas. Such bonds within the discretion of the board of directors may be additionally secured by a deed or trust lien upon physical properties of the District and all franchises, easements, water rights and appropriation permits, leases, and contracts and all rights appurtenant to such properties, vesting in the trustee power to sell the properties for payment of the indebtedness, power to operate the properties and all other powers and authority for the further security of the bonds. Such trust indenture regardless of the existence of the deed of trust lien may contain any provisions prescribed by the board of directors for the security of the bonds and the preservation of the trust estate, and may make provision for amendment or modification thereof and the issuance of bonds to replace lost or mutilated bonds. Any purchaser under a sale under the deed of trust lien, where one is given, shall be the owner of the properties, facilities and rights so purchased and shall have the right to maintain and operate the same.

Sec. 13 (a). No bonds payable wholly or partially from ad valorem taxes (except refunding bonds) shall be issued unless authorized by an election at which only the qualified voters who reside in the District and who own taxable property therein and who have duly rendered the same for taxation, shall be qualified to vote at said election, and unless a majority of the votes cast at said election is in favor of the issuance of the bonds. No election for the issuance of bonds secured either wholly or partially by a pledge of ad valorem taxes shall be ordered until the board of directors is able to and does publish, in the manner in this section prescribed, a summary of the improvements to be financed with the proceeds of bonds to be issued. If at such time the District has not provided facilities for delivering water to any city within the District, and if such summary of improvements does not include provision for delivering water to such city, the District shall cause to be published in such city notice of its intention on a date therein specified to call an election involving the issuance of bonds, wholly or partly secured by a pledge of ad valorem taxes and containing the summary of the proposed improvements. Such notice shall be published at least once in a newspaper published in or having general circulation in such city, the date of publication being at least 14 days prior to the date on which the District intends to adopt a resolution ordering such election. The District shall also mail a copy of such notice to the Mayor of such city at least 14 days prior to the date on which the election is to be ordered. If, prior to

the date so designated for the calling of the election, the governing body of such city, so notified, shall adopt a resolution to the effect that the District has not provided facilities for delivering water to such city and does not propose to provide the facilities necessary for such purpose with the proceeds from the proposed tax-supported bonds and on a reasonable cost basis; and it is to the best interests of the people of the city that such city be eliminated from the District for all purposes; and seeking withdrawal from the District; and if prior to the date designated for such election a certified copy of such resolution is delivered to the District and to the State Board of Water Engineers at Austin, Texas, the District shall not proceed with the calling of such election until the State Board of Water Engineers shall have acted finally upon such request for withdrawal from the District. Upon receipt of the certified copy of the resolution requesting such withdrawal the Board of Water Engineers shall fix a date for a hearing on the request, giving written notice thereof both to the city and to the District. If at the hearing the Board of Water Engineers finds that no facilities have been made available to the city and that none will become available to the city because of the proposed tax-supported bond issue for the delivery of water to the city, and upon a reasonable cost basis, the board shall enter an order eliminating the city from the District. The necessity for such hearing will be avoided if the District files with the board a consent to the elimination of such territory.

But if the board shall find either that such facilities are available or will be provided from the proceeds of the proposed bonds for the providing of such facilities upon a reasonable cost basis, it shall enter an order denying the request for withdrawal. After such order by the Board of Water Engineers shall have been entered, the District may proceed with the ordering of such election with such city either eliminated or retained in its boundaries as may have been prescribed in such order. Bonds not payable wholly or partially from ad valorem taxes may be issued without an election.

(b) Such election may be called by the board of directors without a petition. The resolution calling the election shall specify the time and places of holding the same, the purpose for which the bonds are to be issued, the maximum amount thereof, the maximum maturity thereof, the form of the ballot, and the presiding judge for each voting place. The presiding judge serving at each voting place shall appoint one assistant judge and at least two clerks to assist in holding such election. Notice of the election shall be given by publishing a substantial copy thereof in one newspaper published in each city contained in the District for two consecutive weeks. The first publication shall be at least twenty-one days prior to the election. In any city in which no newspaper is published, notice shall be given by posting a copy of the resolution in three public places.

(c) The returns of the election shall be made to and canvassed by the board of directors of the District.

(d) The General Laws relating to elections shall be applicable to elections held under this section of this law, except as otherwise provided in this law.

Sec. 14. After any bonds (including refunding bonds) are authorized by the District, such bonds and the record relating to their issuance shall be submitted to the Attorney General for his examination as to the validity thereof. Where such bonds recite that they are secured by a pledge of the proceeds of a contract theretofore made between the District and any city or other governmental agency or district, a copy of such contract and the proceedings of the city or other governmental agency or District authorizing such contract shall also be submitted to the Attorney General. If such bonds have been authorized and if such contracts have been made in accordance with the Constitution and Laws of the State of Texas he shall approve the bonds and such contracts and the bonds then shall be registered by the Comptroller of Public Accounts. Thereafter the bonds, and the contracts, if any, shall be valid and binding and shall be incontestable for any cause.

Sec. 15. The District is authorized to enter into contracts with cities and others for supplying water to them. The District is also authorized to contract with any city for the rental or leasing of, or for the operation of the water production, water supply, water filtration or purification and water supply facilities of such city upon such consideration as the District and the city may agree. Any such contract may be upon such terms and for such time as the parties may agree, and it may provide that it shall continue in effect until bonds specified therein and refunding bonds issued in lieu of such bonds are paid.

Sec. 16 (a). The board of directors shall designate one or more banks within the District to serve as depository for the funds of the District. All funds of the District shall be deposited in such depository bank or banks, except that funds pledged to pay bonds may be deposited with the trustee bank named in the trust agreement, and except that funds shall be remitted to the bank of payment for the payment of principal of and interest on bonds. To the extent that funds in the depository banks and the trustee bank are not insured by the F.D.I.C. they shall be secured in the manner provided by law for the security of county funds.

(b) Before designating a depository bank or banks, the board of directors shall issue a notice stating the time and place when and where the Board will meet for such purpose and inviting the banks in the District to submit applications to be designated depositories. The term of service for depositories shall be prescribed by the Board. Such notice shall be published one time in a newspaper or newspapers published in the District and specified by the board.

(c) At the time mentioned in the notice, the board shall consider the applications and the management and condition of the banks fil-

ing them, and shall designate as depositories the bank or banks which offer the most favorable terms and conditions for the handling of the funds of the District and which the board finds have proper management and are in condition to warrant handling of District funds. Membership on the board of directors of an officer or director of a bank shall not disqualify such bank from being designated as depository.

(d) If no applications are received by the time stated in the notice, the Board shall designate some bank or banks within or without the district upon such terms and conditions as it may find advantageous to the District.

Sec. 17. The District is authorized to acquire water appropriation permits directly from the Board of Water Engineers of the State of Texas; or from owners of permits. The District is also authorized to purchase water or a water supply from any person, firm, corporation or public agency, or from the United States Government or any of its agencies.

Sec. 18. All bonds of the District shall be and are hereby declared to be legal and authorized investments for banks, savings banks, trust companies, building and loan associations, savings and loan associations, and insurance companies. Such bonds shall be eligible to secure the deposit of any and all public funds of the State of Texas, and any and all public funds of cities, towns, villages, counties, school districts, or other political corporations or subdivisions of the State of Texas; and such bonds shall be lawful and sufficient security for said deposits to the extent of their value, when accompanied by all unmatured coupons appurtenant thereto.

Sec. 19. The accomplishment of the purposes stated in this Act being for the benefit of the people of this State and for the improvement of their properties and industries, the District in carrying out the purposes of this Act will be performing an essential public function under the Constitution and shall not be required to pay any tax or assessment on the project or any part thereof, and the bonds issued hereunder and their transfer and the income therefrom, including the profits made on the sale thereof, shall at all times be free from taxation within this State.

Sec. 20 (a). The tax rolls of the cities situated within the District, and within territory hereafter annexed, are hereby adopted and shall constitute the tax rolls of the District until assessments and tax rolls shall be made by the District.

(b) Prior to the sale and delivery of District bonds which are payable wholly or partially from ad valorem taxes the board of directors shall appoint a tax assessor and collector and a board of equalization and cause taxes to be assessed, valuations to be equalized, and tax rolls to be prepared. General laws applicable to water control and improvement districts with reference to tax assessors and collectors,

boards of equalization, tax rolls and the levy and collection of taxes and delinquent taxes shall be applicable to this District, except that the board of equalization to be appointed each year by the board of directors shall consist of one member residing in each city then contained in the District.

Sec. 21 (a). The board of directors of the District shall have the power to adopt and promulgate all reasonable regulations to secure, maintain and preserve the sanitary condition of all water in and to flow into any reservoir owned by the District, or which by contract or otherwise it may control, to prevent waste of water or the unauthorized use thereof, to regulate residence, hunting, fishing, boating, and camping, and all recreational and business privileges, along or around any such reservoir or any body of land, or easement owned or controlled by the District.

(b) Such District may prescribe reasonable penalties for the breach of any regulation of the District, which penalties shall not exceed fines of more than \$200.00, or imprisonment for not more than thirty days, or may provide both such fine and such imprisonment. The penalties hereby authorized shall be in addition to any other penalties provided by the laws of Texas and may be enforced by complaints filed in the appropriate court of jurisdiction; provided, however, that no rule or regulation which provides a penalty for the violation thereof shall be in effect, as to enforcement of the penalty, until five days next after the District may have caused a substantive statement of the particular rule or regulation and the penalty for the violation thereof to be published, once a week for two consecutive weeks, in the county in which such reservoir is situated, or in any county in which it is partly situated. The substantive statement so to be published shall be as condensed as is possible to afford an intelligent direction of the mind to the act forbidden by the rule or regulation; one notice may embrace any number of regulations; there must be embraced in the notice advice that breach of the particular regulation, or regulations, will subject the violator to the infliction of a penalty; and there also shall be included in the notice advice that the full text of the regulations sought to be enforced is on file in the principal office of the District, where the same may be read by any interested person. Five days after the second publication of the notice hereby required, the advertised regulation shall be in effect, and ignorance of any such regulation shall not constitute a defense to a prosecution for the enforcement of a penalty; and the rules and regulations authorized hereby, after the required publication, shall judicially be known to the courts and shall be considered of a nature like unto that of valid penal ordinance of a city of the State.

(c) It further is expressly provided the District shall have the power to employ and constitute its own peace officers, and any such officer or any county peace officer shall have the power to make ar-

rests when necessary to prevent or abate the commission of any offense against the regulations of the District, and against the laws of the State of Texas, when any such offense or threatened offense occurs upon any land, water, or easement owned or controlled by the District; or to make such arrest at any place, in case of an offense involving injury or detriment to any property owned or controlled by such District.

Sec. 22. The District is authorized to establish or otherwise provide for public parks and recreation facilities, and to acquire land adjacent to any reservoir in which said District owns water storage rights for such purposes; provided, however, that no money received from taxation or from bonds payable wholly or partially from taxation shall be used for such purpose.

Sec. 23. It is provided, however, that the District shall not exercise any of the power or authority conferred by this Act unless and until the establishment of this District is confirmed at an election held throughout the District. After the passage of this Act the Board of Water Engineers of the State of Texas shall order separate elections to be held in each of the cities contained in the District, at which elections there shall be submitted the question of whether or not the establishment of this District shall be confirmed. Notice of said election shall be published in a newspaper published in each of the cities once each week for two weeks; the first notice shall be at least fourteen days prior to the date set for the election. The Board of Water Engineers shall appoint a presiding judge for each of the voting places and each of the presiding judges shall appoint at least two judges and two clerks to assist him in holding the election. Only qualified voters who reside in the District and who own taxable property therein and who have duly rendered the same for taxation shall be qualified to vote at said election. If a majority of the votes cast at the election held separately in each city is in favor of confirmation, the Board of Water Engineers shall so declare, and thereafter the District shall have all of the powers and authority conferred by this Act. It is provided, however, that the proposition to be submitted at such election shall specify that the District shall be confirmed to include each city in which the majority vote favors confirmation and the District shall contain only those cities in which the majority vote favored confirmation the same as though the other cities had not been included in this Act.

Sec. 24. If any provision of this Act or the application thereof to any person or circumstance shall be held to be invalid or unconstitutional, the remainder of the Act, and the application of such provision to other persons or circumstances, shall not be affected thereby.

Sec. 25. It is hereby found that notice of intention to apply for the passage of this Act has been published in the locality where the matter and things to be affected hereby are situated, which notice stat-

ed the substance of this law, and was published at least thirty days prior to the introduction into the Legislature of this bill, and in the manner provided by law, and the time, form and manner of giving said notice is hereby approved and ratified. The evidence of the foregoing was exhibited in the Legislature before the passage of this Act. Acts 1951, 52nd Leg., p. 96, ch. 62.

Art. 8280—142. Fisher County Water Authority

Section 1. By virtue of Article XVI, Section 59 of the Texas Constitution, there is hereby created an Authority to be known as "Fisher County Water Authority," (hereinafter called "Authority") which shall be a governmental agency and a body politic and corporate.

Sec. 2. The Authority shall comprise all of the territory now contained within the City of Roby in Fisher County, Texas:

Beginning at the Southeast corner of out Block No. 58 to the town of Roby, map of which Town is of record in Vol. 8, page 638 Deed Records of Fisher County, Texas;

Thence N 15 W with the East line of said Out Block or Out Lot No. 58 to the NE corner of same;

Thence N 75 E to SE Corner of Out Block or Out Lot No. 56;

Thence N 15 West to the NE Corner of said Out Lot or Block No. 56;

Thence S 75 W to the NW Corner of Out Lot or Block No. 57;

Thence N 15 W to the NW Corner of Out Lot or Block No. 51;

Thence S 75 W to the SW Corner of Out Block No. 4;

Thence N 15 W to the NE Corner of Out Block No. 20;

Thence S 75 W to the NW Corner of Out Block No. 19;

Thence S 15 E to SW Corner of Out Block No. 6;

Thence S 75 W pass the SW Corner of Out Block No. 12, to a point 150 feet S 75 W from SW Corner of said Out Block No. 12;

Thence S 15 E parallel to the West line of Lawrence Street and 150 feet West thereof to a point in the South line of US Highway No. 180 as now located on the ground;

Thence in a Westerly Direction with the South line of U. S. Highway No. 180, to a point being the Northwest Corner of Block No. 3-A of the Memorial Addition Annex to the City of Roby;

Thence South 15 East with the West line of Block 3-A of the Memorial Addition Annex, and with the West line of Block No. 3, of the Memorial Addition to the town of Roby, to the Southwest Corner of said Block No. 3, in the North line of Block No. 9, R. C. Royston Subdivision of El Paso County School Lands;

WORKMEN'S COMPENSATION ADMINISTRATIVE BILL
OF 969—EFFECTIVE DATE

CHAPTER 121

S. B. No. 800

An Act providing for a new effective date for Senate Bill No. 64, Regular Session, 1969, by amending Chapter 18, Section 16, Acts of the 61st Legislature, Regular Session, 1969; and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. Section 16, Chapter 18, Acts of the 61st Legislature, Regular Session, 1969, is amended ⁹⁴ to read as follows:

"Section 16. The importance of this legislation and the crowded condition of the calendars in both Houses create an emergency and an imperative public necessity that the Constitutional Rule requiring bills to be read on three several days in each House be suspended and this Rule is hereby suspended; and this Act shall take effect and be in force at 12:01 A.M., May 18, 1969, subject to the provisions of Section 13, above, and it is so enacted."

Sec. 2. Emergency Clause. The importance of this legislation and the crowded condition of the calendars in both Houses create an emergency and an imperative public necessity that the Constitutional Rule requiring bills to be read on three several days in each House be suspended, and the Rule is hereby suspended; and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed the Senate on May 5, 1969: Yeas 28, Nays 0; Passed the House on May 5, 1969: Yeas 135, Nays 0.

Approved May 5, 1969.
Effective May 5, 1969.

NORTH TEXAS MUNICIPAL WATER DISTRICT

CHAPTER 122

H. B. No. 654

An Act relating to the North Texas Municipal Water District; adding a new Section 1a and Subsection (b) to Section 8 and amending Sections 3(b) and 7, Chapter 62, Acts of the 52nd Legislature, 1951 (Article 8280—141, Vernon's Texas Civil Statutes); and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. Subsection (b), Section 3, Chapter 62, Acts of the 52nd Legislature, 1951 (Article 8280—141, Vernon's Texas Civil Statutes), is amended ⁹⁵ to read as follows:

"(b) Each director shall receive a fee of \$50 for attending each meeting of the board and \$20 per day devoted to the business of the District

⁹⁴. Vernon's Ann.Civ.St. art. 8306, § 8 ⁹⁵. Vernon's Ann.Civ.St. art. 8280—141, § 3(b).
note.

other than attending board meetings, but not more than \$1,200 shall be paid to any director in one calendar year therefor. Each director shall be entitled to reimbursement for actual expenses incurred in attending to District business provided the service and expense are expressly approved by the Board."

Sec. 2. Chapter 62, Acts of the 52nd Legislature, 1951 (Article 8280—141, Vernon's Texas Civil Statutes), is amended⁹⁶ by adding a new Section 1a to read as follows:

"Section 1a. In this Act, unless the context requires a different definition:

"(1) 'District' means the North Texas Municipal Water District, and any other public body at any time succeeding to the property and principal rights, powers, and obligations of said North Texas Municipal Water District.

"(2) 'Member cities' means the cities of Garland, Princeton, Plano, Mesquite, Wylie, Rockwall, Farmersville, McKinney, Forney, and Royse City and any other city which may hereafter legally become a part of said District.

"(3) 'Customer' means users of District water other than member cities.

"(4) 'Prospective customer' means any person, firm, corporation, company, partnership, association, body corporate, or politic who evidences in any manner an interest in securing water from District.

"(5) 'Basic service area' means that geographic area contained within the corporate limits of the member cities, and such areas as are now or may hereafter be served by said member cities' primary water system.

"(6) 'Service area' means that geographic area contained within the watershed of the East Fork of the Trinity River, Texas, and in addition thereto, any area contained within the corporate limits of the member cities and such areas as are served by said member cities' water system.

"(7) 'Other service area' means that geographic area contained within the State of Texas and being outside the 'service area' as defined in Subdivision (6) of this section.

"(8) 'Original Lavon water' means that water for which the District holds a permit from Texas Water Rights Commission to store and divert from Lavon Reservoir on the East Fork of the Trinity River, Texas, as originally constructed.

"(9) 'Enlarged Lavon water' means that water which the District holds now, or secures in the future, under or through a permit from the Texas Water Rights Commission to store and divert from Lavon Reservoir on the East Fork of the Trinity River, Texas, as modified.

"(10) 'Other water' means any water which the District secures under or through a permit from the Texas Water Rights Commission to store and divert, other than Lavon water, or enlarged Lavon water.

"(11) 'Interim basis' means only until such time as the District needs such water for the use and benefit of its service area—not permanent, but only during such times as a surplus of dependable safe yield is present in each classification of water.

"(12) 'Primary right' means the superior right to permanent water, and to the quantity, quality, and price of the water."

96. Vernon's Ann.Civ.St. art. 8280—141, § 1a.

Sec. 3. Section 7, Chapter 62, Acts of the 52nd Legislature, 1951 (Article 8280—141, Vernon's Texas Civil Statutes), is amended ⁹⁷ to read as follows:

"Sec. 7. (a) The District is hereby empowered to acquire any and all rights in and to storage and storage capacity in the Lavon Reservoir as now constructed, or later modified, and in any other reservoir or from any other source, and the right to take water from such reservoirs or other sources after obtaining a permit from the Water Rights Commission of the State of Texas, and by complying with Chapter 1, Title 128, Revised Civil Statutes of Texas, 1925, as amended, and pursuant to any contract or contracts which the District may make with the United States Government, any of its agencies, or any other agency, in reference to such rights, and to develop or otherwise acquire, with consent of owners of surface, underground sources of water. The District is also empowered to construct or otherwise acquire all works, plants and other facilities necessary or useful for the purpose of storing, impounding, retaining, diverting, or processing this water and transporting it to cities and other areas for municipal, domestic and industrial purposes. To the extent permissible under the contract with the United States Government, any of its agencies, and any other agency, the District may dispose of surplus water under its control by contract with the Texas Water Development Board or any other State or local agency for irrigation or beneficial purposes. No works for the diversion of such water from the impounding dams shall be constructed until the plans are approved by the Water Rights Commission of the State of Texas; provided that the District shall apply to and obtain authority from the Water Rights Commission of the State of Texas to appropriate such waters.

"(b) The District may not be compelled to supply water for use outside its service area except by order of the Texas Water Rights Commission in accordance with Article 7560, et seq., Revised Civil Statutes of Texas, 1925.

"(c) The basic service area has the primary right to water in each classification which the District secures under permit from the Texas Water Rights Commission.

"(d) This Act does not compel any customer or prospective customer to secure water from the District, except pursuant to contracts voluntarily executed.

"(e) This Act does not alter any outstanding permit, contract or other obligation."

Sec. 4. Chapter 62, Acts of the 52nd Legislature, 1951 (Article 8280—141, Vernon's Texas Civil Statutes), is amended ⁹⁸ by adding Subsection (b) to Section 8, reading as follows:

"Section 8. (b) In the event that the District, in the exercise of the power of eminent domain or police power, or any other power granted thereunder, makes necessary the relocation, raising, lowering, rerouting, or changing the grade of, or altering the construction of any railroad, electric transmission, telegraph or telephone lines, properties and facilities, or pipeline, all such relocation, raising, lowering, rerouting, changing of grade or alteration of construction shall be accomplished at the sole expense of the District. The term "sole expense" shall mean the actual cost of such relocation, raising, lowering, rerouting, or change in grade or alteration of construction in providing comparable replacement

97. Vernon's Ann.Civ.St. art. 8280—141, § 7. 98. Vernon's Ann.Civ.St. art. 8280—141, § 8(b).

without enhancement of such facilities, after deducting therefrom the net salvage value derived from the old facility.”

Sec. 5. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the Constitutional Rule requiring bills to be read on three several days in each house be suspended, and this Rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed by the House on April 17, 1969: Yeas 144, Nays 0; passed by the Senate on April 24, 1969: Yeas 31, Nays 0.

Approved May 5, 1969.

Effective May 5, 1969.

TEXAS MEAT AND POULTRY INSPECTION ACT

CHAPTER 123

S. B. No. 28

An Act providing for mandatory inspection and regulation of the slaughter of cattle, sheep, swine, goats, equines, poultry, domestic rabbits, and domesticated game birds, and the preparation and sale of the carcasses, parts thereof, meat, and food products of such animals and birds solely for distribution in this state; for the regulation of related industries; for cooperation with the United States Department of Agriculture; for penalties for violations, detention, seizure, and other enforcement authority; and for collection of fees for certain services; repealing Chapter 339, Acts of the 49th Legislature, 1945, as amended (Article 4476—3, Vernon's Texas Civil Statutes); declaring the effect of this Act on the Texas Food, Drug and Cosmetic Act (Article 4476—5, Vernon's Texas Civil Statutes) and other state laws; providing for severability; and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

TITLE I—INSPECTION REQUIREMENTS: ADULTERATION AND MISBRANDING 99

Section 1. As used in this Act, except as otherwise specified, the following terms shall have the meanings stated below:

(a) The term "commissioner" means the State Commissioner of Health.

(b) The term "firm" means any partnership, association, or unincorporated business organization.

(c) The term "meat broker" means any person, firm, or corporation engaged in the business of buying or selling carcasses, parts of carcasses, meat, or meat food products of cattle, sheep, swine, goats, horses, mules, equines, poultry, domestic rabbits, and domesticated game birds on commission, or otherwise negotiating purchases or sales of such articles other than for his own account or as an employee of another person, firm, or corporation.

99. Vernon's Ann.Civ.St. art. 4476—7, §§ 1—16.

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NORTH TEXAS MUNICIPAL WATER DISTRICT

CHAPTER 90

S. B. No. 640

An Act relating to the acquisition, ownership, operation, and financing of certain facilities of, and the performance of certain services and functions by, the North Texas Municipal Water District and providing for certain powers and duties of the district and political subdivisions with relation to these facilities, services, and functions; stating applicability of Article XVI, Section 59, Texas Constitution, and Chapters 5, 6, 25, and 50, Water Code, and other laws; providing procedures for the issuance of bonds; providing for their terms and security; providing the characteristics of such bonds and their eligibility for investments and security for deposit of public funds; stating compliance with notice requirements; amending Chapter 62, Acts of the 52nd Legislature, 1951, as amended (Article 8280—141, Vernon's Texas Civil Statutes); and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, as amended (Article 8280—141, Vernon's Texas Civil Statutes), is amended by adding ⁶⁹ Section 27 to read as follows:

Sec. 27. (a) In addition to all other powers, the district is authorized to purchase, construct, acquire, own, operate, maintain, repair, improve, or extend inside and outside its boundaries, at any location whatsoever, in the sole discretion of the district, any and all works, improvements, facilities, plants, equipment, and appliances incident, helpful, or necessary to:

(1) provide, pursuant to the provisions of Chapters 5 and 6, Water Code, as amended, for the control, storage, preservation, transmission, treatment, and distribution and use of storm water and floodwater, the water of rivers and streams, and underground water, for irrigation, power, hydroelectric, and all other useful purposes, and to supply water for municipal, domestic, power, hydroelectric, industrial, oil flooding, mining, and commercial uses and purposes and all other beneficial uses and purposes;

(2) collect, transport, process, treat, dispose of, and control all municipal, domestic, industrial, or communal waste whether in fluid, solid, or composite state, including specifically the control, abatement, or reduction of all types of pollution; and it is hereby found and determined by the legislature that all of the aforesaid purposes are for the conservation and development of the natural resources of the state within the meaning of Article XVI, Section 59 of the Texas Constitution.

(b) The district may adopt, enforce, and collect all necessary charges, fees, or rentals for providing any district facilities or service and may require a deposit for any service or facilities furnished, and the district may or may not provide that the deposit will bear interest. The district may discontinue a facility or service to prevent an abuse or enforce payment of an unpaid charge, fee, or rental due to the district.

(c) All facilities acquired or constructed pursuant to this section shall be separate and apart from, and shall not constitute a part of, the district's water system established pursuant to that certain trust inden-

⁶⁹. V.A.T.S. Water Auxillary Laws, Table
III

ture securing North Texas Municipal Water District Water Revenue Bonds, Series 1954, dated September 1, 1954, and all additional bonds issued pursuant to said trust indenture, as supplemented. Bonds issued under this section shall not be issued as additional bonds under the aforesaid trust indenture, but shall be issued strictly under this section.

(d) The district is a "district" under the Regional Waste Disposal Act, as amended (Chapter 25, Water Code), and all provisions of said Act are applicable to this district except to the extent of any conflict with this Act, in which case the provisions of this Act shall prevail.

(e) All cities, public agencies, and other political subdivisions are authorized to contract with this district in any manner authorized by the Regional Waste Disposal Act, as amended (Chapter 25, Water Code), provided that any city is authorized to contract with this district in the manner authorized by Section 25.030(c) of the Regional Waste Disposal Act.

(f) It is further specifically provided that the district and all cities, public agencies, and other political subdivisions shall have all of such rights, powers, and authority with respect to the control, storage, preservation, transmission, treatment, and disposition of storm water and floodwater, and the water of rivers and streams, and underground water as are granted, permitted, and authorized by the Regional Waste Disposal Act, as amended (Chapter 25, Water Code), with respect to waste, waste disposal systems, and treatment facilities. Subsection (e) of this section shall be applicable to contracts made pursuant to this subsection.

(g) All cities, public agencies, and other political subdivisions are authorized to fix, charge, and collect fees, rates, charges, rentals, and other amounts for any service or facilities provided pursuant to or in connection with any contract with this district, and to pledge such amounts sufficient to make all payments required under the contract.

(h) For the purpose of providing funds to acquire, purchase, construct, improve, enlarge, and equip any property, buildings, structures, or other facilities for any purpose or power authorized by this section, the board of directors of the district may issue revenue bonds from time to time and in one or more issues or series, to be payable from and secured by liens on and pledges of all or any part of any of the revenues, income, or receipts derived by the district from its ownership, operation, lease, or sale of any such property, buildings, structures, or facilities, including the proceeds or revenues from contracts with any person, firm, corporation, city, public agency, or other political subdivision. Such bonds may be issued to mature serially or otherwise within not to exceed 50 years from their date, and provision may be made for the subsequent issuance of additional parity bonds, or subordinate lien bonds, under any terms or conditions that may be set forth in the resolution authorizing the issuance of the bonds. Such bonds, and any interest coupons appertaining thereto, are and shall constitute negotiable instruments within the meaning and for all purposes of the Texas Uniform Commercial Code, provided that the bonds may be issued registrable as to principal alone or as to both principal and interest, and shall be executed, and may be made redeemable prior to maturity, and may be issued in such form, denominations, and manner, and under such terms, conditions, and details, and may be sold in such manner, at such price, and under such terms, and said bonds shall bear interest at such rates, all as shall be determined and provided in the resolution authorizing the issuance of the bonds. If so provided in the bond resolution, the proceeds from the sale of the bonds may be used for paying interest on the bonds during the period of the acquisition or construction of any facilities to be provid-

ed through the issuance of the bonds, for paying expenses of operation and maintenance of facilities, for creating a reserve fund for the payment of the principal of and interest on the bonds, and for creating any other funds, and such proceeds may be placed on time deposit or invested, until needed, all to the extent and in the manner provided in the bond resolution. The district may pledge all or any part of its revenues, income, or receipts from fees, rentals, rates, charges, and contract proceeds or payments to the payment of the bonds, including the payment of principal, interest, and any other amounts required or permitted in connection with the bonds. The pledged fees, rentals, rates, charges, proceeds, or payments shall be fixed and collected in amounts that will be at least sufficient, together with any other pledged resources, to provide for all payments of principal, interest, and any other amounts required in connection with the bonds, and, to the extent required by the resolution authorizing the issuance of the bonds, to provide for the payment of expenses in connection with the bonds, and operation, maintenance, and other expenses in connection with the aforesaid facilities. Said bonds may be additionally secured by mortgages or deeds of trust on any real property owned or to be acquired by the district, and by chattel mortgages or liens on any personal property appurtenant to such real property; and the board of directors of the district may authorize the execution of trust indentures, mortgages, deeds of trust, or other forms of encumbrances to evidence same. Also, the district may pledge to the payment of the bonds all or any part of any grant, donation, revenues, or income received or to be received from the United States government or any other public or private source, whether pursuant to an agreement or otherwise.

(i) Any bonds issued pursuant to this section may be refunded or otherwise refinanced by the issuance of refunding bonds for such purpose, under such terms, conditions, and details as may be determined by resolution of the board of directors of the district. All pertinent and appropriate provisions of this section shall be applicable to such refunding bonds, and they shall be issued in the manner provided herein for other bonds authorized under this section; provided that such refunding bonds may be sold and delivered in amounts necessary to pay the principal, interest, and redemption premium, if any, of bonds to be refunded, at maturity or on any redemption date. Also, such refunding bonds may be issued to be exchanged for the bonds being refunded thereby. In the latter case, the Comptroller of Public Accounts of the State of Texas shall register the refunding bonds and deliver the same to the holder or holders of the bonds being refunded thereby, in accordance with the provisions of the resolution authorizing the refunding bonds; and any such exchange may be made in one delivery or in several installment deliveries. Bonds issued at any time by the district also may be refunded in the manner provided by any other applicable law.

(j) All bonds issued pursuant to this section and the appropriate proceedings authorizing their issuance shall be submitted to the Attorney General of the State of Texas for examination. When the bonds are to be issued to finance in whole or in part water-using facilities, except treatment or distribution facilities, before giving his approval the attorney general shall be furnished a resolution from the Texas Water Rights Commission certifying that the district is possessed of the necessary water right authorizing it to impound and appropriate the water to be utilized by the project. Also, if the bonds recite that they are secured by a pledge of revenues of any contract, a copy of such contract and the proceedings relating thereto shall be submitted to the

attorney general. If he finds that such bonds have been authorized and any such contract has been made in accordance with law, he shall approve the bonds and any such contract, and thereupon the bonds shall be registered by the Comptroller of Public Accounts of the State of Texas; and after such approval and registration, such bonds and any such contract shall be incontestable in any court or other forum for any reason, and shall be valid and binding obligations in accordance with their terms for all purposes.

(k) All bonds issued pursuant to this section are legal and authorized investments for all banks, trust companies, building and loan associations, savings and loan associations, insurance companies of all kinds and types, and trustees, and for all interest and sinking funds and other public funds of the State of Texas and all agencies, subdivisions, and instrumentalities thereof, including all counties, cities, towns, villages, school districts, and all other kinds and types of districts, public agencies, and bodies politic. Said bonds also shall be eligible and lawful security for all deposits of public funds of the State of Texas and all agencies, subdivisions, and instrumentalities thereof, including all counties, cities, towns, villages, school districts, and all other kinds and types of districts, public agencies, and bodies politic, to the extent of the market value of said bonds, when accompanied by any unmatured interest coupons appurtenant thereto.

(l) This section shall be wholly sufficient authority within itself for the issuance of the bonds, the execution of contracts, and the performance of the other acts and procedures authorized herein by the district, and all cities, public agencies, and other political subdivisions, without reference to any other law or any restrictions or limitations contained therein, except as herein specifically provided; and in any case to the extent of any conflict or inconsistency between any provisions of this section and any other provision of law, this section shall prevail and control; provided, however, that the district and all cities, public agencies, and other political subdivisions shall have the right to use the provisions of any other laws, not in conflict with the provisions hereof, to the extent convenient or necessary to carry out any power or authority, express or implied, granted by this section.

(m) This Act does not compel any city, customer, or prospective customer to secure water, sewer service, or any other service from the district, except pursuant to contracts voluntarily executed.

(n) Nothing in this Act shall relieve the district from compliance with the provisions of Chapters 5, 6, and 50, Water Code, as amended.

Sec. 2. In case any one or more of the sections, provisions, clauses, or words of this Act, or the application thereof to any situation or circumstance, shall for any reason be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect any other sections, provisions, clauses, or words of this Act, or the application thereof, to any other situation or circumstance, and it is intended that this Act shall be severable and shall be construed and applied as if any such invalid or unconstitutional section, provision, clause, or word had not been included herein.

Sec. 3. Proof of publication of the constitutional notice required in the enactment hereof under the provisions of Article XVI, Section 59(d) of the Texas Constitution, has been made in the manner provided therein and a copy of said notice and the bill as originally introduced have been delivered to the Governor of the State of Texas as required in such con-

stitutional provision, and such notice and delivery are hereby found and declared to be proper and sufficient to satisfy such requirements.

Sec. 4. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed the senate on April 3, 1975: Yeas 30, Nays 0; passed the house on April 23, 1975: Yeas 132, Nays 1, 2 present not voting.

Approved April 30, 1975.

Effective April 30, 1975.

CRIMINAL PROCEDURE—VENUE BY CONSENT

CHAPTER 91

H. B. No. 154

An Act providing that criminal trials may, in certain instances, be held in any county within the judicial district for the county where venue is authorized; amending the Code of Criminal Procedure, 1965, by adding Article 13.20; and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. The Code of Criminal Procedure, 1965, is amended by adding ⁷⁰ Article 13.20 to read as follows:

"Art. 13.20. Venue by consent

"The trial of all felony cases, without a jury, may, with the consent of the defendant in writing, his attorney, and the attorney for the state, be held in any county within the judicial district or districts for the county where venue is otherwise authorized by law."

Sec. 2. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed by the House on March 5, 1975, by a non-record vote; passed by the Senate on April 17, 1975: Yeas 30, Nays 0.

Approved April 30, 1975.

Effective Sept. 1, 1975, 90 days after date of adjournment.

70. Vernon's Ann.C.C.P. art. 13.20.

Passed the Senate on April 9, 2009: Yeas 31, Nays 0; passed the House on April 28, 2009: Yeas 144, Nays 0, two present not voting.

Approved May 12, 2009.

Effective May 12, 2009.

CHAPTER 20

S.B. No. 715

AN ACT

relating to the North Texas Municipal Water District.

Be it enacted by the Legislature of the State of Texas:

SECTION 1. Section 1a, Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is amended by adding Subdivision (13) to read as follows:

(13) *"Bonds" includes negotiable or nonnegotiable bonds, notes, certificates, contractual obligations, or other obligations of the district.*

SECTION 2. Subsection (b), Section 3, Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is amended to read as follows:

(b) Each director shall receive a fee of \$150 for each day the director spends performing the duties of a director, including participating in board and committee meetings, other activities involving substantive deliberation of District business, and pertinent educational programs [~~\$50 for attending each meeting of the board and \$20 per day devoted to the business of the District other than attending board meetings~~], but not more than \$7,200 [~~\$1,200~~] shall be paid to any director in one calendar year [~~therefor~~]. Each director shall be entitled to reimbursement for actual expenses incurred in attending to District business provided the service and expense are expressly approved by the Board.

SECTION 3. Section 4, Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is amended to read as follows:

Sec. 4. The board of directors shall elect from its number a president and a vice-president of the District, and such other officers as in the judgment of the board are necessary. The president shall be the [~~chief executive officer of the District and the~~] presiding officer of the board, and shall have the same right to vote as any other director. The vice-president shall perform all duties and exercise all powers conferred by this Act upon the president when the president is absent or fails or declines to act. The board shall also appoint a secretary and a treasurer who may or may not be members of the board, and it may combine those offices. The treasurer shall give bond in such amount as may be required by the board of directors, but in no event less than \$100,000.00. The condition of such bond shall be that he will faithfully account for all money which shall come into his custody as treasurer of the District. The board shall appoint *an executive director, who shall employ or contract with* all necessary engineers, attorneys and other employees. The board shall adopt a seal for the District.

SECTION 4. Section 27, Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is amended by amending Subsections (a), (d), (e), (f), (h), (j), and (k) and adding Subsection (h-1) to read as follows:

(a) *The district has the functions, powers, authority, rights, and duties necessary to accomplish the purposes for which the district was created and the purposes authorized by Section 59, Article XVI, Texas Constitution, this Act, or any other law.* In addition to all other powers, the district is authorized to purchase, construct, acquire, own, operate, maintain, repair, improve, or extend inside and outside its boundaries, at any location whatsoever, in the sole discretion of the district, any and all *property*, works, improvements, facilities, plants, equipment, and appliances incident, helpful, or necessary to:

(1) provide[, pursuant to the provisions of Chapters 5 and 6, Water Code, as amended,] for the control, storage, preservation, transmission, treatment, and distribution and use of

storm water and floodwater, the water of rivers and streams, and underground water, for irrigation, power, hydroelectric, and all other useful purposes, and to supply water for municipal, domestic, power, hydroelectric, industrial, oil flooding, mining, and commercial uses and purposes and all other beneficial uses and purposes;

(2) collect, transport, process, treat, dispose of, and control all municipal, domestic, industrial, or communal waste whether in fluid, solid, or composite state, including specifically the control, abatement, or reduction of all types of pollution; and it is hereby found and determined by the legislature that all of the aforesaid purposes are for the conservation and development of the natural resources of the state within the meaning of Article XVI, Section 59 of the Texas Constitution.

(d) The district is a "district" under the Regional Waste Disposal Act, as amended (Chapter 30 [25], Water Code), and all provisions of said Act are applicable to this district except to the extent of any conflict with this Act, in which case the provisions of this Act shall prevail.

(e) All cities, public agencies, and other political subdivisions are authorized to contract with this district in any manner authorized by the Regional Waste Disposal Act, as amended (Chapter 30 [25], Water Code), provided that any city is authorized to contract with this district in the manner authorized by Section 30.030(c), *Water Code* [25.030(c) of the ~~Regional Waste Disposal Act~~].

(f) ~~The~~ [It is further specifically provided that the] district and all cities, public agencies, and other political subdivisions shall have all of such rights, powers, and authority with respect to the control, storage, preservation, transmission, treatment, and disposition of storm water and floodwater, and the water of rivers and streams, and underground water as are granted, permitted, and authorized by the Regional Waste Disposal Act, as amended (Chapter 30 [25], Water Code), with respect to waste, waste disposal systems, and treatment facilities. Subsection (e) of this section shall be applicable to contracts made pursuant to this subsection.

(h) ~~The district may issue bonds to borrow money for any corporate purpose, including the purposes~~ [For the purpose of providing funds to acquire, purchase, construct, improve, enlarge, and equip any property, buildings, structures, or other facilities for any purpose or power] authorized by this section. ~~The~~ [the] board of directors of the district may issue [revenue] bonds from time to time and in one or more issues or series, to be payable from and secured by liens on and pledges of all or any part of any of the revenues, income, or receipts derived by the district from its ownership, operation, lease, or sale of any [such] property, buildings, structures, or facilities, including the proceeds or revenues from contracts with any person, firm, corporation, city, public agency, or other political subdivision. ~~The~~ [Such] bonds may be issued *in certificated form or uncertificated book-entry form* to mature serially or otherwise within not to exceed 50 years from their date, and provision may be made for the subsequent issuance of additional parity bonds, or subordinate lien bonds, under any terms or conditions that may be set forth in the resolution authorizing the issuance of the bonds. ~~The~~ [Such] bonds, and any interest coupons appertaining thereto, *to the extent issued in negotiable form*, are and shall constitute negotiable instruments within the meaning and for all purposes of the Texas *Business & Commerce* [Uniform-Commercial] Code, provided that the bonds may be issued registrable as to principal alone or as to both principal and interest, and shall be executed, and may be made redeemable prior to maturity, and may be issued in such form, denominations, and manner, and under such terms, conditions, and details, and may be sold in such manner, *including through a public or private sale*, at such price, and under such terms, and said bonds shall bear interest at such rates, *including fixed, variable, floating, adjustable, or another method of computation*, all as shall be determined and provided in the resolution authorizing the issuance of the bonds. *In the bond resolution, the district may authorize one or more designated officers or employees of the district to act on behalf of the district, with the same force and effect as if the action had been taken by the district, in selling and delivering the bonds and setting the dates, prices, interest rates, interest payment periods, and other procedures relating to the bonds, as specified in the bond resolution.* If so provided in the bond resolution, the proceeds from the sale of the bonds may be used for paying interest on the bonds during the period of the acquisition or construction of any facilities to be provided through the issuance of the bonds, for paying expenses of operation and maintenance of facilities, for creating a reserve fund for the

payment of the principal of and interest on the bonds, and for creating any other funds, and such proceeds may be placed on time deposit or invested, until needed, all to the extent and in the manner provided in the bond resolution. The district may pledge all or any part of its revenues, income, or receipts from fees, rentals, rates, charges, and contract proceeds or payments to the payment of the bonds, including the payment of principal, interest, and any other amounts required or permitted in connection with the bonds. The pledged fees, rentals, rates, charges, proceeds, or payments shall be fixed and collected in amounts that will be at least sufficient, together with any other pledged resources, to provide for all payments of principal, interest, and any other amounts required in connection with the bonds, and, to the extent required by the resolution authorizing the issuance of the bonds, to provide for the payment of expenses in connection with the bonds, and operation, maintenance, and other expenses in connection with the aforesaid facilities. *The [Said] bonds may be additionally secured by mortgages or deeds of trust on any real property owned or to be acquired by the district, and by chattel mortgages or liens on any personal property appurtenant to such real property; and the board of directors of the district may authorize the execution of trust indentures, mortgages, deeds of trust, or other forms of encumbrances to evidence same. Also, the district may pledge to the payment of the bonds all or any part of any grant, donation, revenues, or income received or to be received from the United States government or any other public or private source, whether pursuant to an agreement or otherwise.*

(h-1) If funds are not available to meet any need of the district and the board of directors of the district declares an emergency, the board may issue bond anticipation notes or revenue anticipation notes, or both bond anticipation notes and revenue anticipation notes, to borrow the money needed by the district. Bond anticipation notes may be issued for any purpose for which bonds of the district may be issued. The district may enter into an agreement with a purchaser of bond anticipation notes to use the proceeds from the sale of any bond to pay principal, interest, or redemption price on the bond anticipation notes. Revenue anticipation notes may be issued for any purpose for which the district is authorized to expend revenue of the district. The district may enter into an agreement with a purchaser of revenue anticipation notes to adopt, enforce, and collect charges, fees, rentals, and other amounts for the district's facilities and services that are sufficient to pay the principal of, any redemption premium on, and interest on the revenue anticipation notes.

~~(j) Chapter 1202, Government Code, applies to the issuance of bonds by the district [All bonds issued pursuant to this section and the appropriate proceedings authorizing their issuance shall be submitted to the Attorney General of the State of Texas for examination. When the bonds are to be issued to finance in whole or in part water-using facilities, except treatment or distribution facilities, before giving his approval the attorney general shall be furnished a resolution from the Texas Water Rights Commission certifying that the district is possessed of the necessary water right authorizing it to impound and appropriate the water to be utilized by the project. Also, if the bonds recite that they are secured by a pledge of revenues of any contract, a copy of such contract and the proceedings relating thereto shall be submitted to the attorney general. If he finds that such bonds have been authorized and any such contract has been made in accordance with law, he shall approve the bonds and any such contract, and thereupon the bonds shall be registered by the Comptroller of Public Accounts of the State of Texas; and after such approval and registration, such bonds and any such contract shall be incontestable in any court or other forum for any reason, and shall be valid and binding obligations in accordance with their terms for all purposes].~~

~~(k) All bonds issued pursuant to this section are legal and authorized investments in the same manner as provided by Section 49.186(a), Water Code. The [for all banks, trust companies, building and loan associations, savings and loan associations, insurance companies of all kinds and types, and trustees, and for all interest and sinking funds and other public funds of the State of Texas and all agencies, subdivisions, and instrumentalities thereof, including all counties, cities, towns, villages, school districts, and all other kinds and types of districts, public agencies, and bodies politic. Said] bonds also shall be eligible and lawful security for [all] deposits of public funds in [of] the same manner as provided by Section 49.186(b), Water Code [State of Texas and all agencies, subdivisions, and instrumentalities thereof, including all counties, cities, towns, villages, school districts, and all other kinds and types of districts, public agencies, and bodies politic, to the extent of the market value of said bonds, when accompanied by any unmatured interest coupons appurtenant thereto].~~

SECTION 5. Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is amended by adding Section 28 to read as follows:

Sec. 28. If a quorum of the board of directors of the district cannot be assembled due to multiple deaths or injuries resulting from a catastrophe or disaster, any directors who are available, or the highest ranking staff member of the district if no director is available, shall within 24 hours after the catastrophe or disaster has ended, or as soon as practicable under the circumstances, take any action necessary to ensure the basic health, safety, and welfare of the customers of the district and call for the appointment of new directors by the member cities of the district to fill the vacancies on the board resulting from the catastrophe or disaster. Until a quorum of the board of directors can be assembled, any directors who are available, or the highest ranking staff member of the district if no director is available, may only take actions as necessary to protect the basic health, safety, and welfare of the district's customers. The board of directors may subsequently ratify any action taken in accordance with this section.

SECTION 6. Subsection (c), Section 27, Chapter 62, Acts of the 52nd Legislature, Regular Session, 1951, is repealed.

SECTION 7. (a) The legal notice of the intention to introduce this Act, setting forth the general substance of this Act, has been published as provided by law, and the notice and a copy of this Act have been furnished to all persons, agencies, officials, or entities to which they are required to be furnished under Section 59, Article XVI, Texas Constitution, and Chapter 313, Government Code.

(b) The governor has submitted the notice and Act to the Texas Commission on Environmental Quality.

(c) The Texas Commission on Environmental Quality has filed its recommendations relating to this Act with the governor, lieutenant governor, and speaker of the house of representatives within the required time.

(d) All requirements of the constitution and laws of this state and the rules and procedures of the legislature with respect to the notice, introduction, and passage of this Act are fulfilled and accomplished.

SECTION 8. This Act takes effect immediately if it receives a vote of two-thirds of all the members elected to each house, as provided by Section 39, Article III, Texas Constitution. If this Act does not receive the vote necessary for immediate effect, this Act takes effect September 1, 2009.

Passed the Senate on April 2, 2009: Yeas 31, Nays 0; passed the House on April 28, 2009: Yeas 149, Nays 0, one present not voting.

Approved May 12, 2009.

Effective May 12, 2009.

CHAPTER 21

S.B. No. 741

AN ACT

relating to jurisdiction over a wage claim filed after the deadline.

Be it enacted by the Legislature of the State of Texas:

SECTION 1. Subsection (c), Section 61.051, Labor Code, is amended to read as follows:

(c) A wage claim must be filed not later than the 180th day after the date the wages claimed became due for payment. *The 180-day deadline is a matter of jurisdiction.*

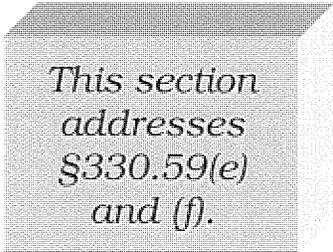
SECTION 2. Section 61.052, Labor Code, is amended by adding Subsection (b-1) to read as follows:

(b-1) If a wage claim is filed later than the date described by Section 61.051(c), the examiner shall dismiss the wage claim for lack of jurisdiction.

16 EVIDENCE OF COMPETENCY

16.1 Solid Waste Sites

NTMWD has operated Parkway Transfer Station for over 30 years. The TS is permitted by the TCEQ under Permit Number 1494, (issued on June 10, 1982). NTMWD also manages and operates two additional transfer stations, Lookout Drive Transfer Station (Permit Number 53A) and Custer Road Transfer Station (Permit Number 2045A); one active landfill (121 RDF Permit Number 2294); and two closed landfills, McKinney Landfill (Permit Number 568A) and Maxwell Creek Landfill (Permit Number 44A). NTMWD has no financial interest in any other solid waste sites.



*This section
addresses
§330.59(e)
and (f).*

16.2 The Parkway Transfer Station Key Personnel

The key personnel that will be involved in the management and operations of the improved TS facility are listed below:

Mike Friesen, Assistant Deputy – Solid Waste

Mike Friesen has permitting, engineering, and environmental compliance responsibility for all the NTMWD MSW facilities. Mr. Friesen has 6 years of experience with NTMWD. Prior to joining NTMWD, Mr. Friesen spent 12 years with Waste Connections (formerly Progressive Waste Solutions) with similar permitting, engineering and environmental compliance responsibilities. Mr. Friesen has an MSW Class A operator license as defined in §30.207.

Sedrick Daniels, Transfer Station Manager

Sedrick Daniels is responsible for the operation and maintenance of the NTMWD transfer station facilities in compliance with the permit limitations. Mr. Daniels has over 30 years of experience in the solid waste industry.

Montague Hargrow, Transfer Station Supervisor

Montague Hargrow is responsible for the daily operations of the Parkway Transfer Station. Responsibilities include oversight of hourly workers, equipment maintenance, construction coordination, and operations compliance. Mr. Hargrow has a Class B license as defined in §30.207.

17 APPOINTMENTS

The appointment prepared for this permit amendment application meets the requirements of Title 30 TAC §330.59(g) and §305.44. The Notice of Appointment is provided on the following page.

*This section
addresses
§330.59(g).*

**NOTICE OF APPOINTMENT
Agent for the Applicant**

Mr. Toby Baker
Executive Director
Texas Commission on Environmental Quality
MC 109
PO Box 13087
Austin, Texas 78711-3087

Dear Mr. Baker:

I am an Authorized Agent of the North Texas Municipal Water District in matters concerning this Type V Permit Amendment Application.

ATTEST:

North Texas Municipal Water District

Jennifer Covington
Signature

Jennifer P. Covington, Executive Director/
General Manager

Name, Title

10/13/2022
Date

SWORN TO AND SUBSCRIBED BEFORE ME by Jennifer P. Covington on the 13th day of October, 2022, which witness my hand and seal of office.

Shawna Helmburger
Notary Public in and for the State of Texas

Shawna Helmburger
Printed Name

My Commission Expires 06/29/2024



APPENDIX I/IIA

DEMONSTRATION OF COORDINATION

- Coordination with Texas Department of Transportation
 - Including Traffic Study
- Coordination with Texas Historical Commission
- Coordination with Texas Parks and Wildlife Department
- Coordination with North Central Texas Council of Governments (NCTCOG)

**COORDINATION WITH
TEXAS DEPARTMENT OF TRANSPORTATION**



Regional. Reliable. Everyday.

September 28, 2022

Mr. Ceason Clemons, P.E.
District Engineer
Texas Department of Transportation, Dallas District
4777 E. Highway 80
Mesquite, Texas 75150

Re: Traffic Study; Parkway Type Transfer Station Permit Amendment Application; Permit No. 1494; City of Plano, Collin County, Texas; RN 100535392 /CN 601365448

Dear Mr. Clemons:

The purpose of this letter is to demonstrate coordination with the Texas Department of Transportation (TxDOT), consistent with Title 30 Texas Administrative Code (TAC) §330.61(i)(4). This regulation requires that a permit applicant for a municipal solid waste (MSW) facility coordinate with TxDOT regarding the adequacy of access roads and any potential traffic or location restrictions.

Weaver Consultants Group, LLC is preparing a permit amendment application, on behalf of the North Texas Municipal Water District (NTMWD), to construct improvements and expand operations of the existing Parkway Transfer Station located in the City of Plano, Collin County, Texas. The facility address is 4030 W. Plano Parkway, Plano, Texas 75093. The improved transfer station will provide enhanced operations to transfer municipal solid waste delivered to the transfer station by NTMWD's Solid Waste Member Cities consisting of Allen, Frisco, McKinney, Plano, Richardson, and other customers in proximity to the site to an area landfill. The transfer station will provide NTMWD with the ability to consolidate smaller loads before shipment to the landfill.

The attached traffic study has been prepared to show that the site access roads and West Plano Parkway will provide excellent access to the site throughout the life of the facility and will safely accommodate the additional volumes and weights of traffic expected to be generated at the improved transfer station. No public roadway improvements such as turning lanes, storage lanes, etc. are needed or proposed.

To assist you in your review, a project summary and site location maps have been provided as an overview of the improved transfer station.

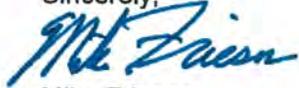
To verify compliance with §330.61(i)(4), we will need to include a letter from TxDOT in the permit amendment application regarding the adequacy of the site access roads and any traffic or location restrictions at or near the site.

Regional Service Through Unity...Meeting Our Region's Needs Today and Tomorrow

Mr. Ceason Clemons, P.E.
September 28, 2022
Page 2

If you need further information, please do not hesitate to contact Mr. Mike Friesen, Assistant Deputy – Solid Waste, at 469-626-4339, or Mr. Chuck Marsh, P.E. with Weaver Consultants Group at (817) 735-9770. Kindly provide all written correspondence regarding this matter to NTMWD.

Sincerely,



Mike Friesen
Assistant Deputy – Solid Waste

Attachment: Traffic Study

cc: NTMWD Central File – Parkway 9.0
Chuck Marsh, P.E., Weaver Consultants Group, LLC

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TRAFFIC STUDY**

Prepared for
North Texas Municipal Water District
August 2022



Prepared by
Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

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1.1	Purpose	1
1.2	Summary of Proposed Transfer Station	2
2	TRAFFIC INFORMATION	3
2.1	Availability and Adequacy of Roads	3
2.2	Volume of Vehicular Traffic	3
2.3	Intersection Analysis	4
2.4	Queuing	5
3	SUMMARY	8

APPENDIX A

Project Summary and Site Location Maps



1 INTRODUCTION

1.1 Purpose

North Texas Municipal Water District (NTMWD) is in the process of preparing a Type V Permit Amendment Application for the existing Parkway Transfer Station. The improved transfer station will provide enhanced operations and a more efficient means to transfer municipal solid waste (MSW) and recyclable materials, including tires, used oil, used oil filters, and white goods/metals, that are generated by NTMWD's Solid Waste Member Cities (that currently consists of Allen, Frisco, McKinney, Plano, Richardson, and other customers in proximity to the site) to an area landfill.

The transfer station is currently permitted to accept 770 tons per day (tpd), averaged over 365 days per year, of MSW and recyclables. The proposed Type V Permit Amendment Application includes the following to increase the efficiency of the facility:

- Increase in capacity from 770 tpd to 1,500 tpd.
- Transfer station extension/truck loading tunnel.

The purpose of this study is to show that the improved transfer station will continue to provide excellent access and will not adversely impact the existing and future traffic patterns of the facility access roads. The study is completed consistent with the requirements listed in 30 TAC §330.61(i), which requires the following information.

- Provide data on the availability and adequacy of roads that the owner or operator will use to access the site;
- Provide data on the volume of vehicular traffic on access roads within one mile of the proposed facility, both existing and expected, during the expected life of the proposed facility;
- Project the volume of traffic expected to be generated by the facility on the access roads within one mile of the proposed facility; and
- Submit documentation of coordination of all designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved. In addition, the owner or operator shall submit documentation of coordination with the Texas Department of Transportation for traffic and location restrictions.

1.2 Summary of Proposed Transfer Station

The transfer station building will be a pre-cast concrete tilt wall building with a total area of approximately 10,000 square feet. All transfer station vehicles (i.e., transfer trucks, collection vehicles, and self-haul vehicles) will enter the site by the access road from West Plano Parkway.

Incoming loads will be weighed and directed to the waste unloading area for transfer operations. The waste collection vehicle unloading area will consist of a well-lighted (overhead lighting) tipping floor where waste is transferred from collection vehicles to transfer trailers. Waste transfer operations will occur completely within the building. Waste deposited on the tipping floor within the building will be pushed by front-end wheel loaders into pits which will then be pushed into top-loader transfer trailers and hauled to an area landfill.

The facility will accept MSW, construction and demolition wastes, special wastes, and non-hazardous industrial waste as permitted by the TCEQ. Properly trained personnel will operate the transfer station. A detailed site operating plan will be included in the transfer station permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. A project summary and site location maps are provided in Appendix A.

2 TRAFFIC INFORMATION

2.1 Availability and Adequacy of Roads

As shown on Figure 2-1, the main access roads within one mile of the site are West Plano Parkway, Coit Road, and State Highway 190, also known as President George Bush Turnpike (PGBT). Other roads within one mile of the site are shown on Figure 2-1. These roads may be periodically used by collection vehicles to serve residences and businesses located along or near these roadways; however, these roads are not main access roads that collection vehicles will use to access the site.

The Parkway Transfer Station site entrance road connects to West Plano Parkway approximately 400 feet northeast of the facility. West Plano Parkway is a six-lane, median-divided, concrete road that will be utilized by all transfer station vehicles to access the site. Coit Road is the major exit, from PGBT, that will allow vehicles to access the site via West Plano Parkway. Coit Road is also a six-lane, median-divided, concrete road, and PGBT is a six or eight lane, median-divided expressway in the northern area of the DFW Metroplex.

Figure 2-2 shows the existing entrance to the facility and provides an overview of the intersection of West Plano Parkway and the site entrance road. As shown on Figure 2-2, the site entrance road includes a 24-foot-wide, 400-foot-long, concrete-paved road from West Plano Parkway to the permit boundary (facility gate). There is an additional 300 feet of the site entrance road from the facility gate to the scalehouse. The 300 feet of queuing space allows for 7 waste hauling vehicles to queue inside the facility gate and an additional 2 waste hauling vehicles outside the facility gate, without causing a disturbance to adjacent facility driveways. This layout provides a sufficient queuing area for waste vehicles, as noted in Section 2.4.

2.2 Volume of Vehicular Traffic

The volume of vehicle traffic for the access roads is summarized on Table 2.1. As noted on Table 2.1, traffic count for PGBT was taken from TxDOT Dallas District Traffic Map (2019) and traffic counts for Coit Road and West Plano Parkway were taken from City of Plano, Traffic Counts 2016 Traffic Volume Map.

The TxDOT and City of Plano traffic counts were adjusted to account for the additional traffic created by area growth in 2022. Existing traffic volumes were

projected to the year 2042 to evaluate the future performance of the site access roads.

Traffic counts associated with the transfer station are estimated as shown on Table 2.1. At this time, the transfer station capacity is 770 tons/day averaged over 365 days per year. However, the proposed improvement of the transfer station will increase the capacity to 1,500 tons/day. Therefore, traffic projections were developed for traffic patterns that will occur at the proposed transfer station permitted capacities of 770 tons/day and 1,500 tons/day.

Table 2.2 presents a summary of the estimated traffic patterns and vehicle counts for the access roads within 1 mile of the site. A list of the various assumptions that were used to derive the estimates is also presented in Table 2.1.

The traffic volume impact assessment is summarized in Table 2.2. As shown, there is a minimal impact on all transfer station access roads at the permitted capacity of 770 tons/day and the proposed capacity of 1,500 tons/day. The level of service for each access road was calculated using road characteristics, road capacities, and formulas obtained from the Highway Capacity Manual, 2016. As shown on Table 2.2, the level of service for West Plano Parkway is C, Coit Road is D, and for PGBT is E in 2022 and projected to 2042. The transfer station only utilizes a small percentage of the capacity of the access roads (less than 1 percent in all cases) for the current and future projection.

2.3 Intersection Analysis

A turn lane for vehicles turning left onto the site entrance road exists, which gives ample time and space for vehicles to move out of the traffic flow and turn onto the site entrance road, also without disturbing oncoming traffic. Although there is no right turning lane for southbound vehicles entering the site, it is determined that due to the characteristics of West Plano Parkway (i.e., number of lanes, speed, density of traffic, etc.) as well as the long-established traffic patterns for the existing transfer station, the proposed increase in vehicles accessing the transfer station will not adversely impact existing traffic patterns.

Vehicles making left or right turns out of the transfer station entrance road are required to stop at a stop sign at West Plano Parkway, which will allow an ample amount of time for vehicles to safely exit the site onto West Plano Parkway without adversely impacting north or southbound traffic.

Therefore, WCG concludes that the proposed increased volume of vehicles entering and exiting the transfer station entrance road will not adversely impact traffic on West Plano Parkway, Coit Road, or PGBT. The existing intersection and infrastructure are adequate for the associated traffic volume throughout the life of the facility.

2.4 Queuing

As shown on Figure 2-2, approximately 300 feet of queuing space within the facility gate provides for 7 waste hauling vehicles. Additionally, there is enough space outside the facility gate for an additional 2 waste hauling vehicles without causing disturbance to adjacent facility driveways. The transfer station has 4 unloading stations (3 for collection vehicles and 1 for self-haul vehicles) and 1 transfer trailer load out station. The average unloading and load out times are 7 and 8 minutes, respectively. At the design capacity of 1,500 tons/day and the unloading/loadout times, the maximum number of trucks queuing is 5. Therefore, the available queuing area is sufficient to avoid disturbance on the site entrance road, furthermore, not disturbing vehicular traffic along West Plano Parkway, Coit Road, or PGBT.

**Table 2-1
2-Way Traffic Volumes**

Facility Capacity (Tons/Day)	Road	2-Way Traffic Volumes				Existing Traffic Volume 2022						Projected Traffic Volume ² 2042							
		Daily		Peak Hour	TS Trips ⁴	Daily		TS Trips	Peak Hour		Total	Daily		TS Trips	Peak Hour		Total	Peak Hour ⁴	
		28,047	49,647	2,805		28,418	50,673		28,898	2,842		5,067	2,890		32,557	33,037		3,256	5,848	3,304
770	West Plano	28,047	49,647	2,805	480	28,418	28,898	48	2,842	5,067	2,890	480	32,557	33,037	3,256	5,848	3,304		
	Coit	158,196	15,820	4,965	172,541	51,153	173,021	48	17,254	5,115	17,302	48	58,001	58,481	5,848	5,848	5,848		
	PGBT	28,047	2,805	4,965	27,968	28,898	28,898	93	2,797	2,890	2,890	930	32,107	33,037	3,211	5,848	3,304		
1,500	Coit	49,647	4,965	15,820	50,223	51,153	51,153	93	5,022	5,115	5,115	930	57,551	58,481	5,848	5,848	5,848		
	PGBT	158,196	15,820	4,965	173,008	173,021	173,021	93	17,209	17,302	17,302	930	196,878	197,808	19,781	19,781	19,781		

Notes:

1. Traffic count data was obtained from City of Plano 2019 Traffic Volume Map for West Plano Pkwy and Coit Road, and traffic count data was obtained from TxDOT 2016 Dallas District Traffic Map (2016 AADT) for PGBT at Coit Road.
2. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2012 and 2016 Regional Water Plan. The annual population increase for 2017-2020 is 2.01%, for 2021-2030 is 0.5%, for 2031-2040 is 0.66%, and for 2041-2042 is 1.42% per year.
3. Peak hour volumes are assumed to be ten percent of total daily traffic.
4. One-way transfer station trips are estimated in the table below, then doubled to account for incoming and outgoing traffic.

24-Hour One-Way Transfer Station Vehicle Estimates⁵

Facility Capacity (Tons/Day)	Vehicle Type						Totals
	Rear Loader	Front Loader	Roll-Off	Low Volume Vehicles	Facility Personal/Misc. Vehicles	Transfer Trailers	
770	62	31	29	39	47	32	240
1,500	120	60	57	75	90	63	465

Notes:

5. The number of vehicles per day was calculated based on truck capacity, density, and tonnage then doubled to account for all trucks entering and leaving the transfer station.

Table 2-2
Traffic Impact Assessment¹

Facility Capacity (Tons/Day)	Roadway Capacity ⁴ (Vehicles/Day)	2022 Traffic Conditions ^{2,3}				Projected 2042 Traffic Conditions ^{2,3}					
		Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles	Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles
770	West Plano Pkwy	201,600	28,898	14.3%	C	0.2%	480	33,037	16.4%	C	0.2%
	Coit Road	216,000	51,153	23.7%	D	0.2%	480	58,481	27.1%	E	0.2%
1,500	PGBT	336,000	173,021	51.5%	E	0.1%		197,808	58.9%	E	0.1%
	West Plano Pkwy	201,600	28,898	14.3%	C	0.5%		33,037	16.4%	C	0.5%
	Coit Road	216,000	51,153	23.7%	D	0.4%	930	58,481	27.1%	E	0.4%
	PGBT	336,000	173,021	51.5%	E	0.3%		197,808	58.9%	E	0.3%

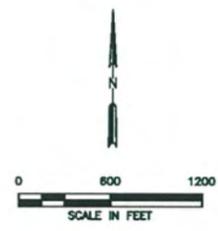
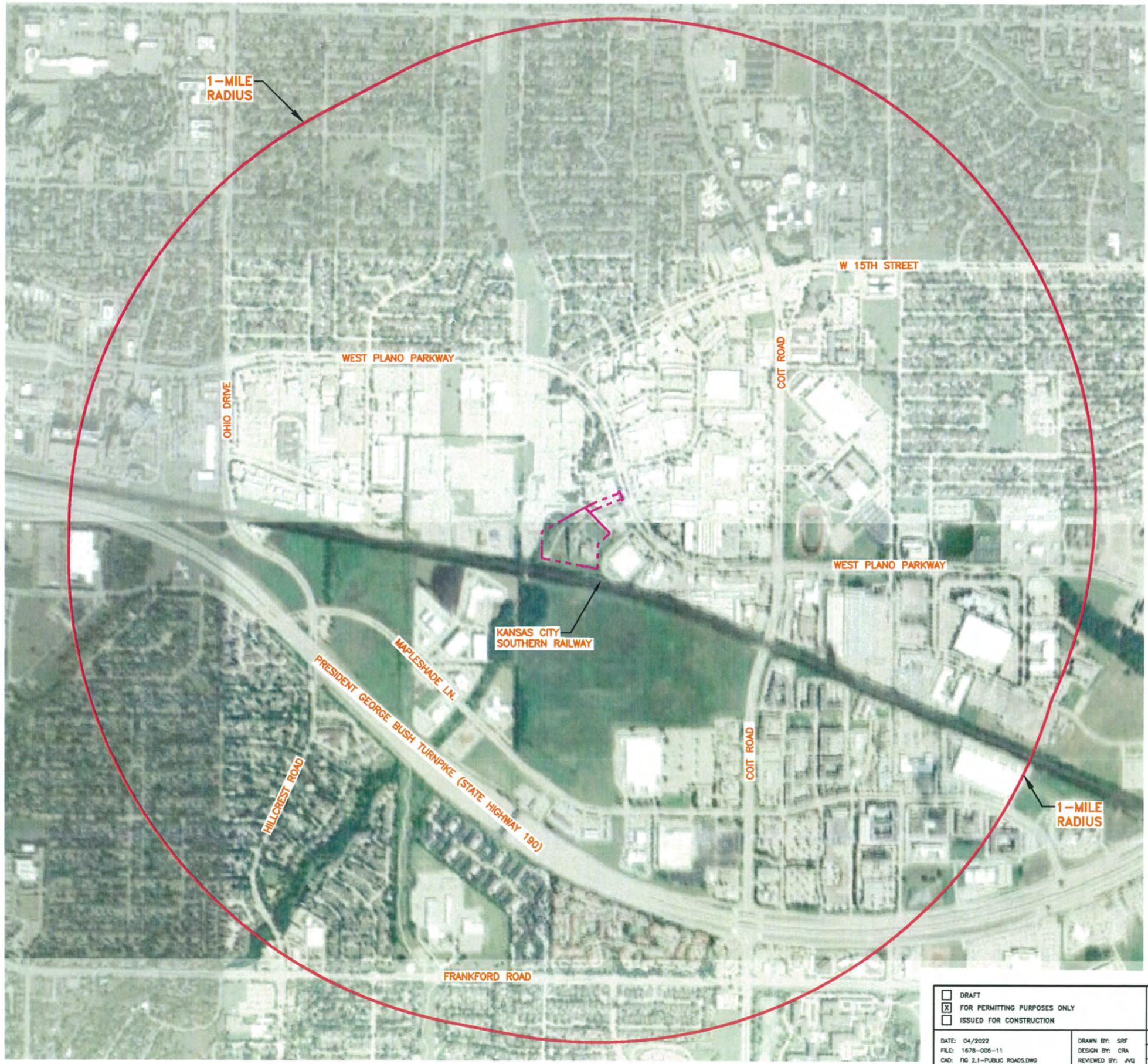
Notes:

1. Traffic volumes listed in this table include two-way traffic volumes.
2. Traffic count data was obtained from City of Plano 2019 Traffic Volume Map for West Plano Pkwy and Coit Road, and traffic count data was obtained from TxDOT 2016 Dallas District Traffic Map (2016 AADT) for PGBT at Coit Road.
3. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2012 and 2016 Regional Water Plan. The annual population increase for 2017-2020 is 2.01%, for 2021-2030 is 0.5%, for 2031-2040 is 0.66%, and for 2041-2042 is 1.42% per year. One-way trip generation estimates for transfer station vehicles are listed below.
4. Capacities were obtained or estimated using the Highway Capacity Manual, 2016.

3 SUMMARY

In summary, the current 2022 area roadway system providing access to the Parkway Transfer Station would be minimally affected by the increase of 770 tons per day (averaged over 365 days per year) to 1,500 tons per day. Additionally, the projected 2042 traffic conditions would also be minimally affected by the tonnage increase. Therefore, the area traffic conditions for the existing access roads within one mile of the site (West Plano Parkway, Coit Road, and PGBT) will not be significantly impacted due to the proposed improvements to the transfer station.

O:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-11\TXDOT\FIG 2-1-1 MILE RADIUS.dwg, rarrington, 1:2



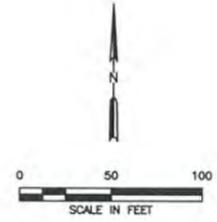
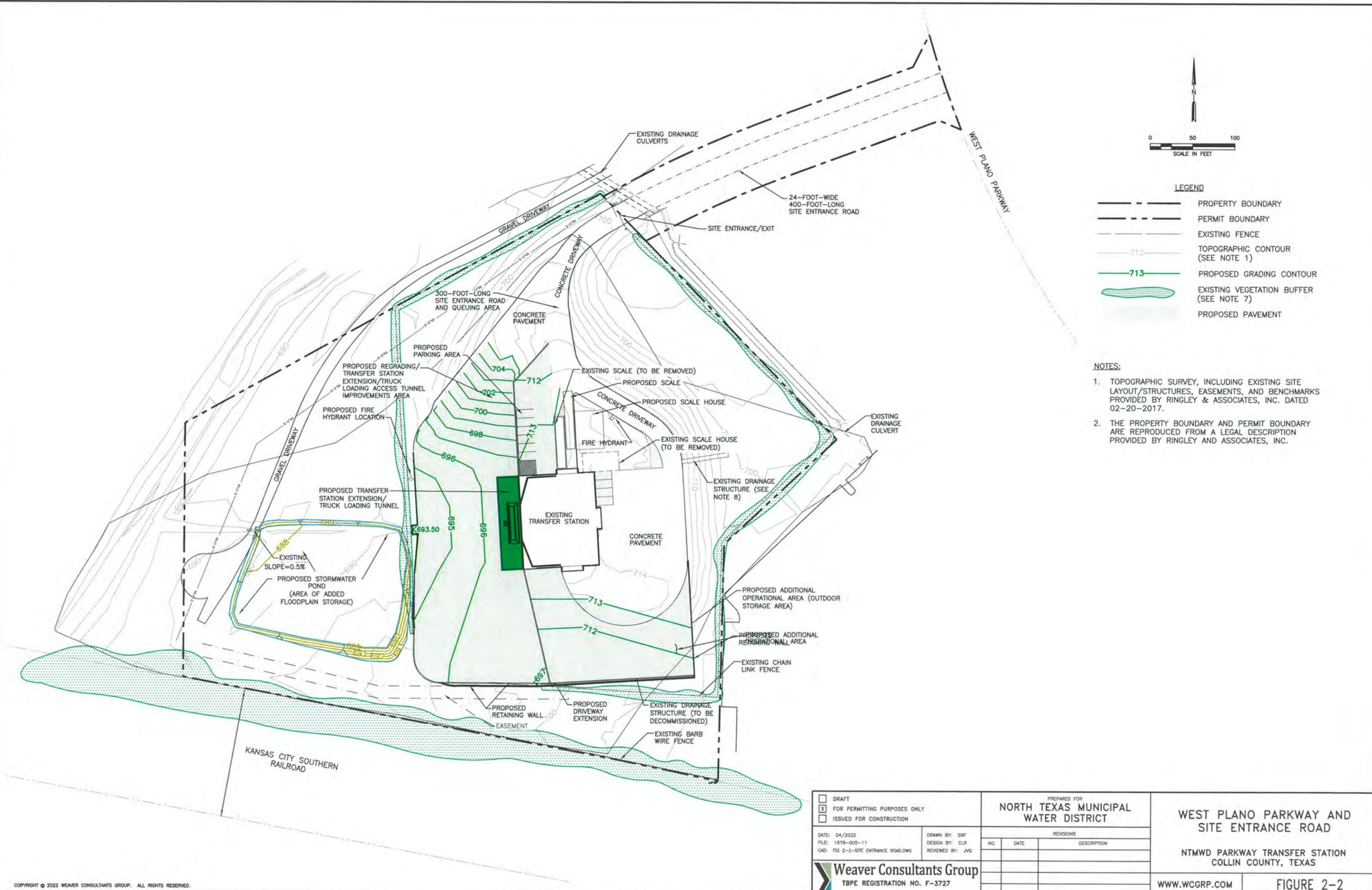
LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY

- NOTES:**
1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.
 2. ACCESS ROADS WITHIN 1-MILE OF THE SITE ARE WEST PLANO PARKWAY, COIT ROAD, AND STATE HIGHWAY 190 (PRESIDENT GEORGE BUSH TURNPIKE).

<input type="checkbox"/> DRAFT	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	PUBLIC ROADS WITHIN 1-MILE RADIUS NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS															
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY																	
<input type="checkbox"/> ISSUED FOR CONSTRUCTION																	
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 2.1-PUBLIC ROADS.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVQ	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION									
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NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 2-1															

O:\1678\05\TYPE V PERMIT APPLICATION\PARTS 1-1\TSD\FIG 2-2-ENTRANCE ROAD INTERSECTION.dwg, mbahmani, 1:2



LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	713 PROPOSED GRADING CONTOUR
	EXISTING VEGETATION BUFFER (SEE NOTE 7)
	PROPOSED PAVEMENT

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DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 2-2-SITE ENTRANCE ROAD.DWG	DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JVQ	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION									
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Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 2-2												

APPENDIX A

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

Parkway Transfer Station

North Texas Municipal Water District

Collin County, Texas

Introduction

The North Texas Municipal Water District (NTMWD) is preparing a Type V Permit Amendment Application for the Parkway Transfer Station to construct improvements and expand operations at an existing transfer station located in the City of Plano, Collin County, Texas 75093. The proposed improvements will provide enhanced operations and a more efficient means to transfer municipal solid waste and recyclable materials by NTMWD's Solid Waste System Member Cities (that currently consists of Allen, Frisco, McKinney, Plano, Richardson). The permit amendment application will be submitted to the Texas Commission on Environmental Quality (TCEQ). The permit amendment application will undergo a technical review by the TCEQ before the permit for the improved transfer station is issued.

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Owner/Operator Information

The Parkway Transfer Station has been in operation since 1984 and is owned and operated by NTMWD. The transfer station accepts waste delivered by NTMWD Solid Waste Member Cities, contractors, and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Collin County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a USGS map.

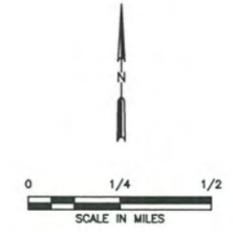
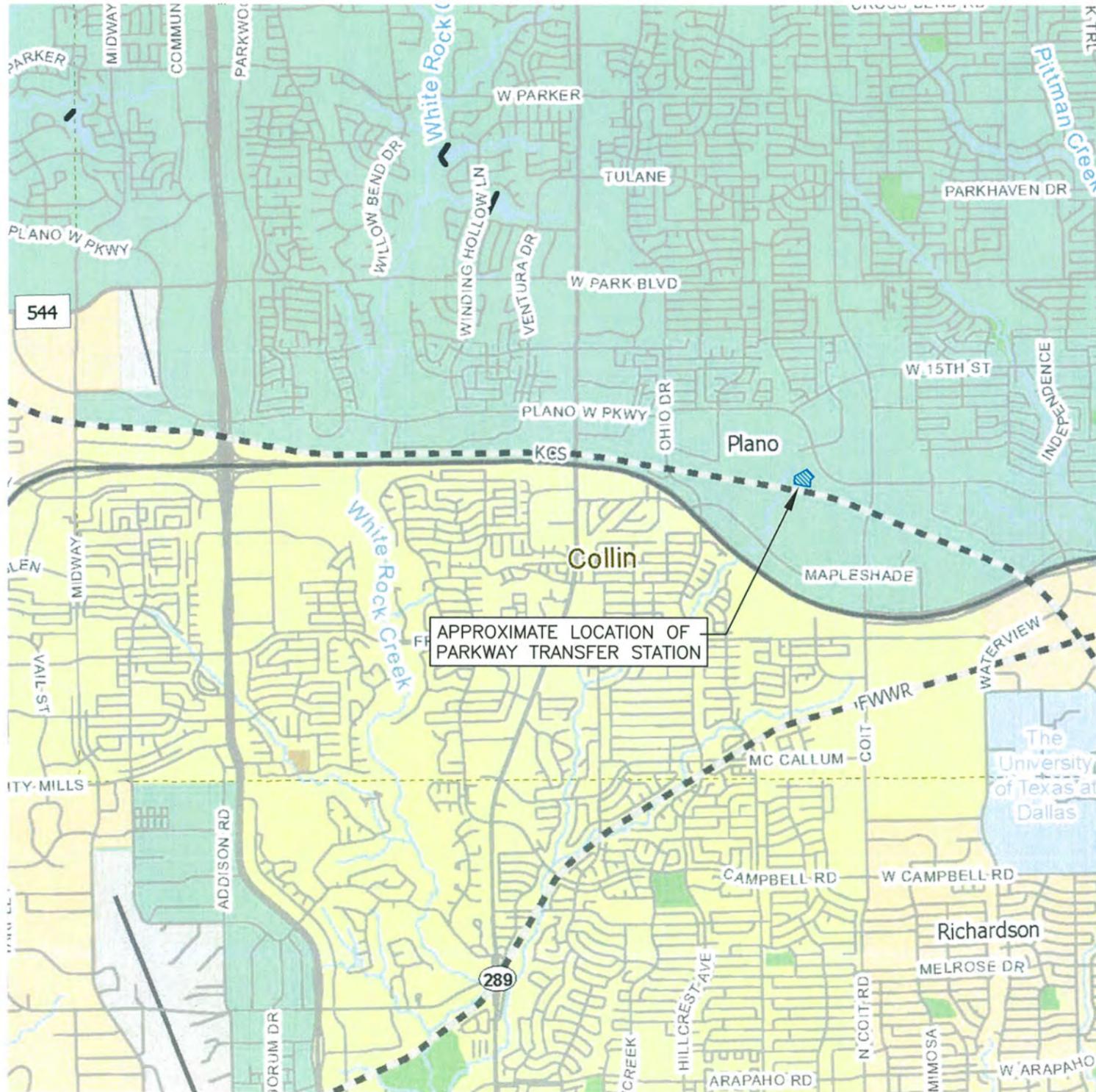
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Design Summary

The following information presents a summary of the design and operations for the proposed Parkway Transfer Station improvements.

- The proposed improvements will increase the capacity to transfer up to 1,500 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the waste unloading area for transfer operations. The waste collection vehicle unloading area consists of a well-lighted (overhead lighting) tipping floor where waste is transferred from collection vehicles to transfer trailers. Waste transfer operations will occur completely within the building. Waste deposited on the tipping floor within the building will be pushed by front-end wheel loaders into top-loading transfer trailers and hauled to an area landfill.
- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, and non-hazardous industrial waste as permitted by the TCEQ.
- Primary access to the site will be provided by the access road from West Plano Parkway. Vehicles will travel southwest on the access road approximately 400 feet to the site entrance. The existing roads are capable of handling the projected traffic load associated with the transfer station.
- Properly trained personnel will operate the transfer station. A detailed site operating plan will be included in the transfer station permit amendment application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The Parkway Transfer Station will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



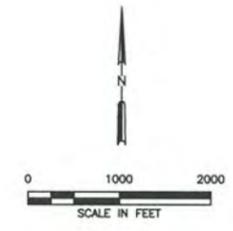
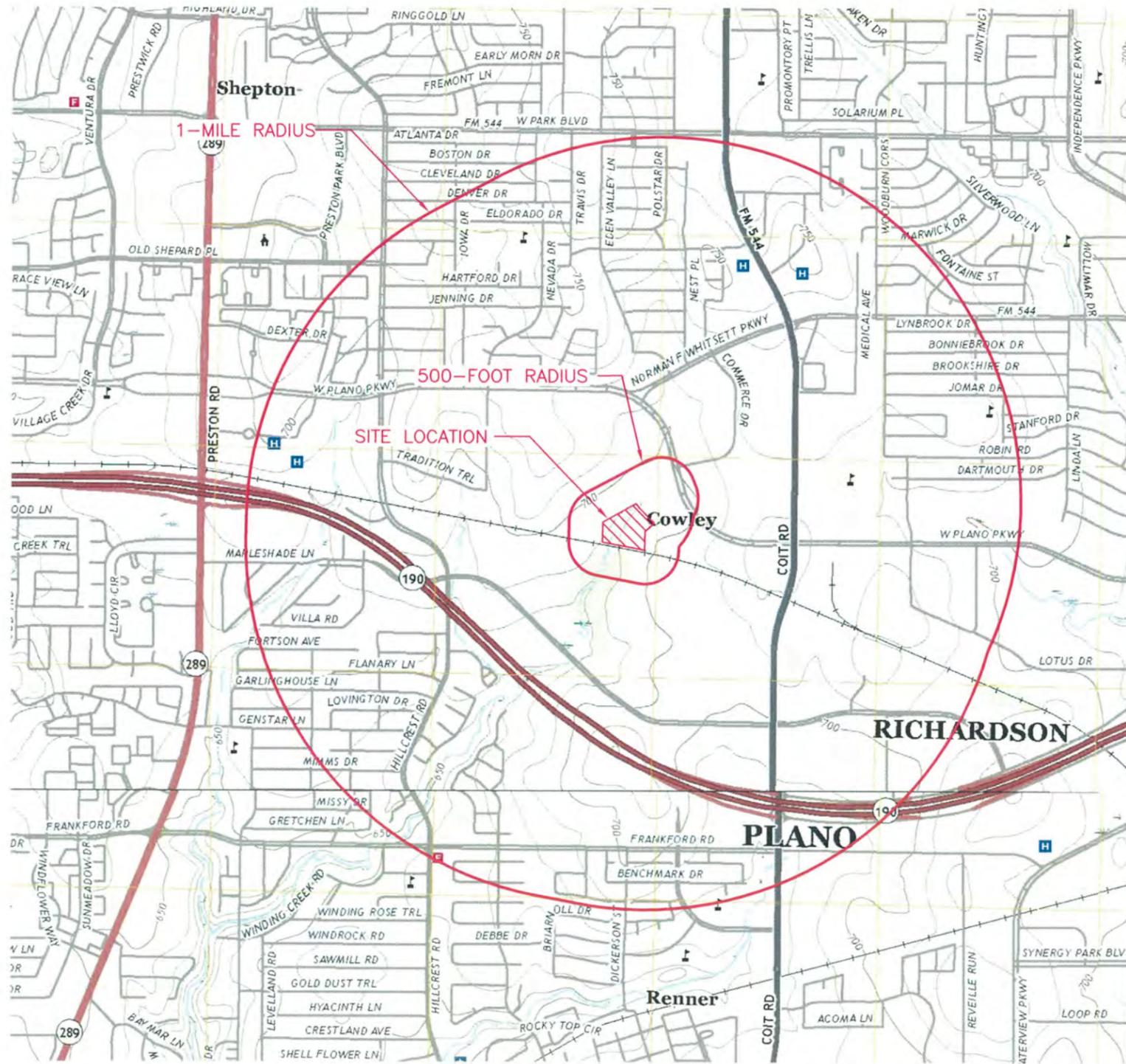
- Unincorporated Community
- ⊙ County Seat
- ✚ Border Crossing
- ⚰ Cemetery
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- ⚓ Shallow Draft Port
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- River or Stream
- TXDOT District
- ⬜ Lakes
- ⬜ Education
- ⬜ Military
- ⬜ Airport Runway
- ⬜ Airport
- ⬜ Prison
- ⬜ Parks and Other Public Land

NOTES:

- REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

O:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 1-SITE LOCATION MAP.dwg, mbahmani, 1:2

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION SITE LOCATION MAP
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 1-SITE LOCATION MAP.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVG	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1



ROAD CLASSIFICATION

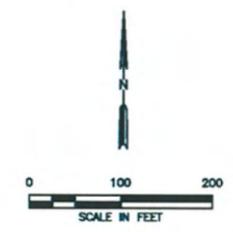
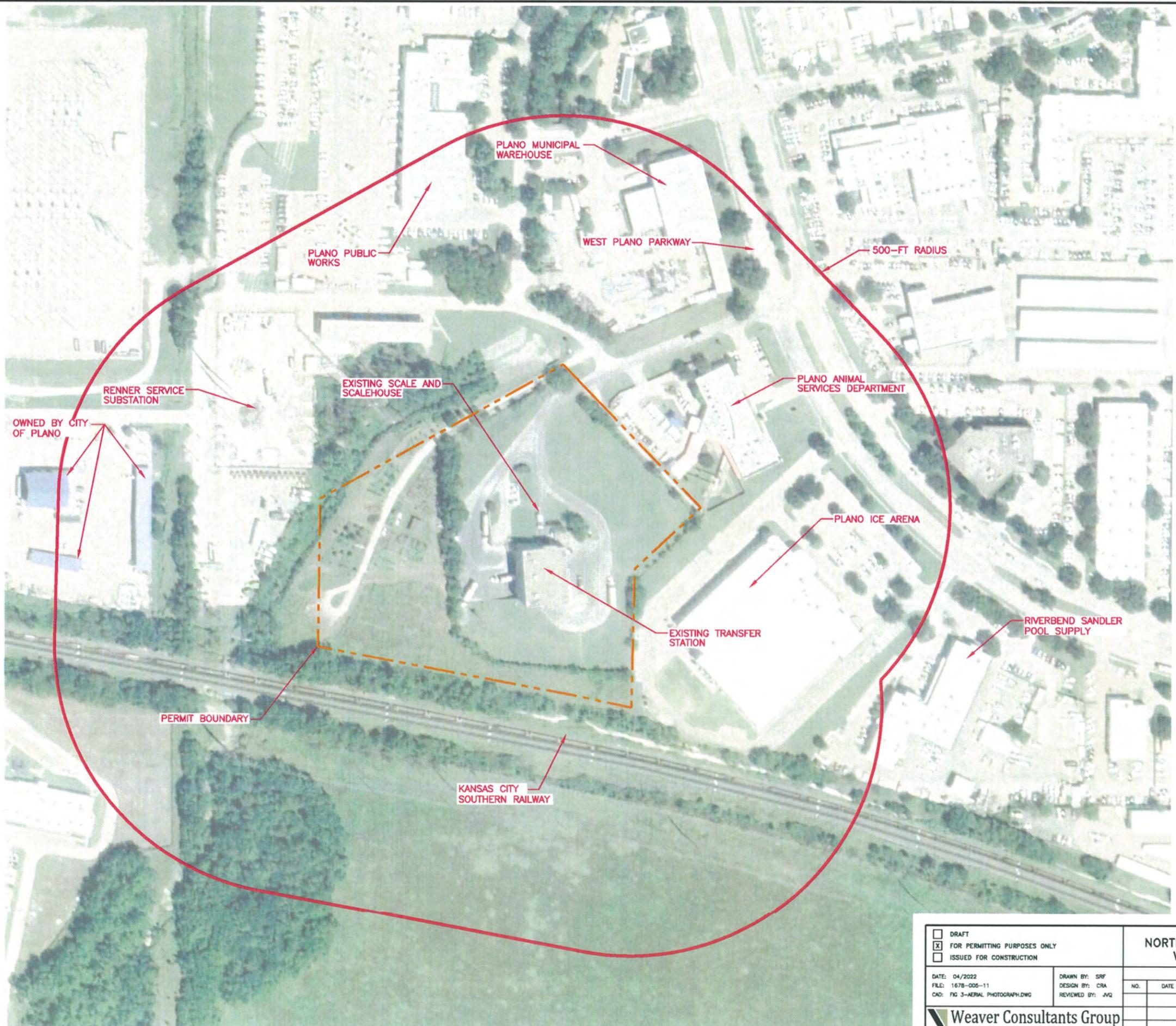
Expressway		Local Connector	
Secondary Hwy		Local Road	
Ramp		4WD	
	Interstate Route		US Route
			State Route

NOTE:
 1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (ADDISON, TX, 2019, AND HEBRON, TX 2019)

O:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 2-TOPO MAP.dwg, mbahmani, 1/2

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Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS WWW.WCGRP.COM															
		FIGURE 2															

O:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 3-AERIAL PHOTOGRAPH.dwg, mbothamr, 1:2



LEGEND
 --- PERMIT BOUNDARY

- NOTES:**
1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.
 2. ALL STRUCTURES WITHIN 500 FEET OF THE PERMIT BOUNDARY ARE SHOWN ON THIS FIGURE.

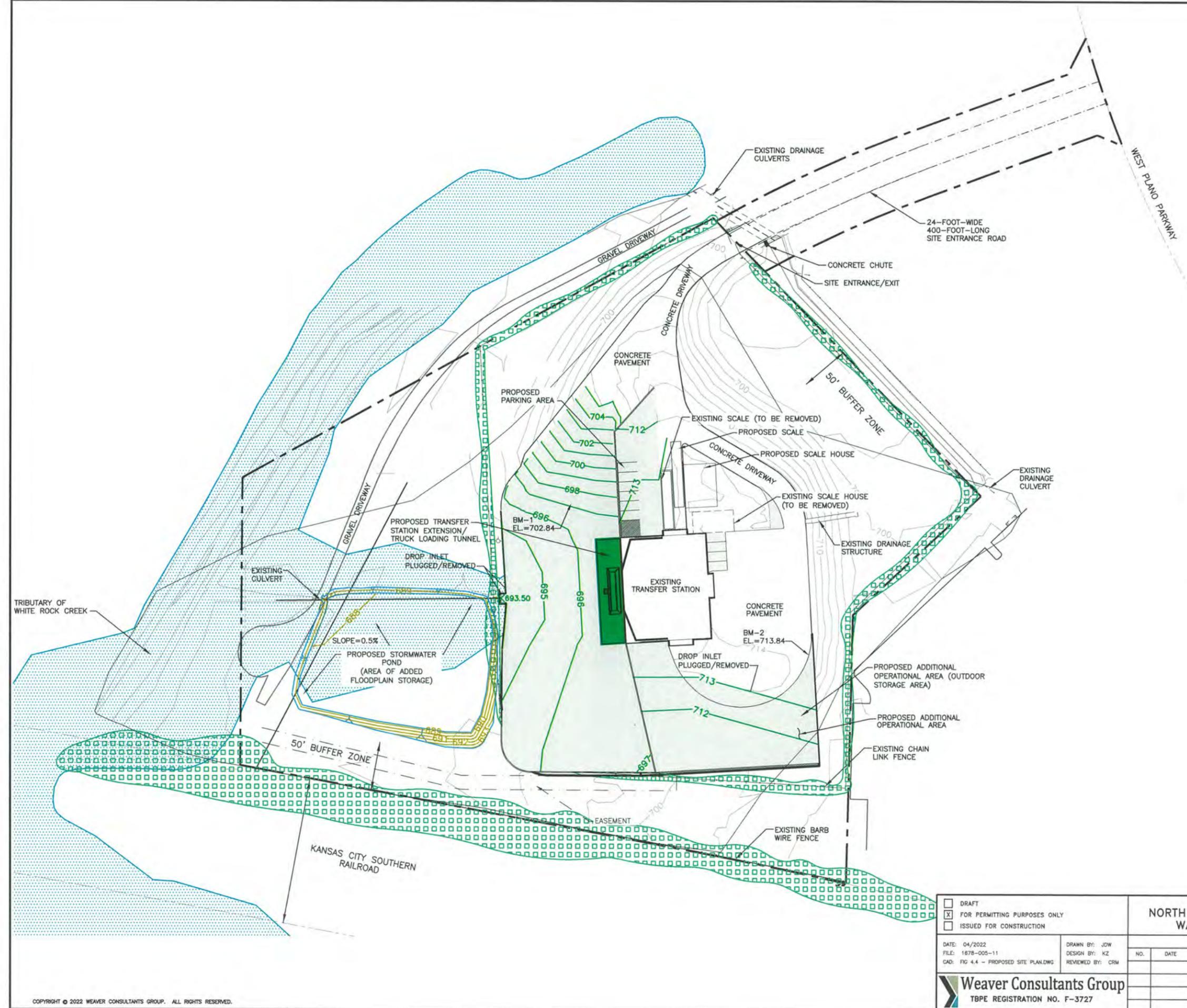
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**TYPE V PERMIT AMENDMENT APPLICATION
 AERIAL PHOTOGRAPH**

NTMWD PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

WWW.WCGRP.COM **FIGURE 3**

O:\16728\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 4 - PROPOSED SITE PLAN.dwg, mbahmani, 1:2



LEGEND

	PROPERTY BOUNDARY
	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	713 PROPOSED GRADING CONTOUR
	PROPOSED PAVEMENT
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Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS									
		WWW.WCGRP.COM	FIGURE 4								

COORDINATION WITH TEXAS HISTORICAL COMMISSION



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September 28, 2022

Mr. Brad Jones
Texas Historical Commission
Archeology Division
P.O. Box 12276
Austin, Texas 78711-2276

Re: Impact to Cultural Resources Determination; Parkway Transfer Station Permit Amendment Application; Permit No. 1494; Collin County, Texas; RN 100535392 /CN 601365448

Dear Mr. Jones:

The purpose of this letter is to demonstrate coordination with the Texas Historical Commission (THC), consistent with Title 30 Texas Administrative Code (TAC) §330.61(o). This regulation requires that a permit applicant for a municipal solid waste (MSW) facility coordinate with the THC to document compliance with the Texas Natural Resources Code, Chapter 191, Texas Antiquities Code.

Weaver Consultants Group, LLC is preparing a permit amendment application, on behalf of the North Texas Municipal Water District (NTMWD), to construct improvements and expand operations of the existing Parkway Transfer Station located in the City of Plano, Collin County, Texas. The facility address is 4030 W. Plano Parkway, Plano, Texas 75093. The improved transfer station will provide enhanced operations to transfer municipal solid waste delivered to the transfer station by NTMWD's Solid Waste System Member Cities consisting of Allen, Frisco, McKinney, Plano, Richardson, and other customers in proximity to the site to an area landfill. The transfer station will provide NTMWD with the ability to consolidate smaller loads before shipment to the landfill. To assist you in your determination regarding the project's impact on the state's cultural resources, please find attached a project summary and site location maps.

As shown on the attached aerial photograph, the site has been used as a transfer station since 1984. In addition, a review of the THC Atlas website, which contains over 100,000 sites recorded at the Texas Archeological Research Laboratory in Austin, was performed. Based on information included in the THC website, the majority of recorded sites are located in downtown Plano, which is approximately 4 miles east of the site. There are no recorded archeological sites within 3 miles of the transfer station tract.

Please note that the transfer station permit documents will include a requirement that if material that may have a cultural resource value is uncovered during site development, the THC will be notified and construction immediately stopped in that area until proper investigations can be completed.

The purpose of this letter is to request confirmation that the proposed improvements described above comply with the Texas Natural Resources Code, Chapter 191, Texas Antiquities Code, and will not result in the potential impact to the cultural resources of the state.

Regional Service Through Unity...Meeting Our Region's Needs Today and Tomorrow

501 E. Brown Street, P.O. Box 2408, Wylie, Texas 75098-2408 | Phone: 972-442-5405 | Fax: 972-295-6440 | www.ntmwd.com

Mr. Brad Jones
September 28, 2022
Page 2

If you need further information, please do not hesitate to contact Mr. Mike Friesen, Assistant Deputy – Solid Waste, at 469-626-4339, or Mr. Chuck Marsh, P.E. with Weaver Consultants Group at 817-735-9770. Kindly provide all written correspondence regarding this matter to NTMWD at the address on the letterhead.

Sincerely,



Mike Friesen
Assistant Deputy – Solid Waste

Attachment: Project Summary and Site Location Maps

cc: NTMWD Central File – Parkway 9.0

Project Summary
Parkway Transfer Station
North Texas Municipal Water District
Collin County, Texas

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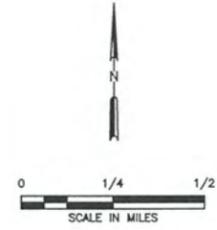
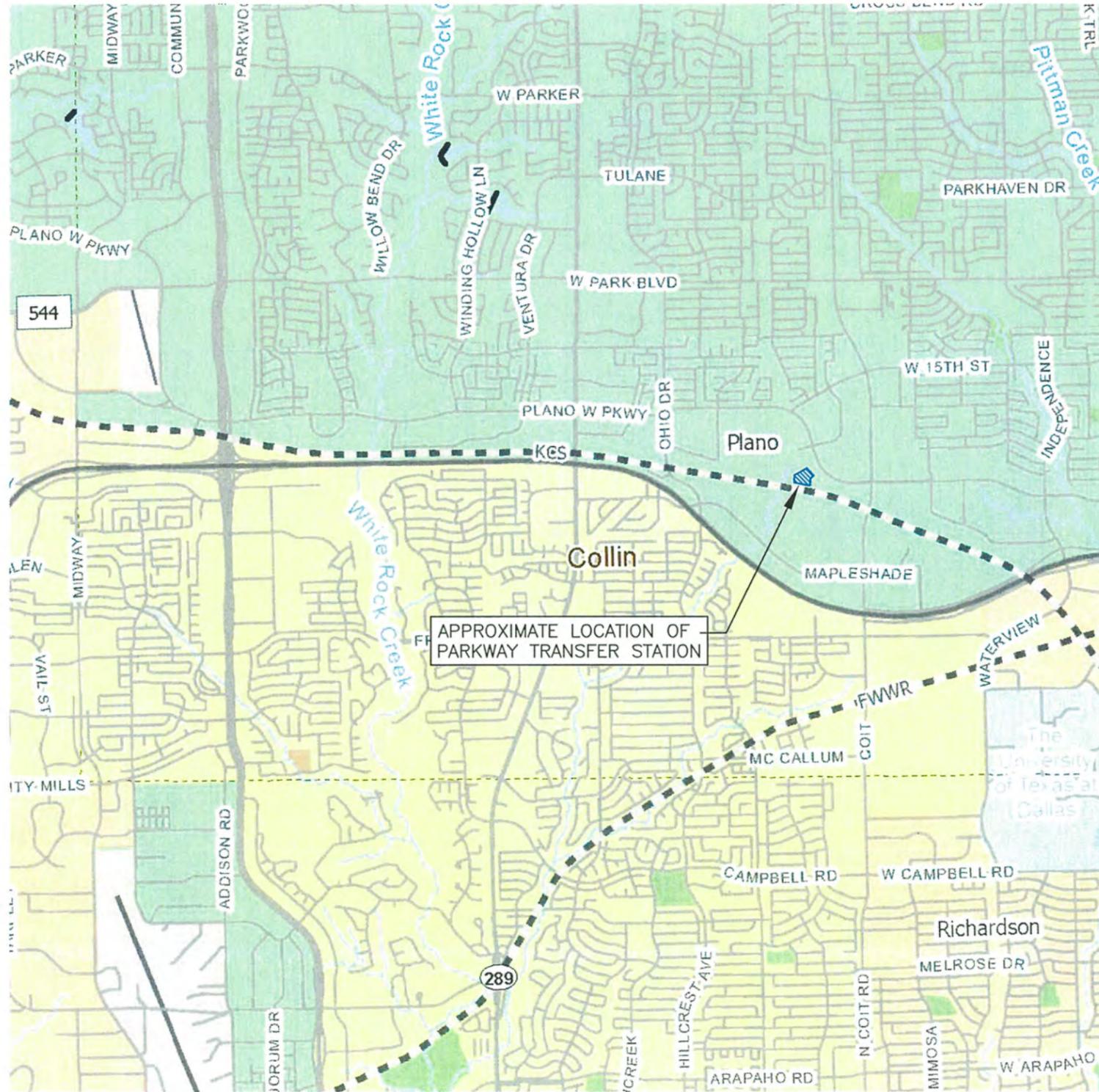
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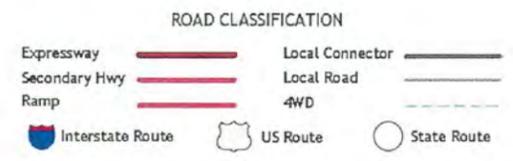
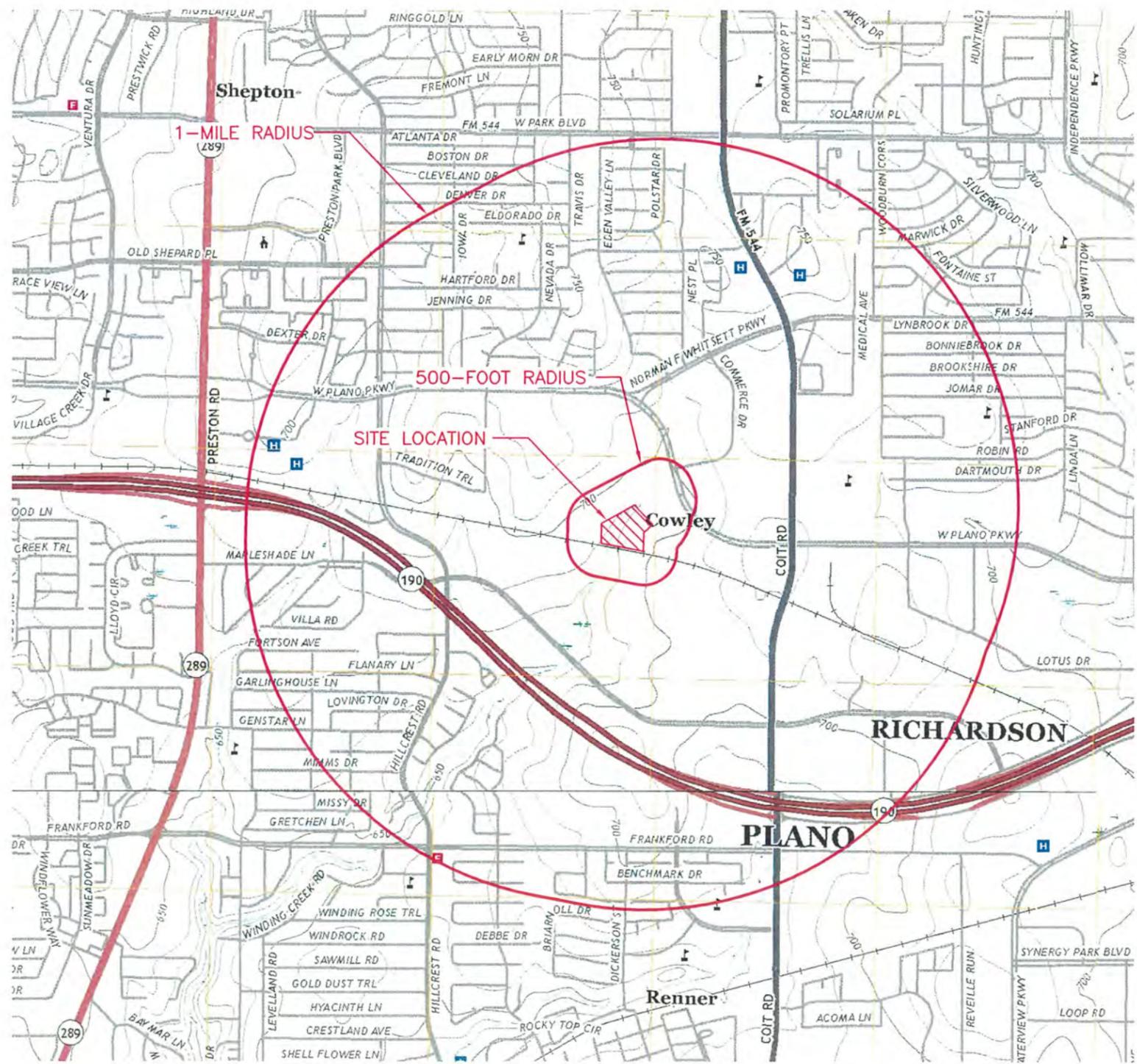


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	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 1-SITE LOCATION MAP.DWG		
DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVQ	REVISIONS		WWW.WCGRP.COM
Weaver Consultants Group TBPE REGISTRATION NO. F-3727	NO.	DATE	
			FIGURE 1

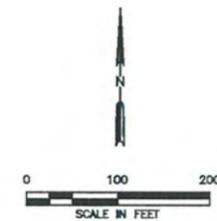
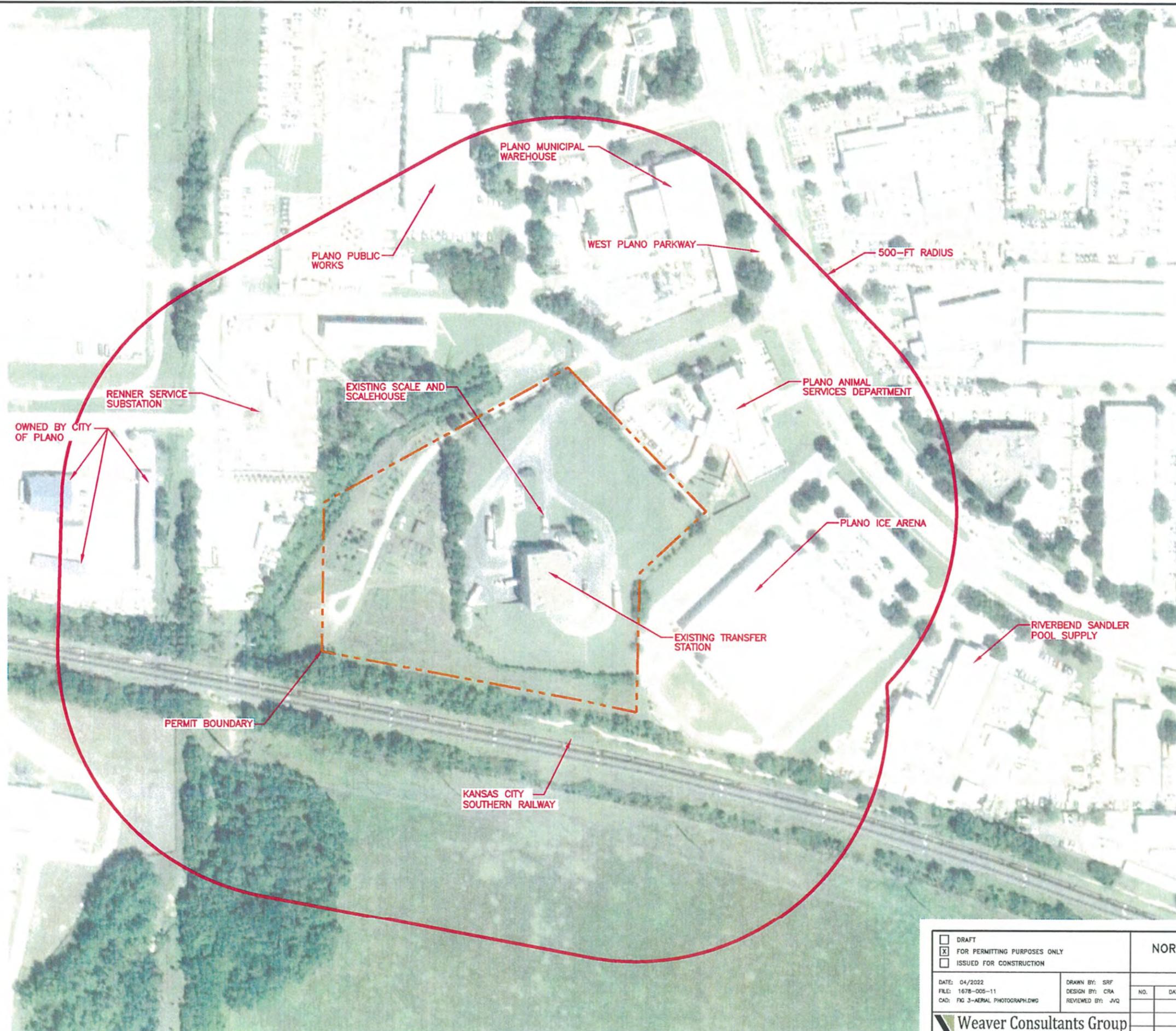


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Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 2

G:\1679\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 3-AERIAL PHOTOGRAPH.dwg, mbohmann, 1:2



LEGEND
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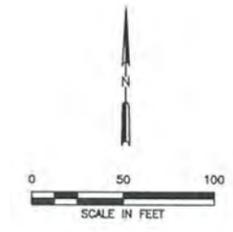
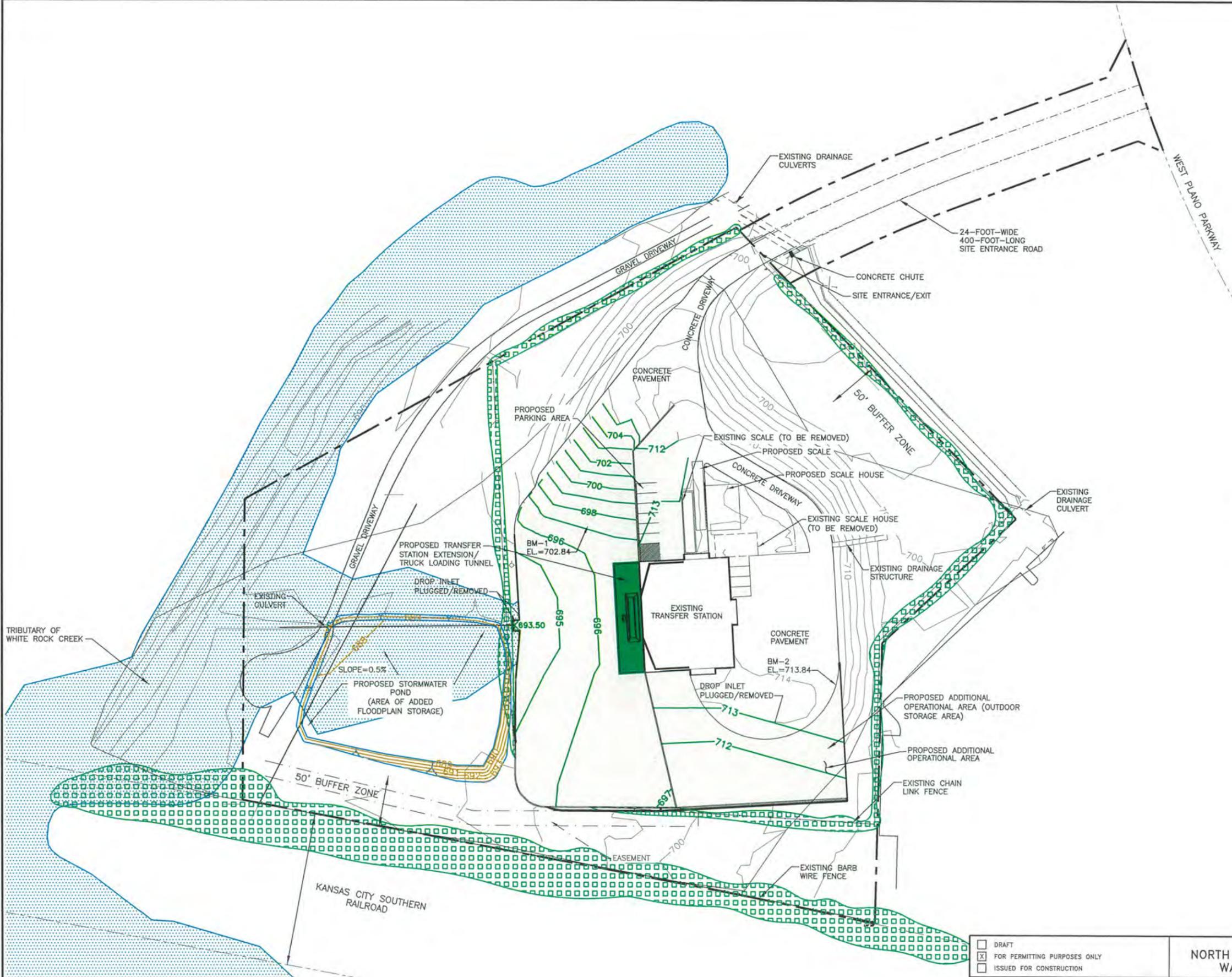
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CAD: FIG 3-AERIAL PHOTOGRAPH.DWG	REVIEWED BY: JYQ													
Weaver Consultants Group TBPE REGISTRATION NO. F-3727														

**TYPE V PERMIT AMENDMENT APPLICATION
 AERIAL PHOTOGRAPH**

NTMWD PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

0:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 4 - PROPOSED SITE PLAN.dwg, mbahmani, 1:2



LEGEND

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- NOTES:**
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<p>DRAWN BY: JDW DESIGN BY: KZ REVIEWED BY: CRM</p>		<p>PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT</p>									
<p>Weaver Consultants Group TBPE REGISTRATION NO. F-3727</p>		<p>TYPE V PERMIT AMENDMENT APPLICATION PROPOSED SITE PLAN</p>									
<p>NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION						
NO.	DATE	DESCRIPTION									
<p>WWW.WCGRP.COM</p>		<p>FIGURE 4</p>									

**COORDINATION WITH TEXAS PARKS
AND WILDLIFE DEPARTMENT**



Regional. Reliable. Everyday.

September 28, 2022

Mr. John Silovsky
Director of Wildlife
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: Request for Threatened or Endangered Species Assessment; Parkway Transfer Station Permit Amendment Application; Permit No. 1494; Collin County, Texas; RN 100535392 /CN 601365448

Dear Mr. Silovsky:

The purpose of this letter is to demonstrate coordination with the Texas Parks and Wildlife Department (TPWD), at the request of the Texas Commission on Environmental Quality (TCEQ). The TCEQ requires that a permit applicant for a municipal solid waste (MSW) facility consider the impact on threatened or endangered species and not result in the destruction or adverse modification of the critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.

Weaver Consultants Group, LLC is preparing a permit amendment application, on behalf of the North Texas Municipal Water District (NTMWD), to construct improvements and expand operations at the existing Parkway Transfer Station located in the City of Plano, Collin County, Texas. The facility address is 4030 W. Plano Parkway, Plano, Texas 75093. The improved transfer station will provide enhanced operations to transfer municipal solid waste delivered to the transfer station by NTMWD's Solid Waste Member Cities consisting of Allen, Frisco, McKinney, Plano, Richardson, and other customers in proximity to the site to an area landfill.

WCG completed a site specific Threatened and Endangered Species Assessment (T&E) on January 27, 2017. The T&E study reported that the United States Fish and Wildlife Service lists 5 species as federally threatened/endangered in Collin County, and the Texas Parks and Wildlife Department lists 16 species as threatened or endangered in the same area. The following are the federally listed species:

• Interior least tern	<i>Sterna antillarum athalassos</i>	E
• Piping plover	<i>Charadrius melodus</i>	T
• Red knot	<i>Calidris canutus rufa</i>	T
• Whooping crane	<i>Grus americana</i>	T
• Red wolf	<i>Canis rufus</i>	E

The interior least tern nests along sand and gravel bars, while the piping plover, whooping crane, and red knot are migratory and are not expected to nest within the project site. The red wolf has been extirpated from the state.

In addition to the federally listed species, the following are state-listed species:

• American peregrine falcon	<i>Falco peregrinus anatum</i>	T
• Bald eagle	<i>Haliaeetus leucocephalus</i>	T
• Peregrine falcon	<i>F. peregrinus</i>	T
• White-faced ibis	<i>Plegadis chihi</i>	T
• Wood stork	<i>Mycteria americana</i>	T
• Louisiana pigtoe	<i>Pleurobema riddellii</i>	T
• Texas heelsplitter	<i>Potamilus amphichaenus</i>	T
• Texas pigtoe	<i>Fusconaia askewi</i>	T

Regional Service Through Unity...Meeting Our Region's Needs Today and Tomorrow

Mr. John Silovsky
September 28, 2022
Page 2

- Alligator snapping turtle Macrochlemys temminckii T
- Texas horned lizard Phrynosoma cornutum T
- Timber rattlesnake Crotalus horridus T

The peregrine falcon species, bald eagle, white-face ibis, and wood stork are either migratory or are not expected to nest within the Project Site. The three mollusk species and alligator snapping turtle are aquatic. The Texas horned lizard has been virtually extirpated from the eastern half of the DFW metroplex, and the timber rattlesnake prefers swamps and wooded areas.

No critical habitat for any threatened or endangered species occurs within the Project Site.

A request for rare species occurrences information was submitted to the Texas Parks and Wildlife Department Natural Diversity Database. No rare species or ecosystems were mapped within the vicinity of the Project Site.

Based on the research and field observations, there are no threatened/endangered species or their critical habitat within the Project Site. Based on the T&E Study, the proposed expansion will not result in the destruction or adverse modification to any critical habitat of any endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. It is WCG's opinion that the proposed expansion would have no effect on federally or state-listed T&E species.

To assist you in your determination regarding threatened or endangered species or their critical habitat within or near the referenced project, please find attached a project summary and site location maps.

To verify compliance with TCEQ, this letter is to request concurrence from the TPWD that the proposed expansion will have no effect on any federal or state-listed T&E species to include with the permit amendment application.

If you need further information, please do not hesitate to contact Mr. Mike Friesen, Assistant Deputy – Solid Waste, at 469-626-4339, or Mr. Chuck Marsh, P.E. with Weaver Consultants Group at 817 735 9770. Kindly provide all written correspondence regarding this matter to NTMWD.

Sincerely,



Mike Friesen
Assistant Deputy – Solid Waste

Attachment: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – T&E Study by Weaver Consultants Group

cc: NTMWD Central File – Parkway 9.0
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

Parkway Transfer Station

North Texas Municipal Water District

Collin County, Texas

Introduction

The North Texas Municipal Water District (NTMWD) is preparing a Type V Permit Amendment Application for the Parkway Transfer Station to construct improvements and expand operations at an existing transfer station located in the City of Plano, Collin County, Texas 75093. The proposed improvements will provide enhanced operations and a more efficient means to transfer municipal solid waste and recyclable materials by NTMWD's Solid Waste System Member Cities (that currently consists of Allen, Frisco, McKinney, Plano, Richardson). The permit amendment application will be submitted to the Texas Commission on Environmental Quality (TCEQ). The permit amendment application will undergo a technical review by the TCEQ before the permit for the improved transfer station is issued.

The improved transfer station will provide NTMWD the ability to consolidate smaller loads before shipment to an area landfill. The purpose of this summary is to provide an overview of the proposed transfer station project. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the improved site design.

Owner/Operator Information

The Parkway Transfer Station has been in operation since 1984 and is owned and operated by NTMWD. The transfer station accepts waste delivered by NTMWD Solid Waste Member Cities, contractors, and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Collin County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a USGS map.

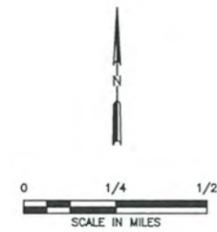
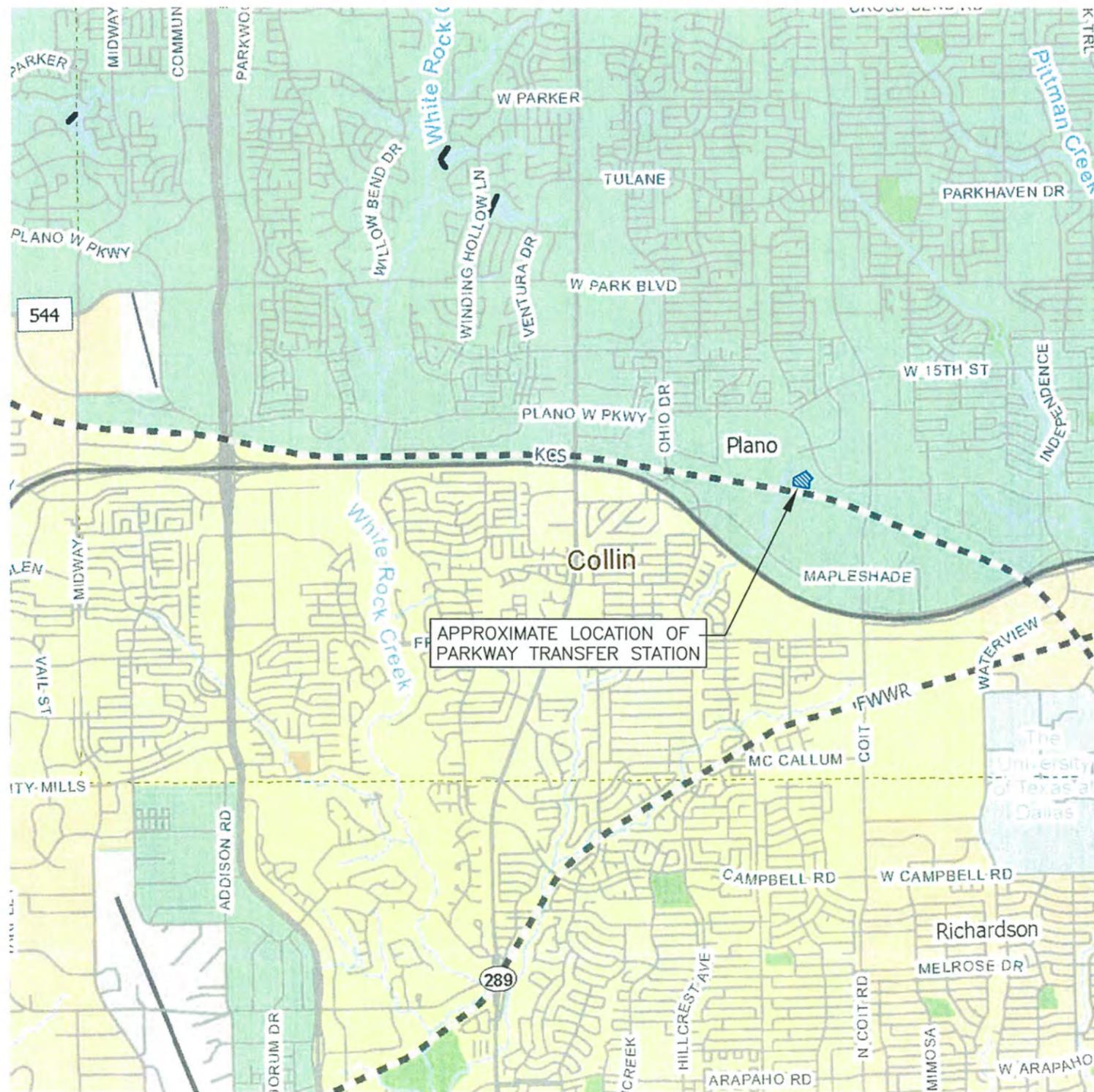
- Aerial Photograph (Figure 3). This figure shows the existing conditions of the site location on an aerial photograph.
- Proposed Site Map (Figure 4). This figure shows the proposed improved site plan for the transfer station facility.

The Parkway Transfer Station is located within the municipal boundary of Plano. Vehicles accessing the facility enter the access road from West Plano Parkway. Vehicles will travel approximately 400 feet southwest on the access road to the site entrance. The facility serves the NTMWD Solid Waste System Member Cities and other customers in proximity to the site.

Design Summary

The following information presents a summary of the design and operations for the proposed Parkway Transfer Station improvements.

- The proposed improvements will increase the capacity to transfer up to 1,500 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the waste unloading area for transfer operations. The waste collection vehicle unloading area consists of a well-lighted (overhead lighting) tipping floor where waste is transferred from collection vehicles to transfer trailers. Waste transfer operations will occur completely within the building. Waste deposited on the tipping floor within the building will be pushed by front-end wheel loaders into top-loading transfer trailers and hauled to an area landfill.
- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, and non-hazardous industrial waste as permitted by the TCEQ.
- Primary access to the site will be provided by the access road from West Plano Parkway. Vehicles will travel southwest on the access road approximately 400 feet to the site entrance. The existing roads are capable of handling the projected traffic load associated with the transfer station.
- Properly trained personnel will operate the transfer station. A detailed site operating plan will be included in the transfer station permit amendment application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The Parkway Transfer Station will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.

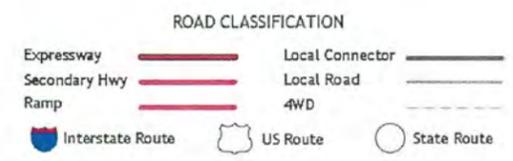
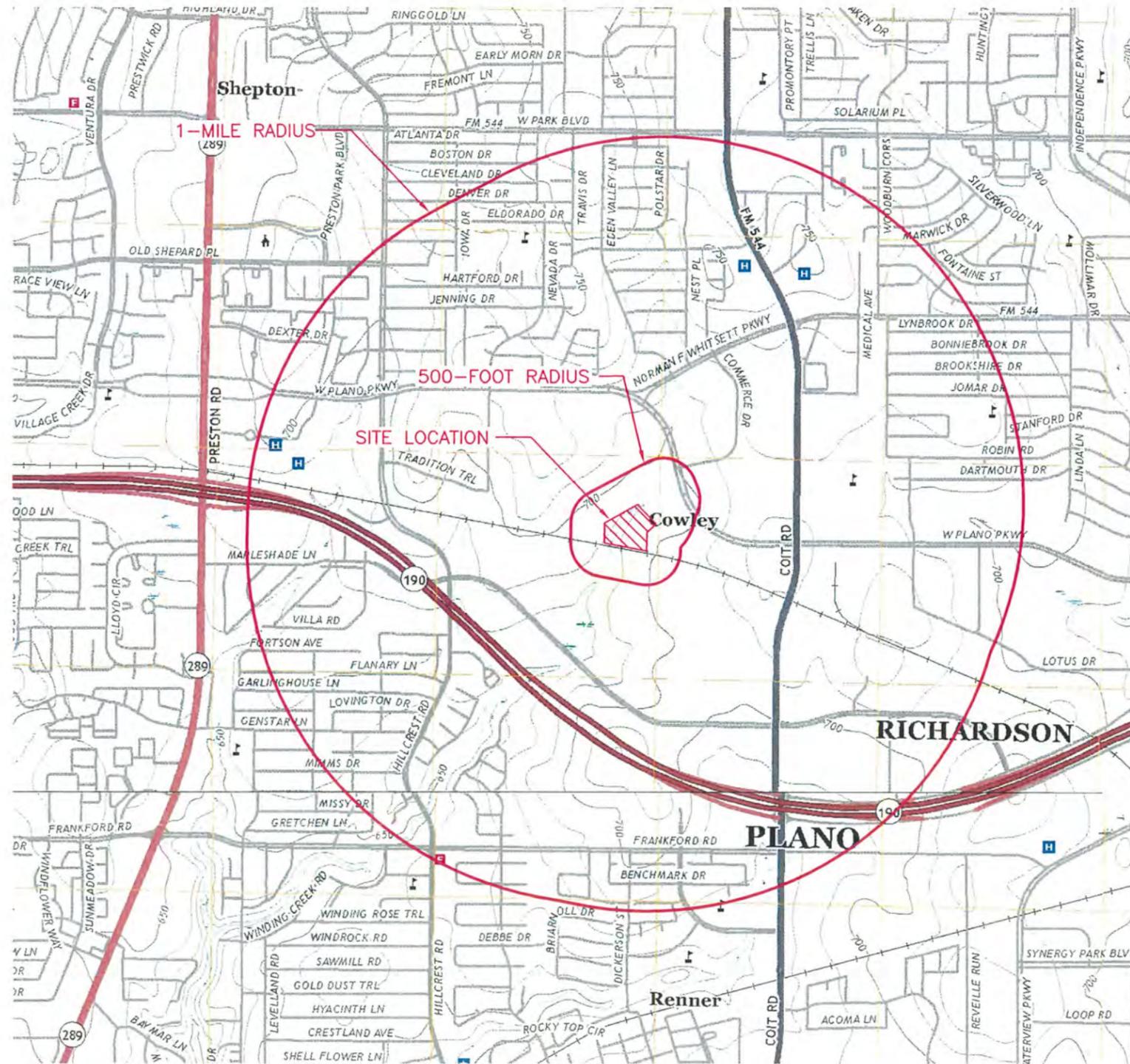


- ◊ Unincorporated Community
- ⊗ County Seat
- ✚ Border Crossing
- ⚰ Cemetery
- ☐ Cemetery (Inside City)
- ⊕ Deep Draft Port
- ⊖ Shallow Draft Port
- ≡ Railroad
- Dam
- River or Stream
- TXDOT District
- ⊡ Lakes
- ⊡ Education
- ⊡ Military
- ⊡ Airport Runway
- ⊡ Airport
- ⊡ Prison
- ⊡ Parks and Other Public Land

NOTES:
 1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

O:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 1-SITE LOCATION MAP.dwg, mbahmani, 1:2

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DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 1-SITE LOCATION MAP.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVQ	NO. DATE DESCRIPTION	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	

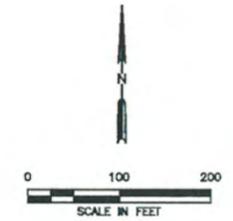
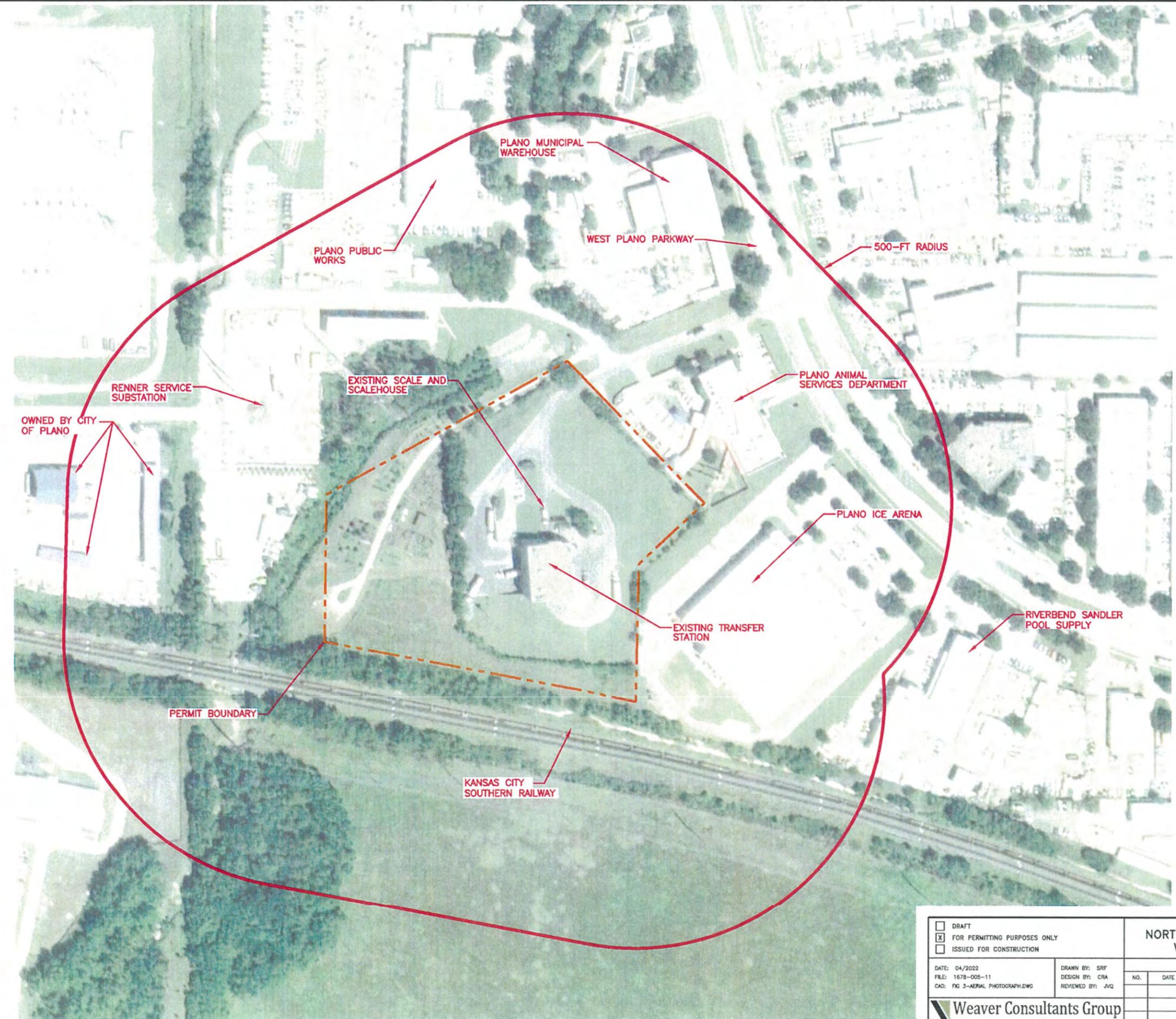


NOTE:
 1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (ADDISON, TX, 2019, AND HEBRON, TX 2019)

O:\1678\05\TYPE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 2-TOPO MAP.dwg, mbahmani, 1:2

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	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 2-GENERAL TOPO MAP.DWG			NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS										
 TBPE REGISTRATION NO. F-3727	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVO		WWW.WCGRP.COM											
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G:\1678\05\TY.PE V PERMIT APPLICATION\PROJECT SUMMARY\FIG 3-AERIAL PHOTOGRAPH.dwg, mbohmami, 1:2



LEGEND
 - - - - - PERMIT BOUNDARY

- NOTES:**
1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED AUGUST 10, 2021.
 2. ALL STRUCTURES WITHIN 500 FEET OF THE PERMIT BOUNDARY ARE SHOWN ON THIS FIGURE.

<input type="checkbox"/> DRAFT	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	REVISIONS NO. DATE DESCRIPTION	
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY			
<input type="checkbox"/> ISSUED FOR CONSTRUCTION			
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 3-AERIAL PHOTOGRAPH.DWG	DRAWN BY: SRF DESIGN BY: CRA REVIEWED BY: JVQ		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727			

**TYPE V PERMIT AMENDMENT APPLICATION
 AERIAL PHOTOGRAPH**

NTMWD PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 3

ATTACHMENT 2
T&E STUDY BY WEAVER CONSULTANTS

Memorandum

To: Chuck Marsh Date: October 12, 2022
From: Peter D. McKone, CWB Project: #1678-005-11-03
Re: Parkway Transfer Station – Threatened and Endangered Species

The purpose of this memorandum is to describe the results of the threatened and endangered species investigation for the proposed Parkway Transfer Station site located in Plano, Collin County, Texas (**Figures 1-7**). The purpose of this investigation was to evaluate the site for threatened and endangered species, and their critical habitat.

1.0 Introduction

The site is located in the City of Plano on the south side of West Plano Parkway. The Atchison Topeka and Santa Fe rail line is located along the southern boundary, the Plano Community Garden is located along the western boundary, and the Plano Animal Services Department is located to the north. An unnamed headwater stream is located to the west of the community garden. This stream eventually connects to other headwater streams and then discharges into White Rock Creek approximately 4.2 miles downstream and to the southwest.

2.0 Methodology

Desktop Analysis

The Project Site was mapped and analyzed to include:

- United States Geological Survey (USGS) – Geologic Map Database
- United States Department of Agriculture, Natural Resources Conservation Services (NRCS) Soils Data
- USGS 7.5-minute Topographic Map, Hebron Quadrangle
- United States Fish and Wildlife Service (USFWS) – National Wetland Inventory
- United States Environmental Protection Agency (EPA) Ecoregions

Natural Resources Field Investigation

The Project Site was visited on June 21, 2022 to identify potential impacts to natural resources.

3.0 Results

A. Mapped Conditions

Soils

Three mapped soil units cover the Project Site. Austin silty clay, 1-3 percent slopes (AuB), and Houston black clay, 1-3 percent slopes (HoB), occupy the majority of the site. Most of these two soils

are overlaid by development currently on the site. The Houston black clay, 2-4 percent slopes (HoB2), is located primarily along the stream found along the western edge of the property.

Ecoregions

The Project Site is located in Texas Blackland Prairies (Level III) and Northern Blackland Prairies (Level IV) ecoregions. The Texas Blackland Prairie is described as a disjuncted ecological region characterized by fine-textured, clayey soils and predominantly prairie potential natural vegetation. Large areas, such as the Project Site, are being converted to urban and industrial uses. The Northern Blackland Prairie ecoregion stretches over 300 miles from Sherman to San Antonio. Historically, the ecoregion consisted of tallgrass prairie. Typical vegetation consists of little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), yellow Indiangrass (*Sorghastrum nutans*), coneflowers (*Rubeckia* spp.), and prairie clovers (*Dalea* spp.) on the prairies, while bur oak (*Quercus macrocarpa*), Shumard oak (*Q. shumardii*), sugar hackberry (*Celtis laevigata*), elms (*Ulmus* spp.), ash (*Fraxinus* spp.), and pecan (*Carya illinoensis*) occupy the riparian areas. The vast majority of Blackland Prairie communities have disappeared and have been replaced by urban and suburban uses.

Threatened and Endangered Species

The United States Fish and Wildlife Service lists three species as federally threatened/endangered in Collin County, and the Texas Parks and Wildlife Department lists 10 species as threatened or endangered in the same area. The following are the federally listed species:

- | | | |
|------------------|------------------------------|---|
| • Piping plover | <i>Charadrius melodus</i> | T |
| • Red knot | <i>Calidris canutus rufa</i> | T |
| • Whooping crane | <i>Grus americana</i> | T |

The piping plover and red knot are migrants through the area and are only considered for wind energy projects. The whooping crane is a migrant and is not expected to occur within the project area.

In addition to the federally listed species, the following are state-listed species:

- | | | |
|----------------------|-------------------------------|---|
| • Black rail | <i>Laterallus jamaicensis</i> | T |
| • Piping plover | <i>Charadrius melodus</i> | T |
| • Red knot | <i>Calidris canutus rufa</i> | T |
| • White-faced ibis | <i>Plegadis chihi</i> | T |
| • Whooping crane | <i>Grus americana</i> | E |
| • Wood stork | <i>Mycteria americana</i> | T |
| • Louisiana pigtoe | <i>Pleurobema riddellii</i> | T |
| • Texas heelsplitter | <i>Potamilus amphichaenus</i> | T |

- Alligator snapping turtle *Macrochlemys temminckii* T
- Texas horned lizard *Phrynosoma cornutum* T

The bird species are either migratory or are not expected to nest within the Project Site. The two mollusk species and alligator snapping turtle are aquatic. The Texas horned lizard has been virtually extirpated from the eastern half of the DFW metroplex.

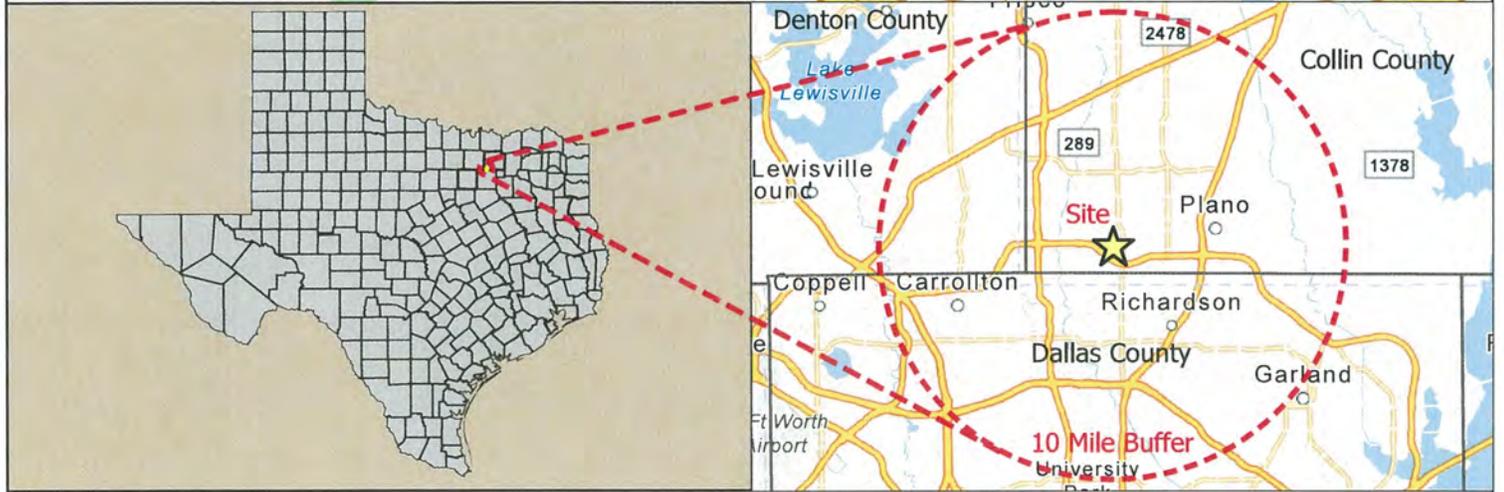
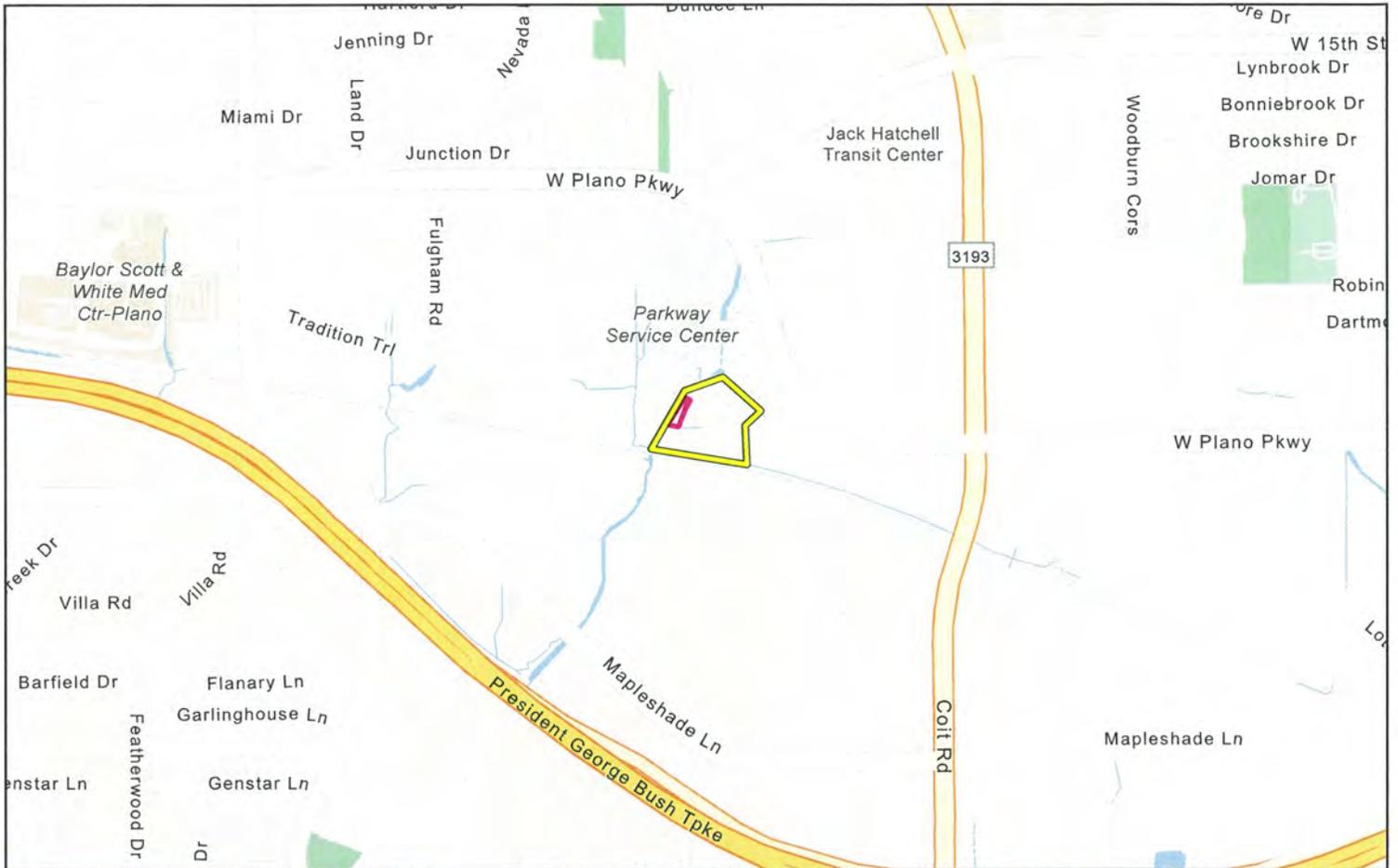
No critical habitat for any threatened or endangered species occurs within the Project Site.

B. Field Observations

One unnamed headwater stream for White Rock Creek was observed along the western boundary but outside the Project Site. The proposed project consisted of maintained lawns and gardens. Due to the lack of suitable habitat within the Project Site and its vicinity, no impacts to threatened and endangered species are expected.

4.0 Summary

A field visit of the Project Site was conducted on June 21, 2022, to assess the site for threatened and endangered species or their critical habitat. In addition, readily available maps were analyzed. Based on the research and field observations, there are no threatened/endangered species or their critical habitat within the Project Site. Therefore, no impacts to rare species are expected as a result of the proposed project.



Project Limits
 Plano Community Garden



0 500 1,000 2,000

1:18,000

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**North Texas Municipal
 Water District**

LOCATION MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

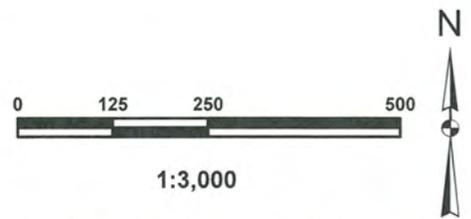
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 DATE: 10/11/2022
 FILE: None
 CAD: PT_Parkway_Transfer_Station
FIGURE 1

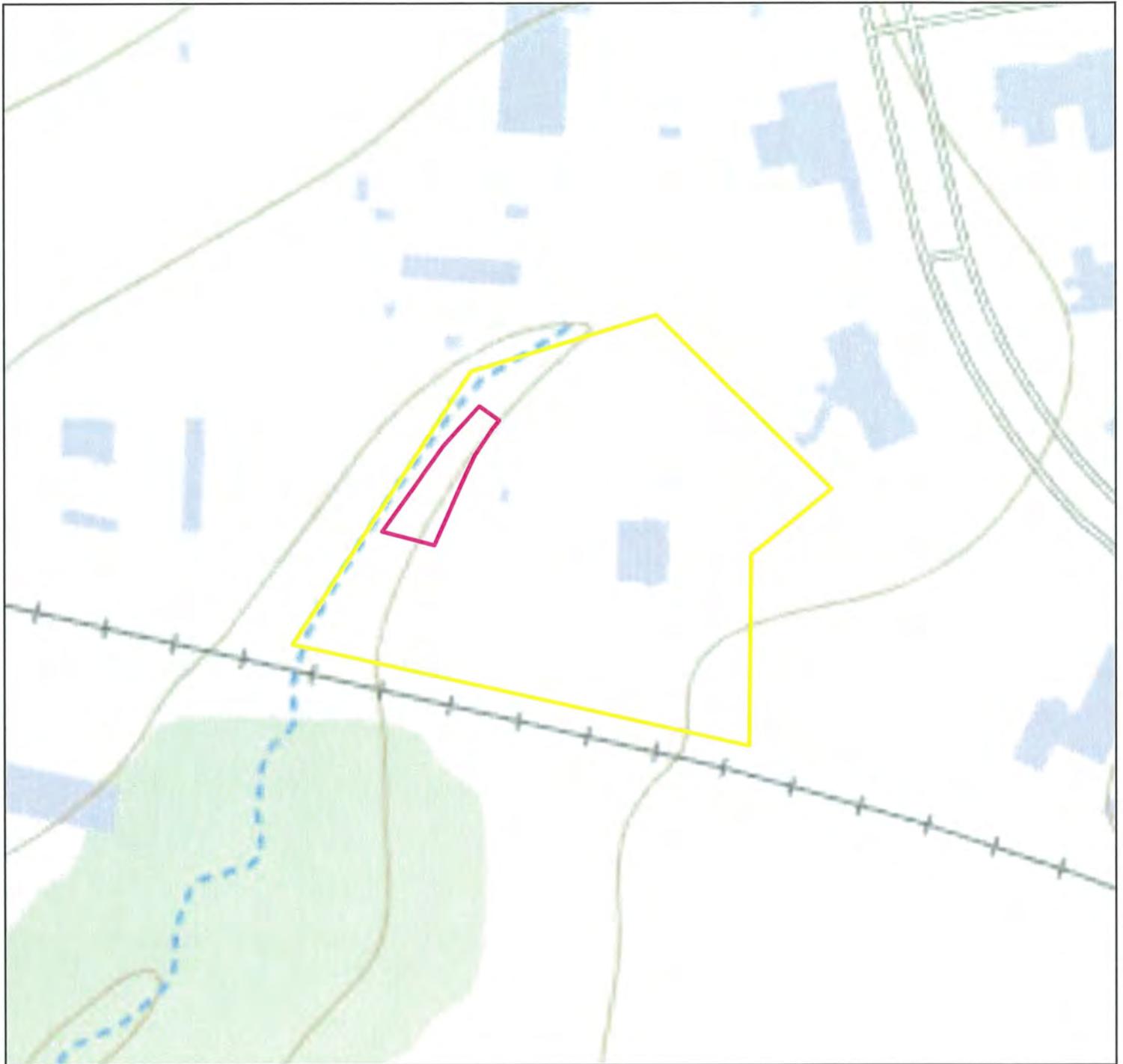


- Project Limits
- Plano Community Garden



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PREPARED FOR: North Texas Municipal Water District	AERIAL MAP PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	Weaver Consultants Group
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		FIGURE 2
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- Project Limits
- Plano Community Garden



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PREPARED FOR:
**North Texas Municipal
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USGS TOPOGRAPHIC MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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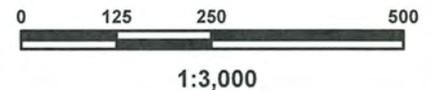
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FIGURE 3



- Project Limits
- Plano Community Garden
- USDA Soils Map Units

Soil Types within Project Area	
AuB	Austin silty clay, 1 to 3 percent slopes
HoB	Houston Black clay, 1 to 3 percent slopes
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded



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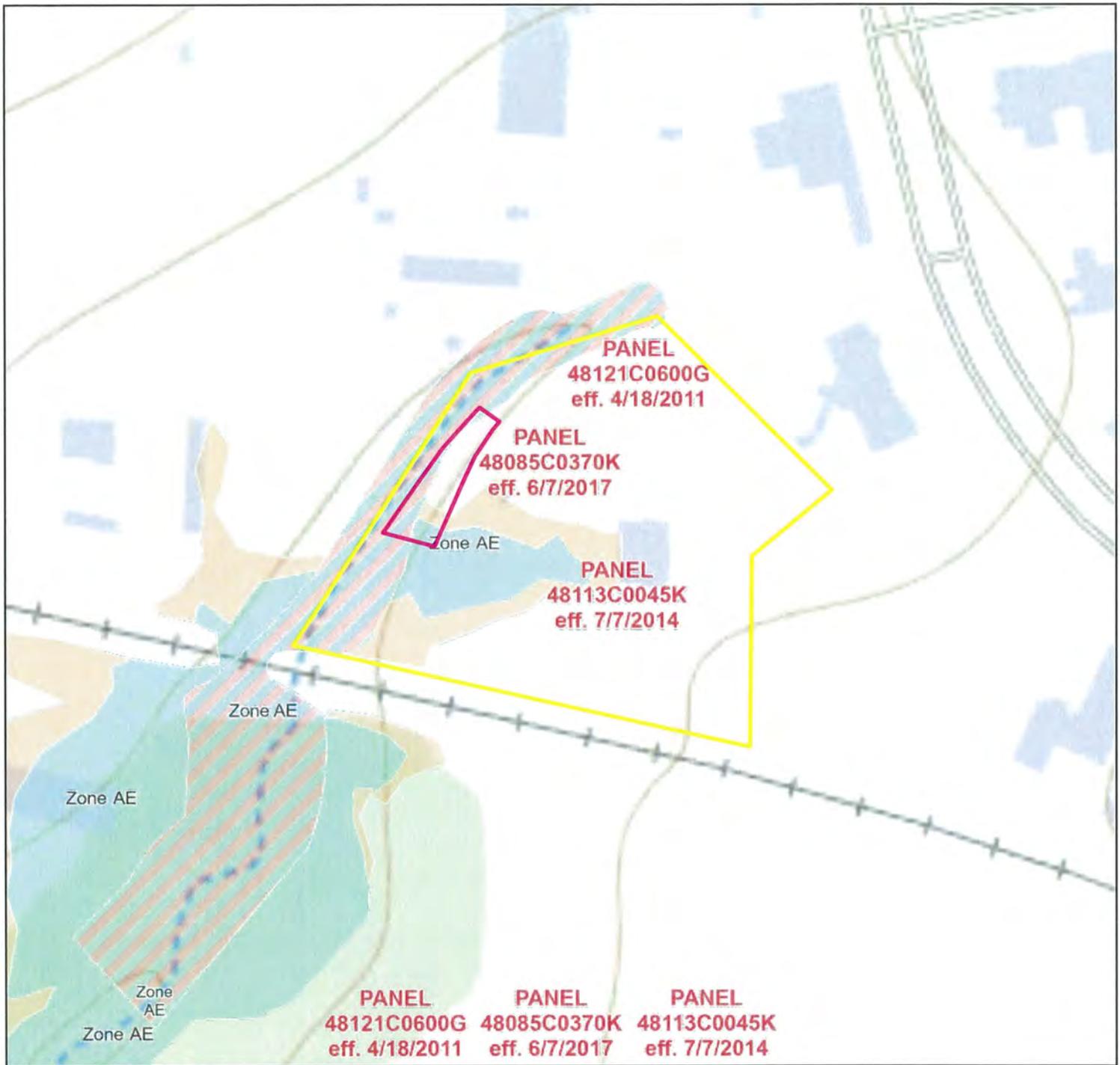
SOILS MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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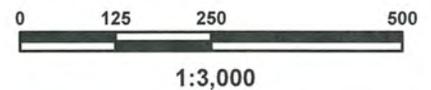
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FIGURE	4



Project Limits Plano Community Garden

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee



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PREPARED FOR:
North Texas Municipal
Water District

FLOODPLAIN MAP
PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS

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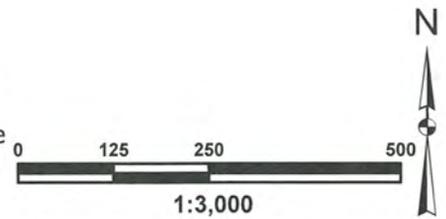
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FILE: None
CAD: PT_Parkway_Transfer_Station
FIGURE 5



Project Limits Plano Community Garden

US FWS Wetlands

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Pond | Riverine |
| Freshwater Emergent Wetland | Lake | |



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PREPARED FOR:
**North Texas Municipal
 Water District**

NATIONAL WETLANDS INVENTORY
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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DRAWN BY:	CS, JM
REVIEWED BY:	PM
DATE:	10/11/2022
FILE:	None
CAD:	PT_Parkway_Transfer_Station
FIGURE	6

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Collin County, Texas



Local office

Arlington Ecological Services Field Office

☎ (817) 277-1100

📞 (817) 277-1129

✉ arles@fws.gov

2005 Ne Green Oaks Blvd
Suite 140
Arlington, TX 76006-6247

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

Piping Plover *Charadrius melodus*

Threatened

This species only needs to be considered if the following condition applies:

- Wind Energy Projects

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/6039>

Red Knot *Calidris canutus rufa*

Threatened

Wherever found

This species only needs to be considered if the following condition applies:

- Wind Energy Projects

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1864>

Whooping Crane *Grus americana*

Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/758>

Clams

NAME

STATUS

Texas Fawnsfoot *Truncilla macrodon*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/8965>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around

your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus*

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Chimney Swift *Chaetura pelagica*

Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Little Blue Heron *Egretta caerulea*

Breeds Mar 10 to Oct 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (•)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence • breeding season | survey effort — no data



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Last Update: 7/12/2022

COLLIN COUNTY

AMPHIBIANS

southern crawfish frog

Lithobates areolatus areolatus

Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S3

Strecker's chorus frog

Pseudacris streckeri

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

Woodhouse's toad

Anaxyrus woodhousii

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: SU

BIRDS

bald eagle

Haliaeetus leucocephalus

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3B,S3N

black rail

Laterallus jamaicensis

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of *Salicornia*

Federal Status: LT State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

chestnut-collared longspur

Calcarius ornatus

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

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COLLIN COUNTY

BIRDS

Franklin's gull

Leucophaeus pipixcan

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2N

piping plover

Charadrius melodus

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S2N

rufa red knot

Calidris canutus rufa

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4T2

State Rank: S2N

Sprague's pipit

Anthus spragueii

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S3N

western burrowing owl

Athene cunicularia hypugaea

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4T4

State Rank: S2

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COLLIN COUNTY

BIRDS

white-faced ibis

Plegadis chihi

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

whooping crane

Grus americana

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

wood stork

Mycteria americana

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

CRUSTACEANS

No accepted common name

Caecidotea bilineata

Spring obligate. *Caecidotea bilineata* is known only from non-cave groundwater habitats in deposits of Cretaceous age. It is presumably a phreatobite. Fine scale habitat requirements unknown.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S1

Parkhill Prairie crayfish

Procambarus steigmani

Burrower in long-grass prairie; all animals were collected with traps, thus there is no knowledge of depths of burrows; herbivore; crepuscular, nocturnal

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1S2

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COLLIN COUNTY

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

MAMMALS

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

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COLLIN COUNTY

MAMMALS

mountain lion

Puma concolor

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2S3

muskrat

Ondatra zibethicus

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

swamp rabbit

Sylvilagus aquaticus

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

tricolored bat

Perimyotis subflavus

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S2

western hog-nosed skunk

Conepatus leuconotus

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S4

MOLLUSKS

Louisiana pigtoe

Pleurobema riddellii

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G1G2

State Rank: S1

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COLLIN COUNTY

MOLLUSKS

Texas heelsplitter *Potamilus amphichaenus*

Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G1G3 State Rank: S1

REPTILES

alligator snapping turtle *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G5T4 State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S3

DISCLAIMER

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COLLIN COUNTY

REPTILES

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

PLANTS

Engelmann's bladderpod *Physaria engelmannii*

Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

glandular gay-feather *Liatris glandulosa*

Occurs in herbaceous vegetation on limestone outcrops (Carr 2015)

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

red yucca *Hesperaloe parviflora*

Shrublands on dry limestone slopes; Perennial; Flowering April-May; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Sutherland hawthorn *Crataegus viridis* var. *glabriuscula*

In mesic soils of woods or on edge of woods, treeline/fenceline, or thicket. Above/near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3T4	State Rank: S3

DISCLAIMER

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**COORDINATION WITH
NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS**



Regional. Reliable. Everyday.

October 20, 2022

Mr. Mike Eastland
Executive Director
North Central Texas Council of Governments
616 Six Flags Drive, Suite 200
Arlington, Texas 76011

Re: NCTCOG Conformance Review; Type V Permit Amendment Application; Parkway Transfer Station; Permit No. 1494; Collin County, Texas; RN 100535392 /CN 601365448

Dear Mr. Eastland:

The purpose of this letter is to request conformance review with the applicable Regional Solid Waste Management Plan for the improved Parkway Transfer Station. Consistent with the requirements of Title 30 Texas Administrative Code (TAC) §330.61(p), please find attached the North Central Texas Council of Governments (NCTCOG) Regional Review of MSW Facility Application Evaluation Form and a copy of Parts I and II of the referenced permit application.

The purpose of this Type V permit amendment application, prepared by Weaver Consultants Group, LLC, on behalf of the North Texas Municipal Water District (NTMWD), is to construct improvements and expand operations of the existing Parkway Transfer Station located in the City of Plano, Collin County, Texas. The facility address is 4030 W. Plano Parkway, Plano, Texas 75093. The improved transfer station will provide enhanced operations to transfer municipal solid waste delivered to the transfer station by NTMWD's Solid Waste System Member Cities consisting of Allen, Frisco, McKinney, Plano, Richardson, and other customers in proximity to the site to an area landfill. The improved transfer station will provide NTMWD with the ability to consolidate smaller loads before shipment to the landfill.

If you need further information, please do not hesitate to contact Mr. Mike Friesen, Assistant Deputy – Solid Waste, at 469-626-4339, or Mr. Chuck Marsh, P.E. with Weaver Consultants Group at 817-735-9770. Kindly provide all written correspondence regarding this matter to NTMWD at the address on the letterhead.

Sincerely,

Mike Friesen
Assistant Deputy – Solid Waste

Attachments: Attachment 1 – NCTCOG Regional Review of MSW Facility Application Evaluation Form
Attachment 2 – Parts I/II, Parkway Transfer Station Permit Amendment Application
Attachment 3 – City of Plano Approval Documentation

cc: NTMWD Central File – Parkway 9.0
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

**NCTCOG REGIONAL REVIEW OF MSW FACILITY
APPLICATION EVALUATION FORM**

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 1: General Applicant Information

1.1 Applicant's Name: North Texas Municipal Water District
Mailing Address: PO Box 2408
City, State, Zip Code: Wylie, TX, 75098
Facility Contact Person: Mike Friesen

1.2 Site Location
Address: 4030 W. Plano Parkway
Zip Code: 75093
Nearest City: Plano
County: Collin

1.3 Is this a new facility or an amendment to a current permit/registration?
 New Facility Amendment to current permit/registration

1.4 Is this a permit or a registration application?
 Permit No. 1494A Registration No. _____
Note: NCTCOG's 08-09 Solid Waste Grants Program contract with TCEQ (section 4.6) requires review of all permit and registration applications.

1.5 What type of MSW facility is being registered or permitted?
 Type I Landfill Type IV AE Landfill
 Type I AE Landfill Type V Facility
 Type IV Landfill Other (please describe)

Describe "Other" below:

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

1.6 What types of waste(s) are currently accepted at your facility?

- | | | | |
|-------------------------------------|---------------------|-------------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> | Municipal Waste | <input checked="" type="checkbox"/> | Industrial Class III |
| <input type="checkbox"/> | Industrial Class I | <input checked="" type="checkbox"/> | Special Waste (please describe) |
| <input checked="" type="checkbox"/> | Industrial Class II | <input type="checkbox"/> | Other (please describe) |

Describe "Special Waste" and/or "Other" below:

Used oil, used oil filters, tires, and white goods/metals accepted for recycling

Source: TAC 30, §330.61(b) (1)

1.7 What types of waste(s) will be accepted at your facility in the future?

- | | | | |
|-------------------------------------|---------------------|-------------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> | Municipal Waste | <input checked="" type="checkbox"/> | Industrial Class III |
| <input type="checkbox"/> | Industrial Class I | <input checked="" type="checkbox"/> | Special Waste (please describe) |
| <input checked="" type="checkbox"/> | Industrial Class II | <input type="checkbox"/> | Other (please describe) |

Describe "Special Waste" and/or "Other" below:

Used oil, used oil filters, tires, and white goods/metals accepted for recycling

Source: TAC 30, §330.61(b) (1)

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 2:

Land Use Conformance – Compliance with Local Zoning or Ordinance

2.1 Is the site of your facility subject to local zoning or ordinances regarding the siting of solid waste facilities?

Yes No (please proceed directly to Section 3)

If yes, which government zoning or siting standards does this facility have to comply?

The facility is currently zoned "light industrial" and was approved by the City of Plano on January 4, 2022. The City of Plano approval documentation is included in Attachment 3.

If yes, please attach documentation from the local zoning or siting entity indicating that the facility is in compliance with the standards or that a formal variance has been granted. If applicable, provide maps detailing all boundaries of the areas included in the ordinance and the location of the facility.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

If documentation is provided to NCTCOG proving the facility is in compliance with the local city zoning or county siting ordinance (per §364.012 of the Texas Health and Safety Code), then the applicant does not need to answer the remaining land use questions in Section 3. Please proceed to Section 4 and continue completing the application. Once the application is complete, please return the MSW facility application evaluation form and requested documentation to NCTCOG.

North Central Texas Council of Governments

Regional Review of MSW Facility Application Evaluation Form

Section 3: Land Use Conformance – Key Issues

Texas Commission on Environmental Quality Rule 330.61 defines key land use and transportation issues that need to be addressed as a part of the regional MSW facility application evaluation process. The following questions are based on the rules, and are intended to provide information for NCTCOG to develop its conformance recommendation.

- 3.1 Describe the current character of surrounding land uses within one mile of the facility boundary. Please provide site design map(s) and/ or aerial photos of the area that adequately show land use.

Source: TAC 30, §330.61 (h) (2)

- 3.2 Provide the proximity to residences and other uses (e.g., schools, licensed day-care facilities, hospitals, churches, cemeteries, ponds, lakes, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, commercial, and recreational areas) within one mile of the facility boundary. Please provide approximate number of residences and business establishments.

Source: TAC 30, §330.61 (g & h)

- 3.3 How is the facility compatible with land uses surrounding the site?

Please explain and /or provide title and published date for any applicable land use study and provide web link if available.

Source: TAC 30, §330.61(h) (3)

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

3.4 Are there any plats on file in state or local government offices for development within one mile of the facility boundary?

Yes No

If yes, please describe and provide documentation.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

3.5 Is the facility consistent with growth trends of the nearest community of communities with directions of major development?

Yes No

Please explain.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

3.6 Explain how the facility will be designed to avoid any impact to all known water wells within 500 feet of the facility boundary.

Source: TAC 30, §330.61 (c) (2)

3.7 Will roads be available and adequate for access to the facility?

Yes No

Please explain.

Source: TAC 30, §330.61(i) (1)

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

3.8 Will traffic into and out of the facility impact traffic patterns, within one mile of the facility, that currently exist and will occur over the expected life of the facility?

Yes No

Please explain.

Source: TAC 30, §330.61(i) (2)

The remaining questions refer to land use issues that NCTCOG feels are important for the regional MSW facility application evaluation.

North Central Texas Council of Governments

Regional Review of MSW Facility Application Evaluation Form

- 3.9 Describe any additional information that will be beneficial regarding how the facility will be built and operated to be compatible with the current land uses of adjacent properties. (Optional)

- 3.10 Describe measures to minimize the impact from trash, odor and any other potential nuisances related to your operation on surrounding land use.

Source: TAC 30, §330.63(b)

- 3.11 If the facility is a landfill, what will be the maximum permitted elevation of the facility? (Please provide a final contour map or graphic representation of the facility.)

How will the facility compare to the general terrain of the area, within two miles of the facility boundary?

Source: Regional and Local Review of MSW Facility Applications, August, 2005, pgs. 2-12 and 2-13.

- 3.12 Describe any measures that you will implement to screen and/or blend the facility with surrounding features.

Source: TAC 30, §330.61(d) (7)

- 3.13 Describe any landscaping measures that you will implement to improve the aesthetics of the facility. (Please attach any landscaping plans.)

Source: Regional and Local Review of MSW Facility Applications, August, 2005, pgs. 2-12 and 2-13.

North Central Texas Council of Governments

Regional Review of MSW Facility Application Evaluation Form

Section 4: Regional Conformance

Another component of evaluating conformance includes how the facility will affect the regional solid waste management goals of the North Central Texas Council of Governments that are included in the regional solid waste management plan, *See Less Trash Regional Solid Waste Management Plan*. In order to complete this evaluation, please provide a description of how your facility will contribute to the attainment of these goals.

In requesting this information, NCTCOG recognizes that individual facilities alone will not be held responsible to achieve these regional goals. However, solid waste facilities represent an important component of a regional integrated solid waste management system, and can contribute to the attainment of regional goals. Facilities will be expected to make a good faith effort to contribute to the attainment of the regional solid waste goals.

To assist in the completion of this section, examples of activities/programs that could be implemented to assist in the attainment of these regional goals are listed for each of the three goals. These examples are based directly on objectives included in the *See Less Trash Regional Solid Waste Management Plan*. However, they are intended to only serve as examples, as individual facilities need to determine how they will contribute to regional goals.

Goal No. 1: Time to Recycle

The regional goal for Time to Recycle is that purchased materials are reused and recycled wherever possible, while increasing waste prevention and reduction throughout the region.

Examples for Facilities to Consider

- Assist in the development of outreach and education programs to facilitate long-term changes in attitudes about source reduction, reuse and recycling.
- Contribute to efforts to expand commercial recycling efforts by businesses and governments across the region.
- Contribute to efforts to increase citizen participation in reuse and recycling through the following types of programs:
 - Facility has a drop-off site to accept materials for recycling; or
 - Facility diverts clean loads of brush/yard waste for alternative uses (e.g. mulching, composting, daily cover, surface stabilization for landfill traffic and equipment due to wet conditions).
- Assist efforts to expand the collection and management of special waste, which includes materials such as household hazardous waste, tires and sludge.
- Promote innovative technologies to reduce waste.

North Central Texas Council of Governments

Regional Review of MSW Facility Application Evaluation Form

4.1 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

The facility has designated drop-off areas for recyclables onsite to increase citizen participation in recycling activities.

Goal No. 2: Stop Illegal Dumping

The regional goal for Stop Illegal Dumping is to see that illegal dumping is significantly reduced in the North Central Texas region.

Examples for Facilities to Consider

- Contribute to efforts to facilitate public awareness and education opportunities to reduce littering and illegal dumping.
- Use public awareness materials (e.g. signs, brochures, etc.) developed by NCTCOG to help stop illegal dumping.
- Participate in community clean-up efforts to reduce illegal dumping.
- Support efforts to increase enforcement against illegal dumping crimes.

4.2 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

The facility provides the public in the Solid Waste System Member Cities (Allen, Frisco, McKinney, Plano, Richardson) with easy and efficient access to properly dispose of household waste in addition to their normal collection frequency; thus, limiting and reducing illegal dumping.

North Central Texas Council of Governments

Regional Review of MSW Facility Application Evaluation Form

Goal No. 3: Assuring Capacity for Trash

The regional goal for Assuring Capacity for Trash is that remaining waste be handled in a safe manner at permitted facilities.

Examples for Facilities to Consider

- Facility helps efforts to maintain a minimum of 10 years of capacity for that area of the NCTCOG planning region.¹
 - Landfills may specifically contribute to this by increasing capacity.
 - Transfer stations can contribute to this by providing more efficient transportation to more distant landfills.
- Facility helps provide ample and convenient collection and disposal options in rural and other underserved areas.
 - Facility provides opportunities for residents and other low volume customers to dispose of solid waste in a convenient and affordable manner.

4.3 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

The additional capacity gained from the approval of the Permit Application will contribute to the NCTCOG's goal of providing more efficient transportation to area landfills and reduce the need for an additional transfer station in the vicinity of the Parkway Transfer Station facility.

¹ Capacity issues can be considered to demonstrate the need for a facility, but cannot be used as a basis against a facility.

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 5: Certification

I certify that the information contained in this form is complete and accurate and that the information in fact represents the MSW facility for which this entity is requesting a TCEQ permit or registration.

Jennafer P. Covington
Type or Printed Name of Applicant's Chief Administrative Officer

Executive Director/General Manager
Title of Chief Administrative Officer

Jennafer Covington 10/13/2022
Signature of Chief Administrative Officer Date

NOTE:

Please complete this form as fully and as accurately as possible. Responses to Sections 2 and 3 of the evaluation form that address the issue of land use compatibility will be submitted to the Texas Commission on Environmental Quality along with the NCTCOG's regional review of MSW facility application recommendation form.

ATTACHMENT 2

**PARTS I/II, PARKWAY TRANSFER STATION PERMIT
AMENDMENT APPLICATION**

ATTACHMENT 3

CITY OF PLANO APPROVAL DOCUMENTATION

DATE: January 5, 2022

TO: Applicants with Items before the Planning & Zoning Commission

FROM: David Downs, Chair, Planning & Zoning Commission 

SUBJECT: Results of Planning & Zoning Commission Meeting of January 4, 2022

**AGENDA ITEM NO. 2 - PRELIMINARY REPLAT AND REVISED SITE PLAN
PARKWAY TRANSFER STATION ADDITION, BLOCK 1, LOT 1R
APPLICANT: NORTH TEXAS MUNICIPAL WATER DISTRICT**

Utility service yard on one lot on 8.4 acres located on the south side of Plano Parkway, 343 feet south of Commerce Drive. Zoned Light Industrial-1 and located within the 190 Tollway/Plano Parkway Overlay District. Projects #PR2020-025 and #RSP2020-079.

APPROVED: 8-0 **DENIED:** _____ **TABLED:** _____

RESULTS:

The Planning & Zoning Commission approved with the following stipulations:

Preliminary Replat: Approved subject to additions and/or alterations to the engineering plans as required by the Engineering Department.

Site Plan: Approved as submitted.

KC/kob

cc: Rodney Rhodes, North Texas Municipal Water District
Charles Marsh, Weaver Consultants Group
Robert Elliott, Land Records Specialist
Jenny Scott, Land Records Specialist
Henry Baker, Utility Operations Supervisor
Scott Aspden, Engineering Technician
Joe Sousa, Engineering Technician
Jeanna Scott, Building Inspections Manager



City of Plano
1520 K Avenue
Plano, TX 75074

P.O. Box 860358
Plano, TX 75086-0358
Tel: 972.941.7000
plano.gov

The attached memo is the action taken by the Planning & Zoning Commission at its meeting of January 4, 2022. The items checked below pertain to your revised preliminary replat and revised site plan

Preliminary replats and revised site plans do not require approval by City Council. However, the applicant, Director of Planning, or member of City Council have ten days from the date of approval by the Planning & Zoning Commission to appeal the action to City Council. We will contact you only in the event of an appeal.

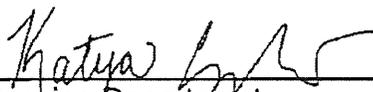
APPROVAL OF ALL SITE PLANS IS NOT FINAL UNTIL ALL ENGINEERING PLANS ARE APPROVED.

The final plat must be approved and **filed** before the Certificate of Occupancy can be issued.

The items checked below pertain to your project:

- This item has been tabled per the attached memo.
- This item has been denied per the attached memo.
- This item has been withdrawn per the attached memo.
- This item was approved per the attached memo.
- Other:

If you have any questions, please contact this office.



Planning Department

Enc: Commission Memo
Certificate of Approval
Requirements for Filing a Plat

Mason Hogue

From: Josh McNeil <Jmcneil@plano.gov>
Sent: Monday, January 10, 2022 10:27 PM
To: Marsh, Chuck; Katya Copeland
Cc: Mike Friesen
Subject: RE: RSP2020-079 Revisions

Good Evening Chuck,

Related to resubmittal included in your previous email please note engineering comments have been addressed at this time.

Please let me know of any questions or concerns you may have here or if you require anything further at this time.

Thanks Chuck,



Engineering
Serving Since 2019

Josh McNeil, P.E.
Engineer

1520 K Avenue, 2nd Floor
Suite 250, Plano, Texas 75074
T 972.941.7890
jmcneil@plano.gov
plano.gov



From: Marsh, Chuck <cmarsh@wgrp.com>
Sent: Monday, January 10, 2022 11:43 AM
To: Katya Copeland <kcopeland@plano.gov>; Josh McNeil <Jmcneil@plano.gov>
Cc: Mike Friesen <mfriesen@NTMWD.COM>
Subject: RSP2020-079 Revisions

CAUTION: This email originated from outside of the City of Plano network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Katya and Josh,

Per the City's comment letter and our discussions earlier today, please find attached an updated Site Plan for the Parkway Transfer Station (RSP2020-079). The following changes have been made since the previous submittal:

- Note 6 has been updated to note the source and date of the floodplain information included in the Site Plan.
- Finish Floor elevation has been updated to 696.50.

- No additional electrical service information was included, as none is currently available.

Please let me know if there are any questions regarding these revisions. Following your review, will a memo or letter be issued indicating that the requested revisions noted in the Action Letter from last week have been addressed?

Thanks,

Chuck

Charles Marsh, PE
Project Director

W Weaver Consultants Group

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Fort Worth, TX 76109

O: 817-735-9770 | F: 817-735-9775

cmarsh@wcgrp.com | www.wcgrp.com



APPENDIX I/IIB

**WETLANDS DETERMINATION AND
THREATENED AND ENDANGERED SPECIES STUDY**

Memorandum

To: Chuck Marsh Date: October 12, 2022
From: Peter D. McKone, CWB Project: #1678-005-11-03
Re: Parkway Transfer Station – Waters of the U.S.

A site visit was conducted on June 21, 2022 to determine the limits of the waters of the U.S. The proposed project is located in Plano, Collin County, Texas (**Figures 1-7**). The purpose of this investigation was to evaluate the site for WOTUS, their approximate size and location, and associated development constraints.

1.0 Introduction

The site is located in the City of Plano on the south side of West Plano Parkway. The Atchison Topeka and Santa Fe rail line is located along the southern boundary, the Plano Community Garden is located along the western boundary, and the Plano Animal Services Department is located to the north. An unnamed headwater stream is located to the west of the community garden. This stream eventually connects to other headwater streams and then discharges into White Rock Creek approximately 4.2 miles downstream and to the southwest.

2.0 Methodology

Desktop Analysis

The Project Site was mapped and analyzed to include:

- United States Geological Survey (USGS) – Geologic Map Database
- United States Department of Agriculture, Natural Resources Conservation Services (NRCS) Soils Data
- USGS 7.5-minute Topographic Map, Hebron Quadrangle
- United States Fish and Wildlife Service (USFWS) – National Wetland Inventory
- United States Environmental Protection Agency (EPA) Ecoregions

Natural Resources Field Investigation

The Project Site was visited on June 21, 2022, to identify and delineate potential WOUS and identify impacts to natural resources.

Stream Delineation

Streams were considered to be a potential WOUS if they exhibited an ordinary high water mark (OHWM) and a connection to a downstream jurisdictional water. Generally, the lateral limits of jurisdictional areas within ephemeral, intermittent, or perennial waters extend to the OHWM (33 CFR 328.4). An OHWM is defined in 33 CFR Part 328.3 (8)(e) as

...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Other physical characteristics considered when making an OHWM determination include wracking; matted down, bent, or absent vegetation; sediment sorting; disturbed or washed away leaf litter; scour; deposition; multiple observed flow events; bed and banks; water staining; and changes in the plant community.

Wetland Delineation

Wetlands are defined as areas that have a predominance of hydric soils and that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil.

3.0 Results

A. Mapped Conditions

Soils

Three mapped soil units cover the Project Site. Austin silty clay, 1-3 percent slopes (AuB), and Houston black clay, 1-3 percent slopes (HoB), occupy the majority of the site. Most of these two soils are overlaid by development currently on the site. The Houston black clay, 2-4 percent slopes (HoB2), is located primarily along the stream found along the western edge of the property.

The Austin silty clays consist of well drained soils that formed in ridges from residuum weathered from chalk. The runoff class is high and there is no frequency of flooding or ponding. These soils are considered prime farmland of statewide importance. This soil is not considered a hydric soil. Their ecological site classification includes Southern Clay Loam and Southern Blackland.

The Houston black clay, 1 to 3 percent slopes consist of moderately well drained soils that formed in ridges from clayey residuum weathered from calcareous mudstone of upper cretaceous age. The runoff class is very high and there is no frequency of flooding or ponding. These soils are considered prime farmland. This soil is not considered a hydric soil nor are their minor components. Their ecological site classification is Southern Blackland.

The Houston black clay, 2 to 4 percent slopes consists of moderately well drained soils that formed in ridges from residuum weathered from calcareous shale of Taylor Marl and Eagleford shale. The runoff class is very high and there is no frequency of flooding or ponding. These soils are not considered prime farmland. This soil is not considered a hydric soil. Their ecological site classification is Northern Blackland.

Ecoregions

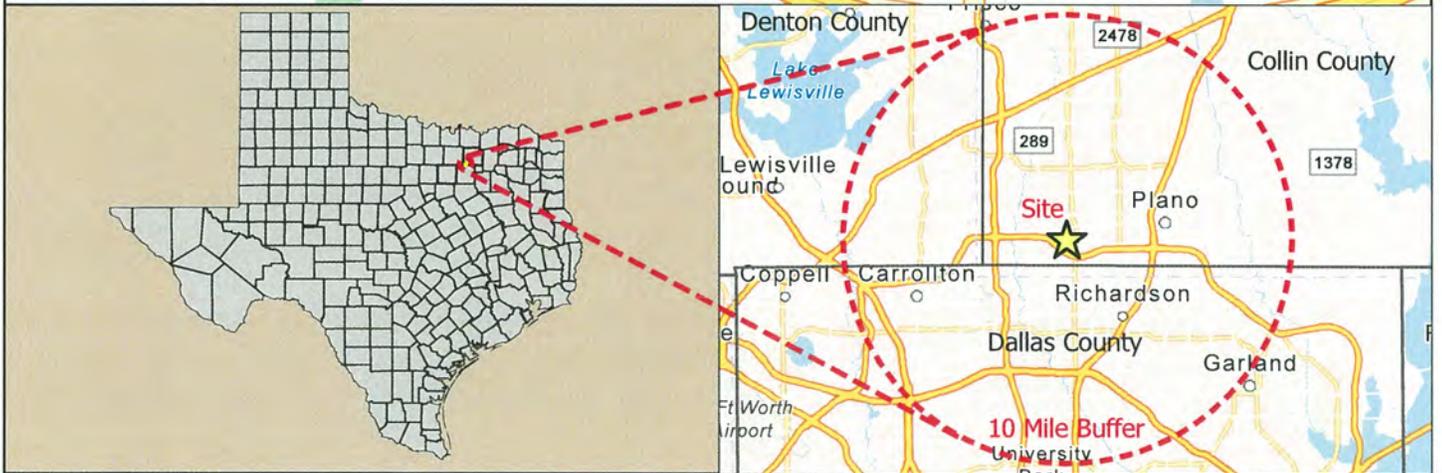
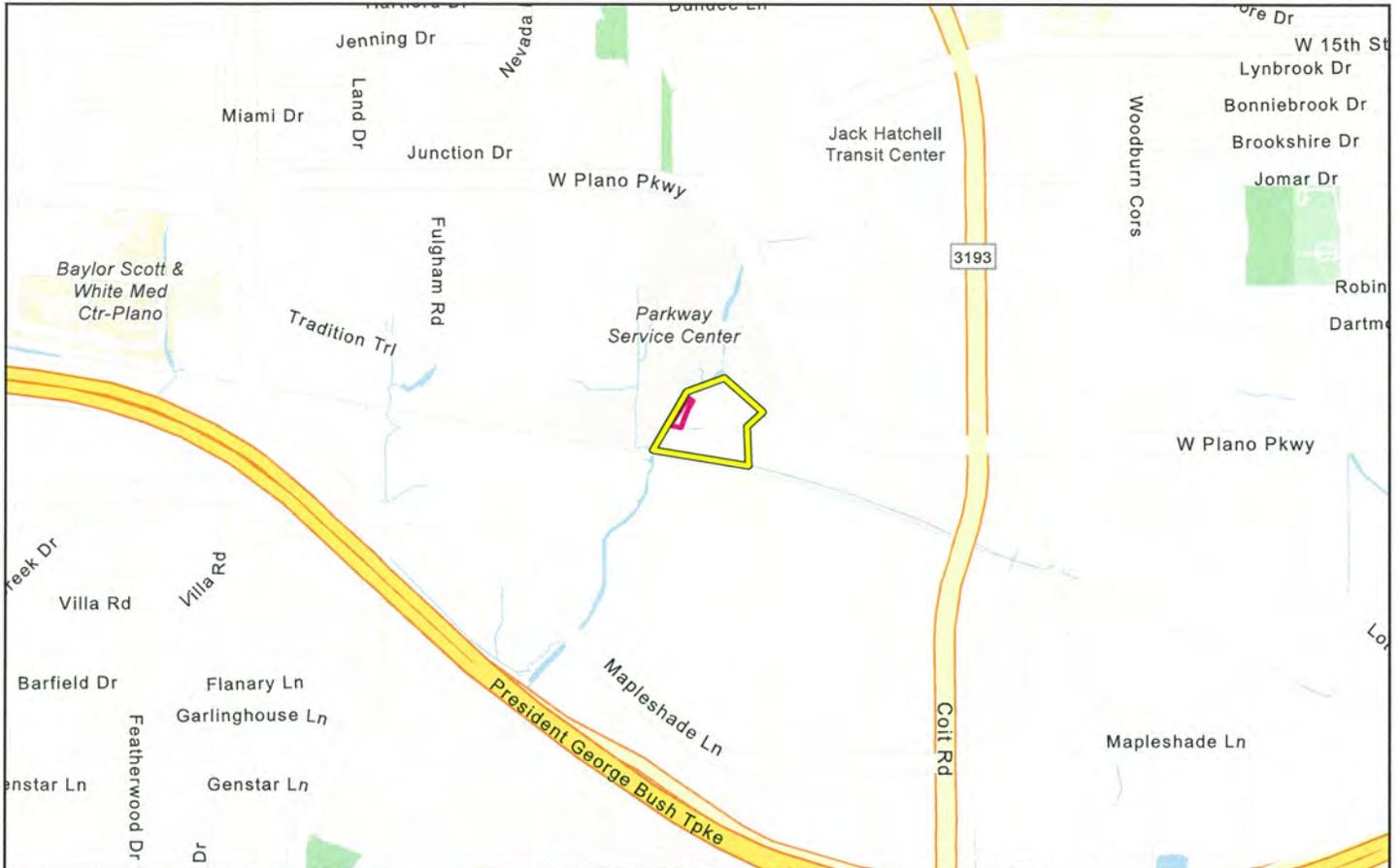
The Project Site is located in Texas Blackland Prairies (Level III) and Northern Blackland Prairies (Level IV) ecoregions. The Texas Blackland Prairie is described as a disjuncted ecological region characterized by fine-textured, clayey soils and predominantly prairie potential natural vegetation. Large areas, such as the Project Site, are being converted to urban and industrial uses. The Northern Blackland Prairie ecoregion stretches over 300 miles from Sherman to San Antonio. Historically, the ecoregion consisted of tallgrass prairie. Typical vegetation consists of little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), yellow Indiangrass (*Sorghastrum nutans*), coneflowers (*Rubekia* spp.), and prairie clovers (*Dalea* spp.) on the prairies, while bur oak (*Quercus macrocarpa*), Shumard oak (*Q. shumardii*), sugar hackberry (*Celtis laevigata*), elms (*Ulmus* spp.), ash (*Fraxinus* spp.), and pecan (*Carya illinoensis*) occupy the riparian areas. The vast majority of Blackland Prairie communities have disappeared and have been replaced by urban and suburban uses.

B. Field Observations

One unnamed headwater stream for White Rock Creek was observed along the western boundary but outside the Project Site. No other WOTUS were observed in the vicinity nor within the Project Site.

4.0 Summary

A field visit of the Project Site was conducted on June 21, 2022, to assess the site for the presence/absence of waters of the U.S. In addition, readily available maps were analyzed. Based on the research and field observations, there are no WOTUS within the Project Site. Therefore, no impacts to regulated waters are expected as a result of the proposed project.



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LOCATION MAP
PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS

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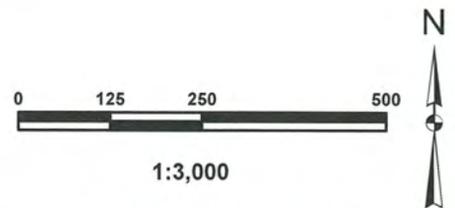
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FIGURE 1

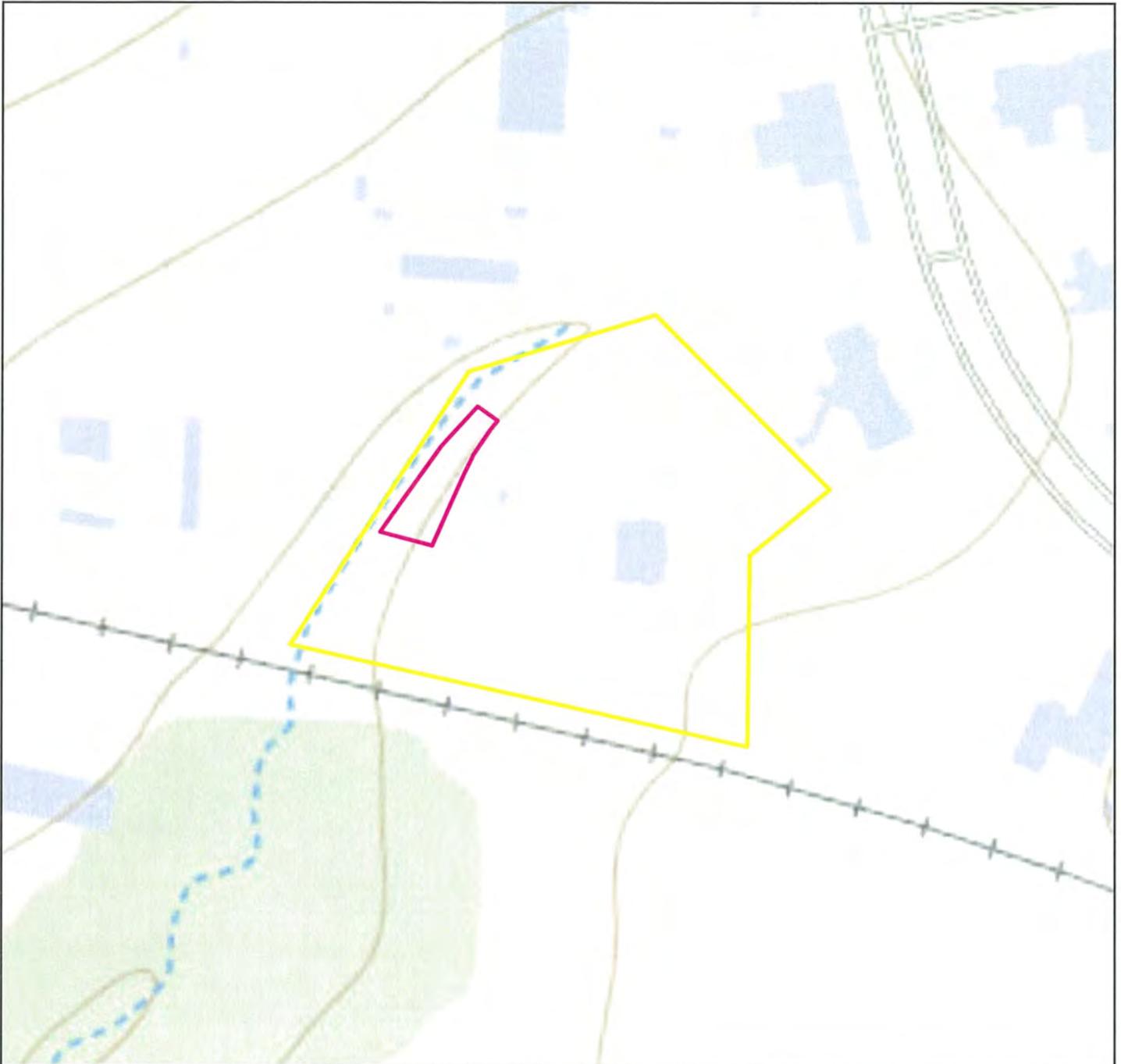


- Project Limits
- Plano Community Garden

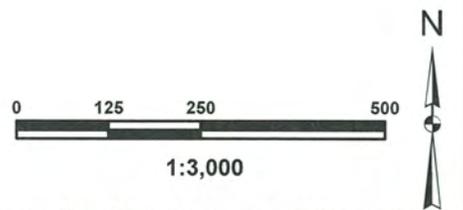


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PREPARED FOR: North Texas Municipal Water District	AERIAL MAP PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	Weaver Consultants Group 6420 Southwest Boulevard, Suite 206 Fort Worth, Texas 76109 817-735-9770 www.wcgrp.com	DRAWN BY: CS, JM REVIEWED BY: PM DATE: 10/11/2022 FILE: None CAD: PT_Parkway_Transfer_Station FIGURE 2
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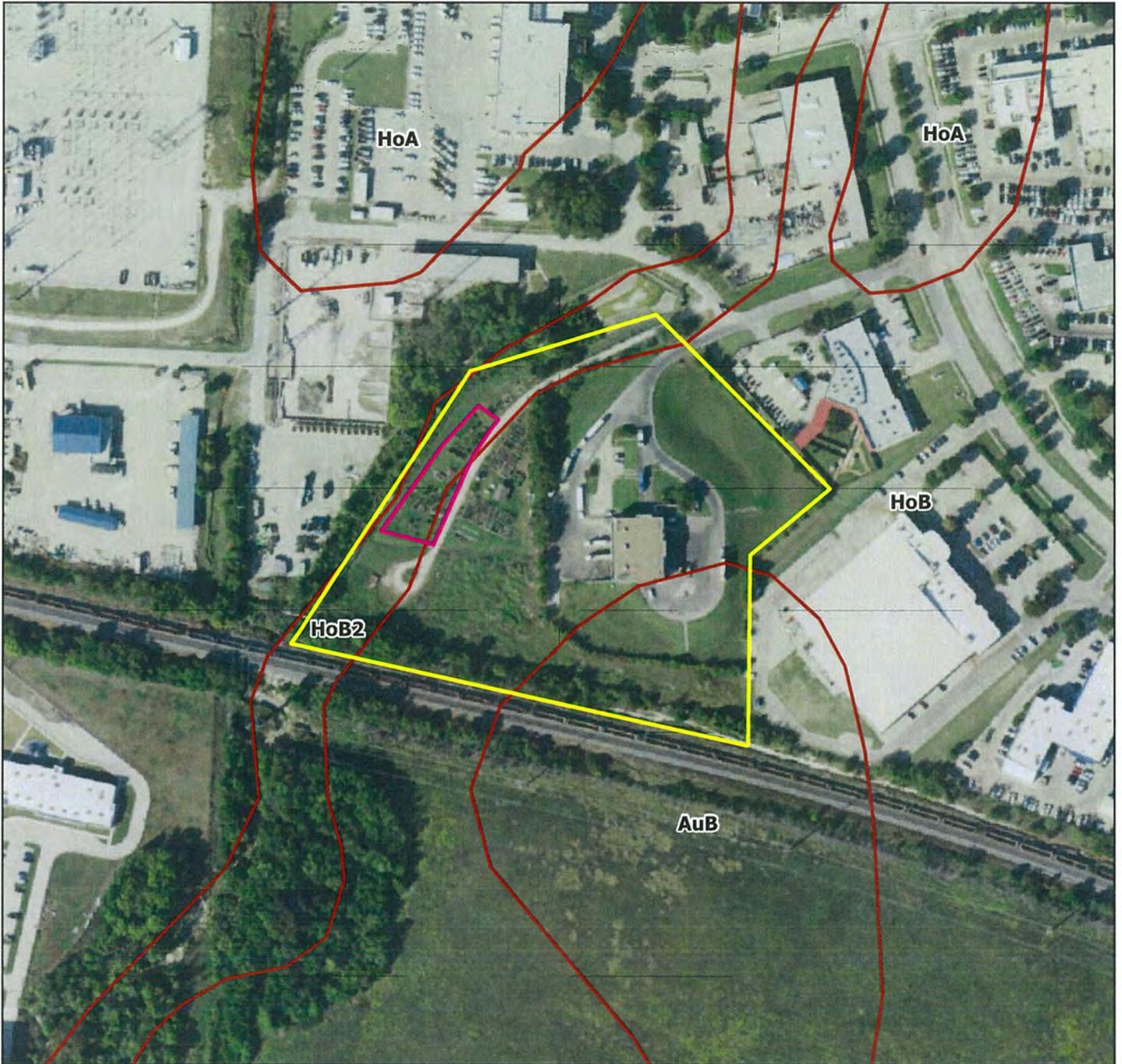


- Project Limits
- Plano Community Garden



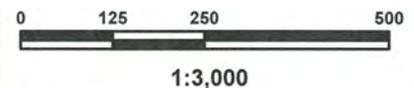
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- Project Limits
- Plano Community Garden
- USDA Soils Map Units

Soil Types within Project Area	
AuB	Austin silty clay, 1 to 3 percent slopes
HoB	Houston Black clay, 1 to 3 percent slopes
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded



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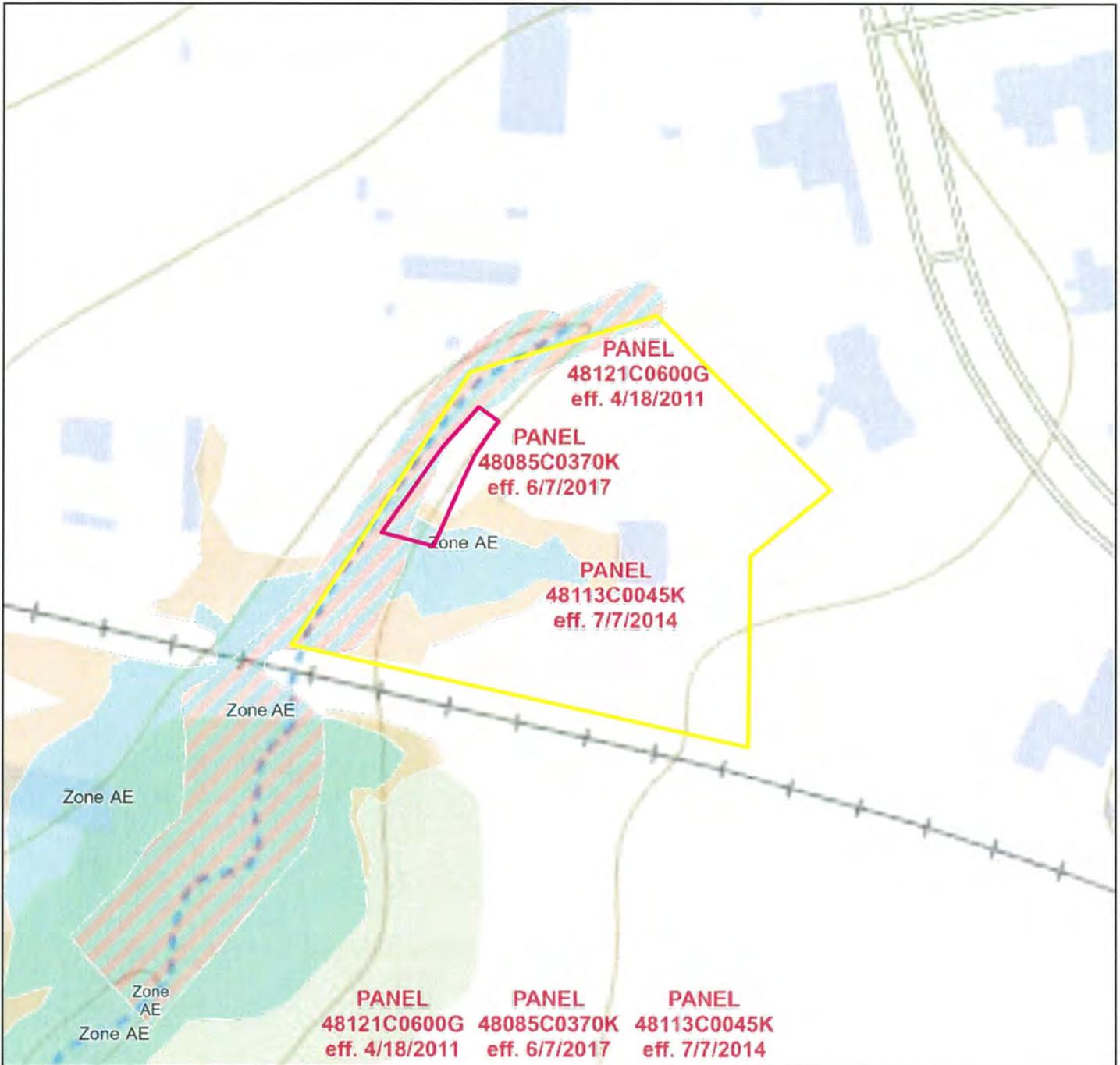
SOILS MAP
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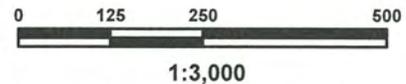
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FIGURE	4



Project Limits
 Plano Community Garden

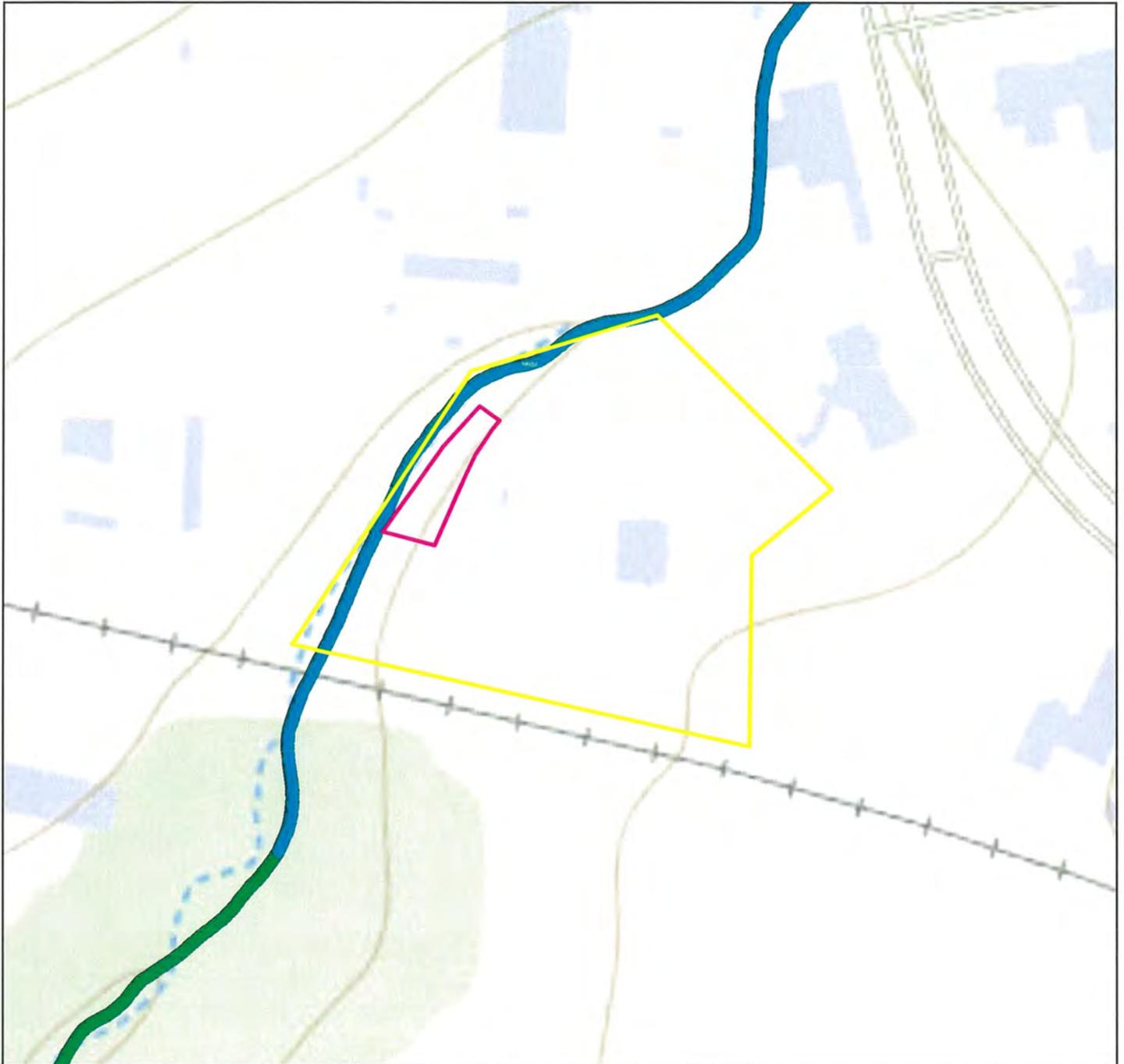
Flood Hazard Zones

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1% Annual Chance Flood Hazard | 0.2% Annual Chance Flood Hazard |
| Regulatory Floodway | Future Conditions 1% Annual Chance Flood Hazard |
| Special Floodway | Area with Reduced Risk Due to Levee |
| Area of Undetermined Flood Hazard | |



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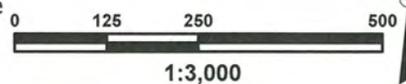
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			FIGURE 5



Project Limits
 Plano Community Garden

US FWS Wetlands

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Pond | Riverine |
| Freshwater Emergent Wetland | Lake | |



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NATIONAL WETLANDS INVENTORY
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

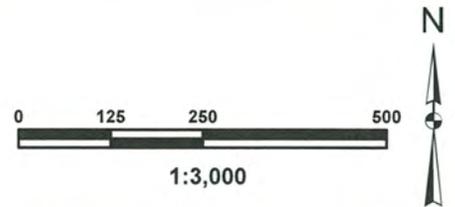
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FIGURE	6



- Project Limits
- Plano Community Garden



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Memorandum

To: Chuck Marsh Date: October 12, 2022
From: Peter D. McKone, CWB Project: #1678-005-11-03
Re: Parkway Transfer Station – Threatened and Endangered Species

The purpose of this memorandum is to describe the results of the threatened and endangered species investigation for the proposed Parkway Transfer Station site located in Plano, Collin County, Texas (**Figures 1-7**). The purpose of this investigation was to evaluate the site for threatened and endangered species, and their critical habitat.

1.0 Introduction

The site is located in the City of Plano on the south side of West Plano Parkway. The Atchison Topeka and Santa Fe rail line is located along the southern boundary, the Plano Community Garden is located along the western boundary, and the Plano Animal Services Department is located to the north. An unnamed headwater stream is located to the west of the community garden. This stream eventually connects to other headwater streams and then discharges into White Rock Creek approximately 4.2 miles downstream and to the southwest.

2.0 Methodology

Desktop Analysis

The Project Site was mapped and analyzed to include:

- United States Geological Survey (USGS) – Geologic Map Database
- United States Department of Agriculture, Natural Resources Conservation Services (NRCS) Soils Data
- USGS 7.5-minute Topographic Map, Hebron Quadrangle
- United States Fish and Wildlife Service (USFWS) – National Wetland Inventory
- United States Environmental Protection Agency (EPA) Ecoregions

Natural Resources Field Investigation

The Project Site was visited on June 21, 2022 to identify potential impacts to natural resources.

3.0 Results

A. Mapped Conditions

Soils

Three mapped soil units cover the Project Site. Austin silty clay, 1-3 percent slopes (AuB), and Houston black clay, 1-3 percent slopes (HoB), occupy the majority of the site. Most of these two soils

are overlaid by development currently on the site. The Houston black clay, 2-4 percent slopes (HoB2), is located primarily along the stream found along the western edge of the property.

Ecoregions

The Project Site is located in Texas Blackland Prairies (Level III) and Northern Blackland Prairies (Level IV) ecoregions. The Texas Blackland Prairie is described as a disjuncted ecological region characterized by fine-textured, clayey soils and predominantly prairie potential natural vegetation. Large areas, such as the Project Site, are being converted to urban and industrial uses. The Northern Blackland Prairie ecoregion stretches over 300 miles from Sherman to San Antonio. Historically, the ecoregion consisted of tallgrasses prairie. Typical vegetation consists of little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), yellow Indiangrass (*Sorghastrum nutans*), coneflowers (*Rubeckia* spp.), and prairie clovers (*Dalea* spp.) on the prairies, while bur oak (*Quercus macrocarpa*), Shumard oak (*Q. shumardii*), sugar hackberry (*Celtis laevigata*), elms (*Ulmus* spp.), ash (*Fraxinus* spp.), and pecan (*Carya illinoensis*) occupy the riparian areas. The vast majority of Blackland Prairie communities have disappeared and have been replaced by urban and suburban uses.

Threatened and Endangered Species

The United States Fish and Wildlife Service lists three species as federally threatened/endangered in Collin County, and the Texas Parks and Wildlife Department lists 10 species as threatened or endangered in the same area. The following are the federally listed species:

- | | | |
|------------------|------------------------------|---|
| • Piping plover | <i>Charadrius melodus</i> | T |
| • Red knot | <i>Calidris canutus rufa</i> | T |
| • Whooping crane | <i>Grus americana</i> | T |

The piping plover and red knot are migrants through the area and are only considered for wind energy projects. The whooping crane is a migrant and is not expected to occur within the project area.

In addition to the federally listed species, the following are state-listed species:

- | | | |
|----------------------|-------------------------------|---|
| • Black rail | <i>Laterallus jamaicensis</i> | T |
| • Piping plover | <i>Charadrius melodus</i> | T |
| • Red knot | <i>Calidris canutus rufa</i> | T |
| • White-faced ibis | <i>Plegadis chihi</i> | T |
| • Whooping crane | <i>Grus americana</i> | E |
| • Wood stork | <i>Mycteria americana</i> | T |
| • Louisiana pigtoe | <i>Pleurobema riddellii</i> | T |
| • Texas heelsplitter | <i>Potamilus amphichaenus</i> | T |

- Alligator snapping turtle *Macrochlemys temminckii* T
- Texas horned lizard *Phrynosoma cornutum* T

The bird species are either migratory or are not expected to nest within the Project Site. The two mollusk species and alligator snapping turtle are aquatic. The Texas horned lizard has been virtually extirpated from the eastern half of the DFW metroplex.

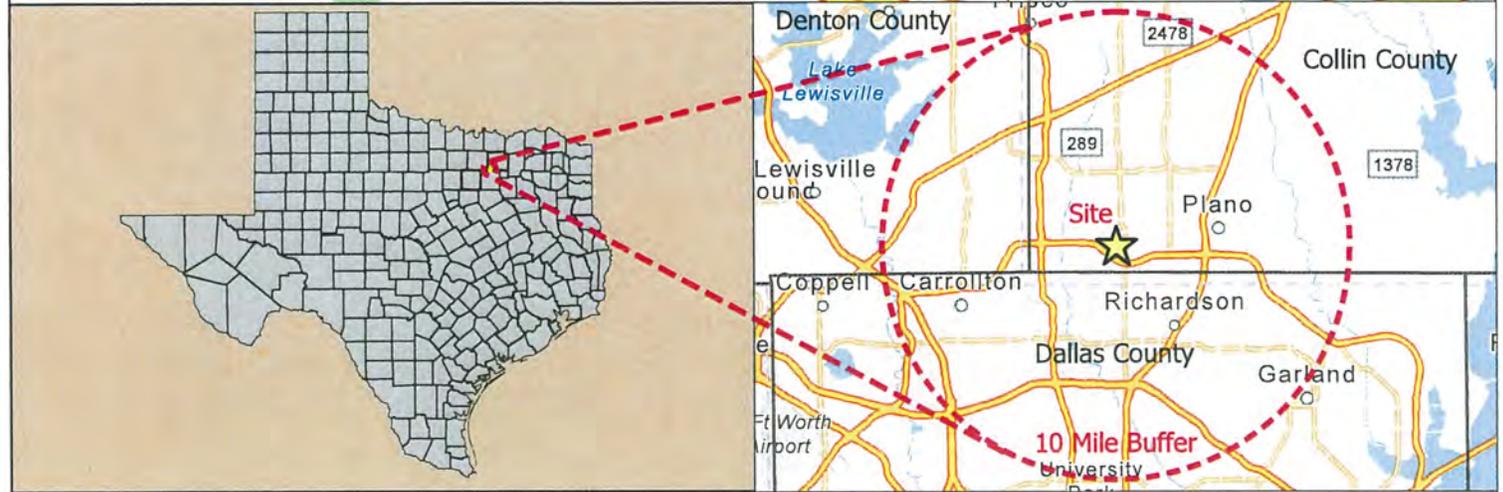
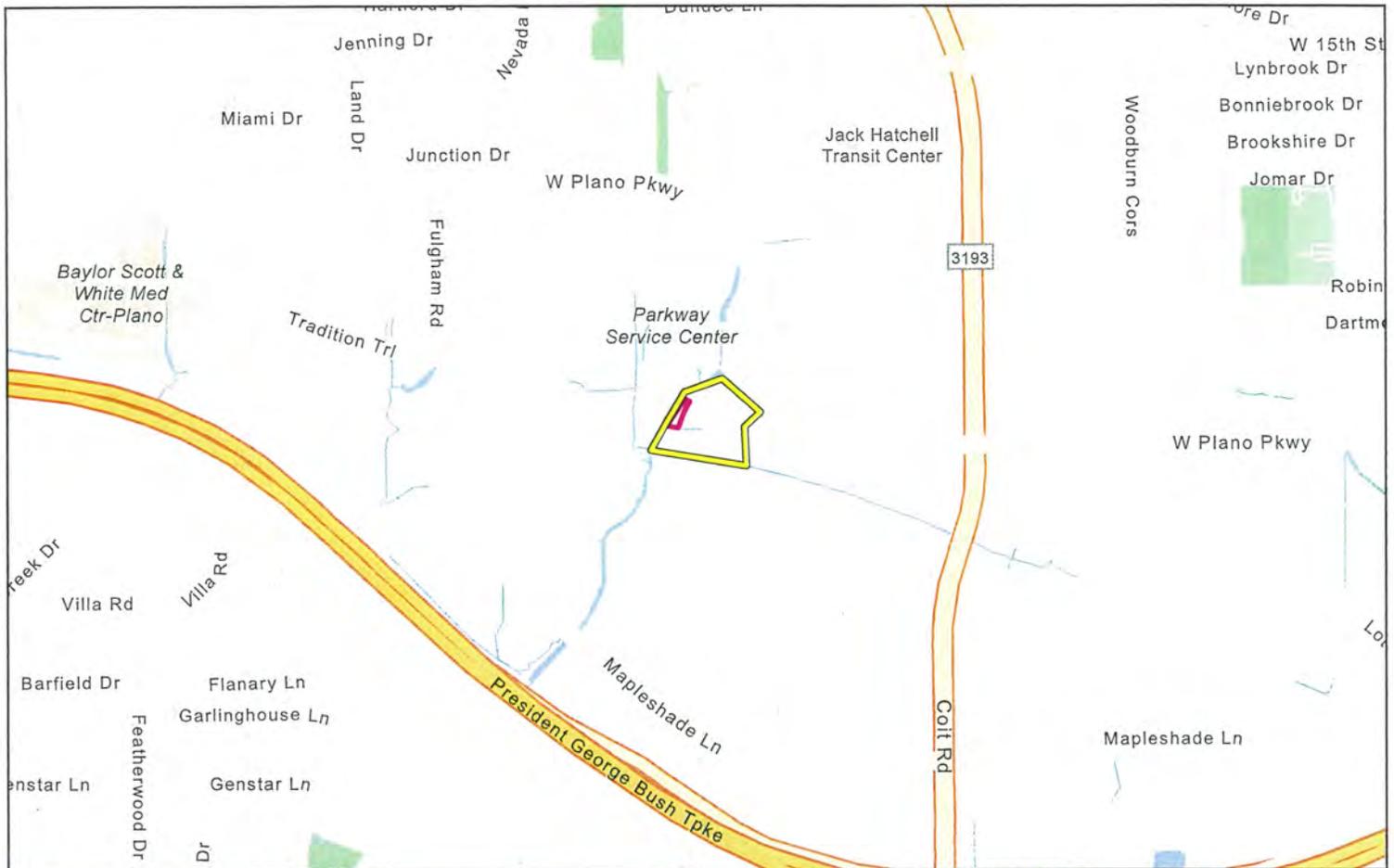
No critical habitat for any threatened or endangered species occurs within the Project Site.

B. Field Observations

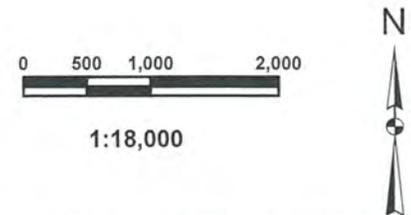
One unnamed headwater stream for White Rock Creek was observed along the western boundary but outside the Project Site. The proposed project consisted of maintained lawns and gardens. Due to the lack of suitable habitat within the Project Site and its vicinity, no impacts to threatened and endangered species are expected.

4.0 Summary

A field visit of the Project Site was conducted on June 21, 2022, to assess the site for threatened and endangered species or their critical habitat. In addition, readily available maps were analyzed. Based on the research and field observations, there are no threatened/endangered species or their critical habitat within the Project Site. Therefore, no impacts to rare species are expected as a result of the proposed project.



- Project Limits
- Plano Community Garden



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LOCATION MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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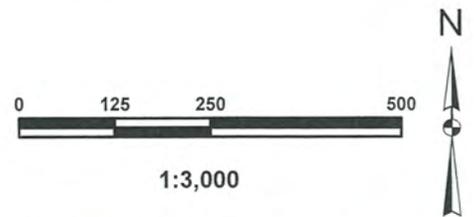
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FIGURE 1



- Project Limits
- Plano Community Garden



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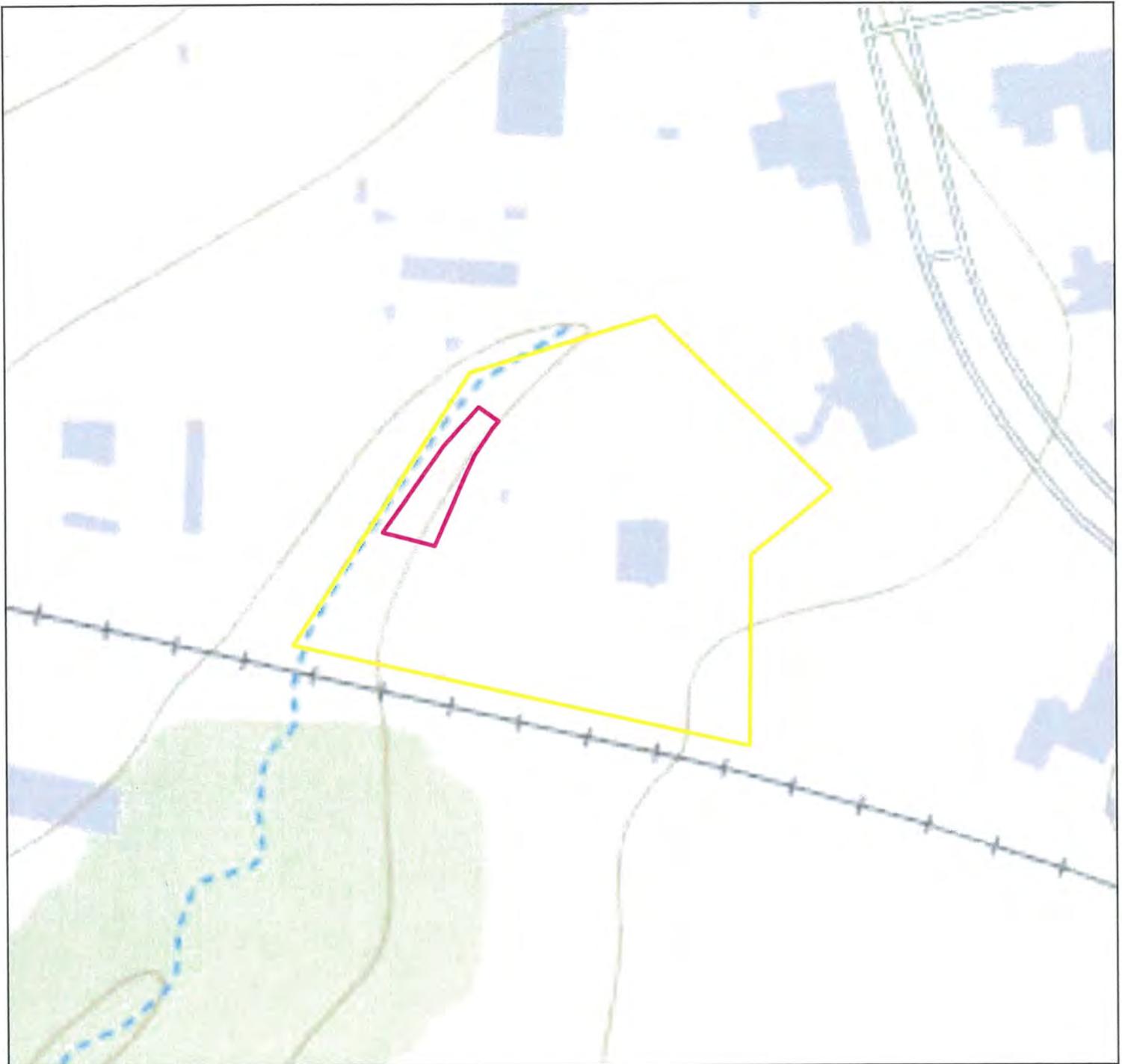
AERIAL MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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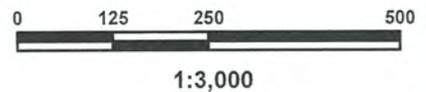
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REVIEWED BY:	PM
DATE:	10/11/2022
FILE:	None
CAD:	PT_Parkway_Transfer_Station
FIGURE	2



- Project Limits
- Plano Community Garden



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PREPARED FOR:
**North Texas Municipal
 Water District**

USGS TOPOGRAPHIC MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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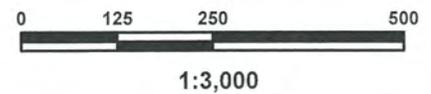
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FILE:	None
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FIGURE	3



- Project Limits
- Plano Community Garden
- USDA Soils Map Units

Soil Types within Project Area	
AuB	Austin silty clay, 1 to 3 percent slopes
HoB	Houston Black clay, 1 to 3 percent slopes
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded



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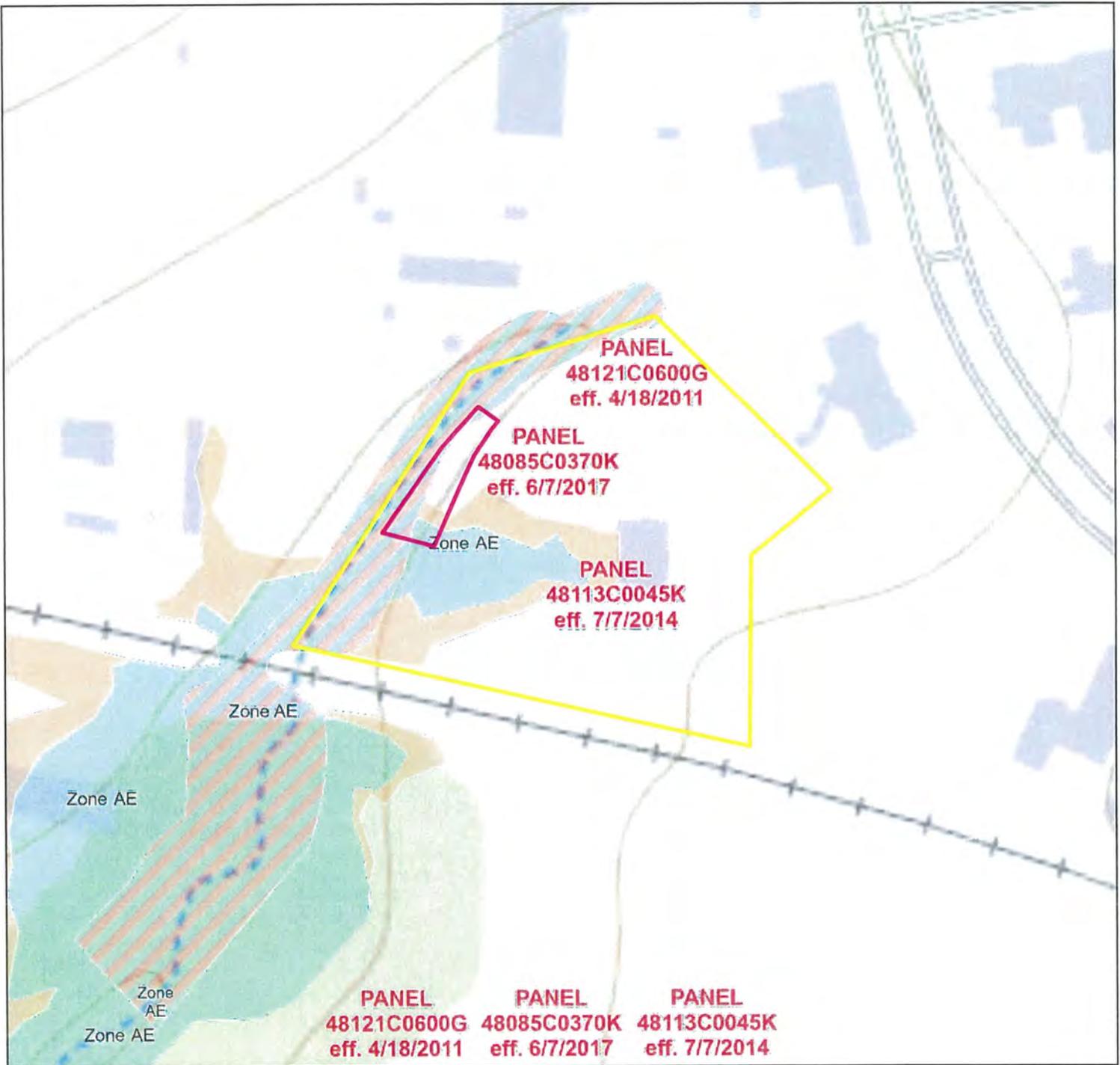
SOILS MAP
 PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

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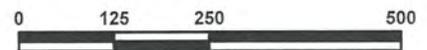
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FILE:	None
CAD:	PT_Parkway_Transfer_Station
FIGURE	4



Project Limits
 Plano Community Garden

Flood Hazard Zones

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1% Annual Chance Flood Hazard | 0.2% Annual Chance Flood Hazard |
| Regulatory Floodway | Future Conditions 1% Annual Chance Flood Hazard |
| Special Floodway | Area with Reduced Risk Due to Levee |
| Area of Undetermined Flood Hazard | |

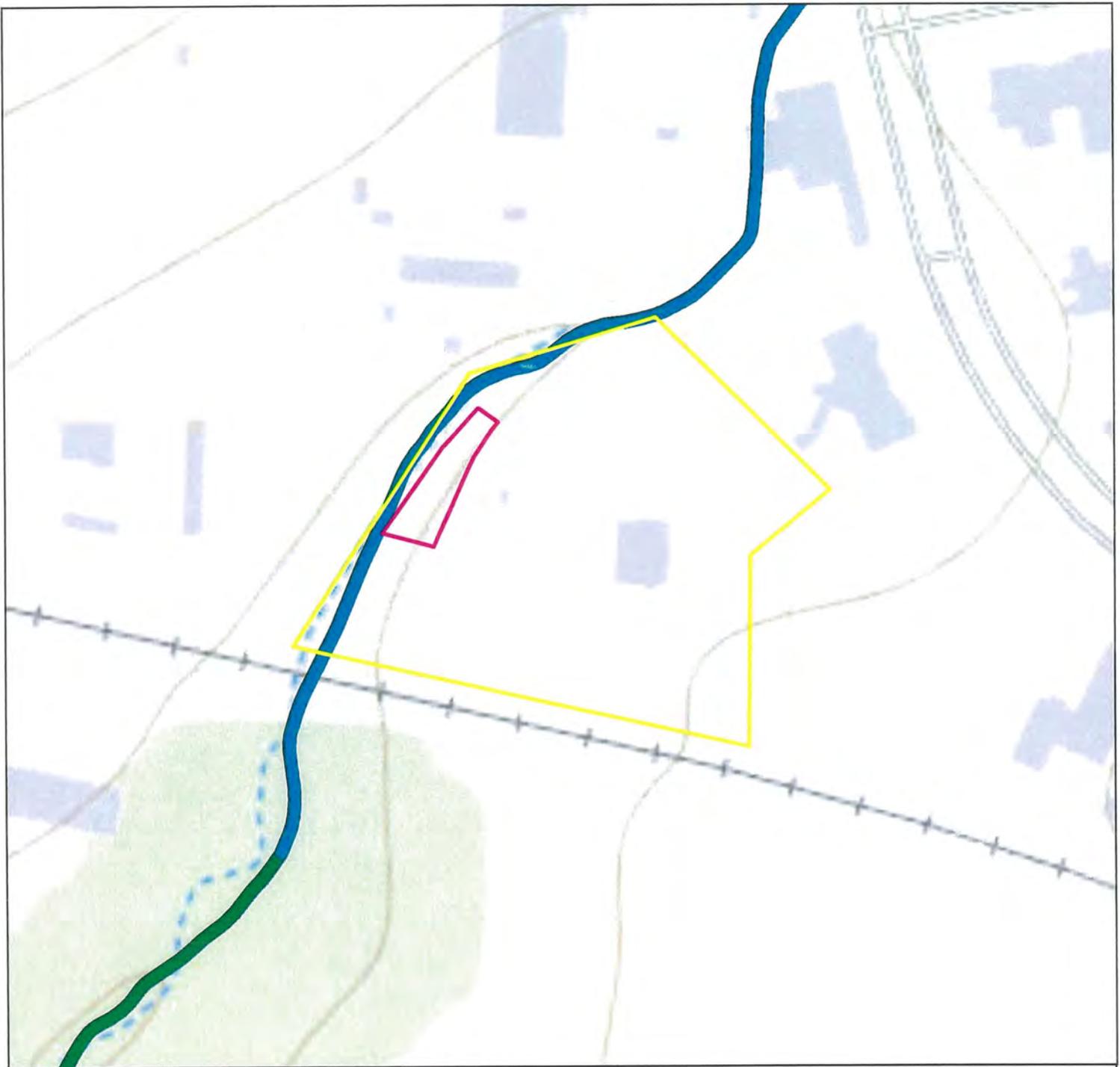


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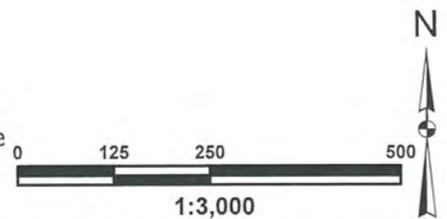
PREPARED FOR: North Texas Municipal Water District	FLOODPLAIN MAP PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	Weaver Consultants Group 6420 Southwest Boulevard, Suite 206 Fort Worth, Texas 76109 817-735-9770 www.wcgrp.com
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Project Limits Plano Community Garden

US FWS Wetlands

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Pond | Riverine |
| Freshwater Emergent Wetland | Lake | |



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PREPARED FOR:
North Texas Municipal
Water District

NATIONAL WETLANDS INVENTORY
PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS

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FIGURE	6

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Collin County, Texas



Local office

Arlington Ecological Services Field Office

☎ (817) 277-1100

📞 (817) 277-1129

✉ arles@fws.gov

2005 Ne Green Oaks Blvd
Suite 140
Arlington, TX 76006-6247

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
<p>Piping Plover <i>Charadrius melodus</i></p> <p>This species only needs to be considered if the following condition applies:</p> <ul style="list-style-type: none"> • Wind Energy Projects <p>There is final critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/6039</p>	Threatened
<p>Red Knot <i>Calidris canutus rufa</i></p> <p>Wherever found</p> <p>This species only needs to be considered if the following condition applies:</p> <ul style="list-style-type: none"> • Wind Energy Projects <p>There is proposed critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/1864</p>	Threatened
<p>Whooping Crane <i>Grus americana</i></p> <p>There is final critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/758</p>	Endangered

Clams

NAME	STATUS
<p>Texas Fawnsfoot <i>Truncilla macrodon</i></p> <p>Wherever found</p> <p>There is proposed critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/8965</p>	Proposed Threatened

Insects

NAME	STATUS
------	--------

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around

your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus*

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Chimney Swift *Chaetura pelagica*

Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Little Blue Heron *Egretta caerulea*

Breeds Mar 10 to Oct 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (●)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

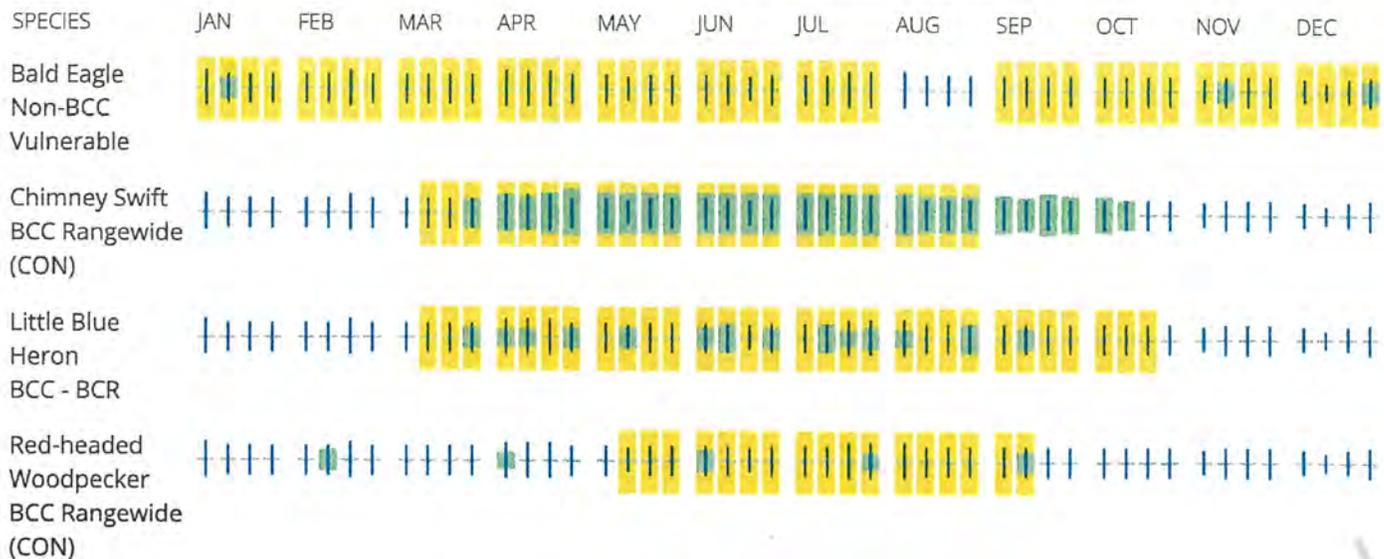
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Last Update: 7/12/2022

COLLIN COUNTY

AMPHIBIANS

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S3

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: SU

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3B,S3N

black rail *Laterallus jamaicensis*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of *Salicornia*

Federal Status: LT State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

chestnut-collared longspur *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

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COLLIN COUNTY

BIRDS

Franklin's gull *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

piping plover *Charadrius melodus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

rufa red knot *Calidris canutus rufa*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

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COLLIN COUNTY

BIRDS

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

whooping crane *Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

wood stork *Mycteria americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

CRUSTACEANS

No accepted common name *Caecidotea bilineata*

Spring obligate. *Caecidotea bilineata* is known only from non-cave groundwater habitats in deposits of Cretaceous age. It is presumably a phreatobite. Fine scale habitat requirements unknown.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S1

Parkhill Prairie crayfish *Procambarus steigmani*

Burrower in long-grass prairie; all animals were collected with traps, thus there is no knowledge of depths of burrows; herbivore; crepuscular, nocturnal

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1S2

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COLLIN COUNTY

INSECTS

American bumblebee	<i>Bombus pensylvanicus</i>	
Habitat description is not available at this time.		
Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

MAMMALS

big brown bat	<i>Eptesicus fuscus</i>	
Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

eastern red bat	<i>Lasiurus borealis</i>	
Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk	<i>Spilogale putorius</i>	
Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat	<i>Lasiurus cinereus</i>	
Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel	<i>Mustela frenata</i>	
Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

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COLLIN COUNTY

MAMMALS

mountain lion

Puma concolor

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2S3

muskrat

Ondatra zibethicus

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

swamp rabbit

Sylvilagus aquaticus

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

tricolored bat

Perimyotis subflavus

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S2

western hog-nosed skunk

Conepatus leuconotus

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S4

MOLLUSKS

Louisiana pigtoe

Pleurobema riddellii

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G1G2

State Rank: S1

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COLLIN COUNTY

MOLLUSKS

Texas heelsplitter *Potamilus amphichaenus*

Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G1G3 State Rank: S1

REPTILES

alligator snapping turtle *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G5T4 State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S3

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COLLIN COUNTY

REPTILES

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

PLANTS

Engelmann's bladderpod *Physaria engelmannii*

Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

glandular gay-feather *Liatris glandulosa*

Occurs in herbaceous vegetation on limestone outcrops (Carr 2015)

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

red yucca *Hesperaloe parviflora*

Shrublands on dry limestone slopes; Perennial; Flowering April-May; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Sutherland hawthorn *Crataegus viridis var. glabriuscula*

In mesic soils of woods or on edge of woods, treeline/fenceline, or thicket. Above/near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3T4	State Rank: S3

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APPENDIX I/IIC

OIL AND WATER WELL INFORMATION



On time. On target. In touch.™

Texas Water Well Report (Extended Radius)

Target Property:

***Parkway Transfer Station
4030 W Plano Pkwy
Plano, Collin County, Texas 75093***

Prepared For:

Weaver Consultants Group-Benbrook

Order #: 86038

Job #: 186452

Project #: 1678-005-11-03-1

Date: 05/04/2017

phone: 888-396-0042 · fax: 512-472-9967 · www.geo-search.com

TARGET PROPERTY SUMMARY

Parkway Transfer Station
4030 W Plano Pkwy
Plano, Collin County, Texas 75093

USGS Quadrangle: **Hebron, TX**
Target Property Geometry: **Point**

Target Property Longitude(s)/Latitude(s):
(-96.773885, 33.010718)

County/Parish Covered:
Collin (TX)

Zipcode(s) Covered:
Dallas TX: 75252
Plano TX: 75075, 75093

State(s) Covered:
TX

***Target property is located in Radon Zone 3.**
Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L
(picocuries per liter).

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DATABASE FINDINGS SUMMARY

DATABASE	ACRONYM	LOCA- TABLE	UNLOCA- TABLE	SEARCH RADIUS (miles)
<u>FEDERAL</u>				
UNITED STATES GEOLOGICAL SURVEY NATIONAL WATER INFORMATION SYSTEM	NWIS	0	0	1.0000
SUB-TOTAL		0	0	
<u>STATE (TX)</u>				
SELECT SUBMITTED DRILLERS REPORT DATABASE WELLS	SSDRD	0	0	1.0000
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER WELLS	TCEQ	1	0	1.0000
TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE	TWDB	1	0	1.0000
WATER UTILITY DATABASE	WUD	0	0	1.0000
SUB-TOTAL		2	0	

TOTAL

2 0



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LOCATABLE DATABASE FINDINGS

ACRONYM	SEARCH RADIUS (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
FEDERAL								
NWIS	1.000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0
STATE (TX)								
SSDRD	1.000	0	0	0	0	0	NS	0
TCEQ	1.000	0	0	0	0	1	NS	1
TWDB	1.000	0	0	0	0	1	NS	1
WJD	1.000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	2	0	2

TOTAL	0	0	0	0	2	0	2
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NOTES:

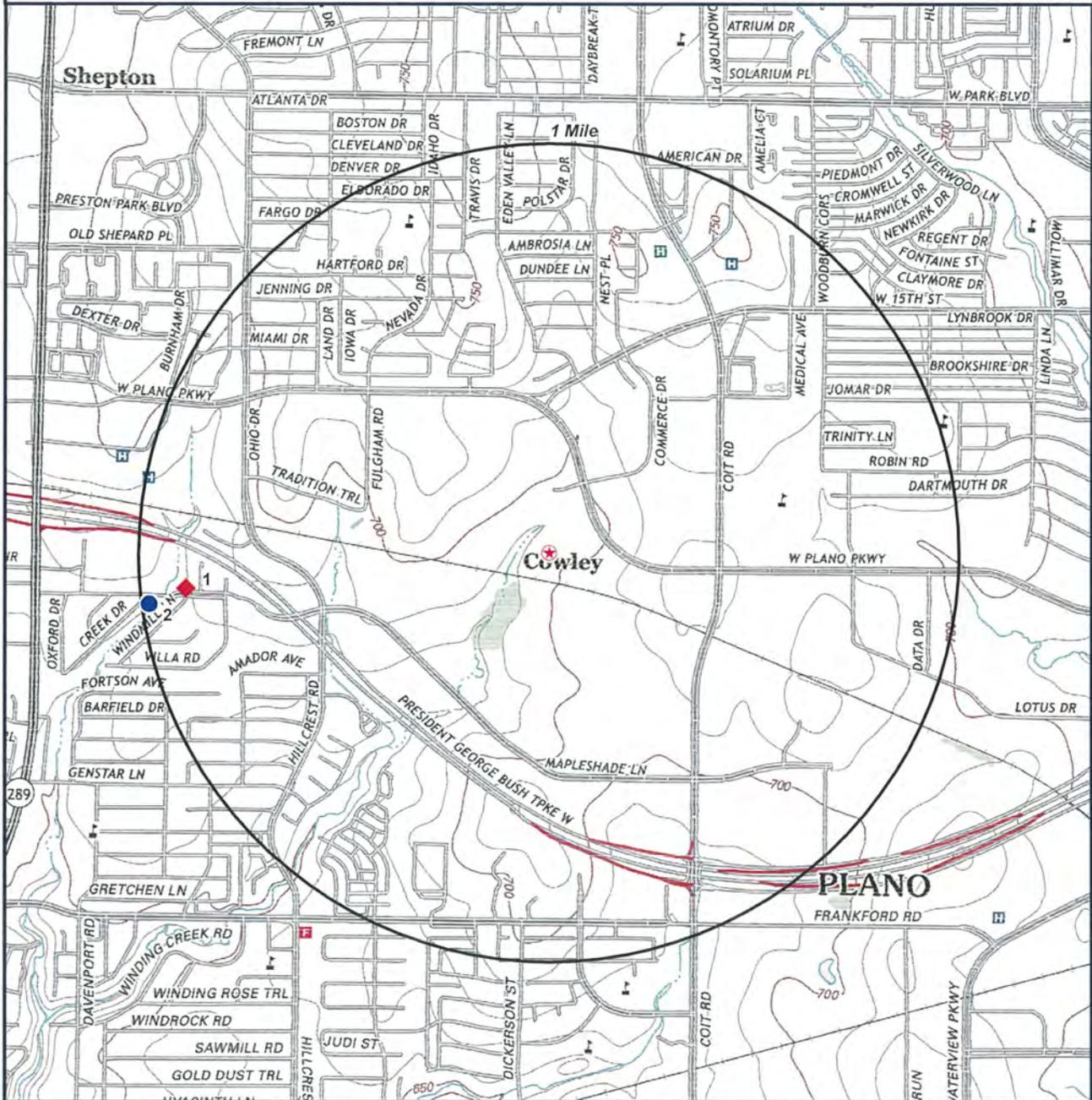
NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY



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WATER WELL MAP



- ⊕ Target Property (TP)
- ◆ TWDB
- TCEQ

Parkway Transfer Station
4030 W Plano Pkwy
Plano, Texas
75093

CONTOUR LINES REPRESENTED IN FEET



GeoSearch

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REPORT SUMMARY OF LOCATABLE SITES

MAP ID#	DATABASE NAME	SITE ID#	DISTANCE FROM SITE	SITE NAME	ADDRESS	CITY, ZIP CODE	PAGE #
1	TWDB	18-58-901	0.890 W	PRESTON VILLA ADDITION	19205 WINDMILL LN	DALLAS, 75252	1
2	TCEQ	TX213492	0.982 W	HAROLD A. WHEAT	6432 MAPLESHADE LN DALLAS, TX 75252	DALLAS, 75252	3



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TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE (TWDB)

MAP ID# 1 Distance from Property: 0.89 mi. W

STATE ID: 18-58-901
OWNER'S NAME: PRESTON VILLA ADDITION
DATE DRILLED: 10/24/1955
DEPTH DRILLED: 1067'
WATER USAGE: PUBLIC SUPPLY
LONGITUDE: -96.789167000
LATITUDE: 33.009445000
SOURCE: TWDB



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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER WELLS (TCEQ)

MAP ID# 2

Distance from Property: 0.98 mi. W

ID NUMBER: TX213492
STATE ID : 18-58-9A
OWNER NAME: HAROLD A. WHEAT
DATE DRILLED: 08/04/1979
DEPTH DRILLED: 49'
STATIC LEVEL: 25'
WATER USAGE: DOMESTIC
LONGITUDE: -96.790704000
LATITUDE: 33.008957000

2 PAGE(S) OF DRILLERS' LOGS



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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER WELLS (TCEQ)

Page # 1 out of 2
Water Well ID: 213492

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711		State of Texas WATER WELL REPORT	18-58-9A For TWDB use only Well No. 18-58-9A Located on map 18-58-9A Received 7/1/05 [Signature]
1) OWNER: Person having well drilled <u>HAROLD A. WHEAT</u> (Name) Address <u>Rt 1 132 CREEK PLANO TEX</u> (Street or RFD) (City) (State)			
Landowner <u>SAME</u> (Name) Address _____ (Street or RFD) (City) (State)			
2) LOCATION OF WELL: County <u>COLLIN</u> , _____ miles in <u>N.W.</u> direction from <u>RENNER</u> (N.E., S.W., etc.) (Town)			
Locate by sketch map showing landmarks, roads, creeks, highway number, etc.* <div style="text-align: center;"> <u>REVERSE SIDE</u> North ↑ </div> (Use reverse side if necessary)		Give legal location with distances and directions from adjacent sections or survey lines. Labor _____ League _____ Block _____ Survey _____ Abstract No. _____ (NW¼ NE¼ SW¼ SE¼) of Section _____	
3) TYPE OF WORK (Check): <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Deepening <input type="checkbox"/> Reconditioning <input type="checkbox"/> Plugging		4) PROPOSED USE (Check): <input type="checkbox"/> Domestic <input type="checkbox"/> Industrial <input type="checkbox"/> Municipal <input type="checkbox"/> Irrigation <input type="checkbox"/> Test Well <input type="checkbox"/> Other	
5) TYPE OF WELL (Check): <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Cable <input type="checkbox"/> Jetted <input type="checkbox"/> Bored			
6) WELL LOG: Diameter of hole <u>8</u> in. Depth drilled <u>49</u> ft. Depth of completed well <u>49</u> ft. Date drilled <u>8-4-74</u> All measurements made from <u>0</u> ft. above ground level.			
From (ft.)	To (ft.)	Description and color of formation material	9) Casing: Type: Old _____ New _____ Steel _____ Plastic _____ Other _____ Cemented from _____ ft. to _____ ft.
<u>0</u>	<u>4</u>	<u>TOP SOIL</u>	Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Case _____
<u>4</u>	<u>10</u>	<u>WHITE ROCK</u>	<u>5</u> <u>0</u> <u>49</u>
<u>10</u>	<u>20</u>	<u>ROCK + YELLOW CLAY</u>	
<u>20</u>	<u>25</u>	<u>YELLOW CLAY + GRAVEL</u>	
<u>25</u>	<u>30</u>	<u>HARD ROCK</u>	
<u>30</u>	<u>40</u>	<u>BLUE + YELLOW CLAY</u>	
<u>40</u>	<u>49</u>	<u>BLUE CLAY</u>	
(Use reverse side if necessary)			10) SCREEN: Type <u>PLASTIC</u> Perforated _____ Slotted _____ Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Slot Size _____
7) COMPLETION (Check): <input checked="" type="checkbox"/> Straight wall <input type="checkbox"/> Gravel packed <input type="checkbox"/> Other _____ <input type="checkbox"/> Under reamed <input type="checkbox"/> Open Hole		11) WELL TESTS: Was a pump test made? Yes _____ No _____ If yes, by whom? _____ Yield: _____ gpm with _____ ft. drawdown after _____ hrs. Bailer test <u>360 gpm</u> with <u>30</u> ft. drawdown after <u>1</u> hrs. Artesian flow _____ gpm Temperature of water _____	
8) WATER LEVEL: Static level <u>25</u> ft. below land surface Date <u>8-5-74</u> Artesian pressure _____ lbs. per square inch Date _____ Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface.		12) WATER QUALITY: Was a chemical analysis made? Yes _____ No _____ Did any strata contain undesirable water? Yes _____ No _____ Type of water? <u>GOOD (SOFT)</u> depth of strata <u>24'</u>	
I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.			
NAME <u>L. F. Hooker</u> (Type or Print)		Water Well Drillers Registration No. <u>1330</u>	
ADDRESS <u>P.O. Box 509</u> (Street or RFD)		<u>FRISCO</u> (City) <u>TEXAS</u> (State)	
(Signed) <u>[Signature]</u> (Water Well Driller)		<u>DIACKS WELL DRILLING</u> (Company Name)	
Please attach electric log, chemical analysis, and other pertinent information, if available.			

*Additional instructions on reverse side.

TWDB-WD-8

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER WELLS (TCEQ)

Page # 2 out of 2
Water Well ID: 213492

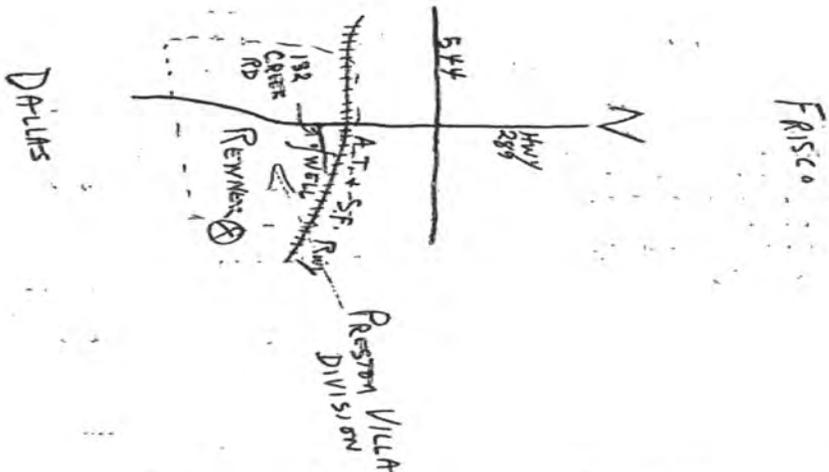
LOCATION OF WELL:

The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be indicated.

When giving a legal description include a sketch showing location of the well within the described area. e.g. survey abstract.

Information furnished in Section 2) of the TWDBE-GW-53 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.



RECEIVED
APR 22 1975
Geological Services
Texas Water Development Board

RECEIVED
SEP 4 1974
TEXAS WATER
DEVELOPMENT BOARD

ENVIRONMENTAL RECORDS DEFINITIONS - FEDERAL

NWIS United States Geological Survey National Water Information System

VERSION DATE: 12/2016

This USGS National Water Information System database only includes groundwater wells. The USGS defines this well type as: A hole or shaft constructed in the earth intended to be used to locate, sample, or develop groundwater, oil, gas, or some other subsurface material. The diameter of a well is typically much smaller than the depth. Wells are also used to artificially recharge groundwater or to pressurize oil and gas production zones. Additional information about specific kinds of wells should be recorded under the secondary site types or the Use of Site field. Underground waste-disposal wells should be classified as waste-injection wells.



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ENVIRONMENTAL RECORDS DEFINITIONS - STATE (TX)

SSDRD Select Submitted Drillers Report Database Wells

VERSION DATE: 4/2017

This Texas Water Development Board database was created from the online Texas Well Report Submission and Retrieval System (a cooperative TDLR, TWDB system) that registered water-well drillers use to submit their required reports. The system was started in February 2001 and is optional for the drillers to use. This data excludes the following well types: Monitor Wells, Environmental Soil Borings, Injections Wells, De-watering and Test Wells.

TCEQ Texas Commission on Environmental Quality Water Wells

VERSION DATE: NR

The Texas Commission on Environmental Quality (TCEQ) maintains a filing system of plotted and unnumbered water wells. Plotted water wells are filed according to the County indicated by the driller and the state well number assigned by State of Texas personnel. Given the available location information provided by the driller, personnel identify where the approximate well location should be. After well placement a state well number is assigned indicating that the well lies within a specific 2.5' section of a 7.5' quadrangle. This method allows for quicker, more refined, reference when researching a specific area. Unnumbered water wells have not been assigned a state well number. This can occur for a variety of reasons; however it does not mean the well cannot be accurately spotted. Unnumbered water well records are filed according to County and are often broken up by year or by a span of years.

TWDB Texas Water Development Board Groundwater Database

VERSION DATE: 4/2017

The Texas Water Development Board Groundwater Database contains information for more than 123,500 sites in Texas including data on water wells, springs, oil/gas tests, water levels, and water quality. The purpose of the Board's data collection effort over the years has been to gain representative information about aquifers in the state in order to do water planning. It is very important, however, to realize that the wells in the database represent only a small percentage of the wells that actually exist in Texas. A registered water well driller is required by law to send in a report to the State for every well that is drilled. This requirement began in 1965, and we estimate that approximately 500,000 wells have been drilled in Texas since then. Of the 1,000,000 plus water wells drilled in Texas over the past 100 years, more than 130,000 have been inventoried and placed into the TWDB groundwater database. State well numbers have been assigned to these based on their location within numbered 7 1/2 minute quadrangles formed by lines of latitude and longitude. This database contains well information including location, depth, well type, owner, driller, construction and completion data.

WUD Water Utility Database

VERSION DATE: 2/2011

The Water Utility Database is defined as a collection of data from Texas Water Districts, Public



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ENVIRONMENTAL RECORDS DEFINITIONS - STATE (TX)

Drinking Water Systems and Water and Sewer Utilities who submit information to the TCEQ. This database is an integrated database designed and developed to replace over 160 stand alone legacy systems representing over 5 million records of the former Texas Water Commission and the Texas Department of Health.



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Oil & Gas Report

[Satellite view](#)

Target Property:

**Parkway Transfer Station
4030 W Plano Pkwy
Plano, Collin County, Texas 75093**

Prepared For:

Weaver Consultants Group-Benbrook

Order #: 86038

Job #: 186451

Project #: 1678-005-11-03-1

Date: 05/03/2017

Table of Contents

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<i>Oil & Gas Map</i>	3
<i>Environmental Records Definitions</i>	5

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Target Property Summary

Target Property Information

*Parkway Transfer Station
4030 W Plano Pkwy
Plano, Texas 75093*

Coordinates

Point (-96.773884, 33.010718)

USGS Quadrangle

Hebron, TX

Geographic Coverage Information

County/Parish: Collin (TX)

ZipCode(s):

Plano TX: 75093

Dallas TX: 75252

Radon

* Target property is located in Radon Zone 3.

Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

Database Radius Summary

STATE (TX) LISTING

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
LPG	0.0900	0	NS	NS	NS	NS	NS	0
OGWELLS	0.0900	0	NS	NS	NS	NS	NS	0
STCV	0.0900	0	NS	NS	NS	NS	NS	0

SUB-TOTAL		0	0	0	0	0	0	0
-----------	--	---	---	---	---	---	---	---

TOTAL		0	0	0	0	0	0	0
-------	--	---	---	---	---	---	---	---

NOTES:

NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

OIL & GAS MAP



- ★ Target Property (TP)
- Surface Location

Parkway Transfer Station
4030 W Plano Pkwy
Plano, Texas
75093



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

[Click here to access Satellite view](#)

GeoSearch www.geo-search.com 888-396-0042

Located Sites Summary

No Records Found.

Environmental Records Definitions - STATE (TX)

LPG LP Gas Bulk Storage Facilities

VERSION DATE: 07/28/06

This listing of liquefied petroleum (LP) gas bulk storage facilities is maintained by the LP-Gas Section of the Railroad Commission's Safety Division.

OGWELLS Oil and Gas Wells

VERSION DATE: 03/23/16

This oil and gas well data set is provided by the Geographic Information System of the Railroad Commission of Texas (the Commission). The data set includes oil and gas well records dating back to the early 1960's, some wells prior to the 1960's are also included with with no API and/or a historical API number in place. The Commission shall not be held liable for use of this data, which is provided as a public service for informational purposes only. Users are responsible for checking the accuracy, completeness, currency, and/or suitability of this data set themselves.

STCV Salt Caverns for Petroleum Storage

VERSION DATE: 09/01/06

The salt caverns for petroleum storage database is provided by the Railroad Commission of Texas.

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1494A**

TYPE V PERMIT AMENDMENT APPLICATION

**PART III
SITE DEVELOPMENT PLAN**

Prepared for

North Texas Municipal Water District

October 2022

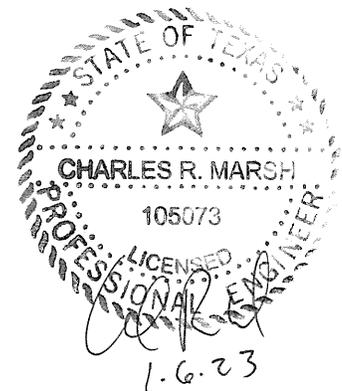
Revised January 2023

Prepared by

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Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

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- Figure IIIA-4 – Building Elevations
- Figure IIIA-5 – White Goods/Metal and Tire Storage Areas

APPENDIX IIIB SURFACE WATER DRAINAGE REPORT

APPENDIX IIIC CLOSURE PLAN

APPENDIX IIID COST ESTIMATE FOR CLOSURE



LIST OF ACRONYMS

CN – Curve Number

FEMA – Federal Emergency Management Agency

MSW – Municipal Solid Waste

NOAA – National Oceanic and Atmosphere Administration

NTMWD – North Texas Municipal Water District

NWS – National Weather Service

PGBT – President George Bush Turnpike

SCS – Soil Conservation Service

SDP – Site Development Plan

SIC – Standard Industrial Code

SOP – Site Operating Plan

SWPPP – Stormwater Pollution Prevention Plan

TAC – Texas Administrative Code

TCEQ – Texas Commission on Environmental Quality

TPDES – Texas Pollutant Discharge Elimination System

TS – Transfer Station

TxDOT – Texas Department of Transportation

WBD – Watershed Boundary Dataset

WCG – Weaver Consultants Group

1 INTRODUCTION

The Part III – Site Development Plan (SDP) has been prepared for the improved Parkway Transfer Station (TS) consistent with Title 30 Texas Administrative Code (TAC) §330.63. This SDP replaces the currently approved SDP included in the existing Texas Commission on Environmental Quality (TCEQ) Permit No. MSW-1494.

Part III – SDP addresses the general facility design, closure plan, and cost estimate for closure. Site design plans are included in Appendix IIIA – General Facility Design Drawings.

This section addresses §330.63. Additional specific regulatory cites addressed by each section of Part III are listed in the heading.

1.1 Background

The Parkway TS is owned and operated by North Texas Municipal Water District (NTMWD). The TS accepts household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste (refer to Section 2.1 of the Site Operating Plan (SOP) for types of recyclables and special waste) from the service area and outside customers from the surrounding area. The TS facility transfers the MSW to an area landfill.

Support facilities for the Parkway TS include a site entrance road, scalehouse, self-haul drop off area, white goods/metal area, and the existing transfer station building.

1.2 Site Location

The Parkway TS is located in the city limits of Plano approximately 400 feet southwest of W. Plano Parkway in Collin County, Texas. The TS can be accessed via the site entrance road that connects to W. Plano Parkway. The site location is shown on Parts I/II, Figures I/II-4.1 through 4.4.

1.3 Land Use and Zoning §330.63(a)

The Parkway TS is located within the city limits of Plano, Texas. A detailed discussion of area land use and zoning for the site is presented in Section 7 of Parts I/II. As noted in Section 7 of Parts I/II, the proposed 7.74-acre permit boundary is currently zoned "Light Industrial," which provides for the continued operation of a TS by the NTMWD.

2 GENERAL FACILITY DESIGN

2.1 Facility Access

2.1.1 Adequacy of Access Roads and Highways §330.63(a)

Vehicles bound for the Parkway TS will access the TS facility entrance from the site entrance road via W. Plano Parkway. W. Plano Parkway, Coit Road, and State Highway 190, also known as President George Bush Turnpike (PGBT), are the only access roads within one mile of the site. PGBT is a toll road maintained by the North Texas Tollway Authority. W. Plano Parkway and Coit Road are public roads maintained by the City of Plano – Public Works Department.

As noted in Parts I/II, in Section 8, and in the Traffic Study included in Appendix I/IIA, the site access roads will provide adequate access to the site throughout the life of the facility.

In accordance with §330.61(i)(4), TxDOT was contacted to determine if any traffic or location restrictions apply to the facility.

2.1.2 Fences and Access Control §330.63(b)(1)

Vehicle access to the TS facility will be controlled by the scalehouse attendant during operating hours. Outside operating hours, the inbound access will be controlled by a metal gate located at the facility entrance. As shown on Figure IIIA-1 in Appendix IIIA, access to the site at points other than the entry gate is prevented by a 6-foot high chain link or barbed wire fence and natural barriers (including a creek along the northwest and west boundaries and a tree line along the south boundary) located around the perimeter of the TS site in a manner so as to prevent the entry of livestock, to protect the public from exposure to potential health and safety hazards, and to discourage unauthorized entry or uncontrolled disposal of solid waste or hazardous materials.

NTMWD's policy will restrict entry to the site only to designated site operations personnel, solid waste haulers authorized to use the facility, TCEQ personnel, and properly identified persons whose entry is authorized by NTMWD Solid Waste employees. NTMWD reserves the right to restrict access to the site to persons not demonstrating a legitimate purpose for visiting.

2.2 Waste Movement §330.63(b)(2)

2.2.1 Waste and Recyclable Flow Diagram §330.63(b)(2)(A)

A municipal solid waste and recyclable flow diagram indicating the processing, storage, and disposal sequences for various types of municipal solid wastes and recyclables received is shown on Figure III-2.1.

2.2.2 Waste Process Schematic View §330.63(b)(2)(B)

A schematic view indicating the MSW processing and storage area(s), as applicable, is shown on Figures IIIA-1 through IIIA-5 in Appendix IIIA. These drawings include the layout of the TS facility within the 7.73-acre permit boundary and the traffic flow patterns.

2.2.3 Ventilation and Odor Control §330.63(b)(2)(C)

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.

No liquid or solid wastes other than white goods, metals, and used tires are stored outside of the building. The building provides the odor containment for solid wastes. White goods and used tires are stored in a curbed area outside the TS Building.

The facility and constructed air pollution abatement devices will obtain authorization, under 30 TAC Chapter 116 (relating to Control of Air Pollution By Permits for New Construction or Modifications) or Subchapter U of this chapter (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations), as applicable, from the Air Permits Division prior to the start of construction, except as authorized in Texas Health and Safety Code, §382.004, Construction While Permit Application Pending.

To control odors, routine tipping, sorting and transfer operations will be confined within the building. The facility will be operated to provide adequate ventilation for employee safety.

If any air pollution, capture and abatement equipment is utilized, it will be maintained and operated per manufacturer's requirements during the facility operation in order to adequately maintain its efficiency. The following measures will be employed to assist in air pollution/odor control:

- Buffer zones onsite;
- Odor mister system;
- Covering transfer trailers;

- Operations within a building;
- Special procedures for odorous loads as described in Part IV 7.12;
- Cleaning all working surfaces that come in contact with waste weekly as described in Part IV 7.11; and
- No overnight storage of waste except for extenuating circumstances such as inclement weather or mechanical breakdown.

Reporting of emission events will be made in accordance with Title 30 TAC §101.210 and reporting of scheduled maintenance of air pollution control equipment will be made in accordance with Title 30 TAC §101.211.

2.2.4 Generalized Construction Details §330.63(b)(2)(D) through (H)

The TS building is a pre-cast concrete tilt-wall building. The proposed improvements will consist of a transfer station extension/truck loading tunnel, access tunnel improvements, and additional operations area. All tipping will occur completely within the TS building. Push walls in the building will aid in storing the received MSW material.

No storage of sludge is authorized at the transfer station.

Do-it-yourself used oil filters and used oil from internal combustion engines (to include filters which have been crushed and/or processed to remove free-flowing used oil) will not be intentionally and knowingly sent for disposal to a landfill. The TCEQ has authorized this facility to accept this material under TCEQ Registration C81092. These items will be stored for removal by a recycler until there is a full load, but no longer than six months, and manifests for this method of removal will be kept on file at the facility in accordance with §330.219 – Record Keeping and Reporting Requirements.

Wastewater generated by the TS facility from managing the MSW or from cleaning and washing will be managed in accordance with §330.207, Contaminated Water Management. The destination of the liquid generated by the facility is the City of Plano Sanitary Sewer System.

2.2.5 Noise Pollution Control and Visual Screening §330.63(b)(2)(I)

The nearest residences are located approximately 2,000 feet north of the permit boundary and 3,500 feet south of the permit boundary. To minimize noise resulting from the operations of the transfer station, operations will primarily be conducted within the enclosed building. White noise back-up alarms will also be utilized by all on-site heavy equipment (i.e., front end loaders). In addition, existing landscaping will assist in minimizing the noise and providing visual screening to minimize adverse visual impacts.

2.3 Sanitation and Water Pollution Control §330.63(b)(3) & (4)

The TS structure includes a roof that covers the waste processing area and the waste storage area. Waste will be unloaded and processed on top of the concrete tipping floor that is raised above surrounding ground. All walls and floors in operating areas are constructed of concrete that can be washed down and scrubbed. Connections are provided to the City of Plano water service line located northeast of the facility for the purpose of providing, at adequate pressure, potable water to the transfer station, as well as a source for fire suppression and cleaning. Spray nozzles attached to washdown hoses will be used to hose down the concrete tipping floor. Trench drains will collect contaminated water in the transfer truck loading pit and will then be conveyed to the City of Plano sanitary sewer system. As discussed in Appendix IIIB, the TS site will be graded to prevent run-on drainage and flow of stormwater into the building. Stormwater that contacts vehicle maneuvering areas outside the transfer station building will not be considered contaminated water and will be discharged in accordance with City of Plano, City Code of Ordinances, Section 21-68 as required by the City of Plano.

2.4 Protection of Endangered Species §330.63(b)(5)

WCG conducted a threatened and endangered species study for the TS area to determine whether the project would have an adverse effect. A copy of the WCG report can be found in Appendix I/IIB of the Parts I/II. Based on the information included in the WCG report, neither the TS facility nor its operation will result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of an endangered or threatened species as described in TAC §330.61(n)(1).

3 SURFACE WATER DRAINAGE REPORT §330.63(c)

3.1 Drainage Design §330.63(c)(1)

The TS will be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year, 24-hour storm event and will prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to minimize surface water running onto, into, and off the processing area. Therefore, the facility design complies with 30 TAC §330.303. Details of the drainage system and associated design demonstrations are included in Appendix IIIB, Surface Water Drainage Report.

3.2 Floodplain Considerations §330.63(c)(2)

As shown on Figure I/II-11.1 and Figure I/II-11.2 in Parts I/II, a portion of the TS facility is located within the 100-year floodplain. The nearest FEMA defined floodplain is located west of the community garden within an unnamed tributary of White Rock Creek. The 100-year floodplain elevation, per the effective FEMA flood insurance rate map is approximately 690.5 ft-msl. The proposed transfer station extension/truck loading tunnel will not be located within the 100-year floodplain; however, excavation, grading, and a portion of the driveway extension will occur within the 100-year floodplain (refer to Figure I/II-4.4). The loading tunnel will be constructed at an elevation of 696.5 ft-msl. A Flood Study was submitted to the City of Plano on April 29, 2020 and approved on May 8, 2020. This study estimated the 100-year floodplain elevation to be 694.5 ft-msl. A copy of the City of Plano approval letter is included in Section 11 in Parts I/II. No waste storage or processing will occur within the 100-year floodplain. Therefore, no washout of waste will occur during a 100-year storm event.

4 WASTE MANAGEMENT UNIT DESIGN §330.63(d)(1)

4.1 Waste Operations §330.63(d)(1)(A)

The TS facility has been designed for efficient MSW processing. All solid waste capable of creating public health hazards or nuisances will be stored within the building, processed or transferred promptly, and shall not be allowed to result in a nuisance or public health hazard.

Dedicated areas will be provided for the storage of tires and white goods/metals out of the way of the flow of traffic entering the TS facility.

The transfer station is limited by the Application to receive a maximum of 1,500 tons of waste per day averaged over 365 days, per year. This throughput is not a limit of design. A maximum of approximately 700 tons of waste could be stored at the facility within the enclosed building.

4.2 Spill Prevention and Control §330.63(d)(1)(B)

MSW staging and processing areas at this facility are located within the TS building. Storage of white goods and tires will be within curbed areas outside the TS building. Stormwater runoff within the curbed areas will be visually inspected for oil sheen. If no oil sheen is present, runoff will be discharged as uncontaminated stormwater. If sheen is present, this water will be collected and disposed into the City of Plano sanitary sewer system or at an offsite permitted disposal facility. The unloading areas have been designed to control and contain spills and contaminated water. Contaminated water generated by the TS facility will consist of washdown water applied to the tipping floor and stormwater runoff from the TS facility loading pit ramps and outdoor recycling storage areas. The tipping floor has been designed to control and contain spills and contaminated water. All contaminated water will be discharged to the City of Plano sanitary sewer system as shown on Figures IIIA-1 through IIIA-3. All discharges to the City of Plano sanitary sewer system will be done in accordance with the applicable pretreatment ordinances. The location of oil/water separator is shown on Figures IIIA-1 through IIIA-2.

4.3 Waste Storage Period §330.63(d)(1)(C)

The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harborage of other vectors. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid

waste will not be stored overnight at the facility except for extenuating emergency circumstances such as inclement weather or mechanical breakdown. Non-stored wastes will be transported daily to an area Type I MSW landfill.

5 CLOSURE PLAN §330.63(h)

A closure plan is included in Appendix IIC.

6 COST ESTIMATE FOR CLOSURE §330.63(j)

A cost estimate for the final closure of the facility is included as Appendix IIID. The estimated cost is \$73,600 in 2022 dollars.

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS**

**PART III
SITE DEVELOPMENT PLAN
APPENDIX IIIA
GENERAL FACILITY DESIGN DRAWINGS**

Prepared for

North Texas Municipal Water District

October 2022

Revised January 2023



Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

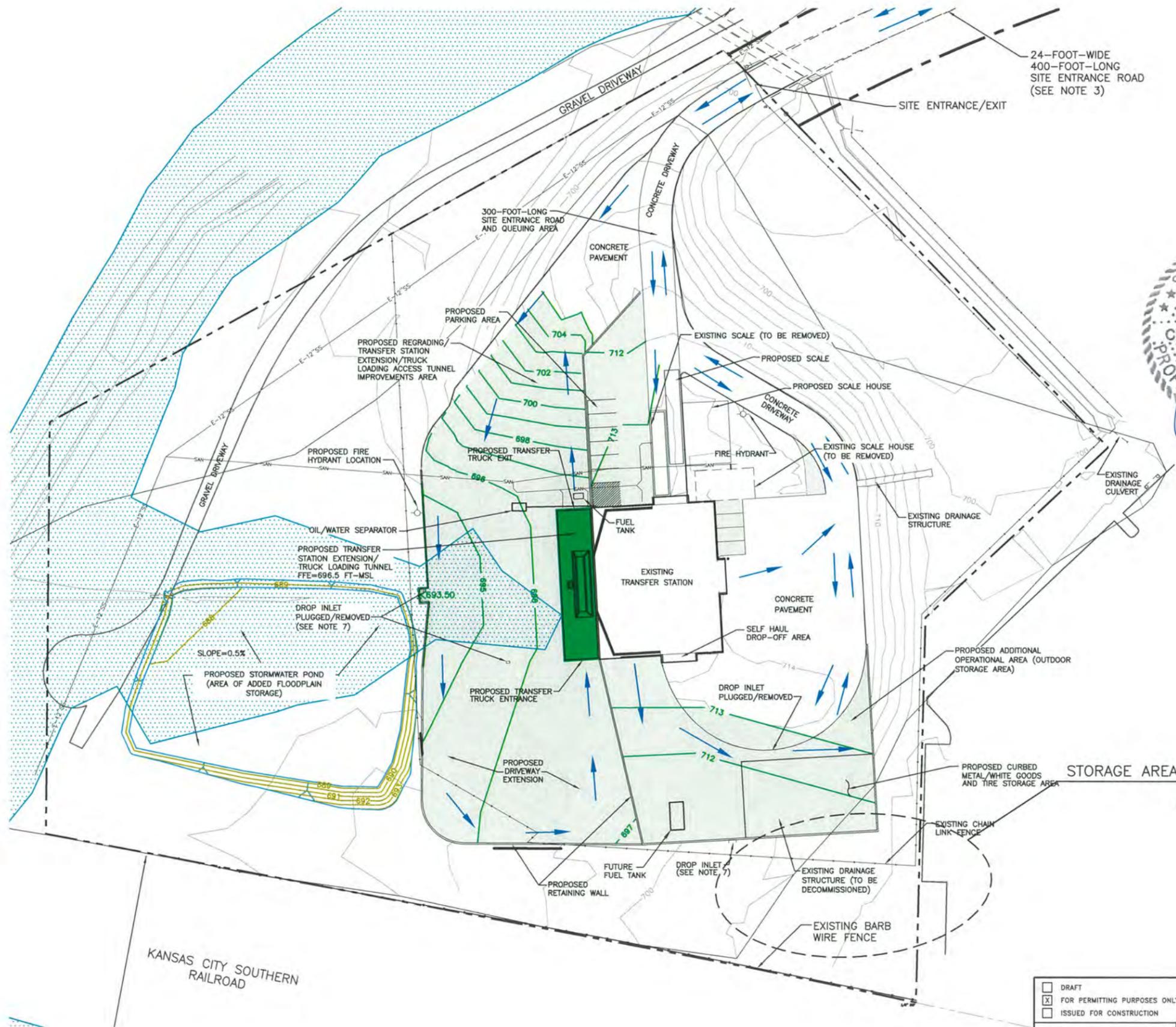
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CONTENTS

- FIGURE IIIA-1 – General Site Plan
- FIGURE IIIA-2 – Transfer Area Site Plan
- FIGURE IIIA-3 – Transfer Station Floor Plan
- FIGURE IIIA-4 – Building Elevations
- FIGURE IIIA-5 – White Goods/Metal and Tire Storage Areas



D:\1078\05\TYPE V PERMIT APPLICATION\PART III\CLEAN\IIIA-2 TRANSFER AREA SITE PLAN.dwg, cmarsh, 1.2



24-FOOT-WIDE
400-FOOT-LONG
SITE ENTRANCE ROAD
(SEE NOTE 3)



LEGEND

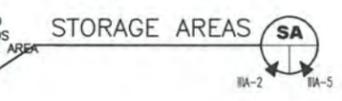
	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	PROPOSED GRADING CONTOUR 692
	PROPOSED PAVEMENT
	TRAFFIC FLOW PATTERN (SEE FIGURE IIIA-2 FOR ADDITIONAL INFORMATION IN TRANSFER STATION AREA)
	EXISTING SANITARY LINE
	EFFECTIVE 100-YEAR FLOODPLAIN (SEE NOTE 8)



NOTES:

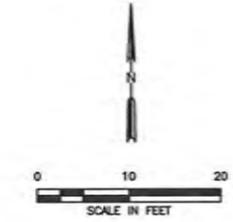
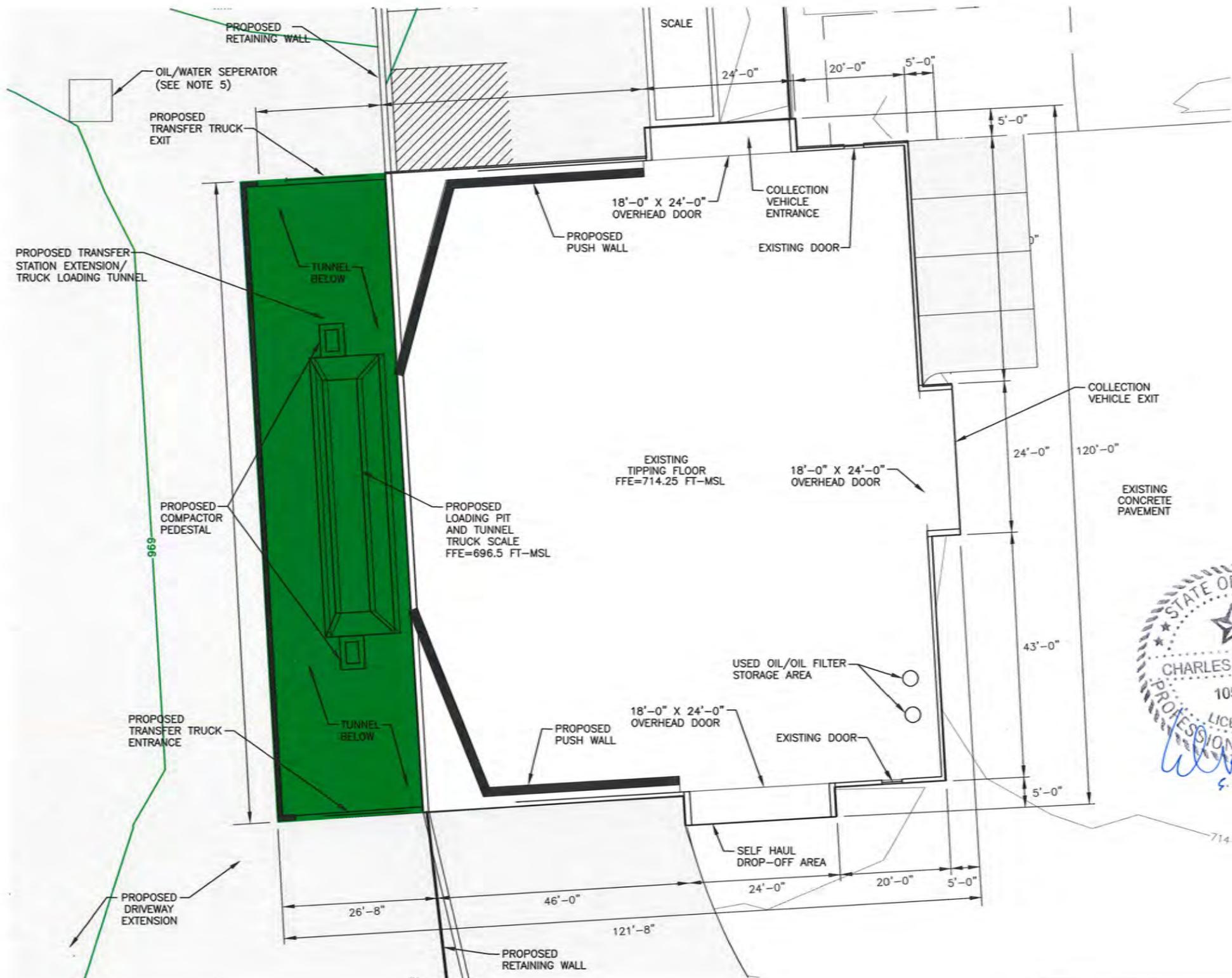
1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
2. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.
3. SITE ENTRANCE ROAD IS OWNED BY NTMWD BUT NOT INCLUDED IN THE PERMIT BOUNDARY.
4. ALL WASTE ACCEPTED AT THE FACILITY WILL BE STORED AND PROCESSED IN THE TRANSFER STATION BUILDING EXCEPT FOR WHITE GOODS/METAL AND TIRES. THIS SPECIAL WASTE WILL BE STORED IN THE AREA CALLED OUT ON THIS FIGURE.
5. NO SOLID WASTE OPERATIONS WILL OCCUR WITHIN ANY EASEMENT, BUFFER ZONE, OR RIGHT-OF-WAY.
6. STORAGE AND PROCESSING OF WASTES WILL OCCUR IN THE FOLLOWING AREAS:
 TIRES - DESIGNATED OUTDOOR STORAGE AREA
 WHITE GOODS/METALS - DESIGNATED OUTDOOR STORAGE AREA
 USED OIL/OIL FILTERS - DESIGNATED CONTAINER IN THE TRANSFER STATION BUILDING
 ALL OTHER WASTE IS STORED AND PROCESSED IN THE TRANSFER STATION BUILDING.
7. WASTE TRANSFER OPERATIONS WILL OCCUR INSIDE THE TRANSFER STATION. WATER THAT COMES INTO CONTACT WITH OPERATIONS INSIDE THE BUILDING WILL BE DISCHARGED TO THE CITY OF PLANO SANITARY SEWER SYSTEM. STORMWATER THAT DOES NOT COME INTO CONTACT WITH WASTE TRANSFER OPERATIONS WILL BE DISCHARGED IN ACCORDANCE WITH CITY CODE OF ORDINANCES, SECTION 21-68.
8. FLOODPLAIN REPRODUCED FROM EFFECTIVE FEMA FIRM PANEL NO. 4808SC0370K, EFFECTIVE DATE JUNE 7, 2017. FLOODPLAIN ELEVATION NEAR THE TRANSFER STATION BUILDING IS APPROXIMATELY 691.5 FT-MSL.

KANSAS CITY SOUTHERN
RAILROAD



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION TRANSFER AREA SITE PLAN	
	DATE: 04/2022 FILE: 1678-005-11 CAD: IIIA-2-TRANSFER AREA SITE PLAN.DWG		REVISIONS	
DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JVG	NO. 1 DATE 01/2023 DESCRIPTION PERMIT MODIFICATION	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE IIIA-2	

G:\1678\06\TYPE V PERMIT APPLICATION\PART III\CLEAN\IIIA-3 TRANSFER STATION FLOOR PLAN.dwg, jwilson, 1:2



LEGEND

	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	PROPOSED GRADING CONTOUR
	PROPOSED PAVEMENT
	EXISTING SANITARY LINE

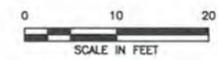
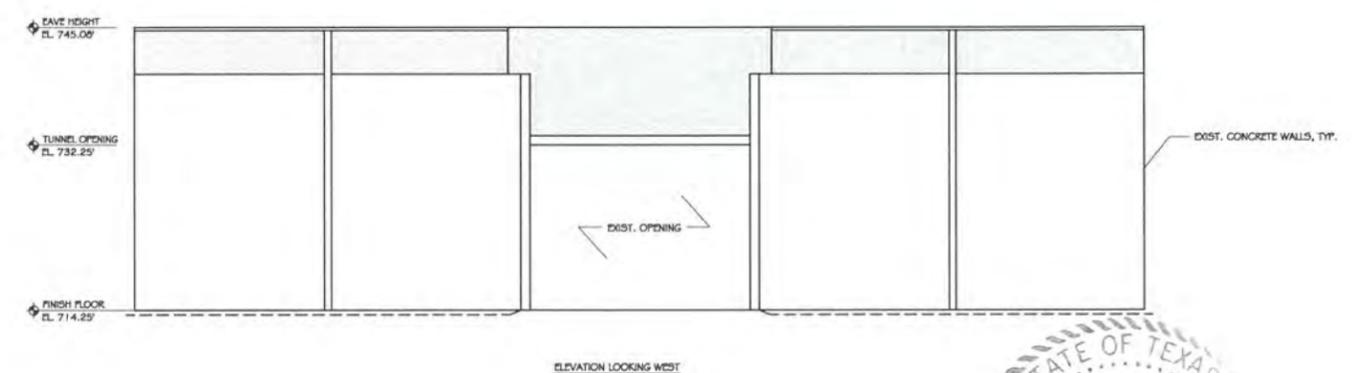
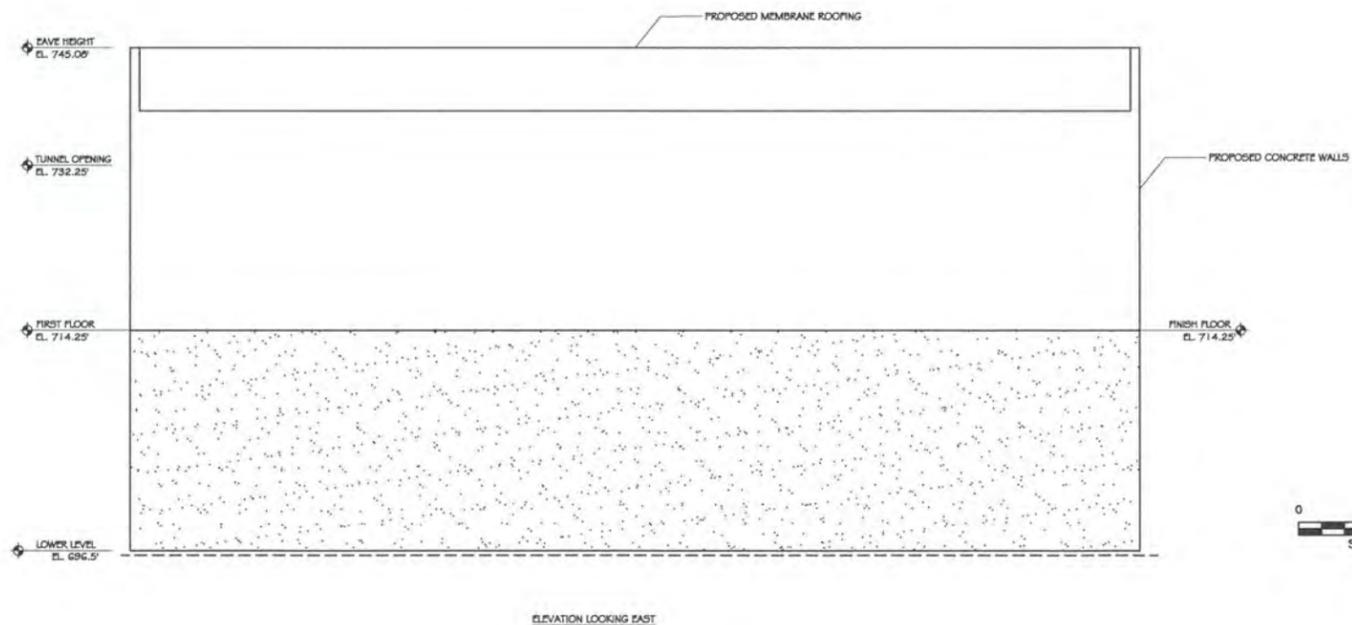
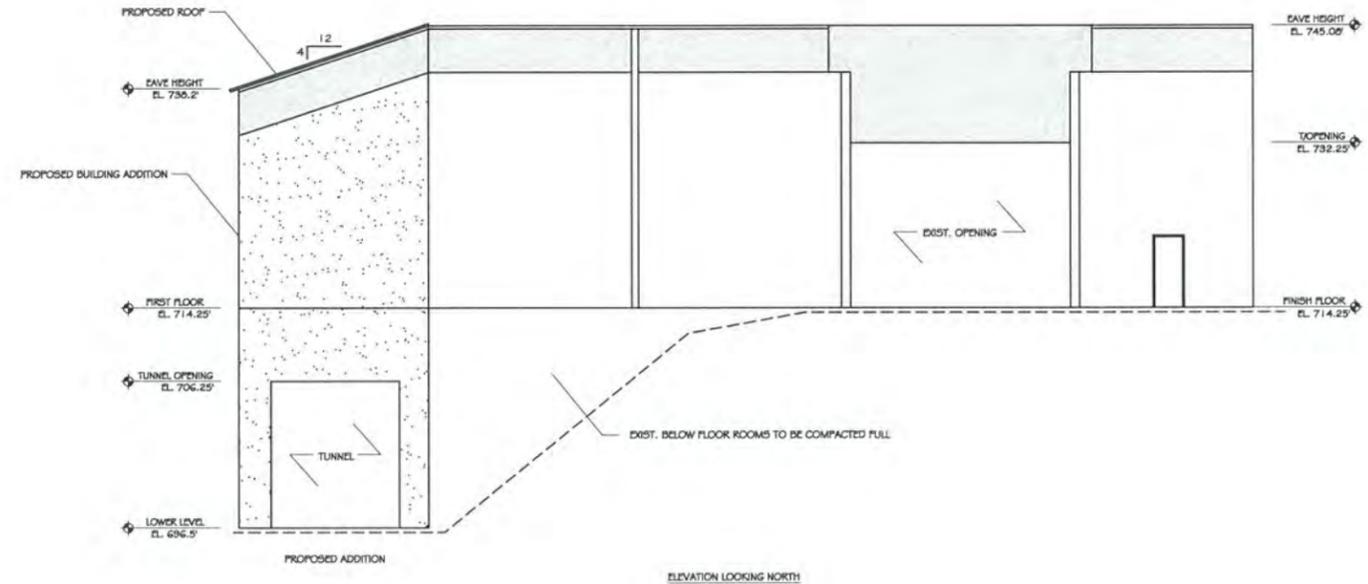
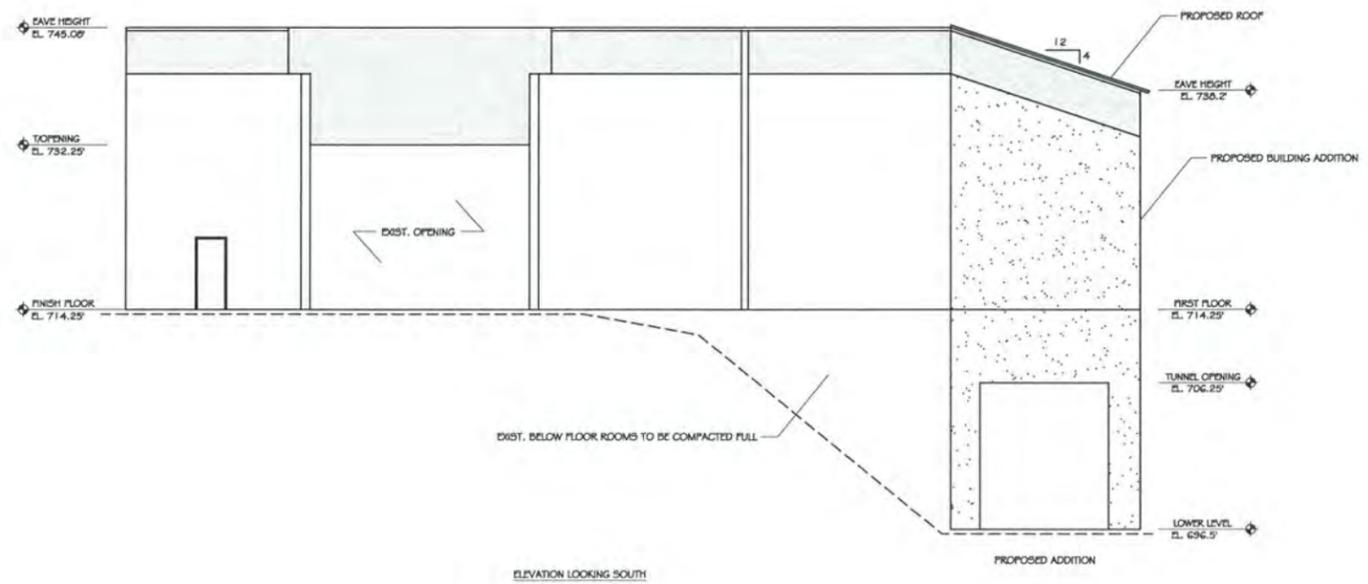
NOTES:

- TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
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- STORAGE AND PROCESSING OF WASTES WILL OCCUR IN THE FOLLOWING AREAS:
 TIRES - DESIGNATED OUTDOOR CURBED STORAGE AREA
 WHITE GOODS/METALS - DESIGNATED OUTDOOR CURBED STORAGE AREA
 USED OIL/OIL FILTERS - DESIGNATED CONTAINER IN THE TRANSFER STATION BUILDING
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<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION TRANSFER STATION FLOOR PLAN	
	DATE: 04/2022 FILE: 1678-005-11 DR: IIIA-3-TRANSFER STATION FLOOR PLAN.DWG		DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JAV	
REVISIONS			NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	
WEAVER CONSULTANTS GROUP TBPE REGISTRATION NO. F-3727			WWW.WCGRP.COM	
FIGURE IIIA-3			FIGURE IIIA-3	

0:\1678\05\TYPE V PERMIT APPLICATION\PART III\III-A-4 TRANSFER STATION ELEVATIONS.dwg, Farrington, 1.2

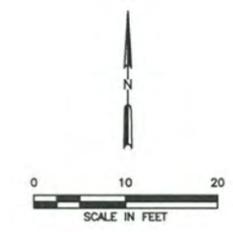
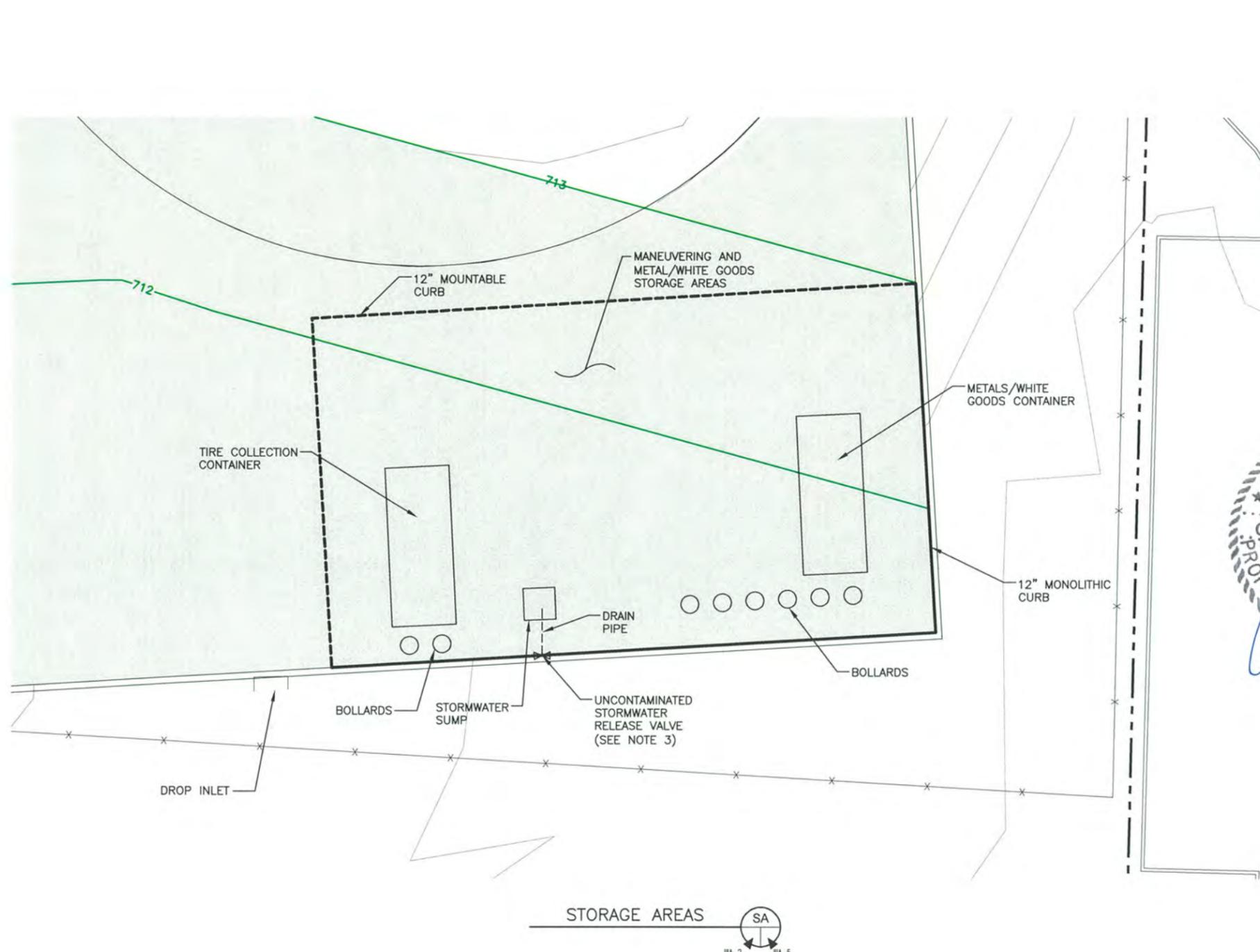


NOTE:
ELEVATIONS LISTED ARE RELATIVE.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION BUILDING ELEVATIONS
	DATE: 04/2022 FILE: 1678-005-11 CAD: IIIA-4-BUILDING ELEVATIONS.DWG	DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JVO		REVISIONS NO. DATE DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS	WWW.WCGRP.COM FIGURE IIIA-4

O:\1678\05\TYPE V PERMIT APPLICATION\PART III\CLEAN\IIA-5 STORAGE AREAS SITE PLAN.dwg, cmarsh, 1.2



LEGEND

	PERMIT BOUNDARY
	EXISTING FENCE
	TOPOGRAPHIC CONTOUR (SEE NOTE 1)
	PROPOSED GRADING CONTOUR
	PROPOSED PAVEMENT
	MONOLITHIC CURB
	MOUNTABLE CURB
	BOLLARD



RUNOFF MANAGEMENT CALCULATIONS FOR WHITE GOODS, TIRE AND METAL STORAGE AREA
 METAL/WHITE GOODS AND TIRE STORAGE AREA: 5225 SQ. FT W/ 12" CURB
 25 YEAR 24 HOUR PARTICIPATION: 7.25 IN
 FREEBOARD: 4.75 IN

- NOTES:**
1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
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 WHITE GOODS/METALS - DESIGNATED OUTDOOR STORAGE AREA
 USED OIL/OIL FILTERS - DESIGNATED CONTAINER IN THE TRANSFER STATION BUILDING
 ALL OTHER WASTE IS STORED AND PROCESSED IN THE TRANSFER STATION BUILDING.
 3. STORMWATER WILL BE VISUALLY INSPECTED FOR THE PRESENCE OF OIL SHEEN FOLLOWING SIGNIFICANT RAINFALL EVENTS. IF NO SHEEN IS IDENTIFIED, WATER IN THE STORAGE AREA WILL BE DISCHARGED AS UNCONTAMINATED STORMWATER. IF SHEEN IS PRESENT, WATER WILL BE COLLECTED AND DISPOSED AS CONTAMINATED WATER. ALL WATER WILL BE MANAGED TO AVOID DEVELOPMENT OF ODORS OR VECTORS.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION WHITE GOODS, TIRE AND METAL, STORAGE AREA SITE PLAN NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS					
	DATE: 04/2022 FILE: 1678-005-11 CAD: IIA-5-STORAGE SITE PLAN.DWG	DRAWN BY: SRF DESIGN BY: CLR REVIEWED BY: JVG		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>01/2023</td> <td>PERMIT MODIFICATION</td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION	1
NO.	DATE	DESCRIPTION						
1	01/2023	PERMIT MODIFICATION						
Weaver Consultants Group TBPE REGISTRATION NO. F-3727			WWW.WCGRP.COM FIGURE IIIA-5					

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TYPE V PERMIT AMENDMENT APPLICATION**

**PART III
SITE PLAN AND DESIGN CRITERIA
APPENDIX IIIB
FACILITY SURFACE WATER DRAINAGE REPORT**

Prepared for
North Texas Municipal Water District
October 2022
Revised January 2023



Prepared by
Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 1678-005-11-03

This document is issued for permitting purposes only.

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APPENDIX IIIB-B

Culvert Calculation

Erosion Protection Calculation

APPENDIX IIIB-C

Permitted Condition Drainage Analysis

APPENDIX IIIB-D

City of Plano Floodplain Authorization



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4-1	Flow Rates, Drainage Areas, Hydrograph Time to Peak Values, Runoff Volumes, and Velocities for the 25-Year Design Storm Event	IIIB-11
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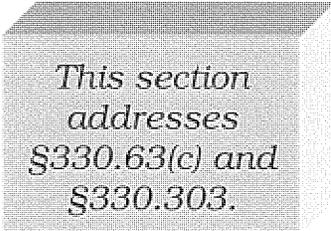
Figures

4.1	Permitted Drainage Conditions
4.2	Post-Development Drainage Conditions
4.3	Permitted and Post-Development Drainage Comparison
4.4	Flood Insurance Rate Map
4.5	Pond P1 Plan



1 INTRODUCTION

This Facility Surface Water Drainage Report is prepared as part of the Municipal Solid Waste (MSW) Type V Permit Amendment Application for the Parkway Transfer Station (TS) consistent with Title 30 Texas Administrative Code (TAC) §330.63(c) and §330.303. This plan addresses surface water drainage design and erosion control. Permit level plans and details are presented for the TS in Appendix IIIA.



*This section
addresses
§330.63(c) and
§330.303.*

Consistent with Title 30 TAC §330.63(c) and §330.303, the facility will be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year, 24-hour rainfall event and will prevent the off-site discharge of waste and in-process and/or processed materials. Surface water drainage in and around a facility shall be controlled to prevent surface water running onto, into, and off the transfer station processing area. Although not specifically required by the rules, the drainage analysis for a 25-year, 24-hour storm event is used to demonstrate that the existing drainage of the TS site will not be adversely altered. The supporting hydrologic demonstrations are included in Appendices IIIB-A and IIIB-C.

As shown on Figure 4.4 and discussed in Parts I/II, Section 11 – Floodplain and Wetlands Statement, a portion of the proposed driveway extension is located within the 100-year floodplain. However, the TS building and proposed tunnel extension is not located in the 100-year floodplain, as defined by the Federal Emergency Management Administration (FEMA). The finished floor elevation for the proposed tunnel is approximately 696.5 ft-msl, which is a minimum of 5 feet above the 100-year floodplain as defined by FEMA (see Figure 4.2). No waste storage or processing will occur within the 100-year floodplain. Additionally, local authorization from the City of Plano has been received authorizing the driveway extension in the floodplain (see Appendix IIIB-D).

Section 2 of this report includes a discussion of the regional drainage, stormwater management system, and TPDES compliance. Section 3 discusses the detailed drainage design methodology. Section 4 demonstrates that the TS development will not adversely alter the permitted drainage patterns.

2 STORMWATER MANAGEMENT

2.1 Regional Drainage Information

According to the USGS Watershed Boundary Dataset (WBD), the Parkway Transfer Station is located in the White Rock Creek Watershed (HUC: 120301050104). The facility drains to an unnamed tributary of White Rock Creek in Plano, Texas, which then flows south to White Rock Lake and joins the Trinity River near William Blair Jr. Park in Dallas, Texas.

2.2 Surface Water Protection

The TS has been designed to achieve the following goals.

1. Prevent a discharge of solid wastes or pollutants adjacent to or into waters of the state.
2. Prevent a discharge of pollutants into waters of the United States.
3. Prevent a discharge of dredged or fill material to waters of the United States.
4. Prevent a discharge of nonpoint source pollution to waters of the United States.
5. Avoid adverse alteration of existing drainage patterns.

The TS facility will consist of a building with a reinforced concrete slab foundation with the transfer truck tunnel located below the grade of the slab. Drainage from the facility is designed to maintain the existing drainage patterns at the permit boundary and will prevent the offsite discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to prevent surface water running onto, into, and off the processing area. For example:

- Uncontaminated stormwater run-on and runoff will be directed away from the transfer station building entrances by site grading. The inside of the transfer station building will not result in any storm-generated contaminated water since the transfer station building is completely covered. Stormwater

will be managed by maintaining the existing stormwater patterns in areas outside of the transfer station building footprint.

- Runoff originating on the east portion of the facility (DCP1 and DCP2 on Figures 4.1 and 4.2) generally flows north and northeast offsite. Only the southernmost portion of this eastern area is proposed to be developed. The north-central portion of the facility (DCP3) directs runoff via sheet flow to the north and offsite. The west portion of the site includes most of the proposed improvements to the TS. Runoff from the proposed paved area DA7 is conveyed to a detention pond (as shown on Figure 4.2) and proceeds west through DA6 towards DCP4 via sheet flow. The culvert beneath the driveway and low-lying areas upstream of it provide some storage and detention for runoff from the TS before discharging to the west to an existing tributary of White Rock Creek (shown on Figure 4.5).
- Due to the facility location, there is no offsite runoff that enters the Transfer Station building.
- The finish floor elevation for the tipping floor is approximately 714 ft.-msl, which is approximately 24 feet above the nearest 100-year floodplain elevation. There is no proposed development within the 100-year floodplain.
- The finished floor elevation for the proposed tunnel is approximately 696.5 ft.-msl, which is a minimum of 5 feet above the 100-year floodplain as defined by FEMA (see Figure 4.2).

2.3 Drainage System Layout

The general drainage pattern of the existing TS site is from the east to the west. The TS site is located at a topographic high point, generally isolating the site from upland flow. The existing transfer station area, located on the east portion of the site, generally drains east and north via sheet flow. An existing tributary of White Rock Creek located immediately west of the TS site receives the majority of on-site runoff and conveys it to White Rock Creek and ultimately, the Trinity River.

After the development of the proposed TS is complete, drainage patterns will remain similar to the existing drainage patterns at the TS site. Runoff within the permit boundary is conveyed mainly by sheet flow to discharge locations on the north, west, and east sides of the permit boundary. An existing culvert on the west side of the site will detain and attenuate the runoff generated within the permit boundary due to the site development. The culvert discharges west, towards a tributary of White Rock Creek.

2.4 TPDES Compliance

The TS will operate in such a manner as to prevent discharge of pollutants into waters of the state or United States as defined by the Texas Water Code and the Federal Clean Water Act. The site is subject to the TCEQ's stormwater permit requirements and will operate under the TPDES multi-sector General Permit for Stormwater Discharges, under SIC 4212 (Transportation and Warehousing). Construction is subject to the TCEQ's stormwater permit requirements and will operate under the current TPDES MSGP Authorization Number TXR05AN09.

North Texas Municipal Water District (NTMWD) will maintain the current Notice of Intent (NOI) for the Parkway TS. The facility Stormwater Pollution Prevention Plan (SWPPP) will be revised and implemented prior to operating the improved facility. The current TCEQ TPDES MSGP Authorization number for this site is TXR05AN09.

2.5 Erosion and Sedimentation Control Plan

Erosion and sedimentation control will be provided, as necessary, during construction activities through the use of temporary diversion berms, silt fences, and hay bales. These measures will be developed to provide for control of erosion and sediment prior to stormwater flows leaving the site. The temporary erosion control measures will be documented in the SWPPP that will be developed prior to construction of the facilities, consistent with TPDES requirements. Permanent erosion control features have been included in the final site design. These features include the establishment of vegetation or other landscaping on the non-paved portion of the site. In addition, site grading is designed to convey runoff without causing erosion (i.e., runoff velocities are less than 5 ft/sec during a 25-year, 24-hour storm event).

3 DRAINAGE SYSTEM DESIGN

3.1 Methodology

Drainage calculations for the TS are based on the peak flow rates resulting from the 25-year, 24-hour rainfall event for the area. The USACE HEC-1 computer program was used to compute peak flow rates produced from the design storm. The hydraulic methods employed in this study are consistent with those presented in the TCEQ *Surface Water Drainage Technical Guidance Manual for a Municipal Solid Waste Facility (RG-H17, August 2006)*, the 2019 *TxDOT Bridge Division Hydraulic Manual*, and the *City of Plano Storm Drainage Design Manual*. Manning's n values for culverts, pavement, and vegetated areas were taken from the "Suggested Manning's Roughness Coefficients" table (Chapter 6, Section 1) of the 2019 *TxDOT Bridge Division Hydraulic Manual*.

3.2 Hydrologic Analysis

3.2.1 Description of Computer Program

HEC-1 was used to model the permitted and post-development conditions to determine peak flows entering and leaving the TS site. HEC-1 was developed by the USACE Hydrologic Engineering Center to simulate the surface runoff response of a watershed. The HEC-1 model represents a watershed as a network of hydrologic and hydraulic components. The modeling process results in the computation of stream-flow hydrographs at desired locations in the watershed. The hydrologic analysis for the post-development conditions are included in Appendix IIIB-A and the permitted conditions are included in Appendix IIIB-C.

3.2.2 Watershed Subareas and Schematization

The TS site was delineated to derive a peak flow leaving the TS site. The drainage areas for the post-development and permitted conditions are discussed in Appendix IIIB-A and Appendix IIIB-C, respectively.

3.2.3 Time Step

The time step, or the program computation interval, is the time interval that the flow rates for the hydrographs are generated by the program. The time step used for a design storm event is 5 minutes.

3.2.4 Hypothetical Precipitation

The hypothetical precipitation of the storm was obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 for the project area. For this analysis, the design storm utilized was the 25-year, 24-hour storm event. The precipitation is assumed to be evenly distributed over the TS site for each time interval.

3.2.5 Precipitation Losses

Precipitation losses (the precipitation that does not contribute to the runoff) are calculated using the Soil Conservation Service (SCS) Curve Number (CN) method. CN is a function of soil cover, land use, and antecedent moisture conditions. A CN of 98 was selected to represent the postdevelopment concrete-paved areas at the site, 91 for gravel-surfaced areas, and 80 for natural (existing) ground or vegetated areas. A CN of 100 was used for the low-lying storm water storage areas upstream of the culvert. Further discussion on selection of CN values is provided in Appendices IIIB-A and IIIB-C for post-development and permitted conditions.

3.2.6 Hydrograph Information

The Snyder Unit Hydrograph Method of hydrograph generation using the Espey “10-Minute” method for parameter estimation was used in this hydrologic analysis. Reservoir storage-discharge methods were used for hydrograph routings. Information for the model parameters used for this project is included in Appendix IIIB-C (permitted) and Appendix IIIB-A (post-development).

Snyder Unit Hydrograph Method

The Snyder unit hydrograph method has been used for the offsite and overland flow drainage areas. The method is applicable to basins with a wide range of basin area watershed length, slope, impervious, and conveyance characteristics. The Snyder unit hydrograph method has been perhaps the most widely studied and used unit hydrograph method. Several different methods have been developed to estimate Snyder unit hydrograph parameters (watershed lag and peaking coefficient). The Espey “10-Minute” method was used in this project to estimate Snyder unit hydrograph parameters. The Espey “10-Minute” method was developed using flow records from 41 different watersheds in Texas and other states. The primary advantage of the Espey “10 Minute” method is that it is one of the best methods for developing hydrograph parameters for small-size drainage basins.

Hydrograph Routing

The hydrograph at the culvert was generated by routing the inflow through the available volume for the culvert storage. Additionally, the physical characteristics of the gravel driveway were incorporated as the spillway for the storage area.

4 SITE DRAINAGE PATTERNS

This section provides a demonstration that the TS development will not adversely alter the existing permitted drainage patterns. A summary of drainage patterns and stormwater flows produced by the 25-year, 24-hour storm event are presented on the following Appendices.

- Appendix IIIB-A – Post-development Condition Hydrologic Calculations
- Appendix IIIB-C – Permitted Condition Hydrologic Calculations

The following two sections discuss: (1) site drainage patterns and (2) the effect of the proposed development on peak flows, volumes, and velocities discharged from the site.

4.1 Site Drainage Patterns

The post-development drainage patterns are consistent with the permitted drainage patterns. Runoff exits the permit boundary in both analyzed conditions from discharge locations DCP1, DCP2, DCP3 and DCP4. The total drainage area to each of the four outfalls is approximately the same for the existing and post-development conditions.

Runoff exiting the permit boundary on the northwest (DCP3) or northeast (DCP1 and DCP2) sides discharge via sheet flow across the permit boundary towards existing drainage features that convey runoff to a tributary of White Rock Creek. DCP4 discharges west towards the tributary of White Rock Creek after being routed through an existing culvert.

4.2 Effect of Site Development on Drainage from the Site

4.2.1 Peak Flow Rates

As shown on Table 4-1, the comparison of permitted and post-development drainage conditions at the site shows that the peak flows generated by a 25-year storm event and discharging off the permit boundary of the site are not adversely altered by the proposed TS development. Additionally, the TS site design will not change the direction at which stormwater runoff leaves the site. Drainage analyses

for post-development conditions and permitted conditions at the site are presented in Appendices IIIB-C and IIIB-A, respectively.

Stormwater exiting the permit boundary discharges at four main locations, northeast (DCP1 and DCP2), north (DCP3) and west (DCP4). The proposed development includes adding paved areas to the site, and results in a maximum increase of 1 cfs in the peak discharge rate at DCP2. This increase of 1 cfs at this location is not an adverse impact. There is no change in the peak flow rate at DCP1. At the north discharge point (DCP3) the post-development peak flow rate remains the same as in the existing condition. The discharge point on the west side of the site (DCP4) includes adding more paved area. However, the increased runoff generated by paved areas is managed by increasing the volume of the detention pond (P1) such that there is a decrease of 9 cfs in peak flow rate at the west discharge location. Subsequently, runoff in DA2 and DA7 has been increased in the post-development condition. These areas discharge into P1 and are attenuated before discharging to the west.

As shown on Table 4-1, the hydrograph times to peak at all discharge points remained the same in both permitted and post-development conditions.

4.2.2 Volumes

Post-development runoff volume generated at the northeast discharge point (DCP1 and DCP2) are slightly increased due to adding more paved areas relative to existing condition. Runoff volume at the northwest discharge point (DCP3) remains the same in both the existing and the post-development conditions. Runoff volume at the west discharging point (DCP4) decreased due to the reduced area draining to the west in comparison with the permitted condition. Runoff volume calculations are provided in Appendices IIIB-A and IIIB-C. As shown on Table 4-1, the maximum increase in runoff volume for discharge point DCP2 is 0.11 acre-feet. However the increased volume is discharged at the same peak flow rate as the permitted condition. This increase in volume is not an adverse alteration.

4.2.3 Velocities

A summary of the 25-year frequency storm peak flow velocities that exit the site are shown on Table 4-1 and Figure 4.3. Flow velocity at DCP2 increases slightly due to the minor increase (1 ft/sec) at this location. At no other location are the velocities increased in the post-project condition. Velocity calculations are provided in Appendices IIIB-A and IIIB-C for the post-development and permitted conditions, respectively.

4.2.4 Floodplain

As discussed in Section 11 of Parts I/II, a portion of the proposed driveway extension is located within the 100-year floodplain, however, the TS building and proposed tunnel extension are not located in the 100-year floodplain. A reproduction of the effective floodplain delineation is shown on Figures 4.1 and 4.2. The effective FIRM is shown on Figure 4.4.

4.3 Summary

From the hydrological evaluations of the permitted and post-development conditions, the permitted drainage conditions at the permit boundary will not be adversely altered by the proposed development. Given that: (1) drainage patterns are not adversely altered, (2) the post-development peak discharge rates compared to the permitted condition are not adversely altered at the permit boundary, (3) the hydrograph times to peak at the permit boundary are not altered by the proposed development, (4) total volume of stormwater leaving the permit boundary is not significantly altered for the permitted and post-development conditions, (5) there is no significant increase in velocity at discharge points from the permit boundary and all velocities are non-erosive (less than 5 fps), (6) the stormwater discharge outfall locations are consistent with the existing configuration, and (7) the floodplain is not impacted, it is concluded that the proposed development will not adversely alter permitted drainage patterns.

Table 4-1
Flow Rates, Drainage Areas, Hydrograph Time to Peak Values, Runoff Volumes, and Velocities
for the 25-Year Design Storm Event

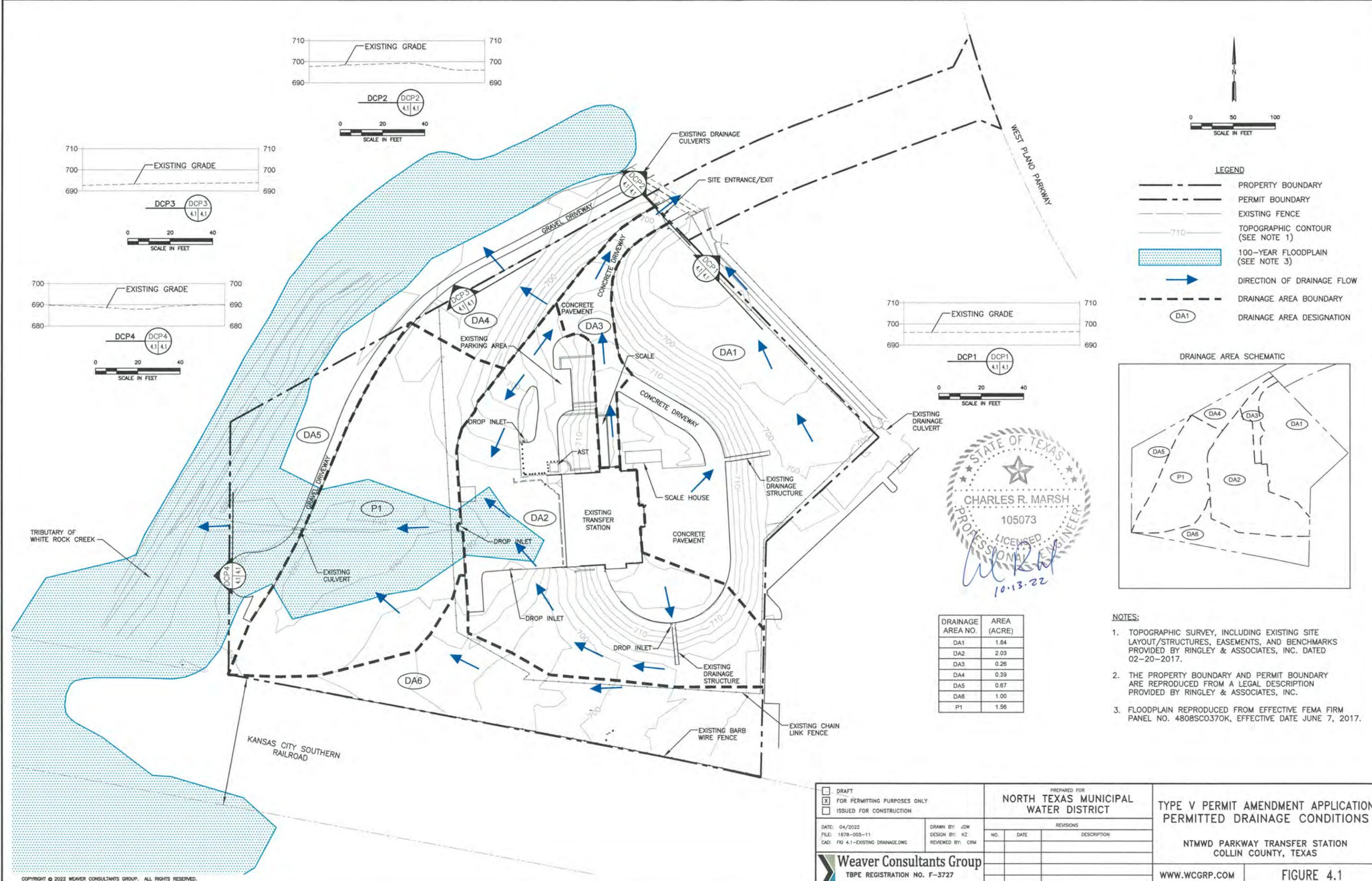
Stormwater Discharge Point ¹	Permitted Conditions				Post-development Conditions					
	Flow Rate (cfs)	Drainage Area (acres)	Time to Peak (hrs)	Runoff Volume (ac-ft)	Velocity at Permit Boundary ² (ft/sec)	Flow Rate (cfs)	Drainage Area (acres)	Time to Peak (hrs)	Runoff Volume (ac-ft)	Velocity at Permit Boundary ² (ft/sec)
DCP1	11	1.84	12.17	0.85	2.00	11	1.89	12.17	0.87	2.00
DCP2 ³	2	0.26	12.17	0.15	1.87	3	0.44	12.17	0.26	2.09
DCP3	2	0.39	12.17	0.16	1.11	2	0.39	12.17	0.16	1.11
DCP4	21	5.26	12.25	2.74	4.19	12	5.03	12.25	2.70	3.51

¹ Stormwater discharge points are shown on Figure 4.3. The volume shown is the total volume of runoff for the hydrograph duration.

² Runoff volume and velocity calculations are provided in Appendix IIIB-A and IIIB-C.

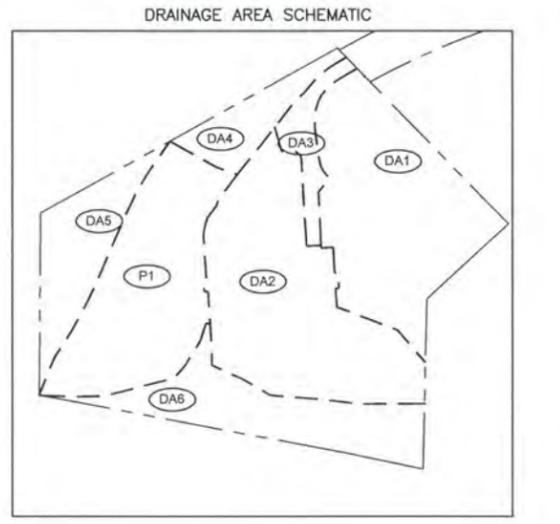
³ Discharges onto access road owned by Permittee.

O:\1678\05\TYPE V PERMIT APPLICATION\PART III\FIC 4.1-EXISTING DRAINAGE CONDITIONS.dwg, mbahmani, 1:2



LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- EXISTING FENCE
- TOPOGRAPHIC CONTOUR (SEE NOTE 1)
- 100-YEAR FLOODPLAIN (SEE NOTE 3)
- DIRECTION OF DRAINAGE FLOW
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA DESIGNATION

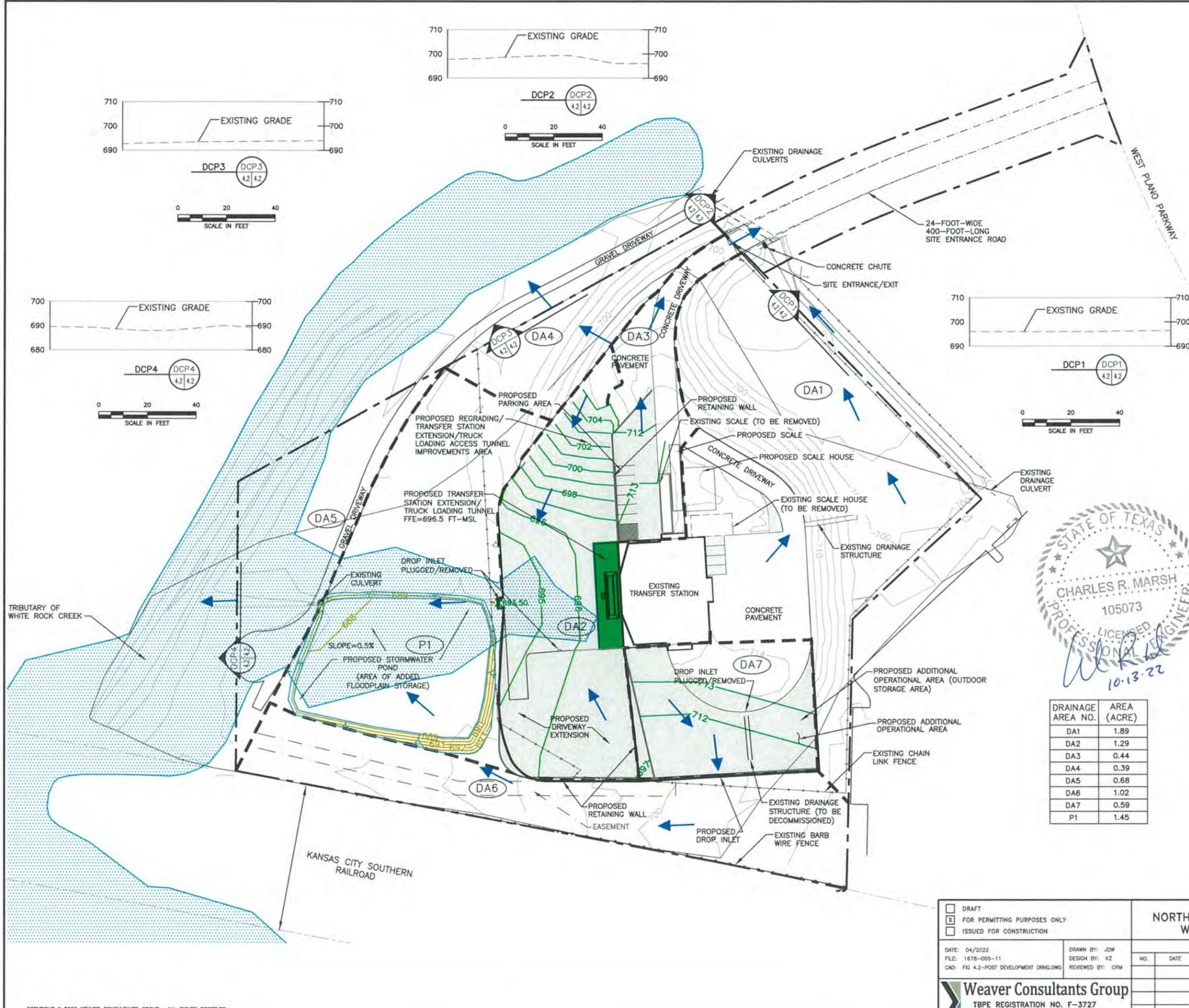


DRAINAGE AREA NO.	AREA (ACRE)
DA1	1.84
DA2	2.03
DA3	0.26
DA4	0.39
DA5	0.67
DA6	1.00
P1	1.56

- NOTES:**
- TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
 - THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY & ASSOCIATES, INC.
 - FLOODPLAIN REPRODUCED FROM EFFECTIVE FEMA FIRM PANEL NO. 4808SC0370K, EFFECTIVE DATE JUNE 7, 2017.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION PERMITTED DRAINAGE CONDITIONS						
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.1-EXISTING DRAINAGE.DWG		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION		
NO.	DATE	DESCRIPTION							
DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS							
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE 4.1						

0:\1678\05\TYPE V PERMIT APPLICATION\PART III\FIG 4.2-POST-DEVELOPMENT DRAINAGE.dwg, mbahmani, 1:2



LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- EXISTING FENCE
- TOPOGRAPHIC CONTOUR (SEE NOTE 1)
- 713 PROPOSED GRAVING CONTOUR
- PROPOSED PAVEMENT
- 100-YEAR FLOODPLAIN (SEE NOTE 3)
- ➔ DIRECTION OF DRAINAGE FLOW
- DRAINAGE AREA BOUNDARY
- DA1 DRAINAGE AREA DESIGNATION
- 690 PROPOSED POND EXCAVATION CONTOUR

DRAINAGE AREA SCHEMATIC

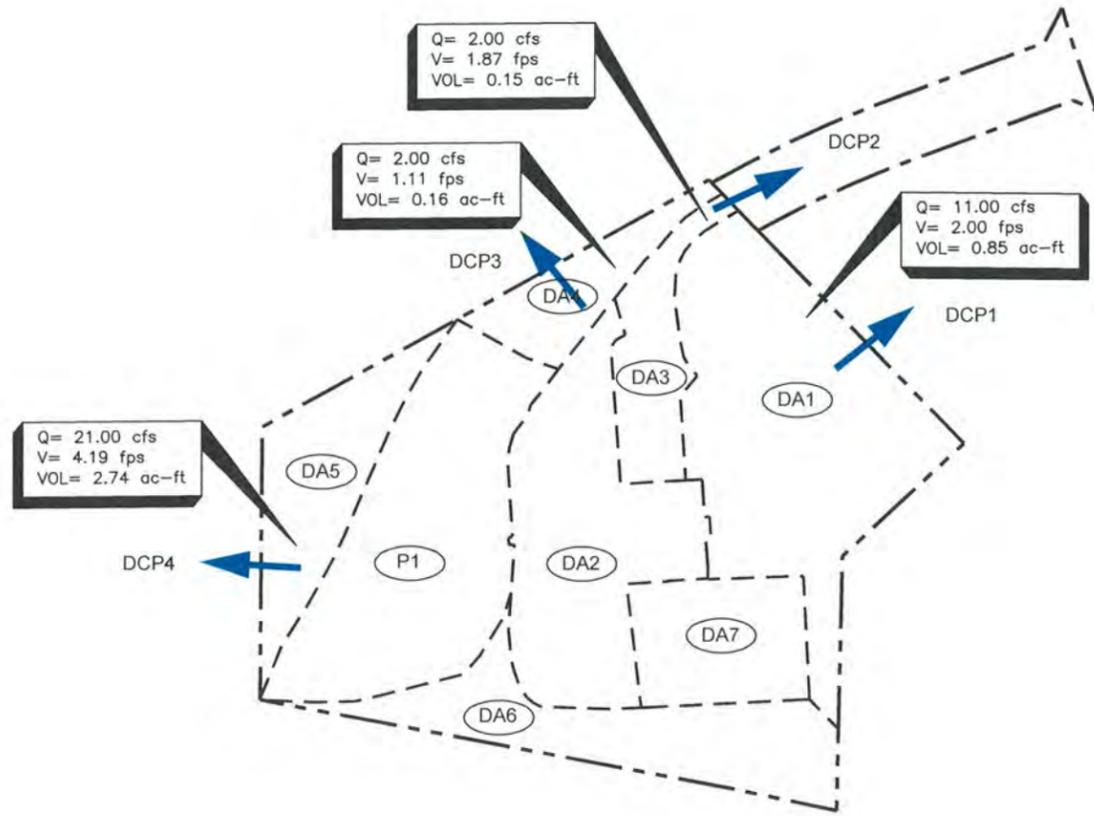


DRAINAGE AREA NO.	AREA (ACRE)
DA1	1.89
DA2	1.29
DA3	0.44
DA4	0.39
DA5	0.68
DA6	1.02
DA7	0.59
P1	1.45

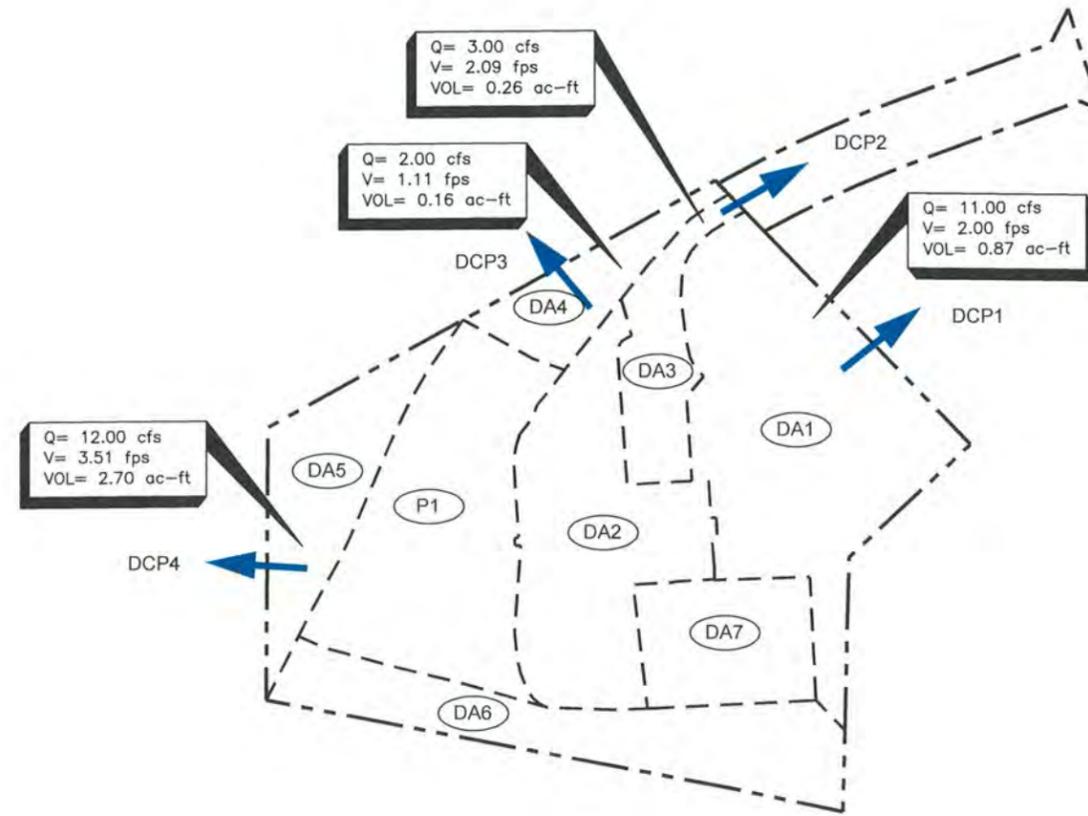
- NOTES:**
- TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
 - THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.
 - FLOODPLAIN REPRODUCED FROM EFFECTIVE FEMA FIRM PANEL NO. 4808SC0370K, EFFECTIVE DATE JUNE 7, 2017. FLOODPLAIN ELEVATION NEAR THE TRANSFER STATION BUILDING IS APPROXIMATELY 691.5 FT-MSL.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT	TYPE V PERMIT AMENDMENT APPLICATION POST DEVELOPMENT DRAINAGE CONDITIONS
DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.2-POST DEVELOPMENT DRNG.DWG	DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM	NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 4.2

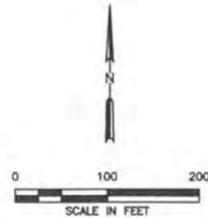
O:\1678\05\TYPE V PERMIT APPLICATION\PART III\FIG 4.3 DRAINAGE COMPARISON.dwg, mjbahmani, 1:2



PERMITTED CONDITIONS



POST-DEVELOPMENT CONDITIONS



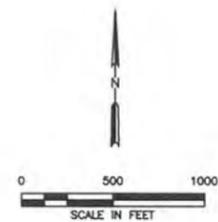
- LEGEND**
- PROPERTY BOUNDARY
 - PERMIT BOUNDARY
 - DRAINAGE BOUNDARY
 - DCP1 STORMWATER DISCHARGE POINT
 - Q= 11.00 cfs 25-YEAR 24-HOUR STORM EVENT PEAK FLOW RATE
 - V= 3.39 fps 25-YEAR 24-HOUR FLOW VELOCITY
 - VOL= 2.80 ac-ft 25-YEAR 24-HOUR FLOW VOLUME

NOTE:

1. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION PERMITTED AND POST-DEVELOPMENT DRAINAGE COMPARISON
	DATE: 04/2022 FILE: 1678-005-11 CAD: FIG 4.3 DRAINAGE COMPARISON.DWG			NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM	REVISIONS		WWW.WCGRP.COM
Weaver Consultants Group TBPE REGISTRATION NO. F-3727	NO. DATE DESCRIPTION	FIGURE 4.3	



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 Base Flood Elevation line and value; elevation in feet* (EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A-A Cross section line
- 23-23 Transect line
- Culvert, Flume, Penstock or Aqueduct
- Road or Railroad Bridge
- Footbridge

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, Zone 14

5000-foot grid ticks: Texas State Plane coordinate system, North Central Zone (FIPS 4202), Lambert Conformal Conic Projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

- ML5 River Mile

STATE OF TEXAS
 CHARLES R. MARSH
 105073
 PROFESSIONAL ENGINEER
 10.13.22

NOTE:
 1. FLOODPLAIN INFORMATION PROVIDED BY FEMA FIRM PANEL 0370K FOR COLLIN COUNTY, TEXAS AND INCORPORATED AREAS REVISED JUNE 7, 2017.

DRAFT
 FOR PERMITTING PURPOSES ONLY
 ISSUED FOR CONSTRUCTION

DATE: 04/2022
 FILE: 1678-005-11
 CAD: FIG 4.4 FIRM MAP.DWG

DRAWN BY: JDW
 DESIGN BY: CRA
 REVIEWED BY: JVO

Weaver Consultants Group
 TBPE REGISTRATION NO. F-3727

PREPARED FOR
NORTH TEXAS MUNICIPAL WATER DISTRICT

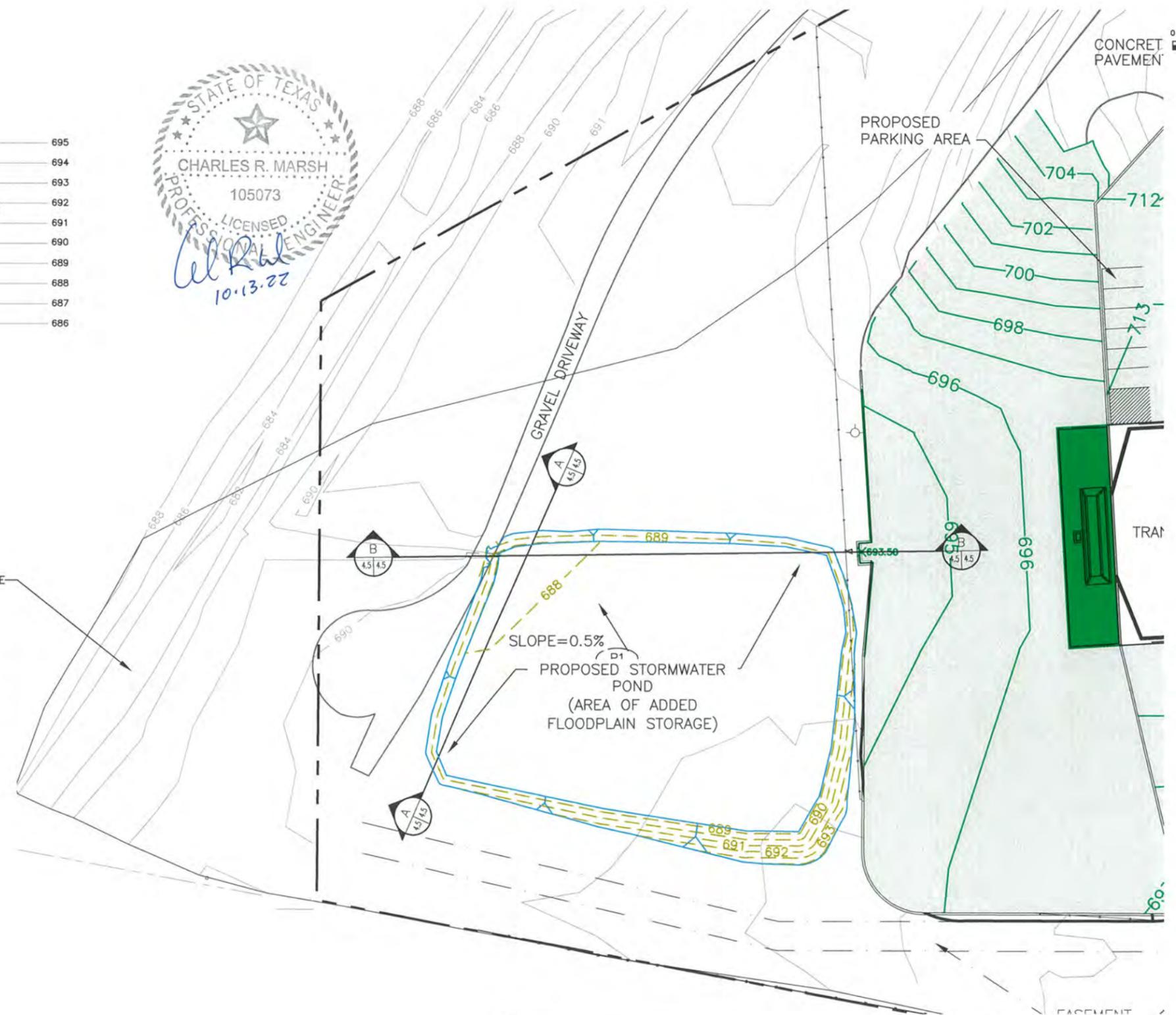
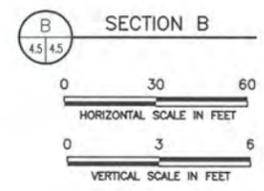
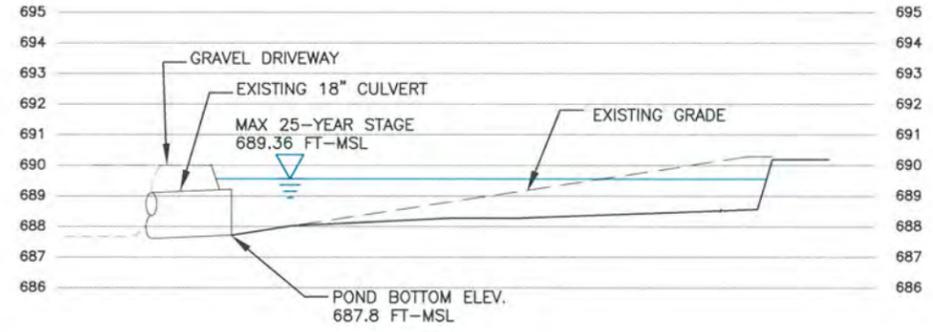
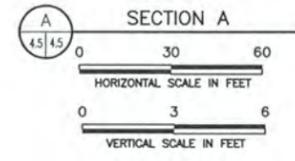
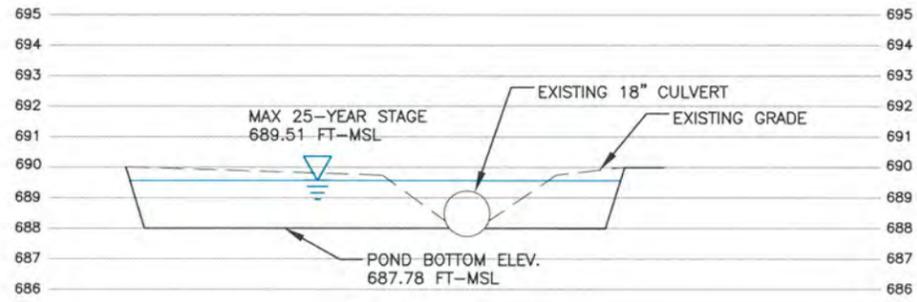
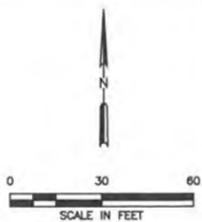
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT AMENDMENT APPLICATION FLOOD INSURANCE RATE MAP

NTMWD PARKWAY TRANSFER STATION
 COLLIN COUNTY, TEXAS

WWW.WCGRP.COM **FIGURE 4.4**

D:\1678\005\TYPE V PERMIT APPLICATION\PART III\FIG 4.4-FIRM.dwg, sford, 1:2



LEGEND

- PERMIT BOUNDARY
- PROPOSED POND EXCAVATION CONTOUR
- PROPOSED CONTOURS
- EXISTING CONTOURS

NOTES:

1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
2. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION POND P1 PLAN
	DATE: 04/2022 FILE: 1678-005-11 CAD: 4.2 POST DEVELOPMENT DRNG.DWG		
DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM	REVISIONS		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS
	NO.	DATE		DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727			WWW.WCGRP.COM

FIGURE 4.5

D:\1678\05\TYPE V PERMIT APPLICATION\PART III\FIG 4.5-POND PLAN.dwg, mbahmani, 1:2

APPENDIX IIIB-A

POST-DEVELOPMENT CONDITION DRAINAGE ANALYSIS

Includes pages IIIB-A-1 through IIIB-A-34



CONTENTS

Hypothetical Storm Data	IIIB-A-1
Precipitation Loss Data	IIIB-A-3
Hydrograph Development Information	IIIB-A-9
Post-Development HEC-1 Analysis Drainage Areas	IIIB-A-15
HEC-1 Output – Post-development 25-Year, 24-Hour Storm Event	IIIB-A-17
Volume Calculations	IIIB-A-29
Velocity Calculations	IIIB-A-32



HYPOTHETICAL STORM DATA

Hypothetical Storm Data

Precipitation data taken from NOAA Atlas 14, Volume 11, Version 2.

Time	5 min	15 min	60 min	2 hr	3 hr	6 hr	12 hr	24 hr
25 Year Event	0.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29

PRECIPITATION LOSS DATA

Required: Determine the SCS curve numbers for the on-site drainage areas and pond for use in the HEC-1 analysis.

References:

1. Dodson's and Associates, Inc., *ProHec-1 Plus Program Documentation*, 1995.
2. United States Department of Agriculture, National Resource Conservation Service, Web Soil Survey for Collin County, Texas (<http://websoilsurvey.nrcs.usda.gov>).

Solution: Based on the soil survey information found in Ref. 2, hydrologic group D soils predominate the soils within the permit boundary drainage area (see pages IIIB-A-5 through IIIB-A-7).

The underdeveloped portions of subbasins (e.g., non-paved areas) were considered to be open space, contoured and in good condition. A curve number was selected using the table on IIIB-A-8.

Use: CN = 80

The curve number for the proposed concrete-paved areas was selected using the chart on IIIB-A-8.

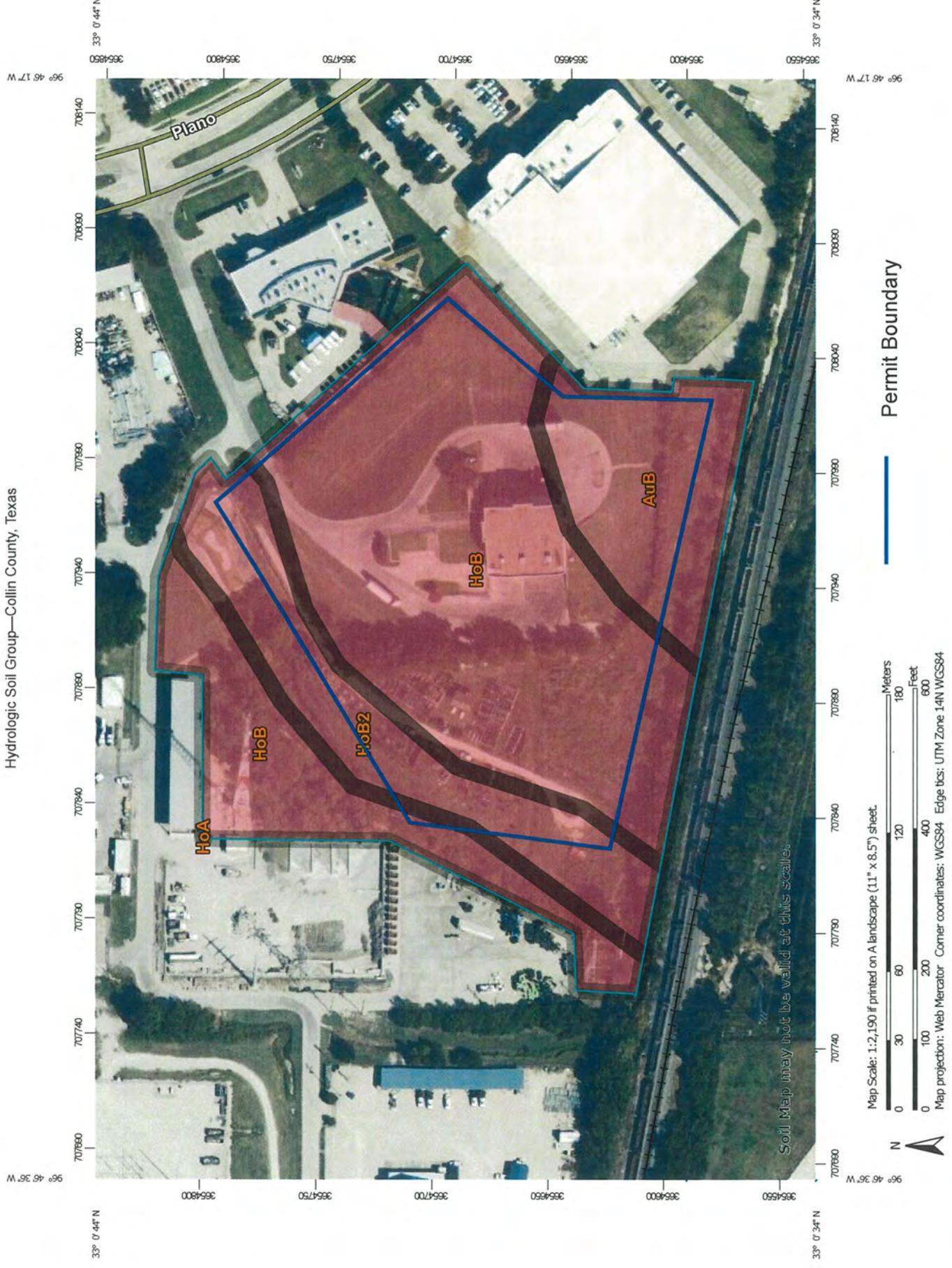
Use: CN = 98

The curve number for the proposed gravel areas was selected using the chart on IIIB-A-8.

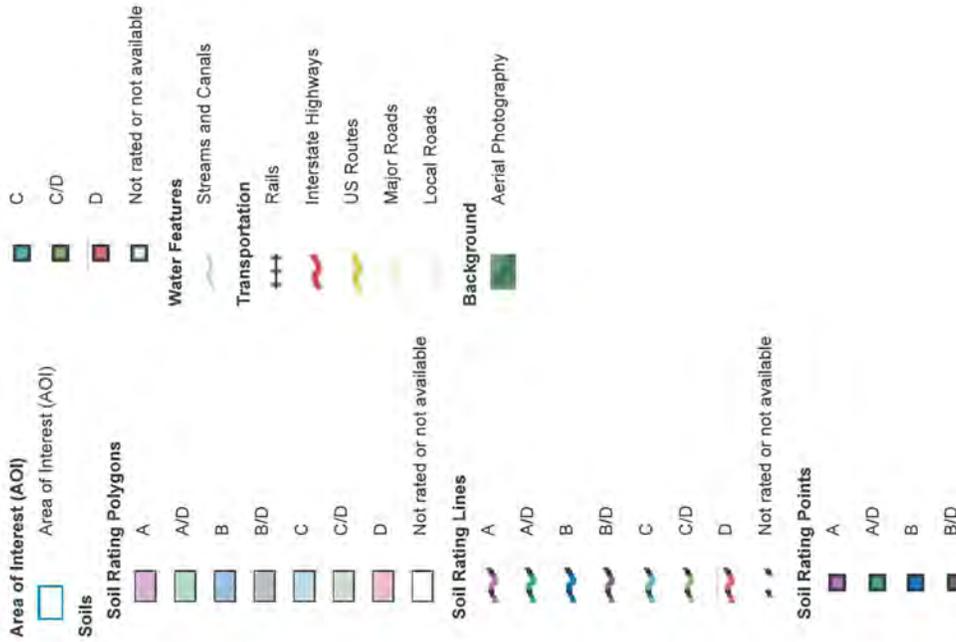
Use: CN = 91

The pond area is assumed to consist of areas that have zero precipitation losses (water surfaces) with vegetated sideslopes and gravel-surfaced top of embankment areas

Use: CN = 100



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Collin County, Texas
 Survey Area Data: Version 17, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AuB	Austin silty clay, 1 to 3 percent slopes	D	1.9	15.0%
HoA	Houston Black clay, 0 to 1 percent slopes	D	0.0	0.0%
HoB	Houston Black clay, 1 to 3 percent slopes	D	8.3	66.7%
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded	D	2.3	18.2%
Totals for Area of Interest			12.4	100.0%

IIIB-A-7



"Straight row" and the hydrologic condition is "Good", then the SCS Curve Numbers will range from 67 to 89, depending on the soil group.

Land Use Description	Hydrologic Soil Group			
	A	B	C	D
Residential:				
1/8 acre or less average lots (65% imperv.)	77	85	90	92
1/4 acre average lots (38% impervious)	61	75	83	87
1/3 acre average lots (35% impervious)	57	72	81	86
1/2 acre average lots (25% impervious)	54	70	80	85
1 acre average lots (20% impervious)	51	68	79	84
Paved parking lots, roofs, driveways, etc.	98	98	98	98
Streets and Roads:				
Paved with curbs and storm sewers	98	98	98	98
gravel	76	85	89	91
dirt	72	82	87	89
Commercial & Business Areas (85% Impervious)	89	92	94	95
Industrial Districts (72% Impervious)	81	88	91	93
Open Spaces, Lawns, Parks, Golf Courses, Cemeteries, etc.:				
good condition grass cover on 75% or more	39	61	74	80
fair condition grass cover on 50% to 75%	49	69	79	84

TABLE 5.2 Values of SCS Curve Number for Urban and Suburban Areas

Source: [McCuen, 1982].

The values this table are "adjusted" to account for the effects of urbanization. These adjusted values already account for the effects of impervious cover in the watershed. Therefore, the "Percent Impervious Cover in Watershed" value should normally be set to zero (0) if the adjusted Curve Numbers listed in this table are used.

This is **not** the method recommended for use in HEC-1.

HYDROGRAPH DEVELOPMENT INFORMATION

HYDROGRAPH DEVELOPMENT INFORMATION

Offsite and Overland Flow Areas

The hydrographs for the drainage areas were developed using the Snyder unit hydrograph method. The Espey “10 Minute” method has been used to estimate Snyder parameters. Snyder parameter estimations are provided on pages IIB-A-11 through IIB-A-14.

Drainage Areas

The drainage areas used for this analysis are shown on Sheet IIB-A-16. The routing scheme is shown in the HEC-1 output file.

Snyder's Hydrograph Coefficients (Espey's 10 Minute Method)

Proposed Conditions

Area No.	Area (acres)	Max. Flow Length (L) (ft)	S (ft/ft)	I (%)	Manning "n"	CN	ϕ^1	T_r^2 (min)	T_{lag}^3 (min)	T_{lag} (hr)	Area ⁴ (sq mi)	q_p^5 (cfs/sq mi)	C_p^6
DA1	1.89	458	0.04	25	0.03	85	0.75	10.1	7.6	0.13	0.0030	3353.2	0.67
DA2	1.29	271	0.07	100	0.01	98	0.60	4.4	1.9	0.03	0.0020	8381.8	0.62
DA3	0.44	340	0.05	100	0.01	98	0.60	4.9	2.4	0.04	0.0007	7714.4	0.48
DA4	0.39	200	0.17	2	0.04	80	0.86	11.4	8.9	0.15	0.0006	3150.7	0.73
DA5	0.68	117	0.03	10	0.04	82	0.84	10.8	8.3	0.14	0.0011	3242.4	0.70
DA6	1.02	450	0.03	2	0.04	80	0.86	21.9	19.4	0.32	0.0016	1502.8	0.76
DA7	0.59	136	0.11	100	0.01	98	0.60	3.3	0.8	0.01	0.0009	11709.1	0.24

¹ Conveyance efficiency coefficient from Dodson & Associates Inc., *ProHec-1 Program Documentation*, 1995, pages 6-19 and 6-20.

² $T_r = 3.1(L^{0.25})(S^{-0.25})(T_r^{0.19})(\phi^{1.27})$

³ $T_{lag} = T_r - \Delta V/2$

⁴ From area summary sheet

⁵ $q_p = 31600(A^{-0.09})(T_r^{-1.07})$

⁶ $C_p = 49.375(A^{-0.09})(T_r^{-1.07})(T_{lag})$

T_r = surface runoff to unit hydrograph peak (min)

L = distance along main channel from study point to watershed boundary (ft)

S = main channel slope (ft/ft)

I = impervious cover within the watershed (%)

T_{lag} = watershed lag time (min)

Δt = computation interval (minutes)

q_p = unit hydrograph peak discharge (cfs/sq mi)

C_p = Snyder's peaking coefficient

Snyder Unit Hydrograph uses lag time (T_{lag}) and peaking coefficient accounting for flood wave and watershed storage conditions.

Drainage area "DA1" is used in this example.

Estimated Watershed specific parameters

A =	1.89	acres	watershed area
L =	458	feet	maximum flow length with this watershed
S =	0.04	feet/feet	watershed slope
I =	25	percent (%)	watershed imperviousness
n =	0.03		Manning's coefficient

Calculate T_r : time beginning of surface runoff to the unit hydrograph peak in minutes

$$T_r = 3.1(L^{0.23})(S^{-0.25})(I^{-0.18})(\Phi^{1.57})$$

Estimate : conveyance efficiency coefficient

See figure 6.12 on page IIIB-A-14 for estimating

Φ = for 32 percent impervious cover and $n = 0.04$

$$\Phi = 0.75$$

$$T_r = 3.1(458^{0.23})(0.04^{-0.25})(25^{-0.18})(0.75^{1.57})$$

$$T_r = 10.1 \quad \text{min}$$

Calculate T_{lag} : watershed lag time

$$T_{lag} = T_r - (\Delta t/2)$$

$$T_{lag} = 7.6 \quad \text{minutes}$$

$$T_{lag} = 0.13 \quad \text{hours}$$

Δt is calculation interval, and 5 minutes is used in the HEC - 1 modeling in this project

$$A = A/640$$

$$A = 0.0030 \quad \text{square miles}$$

Calculate q_p : peak discharge of unit hydrograph per unit area (cfs/sq. mi).

$$q_p = 31600(A^{-0.04})(T_r^{-1.07})$$

$$q_p = 31600(0.0032^{-0.04})(5.8^{-1.07})$$

$$q_p = 3353.2 \quad \text{cfs/sq. mi}$$

Calculate Peaking coefficient C_p :

$$C_p = 49.375(A^{-0.04})(T_r^{-1.07})(T_{lag})$$

$$C_p = 49.375(0.0032^{-0.04})(10.1^{-1.07})(0.13)$$

$$C_p = 0.67$$

compute the value of Snyder's peaking coefficient C_p for use in HEC-1 analyses. First, the watershed lag time T_L is determined by subtracting one-half of the computation interval from the time to rise ($T_L = T_r - \Delta t/2$). Then, C_p may be computed by substituting the known values of T_L and q_p into Snyder's equation for peak unit hydrograph flow rate and solving for C_p .

$$C_p = \frac{q_p \times T_L}{640} \tag{6.30}$$

In another study, Espey [1977] derived the following equation for computing the time from the beginning of surface runoff to the unit hydrograph peak:

$$T_r = 3 \cdot 10L^{0.23} S^{-0.25} I^{-0.18} \Phi^{1.57} \tag{6.31}$$

Espey "10-Minute" Method for Estimating Snyder Parameters

in which:

T_r = time from beginning of surface runoff to unit hydrograph peak (minutes)

L = total distance along main channel from study point to watershed boundary (feet)

S = main channel slope between the reference point and a point 0.2L downstream from the upstream watershed boundary (feet per foot)

I = impervious cover within the watershed (percent)

Φ = description of conveyance efficiency of the watershed drainage system.

The conveyance efficiency coefficient Φ is determined using the relationships illustrated on Figure 6.12.

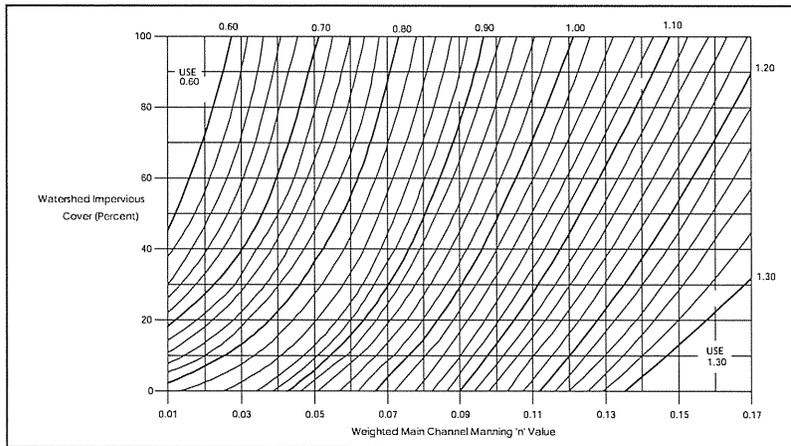


FIGURE 6.12 Determination of Conveyance Efficiency Coefficient Φ

This equation was derived from records for 41 watersheds in Texas, Tennessee, Mississippi, Pennsylvania, North Carolina, Colorado, Kentucky, and Indiana. The range in the watershed characteristics used to develop the equations for urban areas were:

Area : From 0.0128 square miles to 15.00 square miles

L : From 555 feet to 35,600 feet

S : From 0.0005 ft. per ft. to 0.0295 ft. per ft.

I : From 2% to 100%

Φ : From 0.60 to 1.30

Again, note that the time to rise T_r is not the same as the watershed lag time T_p . The difference between the two is that T_r is defined as the time from the beginning of effective rainfall to the peak of the unit hydrograph, while T_L is the time from the centroid of the effective rainfall to the peak of the unit hydrograph. For the purposes of HEC-1 analyses, however, T_L may be determined simply by subtracting one-half the computation time interval from the computed value of T_r ($T_r - \Delta t/2$).

The relationship developed by Espey to compute the peak flow rate of the unit hydrograph is as follows:

$$6.32 \quad Q_u = 31600A^{0.96}T_r^{-1.07}$$

in which:

Q_u = unit hydrograph peak discharge (cfs)

A = drainage area (square miles)

T_r = time of rise from beginning of surface runoff to unit hydrograph peak (minutes)

Riverside County Method for Estimating Snyder Parameters

Three watershed lag equations have been derived for use in rural areas of Riverside County, California by the Riverside County Flood Control and Water Conservation District [Anonymous, 1963]. These equations differ slightly from those developed at the Tulsa District of the U.S. Army Corps of Engineers in that lag is defined as the time from the beginning of rainfall to the point on the unit hydrograph corresponding to one-half of the total runoff volume.

Each equation is applicable to a different topographic region:

$$6.33 \quad T_L = 1.20 \left(\frac{L \times L_{ca}}{\sqrt{S}} \right)^{0.38} \quad \text{(Mountain Areas)}$$

$$6.34 \quad T_L = 0.72 \left(\frac{L \times L_{ca}}{\sqrt{S}} \right)^{0.38} \quad \text{(Foothill Areas)}$$

$$6.35 \quad T_L = 0.38 \left(\frac{L \times L_{ca}}{\sqrt{S}} \right)^{0.38} \quad \text{(Valley Areas)}$$

in which:

T_L = watershed lag in hours

L = watershed length in miles

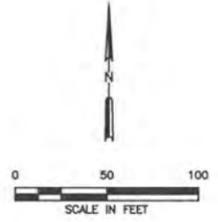
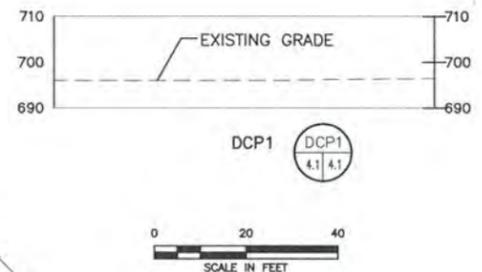
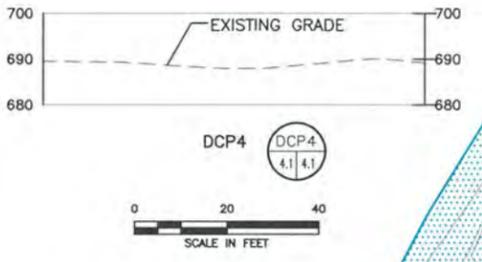
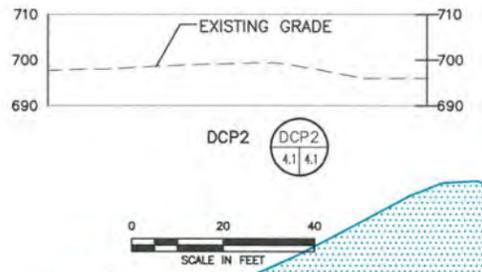
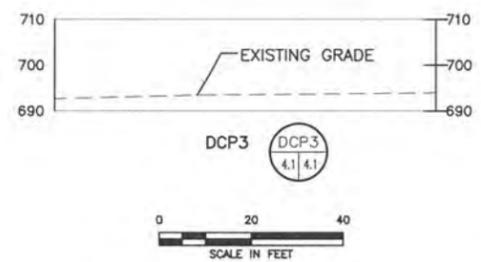
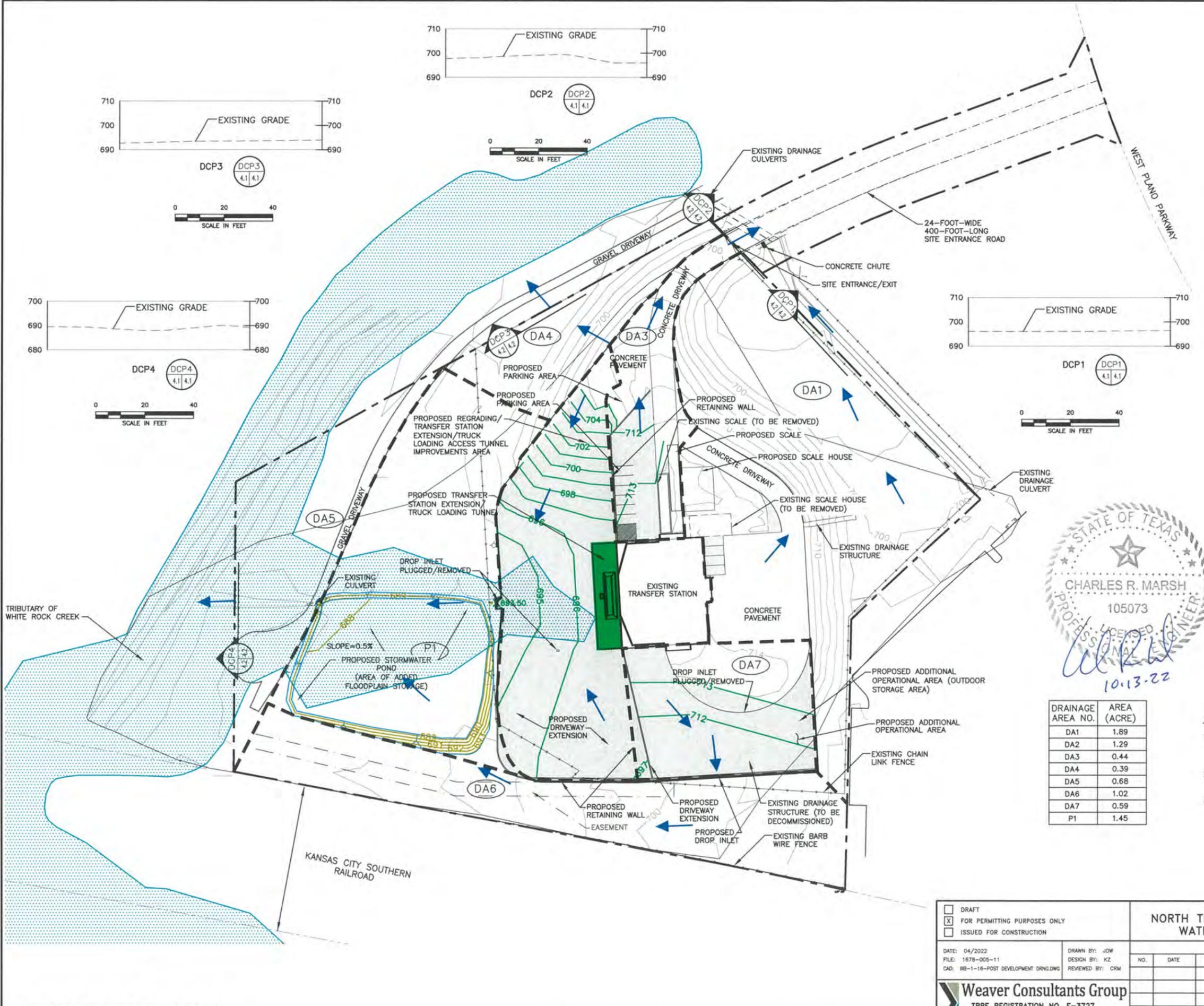
L_{ca} = length to centroid in miles

S = watershed slope in feet per mile.

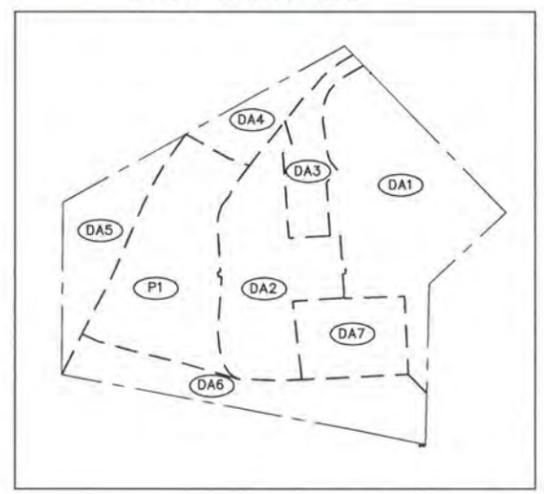
The sizes of the watersheds studied in developing these equations ranged from 2.3 square miles to 645 square miles.

**POST-DEVELOPMENT HEC-1
ANALYSIS DRAINAGE AREAS**

D:\1678\05\TYPE V PERMIT APPLICATION\PART III\IIB-A-16 POST-DEVELOPMENT DRAINAGE.dwg, mbahmani, 1:2



- LEGEND**
- PROPERTY BOUNDARY
 - - - PERMIT BOUNDARY
 - - - EXISTING FENCE
 - 710 --- TOPOGRAPHIC CONTOUR (SEE NOTE 1)
 - 713 --- PROPOSED GRADING CONTOUR
 - PROPOSED PAVEMENT
 - 100-YEAR FLOODPLAIN (SEE NOTE 3)
 - DIRECTION OF DRAINAGE FLOW
 - - - DRAINAGE AREA BOUNDARY
 - (DA1) DRAINAGE AREA DESIGNATION
 - 690 --- PROPOSED POND EXCAVATION CONTOUR



DRAINAGE AREA NO.	AREA (ACRE)
DA1	1.89
DA2	1.29
DA3	0.44
DA4	0.39
DA5	0.68
DA6	1.02
DA7	0.59
P1	1.45

- NOTES:**
1. TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
 2. THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY AND ASSOCIATES, INC.
 3. FLOODPLAIN REPRODUCED FROM EFFECTIVE FEMA FIRM PANEL NO. 4808SC0370K, EFFECTIVE DATE JUNE 7, 2017.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION POST DEVELOPMENT DRAINAGE CONDITIONS						
	DATE: 04/2022 FILE: 1678-005-11 CAD: IIB-1-16-POST DEVELOPMENT DRNG.DWG		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION		
NO.	DATE	DESCRIPTION							
DRAWN BY: JOW DESIGN BY: KZ REVIEWED BY: CRM		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS							
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM IIB-A-16							

**HEC-1 OUTPUT – POST-DEVELOPMENT
25-YEAR, 24-HOUR STORM EVENT**

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 07MAR22 TIME 08:53:56
*
*****

```

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

```

```

X X XXXXXXX XXXX X
X X X X X XX
X X X X X X
XXXXXX XXXX X XXXX X
X X X X X X
X X X X X X
X X XXXXXXX XXXX XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1

HEC-1 INPUT

PAGE 1

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
1 ID PARKWAY TRANSFER STATION
2 ID 25-YEAR, 24-HOUR STORM EVENT
3 ID PROPOSED CONDITION
4 ID P:\SOLID WASTE\NTMWD\PARKWAY TS\TYPE V PERMIT AMENDMENT\
5 ID DRAINAGE ANALYSIS
6 IT 5 0 2400 720 0 0
7 IO 3 0 0
*
8 KK DA1
9 KM SUBAREA DA1
10 PH 0 0.82 1.62 2.96 3.78 4.31 5.25 6.24 7.29
11 KO 0 0 0 7 21
12 BA 0.003
13 LS 0 85
14 US 0.13 0.67
*
15 KK DA2
16 KM SUBAREA DA2
17 KO 0 0 0 7 21
18 BA 0.002
19 LS 0 98
20 US 0.03 0.62
*
21 KK DA7
22 KM SUBAREA DA7
23 KO 0 0 0 7 21
24 BA 0.0009
25 LS 0 98
26 US 0.01 0.24
*
27 KK DA6
28 KM SUBAREA DA6
29 KO 0 0 0 7 21
30 BA 0.0016
31 LS 0 80
32 US 0.32 0.76
*
33 KK CODA6
34 KM COMBINE DA7 AND DA6
35 KO 0 0 0 7 21
36 HC 2
*
37 KK P1
38 KM DETENTION POND P1
39 KO 0 0 0 7 21
40 BA 0.0023
41 LS 0 100
42 UD 0
*

```

1

HEC-1 INPUT

PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
43 KK P1-IN
44 KM COMBINE AREAS DICHARGING TO POND P1
45 KO 0 0 0 7 21
46 HC 3
*

```

```

47      KK      CULV1
48      KM      ROUTE THROUGH POND CULV1
49      KO      0      0      0      7      21
50      RS      1      ELEV      687.8
51      SA      0      0.035      0.584      0.745
52      SE      687.8      688      689      690
53      SS      689.9      25      2.6      1.5
54      SL      688.5      1.77      0.6      0.5
      *

55      KK      DA5
56      KM      SUBAREA DA5
57      KO      0      0      0      7      21
58      BA      0.0011
59      LS      0      82
60      US      0.14      0.7
      *

61      KK      CODA5
62      KM      COMBINE CULV1 AND DA5
63      KO      0      0      0      7      21
64      HC      2
      *

65      KK      DA3
66      KM      SUBAREA DA3
67      KO      0      0      0      7      21
68      BA      0.0007
69      LS      0      98
70      US      0.04      0.48
      *

71      KK      DA4
72      KM      SUBAREA DA4
73      KO      0      0      0      7      21
74      BA      0.0006
75      LS      0      80
76      US      0.15      0.73
      *
77      ZZ

```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

8      DA1
      .
15     .      DA2
      .
21     .      .      DA7
      .
27     .      .      .      DA6
      .
33     .      .      CODA6.....
      .
37     .      .      .      P1
      .
43     .      P1-IN.....
      .      V
      .      V
47     .      CULV1
      .
55     .      .      DA5
      .
61     .      CODA5.....
      .
65     .      .      DA3
      .
71     .      .      DA4

```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```

*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 07MAR22 TIME 08:53:56 *
*****

```

```

*****
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
*****

```

PARKWAY TRANSFER STATION
25-YEAR, 24-HOUR STORM EVENT
PROPOSED CONDITION
F:\SOLID WASTE\WTMWD\PARKWAY TS\TYPE V PERMIT AMENDMENT\
DRAINAGE ANALYSIS

7 IO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 5 MINUTES IN COMPUTATION INTERVAL
 IDATE 1 0 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 720 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 4 0 ENDING DATE
 NDTIME 1155 ENDING TIME
 ICENT 19 CENTURY MARK

 COMPUTATION INTERVAL .08 HOURS
 TOTAL TIME BASE 59.92 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

*** **

8 KK *****
 * *
 * DA1 *
 * *

 SUBAREA DA1

11 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE
 IPNCH 7 PUNCH COMPUTED HYDROGRAPH
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED
 ISAV2 720 LAST ORDINATE PUNCHED OR SAVED
 TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

12 BA SUBBASIN CHARACTERISTICS
 TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
 HYDRO-35 TP-40 TP-49
 5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
 .82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

 STORM AREA = .00

13 LS SCS LOSS RATE
 STRL .35 INITIAL ABSTRACTION
 CRVNR 85.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

14 US SNYDER UNITGRAPH
 TP .13 LAG
 CP .67 PEAKING COEFFICIENT

 SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

 UNIT HYDROGRAPH PARAMETERS
 CLARK TC= .15 HR, R= .09 HR
 SNYDER TP= .13 HR, CP= .67

 UNIT HYDROGRAPH
 7 END-OF-PERIOD ORDINATES
 4. 9. 6. 2. 1. 0. 0.

*** *** *** *** ***
 HYDROGRAPH AT STATION DA1

 TOTAL RAINFALL = 7.29, TOTAL LOSS = 1.76, TOTAL EXCESS = 5.53

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)	6-HR	24-HR	72-HR	59.92-HR
+	11. 12.17	1. 0. 0. 0.	4.400 5.516 5.516 5.516	1. 1. 1. 1.	0. 0. 0. 0.
		(INCHES)	(AC-FT)		
		1. 1. 1. 1.			
		CUMULATIVE AREA = .00 SQ MI			

*** **

```

*****
*           *
15 KK      DA2 *
*           *
*****

```

SUBAREA DA2

```

17 KO      OUTPUT CONTROL VARIABLES
          IPRNT      3 PRINT CONTROL
          IPLOT      0 PLOT CONTROL
          QSCAL      0. HYDROGRAPH PLOT SCALE
          IPNCH      7 PUNCH COMPUTED HYDROGRAPH
          IOUT       21 SAVE HYDROGRAPH ON THIS UNIT
          ISAV1      1 FIRST ORDINATE PUNCHED OR SAVED
          ISAV2      720 LAST ORDINATE PUNCHED OR SAVED
          TIMINT     .083 TIME INTERVAL IN HOURS

```

SUBBASIN RUNOFF DATA

```

18 BA      SUBBASIN CHARACTERISTICS
          TAREA      .00 SUBBASIN AREA

```

PRECIPITATION DATA

```

10 PH      DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
          HYDRO-35      TP-40      TP-49
          5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
          .82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

```

STORM AREA = .00

```

19 LS      SCS LOSS RATE
          STRTL      .04 INITIAL ABSTRACTION
          CRVNR      98.00 CURVE NUMBER
          RTIMP      .00 PERCENT IMPERVIOUS AREA

```

```

20 US      SNYDER UNITGRAPH
          TP         .03 LAG
          CP         .62 PEAKING COEFFICIENT

```

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

R INCREASED TO MINIMUM OF 0.5

```

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .04 HR
SNYDER TP= .07 HR, CP= .50

```

UNIT HYDROGRAPH
2 END-OF-PERIOD ORDINATES

8. 8.

*** *** *** *** ***

HYDROGRAPH AT STATION DA2

```

TOTAL RAINFALL = 7.29, TOTAL LOSS = .24, TOTAL EXCESS = 7.05

PEAK FLOW      TIME      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      6-HR      24-HR      72-HR      59.92-HR
+ 10.          12.08      (CFS)
          (INCHES)  5.220    7.051    7.051    7.051
          (AC-FT)  1.        1.        1.        1.

CUMULATIVE AREA = .00 SQ MI

```

*** **

```

*****
*           *
21 KK      DA7 *
*           *
*****

```

SUBAREA DA7

```

23 KO      OUTPUT CONTROL VARIABLES
          IPRNT      3 PRINT CONTROL
          IPLOT      0 PLOT CONTROL
          QSCAL      0. HYDROGRAPH PLOT SCALE
          IPNCH      7 PUNCH COMPUTED HYDROGRAPH
          IOUT       21 SAVE HYDROGRAPH ON THIS UNIT
          ISAV1      1 FIRST ORDINATE PUNCHED OR SAVED
          ISAV2      720 LAST ORDINATE PUNCHED OR SAVED
          TIMINT     .083 TIME INTERVAL IN HOURS

```

SUBBASIN RUNOFF DATA

```

24 BA      SUBBASIN CHARACTERISTICS
          TAREA      .00 SUBBASIN AREA

```

PRECIPITATION DATA

```

10 PH      DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

```

..... HYDRO-35 TP-40 TP-49
 5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
 .82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

STORM AREA = .00

25 LS SCS LOSS RATE
 STRFL .04 INITIAL ABSTRACTION
 CRVNR 98.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

26 US SNYDER UNITGRAPH
 TP .01 LAG
 CP .24 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

R INCREASED TO MINIMUM OF 0.5

UNIT HYDROGRAPH PARAMETERS
 CLARK TC= .08 HR, R= .55 HR
 SNYDER TP= .14 HR, CP= .24

UNIT HYDROGRAPH
 36 END-OF-PERIOD ORDINATES

0.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

*** *** *** *** ***

HYDROGRAPH AT STATION DA7

TOTAL RAINFALL = 7.29, TOTAL LOSS = .24, TOTAL EXCESS = 7.05

PEAK FLOW	TIME	6-HR	24-HR	72-HR	59.92-HR
(CFS)	(HR)				
+	2.	12.25	1.	0.	0.
		(CFS)	5.168	7.012	7.018
		(INCHES)	0.	0.	0.
		(AC-FT)			

CUMULATIVE AREA = .00 SQ MI

*** **

 * *
 27 KK * DA6 *
 * *

SUBAREA DA6

29 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE
 IPNCH 7 PUNCH COMPUTED HYDROGRAPH
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED
 ISAV2 720 LAST ORDINATE PUNCHED OR SAVED
 TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

30 BA SUBBASIN CHARACTERISTICS
 TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
 HYDRO-35 TP-40 TP-49
 5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
 .82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

STORM AREA = .00

31 LS SCS LOSS RATE
 STRFL .50 INITIAL ABSTRACTION
 CRVNR 80.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

32 US SNYDER UNITGRAPH
 TP .32 LAG
 CP .76 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS
 CLARK TC= .41 HR, R= .18 HR
 SNYDER TP= .32 HR, CP= .75

UNIT HYDROGRAPH
 15 END-OF-PERIOD ORDINATES

0. 1. 2. 2. 2. 2. 1. 1. 0. 0.
0. 0. 0. 0. 0. 0.

*** *** *** *** ***

HYDROGRAPH AT STATION DA6

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.33, TOTAL EXCESS = 4.96

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	59.92-HR
4.	12.33	1.	0.	0.	0.
		(INCHES) 3.994	4.947	4.947	4.947
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .00 SQ MI

*** **

* *
33 KK * CODA6 *
* *

COMBINE DA7 AND DA6

35 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPL0T	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

36 HC HYDROGRAPH COMBINATION

ICOMP	2	NUMBER OF HYDROGRAPHS TO COMBINE
-------	---	----------------------------------

*** *** *** *** ***

HYDROGRAPH AT STATION CODA6

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	59.92-HR
5.	12.33	1.	0.	0.	0.
		(INCHES) 4.403	5.690	5.693	5.693
		(AC-FT) 1.	1.	1.	1.

CUMULATIVE AREA = .00 SQ MI

*** **

* *
37 KK * P1 *
* *

DETENTION POND P1

39 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPL0T	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

40 BA SUBBASIN CHARACTERISTICS

TAREA	.00	SUBBASIN AREA
-------	-----	---------------

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

HYDRO-35		TP-40						TP-49			
5-MIN	15-MIN	2-HR	3-HR	6-HR	12-HR	24-HR	2-DAY	4-DAY	7-DAY	10-DAY	
.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29	.00	.00	.00	.00

STORM AREA = .00

41 LS SCS LOSS RATE

STRTL	.00	INITIAL ABSTRACTION
CRVNBR	100.00	CURVE NUMBER
RTIMP	.00	PERCENT IMPERVIOUS AREA

42 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .00 LAG

UNIT HYDROGRAPH
5 END-OF-PERIOD ORDINATES
0.

13. 4. 1. 0.

*** **

HYDROGRAPH AT STATION P1

TOTAL RAINFALL = 7.29, TOTAL LOSS = .00, TOTAL EXCESS = 7.29

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
(CFS)	(HR)		6-HR	24-HR	72-HR	59.92-HR
+ 13.	12.08	(CFS)	1.	0.	0.	0.
		(INCHES)	5.248	7.287	7.290	7.290
		(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .00 SQ MI

*** **

* *
43 KK * P1-IN *
* *

COMBINE AREAS DICHARGING TO POND P1

45 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

46 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

*** **

HYDROGRAPH AT STATION P1-IN

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
(CFS)	(HR)		6-HR	24-HR	72-HR	59.92-HR
+ 26.	12.08	(CFS)	4.	1.	0.	0.
		(INCHES)	4.908	6.623	6.632	6.632
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .01 SQ MI

*** **

* *
47 KK * CULV1 *
* *

ROUTE THROUGH POND CULV1

49 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

HYDROGRAPH ROUTING DATA

50 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	ELEV	TYPE OF INITIAL CONDITION
RSVRIC	687.80	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

51 SA AREA .0 .0 .6 .7

52 SE ELEVATION 687.80 688.00 689.00 690.00

54 SL LOW-LEVEL OUTLET
 ELEV 688.50 ELEVATION AT CENTER OF OUTLET
 CAREA 1.77 CROSS-SECTIONAL AREA
 COQL .60 COEFFICIENT
 EXPL .50 EXPONENT OF HEAD

53 SS SPILLWAY
 CREL 689.90 SPILLWAY CREST ELEVATION
 SPWD 25.00 SPILLWAY WIDTH
 COQW 2.60 WEIR COEFFICIENT
 EXPW 1.50 EXPONENT OF HEAD

COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	.00	.26	.92
ELEVATION	687.80	688.00	689.00	690.00

COMPUTED OUTFLOW-ELEVATION DATA

OUTFLOW	.00	.00	7.07	7.39	7.73	8.11	8.53	8.99	9.50	10.08
ELEVATION	687.80	688.50	689.19	689.25	689.32	689.41	689.50	689.61	689.74	689.90
OUTFLOW	10.11	10.16	10.24	10.37	10.55	10.78	11.09	11.47	11.93	12.49
ELEVATION	689.90	689.91	689.91	689.92	689.93	689.94	689.95	689.97	689.98	690.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.00	.06	.26	.37	.41	.45	.51	.57	.64
OUTFLOW	.00	.00	.00	6.02	7.07	7.39	7.73	8.11	8.53	8.99
ELEVATION	687.80	688.00	688.50	689.00	689.19	689.25	689.32	689.41	689.50	689.61
STORAGE	.73	.85	.86	.87	.88	.89	.90	.91	.92	
OUTFLOW	9.50	10.08	10.24	10.55	10.78	11.09	11.47	11.93	12.49	
ELEVATION	689.74	689.90	689.91	689.93	689.94	689.95	689.97	689.98	690.00	

*** *** *** *** ***

HYDROGRAPH AT STATION CULV1

PEAK FLOW	TIME		6-HR	24-HR	72-HR	59.92-HR
+	(CFS)	(HR)				
+	9.	12.50	4.	1.	0.	0.
		(INCHES)	4.893	6.465	6.465	6.465
		(AC-FT)	2.	2.	2.	2.
PEAK STORAGE	TIME		6-HR	24-HR	72-HR	59.92-HR
+	(AC-FT)	(HR)				
+	1.	12.50	0.	0.	0.	0.
PEAK STAGE	TIME		6-HR	24-HR	72-HR	59.92-HR
+	(FEET)	(HR)				
+	689.51	12.50	688.85	688.61	688.52	688.52

CUMULATIVE AREA = .01 SQ MI

*** **

 * *
 55 KK * DA5 *
 * *

SUBAREA DA5

57 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

58 BA SUBBASIN CHARACTERISTICS
 TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

.....	HYDRO-35	.....	.....	TP-40	.....	.....	TP-49	.....		
5-MIN	15-MIN	60-MIN	2-HR	3-HR	6-HR	12-HR	24-HR	2-DAY	4-DAY	7-DAY	10-DAY
.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29	.00	.00	.00	.00

STORM AREA = .00

59 LS SCS LOSS RATE
 STRFL .44 INITIAL ABSTRACTION
 CRVNR 82.00 CURVE NUMBER

RTIMP .00 PERCENT IMPERVIOUS AREA
 60 US SNYDER UNITGRAPH
 TP .14 LAG
 CP .70 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS
 CLARK TC= .18 HR, R= .08 HR
 SNYDER TP= .14 HR, CP= .69

UNIT HYDROGRAPH
 7 END-OF-PERIOD ORDINATES
 0. 0. 0.

1. 3. 3. 1. 0. 0. 0.
 *** **

HYDROGRAPH AT STATION DA5

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.10, TOTAL EXCESS = 5.19

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	59.92-HR
4.	12.17	0.	0.	0.	0.
		(INCHES) 4.163	5.178	5.178	5.178
		(AC-FT) 0.	0.	0.	0.

CUMULATIVE AREA = .00 SQ MI

*** **

 * *
 61 KK * CODA5 *
 * *

COMBINE CULV1 AND DA5

63 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

64 HC HYDROGRAPH COMBINATION
 ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** **

HYDROGRAPH AT STATION CODA5

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	59.92-HR
12.	12.25	4.	1.	1.	1.
		(INCHES) 4.791	6.286	6.286	6.286
		(AC-FT) 2.	3.	3.	3.

CUMULATIVE AREA = .01 SQ MI

*** **

 * *
 65 KK * DA3 *
 * *

SUBAREA DA3

67 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

68 BA SUBBASIN CHARACTERISTICS

TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

.....	HYDRO-35	.....	.....	TP-40	.....	.....	.....	TP-49	.....	
5-MIN	15-MIN	60-MIN	2-HR	3-HR	6-HR	12-HR	24-HR	2-DAY	4-DAY	7-DAY	10-DAY
.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29	.00	.00	.00	.00

STORM AREA = .00

69 LS SCS LOSS RATE

STRTL	.04	INITIAL ABSTRACTION
CRVNBR	98.00	CURVE NUMBER
RTIMP	.00	PERCENT IMPERVIOUS AREA

70 US SNYDER UNITGRAPH

TP	.04	LAG
CP	.48	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

R INCREASED TO MINIMUM OF 0.5

UNIT HYDROGRAPH PARAMETERS

CLARK	TC= .08 HR,	R= .14 HR
SNYDER	TP= .10 HR,	CP= .49

UNIT HYDROGRAPH

10 END-OF-PERIOD ORDINATES

1.	2.	1.	1.	0.	0.	0.	0.	0.
----	----	----	----	----	----	----	----	----

HYDROGRAPH AT STATION DA3

TOTAL RAINFALL = 7.29, TOTAL LOSS = .24, TOTAL EXCESS = 7.05

PEAK FLOW	TIME	6-HR	24-HR	72-HR	59.92-HR
+	(CFS)				
+	3.	12.17	0.	0.	0.
	(INCHES)	5.199	7.027	7.027	7.027
	(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .00 SQ MI

*** **

71 KK DA4

SUBAREA DA4

73 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	7	PUNCH COMPUTED HYDROGRAPH
IOUT	21	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	720	LAST ORDINATE PUNCHED OR SAVED
TIMINT	.083	TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

74 BA SUBBASIN CHARACTERISTICS

TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

.....	HYDRO-35	.....	.....	TP-40	.....	.....	.....	TP-49	.....	
5-MIN	15-MIN	60-MIN	2-HR	3-HR	6-HR	12-HR	24-HR	2-DAY	4-DAY	7-DAY	10-DAY
.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29	.00	.00	.00	.00

STORM AREA = .00

75 LS SCS LOSS RATE

STRTL	.50	INITIAL ABSTRACTION
CRVNBR	80.00	CURVE NUMBER
RTIMP	.00	PERCENT IMPERVIOUS AREA

76 US SNYDER UNITGRAPH

TP	.15	LAG
CP	.73	PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS

CLARK	TC= .23 HR,	R= .05 HR
SNYDER	TP= .15 HR,	CP= .72

UNIT HYDROGRAPH
5 END-OF-PERIOD ORDINATES
0.

1. 2. 2. 1. *** *** *** *** ***

HYDROGRAPH AT STATION DA4

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.33, TOTAL EXCESS = 4.96

PEAK FLOW	TIME		6-HR	24-HR	72-HR	59.92-HR
(CFS)	(HR)	(CFS)				
+	2.	12.17	0.	0.	0.	0.
		(INCHES)	4.002	4.955	4.955	4.955
		(AC-FT)	0.	0.	0.	0.

CUMULATIVE AREA = .00 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+		DA1	11.	12.17	1.	0.	0.	.00	
+	HYDROGRAPH AT								
+		DA2	10.	12.08	1.	0.	0.	.00	
+	HYDROGRAPH AT								
+		DA7	2.	12.25	1.	0.	0.	.00	
+	HYDROGRAPH AT								
+		DA6	4.	12.33	1.	0.	0.	.00	
+	2 COMBINED AT								
+		CODA6	5.	12.33	1.	0.	0.	.00	
+	HYDROGRAPH AT								
+		P1	13.	12.08	1.	0.	0.	.00	
+	3 COMBINED AT								
+		P1-IN	26.	12.08	4.	1.	0.	.01	
+	ROUTED TO								
+		CULV1	9.	12.50	4.	1.	0.	.01	689.51 12.50
+	HYDROGRAPH AT								
+		DA5	4.	12.17	0.	0.	0.	.00	
+	2 COMBINED AT								
+		CODA5	12.	12.25	4.	1.	1.	.01	
+	HYDROGRAPH AT								
+		DA3	3.	12.17	0.	0.	0.	.00	
+	HYDROGRAPH AT								
+		DA4	2.	12.17	0.	0.	0.	.00	

*** NORMAL END OF HEC-1 ***

VOLUME CALCULATIONS

EXCESS RAINFALL VOLUME CALCULATION

The volume generated by the site and the surrounding properties is calculated for the 25-year, 24-hour storm event. A summary of the design information that is included in this Appendix and related appendices are listed below.

- Excess rainfall and drainage areas used in the volume calculations were taken from the HEC-1 analysis located in Appendix IIIB-A (post-development).
- Post-development condition volume information is summarized on page IIIB-A-31.

POST-DEVELOPMENT CONDITION EXCESS RAINFALL 25-YEAR, 24-HOUR STORM
VOLUME CALCULATIONS

1. Post-Development Conditions

1. a. Total Volume at DCP 1

Area No.	Area (ac)	Total Excess Rainfall (in)	Volume (ac-ft)
DA1	1.89	5.53	0.87

Total Volume at DCP1= 0.87 ac-ft

Total Volume at DCP 2

1. b.

Area No.	Area (ac)	Total Excess Rainfall (in)	Volume (ac-ft)
DA3	0.44	7.05	0.26

Total Volume at DCP 2 = 0.26 ac-ft

1.c.

Total Volume at DCP 3

Area No.	Area (ac)	Total Excess Rainfall (in)	Volume (ac-ft)
DA4	0.39	4.96	0.16

Total Volume at DCP 3 = 0.16 ac-ft

1.d.

Total Volume at DCP4

Area No.	Area (ac)	Total Excess Rainfall (in)	Volume (ac-ft)
DA2	1.29	7.05	0.76
DA5	0.68	5.19	0.29
DA6	1.02	4.96	0.42
DA7	0.59	7.05	0.35
P1	1.45	7.29	0.88

Total Volume at DCP 4 = 2.70 ac-ft

Total Volume Discharged from Site = 3.99 ac-ft

VELOCITY CALCULATIONS

Required:

Determine the flow velocities entering and exiting the permit boundary using HYDROCALC HYDRAULICS (Version 2.0.1 1996-2010) for the flows calculated for the 25-year 24-hour storm event in the HEC-1 analysis.

Method:

1. Use the flow data generated by the HEC-1 analysis to determine velocity of runoff exiting the Transfer Station permit boundary.

PARKWAY TRANSFER STATION
1678-005-11-03-02
PROPOSED CONDITIONS VELOCITY CALCULATIONS

1.

Flow Velocity exiting the Transfer Station permit boundary

Flow for the 25-year 24-hour storm event was obtained from the HEC-1 file included in this Appendix.

DCP 1

$Q_{25} = 11 \text{ cfs}$

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	n-value	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	11	0.087	0.03	100	100	100	0.05	2.00

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP 2

$Q_{25} = 3 \text{ cfs}$

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	n-value	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	3	0.050	0.01	90	90	90	0.02	2.09

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP 3

$Q_{25} = 2 \text{ cfs}$

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	n-value	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	2	0.170	0.04	90	90	90	0.02	1.11

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP4

$Q_{25} = 12 \text{ cfs}$

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	n-value	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	12	0.018	0.03	3	3	6	0.46	3.51

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

APPENDIX IIIB-B
CULVERT CALCULATION

Includes pages IIIB-B-1 through IIIB-B-5



CONTENTS

Culvert Calculation	IIIB-B-1
Erosion Protection Calculation	IIIB-B-3



CULVERT CALCULATION

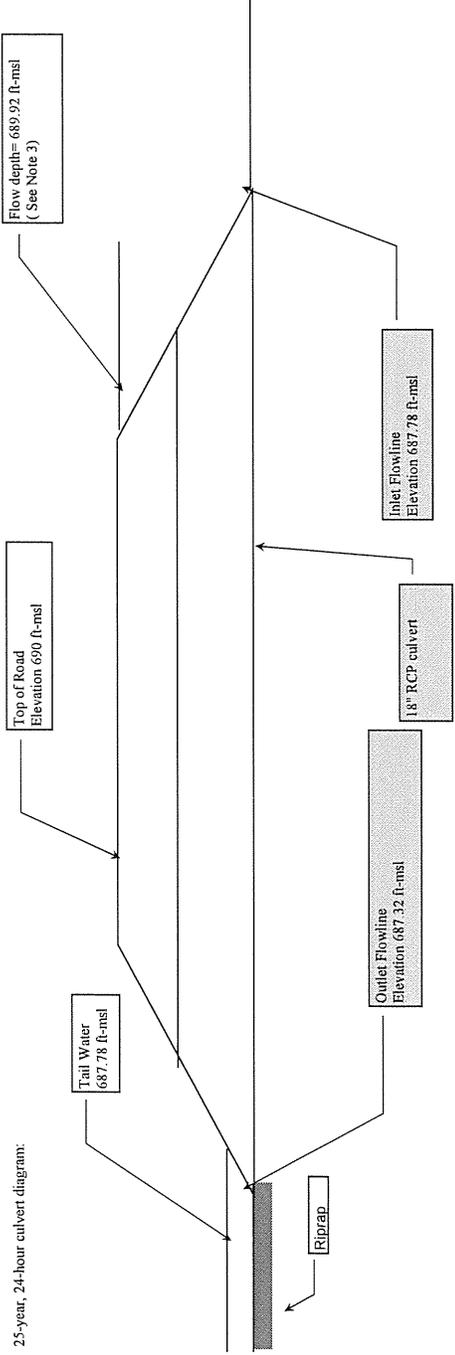
PARKWAY TRANSFER STATION
1678-005-11-03-02
CULVERT DESIGN

For culvert 1 conveying discharge the existing gravel driveway to the west of the facility.

25-year Total Flow= 9 cfs
No. of Culverts= 1
Culvert Span= -- inches
Culvert Rise= -- inches
Culvert Diameter= 18 inches

Storm Frequency	Culvert	Culvert Span (ft)	Culvert Rise (ft)	FHWA Chart Number	FHWA Scale Number	Culvert Diameter (ft)	Manning's Coefficient	Entrance Loss Coefficient	Culvert Length (ft)	Downstream Invert Elevation (ft msl)	Upstream Invert Elevation (ft msl)	Flow Rate (cfs)	Tailwater Depth ² (ft)	Headwater Inlet Control (ft)	Headwater Outlet Control (ft)	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
25-year	RCP	--	--	1	3	1.5	0.016	0.8	15.9	687.32	687.78	9	0.46	1.84	0.00	0.86	1.16	0.86	8.65

- Calculations were performed using the HYDROCALC Hydraulics for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).
- Tailwater depth is assumed to be the 25-year, 24-hour water surface elevation at cross section DCP4.
- HEC-1 calculates the maximum stage as 689.51 ft, which is equivalent to a headwater depth of 1.73 feet. For the existing condition, the flow depth is 2.45 ft.



Required: Determine the minimum length and median diameter of riprap required at the detention pond outlet structure to control erosion.

- Reference:**
1. Haan, Barfield, and Hayes, *Design Hydrology and Sedimentology for Small Catchments*, 1994.
 2. Dodson's and Associates, Inc., *ProHec-1 Plus Program Documentation*, 1995.
 3. Freeman, Gary E., J. Craig Fischenich, *Gabion for Streambank Erosion Control*, 2000. EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-22), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Solution: The riprap will be designed for the 25-year flow rates at the detention pond outlet structure. The flow at the outlet structure can be divided into two categories:

1. Flow over the Spillway

As shown on page IIIB-B-2, the detention pond is not expected to flow over the spillway during the 25-year frequency storm event, which is included in Appendix IIIB-A. The design of the outlet structures is provided on Drawing IIIB.4.

Spillway Structure	25-Year Flow Rate (cfs)	25-Year Velocity (ft/s)
Pond 1	0.0	0.00

2. Flow through the Low Water Outlet

The flow rate through the low water outlet (LWO) is summarized below.

Flow Structure	Pond Bottom Elev (ft-msl)	LWO Invert Elev.		LWO Diameter (in)	25-Yr Flow Rate ² (cfs)	25-Yr Outlet Velocity ¹ (ft/s)
		Upstream (ft-msl)	Downstream (ft-msl)			
Pond 1	687.78	687.78	687.32	18	9.0	8.65

¹ Velocity through the low water outlet was calculated using the HYDROCALC HYDRAULICS FOR WINDOWS program developed by Dodson and Associates (Version 2.01, 1996-2010).

² The flowrate was calculated using the HEC-1 SL card where: $Q = c a (2 g h)^{0.5}$ (h is the elevation difference between the design water surface in the pond and the design water surface at the outlet structure).

As noted above, there is no flow over the spillway during the 25-year, 24-hour event. Therefore, the flow rate used for riprap design will be the flowrate passing through the LWO.

The nomographs used for design of the length of the riprap and the median diameter are shown on page IIIB-B-5 (Figure 5.24).

The minimum riprap length and diameter for each outlet is summarized below. The length of the riprap is increased by 20 percent to provide for a conservative design.

Pond	Flow (LWO) (cfs)	Riprap Length (ft)	Adjusted Length L x 1.2 (ft)	Median Rock Diameter (ft)
Pond 1	9.00	9	10.8	0.45

Apron width required for the ponds (e.g., width of erosion protection in outlet channel) are:
 $W_{req} = \text{LWO diameter} + 0.4 * (\text{RipRap Length})$

Pond	W_{req} (ft)	$W_{provided}$ (ft)
Pond 1	6.3	8.0

The median diameter of riprap is intended to determine the minimum diameter of the riprap that will be used.

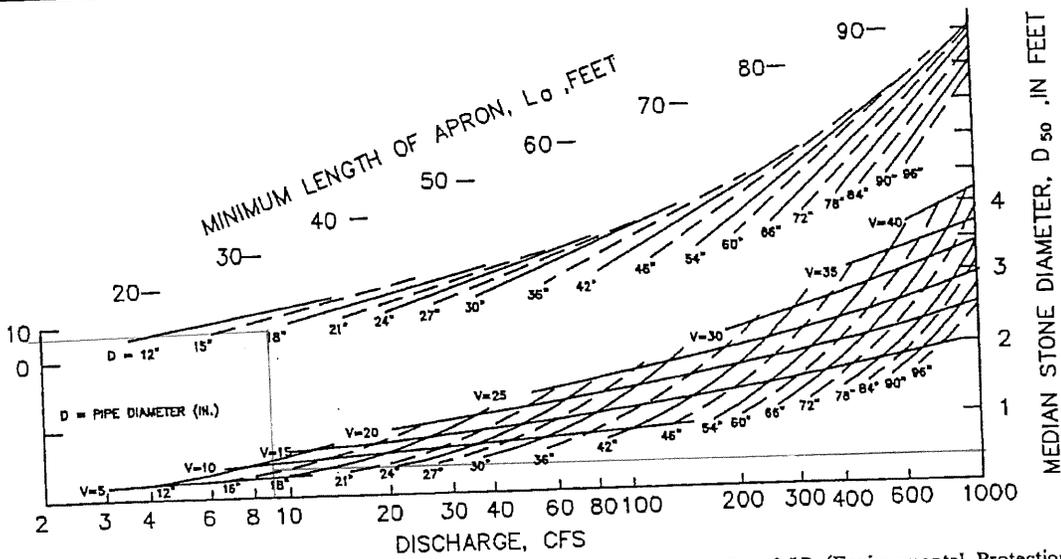


Figure 5.24 Design of outlet protection—minimum tailwater condition, $T_w < 0.5D$ (Environmental Protection Agency, 1976).

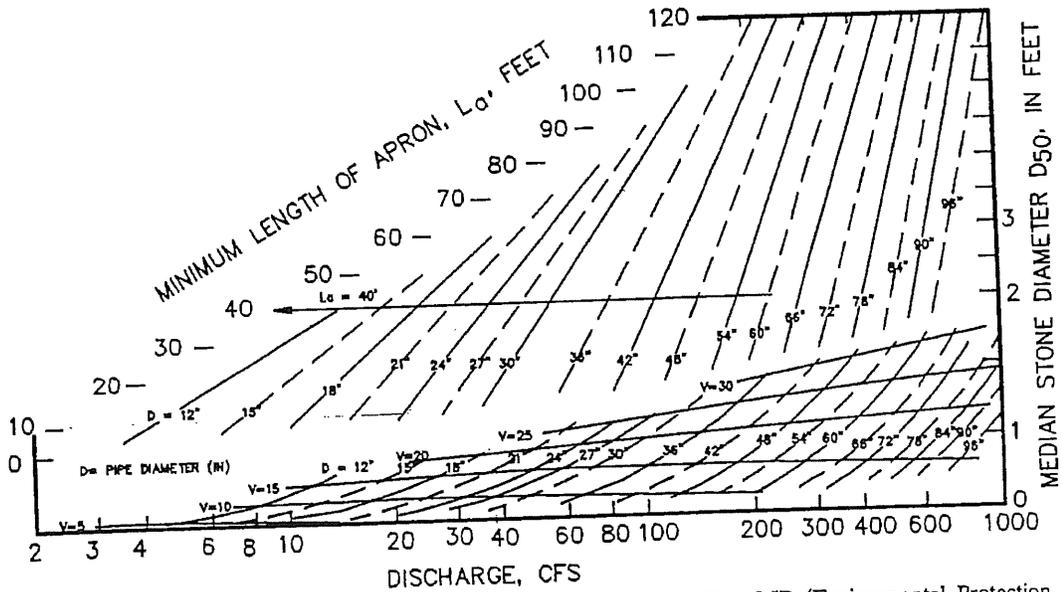


Figure 5.25 Design of outlet protection—maximum tailwater condition, $T_w \geq 0.5D$ (Environmental Protection Agency, 1976).

into the riser 3 ft below its top, what discharge will pass through the four holes with the water level at 1, 2, 4, and 8 ft above the riser? (c) What is the total discharge through the pipe? (d) How might the orifices be sized to provide better stormwater control? (e) Explain whether you would expect two rows (each consisting of four holes) of 8-in.-diameter holes to provide better results? Assume that one row is 2 ft below the riser invert and the other row is 4 ft below the riser invert.

(5.6) A gravel roadway is constructed in a low-lying area such that the roadway is frequently overtopped as a result of severe storms. The roadway is 40 ft wide, and its elevation is 36 ft. (a) If the water level upstream of the roadway is 2 ft above the crest of the roadway, what is the discharge across the roadway? (b) If the roadway is paved, what upstream depth would be required to carry the same flow? (c) Would paving reduce flooding problems?

APPENDIX IIIB-C
PERMITTED CONDITION
DRAINAGE ANALYSIS



Includes pages IIIB-C-1 through IIIB-C-29

CONTENTS

Hypothetical Storm Data	IIIB-C-1
Precipitation Loss Data	IIIB-C-3
Hydrograph Development Information	IIIB-C-8
Permitted Condition HEC-1 Analysis Drainage Areas	IIIB-C-11
HEC-1 Output – Permitted Condition 25-Year, 24-Hour Storm Event	IIIB-C-13
Volume Calculations	IIIB-C-24
Velocity Calculations	IIIB-C-27



HYPOTHETICAL STORM DATA

Hypothetical Storm Data

Precipitation data taken from NOAA Atlas 14, Volume 11, Version 2.

Time	5 min	15 min	60 min	2 hr	3 hr	6 hr	12 hr	24 hr
25 Year Event	0.82	1.62	2.96	3.78	4.31	5.25	6.24	7.29

PRECIPITATION LOSS DATA

Required: Determine the SCS curve numbers for the on-site drainage areas and pond for use in the HEC-1 analysis.

References:

1. Dodson's and Associates, Inc., *ProHec-1 Plus Program Documentation*, 1995.
2. United States Department of Agriculture, National Resource Conservation Service, Web Soil Survey for Collin County, Texas (<http://websoilsurvey.nrcs.usda.gov>).

Solution: Based on the soil survey information found in Ref. 2, hydrologic group D soils predominate the soils within the permit boundary drainage area (see pages IIIB-C-5 through IIIB-C-7).

The underdeveloped portions of subbasins (e.g., non-paved areas) were considered to be open space, contoured and in good condition. A curve number was selected using the table on IIIB-A-8.

Use: CN = 80

The curve number for the proposed concrete-paved areas was selected using the chart on IIIB-A-8.

Use: CN = 98

The curve number for the proposed gravel areas was selected using the chart on IIIB-A-8.

Use: CN = 91

The pond area is assumed to consist of areas that have zero precipitation losses (water surfaces) with vegetated sideslopes and gravel-surfaced top of embankment areas

Use: CN = 100



MAP LEGEND

 Area of Interest (AOI)	 C
 Area of Interest (AOI)	 C/D
Soils	 D
Soil Rating Polygons	 Not rated or not available
 A	Water Features
 A/D	 Streams and Canals
 B	Transportation
 B/D	 Rails
 C	 Interstate Highways
 C/D	 US Routes
 D	 Major Roads
 Not rated or not available	 Local Roads
Soil Rating Lines	Background
 A	 Aerial Photography
 A/D	
 B	
 B/D	
 C	
 C/D	
 D	
 Not rated or not available	
Soil Rating Points	
 A	
 A/D	
 B	
 B/D	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Collin County, Texas
 Survey Area Data: Version 17, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AuB	Austin silty clay, 1 to 3 percent slopes	D	1.9	15.0%
HoA	Houston Black clay, 0 to 1 percent slopes	D	0.0	0.0%
HoB	Houston Black clay, 1 to 3 percent slopes	D	8.3	66.7%
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded	D	2.3	18.2%
Totals for Area of Interest			12.4	100.0%

IIIB-C-7

HYDROGRAPH DEVELOPMENT INFORMATION

HYDROGRAPH DEVELOPMENT INFORMATION

Offsite and Overland Flow Areas

The hydrographs for the drainage areas were developed using the Snyder unit hydrograph method. The Espey "10 Minute" method has been used to estimate Snyder parameters. Snyder parameter estimations are provided on the following pages.

Drainage Areas

The drainage areas used for this analysis are shown on Sheet IIIB-C-12. The routing scheme is shown in the HEC-1 output file.

Snyder's Hydrograph Coefficients (Espey's 10 Minute Method)

Permitted Conditions

Area No.	Area (acres)	Max. Flow Length (L) (ft)	S (ft/ft)	I (%)	Manning "n"	CN	Φ^1	T_r^2 (min)	T_{lag}^3 (min)	T_{lag} (hr)	Area ⁴ (sq mi)	q_p^5 (cfs/sq mi)	C_p^6
DA1	1.84	454	0.04	29	0.03	85	0.74	9.6	7.1	0.12	0.0029	3540.5	0.66
DA2	2.03	458	0.08	70	0.02	93	0.60	5.0	2.5	0.04	0.0032	7037.2	0.62
DA3	0.26	336	0.05	100	0.01	98	0.60	4.9	2.4	0.04	0.0004	7901.4	0.49
DA4	0.39	201	0.17	2	0.04	80	0.86	11.4	8.9	0.15	0.0006	3146.9	0.73
DA5	0.67	117	0.03	10	0.04	82	0.84	10.8	8.3	0.14	0.0010	3244.3	0.71
DA6	1.00	503	0.04	2	0.04	80	0.86	20.2	17.7	0.29	0.0016	1642.1	0.76

¹ Conveyance efficiency coefficient from Dodson & Associates Inc., *ProHec-1 Program Documentation*, 1995, pages 6-19 and 6-20.

² $T_r = 3.1(L^{0.25})(S^{-0.25})(\Phi^{0.18})(\Phi^{1.57})$

³ $T_{lag} = T_r - \Delta t/2$

⁴ From area summary sheet

⁵ $q_p = 31600(A^{-0.04})(T_r^{-1.07})$

⁶ $C_p = 49.375(A^{-0.04})(T_r^{-1.07})(T_{lag})$

T_r = surface runoff to unit hydrograph peak (min)

L = distance along main channel from study point to watershed boundary (ft)

S = main channel slope (ft/ft)

I = impervious cover within the watershed (%)

T_{lag} = watershed lag time (min)

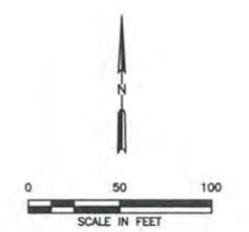
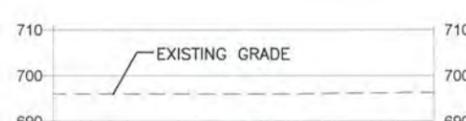
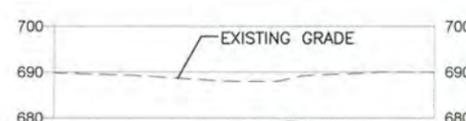
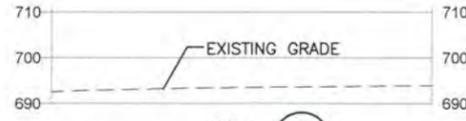
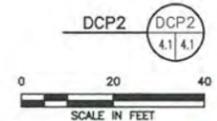
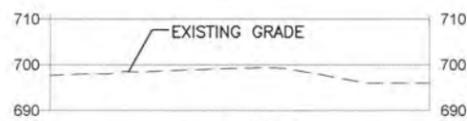
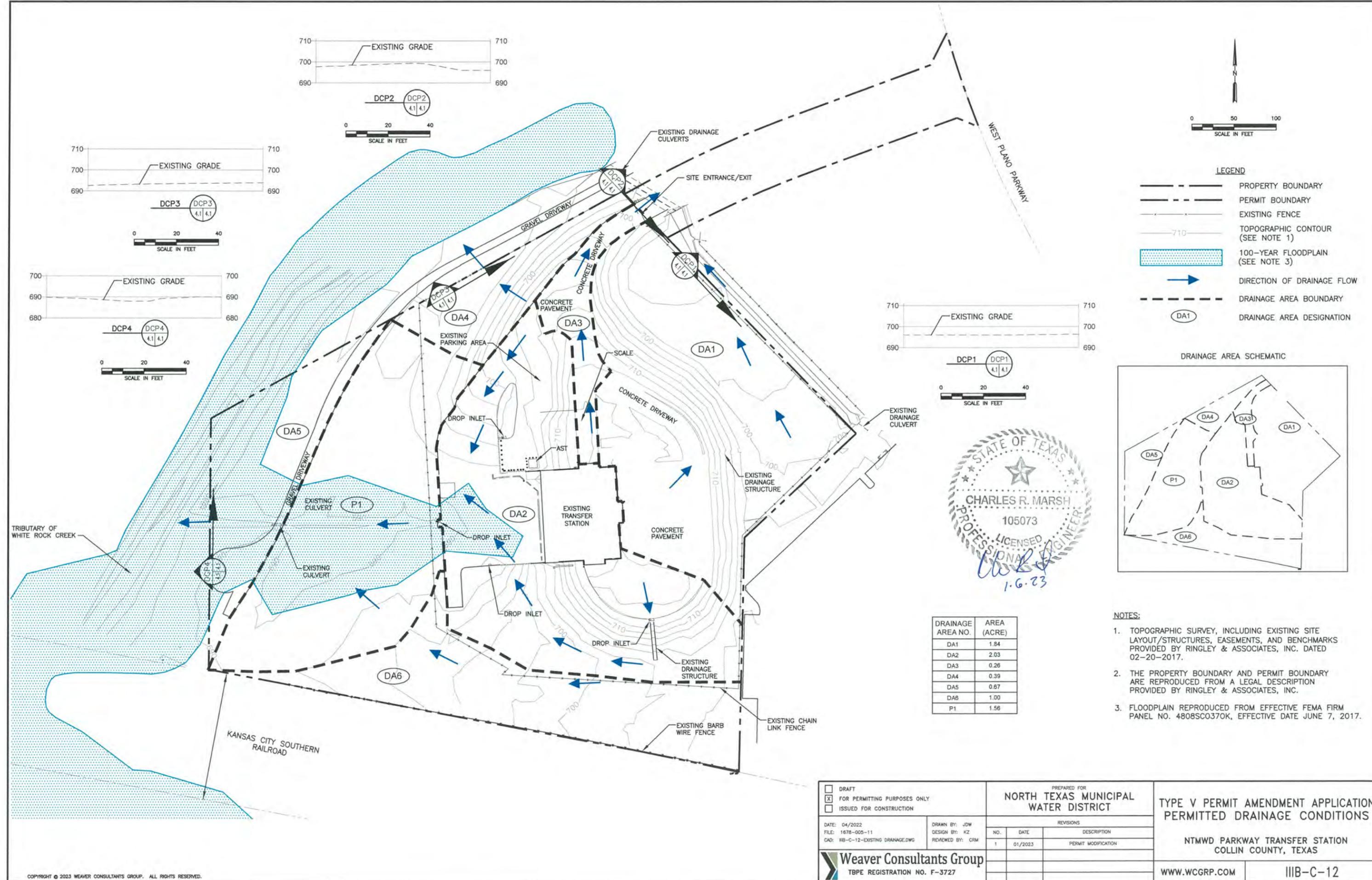
Δt = computation interval (minutes)

q_p = unit hydrograph peak discharge (cfs/sq mi)

C_p = Snyder's peaking coefficient

**PERMITTED CONDITION HEC-1
ANALYSIS DRAINAGE AREAS**

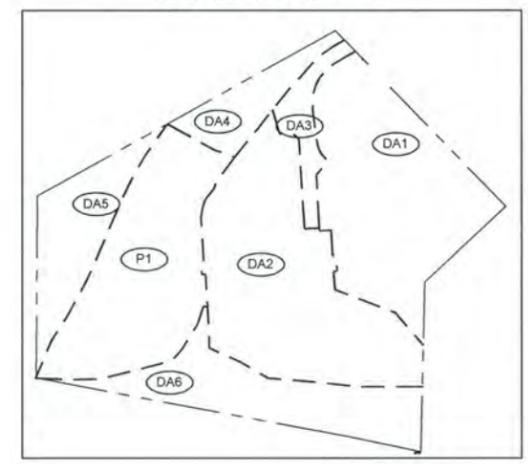
D:\1678\06\TYPE V PERMIT APPLICATION\PART III\CLEAN\IIB-C-12-EXISTING DRAINAGE.dwg, Farrington, 1.22



LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- EXISTING FENCE
- TOPOGRAPHIC CONTOUR (SEE NOTE 1)
- 100-YEAR FLOODPLAIN (SEE NOTE 3)
- DIRECTION OF DRAINAGE FLOW
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA DESIGNATION

DRAINAGE AREA SCHEMATIC



DRAINAGE AREA NO.	AREA (ACRE)
DA1	1.84
DA2	2.03
DA3	0.26
DA4	0.39
DA5	0.67
DA6	1.00
P1	1.56

NOTES:

- TOPOGRAPHIC SURVEY, INCLUDING EXISTING SITE LAYOUT/STRUCTURES, EASEMENTS, AND BENCHMARKS PROVIDED BY RINGLEY & ASSOCIATES, INC. DATED 02-20-2017.
- THE PROPERTY BOUNDARY AND PERMIT BOUNDARY ARE REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY RINGLEY & ASSOCIATES, INC.
- FLOODPLAIN REPRODUCED FROM EFFECTIVE FEMA FIRM PANEL NO. 4808SCO370K, EFFECTIVE DATE JUNE 7, 2017.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR NORTH TEXAS MUNICIPAL WATER DISTRICT		TYPE V PERMIT AMENDMENT APPLICATION PERMITTED DRAINAGE CONDITIONS						
	DATE: 04/2022 FILE: 1678-005-11 CAD: IIB-C-12-EXISTING DRAINAGE.DWG		REVISIONS <table border="1" style="width: 100%;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>01/2023</td> <td>PERMIT MODIFICATION</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	01/2023
NO.	DATE	DESCRIPTION							
1	01/2023	PERMIT MODIFICATION							
DRAWN BY: JDW DESIGN BY: KZ REVIEWED BY: CRM		NTMWD PARKWAY TRANSFER STATION COLLIN COUNTY, TEXAS							
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	IIB-C-12						

**HEC-1 OUTPUT – PERMITTED CONDITION
25-YEAR, 24-HOUR STORM EVENT**

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 25FEB22 TIME 09:33:58 *
*****

```

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
*****

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXXX XXXXX XXX

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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
1 ID PARKWAY TRANSFER STATION
2 ID 25-YEAR, 24-HOUR STORM EVENT
3 ID PERMITTED CONDITION
4 ID P:\SOLID WASTE\NTMWD\PARKWAY TS\TYPE V PERMIT AMENDMENT\
5 ID DRAINAGE ANALYSIS
6 IT 5 0 2400 720 0 0
7 IO 3 0 0
*
8 KK DA1
9 KM SUBAREA DA1
10 PH 0 0 0.82 1.62 2.96 3.78 4.31 5.25 6.24 7.29
11 KO 0 0 0 7 21
12 BA 0.0029
13 LS 0 85
14 US 0.12 0.66
*
15 KK DA2
16 KM SUBAREA DA2
17 KO 0 0 0 7 21
18 BA 0.0032
19 LS 0 93
20 US 0.04 0.62
*
21 KK DA6
22 KM SUBAREA DA6
23 KO 0 0 0 7 21
24 BA 0.0016
25 LS 0 80
26 US 0.29 0.76
*
27 KK P1
28 KM DETENTION POND P1
29 KO 0 0 0 7 21
30 BA 0.0024
31 LS 0 100
32 UD 0
*
33 KK P1-IN
34 KM COMBINE AREAS DISCHARGE TO POND P1
35 KO 0 0 0 7 21
36 HC 3
*
37 KK CULV1
38 KM ROUTE THROUGH POND CULV1
39 KO 0 0 0 7 21
40 RS 1 ELEV 687.8
41 SA 0 0.0053 0.115 0.303 1.012
42 SE 687.8 688 689 690 691
HEC-1 INPUT

```

1 PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
43 SS 690 25 2.6 1.5
44 SL 688.5 1.77 0.6 0.5
*
45 KK DA5
46 KM SUBAREA DA5
47 KO 0 0 0 7 21

```

```

48      BA  0.001
49      LS      0      82
50      US  0.14  0.71
      *

51      KK  CODA5
52      KM  COMBINE CULV1 AND DA5
53      KO      0      0      0      7      21
54      HC      2
      *

55      KK      DA3
56      KM  SUBAREA DA3
57      KO      0      0      0      7      21
58      BA  0.0004
59      LS      0      98
60      US  0.04  0.49
      *

61      KK      DA4
62      KM  SUBAREA DA4
63      KO      0      0      0      7      21
64      BA  0.0006
65      LS      0      80
66      US  0.15  0.73
      *
67      ZZ

```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

8      DA1
      .
      .
15     .      DA2
      .
      .
21     .      .      DA6
      .
      .
27     .      .      .      P1
      .
      .
33     .      P1-IN.....
      .      V
      .      V
37     .      CULV1
      .
      .
45     .      .      DA5
      .
      .
51     .      CODA5.....
      .
      .
55     .      .      DA3
      .
      .
61     .      .      .      DA4

```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```

*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 25FEB22 TIME 09:33:58 *
*
*****

```

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
*
*****

```

```

PARKWAY TRANSFER STATION
25-YEAR, 24-HOUR STORM EVENT
PERMITTED CONDITION
P:\SOLID WASTE\NTMWD\PARKWAY TS\TYPE V PERMIT AMENDMENT\
DRAINAGE ANALYSIS

```

```

7 IO OUTPUT CONTROL VARIABLES
      IPRNT 3 PRINT CONTROL
      IPLOT 0 PLOT CONTROL
      QSCAL 0. HYDROGRAPH PLOT SCALE

```

```

IT HYDROGRAPH TIME DATA
      NMIN 5 MINUTES IN COMPUTATION INTERVAL
      IDATE 1 0 STARTING DATE
      ITIME 0000 STARTING TIME
      NQ 720 NUMBER OF HYDROGRAPH ORDINATES
      NDDATE 4 0 ENDING DATE
      NDTIME 1155 ENDING TIME
      ICENT 19 CENTURY MARK

```

```

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 59.92 HOURS

```

```

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES

```

LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-Feet
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

 * *
 8 KK * DA1 *
 * *

SUBAREA DA1

11 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE
 IPNCH 7 PUNCH COMPUTED HYDROGRAPH
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED
 ISAV2 720 LAST ORDINATE PUNCHED OR SAVED
 TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

12 BA SUBBASIN CHARACTERISTICS
 TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
 HYDRO-35 TP-40 TP-49
 5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
 .82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

STORM AREA = .00

13 LS SCS LOSS RATE
 STRTL .35 INITIAL ABSTRACTION
 CRVNBR 85.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

14 US SNYDER UNITGRAPH
 TP .12 LAG
 CP .66 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS
 CLARK TC= .14 HR, R= .08 HR
 SNYDER TP= .12 HR, CP= .66

UNIT HYDROGRAPH
 6 END-OF-PERIOD ORDINATES
 5. 9. 6. 2. 1. 0.

*** *** *** *** ***

HYDROGRAPH AT STATION DA1

TOTAL RAINFALL = 7.29, TOTAL LOSS = 1.76, TOTAL EXCESS = 5.53

PEAK FLOW	TIME	MAXIMUM	AVERAGE FLOW	
(CFS)	(HR)	6-HR	24-HR	72-HR
+	11.	12.17	1.	0.
+			4.393	5.507
		(INCHES)	1.	1.
		(AC-FT)	1.	1.

CUMULATIVE AREA = .00 SQ MI

 * *
 15 KK * DA2 *
 * *

SUBAREA DA2

17 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE
 IPNCH 7 PUNCH COMPUTED HYDROGRAPH
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED
 ISAV2 720 LAST ORDINATE PUNCHED OR SAVED
 TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

18 BA SUBBASIN CHARACTERISTICS
TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
..... HYDRO-35 TP-40 TP-49
5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
.82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

STORM AREA = .00

19 LS SCS LOSS RATE
STRTL .15 INITIAL ABSTRACTION
CRVNR 93.00 CURVE NUMBER
RTIMP .00 PERCENT IMPERVIOUS AREA

20 US SNYDER UNITGRAPH
TP .04 LAG
CP .62 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

R INCREASED TO MINIMUM OF 0.5

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .08 HR, R= .04 HR
SNYDER TP= .07 HR, CP= .50

UNIT HYDROGRAPH
2 END-OF-PERIOD ORDINATES

12. 12.

*** **

HYDROGRAPH AT STATION DA2

TOTAL RAINFALL = 7.29, TOTAL LOSS = .83, TOTAL EXCESS = 6.46

PEAK FLOW TIME MAXIMUM AVERAGE FLOW
+ (CFS) (HR) 6-HR 24-HR 72-HR 59.92-HR
+ 15. 12.08 (CFS) 2. 1. 0. 0.
(INCHES) 4.984 6.459 6.459 6.459
(AC-FT) 1. 1. 1. 1.

CUMULATIVE AREA = .00 SQ MI

*** **

* *
21 KK * DA6 *
* *

SUBAREA DA6

23 KO OUTFUT CONTROL VARIABLES
IPRNT 3 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE
IPNCH 7 PUNCH COMPUTED HYDROGRAPH
IOUT 21 SAVE HYDROGRAPH ON THIS UNIT
ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED
ISAV2 720 LAST ORDINATE PUNCHED OR SAVED
TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

24 BA SUBBASIN CHARACTERISTICS
TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM
..... HYDRO-35 TP-40 TP-49
5-MIN 15-MIN 60-MIN 2-HR 3-HR 6-HR 12-HR 24-HR 2-DAY 4-DAY 7-DAY 10-DAY
.82 1.62 2.96 3.78 4.31 5.25 6.24 7.29 .00 .00 .00 .00

STORM AREA = .00

25 LS SCS LOSS RATE
STRTL .50 INITIAL ABSTRACTION
CRVNR 80.00 CURVE NUMBER
RTIMP .00 PERCENT IMPERVIOUS AREA

26 US SNYDER UNITGRAPH
TP .29 LAG
CP .76 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS

CLARK TC= .37 HR, R= .17 HR
 SNYDER TP= .29 HR, CP= .75

UNIT HYDROGRAPH
 14 END-OF-PERIOD ORDINATES

0. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
 0. 0. 0. 0. 2. 1. 1. 1. 0. 0.

*** *** *** *** ***

HYDROGRAPH AT STATION DA6

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.33, TOTAL EXCESS = 4.96

| PEAK FLOW | TIME | MAXIMUM AVERAGE FLOW | | | | |
|-----------|-------|----------------------|-------|-------|----------|-------|
| (CFS) | (HR) | 6-HR | 24-HR | 72-HR | 59.92-HR | |
| 4. | 12.33 | 1. | 0. | 0. | 0. | |
| | | (INCHES) | 3.994 | 4.948 | 4.948 | 4.948 |
| | | (AC-FT) | 0. | 0. | 0. | 0. |

CUMULATIVE AREA = .00 SQ MI

 * *
 27 KK * P1 *
 * *

DETENTION POND P1

29 KO OUTPUT CONTROL VARIABLES

| | | |
|--------|------|---------------------------------|
| IPRNT | 3 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 7 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 21 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | .083 | TIME INTERVAL IN HOURS |

SUBBASIN RUNOFF DATA

30 BA SUBBASIN CHARACTERISTICS
 TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

| HYDRO-35 | | TP-40 | | | | | | TP-49 | | | |
|----------|--------|--------|------|------|------|-------|-------|-------|-------|-------|--------|
| 5-MIN | 15-MIN | 60-MIN | 2-HR | 3-HR | 6-HR | 12-HR | 24-HR | 2-DAY | 4-DAY | 7-DAY | 10-DAY |
| .82 | 1.62 | 2.96 | 3.78 | 4.31 | 5.25 | 6.24 | 7.29 | .00 | .00 | .00 | .00 |

STORM AREA = .00

31 LS SCS LOSS RATE

| | | |
|--------|--------|-------------------------|
| STRTL | .00 | INITIAL ABSTRACTION |
| CRVNBR | 100.00 | CURVE NUMBER |
| RTIMP | .00 | PERCENT IMPERVIOUS AREA |

32 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .00 LAG

UNIT HYDROGRAPH
 5 END-OF-PERIOD ORDINATES

14. 4. 1. 0.
 0.

*** *** *** *** ***

HYDROGRAPH AT STATION P1

TOTAL RAINFALL = 7.29, TOTAL LOSS = .00, TOTAL EXCESS = 7.29

| PEAK FLOW | TIME | MAXIMUM AVERAGE FLOW | | | | |
|-----------|-------|----------------------|-------|-------|----------|-------|
| (CFS) | (HR) | 6-HR | 24-HR | 72-HR | 59.92-HR | |
| 13. | 12.08 | 1. | 0. | 0. | 0. | |
| | | (INCHES) | 5.248 | 7.287 | 7.290 | 7.290 |
| | | (AC-FT) | 1. | 1. | 1. | 1. |

CUMULATIVE AREA = .00 SQ MI

 * *
 33 KK * P1-IN *
 * *

COMBINE AREAS DISCHARGE TO POND P1

```

35 KO      OUTPUT CONTROL VARIABLES
           IPRNT      3  PRINT CONTROL
           IPLOT      0  PLOT CONTROL
           QSCAL      0. HYDROGRAPH PLOT SCALE
           IPNCH      7  PUNCH COMPUTED HYDROGRAPH
           IOUT       21 SAVE HYDROGRAPH ON THIS UNIT
           ISAV1      1  FIRST ORDINATE PUNCHED OR SAVED
           ISAV2      720 LAST ORDINATE PUNCHED OR SAVED
           TIMINT     .083 TIME INTERVAL IN HOURS

```

```

36 HC      HYDROGRAPH COMBINATION
           ICOMP      3  NUMBER OF HYDROGRAPHS TO COMBINE

```

```

***
***          ***          ***          ***          ***
HYDROGRAPH AT STATION  P1-IN
PEAK FLOW      TIME
+ (CFS)        (HR)
+ 31.          12.08
(CFS)
(INCHES)      4.832      1.          0.          0.
(AC-FT)       2.          2.          2.          2.
CUMULATIVE AREA = .01 SQ MI

```

```

*****
*          *
37 KK      *  CULV1  *
*          *
*****
ROUTE THROUGH POND CULV1

```

```

39 KO      OUTPUT CONTROL VARIABLES
           IPRNT      3  PRINT CONTROL
           IPLOT      0  PLOT CONTROL
           QSCAL      0. HYDROGRAPH PLOT SCALE
           IPNCH      7  PUNCH COMPUTED HYDROGRAPH
           IOUT       21 SAVE HYDROGRAPH ON THIS UNIT
           ISAV1      1  FIRST ORDINATE PUNCHED OR SAVED
           ISAV2      720 LAST ORDINATE PUNCHED OR SAVED
           TIMINT     .083 TIME INTERVAL IN HOURS

```

HYDROGRAPH ROUTING DATA

```

40 RS      STORAGE ROUTING
           NSTPS      1  NUMBER OF SUBREACHES
           ITYP       ELEV TYPE OF INITIAL CONDITION
           RSVRIC     687.80 INITIAL CONDITION
           X          .00 WORKING R AND D COEFFICIENT

41 SA      AREA          .0          .0          .1          .3          1.0

42 SE      ELEVATION     687.80     688.00     689.00     690.00     691.00

44 SL      LOW-LEVEL OUTLET
           ELEV      688.50 ELEVATION AT CENTER OF OUTLET
           CAREA     1.77  CROSS-SECTIONAL AREA
           COQL      .60  COEFFICIENT
           EXPL      .50  EXPONENT OF HEAD

43 SS      SPILLWAY
           CREL      690.00 SPILLWAY CREST ELEVATION
           SPWID     25.00 SPILLWAY WIDTH
           COQR      2.60 WEIR COEFFICIENT
           EXFW      1.50 EXPONENT OF HEAD

```

COMPUTED STORAGE-ELEVATION DATA

```

STORAGE      .00          .00          .05          .25          .87
ELEVATION     687.80     688.00     689.00     690.00     691.00

```

COMPUTED OUTFLOW-ELEVATION DATA

```

OUTFLOW      .00          .00          7.09         7.43         7.81         8.22         8.68         9.20         9.77         10.43
ELEVATION     687.80     688.50     689.19     689.26     689.34     689.43     689.54     689.67     689.82     690.00

OUTFLOW      10.64        11.39        13.02        15.89        20.35        26.74        35.39        46.67        60.91        78.47
ELEVATION     690.02     690.05     690.11     690.18     690.27     690.38     690.51     690.65     690.82     691.00

```

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

```

STORAGE      .00          .00          .01          .05          .07          .08          .10          .11          .13          .16
OUTFLOW      .00          .00          .00          6.02         7.09         7.43         7.81         8.22         8.68         9.20
ELEVATION     687.80     688.00     688.50     689.00     689.19     689.26     689.34     689.43     689.54     689.67

STORAGE      .20          .25          .26          .27          .29          .31          .35          .40          .48          .57
OUTFLOW      9.77         10.43        10.64        11.39        13.02        15.89        20.35        26.74        35.39        46.67
ELEVATION     689.82     690.00     690.02     690.05     690.11     690.18     690.27     690.38     690.51     690.65

```

STORAGE .70 .87
 OUTFLOW 60.91 78.47
 ELEVATION 690.82 691.00

*** **

HYDROGRAPH AT STATION CULV1

| PEAK FLOW | TIME | 6-HR | 24-HR | 72-HR | 59.92-HR |
|-----------|-------|-------|-------|-------|----------|
| (CFS) | (HR) | | | | |
| 18. | 12.25 | 4. | 1. | 0. | 0. |
| (INCHES) | | 4.831 | 6.372 | 6.372 | 6.372 |
| (AC-FT) | | 2. | 2. | 2. | 2. |

| PEAK STORAGE | TIME | 6-HR | 24-HR | 72-HR | 59.92-HR |
|--------------|-------|------|-------|-------|----------|
| (AC-FT) | (HR) | | | | |
| 0. | 12.25 | 0. | 0. | 0. | 0. |

| PEAK STAGE | TIME | 6-HR | 24-HR | 72-HR | 59.92-HR |
|------------|-------|--------|--------|--------|----------|
| (FEET) | (HR) | | | | |
| 690.23 | 12.25 | 688.88 | 688.62 | 688.54 | 688.54 |

CUMULATIVE AREA = .01 SQ MI

*** **

 * *
 45 KK * DA5 *
 * *

SUBAREA DA5

47 KO OUTPUT CONTROL VARIABLES

| | | |
|--------|------|---------------------------------|
| IPRNT | 3 | PRINT CONTROL |
| IPLLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 7 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 21 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | .083 | TIME INTERVAL IN HOURS |

SUBBASIN RUNOFF DATA

48 BA SUBBASIN CHARACTERISTICS

| | | |
|-------|-----|---------------|
| TAREA | .00 | SUBBASIN AREA |
|-------|-----|---------------|

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

| HYDRO-35 | | | TP-40 | | | | TP-49 | | | | |
|----------|--------|--------|-------|------|------|-------|-------|-------|-------|-------|--------|
| 5-MIN | 15-MIN | 60-MIN | 2-HR | 3-HR | 6-HR | 12-HR | 24-HR | 2-DAY | 4-DAY | 7-DAY | 10-DAY |
| .82 | 1.62 | 2.96 | 3.78 | 4.31 | 5.25 | 6.24 | 7.29 | .00 | .00 | .00 | .00 |

STORM AREA = .00

49 LS SCS LOSS RATE

| | | |
|--------|-------|-------------------------|
| STRTL | .44 | INITIAL ABSTRACTION |
| CRVNBR | 82.00 | CURVE NUMBER |
| RTIME | .00 | PERCENT IMPERVIOUS AREA |

50 US SNYDER UNITGRAPH

| | | |
|----|-----|---------------------|
| TP | .14 | LAG |
| CP | .71 | PEAKING COEFFICIENT |

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS

| | | |
|--------|-------------|-----------|
| CLARK | TC= .18 HR, | R= .08 HR |
| SNYDER | TP= .14 HR, | CP= .70 |

UNIT HYDROGRAPH
 6 END-OF-PERIOD ORDINATES

| | | | | | |
|----|----|----|----|----|----|
| 1. | 3. | 2. | 1. | 0. | 0. |
|----|----|----|----|----|----|

*** **

HYDROGRAPH AT STATION DA5

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.10, TOTAL EXCESS = 5.19

| PEAK FLOW | TIME | 6-HR | 24-HR | 72-HR | 59.92-HR |
|-----------|-------|-------|-------|-------|----------|
| (CFS) | (HR) | | | | |
| 3. | 12.17 | 0. | 0. | 0. | 0. |
| (INCHES) | | 4.152 | 5.164 | 5.164 | 5.164 |
| (AC-FT) | | 0. | 0. | 0. | 0. |

CUMULATIVE AREA = .00 SQ MI

*** **

51 KK * CODA5 *

COMBINE CULV1 AND DA5

53 KO OUTPUT CONTROL VARIABLES IPRNT 3 PRINT CONTROL IPLOT 0 PLOT CONTROL QSCAL 0. HYDROGRAPH PLOT SCALE IPNCH 7 PUNCH COMPUTED HYDROGRAPH IOUT 21 SAVE HYDROGRAPH ON THIS UNIT ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED ISAV2 720 LAST ORDINATE PUNCHED OR SAVED TIMINT .083 TIME INTERVAL IN HOURS

54 HC HYDROGRAPH COMBINATION ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

Table with 5 columns: PEAK FLOW (CFS), TIME (HR), 6-HR, 24-HR, 72-HR, 59.92-HR. Includes sub-headers for (INCHES) and (AC-FT) and a CUMULATIVE AREA = .01 SQ MI.

*** **

55 KK * DA3 *

SUBAREA DA3

57 KO OUTPUT CONTROL VARIABLES IPRNT 3 PRINT CONTROL IPLOT 0 PLOT CONTROL QSCAL 0. HYDROGRAPH PLOT SCALE IPNCH 7 PUNCH COMPUTED HYDROGRAPH IOUT 21 SAVE HYDROGRAPH ON THIS UNIT ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED ISAV2 720 LAST ORDINATE PUNCHED OR SAVED TIMINT .083 TIME INTERVAL IN HOURS

SUBBASIN RUNOFF DATA

58 BA SUBBASIN CHARACTERISTICS TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

Table with 12 columns for precipitation depths (5-MIN to 10-DAY) and a row for STORM AREA = .00.

59 LS SCS LOSS RATE STRL .04 INITIAL ABSTRACTION CRVNR 99.00 CURVE NUMBER RTIME .00 PERCENT IMPERVIOUS AREA

60 US SNYDER UNITGRAPH TP .04 LAG CP .49 PEAKING COEFFICIENT

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

R INCREASED TO MINIMUM OF 0.5

UNIT HYDROGRAPH PARAMETERS CLARK TC= .08 HR, R= .12 HR SNYDER TP= .09 HR, CP= .50

UNIT HYDROGRAPH 8 END-OF-PERIOD ORDINATES 1. 1. 1. 0. 0. 0. 0. 0.

*** **

HYDROGRAPH AT STATION DA3

TOTAL RAINFALL = 7.29, TOTAL LOSS = .24, TOTAL EXCESS = 7.05

| PEAK FLOW
(CFS) | TIME
(HR) | MAXIMUM AVERAGE FLOW | | | |
|--------------------|--------------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 59.92-HR |
| 2. | 12.17 | 0. | 0. | 0. | 0. |
| | | (INCHES) 5.194 | 7.019 | 7.019 | 7.019 |
| | | (AC-FT) 0. | 0. | 0. | 0. |

CUMULATIVE AREA = .00 SQ MI

*** **

* *
61 KK * DA4 *
* *

SUBAREA DA4

63 KO OUTPUT CONTROL VARIABLES

| | | |
|--------|------|---------------------------------|
| IPRNT | 3 | PRINT CONTROL |
| IPLST | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 7 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 21 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | .083 | TIME INTERVAL IN HOURS |

SUBBASIN RUNOFF DATA

64 BA SUBBASIN CHARACTERISTICS

| | | |
|-------|-----|---------------|
| TAREA | .00 | SUBBASIN AREA |
|-------|-----|---------------|

PRECIPITATION DATA

10 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

| HYDRO-35 | TP-40 | TP-49 |
|----------------------|----------------------------|--------------------------|
| 5-MIN 15-MIN 60-MIN | 2-HR 3-HR 6-HR 12-HR 24-HR | 2-DAY 4-DAY 7-DAY 10-DAY |
| .82 1.62 2.96 | 3.78 4.31 5.25 6.24 7.29 | .00 .00 .00 .00 |

STORM AREA = .00

65 LS SCS LOSS RATE

| | | |
|-------|-------|-------------------------|
| STRTL | .50 | INITIAL ABSTRACTION |
| CRVNR | 80.00 | CURVE NUMBER |
| RTIMP | .00 | PERCENT IMPERVIOUS AREA |

66 US SNYDER UNITGRAPH

| | | |
|----|-----|---------------------|
| TP | .15 | LAG |
| CP | .73 | PEAKING COEFFICIENT |

SYNTHETIC ACCUMULATED-AREA VS. TIME CURVE WILL BE USED

UNIT HYDROGRAPH PARAMETERS

| | | |
|--------|-------------|-----------|
| CLARK | TC= .23 HR, | R= .05 HR |
| SNYDER | TF= .15 HR, | CP= .72 |

UNIT HYDROGRAPH
5 END-OF-PERIOD ORDINATES

| | | | | |
|----|----|----|----|----|
| 1. | 2. | 2. | 1. | 0. |
|----|----|----|----|----|

*** **

HYDROGRAPH AT STATION DA4

TOTAL RAINFALL = 7.29, TOTAL LOSS = 2.33, TOTAL EXCESS = 4.96

| PEAK FLOW
(CFS) | TIME
(HR) | MAXIMUM AVERAGE FLOW | | | |
|--------------------|--------------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 59.92-HR |
| 2. | 12.17 | 0. | 0. | 0. | 0. |
| | | (INCHES) 4.002 | 4.955 | 4.955 | 4.955 |
| | | (AC-FT) 0. | 0. | 0. | 0. |

CUMULATIVE AREA = .00 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---------------|---------|-----------|--------------|---------------------------------|---------|---------|------------|---------------|-------------------|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | DA1 | 11. | 12.17 | 1. | 0. | 0. | .00 | | |
| HYDROGRAPH AT | DA2 | 15. | 12.08 | 2. | 1. | 0. | .00 | | |

| | | | | | | | | | | |
|---|---------------|-------|-----|-------|----|----|----|-----|--------|-------|
| + | HYDROGRAPH AT | DA6 | 4. | 12.33 | 1. | 0. | 0. | .00 | | |
| + | HYDROGRAPH AT | P1 | 13. | 12.08 | 1. | 0. | 0. | .00 | | |
| + | 3 COMBINED AT | P1-IN | 31. | 12.08 | 4. | 1. | 0. | .01 | | |
| + | ROUTED TO | CULV1 | 18. | 12.25 | 4. | 1. | 0. | .01 | | |
| + | | | | | | | | | 690.23 | 12.25 |
| + | HYDROGRAPH AT | DA5 | 3. | 12.17 | 0. | 0. | 0. | .00 | | |
| + | 2 COMBINED AT | CODA5 | 21. | 12.25 | 4. | 1. | 1. | .01 | | |
| + | HYDROGRAPH AT | DA3 | 2. | 12.17 | 0. | 0. | 0. | .00 | | |
| + | HYDROGRAPH AT | DA4 | 2. | 12.17 | 0. | 0. | 0. | .00 | | |

*** NORMAL END OF HEC-1 ***

VOLUME CALCULATIONS

EXCESS RAINFALL VOLUME CALCULATION

The volume generated by the site and the surrounding properties is calculated for the 25-year, 24-hour storm event. A summary of the design information that is included in this appendix and related appendices are listed below.

- Excess rainfall and drainage areas used in the volume calculations were obtained from the HEC-1 analysis located in Appendix IIIB-C (permitted).
- Permitted condition volume information is summarized on page IIIB-C-26.

PERMITTED CONDITION EXCESS RAINFALL 25-YEAR, 24-HOUR STORM
VOLUME CALCULATIONS

1. Permitted Conditions

1. a. Total Volume at DCP 1

| Area No. | Area (ac) | Total Excess Rainfall (in) | Volume (ac-ft) |
|----------|-----------|----------------------------|----------------|
| DA1 | 1.84 | 5.53 | 0.85 |

Total Volume at DCP1= 0.85 ac-ft

Total Volume at DCP 2

1. b.

| Area No. | Area (ac) | Total Excess Rainfall (in) | Volume (ac-ft) |
|----------|-----------|----------------------------|----------------|
| DA3 | 0.26 | 7.05 | 0.15 |

Total Volume at DCP 2 = 0.15 ac-ft

1. c.

Total Volume at DCP 3

| Area No. | Area (ac) | Total Excess Rainfall (in) | Volume (ac-ft) |
|----------|-----------|----------------------------|----------------|
| DA4 | 0.39 | 4.96 | 0.16 |

Total Volume at DCP 3 = 0.16 ac-ft

1. d.

Total Volume at DCP4

| Area No. | Area (ac) | Total Excess Rainfall (in) | Volume (ac-ft) |
|----------|-----------|----------------------------|----------------|
| DA2 | 2.03 | 6.46 | 1.09 |
| DA5 | 0.67 | 5.19 | 0.29 |
| DA6 | 1.00 | 4.96 | 0.41 |
| P1 | 1.56 | 7.29 | 0.95 |

Total Volume at DCP 4 = 2.74 ac-ft

Total Volume Discharged from Site = 3.90 ac-ft

VELOCITY CALCULATIONS

Required:

Determine the flow velocities entering and exiting the permit boundary using HYDROCALC HYDRAULICS (Version 2.01, 1996-2010) for the flows calculated for the 25-year 24-hour storm event in the HEC-1 analysis.

Method:

1. Use the flow data generated by the HEC-1 analysis to determine velocity of runoff exiting the Transfer Station permit boundary.

1.

Flow Velocity exiting the Transfer Station permit boundary

Flow for the 25-year 24-hour storm event was obtained from the HEC-1 file included in this Appendix.

DCP 1

$Q_{25} = 11 \text{ cfs}$

| Storm Year | Flow Rate (cfs) | Bottom Slope (ft/ft) | n-value | Side Slope (left) | Side Slope (right) | Bottom Width (ft) | Normal Depth (ft) | Flow Vel. (fps) |
|------------|-----------------|----------------------|---------|-------------------|--------------------|-------------------|-------------------|-----------------|
| 25 | 11 | 0.087 | 0.03 | 100 | 100 | 100 | 0.05 | 2.00 |

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP 2

$Q_{25} = 2 \text{ cfs}$

| Storm Year | Flow Rate (cfs) | Bottom Slope (ft/ft) | n-value | Side Slope (left) | Side Slope (right) | Bottom Width (ft) | Normal Depth (ft) | Flow Vel. (fps) |
|------------|-----------------|----------------------|---------|-------------------|--------------------|-------------------|-------------------|-----------------|
| 25 | 2 | 0.050 | 0.01 | 90 | 90 | 90 | 0.01 | 1.87 |

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP 3

$Q_{25} = 2 \text{ cfs}$

| Storm Year | Flow Rate (cfs) | Bottom Slope (ft/ft) | n-value | Side Slope (left) | Side Slope (right) | Bottom Width (ft) | Normal Depth (ft) | Flow Vel. (fps) |
|------------|-----------------|----------------------|---------|-------------------|--------------------|-------------------|-------------------|-----------------|
| 25 | 2 | 0.170 | 0.04 | 90 | 90 | 90 | 0.02 | 1.11 |

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

DCP 4

$Q_{25} = 21 \text{ cfs}$

| Storm Year | Flow Rate (cfs) | Bottom Slope (ft/ft) | n-value | Side Slope (left) | Side Slope (right) | Bottom Width (ft) | Normal Depth (ft) | Flow Vel. (fps) |
|------------|-----------------|----------------------|---------|-------------------|--------------------|-------------------|-------------------|-----------------|
| 25 | 21 | 0.018 | 0.03 | 3 | 3 | 6 | 0.63 | 4.19 |

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010).

APPENDIX IIIB-D

CITY OF PLANO FLOODPLAIN AUTHORIZATION



City of Plano
1520 K Avenue
Plano, TX 75074

P.O. Box 860358
Plano, TX 75086-0358
Tel: 972.941.7000
plano.gov

May 8, 2020
FLDS20-00002

Claire Harvey, E.I.T.
Weaver Consultants Group
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109

Re: Review of Floodplain Study Submittal – **Summary of Flood Study Parkway Transfer Station**

Dear Ms. Harvey,

We have completed a technical review of the *Summary of Flood Study Parkway Transfer Station* dated April 29, 2020. As a result of this review, we believe that the stream hydraulics associated with the proposed reclamation at the North Texas Municipal Water District Transfer Station at 4030 W. Plano Parkway along Stream 5B13 generally conforms to City of Plano, floodplain ordinance, regulations, and policies.

The following comments are a result of this review:

1. The proposed project seems to have no significant impact on water surface elevations on Stream 5B13.
2. The proposed project seems to have no significant impact on velocities on Stream 5B13.
3. Valley storage loss on Stream 5B13 due to the proposed project does not exceed the maximum allowable of 15% for minor streams.

Based on this information, the City of Plano grants **Approval**.

Do not hesitate to contact me if you have further questions or comments concerning this review. Please include the reference “**FLDS20-00002**” on all correspondence.

Sincerely,

Russell P. Erskine

Russell P. Erskine, P.E., CFM
Senior Engineer
972-941-7589
erskine@plano.gov

| | | | | | | | | |
|----------------------------|-----------------------------|----------------------------------------------|---------------------|-----------------------|-------------------------|----------------------------|---------------------|-----------------------------------|
| Harry LaRosiliere
Mayor | Rick Smith
Mayor Pro Tem | Anthony Ricciardelli
Deputy Mayor Pro Tem | Marla Tu
Place 1 | Rick Grady
Place 3 | Kayci Prince
Place 4 | Shelby Williams
Place 5 | Lily Bao
Place 7 | Mark D. Israelson
City Manager |
|----------------------------|-----------------------------|----------------------------------------------|---------------------|-----------------------|-------------------------|----------------------------|---------------------|-----------------------------------|

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TYPE V PERMIT AMENDMENT APPLICATION**

**PART III
FACILITY DESIGN REPORT
APPENDIX IIIC
CLOSURE PLAN**

Prepared for
North Texas Municipal Water District
October 2022



Prepared by
Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

Project No. 1678-005-11-03

This document is issued for permitting purposes only.

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1 INTRODUCTION

This Closure Plan has been prepared for the Parkway Transfer Station and is consistent with 30 TAC §330.63(h) and §330.459. Section 2 of this Closure Plan describes the steps necessary to close the facility at any point during its active life and Section 3 of this Closure Plan discusses post-closure land use of the site. Post-closure maintenance of the site is not required as all wastes and waste residues will be removed during closure in accordance with 30 TAC §330.459(a).

NTMWD shall, unless specifically authorized by the commission, close the facility in accordance with the closure provisions of the permit.

2 CLOSURE REQUIREMENTS

2.1 Title 30 TAC §330.459 and 30 TAC §330.457 Closure Requirements

At the time of closure, the site will remove all waste, waste residues, and any recovered materials. The transfer station structure, pad, walls and associated units will be decontaminated. All material on-site, whether in process or processed will be evacuated to an authorized facility, and the tipping floors, processing areas, and post-processing areas will be disinfected by washing down with industrial cleaners. The operator shall then complete the closure activities for the unit in accordance with the approved plan with 180 days of initiation of closure activities.

The operator shall will begin closure no later than 30 days after final receipt of waste or no later one year if the unit has remaining capacity and additional waste may be received.

2.2 Title 30 TAC §330.461 Certification of Final Facility Closure

No later than 90 days prior to the initiation of final closure, the site will, through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility, provide public notice for final facility closure. This notice will include the name, address, and physical location of the facility, the permit number, and the last day of intended receipt of materials for processing at the facility. The site will also make available an adequate number of copies of the approved Closure Plan for public review. The owner/operator will also provide written notification to the TCEQ of the intent to close the facility and place this Notice of Intent in the site operating record.

Initiation of closure activities for the facility will begin after the date on which the facility receives the known final receipt of waste to be processed.

The following steps will be taken:

- Notify the TCEQ of when closure will be initiated.
- Post a minimum of one sign at the main entrance and all other frequently used points of access for the facility notifying all persons who may utilize the

facility of the date of closing for the facility and the prohibition against further receipt of waste materials after the stated date.

- Install suitable barriers to all gates or access points or alternatively, fence around the entire waste processing area, to adequately prevent the unauthorized dumping of solid waste at the closed facility.
- Remove waste, waste residues, contaminated water, and any recovered materials.
- Dismantle and remove or decontaminate facility units.
- Disinfect tipping floors, processing area, and post-processing areas.
- Wash transfer station tipping floors and any surfaces that have been in contact with waste.
- Perform facility inspection and prepare certification of closure. The certification shall be signed by an independent Texas licensed professional engineer, verifying that final facility closure has been completed in accordance with the approved closure plan. The submittal to the TCEQ Executive Director shall include all applicable documentation necessary for certification of final facility closure.
- If there is evidence of a release from the transfer station, the Executive Director may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct an impact to groundwater. If hazardous constituents are measured in groundwater, exceeding the limits prescribed in 30 TAC §330.409, a characterization of the groundwater constituents shall be prepared.

3 CERTIFICATION OF FINAL FACILITY CLOSURE

Following completion of all final closure activities for the transfer station, NTMWD will submit within 10 days to the TCEQ Executive Director for review and approval a documented certification signed by an independent Texas licensed professional engineer, verifying that final closure has been completed in accordance with the approved Closure Plan and the applicable rule provisions of 30 TAC Chapter 330 Subchapter K. The submittal to the TCEQ Executive Director shall include all applicable documentation necessary for certification of final closure.

Following receipt of the required final closure documents, as applicable, the TCEQ regional office will conduct an inspection and provide a report verifying proper closure of the facility according to the approved Closure Plan before termination of operation and closure of the facility will be acknowledged and the facility deemed properly closed.

Since the facility does not require post-closure care, a request for voluntary revocation of the facility permit will be submitted to the executive director.

4 POSTCLOSURE LAND USE

All wastes and waste residues will be removed from the facility upon closure. At the time of closure, the TCEQ Executive Director will be provided with documentation of waste removal and a request will be made that there be no restrictions to the postclosure use of the facility related to its previous use as a municipal solid waste transfer station facility.

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TYPE V PERMIT AMENDMENT APPLICATION**

**PART III
SITE PLAN AND DESIGN CRITERIA
APPENDIX IIID
COST ESTIMATE FOR CLOSURE**

Prepared for
North Texas Municipal Water District
October 2022



Prepared by
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Project No. 1678-005-11-03

This document is issued for permitting purposes only.

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1 INTRODUCTION

This Cost Estimate for closure of the Parkway Transfer Station has been prepared consistent with Title 30 Texas Administrative Code (TAC) §330.63(j). Cost estimates for closure are required for any municipal solid waste facility permitted or registered by the TCEQ. In the event of forced closure, which occurs when a solid waste facility can no longer operate because of an inability to manage the incurred debts and liabilities of closure, operations will be assumed by the TCEQ. This cost estimate for closure has been prepared for the Parkway TS and is consistent with Title 30 TAC §330.505.

2 CLOSURE COST ESTIMATE

At any point in its active life, the maximum amount of waste that may be temporarily stored onsite at the facility and any processed and unprocessed waste and materials onsite is 700 tons. A detailed estimate, in current dollars, of the cost of hiring a third party that is not affiliated with the owner or operator to close the facility at any time during the active life, when the extent and manner of the facility's operations would make closure most expensive, is provided. The cleanup and disposition costs for onsite waste material are based on a weight measurement as shown in Table 2-1. No dismantling of the concrete pad or other structures will be conducted at closure. No changes to the site elevations at closure will occur that will affect the final contour map.

The estimated closure cost based on the above considerations is \$73,600 in 2022 dollars. A copy of the required documentation to demonstrate financial assurance shall be submitted within 60 days after the date of permit issuance or prior to the initial receipt of waste.

**Table 2-1
Parkway Transfer Station
Cost Estimate for Third Party Closure**

| Item | Description | Cost |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| A | State Administration of third party site closure | |
| 1 | Site survey and file review to determine closure activities | \$1,500 |
| 2 | Preparation of engineering plans | \$1,500 |
| 3 | Procurement of bids | \$1,500 |
| 4 | Contract award and administration of contract | \$1,000 |
| 5 | Installation of sign stating facility closure | \$500 |
| 6 | Buildings and site secured (locks and/or fencing, etc.) | \$500 |
| B | Contractor mobilization | \$500 |
| C | Sampling/testing/classification of waste (ash, liquids, sludge, other waste not readily identifiable as garbage, trash, refuse), to include lab reports, chain of custody, quality assurance and quality control. | \$2,000 |
| D | Disposal of waste (700 tons @ \$65/ton) (approximate maximum storage capacity)* | |
| 1 | Cleanup/Removal of waste stored on site (700 tons @ \$10.00/ton) | \$7,000 |
| 2 | Transport of waste by a properly authorized transporter (700 tons @ \$10.00/ton) | \$7,000 |
| 3 | Treatment and/or disposal of waste at a properly authorized facility (700 tons @ \$45.00/ton) | \$31,500 |
| E | General cleanup to include washdown and disinfection of facility (floors, walls, containment areas, processing areas) and removal, transport, treatment, and disposal of all wash down waters/media. | \$1,500 |
| F | Removal, treatment, and disposal of any contaminated soils, concrete, stormwater, or other contaminated materials on site. | \$1,000 |
| G | Cleanup and decommission (equipment should be rendered unusable) of process equipment/facility | \$1,500 |
| H | Vector control | \$500 |
| I | Inspection and certification of closure | \$5,000 |
| | Closure Subtotal | \$64,000 |
| | Contingency cost (15%) | \$9,600 |
| | Total | \$73,600 |

* As noted in the Site Operating Plan, Section 8.10, the expected waste storage capacity is 700 tons for this facility.

3 COST ESTIMATE ADJUSTMENTS

During the active life of the facility, NTMWD will establish and maintain financial assurance for closure in accordance with Title 30 TAC Chapter 37, Subchapter R.

An increase in the closure cost estimate and the amount of financial assurance provided must be made if changes to the facility conditions increase the maximum cost of closure. Under that scenario, request for an increase in the closure cost estimate and financial assurance will be submitted as a permit modification. The closure cost estimate will be evaluated annually to determine if an increase in the closure cost estimate is required based on the annual inflation adjustment factor.

A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure and the owner/operator has provided written notice to the Executive Director of the detailed justification for the reduction. A request for reduction in the closure cost estimate and financial assurance will be submitted as a permit modification request.

Continuous financial assurance coverage for closure must be provided until all requirements of the Closure Plan are completed and the facility is determined to be closed in writing by the Executive Director.

**PARKWAY TRANSFER STATION
COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1494A**

TYPE V PERMIT AMENDMENT APPLICATION

**PART IV
SITE OPERATING PLAN**

Prepared for

North Texas Municipal Water District

October 2022

Revised January 2023



Prepared by

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LIST OF ACRONYMS

CESQG – Conditionally Exempt Small Quantity Generators

CFCs – Chlorinated Fluorocarbons

EPA – U.S. Environmental Protection Agency

MSW – Municipal Solid Waste

NTMWD – North Texas Municipal Water District

PCBs – polychlorinated biphenyls

SOP – Site Operating Plan

TAC – Texas Administrative Code

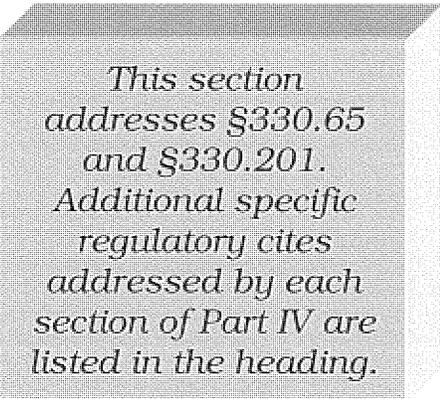
TCEQ – Texas Commission on Environmental Quality

TxDOT – Texas Department of Transportation

TS – Transfer Station

1 INTRODUCTION

This Site Operating Plan (SOP) has been prepared for the Parkway Transfer Station (TS) and contains the information required by Title 30 Texas Administrative Code (TAC) §330.65 and 30 TAC Subchapter E. This SOP includes provisions for facility management and facility operating personnel to meet the general and facility-specific requirements included in Subchapter E: Operational Standards for Municipal Solid Waste Storage and Processing Units for the day-to-day operation of the facility. This SOP contains information about how the Parkway TS will conduct operations at the facility but is not intended to be a comprehensive operating manual. The SOP represents the general instructions for facility management and personnel to operate the facility in a manner consistent with the approved design and the commission's rules to protect human health and the environment and prevent nuisances. This SOP will be retained onsite throughout the active life of the facility and until certification of closure.



This section addresses §330.65 and §330.201. Additional specific regulatory cites addressed by each section of Part IV are listed in the heading.

2 WASTE ACCEPTANCE AND ANALYSIS (30 TAC §330.203 AND §330.205)

2.1 Properties and Characteristics of Waste (§330.203(a))

The transfer station may receive household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste. No industrial hazardous wastes or Class 1 industrial waste will be accepted at the facility. No special wastes other than those mentioned in the following section will be accepted at the facility. Small quantities of special wastes may inadvertently be received if they are unidentified and included as part of the mixed municipal waste stream. These wastes, if identified, will be separated and will not be accepted.

Recyclables (white goods/metals, and tires) may also be accepted and temporarily stored on-site in the recyclable drop-off area. These materials will be placed in a separate designated area. When sufficient quantities are accumulated, the waste will be transported off-site to an authorized facility for recycling. Tires accepted for recycling shall be managed in accordance with requirements prescribed in Title 30 TAC Chapter 328, Subchapter F.

The Parkway TS may receive waste from third party haulers and from any of the Solid Waste System Member Cities (that currently consist of Allen, Frisco, McKinney, Plano and Richardson). This service area is based on economic conditions. As economic conditions and existing landfill disposal capacities change, the facility may accept waste from areas other than those identified above. Based on the type of wastes currently received and expected to be received, there are no constituents or characteristics that would impact or influence the design and operation of the facility.

Waste received at the site is transferred to a Type I MSW landfill for disposal.

Special Wastes Received

- Used oil (for recycling only);
- Used-oil filters from internal combustion engines (for recycling only);
- Whole used or scrap tires or tire pieces (for recycling only); and
- White goods.

Receipt of Special Wastes

Used oil will be temporarily stored in a container inside the TS building until transported off-site by an authorized hauler to an approved oil recycling facility. The container's size and material may vary if the container is replaced. The container shall be made of steel, HDPE, or other material compatible with the storage of used oil, be double-walled or have sufficient secondary containment to contain the entire volume of the container and have a maximum capacity of 1,000 gallons. The container will be located in a corner or adjacent to a wall of the transfer station building to protect it from facility operations. Additionally, floor paint, cones, barricades, or other traffic control devices will be used as necessary around the container to make it more visible to vehicles and heavy machinery. The used oil will be removed as needed.

Used oil filters and oil will be temporarily stored in a container inside the TS building and will be managed in accordance with TCEQ regulation Texas Administrative Code 30 (TAC) §324, Subchapter A and TCEQ Registration C81092, until full, then transported.

Large, heavy, or bulky items including white goods (household appliances), air conditioning units, metal tanks, large metal pieces, etc., may be accepted, however, they may be segregated for recycling at the discretion of the NTMWD. If segregated for recycling, these items will be placed in the designated recyclable area. When sufficient quantities are accumulated, the large items will be transported off-site to an authorized facility for recycling. The large items will be stored onsite for a maximum of 90 days. They will be removed as needed to prevent nuisance conditions.

Prohibited Wastes

The facility will not accept the following for disposal:

- Regulated Hazardous Waste other than from Conditionally Exempt Small Quantity Generators (CESQG). Municipal hazardous waste from a CESQG may be accepted provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- Polychlorinated Biphenyl (PCB) wastes, as defined under 40 Code of Federal Regulations, Part 761.
- Items containing chlorinated fluorocarbons (CFCs), such as refrigerators, freezers, and air conditioners, unless the generator or transporter provides written certification that the CFCs have been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. These appliances may be accepted without certification at the discretion of NTMWD staff and stored until removed from the facility by a third-party recycler who will engage a certified operator to properly remove the CFC's.

- Liquid waste which does not pass EPA Method 9095 Paint Filter Test unless it is bulk or non-containerized liquid waste that is:
 - household waste other than septic waste;
 - contained liquid waste and the container is a small container similar in size to that normally found in the household waste; or
 - in a container designated to hold liquids for use other than storage.
- Regulated Asbestos Containing Materials.
- Lead acid storage batteries.
- Do-it-yourself used motor oil.
- Used oil filters from internal combustion engines.
- Whole or used scrap tires.
- Radioactive materials.
- Associated hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes).
- Class 1 industrial nonhazardous waste.
- Untreated medical waste.
- Septic tank pumpings.
- Grease and grit trap wastes.
- Wastes from commercial or industrial wastewater treatment plants, air pollution control facilities, and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR, Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR, Section 261.33e or (f).
- Incinerator ash.
- Sludges.

Measures for Controlling Prohibited Wastes

Procedures to detect and control the receipt of prohibited wastes include:

- Informing facility customers of prohibited wastes by posting one or more signs at the facility entrance listing prohibited wastes.
- Observing all incoming loads.
- Facility personnel training and activities:

- Training for appropriate facility personnel responsible for inspecting or observing incoming loads to recognize regulated hazardous waste and PCB waste;
 - Random hazardous waste inspections of incoming loads in accordance with procedures described in this section;
 - Maintaining records of all inspections;
 - Notification of the TCEQ Executive Director of any incident involving a regulated hazardous waste or a PCB waste; and
 - Remediation of any regulated hazardous waste or PCB waste discovered at the facility in accordance with §335.349.
- Vehicles containing suspicious loads will be inspected. Suspicious loads may include:
 - Drums or containers with warning labels; and
 - Loads which have visible emission, smoke, strong chemical odor, or cause physical symptoms (e.g., irritation of eyes, nose throat, skin, nausea, dizziness, or headache).

The inspector will not inspect any vehicle that appears to present possible physical danger. The TS Supervisor or his designee shall be contacted immediately if such a load enters the facility. The TS Supervisor or his designee shall determine when to conduct inspections of incoming loads. Such inspections shall be conducted in a manner that allows the inspector to view all contents of the waste load. However, there may be some situations where it is not feasible to view the entire contents of the waste load (e.g., baled wastes). In these situations, the inspector shall make an effort to view as much of the load as possible and note on the inspection form that all material was not visible and state the reason why. Such inspections shall be conducted in an expeditious manner to minimize disruption to normal operations.

If the waste is not readily identifiable, hazardous, contains regulated levels of PCBs, or is deemed otherwise unacceptable by the inspector, the load will be rejected. The inspector will make an effort to determine whether the waste is acceptable for disposal by performing at least one of the following: 1) questioning the transporter about the origin of the waste; 2) contacting the generator; 3) reviewing paperwork (e.g., manifests, trip tickets, safety data sheets); or 4) using knowledge based on container packaging labels. If the load is acceptable, the inspector will then complete a Random Waste Screening Report, the driver will be allowed to proceed, and the waste moved to the tipping area.

If prohibited wastes are suspected or discovered, material will be isolated until it can be identified to determine the proper disposition or handling procedures. During this identification process, the generator or generator representative will be contacted to determine the origin and identity of the material. If the material is determined to be a regulated hazardous waste or contain regulated levels of PCBs,

radioactive or other prohibited material, the TCEQ Region 4 office and any local pollution agency that has requested to be notified will be verbally notified of the incident and the planned disposition of the material. Proper disposition of the prohibited waste will be specific to that waste and will be implemented upon TCEQ concurrence. If the waste is prohibited or is unacceptable for disposal as determined by the facility personnel, the load will be rejected. The Supervisor or their designee will determine how to manage the unacceptable materials based on regulations, permit restrictions, and the NTMWD's policies and procedures for waste acceptance. Regulated hazardous wastes and regulated PCB wastes discovered during the inspection will be returned immediately to the transporter or generator. If the transporter or generator cannot be reached, the waste will be disposed of off-site at a permitted treatment, storage, or disposal facility.

Where the transporter or generator cannot be identified and the facility has received prohibited waste, the NTMWD or facility operator will be responsible for meeting applicable federal, state, and local regulations in the removal and proper disposal of the waste.

2.2 Volume and Rate of Transfer (§330.203(b) and §330.205(a) and (b))

The Parkway TS serves the individuals and public and private collection vehicles from the service area. The maximum amount of waste to be stored on the facility tipping floor is 700 tons. This tonnage refers to the waste stored on the tipping floor and does not include recyclables. The maximum length of time MSW will remain within the TS building is 72 hours and the average length of time is 24 hours or less. Solid waste will not be stored overnight at the facility except for extenuating emergency situations such as inclement weather or mechanical breakdown.

The intended destination of the solid waste generated by the facility is a permitted Type I MSW landfill. The destination of the liquids generated by the facility (e.g., washdown water) is to the City of Plano sanitary sewer system.

2.3 Facility-Generated Wastes (§330.205 (b), (c), (d), and §330.203(c)(2))

Wastes generated by the transfer station will be processed or disposed at an authorized solid waste management facility. The only solid wastes generated onsite are typical office wastes. It is not anticipated that any solid wastes will be generated at the facility that cannot be properly handled at NTMWD's 121 Regional Disposal Facility (121 RDF).

Wastewater generated by the transfer station from managing the waste, cleaning and washing, and bathroom facilities will be managed in accordance with §330.207, Contaminated Water Management. The intended destination of the liquid wastes generated by the facility is the City of Plano sanitary sewer system.

No sludges are generated onsite.

Grit trap waste will be managed consistent with the Section 3 – Contaminated Water Management of Part IV – SOP.

3 CONTAMINATED WATER MANAGEMENT (30 TAC §330.207)

All liquids resulting from the operation of the transfer station, including tipping floor wash down water and water that has come in contact with waste, will be disposed of in a manner that will not cause surface water or groundwater pollution. Any water that contacts waste or is otherwise contaminated will be collected and disposed of into the City of Plano sanitary sewer system. Contaminated water will be collected and properly managed to limit odors and vectors.

The facility does not process grease trap waste, grit trap waste, or septage; and is not a mobile liquid waste processing unit.

Wastewater discharge to a treatment facility permitted under Texas Water Code, Chapter 26 will not:

1. interfere with or pass-through the treatment facility processes or operations;
2. interfere with or pass-through its sludge processes, use, or disposal; or
3. otherwise be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source Pollution

The daily effluent design standard for oil and grease concentration leaving the facility and entering a public sewer system will not exceed 200 milligrams per liter or the concentration established by the treatment facility permitted under Texas Water Code, Chapter 26, and National Pollutant Discharge Elimination System. This meets the requirements of Title 30 TAC §330.207(g). In addition, the proposed facility will not require a wastewater permit as the quantity of water discharged to the sanitary sewer system is less than the amount that is required to have a permit.

4 STORAGE REQUIREMENTS (30 TAC §330.209, §330.211 AND §330.213)

4.1 Solid Waste Storage (§330.209(a))

All solid waste will be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors and (except for white goods and tires) shall be contained within the tipping area. The tipping area is located inside the building and sized to contain the solid wastes delivered and transferred daily. White goods, metals, and tires received for recycling will be stored in a curbed area separate from the transfer station building. Used oil and used oil filter recycling receptacles will be located appropriately inside the transfer station building. All material storage areas will be inspected weekly for ponding water and the harborage of vectors. Any ponded water will be promptly removed. Vectors will be discouraged by maintaining a clean and neat area, and by removal of items once sufficient quantities are accumulated to warrant off-site transport.

4.2 Approved Containers (§330.211)

Solid waste that is received containing food wastes will be placed in the transfer building. The receiving area and transfer trailers will be maintained in a clean condition so as to not constitute a nuisance and retards the harborage, feeding, and propagation of vectors.

No food waste will be stored outside the building.

The transfer trailers are designed to prevent spillage or leakage during storage, handling, or transport.

4.3 Self-Haul Area (§§330.209(b) and 330.213)

There is not a citizen collection station proposed, therefore there are no separate container requirements.

Citizens may deposit wastes inside the transfer station only on the tipping area for loading into transfer vehicles. Signs will guide them to an area to unload their waste. The materials segregated for recycling will be placed in the designated recyclables area. Rules will be posted outside the transfer station building for the

citizens governing the use of the facility including who may use it, and what wastes are acceptable or not acceptable at the facility.

5 RECORDKEEPING AND REPORTING REQUIREMENTS (30 TAC §330.219)

5.1 Documents (§330.219(a) and (b))

A copy of the permit and the approved permit application will be maintained at the facility. In addition, a copy of the permit, the approved permit application, and all other related or required plans or documents will be maintained at the scale house or at the NTMWD Administrative Offices located at 501 E. Brown Street in Wylie, Texas and shall be considered a part of the site operating record of this facility. Consistent with Title 30 TAC §330.219(a), copies of documents that are part of the approved permitting process that are considered part of the operating record for the facility are listed below.

Upon completion of construction at the facility, an as-built set of construction plans and specifications and any other required plan or other related document will be maintained at the NTMWD Administrative Offices in Wylie, Texas. These documents will be made available for inspection by TCEQ representatives or other interested parties. These plans and documents are part of the facility operating record. All information contained within the operating record and the different required plans will be retained during the active life of the facility until after certification of closure. The following records will be kept, maintained, and filed as part of the facility operating record. Logbooks, schedules, and an electronic file document storage system may be used.

| Records to be Maintained | Rule Citation |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1. All location restriction demonstrations | §330.219(b)(1) |
| 2. Inspection records and training procedures | §330.219(b)(2) |
| 3. Closure plans and any monitoring, testing, or analytical data relating to closure requirements | §330.219(b)(3) |
| 4. All cost estimates and financial assurance documentation relating to financial assurance for closure | §330.219(b)(4) |
| 5. Copies of all correspondence and responses relating to the operation of the facility, modifications to the permit/registration, approvals, and other matters pertaining to technical assistance | §330.219(b)(5) |
| 6. All documents, manifests, shipping documents, trip tickets, etc., involving special waste | §330.219(b)(6) and (8) |
| 7. Any other document(s) as specified by the approved permit/registration or by the executive director | §330.219(b)(7) |

5.2 Report Signatories

The Parkway TS will assign responsibility for the overall operations of the facility to the NTMWD Assistant Deputy – Solid Waste or Transfer Station Manager and this position, or someone in the chain of command above this position, will be the responsible signatory for any reports, information, or applications. If the authorization to sign is no longer accurate, a new authorization shall be submitted by this position. Any person signing a report shall make the certification in §305.44(b).

5.3 Notification (§330.219(e))

The Parkway TS, in accordance with Title 30 TAC §330.219(e), will furnish the operating record to the Executive Director upon request and it will be made available at all reasonable times at the facility for inspection by the Executive Director.

5.4 Record Retention (§330.219(f))

In accordance with Title 30 TAC §330.219(f), the site will retain all information contained within the operating record of the facility and all plans required for the facility for the life of the facility.

5.5 Alternative Schedules (§330.219(g))

The Executive Director, in accordance with Title 30 TAC §330.219(g), may set alternative schedules for recordkeeping and notification requirements as specified in Title 30 TAC §330.219(a) – (e).

6 FIRE PROTECTION PLAN (30 TAC §330.221)

Burning is not permitted at the site. Fire extinguishers will be kept on all equipment and in the transfer station building. The site currently receives potable water from the City of Plano and a looped line sprinkler system will be installed in the transfer station building. There is an adequate supply of pressurized water to fight fires and the City of Plano Fire Department is available to assist with firefighting, if needed. Fire hydrants will be provided as shown on Figure I/II-4.4. All personnel will be trained annually in the contents and use of the following Fire Prevention Plan. The training will include the use and operation of onsite firefighting equipment.

6.1 Fire Prevention Plan

The following steps will be taken regularly by designated site personnel to prevent fires.

- Operators will be alert for signs of burning waste such as smoke, steam or heat being released from incoming waste loads.
- Equipment used to move waste will be routinely cleaned through the use of water or steam cleaners. The water or steam cleaning will remove combustible waste and caked material which can cause equipment overheating and increase fire potential.
- Smoking is only permitted in designated areas away from the waste management areas.

6.2 Specific Fire-Fighting Procedures

The following procedures will be followed in the event of a fire.

- Alert other facility personnel.
- Contact City of Plano Fire Department, as appropriate.
- If a fire occurs on a vehicle or piece of equipment, the operators will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, solid wastes, and other vehicles. The vehicle will be directed to park on a paved area at least 40 feet from any building. The engine will be shut off and the brake engaged to prevent movement of the vehicle. Fire extinguishers will be used to extinguish fire if possible, without risk to operators.

- Assess extent of fire, possibility to spread, and alternatives for extinguishing the fire.
- Do not attempt to fight a fire alone.
- Do not attempt to fight a fire without adequate personal protective equipment.
- Be familiar with the use and limitation of the firefighting equipment.
- If a fire is on the tipping floor, the burning area will be isolated and pushed away from the other waste quickly. The burning area will be sprayed with water from the large wash down hoses or, if small enough, extinguished with a hand-held fire extinguisher.
- If burning waste materials are discovered after having been delivered to the site, the vehicle will be directed to an area away from buildings. Then the waste will be discharged and the fire extinguished. Upon extinguishing the fire, the waste will be immediately moved to the TS.
- Use the fire extinguishers located within each building, located on the piece of equipment or the vehicle, or the hose to extinguish a fire, as appropriate.
- If it appears that the fire can be safely fought with available firefighting devices until the Fire Department arrives, attempt to contain or extinguish the fire. When using a fire extinguisher, stand up-wind from the fire, pull the pin, and aim the hose or nozzle toward the base of the fire.

Upon arrival of the Fire Department personnel, direct them to the fire and provide assistance, if requested by Fire Department personnel.

If a fire occurs in a recyclable material storage area (e.g., tire storage, recyclable drop-off area), site personnel will redirect incoming loads away from the affected area. Firefighting methods include separating burning material from other waste and/or spraying with water from a water hose. A small fire may be controlled with a hand-held extinguisher. Upon extinguishing the fire, the storage area will remain closed while the area is inspected to verify the fire is completely extinguished. Inspection of the fire area will be conducted by the TS Manager or designee.

6.3 Fire Protection Training

- All facility personnel will be trained on fire extinguisher use and capabilities.
- All facility personnel will be trained on the general rules for firefighting and the contents of this Fire Protection Plan. Fire Protection training will be provided to all on-site personnel on an annual basis and records of the training will be placed in the facility operating record.

6.4 Notice Requirement

In the event of a fire which cannot be extinguished within 10 minutes of discovery, the TCEQ shall be notified according to the following:

- Contact the TCEQ regional office by phone within 4 hours of discovery.
- Notify the TCEQ regional office in writing within 14 days of the fire.

7 OPERATIONAL PROCEDURES (30 TAC §330.223 THROUGH §330.249)

7.1 Access Control (§330.223)

Public access to the facility will be limited to the gated facility entrance. The site staff controls access and monitors vehicles entering and exiting the site. The site will be fenced to prevent unauthorized public access.

7.1.1 Facility Security

Access to the site will be controlled at the scale house near the entrance of the transfer station building and by perimeter site fencing and natural barriers to minimize unauthorized vehicular traffic, unauthorized and illegal dumping, and public exposure to hazards associated with waste management. An employee trained to operate the scales will be on-site during hours of waste acceptance. The entrance gate will be locked when the site is not in operation. Access to the remainder of the TS facility will be restricted by a minimum six-foot high chain link fence and natural barriers. A gravel driveway on the west side of the property is used to access a community garden within the TS property. This driveway is outside of the site fencing and does not provide access to the TS facility.

7.1.2 Traffic Control

Onsite roads and the access road will be large enough to allow for two-way traffic and will be paved with concrete/asphalt to provide all-weather access. The roads will be free draining. Public access to the facility will be by way of West Plano Parkway. This roadway is designed with adequate turning radii to safely handle the vehicles expected at the facility. Direct access to the facility is provided by the 400-foot access road between West Plano Parkway and the entrance gate. Only vehicles authorized by the facility Supervisor, personnel vehicles, and authorized haul vehicles will have access beyond the facility entrance. Signage will provide direction to customers and the public at the entrance of the facility. Additional signage within the facility will provide direction to public unloading areas. Parking areas are provided on site for equipment, employees, and visitors. The access roadway, interior roadways and unloading areas will be asphalt or concrete to minimize dust and mud.

Safety bumpers are not provided at hoppers for vehicles as they unload directly on the transfer station floor and not directly into the hopper.

7.2 Unloading of Waste (§330.225)

7.2.1 Waste and Recyclable Unloading Procedures

Appropriate signs will be provided to indicate where vehicles are to unload. The unloading of solid waste will be confined to as small an area as practical within the confines of the transfer station tipping area. To the extent possible, citizens will unload in an area separate from the collection vehicles, both areas contained within the building. A facility employee will direct each vehicle to the appropriate area for unloading and monitor all incoming loads of waste before they are loaded into the transfer trailers. Certain wastes are prohibited from management at the facility. Prohibited wastes are described in Section 2 – Waste Acceptance Analysis of this plan. The unloading of prohibited wastes will not be allowed. Monitoring of incoming loads of waste will mitigate the potential for receipt of prohibited wastes. Any prohibited waste not discovered until after unloading will be placed back in the offending transporter’s vehicle, if possible, or otherwise returned promptly to the transporter or generator of the waste. In the event the unauthorized waste is not discovered until after the delivery vehicle is gone, the waste will be separated and controlled as necessary. The waste will be properly handled at an appropriate facility and a record of unauthorized material removal will be placed in the operating record.

The unloading of waste in unauthorized areas is prohibited. Any waste deposited in an unauthorized area will be removed immediately and managed properly.

7.3 Spill Prevention and Control (§330.227)

All waste will be handled inside the transfer station except for materials segregated for recycling. Washwater or leachate from waste in the building will be collected and discharged to the sanitary sewer system using drains inside the building. Any spills will be contained within the building, analyzed as appropriate, and properly handled. The 500-gallon fuel tank container and used-oil container will be double-walled to protect against spills. The recycling/tire areas are designed to contain runoff from the 25-year, 24-hour storm event.

7.4 Operating Hours (§330.229)

The maximum facility waste acceptance hours will be Monday through Saturday 7:00 am - 7:00 pm. Saturday operating hours are provided to serve residents, contractors, and member cities, prevent traffic congestion during the week, and reduce illegal dumping. Site operations, such as cleaning the tipping floor, completion of truck loading and housekeeping may be performed outside of normal waste acceptance hours. The operation of heavy equipment at the site will be

prohibited between the hours of 9:00 pm to 5:00 am, Monday through Saturday, unless specific authorization is provided. The information on hours and days of operation will be posted at the entrance to the facility.

In addition, upon authorization by the TCEQ, the transfer station may utilize alternative operating hours to accommodate special occasions, special purpose events, holidays, or other special occurrences up to 5 days per calendar year.

When warranted, the Assistant Deputy – Solid Waste or their designee may request approval from the TCEQ regional office to allow additional temporary operating hours to address disaster or other emergency situations, or other unforeseen circumstances (such as traffic delays or adverse weather) that could result in the disruption of waste management services in the area. The Assistant Deputy – Solid Waste or their designee will document in the operating record the dates, times, and duration when any alternative operational hours are utilized. In addition to the waste acceptance and operating hours, other non-waste management activities including administrative, maintenance, and repair activities may occur twenty-four hours per day, seven days per week.

7.5 Facility Sign (§330.231)

A conspicuous sign measuring a minimum of 4 feet by 4 feet will be maintained at the entrance to the facility. The sign will state, in letters at least 3 inches high, the name of the facility, type of facility, hours and days of operation, and the TCEQ permit number. The sign will be visible and readable from the facility entrance.

This sign or a second visible and readable sign will also list all prohibited waste at the facility. Additional signs regarding site rules, such as speed limits and directions to the unloading areas will be posted as appropriate.

Signs designating smoking area(s) will be posted near the scale house. A sign will be prominently displayed at the facility entrance stating that all loads shall be enclosed, covered, or secured unless the load cannot blow or spill over the top of the load-carrying compartment.

7.6 Control of Windblown Material and Litter (§330.233)

Policing of litter and fugitive debris at the facility entrance area will be performed as part of a scheduled routine. Any litter scattered throughout the site, including along fences and access roads, and at the gate will be collected at least daily on the days the facility is in operation. All collected material will be returned to the transfer station. Windblown materials onsite should be minimized as all waste unloading and waste loading activities are handled within the transfer station building, and the facility is fenced.

7.7 Materials Along the Route to the Facility (§330.235)

The NTMWD will use its own employees or contract labor for litter removal. Litter will be policed around the entire site perimeter, along the access road, and for a distance of 2 miles from the site entrance within the public right-of-way along West Plano Parkway and Coit Road at least once per day when the facility is in operation. The City of Plano has maintenance responsibility/authority over all the roadways providing access to the facility. Therefore, there is no requirement to coordinate with TxDOT.

The NTMWD will take steps to encourage that vehicles hauling waste to the facility are enclosed or provided with a tarpaulin, net, or other means to effectively secure the load to prevent the escape of any part of the load by blowing or spilling. The operator will take actions such as posting signs, reporting offenders to proper law enforcement officers, or similar measures.

7.8 Facility Access Roads (§330.223(b) and §330.237)

Site personnel will remove mud and trash from the paved onsite roads and access roads to minimize the tracking of mud and trash onto public roadways. The access road will be maintained on a regular basis to minimize depressions, ruts, and potholes. Litter onsite will be picked up daily when the facility is in operation and the waste will be taken to the transfer station building. Dust from onsite and the access road will not become a nuisance to surrounding areas as dust is controlled by using paved roads rather than dirt or gravel roads. A water source and necessary equipment, or other means of dust control approved by the TCEQ Executive Director, will be provided.

7.9 Noise Pollution and Visual Screening (§330.239)

The nearest residence to the site is approximately 2,000 feet north of the permit boundary, and 3,500 feet south of the permit boundary. To minimize noise resulting from the operations of the transfer station, operations will primarily be conducted within the building. In addition, existing landscaping will assist in minimizing the noise and to provide visual screening to minimize adverse visual impacts.

7.10 Overloading and Breakdown (§330.241)

In the event that the facility is inoperable for a period of 24 hours or more, the operator will have incoming solid waste redirected to another appropriate disposal or transfer facility and remove any accumulated waste from the site.

Solid waste will not be allowed to accumulate in quantities that cannot be handled in such a time to preclude the creation of odors, insect breeding, or harborage of vectors. If such an accumulation occurs, no additional solid waste will be received and arriving vehicles will be directed to other processing or disposal sites.

The maximum daily receipt of waste at the transfer station will not be exceeded during operation. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating emergency circumstances such as inclement weather or mechanical breakdown.

In the event of equipment repairs or during equipment maintenance periods, the facility may obtain equipment from other facilities, contractors, or local rental companies to avoid interruption of waste services.

7.11 Sanitation (§330.243)

All building working surfaces that come in contact with waste will be washed at least weekly at the completion of the processing period (end of the workday). Water used to wash down the Transfer Station will be collected in drains and discharged through an oil-water separator, as shown on Figure I/II-4.4 and then into the sanitary sewer to prevent the creation of odors or an attraction to vectors. Surface drainage will be controlled through a combination of grading and piping systems to prevent surface water contact with waste or contaminated water. Any water that comes in contact with waste or contaminated water will be collected and disposed of in the sanitary sewer system. The site is graded to prevent stormwater from discharging into the sanitary sewer system and contaminated water from discharging into stormwater.

7.12 Ventilation and Air Pollution Control (§330.245)

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.

No liquid or solid wastes, except white goods/metals and tires, are stored outside of the building. The building provides odor containment for solid wastes.

Any ponded water at the facility will be removed to avoid becoming a nuisance.

The facility will maintain authorization, under 30 TAC Chapter 116 (relating to Control of Air Pollution By Permits for New Construction or Modifications) or 30 TAC 330 Subchapter U (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations), as applicable. No constructed air pollution abatement devices are proposed.

To control odors, routine tipping, sorting, and transfer operations will be confined within the building. The facility will be operated to provide adequate ventilation for employee safety.

If any air pollution, capture, and abatement equipment is utilized, it will be properly maintained and operated during the facility operation to adequately maintain its efficiency. The following measures will be employed to assist in air pollution/odor control:

- Buffer zones onsite;
- Odor mister system;
- Covering transfer trailers;
- No liquid wastes accepted;
- Operations within a building;
- Special procedures for odorous loads as described in Part III 2.2.3;
- Cleaning all working surfaces that come in contact with waste weekly as described in Part IV 7.11; and
- The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating circumstances such as inclement weather or mechanical breakdown.
- The detention pond is not designed to retain water. If ponded water is discovered, the water will be controlled to avoid it becoming a nuisance.

Reporting of emission events will be made in accordance with Title 30 TAC §101.210 and Title 30 TAC §101.211

7.13 Health and Safety (§330.247)

Facility personnel will be trained in the facility's health and safety plan, as revised periodically. Records of that training will be maintained in the facility operating record.

7.14 Employee Sanitation Facilities (§330.249)

Potable water and sanitary facilities will be provided for use by employees and visitors. These will be located convenient to the scale house. Potable water is also available at hydrants and hose connections located throughout the site. Portable sanitary facilities may also be utilized around the site, as needed.