



CITY OF EAGLE PASS
AGENDA
CITY COUNCIL REGULAR MEETING
International Center for Trade- East Room
3295 Bob Rogers
Maverick County, Texas
Tuesday, September 1, 2026 at 5:30 PM

CALL TO ORDER

PLEDGE OF ALLEGIANCE

MOMENT OF REVERENCE

ANNOUNCEMENTS

RECOGNITION

1. Proclamation recognizing the Cub Scout Pack 2543.

CITIZENS COMMUNICATIONS

Please submit a Citizens Communications Form to the City Secretary and follow the instructions listed. Public Comments is limited to 3 minutes per speaker. In accordance with the Texas Open Meeting Act, the City of Eagle Pass, City Council cannot deliberate or take action on items not listed on the meeting agenda.

CONSENT AGENDA ITEMS

2. Approval of minutes for the August 4 and 18, 2026 meetings.
3. Second reading of an ordinance of the City of Eagle Pass, Texas, amending Chapter 27, Article VI, Section 27-204 of the Code of Ordinances by increasing the stormwater utility drainage fee for residential units from \$5.00 to \$7.50, and non-single family units from \$8.00 to a tiered variable rate based on lot size.
4. Third and final reading of an ordinance of the City of Eagle Pass, Texas, amending Chapter 27, Article 1, Division 1, Section 27-26 (C) of the Code of Ordinances by modifying the percentage of gross revenues paid from City Water Works System to the City from one percent to two percent; providing that this ordinance shall be cumulative; providing a severability clause; providing for publication; and declaring an effective date.
5. Consideration and possible action authorizing the City Manager to notify U.S. Customs and Border Protection ("CBP") that the City elects Option B in response to the Notice of Interest, declining to enter into a Right-of-Entry

Contract ("ROE-C") and instead pursuing negotiations with CBP for the purchase of, or an easement interest in, City property located near the planned border barrier system construction projects identified as DRT-EGT-R1225E, DRT-EGT-R1225E-1, DERT-EGT-R1225E-2, and DRT-EGS-R1105E; and authorizing the City Manager to take all necessary actions incident thereto.

6. Consideration and possible approval of a Resolution of the City Council of the City of Eagle Pass, Texas granting an exemption from the monthly garbage and rubbish collection fee for persons 65 years of age or older, or disabled veterans whose homestead residences are located within the city limits of the City of Eagle Pass as indicated on the tax rolls of the city for fiscal year commencing October 1, 2026, and ending September 30, 2027.

ORDINANCE(S)

7. Introductory ordinance of the City of Eagle Pass, Texas, amending Chapter 13.5, Article I, Sections 13.5-6 of the Code of Ordinances relating to flood damage prevention by adopting and incorporating the City of Eagle Pass stormwater design criteria manual, as amended from time to time; providing for the applicability of such specifications and design criteria within the city limits and extraterritorial jurisdiction of the City of Eagle Pass.
8. Introductory ordinance of the City of Eagle Pass, Texas, amending Chapter 23 of the Code of Ordinances, Article IV-subdivision design standards and specifications, Section 23-68 storm drainage by adopting and enacting the July 2026 storm water design criteria manual as Appendix B; requiring compliance with said manual for all land development, subdivision, plat submittals, and construction activities within the City of Eagle Pass and its extraterritorial jurisdiction (ETJ); providing that this ordinance shall be cumulative; providing a severability clause; and declaring an effective date.
9. Introductory ordinance of the City of Eagle Pass, Texas, amending Chapter 23, Article II, Sections 23-25, Article III, Sections 23-35, and Article IV, Sections 23-61 and 23-68 of the Code of Ordinances relating to subdivision plat review and approval, engineering and geotechnical requirements, street design and construction standards, stormwater management, and drainage facilities; providing for the submission and review of certain plans, reports, and documentation; providing for the authority and responsibilities of city staff in the review and approval of subdivision development.

RESOLUTION(S)

10. Consideration and possible approval of a resolution of the City Council of the City of Eagle Pass, Texas, establishing an airport committee; providing for the composition, purpose, and responsibilities of the committee; providing for appointment of members; and providing for an effective date.

11. Consideration and possible approval of a resolution of the City Council of the City of Eagle Pass, Texas, authorizing the City Manager to submit an application to the U.S. Department of Justice, Office on Violence Against Women, for funding under the FY 2026 Consolidated Youth Grant Program. The resolution also authorizes a partnership and Memorandum of Understanding between the City of Eagle Pass, The Support Hub, and Manos Unidas, for the development and implementation of the proposed project and authorizes the City Manager to execute all necessary grant-related documents.

OTHER BUSINESS

12. Presentation and discussion by Wintergarden Women's Shelter, Inc regarding Sexual Assault Services to be provided in Eagle Pass and Maverick County effective November 1, 2026.
13. Consideration and possible approval/rejection of RFQ#2026-016 Event Management Services Port of Eagle Pass Trade Summit and authorization for the City Manager to negotiate and execute a contract/agreement.
14. Consideration and possible approval of the purchase of one Stonegarden (Fund #27) fully equipped Patrol Unit in the amount of \$106,762.95 purchased from Sames Government Fleet Sales, Contract #TIPS 240901.
15. Consideration and possible approval of Change Order #1 in the amount of \$139,000.00 for the Recycling Center project to include all final design-build efforts for the construction of new facilities.
16. Discussion and possible action on a proposed Term Sheet Master Project Agreement received from Puerto Verde Global Trade Bridge Project.
17. Discussion and possible action regarding an all-way stop-controlled warrant analysis report and the current process to add and remove stop signs through ordinance amendment.

EXECUTIVE SESSION

The City Council reserves the right to adjourn into executive session at any time during this meeting to discuss any posted agenda item when authorized by Texas Government Code, Chapter 551, Subchapter D, Sections 551.071 (Consultation with Attorney), 551.072 (Deliberations about Real Property), 551.073 (Deliberations about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), and/or 551.087 (Economic Development). Following a closed session, the open meeting will reconvene at which time action, if any, may be taken.

18. Executive Session pursuant to Texas Government Code, Chapter 551 Sections 551.071, discussion and possible action in open session regarding municipal court operations; and any other incident matter thereto.
19. Executive Session pursuant Texas Government Code, Chapter 551, Section

551.071 update, discussion, and possible action regarding Cause No. 25-08-44756MCV, *Oscar Augusto Gutierrez and Norma Gutierrez, et al vs. City of Eagle Pass*, in the 293rd District Court, Maverick, County, Texas, and any other incident matters thereto and possible action in open session regarding same.

20. Executive Session pursuant to Texas Government Code, Chapter 551, Section 551.071 discussion, and possible action regarding Cause No. 26-06-45689-MCVAJA, in the 365th District Court, Maverick County, Texas, Luis Alfonso Ruiz, Amerika Grewal, and Meghan Stuart v. City of Eagle Pass, Texas, et. al.; and any other matters incident thereto and possible action in open session regarding same.
21. Executive Session pursuant to Section 551.071 of Chapter 551, Texas Government Code—Consultation with attorney regarding the Fire and EMS Services Agreement with Maverick County; and any other matter incident thereto and possible action in open session regarding same.
22. Executive Session pursuant to Texas Government Code, Chapter 551, Section 551.072 discussion and possible action in open session regarding 7.34 Acres of Parkland located in Rio Grande Estates Unit 1; and any other incident matter thereto.
23. Executive Session pursuant to Texas Government Code, Chapter 551 Sections 551.071, and 551.072 discussion and possible action in open session regarding a possible interlocal agreement with the Kickapoo Traditional Tribe of Texas; and any other incident matter thereto.

ADJOURNMENT

Entrance and parking spaces for disabled persons are available in front of the International Center for Trade.

CERTIFICATION

I, the undersigned authority, do hereby certify that the above notice of the meeting of the City Council of the City of Eagle Pass is a true and correct copy of said notice and was posted on the bulletin board located at City Hall in a convenient place for the public, 100 South Monroe Street, Eagle Pass, Texas, and said notice was posted the 26th day of August 2026.

Erika Rodriguez
City Secretary

THE STATE OF TEXAS)
COUNTY OF MAVERICK)
CITY OF EAGLE PASS)

The City Council of the City of Eagle Pass held their Regular Meeting on Tuesday, August 4, 2026, at 5:30 p.m. in the City Council Chambers, City Hall, 100 S. Monroe Street, Eagle Pass, Texas. All legal notices were duly posted in accordance with the law.

ESTABLISHMENT OF QUORUM

City Council present: Mayor Aaron Valdez; Mayor Pro-Tem William “Billy” Davis; Councilors Mario Garcia, Elias Diaz, and Jessica Rey Ramon.

Absent: None

With a quorum being established, Mayor Valdez called the meeting to order, and the items were considered as follows:

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

MOMENT OF REVERENCE

Pastor Oscar Salinas of Altar Church led the City Council and those present in prayer.

ANNOUNCEMENTS

The city provided information regarding the upcoming 2026 World Series, including the arrival of participating teams, the opening ceremony, the game schedule, and opportunities for the community to support the event.

CITIZENS COMMUNICATIONS AND RECOGNITIONS

1. Recognition of the 2026 4th of July Parade winners.

Mayor Valdez recognized the 2026 Fourth of July Parade winners: Maverick County Junior Livestock Show Pageant, Miss Eagle Pass Texas Pageant Productions, VFW Post 8562, and American Legion Post 211.

2. Recognition of the 2026 Mayor's Fitness Challenge winners.

Mayor Valdez recognized the winners and participants of the 2026 Mayor's Fitness Challenge for their commitment to health, wellness, and personal fitness.

3. Recognition to Council Member Elias Diaz for representing Eagle Pass SAFE and Maverick County Hospital District at an international conference in Rio de Janeiro, Brazil.

Council Member Elias Diaz was recognized for presenting community-driven HIV prevention and rural healthcare initiatives at an international conference in Rio de Janeiro, Brazil. Council Member Diaz addressed the Council regarding his experience and the importance of increasing visibility and opportunities for young people and the Eagle Pass community.

4. Recognition of six Eagle Pass students on successfully completing the Tapia STEM Camps at Rice University.

Mayor Valdez recognized Yolitzit Balderas, Nestor Dovallina, Mario Rosas, Enrique Villa, Ivan Villa, and Damian Ibarra for successfully completing the Tapia STEM Camps at Rice University.

During Citizens Communications, Americana Garcia addressed the Council regarding the crosswalk at Garrison expressed concerns regarding pedestrian safety and the current traffic configuration. Ms. Garcia also addressed Agenda Item No. 22 and requested additional public information and consideration concerning the proposed border barrier system.

Luis Ruiz addressed the Council regarding access to Shelby Park, the use of City property, transparency concerning the closure of portions of the park, and Agenda Item No. 22. Mr. Ruiz also requested that the matter concerning buoys previously discussed with the Council be placed on a future agenda.

CONSENT AGENDA ITEMS

5. Approval of minutes for June 16, June 18, and July 7, 2026.

6. Third reading of an ordinance amending the Fiscal Year 2025–2026 Annual Budget by appropriating revenues from the International Bridge System Fund and transferring an amount not to exceed \$3,000,000.00 to the General Fund to initiate construction of the Patsy Winn Boulevard Extension Project.

Removed from the Consent Agenda for separate consideration.

7. Consideration and possible approval of Resolution 2026-44R reappointing Salvador Salinas as a member of the City of Eagle Pass Bridge System Board of Trustees.

8. Consideration and possible approval of a resolution appointing a member to the Zoning Board of Adjustments and Appeals.

Mayor Pro-Tem Davis made a motion to approve Consent Agenda Items No. 5, 7, and 8. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Garcia and Davis.

NAYS: None

ABSTAINED: None

ABSENT: None

6. Third reading of an ordinance amending the Fiscal Year 2025–2026 Annual Budget by appropriating revenues from the International Bridge System Fund and transferring an amount not to exceed \$3,000,000.00 to the General Fund to initiate construction of the Patsy Winn Boulevard Extension Project.

Mr. Soto explained that the State Infrastructure Bank loan application remained under review and that several steps involving the Metropolitan Planning Organization, functional classification, TxDOT, and the Federal Highway Administration were necessary before final approval could be obtained.

Staff further explained that the project has an estimated cost of approximately \$14.5 million, with an anticipated \$3.2 million EDA grant and the remaining project costs to be addressed through the proposed State Infrastructure Bank financing. Staff stated that eligible expenditures could be submitted for reimbursement as invoices were incurred, subject to applicable funding requirements.

Councilwoman Ramon made a motion to approve Item No. 6. Councilman Diaz seconded the motion.

AYES: Valdez, Ramon, Diaz, and Garcia.
NAYS: None
ABSTAINED: Davis
ABSENT: None

At this time, the meeting went out of order to consider item 15.

15. Presentation and possible action on the proposed Charter Amendments for the May 2027 election.

Ms. Beatriz Martinez, Chair of the Charter Review Commission, presented the Commission's recommendations regarding proposed amendments to the City Charter.

The Commission reviewed several areas of the Charter, including:

1. The number of required readings for ordinances;
2. Council representation and potential district representation;
3. City Council meeting frequency; and
4. Other matters identified for future consideration.

The Commission presented **Proposition A**, which would amend Section 2.5 of the City Charter to reduce the required number of ordinance readings from three days to two days while retaining applicable legal safeguards.

The Commission also presented **Proposition B**, which would amend Section 3.1 to provide for six single-member council districts if the applicable population threshold is reached, while the Mayor would continue to be elected citywide.

The Commission discussed meeting frequency and determined that the matter could be addressed by ordinance rather than through a Charter amendment, since the existing Charter provides for at least one meeting per month.

Council members asked questions regarding the operation of district representation, vacancies, and how other cities utilize district-based representation. The Charter Review Commission agreed to conduct additional research and return with further information.

No final action was taken on the proposed Charter amendments during this presentation.

ORDINANCE(S)

9. Introductory ordinance amending Chapter 27, Article 1, Division 1, Section 27-26(C) of the Code of Ordinances by modifying the percentage of gross revenues paid from the City WaterWorks System to the City from one percent to two percent.

Mayor Pro-Tem Davis made a motion, seconded by Councilman Garcia, to move Item No. 9 to Executive Session pursuant to Texas Government Code Section 551.071. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.

NAYS: None

ABSTAINED: None

ABSENT: None

RESOLUTION(S)

10. Consideration and possible approval of a resolution authorizing execution of an Advance Funding Agreement with the Texas Department of Transportation for the Camino Real approach realignment project.

Mr. Soto presented an overview of the proposed Camino Real Bridge approach realignment project, including the separation of commercial and passenger traffic, additional commercial inspection lanes, an additional exit lane, pavement repairs, and related improvements.

Staff explained that federal funding of approximately \$5 million would be utilized for roadway infrastructure, with the remaining costs to be addressed by the City. The proposed resolution would authorize the City Manager to execute the amended Advance Funding Agreement with TxDOT.

Councilwoman Ramon made a motion to approve the Resolution (2026-46R). Councilman Diaz seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.

NAYS: None

ABSTAINED: None

ABSENT: None

Item 12 was discussed before item 11.

OTHER BUSINESS

12. Submission of the 2026 Certified Appraisal Roll for the City of Eagle Pass.

Tax Assessor, Maria Galvan presented the 2026 Certified Appraisal Roll. The total taxable value was reported as \$2,647,906,182, an increase of \$154,376,337 from the prior year.

The item was informational and no action was taken.

11. Submission of the 2026 publication of no-new-revenue and voter-approval tax rates, certification of anticipated collection rate for 2026-2027, and the excess debt collections for the preceding year.

Tax Assessor, Maria Galvan presented the applicable tax rates as an informational item, including the no-new-revenue tax rate of \$0.449474, the voter-approval tax rate of \$0.520535, and the de minimis tax rate of \$0.529877 per \$100 valuation. No action was taken.

13. Discussion and possible action on the proposed 2026 tax rate for the City of Eagle Pass; and establishing date to hold public hearing.

Staff presented historical tax-rate information and discussed the proposed 2026 tax rate. Administration recommended maintaining the current tax rate of \$0.480052 per \$100 valuation for the upcoming fiscal year while developing a longer-term plan to address future revenue needs. Council discussed City infrastructure, bridge revenues, future debt, parking meters, code enforcement, economic development, and other revenue sources.

Councilwoman Ramon made a motion to maintain the tax rate as recommended by Administration. Councilman Diaz seconded the motion. The motion passed.

The public hearing was announced for September 8, 2026, and the meeting to vote on the tax rate was scheduled for September 15, 2026, at 5:30 p.m.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.
NAYS: None
ABSTAINED: None
ABSENT: None

14. Presentation and possible action on the proposed City of Eagle Pass Budget for Fiscal Year 2026-2027.

Finance Director, Felix Castillo presented the proposed Fiscal Year 2026-2027 budget. It was stated that no action was required at this meeting. Proposed operational revenues were approximately \$67.5 million, transfers in approximately \$22.2 million, and total resources approximately \$89.8 million.

The proposed Capital Improvement Plan was also discussed. Council directed that the CIP list be brought back as a separate agenda item for formal consideration. No action was taken on the proposed budget or CIP list.

16. Consideration and possible action on an agreement between Eagle Pass Independent School District and the City of Eagle Pass for the use of the City of Eagle Pass Golf Course.

Parks Director, Ricardo Gutierrez, presented proposed terms for an interlocal agreement with EPISD regarding use of the Golf Course by the school district's golf program. The proposed terms included scheduled course use, practice facilities, range balls, storage, golf carts, tournament use, and a contribution toward course maintenance. The school district agreed to \$15,000 for the first school year; the City proposed \$20,000 for the second year. Council discussed a two-year agreement and requested that the City present the two-year option to EPISD and return to Council for final approval.

17. Presentation and discussion regarding the draft City of Eagle Pass Land Use & Development Report addressing corridor development standards, single-family and multi-family residential standards, and adjacency standards along major thoroughfares.

Community Development Director, Gudalupe Negrete presented the draft Land Use and Development Report and discussed the potential development of corridor standards for major thoroughfares, including US 57, US 277, FM 1021, Loop 480, and Patsy Winn Boulevard.

The presentation addressed site design, landscaping, screening, lighting, signage, billboards, building design, pedestrian mobility, public art, tourism, and community character.

Council members provided feedback regarding development standards, billboard regulations, LED signage brightness, safety, landscaping, and beautification.

Staff stated that public engagement and stakeholder meetings would be conducted as the draft standards are further developed. The item was presented as an informational item to obtain Council feedback prior to preparation of a proposed ordinance.

No action was taken.

18. Consideration and possible approval to enter into an agreement with McKay for the parking meter system and authorize the City Manager to execute the agreement.

Economic Development Director, Carlos Navarrette presented the proposed McKay parking meter system as a replacement for the previously approved IPS system. He reported estimated savings of approximately \$160,000 over five years and significant upfront equipment savings. The system would use existing meter posts, provide pay-by-plate and phone payment options, accept international credit cards, provide bilingual functionality, and provide software for parking enforcement and citation tracking.

Councilman Davis made a motion to approve the agreement. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.

NAYS: None

ABSTAINED: None

ABSENT: None

EXECUTIVE SESSION

At 8:23 p.m., the City Council recessed into Executive Session pursuant to the Texas Government Code to discuss Agenda Items Nos. 9, 19, 20, 21, and 22.

9. Introductory ordinance amending Chapter 27, Article 1, Division 1, Section 27-26(C) of the Code of Ordinances by modifying the percentage of gross revenues paid from the City WaterWorks System to the City from one percent to two percent. (Discussed under Section 551.071).

Discussed in Executive Session.

19. Executive Session pursuant to Section 551.071 of Chapter 551, Texas Government Code—Consultation with attorney regarding the Fire and EMS Services Agreement with Maverick County; and any other matter incident thereto and possible action in open session regarding same.

Discussed in Executive Session.

20. Executive Session pursuant to Section 551.074 of Chapter 551, Texas Government Code—Discussion of Personnel—Evaluation of City Manager; and possible action in open session regarding same.

Discussed in Executive Session.

21. Executive Session pursuant to Section 551.087 of Chapter 551, Texas Government Code—Discussion and possible approval of an amendment to the Chapter 380 Agreement between the City of Eagle Pass and Amigos Hospitality LLC and possible action in open session regarding same.

Discussed in Executive Session.

22. Executive Session pursuant to Texas Government Code, Chapter 551, Sections 551.071 and 551.072—Discussion and possible action regarding a Notice of Interest received from U.S. Customs and Border Protection regarding a border barrier system composed of a 30-foot steel wall barrier on City of Eagle Pass property; and possible action in open session regarding same.

Discussed in Executive Session.

RECONVENE IN OPEN SESSION

The City Council reconvened in Open Session at 10:15 p.m.

Item No. 9: Councilwoman Ramon made a motion to approve the ordinance as presented based on the discussion held in Executive Session. Councilman Garcia seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.
NAYS: None
ABSTAINED: None
ABSENT: None

Item No. 19: Councilman Garcia made a motion to authorize negotiations regarding the Fire and EMS Services Agreement with Maverick County. Councilman Diaz seconded the motion. The motion passed.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.
NAYS: None
ABSTAINED: None
ABSENT: None

Item No. 20: Councilman Garcia made a motion to approve as discussed with the City Attorney. Councilman Diaz seconded the motion. The motion passed with four (4) votes in favor and one (1) abstention. Mayor Pro-Tem Davis abstained.

AYES: Valdez, Ramon, Diaz, and Garcia.
NAYS: None
ABSTAINED: Davis

ABSENT: None

Item No. 21: Councilman Garcia made a motion to approve as discussed. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.

NAYS: None

ABSTAINED: None

ABSENT: None

Item No. 22: Councilman Garcia made a motion to approve as directed to the City Attorney. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Ramon, Diaz, Davis and Garcia.

NAYS: None

ABSTAINED: None

ABSENT: None

ADJOURNMENT

Councilwoman Ramon made a motion to adjourn. Councilman Garcia seconded the motion. The meeting was adjourned at 10:18 p.m.

Aaron Valdez
Mayor

ATTEST:

Erika Rodriguez
City Secretary

THE STATE OF TEXAS)
COUNTY OF MAVERICK)
CITY OF EAGLE PASS)

The City Council of the City of Eagle Pass held a Special Meeting on Tuesday, August 18, 2026, at 5:30 p.m. in the International Center for Trade – East Room, 3295 Bob Rogers Drive, Maverick County, Texas. All legal notices were duly posted in accordance with the law.

ESTABLISHMENT OF QUORUM

City Council present: Mayor Aaron Valdez; Councilman Mario Garcia; and Councilwoman Jessica Rey Ramon.

Absent: Mayor Pro Tem, William “Billy Davis” and Councilman Elias Diaz.

With a quorum being established, Mayor Valdez called the meeting to order, and the items were considered as follows.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

MOMENT OF REVERENCE

A moment of reverence was observed.

ANNOUNCEMENTS

The City Manager announced the successful Babe Ruth World Series held in Eagle Pass and congratulated the Eagle Pass team on winning the tournament. The City Manager also announced that an Eagle Pass 16U team won its tournament and discussed the City's interest in bringing additional sporting events to the community.

RECOGNITIONS

No recognitions were presented.

CITIZENS COMMUNICATIONS

No citizen communications had been submitted at the time of the meeting.

CONSENT AGENDA ITEMS

1. Second reading of an ordinance amending Chapter 27, Article 1, Division 1, Section 27-26(C) of the Code of Ordinances by modifying the percentage of gross revenues paid from the City Water Works System to the City from one percent to two percent.
2. Consideration and possible approval of a Resolution declaring the official holidays for the City of Eagle Pass for fiscal year 2026-2027.

3. Consideration and possible approval of a Resolution granting an exemption from the monthly garbage and rubbish collection fee for persons 65 years of age or older, or disabled veterans whose homestead residences are located within the City of Eagle Pass for fiscal year 2026-2027.

Councilwoman Ramon requested that Item No. 3 be removed from the Consent Agenda because she would abstain from the item and the Council would not have a quorum to consider it. Councilwoman Ramon made a motion to remove Item No. 3 from the Consent Agenda. Councilman Garcia seconded the motion. The motion passed unanimously. No action was taken on Item No. 3.

4. Consideration and possible approval of the appointment of Attorney Claudio Heredia as the Ethics Compliance Officer to handle ethics complaints when a conflict of interest arises with the City Attorney, in accordance with Code of Ethics Section 2-250.55.

Councilwoman Ramon made a motion to approve Consent Agenda Items # 1, 2, and 4.

Councilman Garcia seconded the motion. The motion passed unanimously.

AYES:	Valdez, Garcia, and Ramon
NAYS:	None
ABSTAINED:	None
ABSENT:	Davis and Diaz

ORDINANCE(S)

5. Introductory ordinance levying a tax rate for the City of Eagle Pass for the tax year 2026, finding that the meeting at which the ordinance is passed is open to the public as required by law.

Tax Collector, Maria Galvan presented the proposed 2026 tax rate of \$0.480052 per \$100 valuation, consisting of maintenance and operations of \$0.241526 and interest and sinking of \$0.238526. Staff stated that the proposed tax rate was the same as the prior year's rate.

Councilwoman Ramon made a motion to approve. Councilman Garcia seconded the motion. The motion passed.

AYES:	Valdez, Garcia, and Ramon
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NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

6. Introductory ordinance approving and adopting the budget of the City of Eagle Pass, Texas, for the 2026-2027 fiscal year and establishing procedures for formal approval by September 14, 2026.

The City Manager and Finance Department presented the proposed Fiscal Year 2026-2027 budget. Discussion included the budget development process, personnel costs, a three-percent cost-of-living adjustment, department expenditures, reserves, capital investments, outside organizations, and projected revenues and expenses. Mr. Castillo explained that the proposed budget remained a work in progress and identified September 8 as the public hearing and second reading and September 14 as the final reading and adoption.

Councilwoman Ramon made a motion to approve the first reading. Councilman Garcia seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

7. Introductory ordinance confirming the civil service classifications within the Police and Fire Departments, establishing the number of authorized positions within each classification, and establishing a uniform base pay and seniority pay.

Assistant Human Resource Director, Selina Garcia presented the proposed classifications and pay structure. Police Department changes included increasing the Police Chief base grade, increasing the number of sergeants from seven to eight, reducing corporals from nineteen to eighteen, and adding four police officer positions funded through the COPS grant. No changes were presented for the Fire Department classifications.

Councilwoman Ramon made a motion to approve. Councilman Garcia seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None

ABSENT: Davis and Diaz

8. Introductory ordinance amending Chapter 27, Article VI, Section 27-204 of the Code of Ordinances by increasing the stormwater utility drainage fee for residential units from \$5.00 to \$7.50 and non-single family units from \$8.00 to a tiered variable rate based on lot size.

City Engineer, Eduardo Soto explained the purpose of the stormwater utility fee and proposed increasing the residential fee from \$5.00 to \$7.50, with tiered rates for non-residential properties based on lot size. Staff explained that the fees are restricted for drainage-related purposes and discussed drainage projects and infrastructure needs.

Councilman Garcia made a motion to approve. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

RESOLUTION(S)

9. Consideration and possible approval of a Resolution requesting the support of U.S. Customs and Border Protection and other appropriate federal officials to address significant processing delays affecting passenger and commercial vehicles entering the United States through the Port of Eagle Pass.

The City Manager presented concerns regarding declining commercial and passenger crossings and processing delays at the Port of Eagle Pass. Staff discussed the economic impact on the City and the importance of bridge revenues and requested federal support to address personnel and processing concerns. Council discussed the continued decline in crossings and the effect on residents and businesses.

Councilwoman Ramon made a motion to approve resolution. Councilman Garcia seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None

ABSENT: Davis and Diaz

OTHER BUSINESS

10. Discussion and possible action regarding the City's Capital Improvement Plan ranking.

Staff presented the Fiscal Year 2026-2027 Capital Improvement Plan ranking as a separate item, explaining that the Council had requested the CIP be considered independently from the budget. Staff stated that the ranking had not changed from prior presentations.

Councilman Garcia made a motion to approve. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES:	Valdez, Garcia, and Ramon
NAYS:	None
ABSTAINED:	None
ABSENT:	Davis and Diaz

11. Consideration and possible approval/rejection of RFQ#2026-012, Roosevelt Street and Austin Street Drainage Improvement, and authorization for the City Manager to negotiate and execute a contract/agreement.

Purchasing Manager, Heber Ruiz presented the procurement process, evaluation timeline, and results. Seven qualified firms submitted statements of qualifications, three firms were shortlisted for interviews, and HAF Associates, Inc. received the highest cumulative score during the initial and post-interview evaluations. The evaluation panel recommended HAF Associates, Inc.

Councilwoman Ramon made a motion to approve. Councilman Garcia seconded the motion. The motion passed unanimously.

12. Consideration and possible approval/rejection of RFQ#2026-015, Planning and Feasibility Study for Proposed Roadway Extension, and authorization for the City Manager to negotiate and execute a contract/agreement.

Staff presented the procurement process and evaluation results. Two statements of qualifications were received, both firms were evaluated and interviewed, and the evaluation panel recommended LJA Engineering. Council discussed the recommendation and evaluation process.

Councilwoman Ramon made a motion to approve the item; however, the motion did not receive a second. No action was taken on the item.

13. Consideration and possible action on an agreement between Eagle Pass Independent School District and the City of Eagle Pass for the use of the City of Eagle Pass Golf Course.

The City Manager reported that an agreement had been reached with Eagle Pass Independent School District for a \$15,000 payment to the City for use of the Golf Course for the school year.

Councilman Garcia made a motion to approve as presented. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

14. Consideration and possible approval to allow the City Manager to enter into a Memorandum of Understanding with the Texas Department of State Health Services (DSHS) for the wastewater monitoring program.

Assistant City manager, Placido Madera presented the proposed Memorandum of Understanding, which would allow the City, in partnership with Eagle Pass Water Works, to submit wastewater samples to DSHS for analysis and earlier identification of potential outbreaks or illnesses. He stated that the program is offered at no cost to the City.

Councilman Garcia made a motion to approve. Councilwoman Ramon seconded the motion. The motion passed unanimously.

AYES: Valdez, Garcia, and Ramon
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

15. Presentation and discussion regarding residential setback requirements and building standards as it relates to the construction of carports.

Community Development Director, Guadalupe Negrete presented current residential setback requirements and discussed safety, visibility, utility easements, impervious coverage, and building standards related to carports. Council provided direction for

additional research and community engagement and requested that staff return with more specific options and a draft ordinance amendment. No action was taken on the discussion item.

EXECUTIVE SESSION

At 7:15 p.m., the City Council recessed into Executive Session to discuss the matter below.

16. Executive Session pursuant to Section 551.071 of Chapter 551, Texas Government Code – Consultation with attorney regarding the Fire and EMS Services Agreement with Maverick County; and any other matter incident thereto and possible action in open session regarding same.

RECONVENE IN OPEN SESSION #16.

At 7:44 p.m., the City Council reconvened in Open Session.

Councilwoman Ramon made a motion to direct the City Manager to continue negotiations with Maverick County once a new judge is appointed and to reach out to the Kickapoo Traditional Tribe of Texas to discuss a separate Fire and EMS agreement.

Councilman Garcia seconded the motion. The motion passed unanimously.

AYES:	Valdez, Garcia, and Ramon
NAYS:	None
ABSTAINED:	None
ABSENT:	Davis and Diaz

ADJOURNMENT

Councilwoman Ramon made a motion to adjourn. Councilman Garcia seconded the motion. The motion passed unanimously. The meeting was adjourned at 7:44 p.m.

Aaron Valdez
Mayor

ATTEST:

Erika Rodriguez
City Secretary

DRAFT

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF EAGLE PASS, TEXAS, AMENDING CHAPTER 27, ARTICLE VI, SECTION 27-204 OF THE CODE OF ORDINANCES BY INCREASING THE STORMWATER UTILITY DRAINAGE FEE FOR RESIDENTIAL UNITS FROM \$5.00 TO \$7.50, AND NON-SINGLE FAMILY UNITS FROM \$8.00 TO A TIERED VARIABLE RATE DEPENDING ON LOT SIZE; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City of Eagle Pass is responsible for protecting public health, safety, and welfare by managing stormwater runoff and reducing the risk of flooding;

WHEREAS, the City maintains a stormwater drainage system that requires ongoing operation, maintenance, and capital improvements to ensure reliable service and compliance with state and federal regulations;

WHEREAS, the costs of maintaining and improving stormwater infrastructure have increased due to rising construction, material, and regulatory compliance expenses;

WHEREAS, the current stormwater drainage utility fee structure no longer generates sufficient revenue to meet the operational and long-term capital needs of the system;

WHEREAS, it is equitable and reasonable that both residential and commercial properties contribute to the costs of stormwater management in proportion to their use and impact on the drainage system; and

WHEREAS, the City Council finds that adjusting the stormwater drainage utility fee is necessary to ensure adequate funding for operations, maintenance, regulatory compliance, and future system improvements that benefit the entire community.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS THAT:

Section 1. The City of Eagle Pass Code of Ordinances, **Chapter 27, Article VI, Section**

27-204, is hereby amended as follows:

Sec. 27-204. Stormwater drainage utility fee.

There is hereby imposed on each and every developed lot or parcel of land within the city, and the residents thereof, a stormwater drainage utility fee which shall be deposited in the city's stormwater drainage utility fund to pay for the creation, operation, planning, engineering, inspection, construction, repair, maintenance, improvement, reconstruction administration and financing of stormwater drainage utility services of the city. Fees shall be imposed and collected on each and every developed lot or parcel of land within the city limits as follows:

~~[Residential units, per month \$5.00~~

~~Non residential properties classified as B-1, B-2, I, and F under the City of Eagle Pass Zoning Ordinance, which measure less than one (1) acre including, but not limited to, commercial and industrial properties, per month — \$8.00~~

~~Non residential properties classified as B-1, B-2, I, and F under the City of Eagle Pass Zoning Ordinance, which measure one (1) acre or more including, but not limited to, commercial and industrial properties, per month per acre — \$8.00]~~

<u>Type of Development</u>	<u>Monthly Fee</u>
<u>Single-Family Residential Units</u>	<u>\$7.50</u>

All non-single family properties under the City of Eagle Pass Zoning Ordinance, will follow the rate table below:

<u>Tier</u>	<u>Lot Sq Ft</u>	<u>Monthly Rate</u>
<u>1</u>	<u>0 to 10,000</u>	<u>\$ 8.00</u>
<u>2</u>	<u>10,001 to 40,000</u>	<u>\$ 23.00</u>
<u>3</u>	<u>40,001 to 75,000</u>	<u>\$ 46.00</u>
<u>4</u>	<u>75,001 to 100,000</u>	<u>\$ 70.00</u>
<u>5</u>	<u>100,001 to 130,680</u>	<u>\$120.00</u>
<u>6</u>	<u>130,681 and over</u>	<u>\$120.00 + \$23/acre over 130,680(3 AC)</u>

Section 2. This ordinance shall be cumulative of all provisions of ordinances of the City of Eagle Pass, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

Section 3. It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases,

clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

Section 4. This Ordinance shall become effective immediately upon publication.

READ, PASSED, AND APPROVED ON FIRST READING on this 18TH Day of August A.D., 2026.

ATTEST:

Aaron Valdez .
Mayor

Erika Rodriguez
City Secretary

AYES: Valdez, Ramon, Garcia
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

READ, PASSED, AND APPROVED ON SECOND READING, this 1st Day of September, A.D., 2026.

ATTEST:

Aaron Valdez .
Mayor

Erika Rodriguez
City Secretary

AYES:
NAYS:
ABSTAINED:
ABSENT:

READ, PASSED, AND APPROVED ON THIRD AND FINAL READING this 8th Day of September A.D., 2026.

ATTEST:

Aaron Valdez .
Mayor

Erika Rodriguez
City Secretary

AYES:
NAYS:
ABSTAINED:
ABSENT:

APPROVED AS TO FORM AND LEGALITY:

Ana Sophia Garcia
City Attorney

ORDINANCE NO. 2026-

**AN ORDINANCE OF THE CITY OF EAGLE PASS, TEXAS,
AMENDING CHAPTER 27, ARTICLE I, Division 1,
SECTION 27-26 (C) OF THE CODE OF ORDINANCES BY
MODIFYING THE PERCENTAGE OF GROSS REVENUES
PAID FROM CITY WATERWORKS SYSTEM TO THE
CITY FROM ONE PERCENT TO TWO PERCENT;
PROVIDING THAT THIS ORDINANCE SHALL BE
CUMULATIVE; PROVIDING A SEVERABILITY CLAUSE;
PROVIDING FOR PUBLICATION; AND DECLARING AN
EFFECTIVE DATE.**

WHEREAS, on August 27, 2024, the City Council of the City of Eagle Pass approved a structured percentage system for the transfer of gross revenues from the City Waterworks System to the City; and

WHEREAS, on September 16, 2025, the City Council amended Section 27-26(c) of the Code of Ordinances to temporarily reduce the transfer from two percent (2%) to one percent (1%) of the gross revenues of the City Waterworks System paid to the City of Eagle Pass; and

WHEREAS, the City Council finds that the temporary reduction has achieved its intended purpose and that restoring the transfer to two percent (2%) is in the best interest of the City and the long-term financial stability of both the City and the Eagle Pass Water Works System; and

WHEREAS, the City Council now desires to amend Section 27-26(c) of the Code of Ordinances to increase the transfer from one percent (1%) to two percent (2%) and ensure that the Code accurately reflects the transfer rate approved by the City Council.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS THAT:

Section 1. The City of Eagle Pass Code of Ordinances, **Chapter 27, Article I, Division I, Section 27-26 (c)**, is hereby amended as follows:

- (c) The city waterworks system shall pay to the city **two (2)** ~~one (1)~~ percent of all gross revenues. All such revenues shall be remitted to the city monthly and within thirty (30) days after the end of each month. The amount remitted monthly shall be based on the unaudited actual revenues received for each month. Each remittance shall be accompanied by unaudited financial statements supporting the amount of remittance. Within thirty (30) days after the acceptance of the audited financial statements by the city council, the Eagle Pass

Water Works System shall calculate **two (2)** [~~one (1)~~] percent of all gross revenue and remit any remaining amount due.

Section 2. This ordinance shall be cumulative of all provisions of ordinances of the City of Eagle Pass, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

Section 3. It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

Section 4. The City Secretary of the City of Eagle Pass is hereby directed to publish the proposed Ordinance as required by Section 2-5 of the Charter of the City of Eagle Pass.

Section 5. This Ordinance shall become effective immediately upon publication.

READ, PASSED, AND APPROVED ON SECOND READING, this 4th Day of August 2026

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

AYES:	Valdez, Ramon, Davis, Garcia, and Diaz
NAYS:	None
ABSTAINED:	None
ABSENT:	None

READ, PASSED, AND APPROVED ON SECOND READING, this 18th Day of August 2026

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

AYES: Valdez, Ramon, and Garcia
NAYS: None
ABSTAINED: None
ABSENT: Davis and Diaz

**READ, PASSED, AND APPROVED ON THIRD AND FINAL READING this 8th Day of
September A.D., 2026.**

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

AYES:
NAYS:
ABSTAINED:
ABSENT:

APPROVED AS TO FORM AND LEGALITY:

Ana Sophia Garcia
City Attorney



**U.S. Customs and
Border Protection**

1300 Pennsylvania Avenue NW
Washington, DC 20229

July 20, 2026

Mr. Homero Balderas, City Manager
City of Eagle Pass
100 South Monroe Street
Eagle Pass, Texas 78852

**Subject: Notice of Interest – Property Located Near Planned Border Barrier System
Construction Projects**

Dear Mr. Balderas,

U.S. Customs and Border Protection (CBP) and U.S. Border Patrol (USBP) are currently planning border barrier system construction along the southwest border, including in Maverick County, Texas. We have tentatively identified that we may need to enter the following property for either construction or access purposes: DRT-EGS-RI105E. County records indicate that you may be that property's owner. If you are not the property owner, please disregard this letter and let us know immediately.

We write to you to formally notify you of CBP's interest in discussing the following:

- Potential acquisition of portions of your property related to project construction or maintenance;
- Potential access needs across or adjacent to your property; and/or
- Any real estate or boundary considerations that may arise as project design advances.

This letter is **not a purchase, lease, or easement offer or agreement**, and it does not obligate you in any way to provide access to or acquisition of your property. This letter is intended solely as an initial notification of interest and to open communication with you as the potential property owner.

When CBP determines that it needs access to property, either temporary or permanent, it has three options:

Option A: Enter into a Right of Entry for Construction (ROE-C) agreement with the owner wherein CBP can access the property, complete surveys, appraise the property, and then complete construction. CBP would then separately negotiate a purchase or easement from the owner of any real property interests that it continues to need once construction is completed (including the land underneath whatever was constructed);

Option B: Not enter into an ROE-C, but negotiate a purchase or easement agreement with the landowner quickly enough that CBP's construction timelines are not impacted;

or

Option C: If the landowner and CBP are unable to reach a negotiated purchase or easement agreement, referral to the U.S. Department of Justice to initiate the eminent domain/condemnation process.

Of these options, our preferred and ideal route is Option A, as it allows us to work collaboratively with you, complete construction as quickly as possible, and then pay you the fair market value of any property rights CBP determines it needs going forward. Enclosed is the ROE-C for your review and hopeful approval. If you agree, the ROE-C will allow CBP immediate access to the property so that we can complete necessary border barrier work. Once CBP has completed its surveys and determined what permanent or temporary property rights, if any, that it needs, we can then negotiate the purchase of those rights from you in accordance with The Uniform Relocation Assistance and Real Property Acquisition Policies Act, 42 U.S.C. Ch. 61 and 49 C.F.R. Part 24, ("The Uniform Relocation Act") which sets the rules for real estate acquisitions by the Federal Government.

Should you agree to the ROE-C, CBP will pay you a one-time amount of \$5,000.00 so that it may immediately access your property and begin activities related to the border barrier project. **This amount is in addition to the fair market value of any real property rights CBP later determines that it needs to acquire from you** and is yours to keep even if CBP determines that it does not need your property for the border barrier project. The ROE-C does not grant CBP permanent access to your property, nor does it include the permanent transfer of any real property interests to CBP; it is just an agreement to provide CBP temporary access to the property so that it may conduct activities related to border barrier construction. Put differently, your land is still your land, you would just be giving CBP permission to enter onto your land and begin construction on border barrier infrastructure if necessary. Should CBP determine that it has a permanent need for any portion of your property, CBP will then need to separately acquire those property rights from you as required by The Uniform Relocation Act. **The ROE-C does not in any way waive your right to seek the fair market value of any permanent property interests CBP may need to acquire from you.**

It is always CBP's preference to obtain the necessary real estate for border barrier projects through voluntary agreements. However, please be advised that if we are unable to reach a voluntary agreement through negotiation within a reasonable time, CBP and/or its executing agency may proceed to refer the matter to DOJ to acquire any necessary property interest(s) through the exercise of eminent domain, in accordance with the Declaration of Taking Act (40 U.S.C. §§ 3113 and 3114).

For further information regarding the project, please refer to the following web address: Smart Wall Map | U.S. Customs and Border Protection (<https://www.cbp.gov/border-security/along-us-borders/smart-wall-map>). Please review the ROE-C and associated information, and, if acceptable, sign and return it within five (5) business days. Alternatively, we can provide a digital copy via email for electronic signature.

CBP has collaborated with the U.S. Army Corps of Engineers (USACE) on real estate efforts to support the work effort described above. If you have any questions or would like to discuss the information provided in this letter, we are available to schedule a meeting to provide additional details, address your concerns, and explore next steps. Should you have any questions please contact 682-707-5422 or e-mail Border.Infrastructure.Projects@usace.army.mil.

We appreciate your time and consideration as CBP works to execute border barrier system construction projects to secure our nation's borders.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Enriquez".

Paul Enriquez
Director – Infrastructure Portfolio
Program Management Office Directorate
U.S. Border Patrol
U.S. Customs and Border Protection

Enclosure

CM: 9589 0710 5270 3966 2082 34
RM

**BORDER SECURITY INFRASTRUCTURE
RIGHT-OF-ENTRY FOR CONSTRUCTION**

DRT-EGS-R1105E

Border Barrier System

The undersigned, hereinafter called the "Owner," in consideration for the sum of \$5,000.00 to be paid by U.S. Customs and Border Protection (CBP), hereinafter the "Government," and the total compensation to be paid by the Government for all property rights associated with the areas of interest generally shown on Exhibit A attached hereto and made a part hereof, hereby grants to the Government a right-of-entry for construction (ROE-C) upon the following terms and conditions:

1. The Owner hereby grants to the Government, acting by and through CBP's employees, representatives, agents, contractors and assigns, an irrevocable right to enter upon the lands hereinafter described at any time during the term of this ROE-C in order to construct, install and deploy border security infrastructure and perform any other work necessary and incidental to construction of the aforementioned infrastructure and to subsequent acquisition of property rights by the Government (collectively, the "Permitted Activity"). Such Infrastructure may include, but is not limited to, border barrier, roads, towers, cameras, sensors and lights. The purpose of the aforementioned border security infrastructure is to enhance the Government's ability to deter illicit cross border activity.
2. The term of this ROE-C shall be thirty-six (36) months from the date this instrument is signed by the CBP representative listed below. This term of months is being sought to allow for schedule fluctuation as priorities shift with unexpected events and as funding reallocations occur.
3. If the Government constructs, installs or deploys border security infrastructure on the subject property during the term of this ROE-C, the Owner does not waive any right to seek the fair market value of any property interests in the subject property that the Government later seeks to acquire by subsequent agreement or judicial proceedings. Any sum paid by the Government to the Owner for this ROE-C is in addition to the fair market value of any interest in the subject property that may later be acquired by the Government.
4. This ROE-C may be renewed upon mutual agreement by both parties if the Government does not acquire any property rights in the subject property during the initial term.
5. Notices will be given to the Owner, or the Owner's representative, prior to field activities if the following information has been completed (***please print or type clearly***):

Name: _____

Title: _____

Home Telephone: _____ Cell: _____

Email/Other: _____

Best Time to Reach You: _____

6. The Owner agrees to notify all tenants, lessees, caretakers or other interested parties of the grants hereby permitted to the Government under the terms of this agreement within 10 days of the execution of this ROE-C.

7. All tools, equipment, improvements, and other property taken upon or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government or its contractors at any time within a reasonable period after the expiration of this ROE-C.

8. The employees, agents, and contractors of the Government shall have the right to inspect and monitor the lands hereinafter described during the term of this ROE-C for purposes of the safety and security of the construction site and equipment.

9. If aircraft flights over said lands, or entry upon the land by means of helicopter or other type aircraft, are necessary, the Government shall inform the Owner, in advance, of each such flight or entry.

10. If any action of the Government's officers or employees acting within the scope of their employment in the exercise of this ROE-C allegedly results in the death of or injury to any person, or loss of or damage to any real or personal property of any person, then the Government's liability, if any, shall be determined in accordance with applicable law, including the Federal Tort Claims Act (FTCA), 28 U.S.C. §§ 2671 – 2680. An administrative FTCA claim can be made using a Standard Form (SF) 95 (Claim for Injury, Damage, or Death). The SF 95 must include supporting documentation and state a claim for monetary damages in a sum certain amount for any alleged loss or damage of property and must be filed within two years after the claim accrues. Please submit the SF 95 and supporting documentation to the CBP Port of Entry or United States Border Patrol station nearest to where the alleged damages occurred.

11. All contract disputes arising under or related to this ROE-C shall be resolved under this clause, and through submission of a claim directly to Department of Homeland Security, Customs and Border Protection, U.S. Border Patrol – Program Management Office Directorate, ATTN: License Administrator, 1300 Pennsylvania Avenue NW, Washington D.C. 20229. Where an agreement cannot be reached, claims shall be filed under the Contract Disputes Act 41 U.S.C. §§ 7101 – 7109.

12. The Government agrees to comply with all local, state and federal laws, rules and ordinances applicable to the Permitted Activity except to the extent federal law preempts local and state law. Provided, however, that nothing herein shall be construed as a waiver of the sovereign immunity of the United States federal government. The Government further agrees to exercise due care in the performance of all Permitted Activity on the Land.

13. The Government has the right to assign its rights or delegate its duties or obligations under this agreement, in whole or in part, by operation of law or otherwise, without the prior written consent of the Owner.

14. The land affected by this right-of-entry is located in Maverick County, Texas and is described as follows: DRT-EGS-R1105E as generally shown on Exhibit A.

15. The undersigned hereby warrants that by their signature, they are the Owner(s) of said land and/or that they have the legal authority to grant a right-of-entry subject to the aforementioned terms and conditions.

WITNESSES MY HAND AND SEAL this ____ day of _____, 20 ____.

City of Eagle Pass, Texas

By: _____

Name: _____

Title: _____

Paul Enriquez
Acquisition Program Manager
Wall Program Management Office
Program Management Office Directorate
U.S. Border Patrol
U.S. Customs and Border Protection
Department of Homeland Security

CERTIFICATE OF AUTHORITY
(applicable for Corporations and Organizations)

I, _____(name), certify that I am the
 _____(position held in organization) of the
 _____(organization), duly organized and registered in the State of
 Texas; that _____(executor of instrument), who signed the
 foregoing instrument on behalf of the Owner, was then _____
 (position of executor of instrument) of said _____
 (organization). I further certify that the said officer was acting within the scope of
 powers delegated to this officer by the governing body of the Owner in executing said
 instrument.

IN WITNESS WHEREOF, I have hereunto set my hand, and the seal of the
 _____(organization), this _____day
 of _____, 20_____.

By: _____
 Typed Name: _____
 Title: _____

CONSENT OF TENANT: *(if applicable)*

I hereby consent to the use of the property by the Government in accordance with this right-of-entry.

Tenant's Signature

Tenant's Printed Name

Owner's Mailing Address:

Home Telephone: _____

Work Telephone: _____

Tenant requires notification prior to entry. Yes No (please circle one)

Border Infrastructure Project - EGS-1000s

DRT Sector / Maverick County





**U.S. Customs and
Border Protection**

1300 Pennsylvania Avenue NW
Washington, DC 20229

July 27, 2026

Mr. Homero Balderas, City Manager

City of Eagle Pass

100 South Monroe Street

Eagle Pass, Texas 78852

**Subject: Notice of Interest – Property Located Near Planned Border Barrier System
Construction Projects**

Dear Mr. Balderas,

U.S. Customs and Border Protection (CBP) and U.S. Border Patrol (USBP) are currently planning border barrier system construction along the southwest border, including in Maverick County, Texas. We have tentatively identified that we may need to enter the following property for either construction or access purposes: DRT-EGT-R1225E, DRT-EGT-R1225E-1, DRT-EGT-R1225E-2. County records indicate that you may be that property's owner. If you are not the property owner, please disregard this letter and let us know immediately.

We write to you to formally notify you of CBP's interest in discussing the following:

- Potential acquisition of portions of your property related to project construction or maintenance;
- Potential access needs across or adjacent to your property; and/or
- Any real estate or boundary considerations that may arise as project design advances.

This letter is **not a purchase, lease, or easement offer or agreement**, and it does not obligate you in any way to provide access to or acquisition of your property. This letter is intended solely as an initial notification of interest and to open communication with you as the potential property owner.

When CBP determines that it needs access to property, either temporary or permanent, it has three options:

Option A: Enter into a Right of Entry for Construction (ROE-C) agreement with the owner wherein CBP can access the property, complete surveys, appraise the property, and then complete construction. CBP would then separately negotiate a purchase or easement from the owner of any real property interests that it continues to need once construction is completed (including the land underneath whatever was constructed);

Option B: Not enter into an ROE-C, but negotiate a purchase or easement agreement with the landowner quickly enough that CBP's construction timelines are not impacted; or

Option C: If the landowner and CBP are unable to reach a negotiated purchase or easement agreement, referral to the U.S. Department of Justice to initiate the eminent domain/condemnation process.

Of these options, our preferred and ideal route is Option A, as it allows us to work collaboratively with you, complete construction as quickly as possible, and then pay you the fair market value of any property rights CBP determines it needs going forward. Enclosed is the ROE-C for your review and hopeful approval. If you agree, the ROE-C will allow CBP immediate access to the property so that we can complete necessary border barrier work. Once CBP has completed its surveys and determined what permanent or temporary property rights, if any, that it needs, we can then negotiate the purchase of those rights from you in accordance with The Uniform Relocation Assistance and Real Property Acquisition Policies Act, 42 U.S.C. Ch. 61 and 49 C.F.R. Part 24, ("The Uniform Relocation Act") which sets the rules for real estate acquisitions by the Federal Government.

Should you agree to the ROE-C, CBP will pay you a one-time amount of \$5,000.00 so that it may immediately access your property and begin activities related to the border barrier project. **This amount is in addition to the fair market value of any real property rights CBP later determines that it needs to acquire from you and is yours to keep even if CBP determines that it does not need your property for the border barrier project.** The ROE-C does not grant CBP permanent access to your property, nor does it include the permanent transfer of any real property interests to CBP; it is just an agreement to provide CBP temporary access to the property so that it may conduct activities related to border barrier construction. Put differently, your land is still your land, you would just be giving CBP permission to enter onto your land and begin construction on border barrier infrastructure if necessary. Should CBP determine that it has a permanent need for any portion of your property, CBP will then need to separately acquire those property rights from you as required by The Uniform Relocation Act. **The ROE-C does not in any way waive your right to seek the fair market value of any permanent property interests CBP may need to acquire from you.**

It is always CBP's preference to obtain the necessary real estate for border barrier projects through voluntary agreements. However, please be advised that if we are unable to reach a voluntary agreement through negotiation within a reasonable time, CBP and/or its executing agency may proceed to refer the matter to DOJ to acquire any necessary property interest(s) through the exercise of eminent domain, in accordance with the Declaration of Taking Act (40 U.S.C. §§ 3113 and 3114).

For further information regarding the project, please refer to the following web address: Smart Wall Map | U.S. Customs and Border Protection (<https://www.cbp.gov/border-security/along-us-borders/smart-wall-map>). Please review the ROE-C and associated information, and, if acceptable, sign and return it within five (5) business days. Alternatively, we can provide a digital copy via email for electronic signature.

CBP has collaborated with the U.S. Army Corps of Engineers (USACE) on real estate efforts to support the work effort described above. If you have any questions or would like to discuss the information provided in this letter, we are available to schedule a meeting to provide additional details, address your concerns, and explore next steps. Should you have any questions please contact 682-707-5422 or e-mail Border.Infrastructure.Projects@usace.army.mil.

We appreciate your time and consideration as CBP works to execute border barrier system construction projects to secure our nation's borders.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Enriquez".

Paul Enriquez
Director – Infrastructure Portfolio
Program Management Office Directorate
U.S. Border Patrol
U.S. Customs and Border Protection

Enclosure

CM: 9589 0710 5270 2540 5912 29
RM

**BORDER SECURITY INFRASTRUCTURE
RIGHT-OF-ENTRY FOR CONSTRUCTION**

DRT-EGT-R1225E
DRT-EGT-R1225E-1
DRT-EGT-R1225E-2

Border Barrier System

The undersigned, hereinafter called the "Owner," in consideration for the sum of \$5,000.00 to be paid by U.S. Customs and Border Protection (CBP), hereinafter the "Government," and the total compensation to be paid by the Government for all property rights associated with the areas of interest generally shown on Exhibit A attached hereto and made a part hereof, hereby grants to the Government a right-of-entry for construction (ROE-C) upon the following terms and conditions:

1. The Owner hereby grants to the Government, acting by and through CBP's employees, representatives, agents, contractors and assigns, an irrevocable right to enter upon the lands hereinafter described at any time during the term of this ROE-C in order to construct, install and deploy border security infrastructure and perform any other work necessary and incidental to construction of the aforementioned infrastructure and to subsequent acquisition of property rights by the Government (collectively, the "Permitted Activity"). Such Infrastructure may include, but is not limited to, border barrier, roads, towers, cameras, sensors and lights. The purpose of the aforementioned border security infrastructure is to enhance the Government's ability to deter illicit cross border activity.
2. The term of this ROE-C shall be thirty-six (36) months from the date this instrument is signed by the CBP representative listed below. This term of months is being sought to allow for schedule fluctuation as priorities shift with unexpected events and as funding reallocations occur.
3. If the Government constructs, installs or deploys border security infrastructure on the subject property during the term of this ROE-C, the Owner does not waive any right to seek the fair market value of any property interests in the subject property that the Government later seeks to acquire by subsequent agreement or judicial proceedings. Any sum paid by the Government to the Owner for this ROE-C is in addition to the fair market value of any interest in the subject property that may later be acquired by the Government.
4. This ROE-C may be renewed upon mutual agreement by both parties if the Government does not acquire any property rights in the subject property during the initial term.
5. Notices will be given to the Owner, or the Owner's representative, prior to field activities if the following information has been completed (*please print or type clearly*):

Name: _____

Title: _____

Home Telephone: _____ Cell: _____

Email/Other: _____

Best Time to Reach You: _____

6. The Owner agrees to notify all tenants, lessees, caretakers or other interested parties of the grants hereby permitted to the Government under the terms of this agreement within 10 days of the execution of this ROE-C.

7. All tools, equipment, improvements, and other property taken upon or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government or its contractors at any time within a reasonable period after the expiration of this ROE-C.

8. The employees, agents, and contractors of the Government shall have the right to inspect and monitor the lands hereinafter described during the term of this ROE-C for purposes of the safety and security of the construction site and equipment.

9. If aircraft flights over said lands, or entry upon the land by means of helicopter or other type aircraft, are necessary, the Government shall inform the Owner, in advance, of each such flight or entry.

10. If any action of the Government's officers or employees acting within the scope of their employment in the exercise of this ROE-C allegedly results in the death of or injury to any person, or loss of or damage to any real or personal property of any person, then the Government's liability, if any, shall be determined in accordance with applicable law, including the Federal Tort Claims Act (FTCA), 28 U.S.C. §§ 2671 – 2680. An administrative FTCA claim can be made using a Standard Form (SF) 95 (Claim for Injury, Damage, or Death). The SF 95 must include supporting documentation and state a claim for monetary damages in a sum certain amount for any alleged loss or damage of property and must be filed within two years after the claim accrues. Please submit the SF 95 and supporting documentation to the CBP Port of Entry or United States Border Patrol station nearest to where the alleged damages occurred.

11. All contract disputes arising under or related to this ROE-C shall be resolved under this clause, and through submission of a claim directly to Department of Homeland Security, Customs and Border Protection, U.S. Border Patrol – Program Management Office Directorate, ATTN: License Administrator, 1300 Pennsylvania Avenue NW, Washington D.C. 20229. Where an agreement cannot be reached, claims shall be filed under the Contract Disputes Act 41 U.S.C. §§ 7101 – 7109.

12. The Government agrees to comply with all local, state and federal laws, rules and ordinances applicable to the Permitted Activity except to the extent federal law preempts local and state law. Provided, however, that nothing herein shall be construed as a waiver of the sovereign immunity of the United States federal government. The Government further agrees to exercise due care in the performance of all Permitted Activity on the Land.

13. The Government has the right to assign its rights or delegate its duties or obligations under this agreement, in whole or in part, by operation of law or otherwise, without the prior written consent of the Owner.

14. The land affected by this right-of-entry is located in Maverick County, Texas and is described as follows: DRT-EGT-R1225E, DRT-EGT-R1225E-1, DRT-EGT-R1225E-2 as generally shown on Exhibit A.

15. The undersigned hereby warrants that by their signature, they are the Owner(s) of said land and/or that they have the legal authority to grant a right-of-entry subject to the aforementioned terms and conditions.

WITNESSES MY HAND AND SEAL this ____ day of _____, 20 ____.

City of Eagle Pass

By: _____

Print Name

Title

Paul Enriquez
Acquisition Program Manager
Wall Program Management Office
Program Management Office Directorate
U.S. Border Patrol
U.S. Customs and Border Protection
Department of Homeland Security

CERTIFICATE OF AUTHORITY
(applicable for Corporations and Organizations)

I, _____(name), certify that I am the
 _____(position held in organization) of the
 _____(organization), duly organized and registered in the State of
 Texas, that _____(executor of instrument), who signed the
 foregoing instrument on behalf of the Owner, was then _____
 (position of executor of instrument) of said _____
 (organization). I further certify that the said officer was acting within the scope of
 powers delegated to this officer by the governing body of the Owner in executing said
 instrument.

IN WITNESS WHEREOF, I have hereunto set my hand, and the seal of the
 _____(organization), this _____day
 of _____, 20_____.

By: _____
 Typed Name: _____
 Title: _____

CONSENT OF TENANT: *(if applicable)*

I hereby consent to the use of the property by the Government in accordance with this right-of-entry.

Tenant's Signature

Tenant's Printed Name

Owner's Mailing Address:

Home Telephone: _____

Work Telephone: _____

Tenant requires notification prior to entry. Yes No (please circle one)

Border Infrastructure Project - EGT-1000s
DRT Sector / Maverick County



DRT Sector / Maverick County

Border Infrastructure Project - EGT-1000s



DRT Sector / Maverick County

Border Infrastructure Project - EGT-1000s



RESOLUTION NO. 2026-R

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS GRANTING AN EXEMPTION FROM THE MONTHLY GARBAGE AND RUBBISH COLLECTION FEE FOR PERSONS 65 YEARS OF AGE OR OLDER, OR DISABLED VETERANS WHOSE HOMESTEAD RESIDENCES ARE LOCATED WITHIN THE CITY LIMITS OF THE CITY OF EAGLE PASS AS INDICATED ON THE TAX ROLLS OF THE CITY FOR FISCAL YEAR COMMENCING OCTOBER 1, 2026, AND ENDING SEPTEMBER 30, 2027

WHEREAS, Chapter 14 of the Code of Ordinances of the City of Eagle Pass provides for a monthly collection fee for garbage and rubbish removal for residential premises located within the City limits; and

WHEREAS, said Chapter also provides that the City Council of the City of Eagle Pass may, at its option, provide certain relief regarding such fees for individuals 65 years of age or older and disabled veterans which are identified on the tax rolls of the City of Eagle Pass for the current fiscal year and as herein specified.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS, that:

SECTION 1. The City of Eagle Pass, Texas, shall not subsidize any portion of the monthly collection fee for garbage and rubbish removal for residential premises located within the City limits except that as to the homestead residences located within the City limits owned by individuals who are either 65 years of age or older, or disabled veterans, no monthly collection fee for garbage and rubbish removal shall be charged or assessed. However, garbage and rubbish of persons 65 years of age or older or disabled veterans shall be collected one time per week.

SECTION 2. This subsidy shall apply only to persons 65 years of age or older or disabled veterans who apply and are qualified for homestead exemptions by the Maverick County Appraisal District for the current fiscal year and shall apply only to that individual's residential homestead.

SECTION 3. The City of Eagle Pass Tax Office, in coordination with the Maverick County Appraisal District, shall prepare a list of those qualified individuals and deliver such list to the City of Eagle Pass Water Works System to implement and manage such exemption in their monthly collection of the City's residential garbage and rubbish fee.

READ, PASSED, AND APPROVED, this 1st day of September, A.D., 2026.

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

ORDINANCE NO. _____
AN ORDINANCE OF THE CITY OF EAGLE PASS, TEXAS,
AMENDING CHAPTER 13.5, ARTICLE I, SECTIONS 13.5-6
OF THE CODE OF ORDINANCES RELATING TO FLOOD
DAMAGE PREVENTION BY ADOPTING AND
INCORPORATING THE CITY OF EAGLE PASS
STORMWATER DESIGN CRITERIA MANUAL, AS
AMENDED FROM TIME TO TIME; PROVIDING FOR THE
APPLICABILITY OF SUCH SPECIFICATIONS AND
DESIGN CRITERIA WITHIN THE CITY LIMITS AND
EXTRATERRITORIAL JURISDICTION OF THE CITY OF
EAGLE PASS; PROVIDING THAT THIS ORDINANCE
SHALL BE CUMULATIVE; PROVIDING A
SEVERABILITY CLAUSE; AND DECLARING AN
EFFECTIVE DATE.

WHEREAS, the City of Eagle Pass, Texas, is a home-rule municipality authorized by the Texas Constitution and applicable laws of the State of Texas to adopt ordinances and regulations necessary to protect the health, safety, and welfare of its residents; and

WHEREAS, the City Council finds that establishing and maintaining uniform construction specifications and stormwater design criteria is necessary to promote the proper design, construction, operation, and maintenance of drainage and stormwater infrastructure and to protect the public health, safety, and welfare; and

WHEREAS, the City Council desires to amend Chapter 13.5, Article I, Section 13.5-6 of the Code of Ordinances to expressly adopt by reference the City of Eagle Pass Public Works Construction Specifications and Stormwater Design Criteria Manual, including revisions thereto, and to provide for their application to applicable projects, work, and development within the City limits and the City's extraterritorial jurisdiction.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS THAT:

Section 1. The City of Eagle Pass Code of Ordinances, **Chapter 13.5, Article I, Sections 13.5-6**, is hereby amended as follows:

This local chapter includes all revisions to the National Flood Insurance Program through November 1, 1989, and shall supersede all previous laws adopted for the purposes of flood damage

prevention. This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another provision conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Notwithstanding anything to the contrary in this chapter, the City of Eagle Pass [~~Public Works Construction Specifications~~] **Stormwater Design Criteria** Manual and any revisions thereto, are hereby adopted by reference and, as adopted, shall apply to the activities contemplated by this chapter. Any provision of this chapter, and any ordinance, resolution, or part thereof, in conflict with the construction specification hereby adopted is repealed to the extent of such conflict. The constructions specifications set forth in the Public Works Construction Specifications **and the Stormwater Design Criteria Manual** shall apply not only to any project, work or development located within the city limits of the City of Eagle Pass, but also to any such activities located within the extraterritorial jurisdiction of the City of Eagle Pass, Texas. A copy of the City of Eagle Pass Public Works Construction Specification Manual **and the Stormwater Design Criteria Manual** shall be available for inspections in the following offices of the City of Eagle Pass: Office of the City Secretary, Office of the Planning Department, [~~and~~] Office of the Public Works Department, **and City Engineer Department**.

In the interpretation and application of this chapter, all provisions shall be:

- (a) Considered as minimum requirements.
- (b) Liberally construed in favor of the governing body.
- (c) Deemed neither to limit nor repeal any other powers granted under state statutes.

Section 2. This ordinance shall be cumulative of all provisions of ordinances of the City of Eagle Pass, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

Section 3. It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

Section 4. This Ordinance shall become effective immediately upon publication.

**PASSED BY THE CITY COUNCIL AND APPROVED BY THE MAYOR ON
THIS _____ DAY OF _____ 2026.**

AARON VALDEZ
MAYOR

ATTESTED:

ERIKA RODRIGUEZ
CITY SECRETARY

APPROVED AS TO FORM:

ANA SOPHIA GARCIA
CITY ATTORNEY

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF EAGLE PASS, TEXAS, AMENDING CHAPTER 23 OF THE CODE OF ORDINANCES, ARTICLE IV-SUBDIVISION DESIGN STANDARDS AND SPECIFICATIONS, SECTION 23-68 STORM DRAINAGE BY ADOPTING AND ENACTING THE JULY 2026 STORM WATER DESIGN CRITERIA MANUAL AS APPENDIX B; REQUIRING COMPLIANCE WITH SAID MANUAL FOR ALL LAND DEVELOPMENT, SUBDIVISION, PLAT SUBMITTALS, AND CONSTRUCTION ACTIVITIES WITHIN THE CITY OF EAGLE PASS AND ITS EXTRATERRITORIAL JURISDICTION (ETJ); PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING A SEVERABILITY CLAUSE; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City of Eagle Pass seeks to protect public health, safety, and property by reducing the hazards associated with excessive stormwater runoff, promoting orderly and sustainable development, and ensuring the proper management, conveyance, and treatment of stormwater within its jurisdictional boundaries; and

WHEREAS, the City Council recognizes that increased impervious cover and construction activities can cause increased stormwater runoff, soil erosion, and sediment deposition which may degrade drainage capacity and lead to potential flooding and erosion hazards; and

WHEREAS, to establish uniform technical criteria, acceptable hydrologic and hydraulic design methodologies, and construction specifications, the City has compiled the comprehensive document entitled "City of Eagle Pass Storm Water Design Manual" dated July 2026; and

WHEREAS, adopting the Storm Water Design Manual by reference and establishing it as an official technical appendix to the Code of Ordinances provides clear, consistent, and binding guidelines for developers, engineers, and citizens; and

WHEREAS, the City Council finds that adopting and referencing the actual manual as appendix B is in the best interest of the citizens of Eagle Pass and necessary for the protection of property and public safety.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS THAT:

Section 1. The City of Eagle Pass Code of Ordinances, Chapter 23, Article IV, Section 23-68, is hereby amended as follows:

Sec. 23-68. Storm drainage.

~~[(a) Easement. Where a subdivision is traversed by a watercourse, drainageway, natural channel, or stream, there shall be provided a storm water easement, or drainage right-of-way, conforming substantially with the limit line of such watercourse, and such additional width or construction, or both, as will be adequate for the purpose and to accommodate future needs. Parallel streets or parkways dedicated to the city on the plat may be required in connection therewith.~~

~~(b) Drainage facilities.~~

~~(1) Drainage facilities shall be constructed in accordance with the design criteria and construction standards of the Master Development Plan of the City of Eagle Pass.~~

~~(2) Drainage and drainage facilities shall be provided for in all instances and shall be approved by the city council and the planning and zoning commission under and subject to the requirements contained in this section, and subject also to other provisions relating to floodway, overflow and drainage areas, courses and easements in a manner such that natural watercourses shall not be so changed, ignored, filled or otherwise encroached upon as to reduce their effectiveness in carrying off surface storm water, and in a manner such that land use and development shall be effectively controlled for the purpose and to end eliminating and preventing property damage by flooding.~~

~~(c) Compliance with federal regulations.~~

~~(1) All subdivisions shall conform to the Flood Disaster Protection Act of 1973, Public Law 93-234, passed by the 93rd Congress, H.R. 8449, December 31, 1973, and the latest revisions thereof.~~

~~(2) The city is also required to comply with applicable portions of the Department of Housing and Urban Development requirements of Title 24, Housing and Housing Credit, delineating requirements for the review of building permits and subdivisions.~~

~~(3) Federal floodplains are delineated on the basis of one-hundred-year frequency discharges to be applied to only those areas where Official HUD FIA Maps have been prepared, or where one-hundred-year water surface profile studies are available within the City of Eagle Pass and its extraterritorial jurisdiction.~~

~~(4) The official maps and floodplain reports are on file in the city secretary's office, City Hall.~~

~~(d) Construction prohibited. Hereafter, no property or land shall be developed, no premises shall be improved, and no building shall be erected or structurally altered, no land excavation or fill shall be authorized, permitted or done, no other encroachment of whatsoever nature or description shall be deposited, installed, constructed, erected or left, either within any natural drainage channel, natural watercourse or easement, or within such~~

~~distance of any such channel, course or easement as may reasonably be calculated or determined by the city manager, city council or the commission to:~~

- ~~(1) Reduce the function or effect thereof, in carrying off surface storm water;~~
- ~~(2) Subject any nearby or adjacent structure, property or premises to danger of being damaged by flooding or erosion;~~
- ~~(3) Otherwise make impracticable or impossible comportment with the requirements of this and other ordinances of the city, or with use, occupancy, building or other compliance regulations thereof.]~~

Section 2. The City of Eagle Pass Code of Ordinances, Chapter 23, Article IV, Section 23-68, is hereby created and established to adopt by reference the July 2026 Storm Water Design Criteria Manual as follows:

Sec. 23-68. Storm drainage.

(a) The document entitled "City of Eagle Pass Storm Water Design Manual" dated July 2026, a copy of which is attached hereto and formally designated as Appendix B to this Ordinance, is hereby approved, adopted, and incorporated by reference into the Code of Ordinances of the City of Eagle Pass as if fully set forth herein.

(b) Any and all stormwater drainage improvements, land development or redevelopment projects, subdivision planning, plats, replats, master development plans, public infrastructure works, and construction activities within the corporate limits of the City of Eagle Pass and its Extraterritorial Jurisdiction (ETJ) shall be designed, constructed, and maintained in strict accordance with the criteria, standards, methodologies, and submittal requirements set forth in the adopted Storm Water Design Criteria Manual.

(c) At least one (1) copy of the Storm Water Design Criteria Manual, adopted as Appendix B, shall be maintained on file in the office of the City Secretary and the office of the City Engineer, and shall be made available for public inspection, copying, and reference during normal business hours.

(d) The City Engineer shall have the administrative authority to interpret the provisions of the Storm Water Design Criteria Manual and to adopt necessary rules, procedures, or supplemental criteria to implement the intent of these regulations, provided such interpretations are consistent with the safety and drainage goals of the City Code.

Section 3. This ordinance shall be cumulative of all provisions of ordinances of the City of Eagle Pass, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

Section 4. It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

Section 5. This Ordinance shall become effective immediately upon passage.

**PASSED BY THE CITY COUNCIL AND APPROVED BY THE MAYOR ON THIS 14th
DAY OF SEPTEMBER, 2026.**

**AARON E. VALDEZ
MAYOR**

ATTESTED:

**ERIKA RODRIGUEZ
CITY SECRETARY**

APPROVED AS TO FORM:

**ANA SOPHIA GARCIA
CITY ATTORNEY**



JULY 2026

STORM WATER

DESIGN CRITERIA MANUAL



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1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this Manual is to protect public health, safety, and property by reducing the hazards associated with excessive stormwater runoff, to promote orderly and sustainable development, and to ensure the proper management, conveyance, and treatment of stormwater within the jurisdictional boundaries of the City of Eagle Pass.

This Manual establishes the design criteria, construction standards, and maintenance requirements for stormwater drainage systems serving the City of Eagle Pass. These criteria shall regulate:

- Stormwater drainage improvements associated with the development and redevelopment of land located within the City of Eagle Pass and its Extraterritorial Jurisdiction (ETJ)
- Drainage and stormwater control systems installed during new construction, grading, and subdivision of parcels of land.
- Erosion and sediment control measures implemented during construction and land disturbance activities.
- The design, construction, and maintenance of permanent stormwater management and drainage facilities.
- Improvements or modifications to existing stormwater drainage systems where feasible and beneficial to public safety and infrastructure performance.

It is recognized that the existing stormwater drainage systems within the City of Eagle Pass may not possess sufficient capacity to receive, convey, and control stormwater runoff resulting from the conversion of natural or agricultural lands to developed urban conditions. It is further recognized that increased impervious cover and sediment deposition during and after construction activities can reduce the capacity of storm drains, channels, and other conveyance systems, resulting in potential flooding and erosion hazards.

Therefore, it shall be the policy of the **City of Eagle Pass** that all new development, redevelopment, and significant reconstruction projects shall incorporate provisions for the storage, control, and regulated release of stormwater runoff. The post-development release rate of stormwater runoff from any site shall not exceed the pre-development release rate associated with the existing natural or undeveloped land condition, unless otherwise approved by the City Engineer.

Because of the varied topography, soil characteristics, and availability of drainage outfalls throughout the City of Eagle Pass, drainage requirements for each project will necessarily vary depending on site specific conditions. Accordingly, the developer or engineer shall consult with the **City Engineer's Office** during the preliminary design phase of each project to determine the applicable requirements and appropriate design criteria for stormwater management, detention, and conveyance facilities.

1.2 Interpretation of Codes, Ordinances, and Articles

The **City Engineer** shall have the authority to interpret the provisions of this manual and related City ordinances. The City Engineer may adopt procedures or supplemental criteria to clarify or implement the intent of these regulations. Such interpretations shall be consistent with the objectives of the **City of Eagle Pass Code of Ordinances**, including Chapters governing subdivisions, drainage, stormwater, and floodplain management.

These interpretations may not waive or modify requirements expressly established by ordinance or other legally binding regulations.

1.3 City of Eagle Pass Storm Water Management Ordinance

The **City of Eagle Pass Code of Ordinances**, particularly **Chapter 2, 13.5, 22 and 23**, establishes the legal basis for stormwater management within the City.

Where discrepancy exists between this Design Manual and the Code of Ordinances, the Ordinance shall prevail. This manual serves as the technical companion to the adopted ordinances and outlines acceptable hydrologic and hydraulic design methodologies, construction standards, and plan submittal requirements.

All stormwater management activities must comply with:

- **City of Eagle Pass Code of Ordinances**
- **TCEQ – Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000**
- **FEMA National Flood Insurance Program (NFIP)**
- **TWDB Region 15 Flood Planning Guidelines**
- **Maverick County Floodplain Regulations**
- **TxDOT Hydraulic Design Manual** for state rights-of-way when applicable

2.0 CITY OF EAGLE PASS STORM WATER MANAGEMENT POLICY

2.1 Purpose of Storm Water Management Policy

The purpose of the City of Eagle Pass Storm Water Management Policy is to protect the public health, safety, and welfare by minimizing flooding, erosion, and water quality degradation caused by stormwater runoff.

The policy establishes requirements for:

- Preventing property damage due to flooding or erosion
- Protecting natural waterways and drainage corridors
- Promoting infiltration, detention, and sustainable drainage systems (LID/GSI)
- Ensuring that post-development runoff conditions do not exceed pre-development conditions for corresponding design storms
- Maintaining compliance with **TCEQ and EPA NPDES Phase II** regulations applicable to small municipal storm sewer systems (MS4)

2.2 Application of Storm Water Management Policy

This manual governs the **planning, design, construction, operation, and maintenance** of all stormwater systems within the **City of Eagle Pass** and its **ETJ**.

All developments, redevelopments, public works projects, and drainage improvements must conform to this manual and the City's stormwater ordinance.

These requirements apply to:

- **All subdivisions** (residential, commercial, industrial)
- **Public infrastructure projects**
- **Detention or retention basins**
- **Channel improvements and culvert crossings**
- **Floodplain development permits**

The policy becomes effective upon adoption by the **Eagle Pass City Council** and shall apply to all plans submitted thereafter.

2.3 Responsibility to Accept and Convey Storm Water

The owner or developer of property proposed for development or redevelopment shall be responsible for safely accepting and conveying all stormwater entering, crossing, or otherwise flowing through the property. This responsibility includes stormwater discharged from other existing developed properties, off-site drainage generated under ultimate upstream watershed development conditions, and drainage that naturally enters or crosses the property because of existing topography.

Drainage facilities shall be designed to accommodate ultimate upstream watershed development conditions in accordance with this Manual. The owner or developer shall provide the drainage easements, conveyance facilities, detention facilities, grading, and other improvements necessary to convey the applicable design discharges through the property without increasing flood elevations, velocities, erosion hazards, or flood risk to upstream, downstream, or adjacent properties.

Existing detention facilities may be considered when establishing ultimate watershed conditions, provided that the facilities are existing, legally established, adequately maintained, and reasonably expected to remain operational. Any detention facility credited in the analysis shall be incorporated into the hydrologic and hydraulic models, and supporting documentation regarding its capacity, outlet configuration, maintenance responsibility, and continued operation shall be submitted for review and approval by the City Engineer.

2.4 Regional Storm Water Management

The City of Eagle Pass encourages watershed based and regional stormwater management solutions where such systems provide greater public benefit, improved hydraulic performance, or reduced long-term maintenance obligations.

Where master planned drainage improvements or regional detention facilities exist, the City Engineer may allow participation through construction contribution, proportional cost participation, or an approved fee-in-lieu-of detention program.

Fee-in-lieu participation may be considered only when:

- A regional facility exists or is planned.
- On-site detention is impractical or provides limited benefit.
- Downstream impacts are mitigated.
- The applicant contributes to a fair proportional share of drainage improvements.

Approval of fee-in-lieu participation shall be at the sole discretion of the City Engineer.

Fee schedule is located in The City of Eagle Pass Code of Ordinances, Chapter 27, Article VI, Section 27-21.

All regional drainage systems shall comply with this Manual.

2.5 Subdivision and Development Planning

All This section establishes the stormwater planning and drainage documentation requirements applicable to subdivisions, plats, replats, master development plans, planned developments, infill development, and redevelopment projects within the City of Eagle Pass and its Extraterritorial Jurisdiction (ETJ).

The drainage requirements associated with a development application shall be determined by the proposed land use, plat type, extent of land disturbance, increase in impervious cover, proposed grading, required public or private infrastructure, relationship to existing drainage facilities, and potential effects on upstream, downstream, or adjacent properties.

A **Storm Water Management Plan Report**, hereafter referred to as the **Drainage Report**, shall be prepared and sealed by a Professional Engineer licensed in the State of Texas. The Drainage Report shall document existing and proposed drainage conditions and demonstrate compliance with this Manual. The report shall include, as applicable, drainage-area maps, hydrologic calculations, hydraulic analyses, downstream assessments, floodplain information, detention calculations, overflow routing, proposed drainage facilities, easement requirements, maintenance responsibilities, and supporting plans and profiles.

The drainage information submitted with each application shall be proportional to the type and scale of the proposed development. The City Engineer may require additional information or a more detailed analysis when a proposed development may affect a floodplain, natural watercourse, existing drainage facility, public infrastructure, or neighboring property..

2.5.1 Major Plat

A Major Plat is a subdivision meeting the definition established by the City of Eagle Pass Code of Ordinances or otherwise requiring public or private infrastructure to facilitate development. A subdivision shall also be reviewed under the Major Plat requirements when it includes the construction or modification of streets, storm drains, channels, culverts, detention facilities, floodplain improvements, drainage easements, or other drainage-related infrastructure.

A Drainage Report shall be submitted with the Major Plat. The report shall establish the overall drainage plan for the subdivision and demonstrate that the proposed development will not adversely affect upstream, downstream, or adjacent properties. The report shall identify the drainage facilities required to serve the development, the proposed points of discharge, existing and ultimate-condition peak discharges, required detention, overflow pathways, floodplain impacts, drainage easements, and maintenance responsibilities.

Participation in an approved regional stormwater facility or fee-in-lieu program may be considered only when the downstream assessment demonstrates that the proposed development will not create an adverse impact and the City Engineer approves the proposed participation in accordance with Section 2.4 and the applicable City ordinance.

2.5.2 Minor Plat

A Minor Plat is a subdivision meeting the applicable definition established by the City of Eagle Pass Code of Ordinances and generally involving a limited number of lots without the extension of public infrastructure.

A Drainage Report shall be submitted with the Minor Plat unless the City Engineer determines that a reduced drainage submittal is appropriate based on the size, location, existing development

condition, and anticipated drainage effects of the subdivision. At a minimum, the submittal shall identify existing and proposed drainage patterns, contributing off-site drainage, proposed discharge locations, existing and proposed impervious cover, and any drainage facilities or easements required to serve the property.

Classification as a Minor Plat shall not exempt a development from detention, downstream assessment, floodplain, drainage easement, or no-adverse-impact requirements.

2.5.3 Replat

A replat applies to previously platted property that will be reconfigured, combined, or further subdivided. A Drainage Report shall be required when the replat changes the proposed land use, lot configuration, impervious cover, grading, drainage areas, points of discharge, drainage easements, or required infrastructure.

The Drainage Report shall evaluate the cumulative drainage effects of the previously approved development and the proposed replat. Previously approved drainage facilities may be credited only when their capacity, condition, ownership, maintenance responsibility, and continued availability have been documented to the satisfaction of the City Engineer.

Previous approval of a plat, drainage report, regional participation agreement, or fee payment shall not automatically exempt a replat from current stormwater requirements. Additional drainage improvements, detention, easements, or fees may be required when the replat increases runoff or changes the approved drainage plan.

2.5.4 Amending Plat

An Amending Plat is intended to correct an error or make a limited change to a previously approved or recorded plat without materially altering the approved development or drainage plan.

A drainage certification letter shall accompany the plat application. The letter shall be prepared by the project engineer and shall state whether the proposed amendment changes lot grading, drainage areas, impervious cover, drainage easements, points of discharge, floodplain limits, or public or private drainage infrastructure.

A revised Drainage Report shall be required if the proposed amendment changes any approved drainage condition or may affect upstream, downstream, or adjacent properties.

2.5.5 Master Development Plan

A Master Development Plan is a conceptual, long-range plan that establishes the overall arrangement and anticipated phasing of a residential, commercial, industrial, institutional, or mixed-use development.

A master Drainage Report shall be submitted with the Master Development Plan. The report shall evaluate the entire development area under ultimate development conditions and establish the overall drainage concept, including major drainage areas, receiving systems, points of discharge, detention strategy, regional facility participation, floodplain limits, major channels, trunk storm drains, drainage easements, overflow pathways, and phased improvements.

The master Drainage Report shall be updated when development density, land use, grading, drainage boundaries, discharge locations, infrastructure, floodplain information, or applicable design criteria change. When the report is referenced by a subsequent plat, the plat submittal shall identify the applicable portions of the master Drainage Report and include an exhibit showing the plat area and development phase relative to the overall Master Development Plan.

Reliance on a master Drainage Report shall not eliminate the requirement for detailed calculations and construction plans for each plat or development phase.

2.5.6 Planned Unit Development

A Planned Unit Development shall comply with all stormwater management requirements of this Manual regardless of whether its streets and drainage facilities are proposed for public or private ownership.

A Drainage Report shall be submitted for the entire Planned Unit Development. The report shall address the overall drainage concept, ultimate development conditions, proposed public and private drainage facilities, detention requirements, overflow pathways, drainage easements, and long-term maintenance responsibilities.

Private streets and private drainage facilities shall be designed to provide hydraulic performance and emergency overflow protection equivalent to the applicable City standards. Approval of a private drainage system shall not transfer maintenance responsibility to the City.

2.5.7 Private Street or Enclave Development

A subdivision or development served by private streets shall provide stormwater facilities meeting the applicable hydraulic and safety requirements for public infrastructure unless otherwise approved by the City Engineer.

A Drainage Report shall be required and shall address street drainage capacity, inlet and storm-drain design, roadside or internal drainage systems, positive overflow pathways, detention requirements, emergency access, drainage easements, and the point at which the private system connects to a public or natural drainage system.

The plat and associated property documents shall clearly identify ownership and maintenance responsibilities for all private streets and drainage facilities. A recorded maintenance agreement acceptable to the City shall be required before final acceptance or recording of the plat.

2.5.8 Master-Planned Community

A master-planned community shall be evaluated under the Master Development Plan requirements of Section 2.5.5. Streets within the development may be public or private, but all stormwater facilities shall comply with this Manual.

A master Drainage Report shall be required for the entire community. The report shall establish a coordinated drainage system for all phases and shall prevent individual phases from transferring unresolved drainage impacts to future phases, adjoining properties, or public facilities.

Each subsequent plat or phase shall demonstrate consistency with the approved master Drainage Report and identify any changes in land use, impervious cover, drainage boundaries, detention, discharge location, or infrastructure.

2.5.9 Development Phasing Plan

When a development will be constructed in multiple phases, a Development Phasing Plan shall be submitted as part of the master Drainage Report. The plan shall identify the sequence and timing of drainage improvements necessary to serve each phase.

Each phase shall function as a hydraulically complete and independent development unless temporary facilities are specifically approved by the City Engineer. Required downstream conveyance facilities, detention facilities, emergency spillways, overflow pathways, erosion protection, and drainage easements shall be constructed before or concurrently with the phase that depends upon them.

Temporary drainage facilities shall be identified in the construction plans and shall include provisions for operation, maintenance, removal, and replacement by permanent facilities.

2.5.10 Infill Development

Infill development shall comply with the stormwater management requirements of this Manual. The drainage submittal shall document existing site conditions, existing impervious cover, proposed impervious cover, existing and proposed drainage patterns, off-site drainage entering the property, discharge locations, and available downstream capacity.

The City Engineer may authorize a reduced Drainage Report for a small infill development when the project does not alter a floodplain or natural watercourse, does not require new drainage infrastructure, does not redirect runoff, and does not create an adverse drainage impact.

Infill status shall not exempt a project from providing positive drainage, accepting off-site runoff, protecting adjacent properties, preserving required drainage easements, or complying with applicable detention and floodplain requirements.

2.5.11 Special Planning or Redevelopment District

Development located within a special planning, reinvestment, historic, downtown, or redevelopment district established by the City shall comply with the stormwater requirements of this Manual unless a specific alternative standard has been adopted by ordinance.

A Drainage Report shall be required when development increases impervious cover, changes site grading or drainage patterns, modifies a point of discharge, affects a drainage easement or floodplain, or requires new or modified drainage infrastructure.

Any waiver or reduction of development fees authorized for a special district shall not constitute a waiver of drainage analysis, detention, conveyance, floodplain protection, or no-adverse-impact requirements.

2.5.12 Redevelopment Projects

A redevelopment project shall comply with the stormwater management requirements of this Manual. A Drainage Report shall be submitted when redevelopment changes land use, grading, impervious cover, drainage patterns, points of discharge, floodplain conditions, or drainage infrastructure.

Existing impervious cover may be recognized when it is lawful, documented, and directly associated with the existing development. The analysis shall compare proposed conditions with the applicable existing-condition criteria established by this Manual and shall demonstrate that redevelopment will not increase peak discharges or create adverse drainage impacts.

Existing stormwater facilities may be incorporated into the proposed design only when the engineer demonstrates that they have adequate structural condition, hydraulic capacity, positive overflow protection, and legal access for continued operation and maintenance. Deficient facilities shall be replaced, rehabilitated, or supplemented as required by the City Engineer.

2.6 Drainage Plan Submittals

All development applications must include **Preliminary and Final Drainage Plans** prepared and sealed by a **Texas Licensed Professional Engineer** experienced in hydrology and hydraulics.

Preliminary Drainage Plan – submitted with the preliminary plat:

- Conceptual layout of drainage areas and proposed facilities
- Flow paths and discharge points
- Existing topography and proposed grading
- Initial sizing of conveyance systems and detention requirements

Final Drainage Plan – submitted with the final plat or construction plans:

- Full hydrologic and hydraulic computations (HEC-HMS, HEC-RAS, or Rational Method)
- Storm drain and open channel profiles with hydraulic grade line (HGL) analysis
- Detailed plan sheets for inlets, manholes, detention ponds, spillways, and outfalls
- Certification of compliance with City standards and TCEQ TPDES permitting

Drainage plans shall be reviewed by the **City Engineer** or designee and approved prior to construction.

2.7 Drainage System Classifications

2.7.1 Major Drainage Systems

Major drainage systems convey floodwater from large watershed areas and must safely carry the 100-year storm event within dedicated rights-of-way or easements.

Major systems include:

- Natural or improved channels
- Regional detention reservoirs
- Bridges and culverts
- Roadway overflow sections or swales
- Storm drains serving sump areas

2.7.2 Minor Drainage Systems

Minor drainage systems convey frequent flows from local catchments, streets, and developed surfaces during the **25-year design storm**.

Minor systems consist of:

- Storm drain pipes, inlets, and laterals
- Roadside ditches and driveway culverts
- Street gutters and alleys

Minor systems must be designed to prevent flooding of streets or property and to discharge into a designated major system or outfall.

2.8 Floodplain Development

All developments located within a FEMA mapped Special Flood Hazard Area (SFHA), regulatory floodway, or other identified flood-prone area shall comply with the City Floodplain Management Ordinance and National Flood Insurance Program (NFIP) requirements.

Any project that alters floodplain storage, conveyance, channel geometry, bridge opening, culvert capacity, or base flood elevations shall submit supporting hydrologic and hydraulic analyses prepared by a Texas Licensed Professional Engineer.

Developments shall not increase base flood elevations, floodway velocities, flood hazards, or flood risk to adjacent properties.

Where required by the City Floodplain Administrator, the developer shall obtain and fully fund any applicable FEMA submittals including:

- No-Rise Certification
- Conditional Letter of Map Revision (CLOMR)
- Letter of Map Revision (LOMR)
- Letter of Map Amendment (LOMA), if applicable

No final acceptance shall occur until required FEMA actions are complete.

2.9 Drainage Structure Aesthetics

Drainage design must consider **aesthetics and community character** in addition to hydraulic function.

Where feasible:

- Preserve and enhance **natural waterways** as greenbelts
 - Integrate **LID** features (bio-swales, vegetated buffers, detention wetlands)
 - Use natural stone, textured concrete, or vegetated slopes to blend with surroundings
- The City may require **landscape restoration or buffer planting** for visible channels and detention ponds.

2.10 Drainage Design Computations

All stormwater computations must be:

- Based on **ultimate watershed conditions** using **Atlas 14 rainfall data** for Maverick County
- Prepared using approved hydrologic and hydraulic software (HEC-HMS, HEC-RAS, FlowMaster, or equivalent FEMA-approved models)
- Sealed and signed by a **Texas Licensed Professional Engineer**

Design sheets shall summarize:

- Time of concentration paths
- Peak discharges for multiple storm frequencies
- Hydraulic grade lines
- Pipe sizes, velocities, and slopes
- Detention basin routing and stage-storage relationships

2.11 Construction of Drainage Facilities

Construction must minimize erosion, sedimentation, and pollutant discharge in compliance with **TCEQ TPDES Construction General Permit TXR150000**.

Contractors shall implement appropriate **Best Management Practices (BMPs)** and **Stormwater Pollution Prevention Plans (SWPPP)** during all construction phases. Tree preservation, slope stabilization, and revegetation are strongly encouraged to maintain drainage function and water quality.

2.12 Maintenance of Drainage Facilities

Drainage facilities dedicated to and formally accepted by the City shall be maintained by the City of Eagle Pass.

Privately owned drainage facilities, including detention ponds, retention basins, private storm drains, swales, and associated appurtenances, shall be maintained by the property owner, developer, HOA, or responsible entity.

Private facilities require a recorded maintenance agreement acceptable to the City. Failure to maintain private facilities may result in enforcement action by the City.

2.13 Drainage Plan Requirements

The **Drainage Plan** shall include all maps, profiles, computations, and design documentation necessary for City review, following the same standards detailed in the City of Eagle Pass manual.

This includes:

- Drainage area maps
- Plan and profile sheets for storm drains and channels
- Bridge and culvert design details
- Environmental impact summary and permitting documentation
- Detention/retention basin design and emergency spillway analysis
- Levee and interior drainage details if applicable

2.14 Erosion Hazard Setback Regulation

An **Erosion Hazard Setback Zone (EHSZ)** shall be established along all natural streambanks to minimize structural loss from erosion:

1. Locate the **toe of the natural bank**.
2. Project a line upward at a **4H:1V slope** until it meets natural ground.
3. Extend **15 ft** horizontally from this intersection away from the stream to define the setback.

For rocky or cemented banks, a **3H:1V slope** may be used with approval by a licensed geotechnical engineer.

No permanent structures may be built within the erosion hazard setback without City Engineer approval.

The Erosion Hazard Setback Zone (EHSZ) may be modified when supported by a geotechnical analysis, hydraulic analysis, bank stabilization design, or other engineering study acceptable to the City Engineer.

3.0 DETERMINATION OF DESIGN DISCHARGE

3.1 General

The purpose of this section is to establish the overall framework for determining design discharges to be used in the planning, analysis, and design of stormwater infrastructure within the City of Eagle Pass. Design discharges shall be based on accepted hydrologic and hydraulic engineering methods using the rainfall criteria, watershed conditions, and computational procedures contained in the City of Eagle Pass Stormwater Design Criteria Manual.

Because stormwater facilities serve different functions and are subject to varying levels of risk, the required design storm frequency, hydraulic performance criteria, freeboard, allowable encroachment, overflow routing, storage requirements, and other design parameters shall vary by facility type. Accordingly, detailed design criteria are provided within the individual sections applicable to each drainage element.

3.2 Applicability by Facility Type

The engineer shall refer to the respective sections of the City of Eagle Pass Stormwater Design Criteria Manual for the specific design discharge requirements and criteria applicable to the proposed improvement. These include, but are not limited to, the following:

- **Section 6 Street Flow:** allowable spread, gutter flow, roadway encroachment, and major storm overflow routing.
- **Section 7 Inlet Design:** inlet interception capacity, spacing, sag conditions, and clogging considerations.
- **Section 8 Storm Drain Design:** pipe system design flows, hydraulic grade line analysis, surcharge limits, velocities, and outfall requirements.
- **Section 9 Open Channel Design:** channel conveyance capacity, freeboard, side slopes, velocity limits, shear stress, and lining requirements.
- **Section 10 Detention and Retention Facilities:** required storage volume, allowable release rates, outlet structure sizing, emergency spillways, and drainage time requirements.
- **Section 11 Culvert Design:** design storm frequency, headwater limitations, inlet and outlet control, barrel capacity, and outlet protection.
- **Section 12 Bridges and Crossings:** bridge opening capacity, backwater limitations, scour protection, debris clearance, and freeboard requirements.
- **Section 13 Erosion and Sediment Control:** temporary and permanent stabilization measures, allowable velocities, and sediment control requirements.

3.3 Hydrologic Basis of Design

All design discharges shall be determined using the hydrologic procedures contained in Section 5 of the City of Eagle Pass Stormwater Design Criteria Manual. Methods may include the Rational Method, Modified Rational Method where approved, unit hydrograph procedures, detention routing, or other methods approved by the City Engineer. Rainfall data shall be based on NOAA Atlas 14 criteria as provided in Section 4.

3.4 Existing and Ultimate Conditions

Unless otherwise approved by the City Engineer, drainage analyses shall consider existing downstream constraints and ultimate upstream watershed development conditions where such future development may reasonably affect the proposed system.

3.5 Engineer Responsibility

The design engineer shall be responsible for selecting the appropriate design methodology, storm frequency, and analysis limits based on the proposed facility type and the requirements of the applicable section of the City of Eagle Pass Stormwater Design Criteria Manual. Where unusual conditions exist, the City Engineer may require additional analyses or more stringent criteria to protect public safety and adjacent property.

4.0 DESIGN RAINFALL

4.1 Rainfall Intensity–Duration–Frequency

Design rainfall intensities shall be based on **NOAA Atlas 14, Volume 11**, precipitation-frequency data for **Maverick County, Texas**.

The **City of Eagle Pass** shall use the following equation to compute rainfall intensity:

$$I = \frac{b}{(T_d + d)^e}$$

Equation 4-1

Where:

- I = Rainfall intensity (in/hr)
- T_d = Rainfall duration (minutes)
- b, d, e = Coefficients from Table 4-1

Table 4-1 Rainfall IDF Equation Coefficients (City of Eagle Pass – Atlas 14)

Return Period (years)	b	d	e
2	79.6540	14.1321	0.8577
5	105.9990	14.8039	0.8570
10	127.8018	15.4138	0.8525
25	158.3243	16.2285	0.8455

In September 2018, the National Oceanic and Atmospheric Administration (NOAA) released updated precipitation frequency estimates for Texas. These estimates are available through NOAA’s Precipitation Frequency Data Server.

(PFDS) website and the report documenting the approach is also available at the same website – NOAA Atlas 14, Volume 11: Precipitation-Frequency Atlas of the United States. This new rainfall data is considered best available data and should be used for all projects. Tabular IDF data are available from the PFDS, but linear interpolation or curve generation is needed to obtain intensity values between tabular durations. Ongoing TxDOT research will produce future e, b, d coefficients to better automate intensity calculations. However, barring significant project implementation concerns, Atlas 14 IDF data should be used. Exceptions must be approved by the DHE or DES HYD and noted on the plans or drainage report.

Currently, the coefficients in Equation 4-1 can be found in the EBDLKUP-019vc6.2.10.xlsx spreadsheet lookup tool (developed by Cleveland et al. 2015) for specific frequencies listed by county. This spreadsheet is based on prior rainfall frequency-duration data contained in the Atlas of Depth-Duration Frequency (DDF) of Precipitation of Annual Maxima for Texas (TxDOT 5-1301-01-1).

4.2 Rainfall Depth-Duration-Frequency

For the Design Rainfall, a twenty-four (24) hour rainfall distribution shall be applied for hydrograph based runoff calculations. Rainfall intensities as adopted for the City of Eagle Pass are given in Table 4-2.

Table 4-2 Design Rainfall Values (inches)

Duration	2-year	5-year	10-year	25-year	50-year	100-year
5 min	0.540	0.702	0.845	1.05	1.22	1.40
10 min	0.855	1.11	1.34	1.67	1.95	2.24
15 min	1.09	1.42	1.70	2.11	2.45	2.80
30 min	1.57	2.02	2.42	3.00	3.46	3.94
1 hr	2.04	2.65	3.19	3.97	4.61	5.29
2 hr	2.44	3.24	3.98	5.08	6.04	7.08
3 hr	2.66	3.56	4.44	5.77	6.94	8.26
6 hr	3.02	4.08	5.14	6.79	8.29	10.0
12 hr	3.37	4.50	5.67	7.52	9.23	11.2
24 hr	3.73	4.93	6.19	8.20	10.1	12.3

4.3 Probable Maximum Precipitation (PMP)

The **Probable Maximum Precipitation (PMP)** for Maverick County shall be estimated using **Hydrometeorological Report (HMR) Nos. 51 and 52**.

The PMP represents the theoretical maximum precipitation for a given area and duration under modern meteorological conditions. PMP data shall be obtained using **USACE HMR52 software**, distributing rainfall across sub-basins for reservoir and dam safety studies.

Storm centers shall be positioned at the basin centroid and shifted incrementally (0.1 mi) to identify the **critical PMP location** producing the greatest average rainfall.

4.4 Rainfall Loss Rates

Effective design rainfall equals total rainfall minus initial losses due to interception, infiltration, and depression storage.

Loss rates depend on the method used for flow computation:

- **Rational Method** losses represented by the runoff coefficient I.
- **Unit Hydrograph Methods (SCS or Snyder)** losses represented by:
 - **Initial and constant loss rate**
 - **SCS Curve Number** method.

The SCS method shall use curve numbers corresponding to **ultimate land-use conditions**, adjusted for local **soil hydrologic groups (A–D)** per the **NRCS Soil Survey for Maverick County**.

5.0 HYDROLOGIC COMPUTATION METHODS

5.1 General

Hydrologic computations transform rainfall into runoff for the purpose of designing stormwater facilities such as storm drains, culverts, detention basins, and channels.

This section establishes the acceptable procedures and parameters for calculating design discharges within the **City of Eagle Pass** and its **ETJ**.

All hydrologic analyses shall:

- Be based on **fully developed** watershed conditions.
- Use **Atlas 14 rainfall data for Maverick County** in Section 4.0.
- Be performed by a **Texas Licensed Professional Engineer** experienced in hydrology and hydraulics.
- Hydrologic analyses shall generally include the 5-year, 25-year, and 100-year storm events unless otherwise approved by the City Engineer.
- Use methods and computer programs approved by the **City Engineer**.

For channels, floodplains, and large drainage areas, **HEC-HMS** or **HEC-RAS** shall be used for hydrologic and hydraulic modeling.

For smaller areas (<200 acres), the **Rational Method** is required.

5.2 Downstream Hydrologic Assessment

The purpose of downstream assessment is to prevent adverse impacts on existing systems and properties.

Each project must demonstrate that:

- **Post-development peak discharge** does not exceed **pre-development peak discharge** for the same storm frequency.
- The **volume and timing** of runoff do not increase flooding downstream.
- Detention or flow control structures are properly located and sized according to **hydrograph timing** and **watershed influence**.

5.3 Rational Method

The **Rational Method** is required for areas up to **200 acres** and provides a simple but reliable means of estimating peak discharge for urbanized basins.

$$Q = C I A$$

Equation 5-1

Where:

Q = Peak discharge (cfs)

C = Runoff coefficient (dimensionless)

I = Rainfall intensity (in/hr) during the time of concentration for the selected return period

A = Drainage area (acres)

5.3.1 Runoff Coefficient

Runoff coefficients represent the fraction of rainfall that becomes runoff and shall be selected from **Table 5-1** for fully developed (ultimate) land use conditions.

Table 5-1 Runoff Coefficients (C value) – City of Eagle Pass

Character of Area	Up to 1%	Over 1% up to 3%	Over 3% up to 5%	Over 5%
Business or commercial areas (90% or more impervious), Existing Pavement / Buildings or Zoning Districts O, C, I-1, I-2	95	96	97	97
Densely developed areas (80% to 90% impervious) or Zoning Districts D, MX, NC, TOD, Use Pattern TND	85	88	91	95
Closely built residential areas and school sites or Zoning Districts MF, R-4	75	77	80	84
Undeveloped areas* – Present land is undeveloped, and ultimate land use is unknown. C values for use in ultimate development calculations.	68	70	72	75
Large lot residential area or Zoning Districts R20, RE	55	57	62	64
Undeveloped areas* – Existing conditions.	-	-	-	-
Average residential area or Zoning Districts R-5, R-6	65	67	69	72

Cultivated or Range (Grass Cover < 50% of Area)	44	47	53	55
Range (Grass Cover 50–75% of Area)	37	41	49	53
Forest or Range (Grass Cover > 75% of Area)	35	39	47	52

When a drainage area includes multiple land uses, calculate a **weighted runoff coefficient**:

$$C_{\omega} = \frac{\sum(A_i C_i)}{\sum A_i}$$

Equation 5-2

Where A_i and C_i are the area (acres) and coefficient for each sub-area.

5.3.2 Time of Concentration (Tc)

The time of concentration shall be defined as the travel time from the hydraulically most distant point of the drainage area to the design point. TR-55 “Urban Hydrology for Small Watersheds,” SCS 1986 may be used, please consider the maximum and minimum allowable time when defining overland flow length (L).

$$T_c = T_o + T_s + T_h$$

Equation 5-3

Where:

T_o = Overland flow time (min)

T_s = Shallow concentrated flow time (min)

T_h = Channelized flow to inlet (min)

Overland Flow

Sheet flow shall be limited to a maximum length of **100 feet**. Flow paths exceeding 100 feet shall be analyzed as shallow concentrated flow or channelized flow for the remaining distance. Maximum allowable time is twenty (20) minutes. Minimum is five (5) minutes.

$$T_o = 0.007 \left(\frac{n L^{0.8}}{R^{0.5} S^{0.4}} \right)$$

Equation 5-4

Where:

n = Manning's coefficient for sheet flow (see Table 5-2)

L = Flow length (ft)

R = 3.73 in (2-year, 24-hr rainfall depth (in))

S = Slope (ft/ft)

Table 5-2 Roughness Values for Overland Flow

Surface Description	n
Smooth surface (concrete, asphalt, gravel or baresoil)	0.011
Cultivated soils:	
Residue cover < 20%	0.06
Residue cover ≥ 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.40
Dense underbrush	0.80

Shallow Concentrated Flow

$$V_s = K S^{0.5}$$

Equation 5-5

Where:

V_s = Flow velocity (ft/s)

K = 16.1 (unpaved), 20.3 (paved)

S = Slope (ft/ft)

$$T_s = \frac{L}{60 V_s}$$

Equation 5-6

Channelized Flow

$$T_h = \frac{L}{60 V_h}$$

Equation 5-7

Where:

V_h = Velocity using Manning's Equation for open channel or conduit flow.

Channel flow velocities shall be determined using existing hydraulic models where available or Manning's Equation. For ultimate development hydrologic analyses, a minimum channel velocity of 6 fps may be used when estimating time of concentration in non-floodplain channels.

5.3.3 Modified Rational Method

For small developments and detention facilities where approved by the City Engineer, the Modified Rational Method may be used to estimate runoff volume and required detention storage.

This method applies to the Rational Method peak discharge relationship over varying storm durations to estimate hydrograph volume.

Use of the Modified Rational Method is generally limited to drainage areas of approximately 20 acres or less unless otherwise approved.

All assumptions, rainfall durations, runoff coefficients, and storage calculations shall be clearly documented.

5.4 Unit Hydrograph Methods

For drainage basins **larger than 200 acres**, use the **SCS (NRCS)** or **Snyder Unit Hydrograph** methods to convert rainfall excess into runoff hydrographs. Acceptable hydrologic models are HEC-HMS or FEMA approved models.

5.4.1 Snyder Unit Hydrograph

$$t_p = C_t \left(\frac{L L_h}{S^{0.5}} \right)^{0.33}$$

Equation 5-9

$$Q_p = C_p \frac{640 A}{t_p}$$

Equation 5-10

Where:

t_p = Lag time (hours)

C_t = Regional coefficient (use 1.3 for Eagle Pass)

C_p = Peaking coefficient (use 0.72)

L = Main channel length (miles)

L_c = Distance from basin outlet to centroid (miles)

S = Main channel slope (ft/ft)

A = Drainage area (mi²)

5.4.2 SCS (NRCS) Unit Hydrograph Method

The NRCS method is recommended for **detention pond routing, floodplain modeling, and watershed master planning.**

$$Q_p = \frac{484 A P_e}{T_p}$$

Equation 5-11

Where:

Q_p = Peak discharge (cfs)

A = Drainage area (mi²)

P_e = Effective rainfall (in)

T_p = Time to peak (hr)

The **time to peak** is computed as:

$$T_p = 0.6T_h + 0.5D$$

Equation 5-12

Where D = duration of rainfall (hr).

5.4.3 Runoff Curve Number (CN)

The CN method accounts for infiltration and land use.

Use **Table 5-4** for typical curve numbers applicable to **Eagle Pass soil groups (A–D).**

Table 5-4 Representative NRCS Curve Numbers (City of Eagle Pass)

Cover Description: Hydrologic condition / average percent impervious area	A	B	C	D
Cultivated land				
without conservation treatment	72	81	88	91
with conservation treatment	62	71	78	81
Pasture or range land				
poor condition	68	79	86	89
good condition	39	61	74	80
Meadow				
good condition	30	58	71	78
Wood or forest land				
thin stand, poor cover	45	66	77	83
good cover	30	55	70	77
Open space (lawns, parks, golf courses, cemeteries, etc.)				
Poor condition (grass cover <50%)	68	79	86	89
Fair condition (grass cover 50% to 75%)	49	69	79	84
Good condition (grass cover >75%)	39	61	74	80
Impervious areas				
Paved parking lots, roofs, driveways	98	98	98	98
Streets and roads				
Paved; curbs and storm drains	98	98	98	98
Paved; open ditches (including right-of-way)	83	89	92	93
Gravel (including right-of-way)	76	85	89	91
Dirt (including right-of-way)	72	82	87	89
Urban districts				
Commercial and business (85%)	89	92	94	95
Industrial (72%)	81	88	91	93
Residential districts by average lot size				
1/8 acre or less (town houses) (65%)	77	85	90	92
1/4 acre (38%)	61	75	83	87
1/3 acre (30%)	57	72	81	86
1/2 acre (25%)	54	70	80	85
1 acre (20%)	51	68	79	84
2 acres (12%)	46	65	77	82
Developing urban / newly graded areas (pervious areas only, no vegetation)	77	86	91	94

5.4.4 Weighted Curve Number

If multiple land uses exist:

$$CN_{\omega} = \frac{\sum A_i C N_i}{\sum A_i}$$

Equation 5-13

5.5 Hydrologic Computer Programs

Approved software for hydrologic computations includes:

- **HEC-HMS (v4.12 or newer)** — primary hydrologic model
- **HEC-RAS** — for routing and unsteady flow analysis
- **FlowMaster, CulvertMaster, StormCAD, or PondPack** — for design checks
- **TR-55 or WinTR-55** — for simplified hydrograph generation

All submitted models must include:

- **Digital input/output files (.hms, .ras, .xml, etc.)**
- **Watershed maps, Tc flow paths, and cross-sections**
- **Tabulated summary of peak flows shall generally include the 5-year, 25-year, and 100-year storm events unless otherwise approved by the City Engineer.**
- **Routing results for detention and outlet control**

Hydrologic models shall be reviewed by the **City Engineer** for compliance with local conditions and parameter selection.

5.6 Documentation and Submittal

Each drainage report shall include:

1. Methodology summary and assumptions.
2. Time of concentration calculations and flow path maps.
3. Rainfall data (Atlas 14 tables used).
4. Hydrograph plots and stage discharge relationships.
5. Existing and proposed conditions drainage area map.
6. Comparison of pre-development and post-development discharges.
7. Detention basin routing and HGL analyses.
8. Digital model files for verification.

6.0 STREET FLOW

6.1 Introduction

The street system is an integral component of the City of Eagle Pass drainage system and is intended to function as both a transportation facility and a stormwater conveyance system. Streets may be utilized to convey stormwater runoff when the capacity of the underground storm drain system is exceeded.

Street drainage systems shall be designed to safely convey runoff from both the minor and major storm events while maintaining public safety, minimizing disruption to traffic, and preventing damage to public and private property. Street flow calculations shall be performed using Manning's Equation and procedures contained in the latest edition of FHWA Hydraulic Engineering Circular No. 22 (HEC-22).

The use of public streets as components of the major drainage system is acceptable provided that runoff remains within the public right-of-way and does not result in structural flooding.

6.2 Design Guidelines

6.2.1 Design Frequency and Spread

Streets draining a watershed greater than one hundred (100) acres shall be designed using the one hundred (100) year design storm event. Street widths shall not be increased beyond the roadway width established by the applicable street classification solely to accommodate stormwater runoff. Pavement widths, longitudinal street grades, and pavement cross slopes shall conform to the latest City of Eagle Pass roadway design standards and applicable transportation design criteria.

6.2.1.1 Street Classification – Primary and Secondary Arterial Streets

A Primary or Secondary Arterial Street is a street designated on the current Thoroughfare Plan of the City of Eagle Pass. One (1) lane in each direction on an arterial street shall remain passable with a flow depth not to exceed 0.30 feet in the passable lane during the twenty-five (25) year design storm event or the one hundred (100) year design storm event when the street drains a watershed greater than one hundred (100) acres.

The maximum depth of water within the street section shall not exceed seven (7) inches, corresponding to the height of a standard curb.

6.2.1.2 Street Classification – Collector Streets and Local “B” Streets

Collector Streets and Local "B" Streets are intended to convey traffic between residential areas and the arterial roadway system. During the twenty-five (25) year design storm event,

stormwater runoff may encroach into the pavement section provided that one lane of traffic remains passable.

The maximum depth of water within the passable lane shall not exceed 0.30 feet. The maximum depth of water within the street section shall not exceed seven (7) inches.

6.2.1.3 Street Classification – Local “A” Streets

Local "A" Streets are low-volume residential streets intended primarily to provide access to adjacent properties. During the twenty-five (25) year design storm event, stormwater runoff may spread to the crown of the roadway.

The maximum depth of water within the street section shall not exceed seven (7) inches. Flow during the one hundred (100) year design storm event shall remain within the public right-of-way and shall not result in structural flooding.

6.2.1.4 Street Classification – Alley

Alleys may be utilized as stormwater conveyance facilities when approved by the City Engineer. The maximum depth of flow within an alley during the twenty-five (25) year design storm event shall not exceed six (6) inches.

Flow shall remain within the alley section and shall not create flooding conditions on adjacent private property.

6.2.1.5 Street Classification – Traditional Street Design

Traditional street designs shall conform to the storm frequency requirements of the standard street classifications listed above as follows:

- Trails, Alleys, and Lanes shall utilize the Alley design criteria.
- Local Streets or Avenues shall utilize the Local "A" Street design criteria.
- Main Streets shall utilize the Local "A", Local "B", or Collector Street design criteria depending on pavement width and roadway function. Local "A" Street criteria shall be used where pavement width is less than thirty-four (34) feet.
- Boulevards and Parkways shall utilize the Primary and Secondary Arterial Street design criteria.
- County-type roadway sections without curbs and utilizing roadside ditches shall be designed to contain the twenty-five (25) year design storm event within the public right-of-way.

6.2.2 Street Capacity

Streets may be utilized for stormwater conveyance only when the calculated runoff does not exceed the maximum allowable flow depth and velocity established for the applicable street classification.

Where streets are not capable of conveying the required design discharge, inlets, curb openings, or storm drain facilities shall be provided. These facilities shall discharge to an approved storm drain system, drainage channel, detention facility, or other approved drainage conveyance system. Partial bypass of upstream inlets may be permitted when the cumulative capacity of the downstream drainage system is sufficient to safely convey the design discharge.

The design criteria for inlets and storm drain systems are presented in Chapters 7 and 8 of this Manual.

Curb cuts associated with driveways shall be designed to maintain the stormwater conveyance function of streets. The design storm runoff shall remain within the public right-of-way. Consideration shall be given to cross streets, driveway approaches, and other roadway features that may influence drainage patterns.

Where dwelling units are located on the downhill side of a T-intersection, cul-de-sac, knuckle, or other roadway configuration receiving street runoff, the roadway shall be graded to prevent water from overtopping the curb and leaving the public right-of-way. Hydraulic calculations shall be provided demonstrating that the design discharge remains within the street section.

No flow capacity tables are provided for traditional street sections due to the variety of geometric characteristics associated with these roadway types. When proposing traditional street designs, project-specific hydraulic calculations shall be submitted for review and approval by the City Engineer.

Table 6-1 Manning's Roughness Coefficient

Pavement Description	Manning's "n" Value
Concrete Pavement (Wood Float Surface Finish)	0.015
Asphalt Pavement	0.018

Longitudinal Slope	Marginal Street 27' Pavement Width		Minor Street 31' Pavement Width		Collector Street 39' Pavement Width		Arterial Street 27' Width per Roadway	
	wp=28.17 ft, A=12.02 sf, r=0.43		wp=32.17 ft, A=13.18 sf, r=0.41		wp=40.17 ft, A=15.02 sf, r=0.37		wp=28.17 ft, A=12.02 sf, r=0.43	
Slope	Q (cfs)	Vel. (fps)	Q (cfs)	Vel. (fps)	Q (cfs)	Vel. (fps)	Q (cfs)	Vel. (fps)
0.40%	35.65	2.97	38.04	2.89	40.79	2.72	35.65	2.97
0.45%	37.81	3.15	40.35	3.06	43.27	2.88	37.81	3.15
0.50%	39.85	3.32	42.53	3.23	45.61	3.04	39.85	3.32
0.55%	41.80	3.48	44.61	3.39	47.83	3.19	41.80	3.48
0.60%	43.66	3.63	46.59	3.54	49.96	3.33	43.66	3.63
0.65%	45.44	3.78	48.49	3.68	52.00	3.46	45.44	3.78
0.70%	47.15	3.92	50.32	3.82	53.96	3.59	47.15	3.92
0.75%	48.81	4.06	52.09	3.95	55.86	3.72	48.81	4.06
0.80%	50.41	4.20	53.80	4.08	57.69	3.84	50.41	4.20
0.85%	51.96	4.32	55.46	4.21	59.46	3.96	51.96	4.32
0.90%	53.47	4.45	57.06	4.33	61.19	4.08	53.47	4.45
0.95%	54.93	4.57	58.63	4.45	62.86	4.19	54.93	4.57
1.00%	56.36	4.69	60.15	4.57	64.50	4.30	56.36	4.69
1.50%	69.03	5.75	73.67	5.59	78.99	5.26	69.03	5.75
2.00%	79.71	6.63	85.06	6.46	91.21	6.07	79.71	6.63
2.50%	89.11	7.42	95.10	7.22	101.98	6.79	89.11	7.42
3.00%	97.62	8.12	104.18	7.91	111.71	7.44	97.62	8.12
3.50%	105.44	8.78	112.53	8.54	120.66	8.04	105.44	8.78
4.00%	112.72	9.38	120.30	9.13	128.99	8.59	112.72	9.38
4.50%	119.56	9.95	127.60	9.68	136.82	9.11	119.56	9.95
5.00%	111.59	10.00	127.63	10.00	144.22	9.60	111.59	10.00
5.50%	103.68	10.00	118.61	10.00	148.47	10.00	103.68	10.00
6.00%	96.96	10.00	110.94	10.00	138.92	10.00	96.96	10.00
6.50%	91.17	10.00	104.34	10.00	130.69	10.00	91.17	10.00
7.00%	86.12	10.00	98.58	10.00	123.51	10.00	86.12	10.00
7.50%	81.68	10.00	93.52	10.00	117.19	10.00	81.68	10.00

8.00%	77.74	10.00	89.02	10.00	111.57	10.00	77.74	10.00
8.50%	74.22	10.00	84.99	10.00	106.54	10.00	74.22	10.00
9.00%	71.04	10.00	81.36	10.00	102.01	10.00	71.04	10.00
9.50%	68.17	10.00	78.08	10.00	97.91	10.00	68.17	10.00
10.00%	65.55	10.00	75.09	10.00	94.17	10.00	65.55	10.00

Figure 6-1 Storm Drainage, Flow Velocities & Capacities for Typical Conventional Street

6.2.3 High Velocity Flow

Street flow velocities shall be evaluated for all roadway drainage analyses. Excessive flow velocities may create hazardous conditions for motorists and pedestrians and may result in pavement deterioration or erosion.

The maximum allowable street flow velocity shall be ten (10) feet per second. Where calculated velocities exceed this limit, additional storm drain facilities, inlets, or alternative drainage improvements shall be provided.

6.2.4 Longitudinal Slope

Longitudinal slopes of a roadway are determined by its street classification as described in Sections 6.2.1. City of Eagle Pass Engineering Design Standards shall be used as the latest design standards.

6.2.4.1 Minimum

The minimum longitudinal street grade shall be 0.50 percent to provide positive drainage and prevent excessive ponding within the gutter section.

6.2.4.2 Maximum

The maximum longitudinal street grade shall comply with the City of Eagle Pass roadway design standards. Street drainage calculations shall demonstrate that runoff velocities remain within the allowable limits established by this Manual.

Where steep street grades result in flow velocities exceeding ten (10) feet per second, storm drain inlets or other drainage improvements shall be provided to intercept runoff and reduce street flow velocities.

6.2.5 Inverted Crown

Streets with inverted crowns may be acceptable when approved by the City Engineer.

Inverted crown street sections shall be designed to safely convey the applicable design storm runoff without creating hazardous traffic conditions or increasing flood risks to adjacent properties. The maximum depth of flow within an inverted crown street section shall not exceed seven (7) inches during the applicable design storm event.

Hydraulic calculations demonstrating compliance with the design criteria of this Manual shall be submitted for review and approval.

6.2.6 Flow in Sag – Vertical Curves

Sag vertical curves shall be designed to prevent excessive ponding and maintain safe roadway operation. A minimum of two inlets shall be provided at sag locations.

Ponding analyses shall be performed assuming one inlet is completely clogged. The resulting water surface elevation shall remain below adjacent finished floor elevations and shall not create hazardous traffic conditions.

6.2.7 Unflooded Public Road Access

Public roadways serving developed areas shall provide reasonable emergency access during major storm events. Where practical, at least one public access route shall remain passable during the one hundred (100) year design storm event.

When unflooded access cannot be provided, the design engineer shall demonstrate that no additional flood hazards are created and that emergency access can be reasonably maintained during storm events.

6.3 Adverse Impact

Minimum standards for identifying Dangerous Roadway conditions are identified in **Figure 6-2** below.

Note: The City of Eagle Pass contends that any runoff crossing a roadway creates a potentially dangerous condition. **Figure 6-2** represents the maximum flow depth over roadways that the City will accept in adverse impact analyses signed and sealed by the licensed professional engineers.

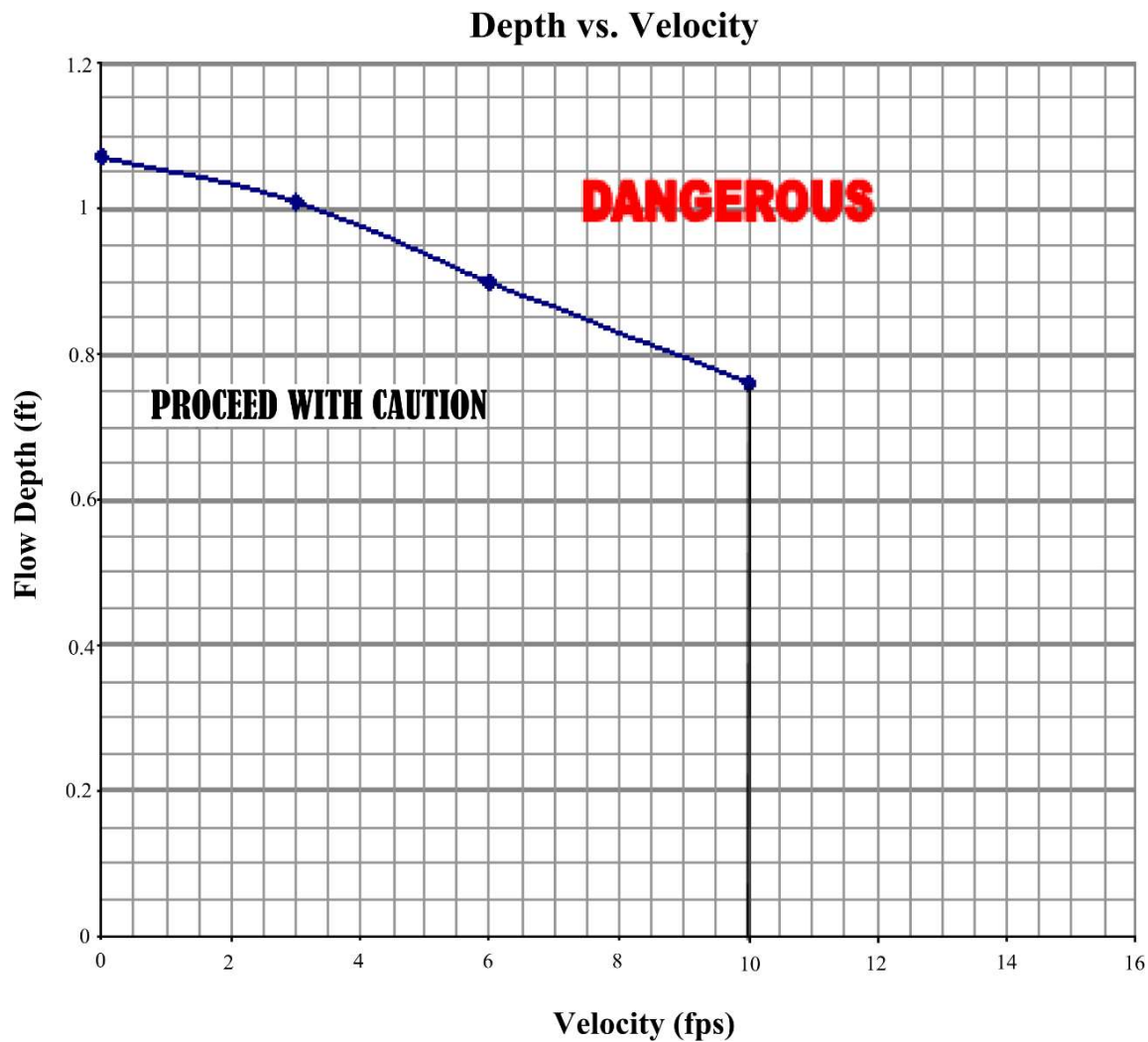


Figure 6-2 Roadway Flow Depth vs. Velocity

6.4 References

- FHWA Hydraulic Engineering Circular No. 22 (HEC-22), Urban Drainage Design Manual.
- TxDOT Hydraulic Design Manual.
- City of Eagle Pass Engineering Design Standards.
- NOAA Atlas 14 Precipitation Frequency Estimates for Maverick County, Texas.
- AASHTO Policy on Geometric Design of Highways and Streets.

7.0 INLET DESIGN

7.1 General

Storm drain inlets are a key part of the minor drainage system and serve to intercept surface runoff and convey it into underground storm drain pipes.

Proper design ensures that inlets maintain roadway serviceability, minimize ponding, and prevent localized flooding during design storm events.

Inlets design and spacing shall be in accordance with the **Hydraulic Design Manual of the Texas Department of Transportation, FHWA HEC-22 Urban Drainage Design Manual**, or other approved design procedures.

7.2 Inlet Types

The following inlet types are permitted within the **City of Eagle Pass**:

1. **Curb Opening Inlets** – typically used along curbed roadways and designed to intercept sheet flow from street gutters.
2. **Grate Inlets** – used in uncurbed areas, alleys, or sags; may be located within gutters or depressed sumps.
3. **Combination Inlets** – consist of both a curb opening and a grate inlet to improve efficiency at sags or intersections.
4. **Slotted Drain Inlets** – used where longitudinal space is limited, or on bridges or driveways.
5. **Median and Bridge Inlets** – must conform to **TxDOT Bridge Drainage Manual** requirements.

Inlets located at sag points must include **multiple units** or **overflow provisions** to maintain operation during partial blockage.

7.3 Design Criteria

7.3.1 Design Frequency

Street Classification / Condition	Design Storm Frequency
Arterial and Collector Streets	25-year storm
Local Residential Streets	25-year storm
Sag or Depressed Areas	25-year storm
Inlets Serving Sump Areas	Must prevent ponding above curb height

7.3.2 Manning's Roughness Coefficient

The hydraulic performance of gutter flow approaching inlets shall use $n = 0.016-0.017$, depending on pavement texture and maintenance conditions.

7.3.3 Allowable Spread

Inlet spacing must be designed so that the **allowable flow spread** (T) determined in Section 6.0 is not exceeded. When the spread exceeds the limits for the design storm, additional inlets must be added upstream.

7.4 Curb Opening Inlets

Curb inlets are the most common inlet type within the **City of Eagle Pass** and are hydraulically evaluated using the following formulas derived from **FHWA HEC-22 Urban Drainage Design Manual**.

7.4.1 On-Grade Curb Inlet Efficiency

For flow along a continuous grade, inlet efficiency (E) is the fraction of approaching flow captured by the inlet.

$$E = 1 - e(-K \frac{L}{Q^{0.42}})$$

Equation 7-1

Where:

E = Inlet efficiency (fraction)

K = Coefficient dependent on gutter slope and cross slope (from Table 7-1)

L = Inlet length (ft)

Q = Flow in gutter (cfs)

Table 7-1 Coefficient K for Curb Opening Inlets

Longitudinal Slope (S)	K
0.2%	0.35
0.5%	0.45
1.0%	0.50
2.0%	0.55

For typical City of Eagle Pass streets (0.3–0.7% slope), $K=0.45$ is recommended.

7.4.2 On-Grade Curb Inlet Intercepted Flow

$$Q_i = E Q$$

Equation 7-2

Where Q_i = flow intercepted (cfs).

The bypass flow is then:

$$Q_b = Q - Q_i$$

Equation 7-3

7.4.3 Sag Curb Inlet Capacity

At sags, curb inlets must pass the **100-year storm flow** with no ponding beyond the top of curb.

$$Q_i = C_w(L + 1.8W)y^{1.5}$$

Equation 7-4

Where:

Q_i = Inlet capacity (cfs)

C_w = Weir coefficient (3.0 for curb opening)

L = Total curb opening length (ft)

W = Width of flow path in front of inlet (ft)

y = Depth of flow at curb (ft)

When the inlet becomes submerged, flow behaves as an orifice:

$$Q_i = C_o A (2gy)^{0.5}$$

Equation 7-5

Where:

C_o = Orifice coefficient (0.67 typical)

A = Inlet throat area (ft²)

g = 32.2 ft/s²

7.4.4 Transition from Weir to Orifice Flow

The **transition point** occurs when the flow depth at the inlet throat equals **1.4 times the throat height**.

Below this point, weir flow dominates; above it, orifice flow controls.
Designers shall check both and use the smaller of the two values for capacity.

7.5 Grate Inlets

Grate inlets are often used in alleys, sags, or areas without curbs.
Grate efficiency depends on gutter flow velocity, grate length, and longitudinal slope.

7.5.1 On-Grade Grate Efficiency

$$E = 1 - e^{(-0.6 \frac{Ly^{1.8}}{Q})}$$

Equation 7-6

Where:

E = Inlet efficiency

L = Grate length (ft)

y = Depth of flow at curb (ft)

Q = Approach flow (cfs)

7.5.2 Sag Grate Inlet Capacity

At sag locations, grate inlets operate as a combination of weir and orifice flow.

Weir Flow:

$$Q_i = C_w P y^{1.5}$$

Equation 7-7

Orifice Flow:

$$Q_i = C_o A (2gy)^{0.5}$$

Equation 7-8

Where:

P = Perimeter of grate opening (ft)

C_w = Weir coefficient = 2.3

C_o = Orifice coefficient = 0.67

A = Grate opening area (ft²)

7.5.3 Clogging Factors

Grate inlets are subject to debris blockage.

The **City of Eagle Pass** requires all grate inlets to be designed assuming a **50% clogging factor**, consistent with **TxDOT** design practice.

$$Q_{effective} = 0.5 Q_i$$

Equation 7-9

Combination inlets (curb + grate) may use a **25% clogging reduction** when properly maintained.

7.6 Combination Inlets

Combination inlets improve interception in sags and high-debris locations. Total captured flow equals the sum of flows captured by each component:

$$Q_{total} = Q_{curb} + Q_{grate}$$

Equation 7-10

When located on grade, the grate typically captures the initial portion of flow while the curb opening captures bypassed runoff.

Combination inlets shall be placed:

- At all sag points
- Immediately upstream of pedestrian crossings and intersections
- At grade breaks on low slopes (< 0.4%)

Each sag shall include **at least two combination inlets** to ensure redundancy during clogging.

7.7 Slotted Drains

Slotted drains may be used in constrained locations such as:

- Bridge decks
- Driveways
- Medians
- Parking lots

Design flow capacity:

$$Q = C_w L_s y^{1.5}$$

Equation 7-11

Where:

L_s = Slot length (ft)

C_w = Weir coefficient (2.6 typical)

The slot width shall be **not less than 1.75 inches** and must comply with **ADA and TxDOT** requirements.

7.8 Design Checks

Each inlet design shall include:

- Summary of flow, spread, and capacity at each inlet
- Identification of sag inlets and redundancy provisions
- Tables showing upstream/downstream flow balance
- Clogging factor application
- Final plan sheet annotations with structure IDs and stationing

All calculations must be sealed by a **Texas Licensed Professional Engineer** and included in the **Drainage Report**.

8.0 STORM DRAIN DESIGN

8.1 General

This section establishes the requirements for the design, analysis, and construction of **storm drain systems** within the **City of Eagle Pass**.

Storm drains are designed to safely convey runoff from streets, inlets, and other collection points to an approved outfall without causing surface flooding, surcharging, or excessive velocities.

Design of storm drains shall comply with:

- **City of Eagle Pass Stormwater Ordinance**
- **TxDOT Hydraulic Design Manual**
- **TCEQ and EPA stormwater discharge regulations (TPDES)**
- **FEMA NFIP floodplain requirements**

The hydraulic design shall consider both **minor system (25-year)** and **major system (100-year)** conditions.

All storm drains shall be designed using sound hydraulic principles and must be sealed by a **Texas Licensed Professional Engineer**.

8.2 Design Storms

Storm drains shall be designed for the **25-year design storm**, using **Atlas 14 rainfall intensities for Maverick County**.

Systems in sump areas, underpasses, or critical facilities (e.g., emergency routes, hospitals, or schools) shall be checked for the **100-year storm**.

8.3 Design Flow

The flow entering a storm drain system shall be determined using approved hydrologic methods (Section 5.0).

The **Rational Method** is acceptable for areas up to 200 acres; larger systems require **HEC-HMS hydrograph routing**.

$$Q = C I A$$

Equation 8-1

Where:

Q = Design discharge (cfs)

C = Runoff coefficient

I = Rainfall intensity (in/hr)

A = Drainage area (acres)

Runoff values shall reflect **ultimate land use** conditions.

8.4 Pipe Capacity

Storm drain pipes shall be designed to flow **full under design discharge** without exceeding allowable HGL elevations.

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Equation 8-2

Where:

Q = Flow (cfs)

n = Manning's roughness coefficient

A = Flow area (ft²)

R = Hydraulic radius (ft)

S = Slope of pipe (ft/ft)

Typical Manning's n Values for Pipe Materials

Material	Manning's n
Reinforced Concrete Pipe (RCP)	0.013
Corrugated Metal Pipe (CMP)	0.024
HDPE Smooth Interior	0.012
PVC	0.011

8.5 Pipe Velocities

The design must maintain self-cleansing velocity and prevent scouring.

Condition	Minimum Velocity (ft/s)	Maximum Velocity (ft/s)
Concrete Pipe	2.5	15
Corrugated Metal Pipe	2.5	12
HDPE or PVC	2.0	12

8.6 Minimum Pipe Size and Cover

- **Minimum pipe diameter:** 12 inches (local streets); 24 inches (collectors and arterials).
- **Minimum cover:** 2.0 ft from finished grade to top of pipe for RCP; 3.0 ft for CMP or HDPE. Or as provided by manufacturer's recommendations.
- **Design life:** Reinforced concrete pipes shall have a minimum design life of 75 years, while high-density polyethylene (HDPE) pipes shall have a minimum design life of 50 years. The use of other pipe materials shall be subject to review and approval by the City of Eagle Pass.
- **Loading:** All storm drain systems beneath roadways shall be designed for HS-20.
- In roadway crossings, maintain **1 ft minimum clearance** to all utilities.
- For shallow installations, encase the pipe in reinforced concrete per **TxDOT Item 464.3**.

8.7 Storm Drain Alignment

Pipes shall follow straight alignments between manholes. Horizontal and vertical deflections are not permitted within pipe runs except with manufactured bends or junction structures.

The following standards apply:

- Minimum slope to maintain velocity (see Section 8.5)
- Maintain alignment within right-of-way or drainage easement
- Minimum 1 ft vertical separation from other utilities (per TCEQ §290.44)

When an upstream conduit is smaller than the downstream conduit, it is preferable to match conduit soffits unless the upstream conduit must avoid utility conflicts or satisfy minimum cover requirements.

8.8 Manholes and Junction Boxes

Manholes shall be placed:

- At all changes in alignment, grade, or pipe size
- At junctions with lateral connections
- At maximum spacing intervals as shown below

Pipe Diameter (in)	Maximum Spacing (ft)
12–48	400
≥ 48	600

8.9 Hydraulic Grade Line (HGL) Analysis

A hydraulic grade line (HGL) analysis shall be performed for all storm drain systems to verify that:

- The **HGL** remains below the **top of curb** or **rim elevation** for the design storm.
- The **energy grade line (EGL)** remains below ground level.

8.9.1 HGL Computation

$$HGL = E_{inlet} - h_L - V^2/(2g)$$

Equation 8-3

Where:

HGL = Hydraulic grade line elevation (ft)

E_{inlet} = Total energy head at upstream inlet (ft)

h_L = Head loss due to friction and junctions (ft)

V = Flow velocity (ft/s)

g = 32.2 ft/s²

8.9.2 Energy Losses

Energy losses occur due to pipe friction, bends, junctions, and transitions.

$$h_L = h_f + h_j + h_m$$

Equation 8-4

Where:

h_f = Friction loss

h_j = Junction loss

h_m = Miscellaneous losses (entrance, exit, bends)

Friction loss:

$$h_f = f \frac{L}{D} \frac{V^2}{2g}$$

Equation 8-5

Where:

f = Darcy friction factor (depends on Reynolds number and pipe roughness)

L = Pipe length

D = Pipe Diameter

V = Mean velocity

g = acceleration due to gravity 32.2 ft/s²

Junction loss:

$$h_j = K_j \frac{V^2}{2g}$$

Equation 8-6

Where:

K_j = Junction loss coefficient

Junction Type	K_j
Straight-through	0.2
45° bend	0.3
90° bend	0.5
Lateral connection	0.3–0.5
Manhole (surcharge)	0.7–1.0

8.10 Entrance and Exit Losses

Entrance loss h_e :

$$h_e = K_e \frac{V^2}{2g}$$

Equation 8-7

Where:

K_e = Entrance loss coefficient

Exit loss h_x :

$$h_x = K_x \frac{V^2}{2g}$$

Equation 8-8

Where:

K_x = Exit loss coefficient

Condition	K_e	K_x
Flush pipe into manhole	0.5	—
Mitered to slope end	0.7	—

Headwall with wingwalls	0.2	1.0
Flared end section	0.3	1.0

8.11 Outfalls

Storm drain outfalls must discharge into:

- **Open channels,**
- **Detention ponds,** or
- **Natural watercourses** (with erosion protection).

All outfalls shall include:

- Headwall or flared end section (TxDOT Std. DS series)
- **Riprap or energy dissipation** sized per outlet velocity
- **Tailwater consideration** in design HGL analysis

The outlet velocity shall not exceed the permissible limit of the receiving channel (see **Table 8-1**).

Table 8-1 Maximum Permissible Outlet Velocities

Channel Material	Max Velocity (ft/s)
Earth (sandy loam)	4
Earth (stiff clay)	6
Grass-lined	5
Riprap-lined	15
Concrete	20

If outlet velocity exceeds permissible limits, energy dissipation must be provided using riprap aprons, stilling basins, or impact blocks per **TxDOT Hydraulic Design Manual**.

8.12 Surcharged Flow

Pipes shall be designed so that:

- HGL does not exceed **0.5 ft below curb** during the design storm, and
- The 100-year HGL does not exceed ground level.

Surcharged flow conditions must be analyzed for all enclosed systems using **HEC-RAS (unsteady)** or **StormCAD hydraulic grade calculations**.

8.13 Storm Drain Computation Sheet (Recommended Format)

Each storm drain design submission shall include:

1. Inlet locations and contributing drainage areas
2. Design discharge per inlet (cfs)
3. Pipe size, slope, and length
4. Hydraulic capacity (full flow)
5. Velocity check (min/max)
6. Head loss summary (junction, friction, entrance, exit)
7. HGL and EGL elevations
8. Outfall and tailwater condition

All results must be documented in tabular form, referencing **station chainage** along the mainline.

8.14 Materials and Construction Standards

All storm drain materials shall meet or exceed **TxDOT Standard Specifications (latest edition)** and **City of Eagle Pass Standard Details**.

Acceptable materials:

- Reinforced Concrete Pipe (ASTM C76)
- Corrugated Metal Pipe (ASTM A760, galvanized or aluminized)
- HDPE Pipe (AASHTO M294)
- PVC Storm Sewer Pipe (ASTM D3034 SDR 35)

Joint sealing, bedding, and backfill must comply with **ASTM C1479** and **TxDOT Item 400**.

8.15 Maintenance and Access

All manholes and junction boxes must be accessible from paved right-of-way or permanent maintenance easement (minimum 15 ft width).

Storm drains shall not pass under buildings or private structures.

Private storm drains that connect to public systems must provide an access manhole at the point of connection.

8.16 As-Built and Record Requirements

Upon completion, the contractor must submit:

- As-built plans certified by a **Registered Professional Land Surveyor**.
- Invert and rim elevation tables.
- Pipe material and slope verification.
- CCTV inspection records if required by City Engineer.

No system will be accepted by the City without approval of the **as-built drainage record**.

9.0 OPEN CHANNEL DESIGN

9.1 General

Open channels convey runoff from urban and rural watersheds to receiving streams, detention basins, or major drainage outfalls.

Channels may be **natural**, **improved**, or **constructed**.

The design of open channels in the **City of Eagle Pass** must ensure stability, adequate capacity, safety, and compatibility with surrounding land uses.

All open channels shall:

- Convey the **ultimate-development 25-year design storm** for drainage areas up to and including **200 acres**.
- Convey the **ultimate-development 100-year design storm** for drainage areas greater than **200 acres**.
- Provide freeboard above the design water-surface elevation. The required freeboard shall be based on the **design depth of flow**.
- Contain the design discharge and required freeboard within designated rights-of-way or drainage easements.
- Prevent excessive erosion and sedimentation.
- Incorporate natural features and vegetation where feasible.

Interceptor channels shall be provided where necessary to intercept off-site runoff greater than 3 acres or prevent sheet flow from crossing proposed lots, streets, or developed areas. The location, alignment, dimensions, design discharge, and required drainage easement for each interceptor channel shall be clearly identified on the subdivision plat and associated construction plans.

Designers must coordinate with the **City Engineer** for any proposed channel modification, regrading, or lining.

9.2 Design Flow

The design discharge for channels shall be determined in accordance with **Section 5.0 (Hydrology)**.

For most applications, the **100-year storm event** is used for capacity design, while the **10- and 25-year storms** may be used for performance checks.

9.3 Channel Geometry

Permitted cross-section geometries include:

1. **Trapezoidal** – most common in Eagle Pass; suitable for earth, grass-lined, or concrete channels.
2. **Rectangular** – used for concrete-lined or structural channels.
3. **Triangular or V-shaped** – typically for roadside ditches or shallow grass swales.
4. **Parabolic** – used where gradual transitions and aesthetics are desired.

Side slopes must be stable for the expected soil type and flow velocity (see Table 9-1).

Table 9-1 Recommended Channel Side Slopes

Channel Type	Lining	Maximum Side Slope (H:V)
Earth (sandy or loam)	Unlined	3:1
Clay	Unlined	2:1
Grass-lined	Vegetated	3:1
Riprap-lined	Rock	2:1
Concrete-lined	Structural	1.5:1

9.4 Flow Computations

Channel capacity shall be computed using **Manning's Equation**:

$$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$$

Equation 9-1

Where:

Q = Flow (cfs)

n = Manning's roughness coefficient

A = Flow area (ft²)

R = Hydraulic radius = A/P (ft)

S = Longitudinal slope (ft/ft)

Table 9-2 Typical Manning's n Values for Open Channels

Channel Type	n
Concrete	0.015
Smooth finished concrete	0.013
Grouted riprap	0.030
Natural earth (clean, straight)	0.025
Natural earth (weedy, winding)	0.045
Grass-lined (good condition)	0.035
Gabion-lined	0.030
Asphalt-lined	0.018

9.5 Trapezoidal Channel Geometry

For trapezoidal sections:

$$A = y (b + z y)$$

Equation 9-2

$$P = b + 2y(1 + z^2)^{0.5}$$

Equation 9-3

Where:

A = Flow area (ft²)

P = Wetted perimeter (ft)

b = Bottom width (ft)

y = Flow depth (ft)

z = Side slope (H:V)

Substitute A , P , and $R = A/P$ into Equation 9-1 to solve for discharge or flow depth.

9.6 Design Criteria

- Design Frequency:**
 - 25-year storm for minor ditches.
 - 100-year storm for major outfall channels.
- Freeboard:**
 - Minimum 1 ft above 100-year water surface
 - Additional 0.5 ft recommended for areas near structures or utilities
- Flow Velocity:**
 - Minimum 2.0 ft/s to prevent sediment deposition
 - Maximum limited by Table 9-3

Channel side slopes shall be designed for long-term stability, maintenance access, and public safety.

Preferred maximum side slopes:

- Earthen channels: **4H:1V**
- Improved channels with stabilization: **3H:1V**
- Steeper slopes require geotechnical justification and City approval.

Table 9-3 Maximum Permissible Velocities for Channel Linings

Lining Type	Max Velocity (ft/s)
Unlined (sandy soil)	3.5
Unlined (clay soil)	5.0
Grass (good stand)	6.0
Riprap (6 in. rock)	10.0
Riprap (12 in. rock)	15.0
Concrete	20.0
Gabion	12.0

9.7 Shear Stress Analysis

To ensure lining stability, compute **boundary shear stress (τ)**:

$$\tau = \gamma R S$$

Equation 9-4

Where:

τ = Shear stress (lb/ft²)

γ = Unit weight of water (62.4 lb/ft³)

R = Hydraulic radius (ft)

S = Channel slope (ft/ft)

Compare computed τ to allowable τ from **Table 9-3**.

Table 9-4 Allowable Shear Stresses

Lining Type	Allowable τ (lb/ft ²)
Grass (established)	2.0
Grass (poor cover)	0.5
Topsoil (bare earth)	0.3
Riprap (6 in.)	6.0
Riprap (12 in.)	12.0
Gabion	10.0
Concrete	> 20.0

If computed τ exceeds allowable, the design must incorporate a **more resistant lining or energy dissipation measures**.

9.8 Channel Lining Selection

Channel linings are selected based on velocity, shear, and site conditions.

Condition	Recommended Lining
Low velocity (<4 ft/s)	Grass or vegetative cover
Moderate velocity (4–8 ft/s)	Turf reinforcement mat or riprap
High velocity (>8 ft/s)	Concrete or gabion
Flood control channels or confined sections	Reinforced concrete or grouted riprap
Environmentally sensitive areas	Bioengineered lining (coir mat, vegetated geotextile)

9.9 Transition Design

Channel transitions (bends, junctions, expansions) must be gradual to minimize energy losses.

- Expansion ratio $\leq 1:4$ (width change per length)
- Contraction ratio $\leq 1:3$
- Bends: centerline radius $\geq 2 \times$ channel width
- Drop structures or stilling basins shall be used to dissipate energy when slope $> 1\%$

9.10 Channel Freeboard and Right-of-Way

Minimum freeboard: **1 ft above 100-year WSEL**.

Minimum right-of-way width = channel top width + 10 ft (5 ft each side).

Where maintenance access roads are required:

- Provide 10-ft-wide all-weather surface (gravel or concrete).
- Slope $\leq 10\%$ for vehicular access.

9.11 Erosion Protection

Outfalls, transitions, bends, and high-velocity areas shall include erosion protection.

Discharge velocities entering unlined grass areas shall be reduced to **6 feet per second or less** unless a reinforced lining system is provided.

Acceptable protection includes energy dissipators, riprap, turf reinforcement mat, concrete, gabions, or engineered alternatives approved by the City.

9.12 Floodplain Coordination

Any channel construction, modification, or regrading within the **Special Flood Hazard Area (SFHA)** requires:

- A **Floodplain Development Permit** from the City.
- Compliance with **FEMA NFIP**.
- **No-Rise Certification** by a Texas PE.
- Hydraulic analysis using **HEC-RAS**.

All 100-year water surface elevations and floodway boundaries must be clearly shown on the plans.

9.13 Maintenance Requirements

Channel maintenance is essential for long-term performance:

- Inspect after each major rainfall event.
- Remove debris, sediment, and vegetation blockages.
- Repair eroded banks and replace damaged linings.
- Maintain mowing and access roads per City schedule.

Privately maintained channels such as HOAs and developments must have a **recorded maintenance covenant** approved by the City of Eagle Pass.

9.14 As-Built Certification

Upon completion, the Engineer of Record shall submit:

- As-built cross-sections and profiles (surveyed)
- Final flow capacity verification
- Photographic documentation of lining and outlet conditions
- Maintenance access certification

10.0 DETENTION AND RETENTION FACILITIES

10.1 General

Detention and retention facilities are required to control post-development peak runoff and to mitigate downstream impacts.

Their primary purposes are to:

- Limit post-development peak discharge to pre-development levels.
- Reduce downstream flooding and erosion.
- Improve water quality through sedimentation and infiltration.

This section establishes the **City of Eagle Pass (CoEP)** standards for the design of all **detention ponds, retention basins, and related outlet control structures**.

All facilities must comply with:

- **City of Eagle Pass Stormwater Ordinance**
- **TCEQ TPDES MS4 requirements**
- **TWDB Region 15 Flood Plan guidelines**
- **FEMA floodplain development criteria**

10.2 Detention Requirements

Detention shall be required where post-development runoff exceeds pre-development runoff rates, increases downstream water surface elevations, overloads public drainage systems, or as otherwise determined by the City Engineer.

Unless waived in writing, developed discharge rates shall not exceed pre-development discharge rates for the applicable design storms.

10.3 Minimum Standards

1. **Design Storm Frequency:**
5-year and 25-year storm for peak control and 100-year storm for overflow routing.
2. **Storage Requirement:**
Detention volume shall be based on hydrograph routing (Section 10.4).
3. **Outflow Control:**
Use a combination of **orifice, weir, or culvert outlet** to meet target discharge.
4. **Freeboard:**
The basin should contain the 100-year ultimate water surface.
5. **Maintenance Access:**
Provide a 12' wide all-weather maintenance road to inlet/outlet and spillway.

6. **Safety:**

Side slopes not steeper than 4H:1V preferred, 3H:1V maximum.

10.4 Storage Volume Determination

The required storage volume is determined by **hydrograph routing**, comparing inflow (I) and outflow (O) hydrographs. The volume is equal to the area between the two curves:

$$V = \int (I - O) dt$$

Equation 10-1

This analysis may be performed using:

- **HEC-HMS**
- **PondPack**
- **HydroCAD**
- **TR-55 Tabular Method**

10.4.1 Level Pool Routing Equation

The continuity equation governs storage routing:

$$I - O = \frac{dS}{dt}$$

Equation 10-2

Where:

I = Inflow (cfs)

O = Outflow (cfs)

S = Storage (ft³)

t = Time (s)

Integrated for discrete time intervals:

$$S_2 = S_1 + \frac{(I_1 + I_2)}{2} \Delta t - \frac{(O_1 + O_2)}{2} \Delta t$$

Equation 10-3

Iterate until continuity is satisfied and outflow hydrograph is defined.

10.4.2 Stage–Storage Relationship

The relationship between pond depth and storage volume is developed from geometry or survey data. For typical basins:

$$S = A_{avg}\Delta h$$

Equation 10-4

Where:

A_{avg} = average surface area between two contour elevations (ft²)

Δh = elevation difference (ft)

For irregular basins, calculate by CAD volume computations or field survey.

10.4.3 Stage–Discharge Relationship

Develop using outlet control devices:

- **Orifices (Equation 10-5)**
- **Weirs (Equation 10-6)**
- **Culverts:** Manning's or inlet control equations (TxDOT culvert nomographs)

These relationships define the **outflow curve (Q vs. stage)** required for routing.

10.4.4 Modified Rational Method

For drainage areas of twenty (20) acres or less, the Modified Rational Method may be used to estimate runoff volume and determine required detention storage.

The Modified Rational Method applies the Rational Method peak discharge relationship over varying rainfall durations to develop an inflow hydrograph and estimate detention storage requirements. This method may be used as an alternative to hydrograph-based routing methods for small drainage areas where the assumptions of the method are applicable.

Use of the Modified Rational Method shall be limited to drainage areas of approximately twenty (20) acres or less unless otherwise approved by the City Engineer.

All calculations shall clearly document drainage area boundaries, runoff coefficients, rainfall intensities, storm durations, inflow hydrographs, allowable release rates, and detention storage computations. The design engineer shall demonstrate that post-development discharge rates comply with the detention requirements of this chapter.

10.5 Outlet Control Design

The outlet structure regulates discharge from the basin and may include:

- **Low-flow orifice** for small storm events
- **Rectangular or V-notch weir** for intermediate flows
- **Culvert or riser** for large events
- **Emergency spillway** for extreme conditions

10.5.1 Orifice Flow

$$Q = C_d A (2gh)^{0.5}$$

Equation 10-5

Where:

Q = flow rate (cfs)

C_d = discharge coefficient (0.60–0.70)

A = area of orifice (ft²)

h = head above orifice center (ft)

10.5.2 Weir Flow

$$Q = C_w L h^{1.5}$$

Equation 10-6

Where:

C_w = weir coefficient

L = weir length (ft)

h = head over crest (ft)

Use C_w coefficient 3.33 for sharp-crested rectangular weirs and 2.6 for broad-crested weirs.

10.5.3 Combined Outlet

For structures combining both orifice and weir control:

$$Q_{total} = Q_{orifice} + Q_{weir}$$

Equation 10-7

Select combination parameters so that $Q_{post} < Q_{pre}$ for each design storm.

10.6 Retention Facilities

Retention basins are designed to permanently store runoff and promote infiltration or reuse. They may serve as detention and retention but must include:

- **Permanent pool** with volume $\geq 10\%$ of total storage.
- **Safety shelf** around water surface perimeter.
- **Aeration or recirculation system** to prevent stagnation.
- **Emergency overflow** designed as for detention basins.

Retention basins must meet **TCEQ water quality** requirements for permanent impoundments and must include provisions for mosquito control.

10.7 Water Quality Volume (WQV)

In accordance with **TCEQ TXR150000 (MS4 Permit)**, developments ≥ 1 acre must provide **water quality treatment** for the **first flush** (first 1 inch of runoff).

Water Quality Volume:

$$WQV = \frac{1}{12} R_v A$$

Equation 10-8

Where:

$$R_v = 0.05 + 0.009 I$$

I = percent imperviousness (%)

A = site area (acres)

Treatment may be achieved through:

- **Extended detention** (24-hour drawdown)
- **Bio-retention or vegetated filter basins**
- **Infiltration trenches or porous media**
- **Constructed wetlands**

10.8 Basin Geometry

10.8.1 Side Slopes

- Maximum 3H:1V
- Recommended 6H:1V for safety and maintenance.
- Basin floor graded to drain to outlet.

10.8.2 Depth

- Maximum 6 ft without fencing.
- Basins deeper than 6 ft require fencing and signage.

10.8.3 Bottom Width

- Minimum 8 ft for maintenance vehicle access.
- Signed and Sealed Engineer's Certification shall be provided after installation.

10.9 Erosion and Sediment Control

All inlet and outlet points must include:

- **Riprap aprons** or **stilling basins** per HEC-15.
- **Slope protection.**
- **Energy dissipation** where outlet velocity > 6 ft/s.
- **Silt traps or forebays** to capture sediment at inflow points.

During construction, temporary sediment basins and perimeter controls must comply with TCEQ SWPPP requirements.

10.10 Private Maintenance Requirements

The owner of a private detention or retention facility shall be responsible for perpetual maintenance including:

- Mowing and vegetation control
- Sediment removal
- Trash and debris removal
- Outlet inspection and repair
- Embankment maintenance
- Erosion repair
- Access maintenance

The City may require proof of maintenance or perform enforcement action if deficiencies exist.

10.11 Inspection and Certification

Upon completion:

1. Basin shall be surveyed to verify stage-storage curve.
2. Outlet structures must be field-measured and inspected.
3. As-built report sealed by a **Texas Licensed Professional Engineer** must be submitted to the City of Eagle Pass.
4. City of Eagle Pass will issue **Certificate of Compliance** prior to acceptance.

10.12 Typical Details

Required Drawings:

- Plan view showing contours, inlet/outlet locations, emergency spillway, access road.
- Cross-sections showing side slopes, safety bench, and outlet structure.
- Stage-storage and stage-discharge curves.
- Erosion control and landscaping details.
- Fence and signage locations (if applicable).

11.0 CULVERT DESIGN

11.1 General

Culverts are structures that convey stormwater through roadway embankments or under driveways, railroads, and other obstructions.

They form a critical part of the storm drainage system and are designed to safely pass design flows without overtopping the roadway or causing excessive backwater.

Culvert design within the **City of Eagle Pass** shall conform to:

- **TxDOT Hydraulic Design Manual (HDM)**
- **TxDOT Drainage Design Criteria (DDC)**
- **City of Eagle Pass Stormwater and Roadway Standards**

11.2 Design Objectives

Culverts shall be designed to:

1. Convey the **design storm flow** (See section 11.5 Design Storm Frequency).
2. Minimize headwater depth to acceptable levels.
3. Limit outlet velocity to prevent downstream erosion.
4. Accommodate debris passage without blockage.
5. Maintain hydraulic efficiency and structural integrity.

11.3 Design Methodology

The hydraulic performance of culverts depends on whether the flow is governed by:

- **Inlet control** (limited by headwater and entrance geometry), or
- **Outlet control** (limited by tailwater, pipe friction, and losses).

The controlling condition shall be determined by comparing both cases; the greater headwater governs the design.

11.4 Culvert Types

Acceptable culvert types in the City of Eagle Pass include:

Type	Typical Use	Material Options
Circular Pipe	Small to medium drainage crossings	RCP, CMP, HDPE, PVC
Box Culvert	High-flow crossings with limited headroom	Reinforced concrete (TxDOT Std. Box)
Arch or Elliptical	Aesthetic or low-profile applications	Concrete, CMP, structural plate
Bridge-class Culvert	Large crossings > 20 ft span	TxDOT standard bridge class

All materials must conform to **TxDOT Standard Specifications (Items 462, 464, 465, and 466)** and **ASTM C76, A760, M294** as applicable.

11.5 Design Storm Frequency

Roadway Classification	Design Frequency	Overtopping Check
Freeways	50-year	100-year
Arterial / Major	25-year	100-year
Collector Street	10-year	100-year
Local Street	10-year	100-year
Driveways / Private Crossings	10-year	25-year

11.6 Inlet Control

When a culvert operates under inlet control, discharge depends only on the headwater elevation, culvert shape, area, and inlet configuration.

Neglecting downstream conditions, the flow is controlled by the inlet geometry and entrance conditions.

11.6.1 Inlet Control Equation

$$Q = C_i A (2gh)^{0.5}$$

Equation 11-1

Where:

Q = Discharge (cfs)

C_i = Inlet coefficient (dimensionless)

A = Cross-sectional area of culvert (ft²)

h = Headwater depth above inlet invert (ft)

g = 32.2 ft/s²

Typical C_i values:

Inlet Type	C_i
Sharp-edged	0.50
Mitered to slope	0.70
Headwall (square edge)	0.80
Wingwall or flared inlet	0.90

11.7 Outlet Control

For outlet control, flow is affected by tailwater elevation, friction losses, and velocity head through the culvert barrel.

11.7.1 Energy Equation

$$H_W = h_e + h_f + h_o + (h_t - h_i)$$

Equation 11-2

Simplified as:

$$H_W = h_t + h_f + K_e \frac{V^2}{2g}$$

Equation 11-3

Where:

H_w = Headwater elevation above outlet invert (ft)

h_t = Tailwater depth (ft)

h_f = Friction loss (ft)

K_e = Entrance loss coefficient

V = Velocity in barrel (ft/s)

Typical K_e values:

Entrance Type	K_e
Mitered to slope end	0.7
Headwall, square edge	0.5
Headwall, rounded	0.2
Flared end section	0.3

11.7.2 Friction Loss

$$h_t = S_f + L$$

Equation 11-4

Where:

S_f = Friction slope (ft/ft)

L = Length (ft)

$$S_f = \left(\frac{Q n}{1.49 A R^{\frac{2}{3}}} \right)^2$$

Equation 11-5

11.7.3 Tail Water Condition

Tailwater depth (h_t) depends on downstream channel conditions:

Tailwater / Channel Condition	Flow Condition and Design Guidance
Receiving channel depth greater than the crown of culvert	Full flow shall be assumed within the culvert barrel.
Tailwater elevation lower than culvert crown	Flow shall be considered partially full; compute using gradually varied flow methods.

The design shall verify that headwater does not exceed the **top of roadway**.

11.8 Headwater Limitations

For design storms:

Roadway Classification / Crossing Type	Maximum Allowable Headwater Depth
Local Streets	Headwater $\leq 1.5 \times$ culvert diameter (or rise)
Collector and Arterial Streets	Headwater $\leq 1.2 \times$ culvert diameter (or rise)
Critical Crossings (Schools, Hospitals, Emergency Routes)	Headwater $\leq 1.0 \times$ culvert diameter (or rise)

Headwater–depth ratio exceeding these limits requires upsizing or inlet improvement.

11.9 Barrel Flow Capacity

Flow capacity shall be verified using **Manning's Equation** for full flow:

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Equation 11-6

Manning's n Values for Culverts:

Material	n
RCP	0.013
CMP (annular corrugation)	0.024
HDPE (smooth interior)	0.012
PVC	0.011
Box Culvert (smooth concrete)	0.015

11.10 Outlet Velocity and Erosion Protection

Velocity at the culvert outlet shall be computed as:

$$V = \frac{Q}{A}$$

Equation 11-7

Compare with allowable outlet velocities (Table 11-1).

If exceeded, provide energy dissipation.

Table 11-1 Allowable Outlet Velocities

Channel Material	Max Velocity (ft/s)
Bare earth	4
Grass-lined	6
Riprap	15
Concrete	20

11.10.1 Riprap Apron Design

Riprap apron design follows **FHWA HEC-14** and **TxDOT SDHPM** criteria.

$$L_a + 3 D_{50}$$

Equation 11-8

$$D_{50} = \frac{V^2}{2g(S - 1)}$$

Equation 11-9

Where:

L_a = apron length (ft)

D_{50} = median stone size (ft)

V = outlet velocity (ft/s)

S = specific gravity of stone

Apron width = 2 × culvert width (minimum).

Install geotextile filter fabric beneath riprap (TxDOT DMS-6200).

11.11 Multiple Barrel Culverts

Multiple barrels may be used when required width or height exceeds single-barrel capacity.

Spacing between barrels shall be ≥ 1 ft (center to edge).

Hydraulic capacity is slightly reduced due to interference; assume a 5% reduction for 2-barrel systems and 10% for 3-barrel systems unless modeled.

11.12 Structural and Safety Requirements

- Design per **AASHTO LRFD Bridge Design Specifications**.
- Provide headwalls or wingwalls for all reinforced concrete culverts.
- For CMP or HDPE, provide flared end sections or concrete collars.
- For culverts ≥ 36 in diameter within pedestrian zones, provide safety grates or guardrails.

11.13 Floodplain Considerations

Culverts located within FEMA floodplains must:

- Be analyzed for **no-rise condition** using **HEC-RAS**.
- Include both **inlet control and tailwater backwater effects**.
- Provide **100-year flow capacity** below roadway elevation with at least **1 ft freeboard**.

All results must be certified by a **Texas Licensed Professional Engineer**.

11.14 Maintenance and Inspection

Routine inspections must be performed annually and after major storms:

- Remove sediment, debris, and vegetation obstructions.
- Inspect joint seals, headwalls, and end treatments for erosion or cracking.
- Repair concrete spalling or corrosion as necessary.
- Maintain access easements for cleaning and inspection equipment.

Private developments shall maintain all on-site culverts until dedicated to the City.

11.15 Submittal Requirements

Culvert design plans must include:

1. Plan and profile with inlet/outlet elevations.
2. Headwater and tailwater computations.
3. Hydraulic design summary (inlet vs outlet control).
4. Energy dissipation and erosion protection details.
5. Structural drawings (headwalls, wingwalls, or collars).
6. As-built survey verification.

12.0 BRIDGES AND CROSSINGS

12.1 General

Bridges and major drainage crossings provide hydraulic conveyance for natural channels, creeks, or drainageways intersected by roadways.

Design of these structures must ensure:

- Safe passage of design storm flows without roadway overtopping.
- Stability against scour and erosion.
- Conformance with **TxDOT Bridge Design Manual (Hydraulics)**, **AASHTO LRFD**, and **FEMA NFIP** requirements.
- Compatibility with adjacent channel and floodplain geometry.

All bridge and crossing designs within the **City of Eagle Pass** shall be sealed by a **Texas Licensed Professional Engineer** experienced in hydraulic and structural bridge design.

12.2 Design Frequency

Bridge and crossing design frequency shall be selected according to roadway classification and importance.

Roadway Classification	Design Storm (Minimum)	Check Storm
Local Streets	50-year	100-year
Collectors	100-year	100-year
Arterials / Highways	100-year	500-year
Emergency / Evacuation Routes	100-year	500-year

The **100-year flood** shall pass with at least **1 ft freeboard** below the low chord (bottom of bridge girder or slab).

Critical facilities or floodway crossings must also evaluate the **500-year event** for structural resilience.

12.3 Hydrologic Analysis

Bridge design flows shall be computed using:

- **HEC-HMS** for watershed hydrology,
- **Atlas 14 rainfall data for Maverick County**, and
- **TWDB Region 15 Flood Planning guidance** for regional inflow parameters.

Hydrographs for 10-, 25-, 50-, 100-, and 500-year storms shall be developed and used for flow routing and backwater modeling.

12.4 Hydraulic Analysis

Hydraulic performance shall be evaluated using **HEC-RAS (steady or unsteady flow)**.

Each model must include:

- Existing and proposed conditions geometry.
- Cross-section spacing ≤ 200 ft near structures.
- Contraction and expansion coefficients per **HEC-RAS defaults (0.1 / 0.3)**.
- Tailwater conditions based on downstream water surface elevations.

12.4.1 Energy Equation

The basic open channel energy equation applies between upstream (1) and downstream (2) sections:

$$z_1 + y_1 + \frac{V_1^2}{2g} = z_2 + y_2 + \frac{V_2^2}{2g} + h_L$$

Equation 12-1

Where:

z = channel invert elevation (ft)

y = depth of flow (ft)

V = mean velocity (ft/s)

h_L = head loss (ft)

g = 32.2 ft/s²

12.5 Headwater and Backwater Limitations

Headwater (HW) elevation during the design storm shall not:

- Exceed the **bottom of bridge deck (low chord)** minus **1 ft freeboard**, and
- Increase upstream 100-year water surface by more than **0.1 ft** for FEMA-regulated floodways (per NFIP "no-rise" requirement).

Designers shall evaluate and document:

1. Existing condition backwater profile.
2. Proposed bridge condition profile.
3. Difference ≤ 0.00 ft rise within mapped floodway; ≤ 1.0 ft within floodplain fringe.

12.6 Waterway Area Determination

The required waterway area (A_w) is determined by continuity:

$$A_w = \frac{Q}{V}$$

Equation 12-2

Where:

A_w = Required waterway area

Q = Design discharge (cfs)

V = Mean velocity (ft/s), based on Manning's equation:

$$V = \frac{1.49}{n} R^{2/3} S^{1/2}$$

Equation 12-3

For bridge openings, adjust area for piers and abutments:

$$A_{effective} = A_{gross} - A_{obstruction}$$

Equation 12-4

12.7 Velocity and Shear Criteria

Outlet velocities at bridge openings must be evaluated to ensure channel stability.

Compare computed velocity ($V = Q/A_{effective}$) with allowable channel limits (from Section 9.0).

If exceeded, provide **riprap, gabions, or cutoff walls** for energy dissipation.

Maximum allowable shear stress shall not exceed lining resistance (see Section 9.7).

12.8 Scour Analysis

Bridges must be designed to resist local and contraction scour per **FHWA HEC-18 (Evaluating Scour at Bridges)**.

12.8.1 Total Scour Depth

$$Y_t = Y_1 - Y_2 + Y_3$$

Equation 12-5

Where:

Y_t = Total scour (ft)

Y_1 = Long-term degradation (ft)

Y_2 = Contraction scour (ft)

Y_3 = Local scour (ft)

12.8.2 Contraction Scour (Laursen Equation)

$$\frac{Y_2}{Y_0} = \left(\frac{Q_2}{Q_0} \right)^{6/7}$$

Equation 12-6

Where:

Y_0 = Original flow depth (ft)

Q_0 = Discharge prior to contraction (cfs)

Q_2 = Discharge at contracted section (cfs)

12.8.3 Local Scour at Piers (HEC-18)

$$Y_3 = 2.0 K_1 K_2 K_3 (Y_1) (F_r)^{0.43}$$

Equation 12-7

Where:

F_r = Froude Number

K_1 = Pier shape factor

K_2 = Angle of attack factor

K_3 = Bed condition factor

Typical values:

- $K_1 = 1.1$ (round nose)
- $K_2 = 1.0$ (aligned flow)
- $K_3 = 1.1$ (sand bed)

Provide pier foundations below total scour depth Y_t + safety factor (≥ 2 ft).

12.9 Abutment Design

Bridge abutments must be located outside the channel's main flow region wherever feasible.

Provide riprap protection for the entire abutment face and wingwall extensions up to 2 ft above design high water.

Wingwalls shall extend beyond projected side slopes to prevent flanking.

For erodible soils, incorporate cutoff walls with depth $\geq 2 \times D_{50}$ of channel bed material.

12.10 Debris and Freeboard Requirements

Bridges must provide:

- **Minimum freeboard = 1 ft above 100-year WSEL** (excluding debris).
- **Additional 1 ft debris clearance** for creeks with vegetative drift or woody debris.

For small drainage crossings ($Q < 500$ cfs), minimum freeboard may be reduced to 0.5 ft if supported by hydraulic modeling and approved by the City Engineer.

12.11 FEMA Coordination

Any bridge, culvert, crossing, or grading project located within a FEMA floodplain or floodway shall comply with City floodplain regulations.

Where the project causes any rise, encroachment, or modification to mapped flood hazards, the applicant shall prepare and fund all required FEMA documentation including No-Rise Certification, CLOMR, and/or LOMR as determined by the City Floodplain Administrator.

All supporting data shall include:

- Existing and proposed HEC-RAS models.
- Floodway and floodplain delineations.
- Supporting topographic and survey data (NAVD 88).
- Digital GIS shapefiles in FEMA-compliant format.

12.12 Structural Considerations

Bridge structure selection must account for:

- Hydraulic opening requirements.
- Vertical clearance above 100-year WSEL.
- Foundation stability and scour depth.
- Traffic and loading per **AASHTO LRFD**.

- Constructability and maintenance access.

Preferred structural types for Eagle Pass include:

- Reinforced concrete slab or slab-beam bridges for spans < 40 ft.
- Prestressed concrete I-beam bridges for spans 40–120 ft.
- Multi-cell box culverts for low clearance crossings.

12.13 Erosion Protection and Energy Dissipation

- Provide riprap or gabion aprons downstream of bridge openings per **HEC-15**.
- Extend protection at least one channel width downstream.
- Design riprap per Equation 9-5 using outlet velocity.
- Install geotextile filter fabric beneath all protection.
- Where velocities exceed 15 ft/s, use grouted riprap or concrete lining.

12.14 Maintenance Requirements

Bridge crossings shall be inspected at least annually and after major flood events:

- Remove debris accumulation at piers and abutments.
- Repair scouring or undermining promptly.
- Maintain vegetation on embankments.
- Inspect expansion joints, deck drains, and approach slabs.
- Replace damaged riprap or gabions.

All inspection findings must be documented and retained by the **City Engineer**.

12.15 Submittal Requirements

Bridge and major crossing designs must include:

1. **Hydrology Report** – storm frequency, inflow hydrographs, and assumptions.
2. **HEC-RAS Model** – existing and proposed profiles.
3. **Hydraulic Summary Table** – headwater, tailwater, velocities, freeboard.
4. **Scour Calculations** – total, contraction, and local scour depths.
5. **Structural Plans** – foundation, abutments, and erosion protection details.
6. **Floodplain Documentation** – CLOMR/LOMR submittals if applicable.

All submittals must be reviewed and approved by the **City Engineer** prior to permitting.

13.0 EROSION AND SEDIMENT CONTROL

13.1 General

Erosion and sediment control measures are required on all development and construction projects within the **City of Eagle Pass** to:

- Prevent soil loss and sediment transport into streets, storm drains, and waterways.
- Protect downstream water quality and maintain compliance with **TCEQ TPDES General Permit TXR150000**.
- Preserve long-term functionality of drainage systems and detention basins.

Designers and contractors are responsible for implementing both **temporary** and **permanent** control measures consistent with this section.

13.2 Regulatory Framework

All erosion and sediment control practices must comply with:

- **Texas Commission on Environmental Quality (TCEQ) – Construction General Permit TXR150000**
- **City of Eagle Pass Stormwater Management Program (SWMP)**
- **Texas Pollutant Discharge Elimination System (TPDES)**
- **TxDOT Stormwater Management Guidelines**
- **EPA Construction General Permit (CGP)**

Developers disturbing **1 acre or more** (or part of a common plan ≥ 1 acre) must prepare a **Stormwater Pollution Prevention Plan (SWPPP)**, implemented before soil disturbance.

13.3 Design Objectives

The following objectives guide the selection of erosion and sediment controls:

1. Minimize disturbed areas and protect natural vegetation where possible.
2. Convey runoff in a non-erosive manner.
3. Retain sediment on-site through physical, vegetative, or chemical stabilization.
4. Protect downstream drainage features and water bodies.
5. Maintain BMPs until permanent stabilization is achieved.

13.4 Erosion Control Principles

1. **Minimize Disturbance** – Phase construction to limit exposed soil areas.
2. **Stabilize Slopes Quickly** – Apply mulch, seeding, sod, or erosion control blankets.
3. **Intercept Runoff** – Use diversions, berms, or check dams to control flow paths.
4. **Trap Sediment** – Install silt fences, sediment basins, or inlet protection.

5. **Protect Inlets and Outfalls** – Prevent direct sediment discharge to storm drains.
6. **Inspect and Maintain** – Keep BMPs functional during all construction stages.

13.5 Design Criteria

13.5.1 Slope Protection

Slopes shall be stabilized within **14 days** of final grading or temporary cessation of work.

Table 13-1 Recommended Erosion Control for Slopes

Slope Ratio (H:V)	Recommended Control
Flatter than 4:1	Seeding / Mulching
3:1 to 4:1	Erosion Control Blanket or Hydroseeding
2:1 to 3:1	Turf Reinforcement Mat (TRM)
Steeper than 2:1	Rock Riprap or Retaining System

Seeding Mixture: Use drought-tolerant grasses suited for **Maverick County**.

13.5.2 Velocity and Shear Criteria

Design for non-erosive flow velocities using **Manning's Equation** and verify allowable shear stress on soil or lining.

$$\tau = \gamma R S$$

Equation 13-1

Where:

τ = boundary shear (lb/ft²)

γ = 62.4 lb/ft³ (unit weight of water)

R = hydraulic radius (ft)

S = slope (ft/ft)

Table 13-2 Allowable Shear Stress for Erosion Control Linings

Lining Type	Allowable Shear (lb/ft ²)	Max Velocity (ft/s)
Bare earth (sand)	0.3	3.5
Bare earth (clay)	0.5	5.0
Grass (good cover)	2.0	6.0
TRM (reinforced)	6.0	10.0
Riprap (6 in.)	6.0	10.0
Riprap (12 in.)	12.0	15.0
Concrete	> 20	> 20

13.6 Temporary Erosion Control Measures

Temporary measures are used during active construction to minimize erosion and sediment transport.

13.6.1 Silt Fence

A permeable geotextile barrier installed downslope of disturbed areas to intercept sediment-laden runoff.

- Max drainage area: 0.25 acre per 100 ft of fence
- Height: 24–36 in
- Posts: 6 ft o.c. with 12 in embedment
- Toe: buried 6 in minimum

Silt fence shall not be installed across concentrated flow paths.

13.6.2 Check Dams

Small rock, sandbag, or wattles placed across drainage channels to reduce velocity.

$$H_{max} = 2ft$$

Spacing:

$$S = 100H_{max} / S_{channel}$$

Equation 13-2

Use clean rock (4–8 in) or pre-manufactured fiber rolls.

Install perpendicular to flow, with center 6 in lower than edges.

13.6.3 Inlet Protection

Temporary devices installed around storm drain inlets to trap sediment.

Protection Types:

- Gravel bag barriers
- Silt fence drop inlet protection
- Curb inlet socks or weighted fabric inserts

Inlets must be inspected after each rainfall ≥ 0.5 in.

13.6.4 Construction Entrances

Stabilized pads of coarse aggregate to reduce sediment tracking onto roadways.

- Minimum length: 50 ft
- Width: full driveway or lane width
- Thickness: 6 in
- Aggregate size: 3–6 in (TxDOT Grade 1 rock)
- Filter fabric underlayment required

Sweep and wash adjacent pavement daily as needed.

13.6.5 Sediment Basins

Temporary ponds that capture sediment before runoff leaves site.

$$V_s = 1800 \text{ ft}^3 / \text{acre disturbed}$$

Equation 13-3

Provide outlet with perforated riser pipe and emergency spillway.

Clean out when sediment fills 50% of design volume.

13.6.6 Diversion Berms / Dikes

Constructed ridges of compacted soil to intercept and redirect runoff.

- Minimum height: 18 in
- Side slopes: 3H:1V
- Flowline slope: 0.5%–2%
- Provide stable outlet (rock pad or pipe).

13.7 Permanent Erosion Control Measures

Permanent stabilization shall be applied to all disturbed areas upon completion of construction.

13.7.1 Vegetative Stabilization

- Apply topsoil (minimum 4 in depth).
- Seed with **Bermuda**, **Buffalo**, **Blue Grama**, or **Native Mix** per TxDOT Item 164.
- Mulch rate: 2 tons/acre with tackifier.
- Maintain watering until 70% coverage achieved.

13.7.2 Riprap Protection

Install riprap at outfalls, culverts, and steep slopes per **TxDOT Item 432**.

- Minimum rock thickness: $1.5 \times D_{50}$
- Extend riprap apron beyond outlet for 1 culvert diameter.
- Install geotextile filter beneath.

13.7.3 Gabion Baskets

Used for slope stabilization and energy dissipation.

Wire mesh baskets filled with angular rock (6–8 in).

Conform to **TxDOT Item 432 and 556**.

13.7.4 Retaining Structures

For slopes steeper than 1.5:1 or space-limited sites, use structural walls or reinforced earth systems designed by a structural engineer.

13.7.5 Bioengineering Methods

For environmentally sensitive areas, apply:

- Live staking and brush layering
- Coir fiber rolls
- Vegetated geogrids
- Reinforced turf mats (TRMs)

All bioengineering methods shall use native, drought-tolerant vegetation.

13.8 Stormwater Pollution Prevention Plan (SWPPP)

A **SWPPP** shall be required for all construction projects disturbing ≥ 1 acre.

Minimum contents:

1. Project description and site map.
2. Description of potential pollutants and control measures.
3. BMP layout and maintenance schedule.
4. Inspection frequency ($\geq$ once per 14 days and after 0.5 in rain).
5. Spill prevention and response plan.
6. Recordkeeping and reporting per TCEQ TXR150000.
7. Certification by owner/operator and PE (if applicable).

13.9 Inspection and Maintenance

- Inspect all BMPs weekly and after rainfall ≥ 0.5 in.
- Replace damaged or silted barriers immediately.
- Remove accumulated sediment when 50% capacity is reached.
- Maintain vegetative cover through re-seeding as needed.
- Document inspections and corrective actions for City review.

13.10 Construction Site Closeout

Prior to final acceptance:

1. All disturbed areas shall be permanently stabilized.
2. Temporary BMPs shall be removed after vegetation is established.
3. Final inspection will verify compliance with **City of Eagle Pass** erosion and stormwater requirements.
4. Record documentation of BMP maintenance and as-built stabilization must be submitted to the City Engineer.

13.11 Enforcement

Failure to implement or maintain adequate erosion and sediment controls constitutes a violation of **Ord. No. 06-13, § 2, 7-11-2006**, and may result in:

- Stop-work order,
- Fines or penalties per ordinance, and/or
- Revocation of permits until compliance is achieved.

APPENDIX A – LIST OF REFERENCES

Federal References

- **Federal Emergency Management Agency (FEMA).**
Floodplain Management Regulations (44 CFR Parts 59–78).
Washington, D.C.
- **FEMA (2009).** *Flood Insurance Study for Maverick County, Texas, and Incorporated Areas.*
U.S. Department of Homeland Security, Federal Emergency Management Agency.
- **U.S. Department of Transportation – Federal Highway Administration (FHWA).**
 - *HEC-15 – Design of Stable Channels in Erodible Materials*, 3rd Edition, 2005.
 - *HEC-18 – Evaluating Scour at Bridges*, 5th Edition, 2012.
 - *HEC-22 – Urban Drainage Design Manual*, 3rd Edition, 2013.
 - *HEC-14 – Hydraulic Design of Energy Dissipators for Culverts and Channels*, 3rd Edition, 2006.
 - *HEC-24 – Storm Drain Inlets and Access Structures*, 2nd Edition, 2012.
- **U.S. Environmental Protection Agency (EPA).**
National Pollutant Discharge Elimination System (NPDES) Stormwater Program.
Code of Federal Regulations, Title 40, Part 122.
- **U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS).**
National Engineering Handbook, Section 4 – Hydrology (NEH-4).
Washington, D.C., 1972.
- **Natural Resources Conservation Service (NRCS).**
Technical Release No. 55 (TR-55): Urban Hydrology for Small Watersheds.
U.S. Department of Agriculture, 1986.

State of Texas References

- **Texas Commission on Environmental Quality (TCEQ).**
 - *Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (TXR150000).*
 - *Stormwater Pollution Prevention Plan (SWPPP) Guidelines for Construction Activities.*
 - *Edwards Aquifer Protection Program Technical Guidance.*
 - *Rules and Regulations for Public Drinking Water Systems (30 TAC Chapter 290).*
- **Texas Water Development Board (TWDB).**
Region 15 – Lower Rio Grande Flood Planning Region Flood Plan (2023).
Austin, Texas.
- **Texas Department of Transportation (TxDOT).**
 - *Hydraulic Design Manual*, 2022 Edition.
 - *Bridge Design Manual (Hydraulics)*, 2023 Edition.
 - *Roadway Design Manual*, 2021 Edition.
 - *Stormwater Management Guidelines for Construction Activities.*

- *Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges.*
 - *TxDOT Drainage Design Criteria Manual.*
 - *TxDOT Standard Sheets: BC, BR, DS, and SW series (Drainage, Safety, and Erosion Control Details).*
- **Texas A&M Transportation Institute (TTI).**
Guidelines for Design of Roadside Channels and Culverts in Texas.
- **Texas Administrative Code (TAC).**
Title 30 – Environmental Quality, Chapters 213, 327, 331, and 335.

Regional and Local References

- **City of Eagle Pass (CoEP).**
 - *City of Eagle Pass Code of Ordinances, Chapter 13.5 – Floodplain Management Standards; Chapter 22 – Streets, Sidewalks and other Public Places; Chapter 23 – Subdivisions and Chapter 27 – Water and Sewers.*
 - *City of Eagle Pass Standard Construction Specifications and Details, latest edition.*
 - *City of Eagle Pass Drainage Criteria and Design Standards, Engineering Department, 2025.*
 - *City of Eagle Pass Comprehensive Plan, 2023 Update.*
 - *City of Eagle Pass Floodplain Development Ordinance.*
- **Maverick County Flood Control District.**
Stormwater and Floodplain Management Policies, 2024 Edition.
- **South Central Texas Regional Water Planning Group (Region 15).**
Regional Flood Hazard Mitigation and Watershed Master Plan (TWDB).
- **City of San Antonio (CoSA) Department of Public Works.**
Storm Water Design Criteria Manual, 2022.
(Referenced for technical comparison and design structure adaptation.)
- **City of Laredo Public Works Department.**
Stormwater Design Manual, 2019.
(Referenced for cross-regional design consistency and hydrologic assumptions.)
- **Harris County Flood Control District (HCFCD).**
Policy, Criteria, and Procedure Manual (PCPM), 2021.
(Referenced for detention, conveyance, and modeling standards.)

Hydrologic and Hydraulic Modeling References

- **NOAA Atlas 14, Volume 11: Texas Precipitation Frequency Data.**
National Weather Service, Silver Spring, MD, 2018.
(Used to define rainfall intensities and IDF relationships for Maverick County.)
- **HEC-HMS (Hydrologic Modeling System) Version 4.12.**
U.S. Army Corps of Engineers, Hydrologic Engineering Center, Davis, CA, 2023.
- **HEC-RAS (River Analysis System) Version 6.5.**
U.S. Army Corps of Engineers, Hydrologic Engineering Center, Davis, CA, 2024.

- **FlowMaster (Stormwater Hydraulic Calculator).**
Bentley Systems, 2022.
- **CulvertMaster (Culvert Hydraulics Program).**
Bentley Systems, 2022.
- **StormCAD / CivilStorm.**
Bentley Systems, 2023.

Construction and Maintenance Standards

- **TxDOT Item 432 – Riprap.**
- **TxDOT Item 464 – Reinforced Concrete Pipe.**
- **TxDOT Item 465 – Junction Boxes, Manholes, and Inlets.**
- **TxDOT Item 466 – Headwalls and Wingwalls.**
- **TxDOT Item 556 – Gabions and Reno Mattresses.**
- **TxDOT Item 164 – Seeding for Erosion Control.**
- **TxDOT Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls.**
- **TxDOT DMS-6200 – Geotextile Fabrics for Erosion Control.**
- **TxDOT Standard Sheets: EC, SW, and BC series (latest revisions).**

Professional Guidelines and Manuals

- **American Society of Civil Engineers (ASCE).**
Manual of Practice No. 77 – Design and Construction of Urban Stormwater Management Systems, 1992.
- **Water Environment Federation (WEF) and ASCE.**
Design of Urban Stormwater Controls, WEF Manual of Practice No. 23, 2012.
- **American Association of State Highway and Transportation Officials (AASHTO).**
LRFD Bridge Design Specifications, 10th Edition, 2023.
- **Texas Floodplain Management Association (TFMA).**
Floodplain Administrator’s Handbook for Texas Communities, 2020.
- **National Association of Flood & Stormwater Management Agencies (NAFSMA).**
Urban Flood Risk Reduction and Design Standards, 2019.

Cited Equations and Design References

The following key sources were used to establish design equations and technical methodologies contained in this manual:

Topic	Primary Reference
Rational Method	TxDOT Hydraulic Design Manual; CoSA Storm Water Manual
Manning’s Equation	FHWA HEC-15; TxDOT HDM
Culvert Flow	FHWA HDS-5; TxDOT HDM

Topic	Primary Reference
Inlet Design	FHWA HEC-22
Open Channel Design	HEC-15; HEC-14
Detention Routing	HEC-HMS; TR-55
Spillway Design	HEC-14; TxDOT Drainage Design Criteria
Scour and Bridge Hydraulics	HEC-18; HEC-20
Erosion Control and Shear Limits	TxDOT Items 432, 506; FHWA HEC-15
Water Quality BMPs	TCEQ TPDES TXR150000; EPA SWPPP Guidelines

APPENDIX B – LIST OF ABBREVIATIONS

Θ	Angle.
a	Gutter depression.
ac	Acres.
A	Area.
AMC	Antecedent moisture condition.
ASCE	American Society of Civil Engineers.
b	Width of partial flow in circular conduit.
C	Dimensionless weighted runoff coefficient used in the Rational Method to account for ground cover and/or land use within the watershed.
CA	Product of runoff coefficient and drainage area used in Rational Method.
cfs	Cubic feet per second.
CLOMR	Conditional letter of map revision.
C_p	Coefficient of peak discharge used in Snyder's unit hydrograph method to account for flood wave and storage conditions.
C_t	Dimensionless coefficient used in Snyder's unit hydrograph method related to the watershed slopes and storage.
D	Diameter.
D_c	Critical depth.
FEMA	Federal Emergency Management Agency.
fps	Feet per second.
Ft	Feet.
g	Acceleration due to gravity (32.2 fps).
h, H	Head.
H_b	Headloss at a bend.

H_j	Headloss at a junction.
HL	Total headloss.
HW	Headwater depth.
I	Rainfall intensity.
K	Dimensionless coefficient used in the Ration Method to account for antecedent precipitation.
K_b	Headloss coefficient at a bend.
K_e	Entrance loss coefficient.
K_j	Headloss coefficient at a junction.
L	Length.
L_a	Length of curb inlet require for 100% interception.
L_{ca}	River mileage from design point to center of gravity of drainage area.
L_g	Gutter flow length.
L_o	Overland flow length.
Min.	Minimum or minutes
MSL	Mean sea level
n, N	Roughness coefficient used in Manning's formula
P	Wetted perimeter of flow.
PMF	Probable Maximum Flood
q	Peak design discharge per unit area
Q, Q_p	Peak design discharge
Q_a	Approach flow in gutter upstream of curb inlet
q_p	Peak rate of discharge of unit hydrograph for unit rainfall duration
q_{pR}	Peak rate of discharge of unit hydrograph for unit rainfall duration, tR

ROW	Right-of-way
S, S _o , S _g	Ground slope, overland ground slope, or gutter flow ground slope
SCS	Soil Conservation Service
S _e	Slope of energy gradient
S _f	Slope of frictional gradient
S _p	Spread of water from curb toward the street centerline for peak flow
S _w	Slope of hydraulic gradient
SWMP	Storm Water Master Plan
T _c	Time of concentration
t _p	Hydrograph lag time from midpoint of rainfall duration, t _r , to peak of unit hydrograph
t _{pR}	Lag time from midpoint of unit rainfall duration, t _R , to peak of unit hydrograph
t _r	Standard unit rainfall duration
t _R	Unit rainfall duration in hours other than the standard unit t _r
T	Top width of flow
v, V	Velocity
w, W	Width
y, Y	Flow depth
z	Reciprocal of street cross slope

APPENDIX C – DEFINITIONS OF TECHNICAL TERMS

Abstractions	The fractions of precipitation lost to evaporation, transpiration, interception, depression storage and infiltration.
Abutment	A wall supporting the end of a bridge or span and sustaining the pressure of the abutting earth.
Apron	A floor or lining of concrete, timber, or other suitable material at the toe of a dam, entrance or discharge side of spillway, a chute, or other discharge structure, to protect the waterway from erosion from falling water or turbulent flow.
Backwater	The rise of the water level upstream due to an obstruction or constriction in the channel.
Backwater Curve	The term applied to the longitudinal profile of the water surface in an open channel when flow is steady but non-uniform.
Baffle Chute	A drop structure in a channel with baffles for energy dissipation to permit the lowering of the hydraulic energy gradient in a short distance to accommodate topography.
Baffles	Deflector vanes, guides, grids, gratings, or similar devices constructed or placed in flowing water, to: (a) check or effect a more uniform distribution of velocities; (b) absorb energy; (c) divert, guide, or agitate the liquids; and (d) check eddy currents.
Base Flood	The base flood for the City of Del Rio is defined as the 100-year frequency flood based on fully developed watershed conditions. The base flood elevation is the water surface elevation developed using the base flood as defined in part II of this manual. The City of Del Rio base flood elevation will not necessarily correspond FEMA base flood elevation.
Calibration	Process of checking, adjusting, or standardizing operating characteristics of instruments and model appurtenances on a physical model or coefficients in a mathematical model. The process of evaluating the scale readings of an instrument in terms of the physical quantity to be measured.
Channel Roughness	Irregularities in channel configuration which retard the flow of water and dissipate its energy.
Chute	An inclined conduit or structure used for conveying water to a lower level.

Conduit	Any open or closed device for conveying flowing water.
Continuity	Continuity of flow exists between two sections of a pipe or channel when the same quantity of water passes the two cross sections and all intermediate cross sections at any one instant.
Critical Flow	The state of flow which exhibits the following characteristics: (a) the specific energy is a minimum for a given discharge; (b) the discharge is a maximum for a given specific energy; (c) the specific force is a minimum for a given discharge; (d) the velocity head is equal to half the hydraulic depth in a channel of small slope; (e) the Froude Number is equal to unity.
Crown	(a) The highest point on a transverse section of conduit; (b) the highest point of a roadway cross section.
Culvert	Large pipe or other conduit through which a storm water flows under a road or street.
Curb	A vertical or sloping rim along the edge of a roadway, normally constructed integrally with the gutter, which strengthens and protects the pavement edge and clearly defines the pavement edge to vehicle operators.
Curb Inlet	A vertical opening in a curb through which the gutter flow passes. The gutter may be undepressed or depressed in the area of the curb opening.
Curb Split	The elevation difference between curbs on opposite sides of a street.
Dam	A barrier constructed across a watercourse for the purposes of (a) creating a reservoir; (b) diverting water from a conduit or channel.
Degradation	The progressive general lowering of a stream channel by erosion.
Depression Storage	Collection and storage of rainfall in natural depressions (small puddles) after exceeding infiltration capacity of the soil.
Design Storm or Flood	The storm or flood which is used as the basis for design, i.e., against which the structure is designed to provide a stated degree of protection or other specified result.
Detention	The storage of storm runoff for a controlled release during or immediately following the design storm. a. Off-site detention - A detention pond located outside the boundary of the area it serves.

b. On-site detention - A detention pond which is located within and serves only a specific site or subdivision.

c. On-stream detention - Detention facilities provided to control excess runoff based on a watershed-wide hydrologic analysis.

Drainage System Drainage systems must include streets, alleys, storm drains, drainage channels, culverts, bridges, overflow swales and any other facility through which or over which storm water flows.

Drop Inlet A storm drain intake structure typically located in unpaved areas. The inlet may extend above the ground level with openings on one or more sides or it may be flush with the ground with a grated cover

Drop Structures A sloping or vertical section of a channel designed to reduce the elevation of flowing water without increasing its velocity.

Entrance Head The head required to cause flow into a conduit or other structure; it includes both entrance loss and velocity head.

Entrance Loss Head lost in eddies or friction at the inlet to a conduit, headwall or structure.

Exceedance Probability The statistical probability that an event will equal or exceed a specific magnitude.

Flash Flood A flood of short duration with a relatively high peak rate of flow, usually resulting from high intensity rainfall over a small area.

Flexible Pipe Any corrugated metal pipe, pipe-arch, sectional plate pipe, sectional plate pipe- arch or plastic (polyethylene) pipe.

Flood Control The elimination or reduction of flood damage by the construction of flood storage reservoirs, channel improvements, dikes and levees, bypass channels, or other engineering works.

Flood Hazard Area Area subject to flooding by 100-year frequency floods.

Flood Hazard Mitigation See Storm Water Management.

Flood Management See Storm Water Management.

Floodplain	Geographically the entire area subject to flooding. In usual practice, it is the area subject to flooding by the 100-year frequency flood. In this manual, the "100- year floodplain" refers to the floodplain resulting from a 100-year flood based on ultimate watershed development conditions. The "FEMA floodplain" must refer to the area subject to flooding resulting from the 100-year flood for current watershed development conditions.
Floodway	The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation by more than a designated height. In this manual, the floodway refers to the floodway resulting from a 100-year flood event based on ultimate development conditions with a cumulative increase of no more than one foot.
Floodway Fringe	Part of the flood hazard area within the floodplain but outside of the floodway.
Freeboard	The distance between the normal operating level and the top of the side of an open conduit left to allow for wave action, floating debris, or any other condition or emergency without overtopping the structure.
Frequency (storms, floods)	Average recurrence interval of a given flood event over long periods of time. Mathematically, frequency is the reciprocal of the exceedance probability.
Froude Number	A flow parameter which is a measure of the extent to which gravitational
action affects the flow.	A Froude Number greater than one indicates supercritical flow and a value less than one indicates subcritical flow.
Gabion	A wire basket containing earth or stones, deposited with others to provide protection against erosion.
Grade	(a) The inclination or slope of a channel, canal, conduit, etc., or natural ground surface, usually expressed in terms of the percentage of number of units of vertical rise (or fall) per unit of horizontal distance. (b) The elevation of the bottom of a conduit, canal, culvert, drains, etc. (c) The finished surface of a canal bed, road bed, top of an embankment, or bottom of excavation.
Grate Inlet	An opening in the gutter covered by one or more grates through which the water falls. As with all inlets, grated inlets may be either

	depressed or undepressed and may be located either on a continuous grade or in a sump.
Gutter	A generally shallow waterway adjacent to a curb, used or suitable for drainage of water.
Head	The amount of energy per pound of fluid.
Headwater	(a) The upper reaches of a stream near its sources; (b) the region where ground waters emerge to form a surface stream; (c) the water upstream from a structure.
High Intensity Node	Areas of existing or proposed development that contain a large concentration of buildings and large amounts of pavement. High Intensity nodes typically generate large volumes of storm water runoff.
Histogram	Representation of statistical data by means of rectangles whose widths represent rainfall, runoff, etc. and whose height represents frequency.
Hydraulic Control	The hydraulic characteristic which determines the stage-discharge relationship in a flowing stream or conduit. The control is usually critical depth, tailwater depth or uniform depth.
Hydraulic Grade Line	A line representing the pressure head available at any given point within the system.
Hydraulic Gradient	A hydraulic profile of the piezometric level of the water, representing the sum of the depth of flow and the pressure head. In open channel flow it is the water surface.
Hydraulic Jump	The hydraulic jump is an abrupt rise in the water surface which occurs in an open channel when water flowing at supercritical velocity is retarded by water flowing at subcritical velocity. The transition through the jump results in a marked loss of energy, evidenced by turbulence of the flow within the area of the jump. The hydraulic jump is sometimes used as a means of energy dissipation.
Hydraulics	A branch of science that deals with practical applications of the mechanics of water movement.
Hydrograph	A graph showing flow (or sometimes stage, velocity or other properties of water) versus time at a given point on a stream or conduit.

Hydrology	The science that deals with the processes governing the depletion and replenishment of the water resources of the land areas of the earth.
Hyetograph	A histogram or graph of rainfall intensity versus time usually during a storm.
Impervious	A term applied to a material through which water cannot pass, or through which water passes with great difficulty.
Infiltration	a) The entering of water through the interstices or pores of a soil or other porous medium; (b) the quantity of groundwater which leaks into a sanitary or combined sewer or drain through defective joints, breaks or porous walls; (c) The absorption of water by soil, either as it falls as precipitation or from a stream flowing over the surface.
Inlet	(a) An opening into a storm drain system for the entrance of surface storm runoff, more completely described as a storm sewer inlet; (b) a structure at the diversion end of a conduit; (c) the upstream connection between the surface of the ground and a drain or sewer, for the admission of surface or storm water.
Intensity	As applied to rainfall, a rate usually expressed in inches per hour.
Interception	As applied to hydrology, refers to the process by which precipitation is caught and held by foliage, twigs, and branches of trees, shrubs and buildings, never reaching the surface of the ground, and then lost by evaporation.
Invert	The floor, bottom, or lowest portion of the internal cross section of a conduit. Used particularly with reference to storm drains, sewers, tunnels, channels and swales.
Lag Time	The time difference between two occurrences, such as between rainfall and runoff or pumping of a well and effect on the stream. See Time of Concentration.
Lining	Impervious material such as concrete, clay, grass, plastic, etc., placed on the sides and bottom of a ditch, channel, and reservoir to prevent or reduce seepage of water through the sides and bottom and/or to prevent erosion.
Lip	A small wall on the downstream end of an apron, to break the flow from the apron.

Manning Coefficient (n)	The coefficient of roughness used in the Manning Equation for flow in open channels.
Manning Equation	A uniform flow equation used to relate velocity, hydraulic radius and the energy gradient.
Model	Mathematical systems analysis by computer, applied to evaluate rainfall-runoff relationships; simulate watershed characteristics; predict flood and reservoir routings; or for other aspects of planning.
Nappe	The sheet or curtain of water overflowing a weir or dam. When freely overflowing any given structure, it has a well-defined upper and lower surface.
100-year Event	Event (rainfall or flood) that statistically has a one percent chance of being equaled or exceeded in any given year.
Open Channel	A conduit in which water flows with a free surface.
Orifice	(a) An opening with closed perimeter and regular form in a plate, wall, or partition, through which water may flow; (b) the end of a small tube, such as a Pitot tube, piezometer, etc.
Peak Flow	The maximum rate of runoff during a given runoff event.
Percolation	To pass through a permeable substance such as ground water flowing through an aquifer.
Permeability	The property of a material which permits movement of water through it when saturated and actuated by hydrostatic pressure.
Pervious	Applied to a material through which water passes relatively freely.
Porosity	(a) An index of the void characteristics of a soil or stratum as pertaining to percolation; degree of perviousness; (b) the ratio, usually expressed as a percentage, of the volume of the interstices in a quantity of material to the total volume of the material.
Post-development	The condition of the given site and drainage area after the anticipated development has taken place.
Precipitation	Any moisture that falls from the atmosphere, including snow, sleet, rain and hail.
Pre-development	The condition of the given site and drainage area prior to development.

Prismatic Channel	A channel with unvarying cross section and constant bottom slope.
Probable Maximum	
Flood (PMF)	The flood that may be expected from the most severe meteorological and hydrologic conditions that are reasonably possible in the region.
Probable Maximum	
Precipitation (PMP)	The critical depth-duration-area rainfall relationship for a given area during a storm containing the most critical meteorological conditions considered probable of occurring.
Rainfall Duration	The length of time over which a single rainfall event occurs.
Rainfall Frequency	The average recurrence interval of rainfall events, averaged over long periods of time.
Rainfall Intensity	The rate of accumulation of rainfall, usually in inches or millimeters per hour.
Rational Formula	A traditional means of relating runoff from a drainage basin to the intensity of the storm rainfall, the size of the basin, and the characteristics of the basin (such as land use, impervious cover).
Reach	Any length of river or channel. Normally refers to sections which are uniform with respect to discharge, depth, area or slope, or sections between gaging stations.
Recurrence Interval	The average interval of time within which a given event is statistically predicted to be equaled or exceeded once. For an annual series (as opposed to a partial duration series), it is the probability of occurrence interval. Thus a flood having a recurrence interval of 100 years has a one percent probability of being equaled or exceeded.
Return Period	See Recurrence Interval.
Rigid Pipe	Any concrete, clay or cast iron pipe.
Riprap (Revetment)	Forms of bank channel protection, usually using rock or concrete. Riprap is a term sometimes applied to stone which is dumped rather than placed more carefully.

Routing	Routing is a technique used to predict the temporal and spatial variations of a flood wave as it traverses a river reach or reservoir. Generally, routing technique may be classified into two categories - hydrologic routing and hydraulic routing.
Right-of-Way (ROW)	A strip of land dedicated for public streets and/or related facilities, including utilities, drainage systems and other transportation uses.
ROW Width	The shortest horizontal distance between the lines which delineate the limits of right-of-way of a street.
Runoff	That part of the precipitation that exceeds abstractions and reaches a stream or storm drain.
Runoff Coefficient	A decimal number used in the Rational Formula, which defines the runoff characteristics (i.e., land use impervious cover) of the drainage area under consideration. It may be applied to an entire drainage basin as a composite representation or it may be applied to a small individual area such as one residential lot.
Runoff Total	The total volume of flow from a drainage area for a definite period of time such as a day, month, year, or for the duration of a particular storm.
Runoff Curve Number	Index number used in the Soil Conservation Service unit hydrograph method as a measure of the tendency of rainfall to run off into streams rather than evaporate or infiltrate.
Scour	The erosive action of running water in streams or channels in excavating and carrying away material from the bed and banks.
Sediment	Material of soil and rock origin transported, carried, or deposited by flowing water.
Sidewalk	A paved area within the street right-of-way specifically designed for pedestrians and/or bicyclists.
Slope, Critical	(a) The slope or grade of a channel that is exactly equal to the loss of head per foot resulting from flow at a depth that will give uniform flow at critical depth; (b) the slope of a conduit which will produce critical flow.
Slope, Friction	The friction head or loss per unit length of channel or conduit. For uniform flow the friction slope coincides with the energy gradient. Where a distinction is made between energy losses due to bends, expansions, impacts, etc., a distinction must also be made between

the friction slope and the energy gradient. The friction slope is equal to the bed or surface slope only for uniform flow in uniform open channels.

Soffit	The top of the inside of a pipe. In a pipe, the uppermost point on the inside of the structure.
Spillway	A waterway in or about a dam or other hydraulic structure for the escape of excess water.
Steady Flow	Open channel flow is said to be steady if the depth of flow does not change and can be assumed to be constant during the time interval under consideration.
Stilling Basin	Pool of water conventionally used, as part of a drop structure or other structure, to dissipate energy.
Storm Hydrology	The branch of hydrology that concentrates on the calculation of runoff from storm rainfall.
Storm water	
Management	The control of storm runoff by means of land use restrictions, detention storage, erosion control, and/or drainage systems.
Storm water Model	Mathematical method of solving storm water problems by computer Technology.

Street Classifications

Type A – Major
Type B – Major
Type C – Secondary Major

Carries traffic from one urban area to another and serves the major activity centers of the urbanized areas. A major thoroughfare is used for longer urban trips and carries a high portion of the total traffic with a minimum of mileage.

Type D - Collector Street

Carries traffic from local streets to thoroughfares. Uses served would include medium and high density residential, limited commercial facilities, some small offices, and as direct access within industrial parks.

Type E – Residential
Type F - Estate

Distributes traffic to and from residences. Short in length, non-continuous to discourage through traffic. Low-density residential areas.

Subcritical Flow

Relatively deep, tranquil flow with low flow velocities. The Froude number is less than 1.0 for subcritical flow conditions.

Supercritical Flow

Relatively shallow, turbulent flow with high velocities. The Froude Number is greater than 1.0 for supercritical flow conditions.

Tailwater

The depth of flow in the stream directly downstream of a drainage facility or other man-made control structure.

Time of Concentration

The estimated time in minutes required for runoff to flow from the most hydraulically remote section of the drainage area to the point at which the flow is to be determined. Hydraulically remote refer to the travel path with the longest flow travel time, not necessarily the longest linear distance.

Total Head Line

(Energy Line)

A line representing the energy in flowing water. The elevation of the energy line is equal to the elevation of the flow line plus the depth plus the velocity head plus the pressure head.

Trash Rack

Racks, gratings, or mesh designed so as to prevent tree limbs, water-borne debris and rubbish from plugging the outlets from a dam or detention basin.

Trunk Line

The main line of a storm drain system, extending from manhole to manhole or from manhole to outlet structure.

Ultimate Development	The condition of the watershed after the entire watershed has undergone development.
Uniform Channel	A channel with a constant cross section, slope and roughness.
Uniform Flow	Open channel flow is said to be uniform if the depth of flow is the same at every section of the channel.
Unit Hydrograph	The direct runoff hydrograph resulting from one inch of precipitation excess, distributed uniformly over a watershed for a specified duration.
Velocity Head	The energy per unit weight of water due to its velocity. The velocity head also represents the vertical distance water must fall freely under gravity to reach its velocity.
Warped Headwall	The wingwalls are tapered from vertical at the abutment to a stable bank slope at the end of the wall.
Water Year	The water year commonly used in the United States is the period from October 1 of the previous calendar year to September 30 of the numbered calendar year.
Watershed	The area contributing storm runoff to a stream or drainage system. Other terms are drainage area, drainage basin and catchment area.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF EAGLE PASS, TEXAS, AMENDING CHAPTER 23, ARTICLE II, SECTIONS 23-25, ARTICLE III, SECTIONS 23-35, AND ARTICLE IV, SECTIONS 23-61 AND 23-68 OF THE CODE OF ORDINANCES RELATING TO SUBDIVISION PLAT REVIEW AND APPROVAL, ENGINEERING AND GEOTECHNICAL REQUIREMENTS, STREET DESIGN AND CONSTRUCTION STANDARDS, STORMWATER MANAGEMENT, AND DRAINAGE FACILITIES; PROVIDING FOR THE SUBMISSION AND REVIEW OF CERTAIN PLANS, REPORTS, AND DOCUMENTATION; PROVIDING FOR THE AUTHORITY AND RESPONSIBILITIES OF CITY STAFF IN THE REVIEW AND APPROVAL OF SUBDIVISION DEVELOPMENT; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING A SEVERABILITY CLAUSE; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City of Eagle Pass, Texas (the “City”), is a home-rule municipality authorized by the Texas Constitution and applicable state law to adopt ordinances necessary to protect the health, safety, and welfare of its residents and to regulate the development and use of property within the City; and

WHEREAS, Chapter 23 of the City of Eagle Pass Code of Ordinances establishes requirements and standards governing the subdivision and development of property within the City, including requirements relating to preliminary and final plats, engineering plans and reports, street construction, stormwater management, and drainage facilities; and

WHEREAS, the City Council finds that amendments to Chapter 23 are necessary and appropriate to update and clarify the City's subdivision development standards and to ensure that proposed developments are reviewed in accordance with the City's current development plans, construction specifications, stormwater design criteria, and applicable engineering standards; and

WHEREAS, the amendments provided herein are intended to clarify the review responsibilities of City staff, update the technical documentation required in connection with subdivision applications, and establish consistent requirements for geotechnical engineering, lot grading, stormwater pollution prevention, utility layouts, street design, and drainage facilities; and

WHEREAS, the City Council further finds that the amendments to Chapter 23 will promote orderly development, protect public infrastructure, improve stormwater

and drainage management, and protect the health, safety, and welfare of the citizens of the City of Eagle Pass; and

WHEREAS, the City Council has determined that the amendments set forth herein are in the best interest of the City and its residents and should be adopted as provided herein.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS THAT:

Section 1. The City of Eagle Pass Code of Ordinances, Chapter 23, Article II, Sections 23-25(g)(1)&(2), is hereby amended as follows:

(g) Processing of the preliminary plat.

- (1) Prior to formal application to the planning commission by the subdivider, the city manager shall check the preliminary plat as to its conformity with the Eagle Pass Master Development Plan, ~~[major street plan,]~~ latest version of the City of Eagle Pass Construction Manual, latest revision of the City of Eagle Pass Stormwater Design Criteria Manual, latest revision of the City of Eagle Pass Thoroughfare Master Plan, land use plan, zoning districts, and the standards and specifications set forth herein or referred to herein.
- (2) The city manager shall submit copies of the preliminary plat to the following for review and comment:
 - a. The water works and sewer system;
 - b. ~~[The city chief building official]~~ The Chief Building Official of the City of Eagle Pass;
 - c. The director of parks and recreation;
 - d. The director of public works;~~;~~
 - e. ~~[The sanitary sewer division the water works system.]~~ The City Engineer
 - f. The fire chief;
 - g. The city attorney.

The city manager may submit copies of the preliminary plat to others for review, if he deems it necessary.

Section 2. The City of Eagle Pass Code of Ordinances, Chapter 23, Article III, Sections 23-35(a)(4)c, is hereby amended as follows:

- c. Final engineering report. The final plat shall be accompanied by an engineering report bearing the signed and dated seal of a professional engineer registered in the State of Texas. The engineering report shall discuss the availability and methodology of providing water facilities and wastewater treatment and other to individual lots within the subdivision. A detailed cost estimate per lot acceptable to the county shall be provided for those unconstructed water

supply and distribution facilities and wastewater collection and treatment facilities which are necessary to serve each lot of the subdivision. The plan shall include a construction schedule for each significant element needed to provide adequate water or wastewater facilities. If financial guarantees are to be provided, the schedule shall include the start dates and completion dates.

An engineering report bearing the signed and dated seal of a professional engineer registered in the State of Texas. The report will contain a summary description of:

- The significant drainage problems associated with the project;
- The analysis procedure used to evaluate these problems and to propose solutions;
- Any assumptions or special conditions associated with the use of these procedures;
- The proposed design of the drainage control system; and
- The result of the analysis of the proposed drainage control systems that it does solve the project's drainage problems. The report will summarize the hydraulic design and detailing how this design satisfies the **latest version of the City of Eagle Pass Stormwater Design Criteria Manual and the** Eagle Pass Storm Water and Sediment Control Ordinance.

Section 3. The City of Eagle Pass Code of Ordinances, **Chapter 23, Article III, Sections 23-35(b)(1)d,** is hereby amended as follows:

d. To the [~~director of public works~~] **Public Works Director and City Engineer:**

Section 4. The City of Eagle Pass Code of Ordinances, **Chapter 23, Article III, Sections 23-35 (b)(1)d.4.-11,** is hereby amended as follows:

4. [~~Two (2) copies of the utilities layout showing proposed locations of utilities, street lights, fire hydrants and sidewalks shall be submitted.~~] **Geotechnical Engineering Report. Report shall be completed by a Texas Licensed Professional Engineer and must be utilized as a basis for pavement design of proposed streets unless proposed pavement sections adhere to "Appendix A-1" of the City of Eagle Pass Construction Specifications Manual. Proposed pavement design deviating from recommended pavement sections in the City of Eagle Pass Construction Specifications Manual must be submitted for City's Engineer review and approval. Pavement Design must be in accordance with the latest revision to the City of Eagle Pass Construction Specification Manual. Geotechnical Engineering Report shall serve as a basis for foundation design of residential and/or commercial developments.**

5. [~~Two (2) copies of detailed cost estimates of all required improvements within the subdivision other than gas and electric lines.~~] **Lot Grading Plan. Lot grading plan shall be completed per Sec 23-69 (b) of Article IV Subdivision Design Standards and Specifications.**

6. Stormwater Pollution Prevention Plan (SW3P). SW3P Plan to be in accordance with Ch. 23 Article VIII Stormwater Compliance For Construction Activity.

7. Submit one hard or digital copy of the Final Plat to include Construction Drawings, if

applicable. The Final Plat documents shall include:

- i. Utilities Layout, Street Lights, Fire Hydrants, and Sidewalks;
- ii. Detailed Cost Estimates of all detailed cost estimates of all required improvements within the subdivision other than gas and electric lines;
- iii. Geotechnical Engineering report used as a basis for pavement design and foundation design, as applicable;
- iv. Lot Grading Plan;
- v. Proposed Stormwater Pollution Prevention Plan

Section 5. The City of Eagle Pass Code of Ordinances, Chapter 23, Article IV, Sections 23-61(a), is hereby amended as follows:

(a) Street layout. The arrangement, character, extent, width, grade and location of all streets shall conform to the "Masterplan," "[Master] Thoroughfare Master Plan," "City of Eagle Pass Public Works Specifications Construction Manual," "City of Eagle Pass Stormwater Design Criteria Manual," and "Comprehensive Plan" of the city and shall be considered in their relation to existing and planned streets, to topographical conditions, to public safety and convenience, and in their appropriate relation to the proposed uses of land to be served by such streets. The street layout shall be devised for the most advantageous development of the entire city development. If the right-of-way or pavement width-~~€~~ contained herein and in City of Eagle Pass Public Works "~~Specification Construction Manual~~ "Thoroughfare Master Plan."

Section 6. The City of Eagle Pass Code of Ordinances, Chapter 23, Article IV, Sections 23-61(m)(3), is hereby amended as follows:

(3) Construction standards.

a. All streets shall be constructed with respect to base, surfacing, curbs and geometric design criteria in accordance with the standards and specifications of the City of Eagle Pass Public Works Construction Specifications Manual of the city and the regulations set forth herein and shall be subject to the inspection and approval by the city manager. Samples of caliche shall be required to be laboratory tested prior to initiation of construction. All costs incurred in meeting this requirement shall be borne by the subdivider.

b. No structures shall be placed within a street right-of-way. Within key areas where beautification is desired, street trees may be permitted if approved by the public works department but must not impede driver and pedestrian sight lines.

c. All street storm drainage design shall conform with the latest revision of the City of Eagle Pass Stormwater Design Criteria Manual.

Section 7. The City of Eagle Pass Code of Ordinances, Chapter 23, Article IV, Section 23-68(b), is hereby amended as follows:

(b) Drainage facilities.

(1) Drainage facilities shall be *designed in accordance with the latest revision of the City of Eagle Pass Stormwater Design Criteria Manual and* constructed in accordance with the design criteria and construction standards of the *latest version of the City of Eagle Pass Construction Specifications Manual.* [~~Master Development Plan of the City of Eagle Pass.~~]

(2) Drainage and drainage facilities shall be provided for in all instances and shall be approved by the city council *City Engineer, or their designee*, and the planning and zoning commission under and subject to the requirements contained in this section, and subject also to other provisions relating to floodway, overflow and drainage areas, courses and easements in a manner such that natural watercourses shall not be so changed, ignored, filled or otherwise encroached upon as to reduce their effectiveness in carrying off surface storm water, and in a manner such that land use and development shall be effectively controlled for the purpose and to end eliminating and preventing property damage by flooding.

Section 8. This ordinance shall be cumulative of all provisions of ordinances of the City of Eagle Pass, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

Section 9. It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

Section 10. This Ordinance shall become effective immediately upon publication.

**PASSED BY THE CITY COUNCIL AND APPROVED BY THE MAYOR ON
THIS _____ DAY OF _____ 2026.**

**AARON VALDEZ
MAYOR**

ATTESTED:

ERIKA RODRIGUEZ
CITY SECRETARY

APPROVED AS TO FORM:

ANA SOPHIA GARCIA
CITY ATTORNEY

RESOLUTION NUMBER 2026-R

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS, ESTABLISHING AN AIRPORT COMMITTEE; PROVIDING FOR THE COMPOSITION, PURPOSE, AND RESPONSIBILITIES OF THE COMMITTEE; PROVIDING FOR APPOINTMENT OF MEMBERS; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City of Eagle Pass, Texas (the “City”), recognizes the importance of the Eagle Pass Municipal Airport to the economic development, transportation infrastructure, public safety, business community, and overall growth of the City and surrounding region; and

WHEREAS, the City Council desires to establish an Airport Committee to provide community and stakeholder input regarding the planning, development, improvement, operation, and future needs of the Eagle Pass Municipal Airport; and

WHEREAS, the City Council recognizes that effective airport planning benefits from the participation of individuals representing City operations, the Kickapoo Traditional Tribe of Texas, local businesses, the professional community, and the citizens of Eagle Pass; and

WHEREAS, the City Council finds that establishing a diverse Airport Committee will provide an opportunity for stakeholders to offer recommendations, identify community needs, and assist the City Council and City staff in evaluating matters related to the Airport; and

WHEREAS, the City Council desires that the Airport Committee serve in an advisory capacity to the City Council and City administration and that all recommendations of the Committee remain subject to consideration and approval by the City Council, as required.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS, THAT:

SECTION 1. ESTABLISHMENT.

The City Council hereby establishes the **City of Eagle Pass Airport Committee** (the “Committee”) to serve as an advisory committee regarding matters pertaining to the Eagle Pass Municipal Airport.

SECTION 2. COMPOSITION OF THE COMMITTEE.

The Committee shall consist of **six (6) members**, representing the following:

1. **Two (2) City of Eagle Pass Staff Members or City Council Members**, appointed by the City Council;
2. **One (1) Member of the Kickapoo Traditional Tribe of Texas**, designated by the Tribe;
3. **One (1) Local Business Owner** from the Eagle Pass community;

4. **One (1) Business Professional** with experience or expertise that may benefit the Airport and the City; and
5. **One (1) Citizen of Eagle Pass** who represents the interests and perspectives of the community.

SECTION 3. APPOINTMENT OF MEMBERS.

The City Council shall appoint or confirm the members of the Airport Committee as appropriate. The Kickapoo Traditional Tribe of Texas member shall be designated by the Tribe, subject to confirmation by the City Council.

The City Manager shall designate the two City staff members to serve on the Committee.

The City Council shall appoint the business owner, business professional, and citizen members.

SECTION 4. PURPOSE AND RESPONSIBILITIES.

The Airport Committee shall serve in an advisory capacity and may:

- A. Review and provide recommendations concerning the planning, development, expansion, improvement, and future needs of the Eagle Pass Municipal Airport;
- B. Provide input regarding airport facilities, infrastructure, services, economic development opportunities, and community needs;
- C. Consider opportunities to enhance the Airport's role in regional transportation and economic development;
- D. Encourage communication and collaboration among the City, the Kickapoo Traditional Tribe of Texas, local businesses, business professionals, airport stakeholders, and the community;
- E. Review information presented by City staff, airport representatives, consultants, or other appropriate stakeholders;
- F. Identify issues and opportunities affecting the Airport and provide recommendations to City staff and the City Council; and
- G. Perform other advisory functions related to the Airport as requested by the City Council or City Manager.

SECTION 5. ADVISORY CAPACITY.

The Airport Committee shall serve solely in an advisory capacity. The Committee shall have no independent authority to bind the City, enter into contracts, expend City funds, approve projects, or otherwise act on behalf of the City unless expressly authorized by the City Council in accordance with applicable law.

Recommendations of the Committee shall be forwarded to the City Council and/or City administration for consideration, as appropriate.

SECTION 6. OFFICERS AND MEETINGS.

The Committee shall select a Chair and Vice Chair from among its appointed members, unless otherwise designated by the City Council.

The Committee shall meet as necessary to conduct its business. Meetings shall be scheduled in coordination with City staff.

SECTION 7. TERMS OF SERVICE.

Members appointed by the City Council shall serve at the pleasure of the City Council and shall continue to serve until their successors are appointed, unless otherwise removed or replaced by the City Council.

The Kickapoo Traditional Tribe of Texas may replace its designated representative by notifying the City in writing.

City staff members shall serve at the discretion of the City Manager.

SECTION 8. STAFF SUPPORT.

The City Manager, or designee, shall provide reasonable administrative support to the Committee and may designate appropriate City staff to assist with meeting coordination, preparation of materials, recordkeeping, and communication with Committee members.

SECTION 9. COMPLIANCE WITH LAW.

The Committee and its members shall comply with all applicable federal, state, and local laws, ordinances, policies, and regulations governing advisory committees and public meetings.

SECTION 10. NO FINANCIAL COMPENSATION.

Members of the Airport Committee shall serve without compensation from the City unless otherwise authorized by the City Council.

SECTION 11. SEVERABILITY.

If any provision of this Resolution or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect the validity of the remaining provisions, and to this end the provisions of this Resolution are declared to be severable.

SECTION 12. EFFECTIVE DATE.

This Resolution shall become effective immediately upon its adoption by the City Council of the City of Eagle Pass, Texas

READ, PASSED, AND APPROVED on this 1st day of September A.D., 2026.

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

RESOLUTION NO. 2026-_____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS,
AUTHORIZING THE SUBMISSION OF AN APPLICATION TO THE U.S. DEPARTMENT OF
JUSTICE, OFFICE ON VIOLENCE AGAINST WOMEN, FOR THE FY 2026 CONSOLIDATED
YOUTH GRANT PROGRAM; AUTHORIZING A PARTNERSHIP AND MEMORANDUM OF
UNDERSTANDING WITH MANOS UNIDAS.; DESIGNATING THE CITY MANAGER AS THE
AUTHORIZED OFFICIAL; AUTHORIZING THE EXECUTION OF GRANT-RELATED
DOCUMENTS;**

WHEREAS, the U.S. Department of Justice, Office on Violence Against Women (OVW), has made funding available through the FY 2026 Consolidated Youth Grant Program to support services, assistance, education, and prevention activities for children and youth affected by domestic violence, dating violence, sexual assault, stalking, and sex trafficking; and

WHEREAS, the City of Eagle Pass is an eligible unit of local government and desires to submit an application for funding to strengthen locally accessible services and coordinated support for affected children, youth, and families in Eagle Pass and Maverick County; and

WHEREAS, the City proposes to partner with Manos Unidas, to assist with project development, coordination, and the delivery of eligible victim-support and prevention services; and

WHEREAS, OVW requires the applicant and project partners to document their respective roles and responsibilities through a Memorandum of Understanding; and

WHEREAS, the grant does not require a local cash or in-kind match, and approval of this Resolution does not obligate the City to provide matching funds; and

WHEREAS, the City Council finds that submission of the application and collaboration with Manos Unidas, are in the best interest of the City and will help address an identified gap in local victim services and prevention resources.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EAGLE PASS, TEXAS:

SECTION 1. The City Council hereby authorizes the submission of an application to the U.S. Department of Justice, Office on Violence Against Women, under the FY 2026 Consolidated Youth Grant Program.

SECTION 2. The City Council hereby authorizes the City of Eagle Pass to partner with Manos Unidas, for the proposed project and authorizes the negotiation and execution of a Memorandum of Understanding and any related agreement necessary to define the parties' roles, responsibilities, and compliance obligations, subject to review and approval as to form by the City Attorney.

SECTION 3. The City Manager is designated as the City's authorized official and is authorized to apply for, accept, reject, alter, or terminate the grant on behalf of the City and to execute all documents necessary to complete the application and administer any resulting award.

SECTION 4. No local match is required for this funding opportunity. Any future expenditure of City funds not authorized by the grant award or the City's approved budget shall require separate approval in accordance with applicable law and City policy.

SECTION 5. If awarded, the City shall comply with all applicable federal grant requirements, award conditions, and approved program and budget provisions, and grant funds shall be used solely for authorized purposes.

SECTION 6. This Resolution shall take effect immediately upon its passage and approval.

READ, PASSED, AND APPROVED this 1st day of September, A.D., 2026.

ATTEST:

Aaron Valdez
Mayor

Erika Rodriguez
City Secretary

Panel Member Grading Matrix



Signature: _____

Name: Adisla R. Mendoza
Date: 01/13/2026
Cemendosa

*** RATE USING 1 POINT INCREMENTS PLEASE**

Evaluation Criteria	MAXIMUM RATING *	Firms Listed in Alphabetical Order			
		EVENTWEIS, LLC	LOCALISM, INC.		
Understanding of Event & Strategic Vision	15	15	15		
Project Approach & Event Management Strategy	20	18	16		
Sponsorship Development & Revenue Growth Capability	20	20	18		
Team Qualifications & Relevant Experience	15	15	15		
Past Performance & References	10	8	10		
Schedule, Capacity & Availability	5	5	5		
Cost Proposal & Overall Value	15	12	8		
TOTAL POINTS	100	93	87		
Member Recommendation: <u>To select Eventweis, LLC.</u>					



Panel Member Grading Matrix

Signature:

Name:

Date:

Aide Castañõ
11/15/26
Castañõ

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EVENTWEIS, LLC	LOCALISM, INC.		
Understanding of Event & Strategic Vision	15	14	14		
Project Approach & Event Management Strategy	20	18	14		
Sponsorship Development & Revenue Growth Capability	20	15	18		
Team Qualifications & Relevant Experience	15	14	8		
Past Performance & References	10	10	8		
Schedule, Capacity & Availability	5	5	5		
Cost Proposal & Overall Value	15	14	5		
TOTAL POINTS	100	90	74		

Member Recommendation:

I am concerned with cost once we take expenses into consideration.
But based on proposal Eventweis has done larger scale events.
Best Price was more reasonable.



Panel Member Grading Matrix

Signature: _____

Name: _____

Date: _____

Patricia Mancha
7-15-26
[Signature]

* RATE USING 1 POINT INCREMENTS PLEASE				Firms Listed in Alphabetical Order			
Evaluation Criteria	MAXIMUM RATING *	EVENTWEIS, LLC	LOCALISM, INC.				
Understanding of Event & Strategic Vision	15	6	6				
Project Approach & Event Management Strategy	20	12	13				
Sponsorship Development & Revenue Growth Capability	20	13	14				
Team Qualifications & Relevant Experience	15	12	12				
Past Performance & References	10	10	10				
Schedule, Capacity & Availability	5	5	5				
Cost Proposal & Overall Value	15	6	5				
TOTAL POINTS	100	64	65				

Member Recommendation:

Interested in interviewing applicants to gain understanding of their roles and expectations.



Name: Adislada Mendoza, Aide Castano, Patricia Mancha, Valeria Flores

Purchasing Manager Tabulation

Date: 7/15/2026

Signature: *Heber Ruiz*

* RATE USING 1 POINT INCREMENTS PLEASE		Firms Listed in Alphabetical Order			
Evaluation Criteria	MAXIMUM RATING *	EventWeis	Localism		
Understanding of Event & Strategic Vision	75	58	56		
Project Approach & Event Management Strategy	100	81	71		
Sponsorship Development & Revenue Growth Capability	100	74	78		
Team Qualifications & Relevant Experience	75	63	56		
Past Performance & References	50	46	44		
Schedule, Capacity, & Availability	25	24	24		
Cost Proposal & Overall Value	75	58	42		
TOTAL POINTS	500	404	371		

Member Recommendation:

EvenWeis, LLC

is the highest ranking firm.

Name: Samantha EspinozaDate: 7/15/26Signature: *** RATE USING 1 POINT INCREMENTS PLEASE**

Evaluation Criteria	Firms Listed in Alphabetical Order			
	MAXIMUM RATING *	EVENTWEIS, LLC	LOCALISM, INC.	
Understanding of Event & Strategic Vision	15	9	8	
Project Approach & Event Management Strategy	20	15	7	
Sponsorship Development & Revenue Growth Capability	20	8	9	
Team Qualifications & Relevant Experience	15	9	7	
Past Performance & References	10	8	7	
Schedule, Capacity & Availability	5	5	4	
Cost Proposal & Overall Value	15	12	9	
TOTAL POINTS	100	66	51	

Member Recommendation:

No recommendation. Neither proposal sufficiently showed measurable deliverables and overall value.



Panel Member Grading Matrix

Name: Valeria flores!
Date: _____
Signature: Valeria

* RATE USING 1 POINT INCREMENTS PLEASE		Firms Listed in Alphabetical Order			
Evaluation Criteria	MAXIMUM RATING *	EVENTWEIS, LLC	LOCALISM, INC.		
Understanding of Event & Strategic Vision	15	14	13		
Project Approach & Event Management Strategy	20	18	19		
Sponsorship Development & Revenue Growth Capability	20	18	19		
Team Qualifications & Relevant Experience	15	14 13	14		
Past Performance & References	10	10	9		
Schedule, Capacity & Availability	5	4	5		
Cost Proposal & Overall Value	15	14	15		
TOTAL POINTS	100	91	94		

Member Recommendation:

A san antonio company working with hispanic communities as this is the events biggest audience

Panel Member Grading Matrix



Name: Valeria Flores
Date: Aug 13, 2026
Signature: Valeria

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWise	Localism
Understanding of Event & Strategic Vision	15	14	13
Project Approach & Event Management Strategy	20	19	18
Sponsorship Development & Revenue Growth Capability	20	19	18
Team Qualifications & Relevant Experience	15	14	13
Past Performance & References	10	8	8
Schedule, Capacity, & Availability	5	5	5
Cost Proposal & Overall Value	15	15	13
TOTAL POINTS	100	94	88

Member Recommendation: My Recommendation is eventwise for better overall organization.

Panel Member Grading Matrix



Name: Adisla R. Mendoza
Date: 08/13/26
Signature: Elmendoza

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWeis	Localism
Understanding of Event & Strategic Vision	15	15	15
Project Approach & Event Management Strategy	20	18	16
Sponsorship Development & Revenue Growth Capability	20	20	18
Team Qualifications & Relevant Experience	15	15	15
Past Performance & References	10	10	10
Schedule, Capacity, & Availability	5	5	5
Cost Proposal & Overall Value	15	14	10
TOTAL POINTS	100	97	89
Member Recommendation:	To select Event Weis		

Panel Member Grading Matrix



Name:

Patricia Mancha

Date:

8/13/26

Signature:

[Signature]

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWeis	Localism
Understanding of Event & Strategic Vision	15	12	8
Project Approach & Event Management Strategy	20	18	7
Sponsorship Development & Revenue Growth Capability	20	8	7
Team Qualifications & Relevant Experience	15	12	10
Past Performance & References	10	10	9
Schedule, Capacity, & Availability	5	5	8
Cost Proposal & Overall Value	15	15	7
TOTAL POINTS	100	80	56
Member Recommendation:		YES	NO

Panel Member Grading Matrix



Name: Aide Castano
Date: 8/13/26
Signature: [Signature]

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWeis *	Localism
Understanding of Event & Strategic Vision	15	15	10
Project Approach & Event Management Strategy	20	15	10
Sponsorship Development & Revenue Growth Capability	20	10	10
Team Qualifications & Relevant Experience	15	15	12
Past Performance & References	10	10	10
Schedule, Capacity, & Availability	5	4	5
Cost Proposal & Overall Value	15	10	5
TOTAL POINTS	100	79	52

Member Recommendation:

Based on price and presentation, size of events held.
Eventweis

Panel Member Grading Matrix



Name: Samantha Espinoza
Date: 8/13/26
Signature: [Signature]

* RATE USING 1 POINT INCREMENTS PLEASE

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWeis	Localism
Understanding of Event & Strategic Vision	15	12	7
Project Approach & Event Management Strategy	20	17	12
Sponsorship Development & Revenue Growth Capability	20	12	10
Team Qualifications & Relevant Experience	15	10	7
Past Performance & References	10	8	8
Schedule, Capacity, & Availability	5	5	5
Cost Proposal & Overall Value	15	11	6
TOTAL POINTS	100	75	55
Member Recommendation:		YES	NO

Purchasing Manager Tabulation



Name: Valeria Flores, Adislada Mendoza, Patricia Mancha, Aide Castano, Samantha Espinoza

Date: 8/13/2026

Signature: Heber Ruiz

*** RATE USING 1 POINT INCREMENTS PLEASE**

Firms Listed in Alphabetical Order

Evaluation Criteria	MAXIMUM RATING *	EventWeis	Localism
Understanding of Event & Strategic Vision	75	68	53
Project Apporach & Event Management Strategy	100	87	63
Sponsorship Development & Revenue Growth Capability	100	69	63
Team Qualivications & Relevant Experience	75	66	57
Past Performance & References	50	46	45
Schedule, Capacity, & Availability	25	24	28
Cost Proposal & Overall Value	75	65	41
TOTAL POINTS	500	425	350
Member Recommendation:	EventWeis		

5/5 Panelist Voted for EventWeis



Government
Fleet Sales

QUOTE

Quote #: SAG-5573

Date: 6/26/2026

Expires: 7/26/2026

5/6.

Quote From:

Sames Laredo Chevrolet
3701 E. Saunders Street
Laredo, TX 78041
Jake Schobinger | jakes@sames.net
Phone: 210.381.8674

Quote For:

Eagle Pass Police Department
110 S Monroe Street
Eagle Pass, TX 78852

Vehicle Information

Year	Make/Model	Contract #	Color	Qty	Price	Total
2026	Chevrolet 4WD Tahoe 1FL w/9C1 (1FL & 9C1) CK10706	TIPS 240901	Black	1	\$56,920.05	\$56,920.05

Vehicles Subtotal: \$56,920.05

Est. Delivery: 2026 Chevrolet 4WD Tahoe 1FL w/9C1 (1FL & 9C1) CK10706 — In Stock (3-5 business days)

View vehicle photos: 2026 Chevrolet 4WD Tahoe 1FL w/9C1 (1FL & 9C1) CK10706

Standard Options: 2026 Chevrolet 4WD Tahoe 1FL w/9C1 (1FL & 9C1) CK10706

- L84 - Engine, 5.3L EcoTec3 V8
- MHU - Transmission, 10-speed automatic
- 9C1 - Police Package Vehicle Identifier
- Z56 - Suspension Package, heavy-duty, police-rated
- J55 - Brake system, heavy duty with front Brembo calipers and 16" front rotors
- 1FL - Commercial Preferred Equipment Group
- UD7 - Rear Parking Assist
- URW - Audio system, 17.7" diagonal advanced color LCD display
- K34 - Cruise control, electronic with set and resume speed
- BTV - Remote start
- AMF - Remote Keyless Entry Package
- V76 - Recovery hooks, 2 front, frame-mounted, Black
- K3W - Battery, 900 cold-cranking amps with 95 amp hour rating
- K6K - Battery, auxiliary, 760 cold-cranking amps with 70 amp hour rating
- KX4 - Alternator, 250 amps
- C6G - GVWR, 7600 lbs.
- WUA - Fascia, front high-approach angle
- V03 - Cooling system, extra capacity

Options/Upgrades

Description	Qty	Price	Total
Black, Left Hand Spot Light LED Head Lamps/Tail Lamps HD Surround Vision Front Auxiliary Dome Lamp Rear Window Switch Inoperative Rear Door Lock Inoperative	1	\$2,980.00	\$2,980.00

Options Subtotal: \$2,980.00

Upfitter Information

Upfitter	Quote #	Contract #	Qty	Price	Total
Dana Safety Supply	600551-F	-	1	\$46,862.90	\$46,862.90

Upfitters Subtotal: \$46,862.90

View attached upfitter quote

PRICING SUMMARY

Vehicles: \$56,920.05
Options: \$2,980.00
Upfitters: \$46,862.90

Transport: \$0.00
Trade-In: (\$0.00)

GRAND TOTAL: \$106,762.95

TERMS AND CONDITIONS

Balance on the vehicle is due within thirty (30) days of delivery to the upfitter or customer. A \$500 per month floor plan interest charge will be applied to any unpaid balance beyond Net 30 terms.

All prices provided in this quote are based on current market conditions and are subject to change. Pricing may be impacted by changes in OEM production availability, allocation limits, material shortages, tariffs, trade regulations, or other factors beyond the dealership's control.

Vehicle availability, production timing, and delivery schedules are subject to OEM manufacturing constraints and supply-chain conditions. The dealership shall not be held liable for delays, cancellations, or non-production resulting from OEM constraints or manufacturer decisions. In the event an OEM is unable to produce or deliver a vehicle as quoted, the dealership reserves the right to modify, delay, substitute, or cancel the order without penalty.

Any resulting price or availability changes will be communicated prior to final purchase or delivery.

View our in-stock vehicles at samesgovfleet.com/inventory

www.samesgovfleet.com

Follow us on Facebook

Recommended Approval
Capt. C. J. D.
Gerardo Fuentes 7/15/24

OK Aug 2026 OPSG*



CERTIFICATE OF GARAGE INSURANCE

DATE (MM/DD/YYYY)
7/15/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Higginbotham Insurance Agency, Inc. 911 Central Pkwy Suite 325 San Antonio TX 78232	CONTACT NAME: Marie Reyna		
	PHONE (A/C No. Ext.): 210-979-7470 FAX (A/C No.): 210-979-7474		
	E-MAIL ADDRESS: mreyna@higginbotham.net		
INSURED Sames Motor Co., Inc. 6001 San Dario Laredo TX 78041	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Service Lloyds Insurance Co.		43389
	INSURER B: Continental Casualty Company		20443
	INSURER C: Columbia Casualty Company		31127
	INSURER D: Illinois Union Insurance Company		27960
	INSURER E: The Continental Insurance Company		35289
INSURER F:			

COVERAGES PROD / CUSTOMER ID:

CERTIFICATE #: 871942928

REVISION #:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	☒ GARAGE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS USED IN GARAGE BUSINESS	Y		AYA763319155	2/1/2026	2/1/2027	AUTO ONLY (Ea accident) \$ 1,000,000 OTHER THAN AUTO ONLY EA ACCIDENT \$ 1,000,000 AGGREGATE \$ 2,000,000
C	☒ GARAGE KEEPERS LIABILITY ☒ LEGAL LIABILITY ☐ DIRECT BASIS ☐ PRIMARY ☐ EXCESS			AYN763326896	2/1/2026	2/1/2027	☒ COMP / OTC LOC \$ See below ☒ SPECIFIED PERILS LOC \$ ☒ COLLISION LOC \$ LOC \$
B	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:			AYA763319155	2/1/2026	2/1/2027	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
E	☒ UMBRELLA LIAB ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10,000			AYU763335677	2/1/2026	2/1/2027	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 20,000,000 \$
A	☒ WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under REMARKS below	N/A		SLICWC123101	1/1/2026	1/1/2027	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	Pollution			G47385775 004	2/1/2026	2/1/2027	See Below

REMARKS (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

NAMED INSURED:
Sames Motor Co. dba Sames Motor Company Inc.
Sames Budget Center, Ltd. dba Sames Red Barn Motors
See Attached...

CERTIFICATE HOLDER

CANCELLATION

City of Eagle Pass
100 S Monroe
Eagle Pass TX 78852

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: _____

LOC #: _____



ADDITIONAL REMARKS SCHEDULE

Page 1 of 2

AGENCY Higginbotham Insurance Agency, Inc.		NAMED INSURED Sames Motor Co., Inc. 6001 San Dario Laredo TX 78041	
POLICY NUMBER		EFFECTIVE DATE:	
CARRIER	NAIC CODE		

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 30 **FORM TITLE:** CERTIFICATE OF GARAGE INSURANCE

Sames Automotive, Inc. dba Sames Honda
 Thunderbird Finance dba Thunderbird Auto Finance, Ltd
 Bastrop Ford dba Sames Bastrop Ford, Inc.
 Sames Bastrop CDJ
 Sames Kingsville Ford, Inc.
 Sames Nissan, Inc.
 Crosstown Partners, Ltd dba Sames Ford Lincoln
 Sames Imports Inc. dba Sames Kia
 Sames Asset Management
 Sames Properties, Ltd
 Thunderbird Real Estate II, Ltd
 Sames Laredo Chevrolet, Inc.
 Sames Laredo Nissan, Inc.
 Sames Harlingen, Inc. dba Sames Harlingen Ford
 Sames McAllen, Inc. dba Sames McAllen Ford, Sames McAllen Lincoln

Locations:

6001 San Dario Laredo, TX 78041
 2 Auto Rd. West Laredo, TX 78040
 2B Auto Road West Laredo, TX 78041
 6105 San Dario Laredo, TX 78041
 6105B San Dario Laredo, TX 78041
 6105C San Dario Laredo, TX 78041
 6621 San Dario Ave Laredo, TX 78041
 5911 San Dario Ave Laredo, TX 78041
 802 Zapata Laredo, TX 78040
 802B Zapata Laredo, TX 78040
 6310 Bob Bullock Loop Laredo, TX 78043
 6302 Sinatra Drive Laredo, TX 78041
 4721 Ayers Corpus Christi, TX 78415
 3737 S Padre Island Dr Corpus Christi, TX 78403
 4754 Crosstown SH 286 Corpus Christi, TX 78415
 1115 Texas 71 Bastrop, TX 78602
 1115 Adj Texas 71 Bastrop, TX 78602
 1586 Texas Hwy 71 W Cedar Creek, TX 78612
 3701 E Saunders Laredo TX 78041
 1400 US Hwy 83, McAllen, TX 78501
 2521 A. Expressway 83, Harlingen, TX 78550

Garage Keepers -Legal liability

6001 San Dario Laredo, TX 78041 1,900,000
 2 – 2B Auto Rd. West Laredo, TX 78040 100,000
 6105-6105C San Dario Laredo, TX 78041 100,000
 802-802B Zapata Laredo, TX 78040 100,000
 6310 Bob Bullock Loop Laredo, TX 78043 650,000
 6621 San Dario Ave Laredo, TX 78041 250,000
 1115-1115 Adj Texas 71 Bastrop, TX 78602 750,000
 1586 Texas Hwy 71 W Cedar Creek, TX 78612 750,000
 4721 Ayers Corpus Christi, TX 78415 1,600,000
 3737 S Padre Island Dr Corpus Christi, TX 78403 300,000
 4802 Crosstown Expw (Hwy 286) Corpus Christi TX 78415 100,000
 3701 E Saunders Laredo TX 78041 2,000,000
 1400 E Hwy 83 McAllen TX 78501 2,000,000
 1225 E Dallas McAllen TX 78501 275,000
 900 E Nolana Blvd McAllen TX 78501 100,000
 2521-2522 Expwy 83 Harlingen TX 78550 1,000,000
 North Town Auto Center Sub, Lot B Mann Rd/Auto Rd Laredo TX 78041 540,000

Deductibles: \$2,500/\$10,000 per Occurrence – Comprehensive
 \$2,500 per Auto – Collision

30 Day Notice of Cancellation is provided per policy conditions.

Garage Dealers Liability coverage is Primary and Noncontributory when required by written contract or agreement provided the additional insured is a Named Insured under other insurance

Policy provides 10 day cancellation notice for non-payment and 30 day notice for all other per policy provisions.

AGENCY CUSTOMER ID: _____

LOC #: _____

**ADDITIONAL REMARKS SCHEDULE**Page 2 of 2

AGENCY Higginbotham Insurance Agency, Inc.		NAMED INSURED Sames Motor Co., Inc. 6001 San Dario Laredo TX 78041
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,****FORM NUMBER:** 30 **FORM TITLE:** CERTIFICATE OF GARAGE INSURANCE

A Blanket Waiver of Subrogation with respects to Garage Dealers Liability coverage is provided when required by contract or agreement

Certificate Holder is named as Additional Insured as respects to Garage Dealers Liability as required by written contract.

Umbrella is follow form.

Pollution
\$1,000,000 Per Pollution Condition or Indoor Environmental Condition/ \$1,000,000 Aggregate All Pollution Conditions or Indoor Environmental Condition
Retention
\$25,000 Per Pollution Condition Indoor Environmental Condition

\$1,000,000 Per Pollution Condition or Indoor Environmental Condition/ \$1,000,000 Aggregate All Pollution Conditions or Indoor Environmental Condition
Retention
\$50,000 Per Pollution Condition or Indoor Environmental Condition

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY CERTIFICATION OF FILING

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

SAMES LAREDO CHEVROLET, INC.
LAREDO, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Eagle Pass

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

Quote #: SAG-5573
Vehicles

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary

5 Check only if there is NO Interested Party.



6 UNSWORN DECLARATION

My name is Chris Collins, and my date of birth is 11/23/1973.

My address is 1716 Briarcrest Dr #316, Bryan, TX, 77802, USA.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in BRAZOS County, State of TEXAS, on the 15 day of JULY, 2026.
(month) (year)


Signature of authorized agent of contracting business entity
(Declarant)



City of Eagle Pass

• Finance Department • 100 S Monroe St • Eagle Pass, Texas 78852 • Telephone (830) 773-1111

EXPENDITURE REQUEST FORM

(Incomplete forms will not be processed. If amount exceeds \$3,000 must have three (3) quotes and if exceeds \$100,000 must be approved by council).

Date:	07/30/2026	Payment Type:	Check:	☒	Credit Card	☐	C. Holder	
Requestor's Name:	Humberto Garza	Requestor's Tel. Number:	830-773-9044					
Department Name:	Police	Fund Number						
Amount:	106,762.95	Needed by:	08/03/26	Will pick up:		Send to Vendor:	☐	
Justification:	Stone garden Grant Fully Equip Patrol Unit							

Vendor Information: (If new vendor please include W9)

Vendor Name:	Sames Government Fleet			Vendor Number:	
Mailing Address:					
Local Vendor?	☐	Phone:		Email:	
Is this a HUB vendor?	YES ☐	NO ☒	(Verify this section if purchase exceed \$3,000 dollars)		

Services Information:

Services Description

Stone Garden Grant Fully Equip Patrol Unit Fund 27

GL/Budget Code	27-4910-205-5	Total Price	106,762.95
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Goods Information

Qty.	Item Description	GL/Budget Code	Unit Price	Amount
1	Patrol Unit	27-4910-205-5		106,762.95

Approvals:

Requestor's Signature:	<i>Humberto D. Garza</i>	Date:	07/30/2026
Department Head Signature:	<i>[Signature]</i>	Date:	07/30/2026
Finance Office Signature:		Date:	
Administration Signature:		Date:	

(Follow Policy thresholds for approvals)

FOR FINANCE USE ONLY	
INVOICE / ACCURACY	
SIGNED AS RECEIVED	
COMPLIES WITH POLICY	
NO SALES TAX	
BUDGET AVAILABLE	

Note: Meals for an event must be pre-approved by City Manager and include a list of attendees, expected guest count and purpose of the event or meeting.

Marisela Maldonado

From: Gerardo Fuentes
Sent: Tuesday, August 18, 2026 11:28 AM
To: Marisela Maldonado
Cc: Amy Gonzalez; Humberto Garza
Subject: FW: Stone Garden Grant # 3182311

Here is the grant information for the counsel resolution . Let me know if you need anything else.

From: Gerardo Fuentes
Sent: Monday, August 17, 2026 10:42 AM
To: Amy Gonzalez <amygonzalez@eaglepasstx.gov>
Cc: Marisela Maldonado <mari.m@eaglepasstx.gov>; Humberto Garza <betogarza@eaglepasstx.gov>; Marisela Maldonado <mari.m@eaglepasstx.gov>
Subject: Stone Garden Grant # 3182311

Start Date : 03/21/2026
End date : 03/31/2028
Liquidation Date : 06/29/2028
Grant# 3182311
Pending Purchase on Fully Equipped Marked unit.

Budget Category	OOG Funds	Cash Match	In Kind Match	GPI	Total Project
☐ Personnel	\$178,135.00	\$0.00	\$0.00	\$0.00	\$178,135.00
☐ OOG-Defined Line Item	OOG Funds	Cash Match	In Kind Match	GPI	Total Project
☐ Operational Overtime for Law Enforcement (Organization)	\$178,135.00	\$0.00	\$0.00	\$0.00	\$178,135.00
☐ Grantee-Defined Line Item	OOG Funds	Cash Match	In Kind Match	GPI	Total Project
Enhanced Border Security Operations - City of Eagle Pass (8 - Officers) - Overtime according to local OT policy - up to a total of \$178,135.00.	\$178,135.00	\$0.00	\$0.00	\$0.00	\$178,135.00
Contractual and Professional Services	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Travel and Training	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
☐ Equipment	\$120,000.00	\$0.00	\$0.00	\$0.00	\$120,000.00
☐ OOG-Defined Line Item	OOG Funds	Cash Match	In Kind Match	GPI	Total Project

12VE-00-MISS Vehicle, Specialized Mission	\$120,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$120,000.00	
Grantee-Defined Line Item							
EPED: 12VE-00-MISS Fully Equipped Law Enforcement Vehicle (1 @ \$120,000)	\$120,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$120,000.00	1
Supplies and Direct Operating Expenses	\$15,996.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,996.00	
OOG-Defined Line Item							
Equipment Maintenance Costs (Organization)		\$7,996.00	\$0.00	\$0.00	\$0.00	\$7,996.00	
Grantee-Defined Line Item							
PPD - Oil Changes, tires, repairs for OPSG usage up to \$7,996.00.		\$7,996.00	\$0.00	\$0.00	\$0.00	\$7,996.00	0
Vehicle Operating Cost (e.g., fuel, lubricants, maintenance, storage) (Organization)		\$8,000.00	\$0.00	\$0.00	\$0.00	\$8,000.00	
Grantee-Defined Line Item							
EPPD - 2857 estimated gals. EFR/\$2.80 per gal. up to \$8,000.00.		\$8,000.00	\$0.00	\$0.00	\$0.00	\$8,000.00	0

Budget Summary Totals

OOG Funds:

Cash Match: In Kind Match: GPI: Total Project:

Gerardo Fuentes
Administrative Captain
Eagle Pass Police Department
489 S. Monroe St.
Eagle Pass, Texas
Office: 830-773-9044 Ext. 2076
Cell: 830-319-0968



CCO #001

Project: RECYCLING CENTER

Subcontract Change Order #001 : Addition Building

Contract Company: RAFSA CONSTRUCTION

Contract For: RFP# 2026-005

Date Created: 8/20/2026

Created by: Cristian - RAFSA CONSTRUCTION

Contract Status:

Revision:

Requested Received from: Engineer EduardoSoto

Designated Reviewer: Abel Garcia(Rafsa Const)

Review By:

Due Date:

Review Date:

Invoice Date:

Paid Date:

Schedule Impact: Yes

Change Reason:

Executed:

Signed Change Order received Date:

CE #001 - Additional Building

#	Description	Quantity	Amount
1	Foundation Slab	658 SF	13,100.00
2	Metal Building Addition(20' High)	658 SF	30,000.00
3	Erection of Metal Building	658 SF	15,600.00
4	Seal Concrete	658 SF	1,200.00
5	Interior R Panels 8'	140 LF	8,800.00
6	Plywood Walls	50' x 8	1,500.00
7	4" CMU Perimeter 140LF x4' high	140 LF	20,300.00
8	Roll up Door	1	2,800.00
9	Concrete Pavement 8"	600 SF	15,900.00
10	Earthwork	1	15,000.00
11	Electrical Service	1	8,000.00
12	Plumbing		12,600.00
13	Canopy 20' x 50 'x 20'	1	26,800.00
			171,600.00

Note: Additional work will exclude Gates, Bollards, Water Meter, Fire Hydrants, Driveway, Employee Parking, Additional Earthwork Associated with site Improvements, and Switchgear Package.

Concrete Demo Credit -32,600.00

Total 139,000.00

The Original Contract Sum	556,000.00
The Contract Sum would be changed by this change order in the amount of:	139,000.00
The New contract sum including this change order will be:	695,000.00

RAFSA CONSTRUCTION

City of Eagle Pass

Signature

Santos A. Garcia
Signature