



## Planning and Zoning Commission

Wednesday, January 14, 2026, 6:30 PM  
Council Chambers  
200 S. Main St.  
Cibolo, Texas 78108

Est. Duration: 1 hr

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### 1. Call to Order

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### 2. Roll call and Excused Absences

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### 3. Invocation/Moment of Silence

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### 4. Pledge of Allegiance

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### 5. Election of Chair and Vice Chair

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### 6. Consent Agenda

(All items listed below are considered to be routine and non-controversial by the commission and will be approved by one motion. There will be no separate discussion of these items unless a commission member requests, in which case the item will be removed from the consent agenda.)

6.A. Approval of the minutes from the December 17, 2025, meeting.

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### 7. Citizens to be Heard

This is the only time during the Meeting that a citizen can address the Commission. It is the opportunity for visitors and guests to address the Commission on any issue to include agenda items. All visitors wishing to speak must fill out the Sign-In Roster prior to the start of the meeting. The Commission may not deliberate any non-agenda issue, nor may any action be taken on any non-agenda issue at this time; however, the Commission may present any factual response to items brought up by citizens. (Attorney General Opinion - JC-0169) (Limit of three minutes each.) All remarks shall be addressed to the Commission as a body. Remarks may also be addressed to any individual member of the Commission so long as the remarks are (i) about matters of local public concern and (ii) not disruptive to the meeting or threatening to the member or any attendee including City staff. Any person violating this policy may be requested to leave the meeting, but no person may be requested to leave or forced to leave the meeting because of the viewpoint expressed. This meeting is livestreamed.

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### 8. Public Hearing

8.A. Conduct a Public Hearing regarding a Proposed Resolution to Authorize the Schlather Ranch Subdivision to develop a Private Street network.

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### 9. Discussion/Action Items

9.A. Discussion/Action to Approve a Land Study and Resolution to Authorize the Schlather Ranch Subdivision with a Private Street network.

9.B. Discussion/Action regarding the Final Plat of Steele Creek Unit 9.

9.C. Discussion/Action regarding a request to amend the Future Land Use Map (FLUM) in the Cibolo Tomorrow Comprehensive Plan to change the future land use designation from Community Residential to Compact Residential for certain real properties located at 4240 and 4270 Green Valley Road, legally described as ABS: 137 SUR: T GARCIA 6.8620 AC, and ABS: 137 SUR: T GARCIA 4.9580 AC.

## **10. UDC, CIP, Master Plan and Staff Updates**

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10.A. Staff Updates

## **11. Items for future agendas**

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## **12. Adjournment**

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This Notice of Meeting is posted and pursuant to the Texas Government Code 551.041 - .043 on the front bulletin board of the Cibolo Municipal Building, 200 South Main Street, Cibolo, Texas which is a place readily accessible to the public at all times and that said notice was posted on

Peggy Cimics, TRMC

City Secretary

Pursuant to Section 551.071, 551.072, 551.073, 551.074, 551.076, 551.077, 551.084 and 551.087 of the Texas Government Code, the City of Cibolo reserves the right to consult in closed session with the City Attorney regarding any item listed on this agenda. This agenda has been approved by the city's legal counsel and subject in any Executive Session portion of the agenda constitutes a written interpretation of Texas Government Code Chapter 551. This has been added to the agenda with the intent to meet all elements necessary to satisfy Texas Government Code Chapter 551.144.

A possible quorum of Council, committees, commissions, boards and corporations may attend this meeting.

This facility is wheelchair accessible and accessible parking space is available. Request for accommodation or interpretive services must be made 48 hours prior to the meeting. Please contact the City Secretary at (210) 566-6111. All cell phones must be turned off before entering the meeting.

I certify that the attached notice and agenda of items to be considered by the Planning and Zoning Commission was removed by me from the City Hall bulletin board on the \_\_\_\_day of \_\_\_\_\_2026.

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Name and Title

*Peggy Lewis*

Date Posted: January 8, 2026 04:43 pm



Planning and Zoning Commission Staff Report

A. Conduct a Public Hearing regarding a Proposed Resolution to Authorize the Schlather Ranch Subdivision to develop a Private Street network.

Meeting	Agenda Group
Wednesday, January 14, 2026, 6:30 PM	Public Hearing Item: 8A.
From	
Rick Vasquez, Director of Economic Development and Planning	

PROPERTY INFORMATION:

- Owner:** Schlather Properties LLC
- Representative:** Shad Schmid – KF Schlather LP
- Area:** 117.626 acres
- Location:** Intersection of Town Creek Road and Wiedner Road
- Council Place:** 3
- Future Land Use:** Estate Residential
- Zoning (map):** Low Density Single-Family Residential (SF-2)
- Proposed Use:** 107 Single-Family Residential Lots
- Utility Providers:** Sewer/Water – City of Cibolo and Electricity – GVEC

FINDINGS/CURRENT ACTIVITY:

The Schlather Ranch Subdivision is a proposed residential development with a private street network. Private street developments are governed by Section 18.2 of the Cibolo Unified Development Code (UDC), which establishes the intent, administrative procedures, design standards, maintenance responsibilities, and evaluation criteria for such developments.

PUBLIC NOTICE:

Notice of the public hearing was scheduled for the January 14, 2026, Planning & Zoning Commission meeting and published in the local newspaper (Seguin Gazette) on December 28, 2025. To date, no public comments have been received.

ANALYSIS:

Section 18.2 of the UDC allows private street developments on a limited and case-by-case basis to promote flexibility in residential development, maintain competitiveness in the housing market, and provide a broader variety of residential environments within the City. Private streets are not permitted by right and require discretionary approval by City Council following review by the Planning & Zoning Commission.

## **Required Approval Process**

Private street developments are subject to approval by the City Council through the Specific Use Permit (SUP) process (via a public hearing), with a recommendation provided by the Planning & Zoning Commission. As part of this process, the applicant is required to submit a Land Study demonstrating compliance with the criteria outlined in Section 18.2.

## **Design Standards**

Private street subdivisions are required to meet the same design and construction standards applicable to public street subdivisions, as established in the UDC and the City of Cibola Design and Construction Manual.

## **Maintenance Responsibilities**

Unlike public streets, private streets and associated infrastructure are not maintained by the City. Section 18.2 assigns responsibility for inspection and maintenance of all infrastructure—except utilities—to the property owners' association (POA). The City has no obligation to maintain or inspect private streets. If the POA fails to maintain required access or infrastructure, the City may take corrective action and recover associated costs from the POA, including removing gates or barriers that restrict emergency or public access.

## **Approval Criteria for Private Street Developments**

Section 18.2(F) establishes mandatory and recommended guidelines that must be considered when evaluating a private street development:

### **Mandatory Criteria (Required):**

1. The development must be located within the City's corporate limits.
2. The development must not impede existing or future street circulation needs, including collector or arterial routes or access to adjacent properties.
3. The development must not disrupt existing or planned public pedestrian pathways, hike-and-bike trails, or park facilities.

### **Recommended Guidelines (Discretionary):**

In addition to the mandatory criteria, City staff, the Planning & Zoning Commission, and City Council evaluate the extent to which the proposed development satisfies recommended guidelines, including:

- Residential zoning consistency for residential private street developments;
- Physical separation from surrounding areas through natural or manmade barriers such as greenbelts, parks, or collector thoroughfares; and
- Adequate access to collector or arterial streets to ensure safe and efficient traffic circulation, emergency access, and long-term connectivity.

The degree to which these recommended guidelines are met is considered as part of the overall determination of whether the proposed private street development is appropriate for the location and consistent with the City's long-term planning objectives.



Planning and Zoning Commission Staff Report

A. Discussion/Action to Approve a Land Study and Resolution to Authorize the Schlather Ranch Subdivision with a Private Street network.

Meeting	Agenda Group
Wednesday, January 14, 2026, 6:30 PM	Discussion/Action Items Item: 9A.

From
Rick Vasquez, Director of Economic Development and Planning

PROPERTY INFORMATION:

- Owner:** Schlather Properties LLC
- Representative:** Shad Schmid – KF Schlather LP
- Area:** 117.626 acres
- Location:** Intersection of Town Creek Road and Wiedner Road
- Council Place:** 3
- Future Land Use:** Estate Residential
- Zoning (map):** Low Density Single-Family Residential (SF-2)
- Proposed Use:** 107 Single-Family Residential Lots
- Utility Providers:** Sewer/Water – City of Cibolo and Electricity – GVEC

FINDINGS/CURRENT ACTIVITY:

The Schlather Ranch Subdivision is a proposed residential development with a private street network. Private street developments are governed by Section 18.2 of the Cibolo Unified Development Code (UDC), which establishes the intent, administrative procedures, design standards, maintenance responsibilities, and evaluation criteria for such developments.

PUBLIC NOTICE:

Notice of the public hearing was scheduled for the January 14, 2026, Planning & Zoning Commission meeting and published in the local newspaper (Seguin Gazette) on December 28, 2025. To date, no public comments have been received.

ANALYSIS:

Section 18.2 of the UDC allows private street developments on a limited and case-by-case basis to promote flexibility in residential development, maintain competitiveness in the housing market, and provide a broader variety of residential environments within the City. Private streets are not permitted by right and require discretionary approval by City Council following review by the Planning & Zoning Commission.

## **Required Approval Process**

Private street developments are subject to approval by the City Council through the Specific Use Permit (SUP) process (via a public hearing), with a recommendation provided by the Planning & Zoning Commission. As part of this process, the applicant is required to submit a Land Study demonstrating compliance with the criteria outlined in Section 18.2.

## **Design Standards**

Private street subdivisions are required to meet the same design and construction standards applicable to public street subdivisions, as established in the UDC and the City of Cibola Design and Construction Manual.

## **Maintenance Responsibilities**

Unlike public streets, private streets and associated infrastructure are not maintained by the City. Section 18.2 assigns responsibility for inspection and maintenance of all infrastructure—except utilities—to the property owners' association (POA). The City has no obligation to maintain or inspect private streets. If the POA fails to maintain required access or infrastructure, the City may take corrective action and recover associated costs from the POA, including removing gates or barriers that restrict emergency or public access.

## **Approval Criteria for Private Street Developments**

Section 18.2(F) establishes mandatory and recommended guidelines that must be considered when evaluating a private street development:

### **Mandatory Criteria (Required):**

1. The development must be located within the City's corporate limits.
2. The development must not impede existing or future street circulation needs, including collector or arterial routes or access to adjacent properties.
3. The development must not disrupt existing or planned public pedestrian pathways, hike-and-bike trails, or park facilities.

### **Recommended Guidelines (Discretionary):**

In addition to the mandatory criteria, City staff, the Planning & Zoning Commission, and City Council evaluate the extent to which the proposed development satisfies recommended guidelines, including:

- Residential zoning consistency for residential private street developments;
- Physical separation from surrounding areas through natural or manmade barriers such as greenbelts, parks, or collector thoroughfares; and
- Adequate access to collector or arterial streets to ensure safe and efficient traffic circulation, emergency access, and long-term connectivity.

The degree to which these recommended guidelines are met is considered as part of the overall determination of whether the proposed private street development is appropriate for the location and consistent with the City's long-term planning objectives.

**Attachments**

[Schlather Ranch Private Streets Resolution](#)

[UDC Section 18.2 - Private Streets](#)

[Schlather Ranch Subdivision - Land Study](#)

[Schlather Ranch Map](#)

**A RESOLUTION OF THE CITY OF CIBOLO, TEXAS, AUTHORIZING PRIVATE STREETS, IN ACCORDANCE WITH THE 2024 UNIFIED DEVELOPMENT CODE, ARTICLE 18, TRANSPORTATION**

**WHEREAS**, the City of Cibolo 2024 Unified Development Code (UDC), Article 18, Transportation, authorizes the Planning and Zoning Commission to review applications requesting approval to develop subdivision with a private street network; and

**WHEREAS**, Article 18 of the UDC further authorizes the City Council to consider and approve such applications to permit the development of subdivision with private street networks; and

**WHEREAS**, **KF SCHLATHER LP**, a Texas limited partnership (the "Developer"), the applicant, submitted a Land Study as required by Article 18, Transportation and is seeking Planning and Zoning Commission and City Council approval (through the Specific Use Permit Process) for the location to develop a residential subdivision with a private street network; and

**WHEREAS**, the private street location will conform to the same rules, regulations, standards, and specifications established for public subdivisions and as regulated in the City UDC and Cibolo Design and Construction Manual.; and

**WHEREAS**, the city has no obligation to inspect or maintain a private street; and

**WHEREAS**, If the property owners' association fails to make repairs required by the city, the city shall have the right, but not the obligation, to cause the repairs to be completed and collect the cost of the same from the property owners' association for said work.; and

**WHEREAS**, the property owners' association shall be responsible for periodic inspection and maintenance of the private streets; and

**WHEREAS**, the development plan shall not impede the current or future street circulation needs of the area, especially any needed collector or arterial street route, or adequate access to any adjoining tract.; and

**WHEREAS**, the private street location shall not disrupt an existing or proposed city public pedestrian pathway, hike and bike trail or park; and

**WHEREAS**, the proposed private street subdivision will not result in an overconcentration of such developments, to the extent of dominating the neighborhood development pattern.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CIBOLO, TEXAS, THAT:**

**Section 1.** The recitals contained in the preamble hereof are hereby found to be true, and such recitals are hereby made a part of this Resolution for all purposes and are adopted as part of the judgment and finding of the City Council.

**Section 2.** **KF SCHLATHER LP**, a Texas limited partnership (the "Developer") may develop a private street network within the proposed Slather Ranch Subdivision.

**Section 3. Limitations and Conditions.** This approval is limited exclusively to the Slather Ranch Subdivision development and is subject to full compliance with all applicable provisions of the 2024 UDC.

**Section 4. Implementation.** City staff is hereby directed to take all necessary actions to implement this Resolution.

**Section 5.** All resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

**Section 6.** This Resolution shall be construed and enforced in accordance with the laws of the State of Texas and the United States of America.

**Section 7.** If any provision of this Resolution or the application thereof to any person or circumstance shall be held to be invalid, the remainder of this Resolution and the application of such provision to other persons and circumstances shall nevertheless be valid, and the City Council hereby declares that this Resolution would have been enacted without such invalid provision.

**Section 8.** It is officially found, determined, and declared that the meeting at which this Resolution is adopted was open to the public and public notice of the time, place, and subject matter of the public business to be considered at such meeting, including this Resolution, was given, all as required by Chapter 551, Texas Government Code, as amended.

**Section 9.** This resolution shall be in force and effect from and after its final passage, and it is so resolved.

**PASSED AND APPROVED** on this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

**CITY OF CIBOLO, TEXAS**

By: \_\_\_\_\_  
**Mayor**

ATTEST:

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**City Secretary**

may be required, in some instances, to maximize the use of existing streets and/or to ensure a consistent street alignment with a minimum of undesirable curvature.

iii. Partial Boundary Street.

If the right-of-way for an arterial or collector street forms part of the subdivision boundary, the subdivider shall comply with requirements of either one of the following two paragraphs:

- (1) The subdivider shall pave thirty-three (33') feet of the right-of-way in accordance with City standards and specifications.
- (2) The subdivider shall contribute to the City an amount of money equal to that necessary to complete paving and curbing as required by this UDC.

iv. Expressway.

If the right-of-way for an expressway lies adjacent to or forms part of the subdivision boundary, no paving improvements shall be required of the subdivider.

## 18.2 Private Streets

### A. Intent and Purpose.

It is the intent of these private street regulations:

1. To allow private street developments to occur within the city on a limited and restrictive basis;
2. To provide for private street developments as one type of residential development mechanism to allow the city to continue to be competitive in the development market; and
3. To provide a broader variety of residential areas to meet the needs of the residents of the city.

### B. General.

1. There shall be no required minimum or maximum acreage size and/or number of lots within private street developments. However, minimums and maximums will be evaluated on a case-by-case basis through all applicable requirements of this UDC.
2. The location of each private street development will be subject to the approval of the City Council, through the specific use permit process, on a case-by-case basis, based on, among other matters, the criteria described in this article.

### C. Administrative Procedures.

In order to qualify for consideration for private streets, the applicant must submit a Land Study of the proposed development demonstrating compliance with the criteria set forth below. For private street developments of twenty (20) or fewer lots, a Preliminary Plat of the proposed development may be submitted concurrently with the Land Study.

### D. Private Street Design Standards.

#### 1. Required.

The design and construction of the infrastructure within a private street subdivision shall conform to the same rules, regulations, standards, and specifications established for public subdivisions and as regulated in the City UDC and Cibola Design and Construction Manual.

## **2. Promulgation.**

The City Engineer is hereby authorized to promulgate rules, regulations, standards, and specifications for the design and construction of improvements unique to a private street subdivision in accordance with Article 2 of this UDC.

## **3. Amendments.**

An amendment may be made from time to time in accordance with Article 3 of this UDC.

## **4. Private Street Structures:**

- a. Project perimeter fences at project entry access points, entry monuments, and security stations, may be erected within the public utility and storm sewer easement, provided they do not impede the installation, maintenance, repair, or replacement of public utilities and storm sewers within the easement.
- b. Where security stations are a part of a larger, multipurpose structure, only that portion of the structure, which functions as a security station, may encroach the building line adjacent to the private street.

## **E. Maintenance.**

1. The property owners' association shall be responsible for periodic inspection and maintenance of all infrastructure except utilities (water, sanitary sewer, storm sewer, gas, cable, phone and electric lines).
2. The city has no obligation to inspect or maintain a private street.
3. In the event that the property owners' association fails to make repairs required by the city, the city shall have the right, but not the obligation, to cause the repairs to be completed and collect the cost of the same from the property owners' association for said work.
4. If the property owners' association fails to maintain access as required in this article, the city may enter the subdivision and remove any gate or device, which is a barrier to access, at the sole expense of the property owners' association.

## **F. Guidelines for Development.**

The proposed development shall be evaluated with respect to the following guidelines as part of the review and approval process for all private street developments. Subsections 1-3 below are mandatory and shall be required for all private street developments. Subsections 4-7 below are recommended guidelines, the degree to which each is satisfied should be reviewed by Cibola city staff, the Planning and Zoning Commission, and City Council, as a part of the determination of the merits of any individual proposed private street development.

1. The area shall be within the corporate limits of the city.
2. The development plan shall not impede the current or future street circulation needs of the area, especially any needed collector or arterial street route, or adequate access to any adjoining tract.
3. Area shall not disrupt an existing or proposed city public pedestrian pathway, hike and bike trail or park.
4. If the area is intended for residential use (may be an existing or proposed residential development), it should be zoned solely as a residential zoning district (that is, a zoning district the stated purpose of which is to provide for primarily residential uses).
5. The area should be bounded on all sides by natural barriers, manmade barriers such as a greenbelt, hike and bike trail, golf course or park, screening walls, or collector thoroughfares.
6. Except where substantial existing natural or manmade barriers would render the requirement unreasonable, each such development should have direct access to a two-lane collector street width, unless a lesser width two-lane collector is determined adequate due to an absence of need for on-street parking), in addition to any access to one or more arterial streets that may be proposed. Any private street development of such limited size that it does not require direct collector street access for appropriate traffic service may instead have access to a collector street within the neighborhood by way of another local street.

LAND STUDY

SCHLATHER RANCH SUBDIVISION

A 117.626 ACRE (5,123,781.94 SQUARE FEET) TRACT OF LAND, SITUATED IN THE TRINIDAD GARIA SURVEY NUMBER 94, ABSTRACT NUMBER 137, GUADALUPE COUNTY, TEXAS, BEING A PORTION OF AN 80 ACRE TRACT, DESIGNATED AS 'TRACT 1', AND BEING ALL OF A 70 ACRE TRACT, DESIGNATED AS 'TRACT 1', BOTH AS CONVEYED TO SCHLATHER PROPERTIES, LLC, A TEXAS LIMITED LIABILITY COMPANY, BY SPECIAL WARRANTY DEED AS RECORDED IN VOLUME 3005, PAGES 73-79, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS,

107 SINGLE FAMILY RESIDENTIAL LOTS IN 4 BLOCKS. 4 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT LOTS. 3 DRAINAGE EASEMENT LOTS. 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER/ACCESS EASEMENT LOT. 1 VARIABLE WIDTH GREENBELT LOT, VARIABLE WIDTH OPEN SPACE/SEWER/DRAINAGE EASEMENTS AND PEDESTRIAN EASEMENTS. 1 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER EASEMENT LOT. 1 OPEN SPACE LOT. 1 VARIABLE WIDTH DETENTION POND/OPEN SPACE/DRAINAGE/SEWER & ACCESS EASEMENT LOT. 1 VARIABLE WIDTH DETENTION POND/OPEN SPACE/DRAINAGE EASEMENT LOT.

DEVELOPER: KF SCHLATHER LP SHAD SCHMID GEN. PARTNER 2722 W. BITTERS ROAD, SUITE 106 SAN ANTONIO, TX 78248 PH NO. (210) 882-6800

MTR logo and text: Moy Tarin Ramirez Engineers, LLC. Engineers, Surveyors, Planners.

BPELS ENGINEERING: F-5297, SURVEYING: NO. 10131500 5723 UNIVERSITY HEIGHTS BLVD, SUITE 103 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

DATE OF PREPARATION: December 11, 2025

STATE OF TEXAS § COUNTY OF GUADALUPE § THE OWNER OF THE LAND SHOWN ON THIS PLAT IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

OWNER/DEVELOPER: KF SCHLATHER LP SHAD SCHMID GEN. PARTNER 2722 W. BITTERS ROAD, SUITE 106 SAN ANTONIO, TX 78248 PH NO. (210) 882-6800

STATE OF TEXAS § COUNTY OF GUADALUPE § BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED \_\_\_\_\_ KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

THIS PLAT OF SCHLATHER RANCH SUBDIVISION SUBMITTED AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE INC., FOR EASEMENTS AGENT FOR GUADALUPE VALLEY ELECTRIC COOPERATIVE INC. ##

THIS PROPOSED DEVELOPMENT HAS BEEN REVIEWED AND APPROVED BY THE CIBOLO CREEK MUNICIPAL AUTHORITY (CCMA) FOR WASTEWATER TREATMENT PLANT CAPACITY AND EASEMENTS. ALL FEES DUE FOR IMPACT TO THE SYSTEM AT THE TIME OF CONNECTION WILL BE CALCULATED AT SUBMITTAL OF BUILDING PERMIT APPLICATION

AGENT FOR CIBOLO CREEK MUNICIPAL AUTHORITY APPROVED ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_ BY THE CITY ENGINEER, CITY OF CIBOLO, TEXAS.

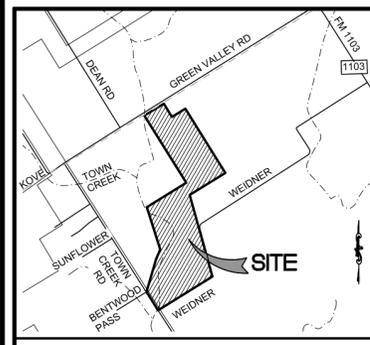
CITY ENGINEER, CITY OF CIBOLO

THIS PLAT OF SCHLATHER RANCH SUBDIVISION HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ BY: \_\_\_\_\_ CHAIR BY: \_\_\_\_\_ VICE CHAIR

THIS PLAT OF SCHLATHER RANCH SUBDIVISION HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY COUNCIL OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH CITY COUNCIL.

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ BY: \_\_\_\_\_ MAYOR BY: \_\_\_\_\_ CITY SECRETARY



LEGEND table with symbols for contours, setbacks, easements, and floodplains.

- KEYNOTES list: A) 20' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT; B) 35' BUILDING SETBACK LINE; C) 20' BUILDING SETBACK LINE; D) 30' RIGHT OF WAY DEDICATION TO THE PUBLIC (0.388 ACRES); E) LOT 900, BLOCK 1 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT (2.410 ACRES); F) LOT 900, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT (3.247 ACRES); G) LOT 900, BLOCK 3 25' DRAINAGE EASEMENT (0.230 ACRES); H) LOT 901, BLOCK 1 25' DRAINAGE EASEMENT (0.115 ACRES); I) 19.25' RIGHT OF WAY DEDICATION TO THE PUBLIC (0.170 ACRES); J) LOT 902, BLOCK 2 25' DRAINAGE EASEMENT (0.114 ACRES); K) LOT 903, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT (0.224 ACRES); L) LOT 904, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT (0.164 ACRES); M) LOT 905, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER EASEMENT (25.394 ACRES); N) 15' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT; O) 19.25' RIGHT OF WAY DEDICATION TO THE PUBLIC (0.334 ACRES); P) LOT 908, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER EASEMENT (0.662 ACRES); Q) LOT 901, BLOCK 2 VARIABLE WIDTH OPEN SPACE/SEWER/DRAINAGE EASEMENTS (0.013 AC.); R) LOT 910, BLOCK 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER EASEMENT (6.010 ACRES); S) VARIABLE WIDTH R.O.W. DEDICATION TO THE PUBLIC (2.212 ACRES); T) 1' VEHICULAR NON-ACCESS ESM.T.

STATE OF TEXAS § COUNTY OF GUADALUPE § I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.

STEPHANIE L. JAMES, R.P.L.S. REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5950 MOY TARIN RAMIREZ ENGINEERS, LLC 5723 UNIVERSITY HEIGHTS BLVD, SUITE 103 SAN ANTONIO, TEXAS 78249 PH NO. (210) 698-5051

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

STATE OF TEXAS § COUNTY OF GUADALUPE §

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN IN THIS PLAT TO THE MATTERS OF STREETS, LOTS, AND DRAINAGE LAYOUT, TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE CITY COUNCIL OF THE CITY OF CIBOLO.

PAUL LANDA, JR., P.E. LICENSED PROFESSIONAL ENGINEER NO. 100182 MOY TARIN RAMIREZ ENGINEERS, LLC 5723 UNIVERSITY HEIGHTS BLVD, SUITE 103 SAN ANTONIO, TEXAS 78249 PHONE: (210) 698-5051

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

- GENERAL NOTES: 1. SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF CIBOLO AND STATE PLATTING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS. 2. PLAT APPROVAL SHALL NOT BE DEEMED TO OR PRESUMED TO GIVE AUTHORITY TO VIOLATE, NULLIFY, VOID, OR CANCEL ANY PROVISIONS OF LOCAL, STATE, OR FEDERAL LAWS, ORDINANCES, OR CODES. 3. THE APPLICANT IS RESPONSIBLE FOR SECURING ANY FEDERAL PERMITS THAT MAY BE NECESSARY AS THE RESULT OF PROPOSED DEVELOPMENT ACTIVITY. THE CITY OF CIBOLO IS NOT RESPONSIBLE FOR DETERMINING THE NEED FOR, OR ENSURING COMPLIANCE WITH ANY FEDERAL PERMIT. 4. APPROVAL OF THIS PLAT DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD OR REGISTERED PUBLIC LAND SURVEYOR IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEERS. 5. ALL RESPONSIBILITY FOR THE ADEQUACY OF THIS PLAT REMAINS WITH THE ENGINEER OR SURVEYOR WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF CIBOLO MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER AND/OR SURVEYOR OF RECORD. 6. ROUTINE MAINTENANCE OF WEEDS AND GRASS IN ALL EASEMENTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, HOA, OR PROPERTY OWNER ASSOCIATION ON WHICH THE EASEMENTS IS LOCATED IN ACCORDANCE WITH THE CITY OF CIBOLO CODE OR ORDINANCES PROVISIONS FOR HIGH WEEDS AND GRASS.

- UTILITY PROVIDERS: WATER - CITY OF CIBOLO SEWER - CITY OF CIBOLO ELECTRIC - GUADALUPE VALLEY ELECTRIC COOPERATIVE

- KEYNOTES: AA) 55' BUILDING SETBACK LINE BB) 25' BUILDING SETBACK LINE 1) 15' UTILITY EASEMENT (VOL. 8, PG. 131, O.P.R.G.C.T.) 2) 10' SIDE BUILDING SETBACK LINE (VOL. 8, PG. 131, O.P.R.G.C.T.) 3) 25' REAR BUILDING SETBACK LINE (VOL. 8, PG. 131, O.P.R.G.C.T.) 4) 35' FRONT BUILDING SETBACK LINE (VOL. 8, PG. 131, O.P.R.G.C.T.) 5) 10' UTILITY EASEMENT (VOL. 5, PG. 90, O.P.R.G.C.T.) 6) 25' REAR BUILDING SETBACK LINE (VOL. 5, PG. 90, O.P.R.G.C.T.) 7) 14' UTILITY EASEMENT (VOL. 9, PGS. 269-270, O.P.R.G.C.T.) 8) LOT 901, BLOCK G 15' ~ ACCESS EASEMENT & UTILITY EASEMENT (GAS, ELECT. CATV & TEL) (VOL. 9, PGS. 269-270, O.P.R.G.C.T.) 9) 7.5' UTILITY EASEMENT (VOL. 9, PGS. 269-270, O.P.R.G.C.T.) 10) LOT 902, BLOCK G 12' ~ GREENBELT & SANITARY SEWER EASEMENT (VOL. 9, PGS. 269-270, O.P.R.G.C.T.) 11) LOT 35, BLOCK J 15' ~ OPEN SPACE TO BE DEDICATED TO THE HOA (VOL. 8, PGS. 49-50, O.P.R.G.C.T.) 12) 10' UTILITY EASEMENT (VOL. 8, PGS. 49-50, O.P.R.G.C.T.) 13) 20' BUILDING SET BACK LINE (VOL. 8, PGS. 49-50, O.P.R.G.C.T.) 14) 20' UTILITY EASEMENT (VOL. 2316, PG. 117, O.P.R.G.C.T.) 15) 25' TEMPORARY CONSTRUCTION EASEMENT (VOL. 2316, PG. 117, O.P.R.G.C.T.)

- NOTES: 1. ACCORDING TO FIRM MAP NO. 48187C230F, EFFECTIVE DATE NOVEMBER 2, 2007, ALL RESIDENTIAL LOTS WITHIN THE SUBJECT PROJECT SHOWN HEREON APPEARS TO LIE OUTSIDE ZONE "AE" (AREAS OUTSIDE THE 1.0% ANNUAL CHANCE FLOODPLAIN). 2. ELEVATIONS ARE BASES U.S.G.S. DATUM 3. THE PROPERTY SHOWN HEREON LIES WITHIN THE CITY OF CIBOLO 4. GVEC TO HAVE 5' WIDE ELECTRIC EASEMENT ON ALL ROAD CROSSING IN WHICH ELECTRIC OR COMMUNICATION LINES ARE LOCATED. 5. ALL UTILITIES EASEMENTS ARE FOR THE CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES. 6. THIS PROPERTY IS ZONED SF-2 7. ANY EASEMENT DESIGNATED AS A GVEC 20'X20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS ARE ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREAS. 8. THE PROPERTY SHOWN HEREON IS NOT LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE. 9. THE PROPERTY SHOWN HEREON IS LOCATED INSIDE THE SCHERTZ-CIBOLO-UNIVERSAL CITY SCHOOL DISTRICT. 10. ALL 8.497 LINEAR FEET OF PROPOSED STREETS WILL BE PRIVATE AND MAINTAINED BY THE HOA.

- SURVEYOR'S NOTES: 1. PROPERTY CORNERS ARE MONUMENTED WITH 1/2" IRON RODS WITH AN ORANGE PLASTIC CAP STAMPED "MTR ENG" UNLESS OTHERWISE NOTED. 2. BASIS OF BEARINGS AND COORDINATES CITED WERE ESTABLISHED FROM THE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983, TEXAS SOUTH CENTRAL ZONE.

STATE OF TEXAS § COUNTY OF GUADALUPE §

THE OWNER OF THE LAND SHOWN ON THIS PLAT IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

OWNER/DEVELOPER: JULIE CHRISTINE SCHLATHER IRREVOCABLE TRUST JULIE SCHLATHER 131 LAUREL GRACE NEW BRAUNFELS, TX 78130

STATE OF TEXAS § COUNTY OF GUADALUPE §

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED \_\_\_\_\_ KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS \_\_\_\_\_ DAY OF \_\_\_\_\_

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

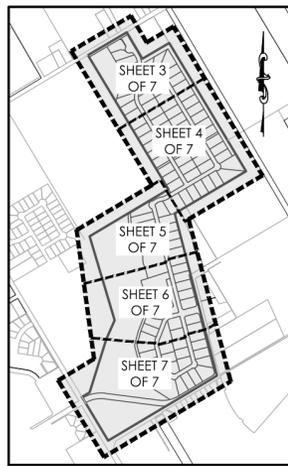
GVEC PLAT NOTES AND EASEMENT REQUIREMENTS

UNDERGROUND SUBDIVISION PLAT NOTES

DEVELOPER/PROJECT ENGINEER TO INCLUDE THE FOLLOWING NOTES WITH NO EXCLUSIONS:

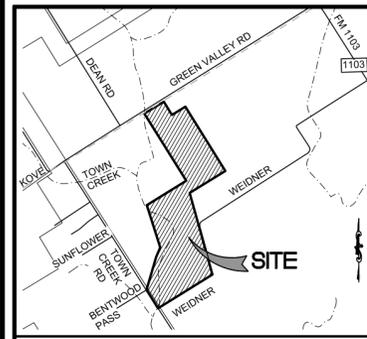
- TYPICAL FOR METER LOCATIONS (TYPICAL FOR PLAT CAN BE OBTAINED BY EMAILING PLATS@GVEC.ORG). WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA. ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5X 30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADE, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE. THIS SUBDIVISION PLAT OF SCHLATHER RANCH SUBDIVISION HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.



NOTE: SEE SHEET 2 OF 7 FOR CURVE AND LINE TABLE

NOTE: PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.



LOCATION MAP NOT TO SCALE

**LEGEND**

- 856 --- EXISTING CONTOURS
- AC. ACRES
- B.S.L. BUILDING SETBACK LINE
- CL CENTER LINE
- DOC. DOCUMENT
- E.G.T.C.A. ELECTRIC, GAS, TELEPHONE & CABLE TV
- ESMT. EASEMENT
- NO. NUMBER
- N.T.S. NOT TO SCALE
- O.P.R.G.C.T. OFFICIAL PUBLIC RECORDS GUADALUPE COUNTY, TEXAS
- R.O.W. RIGHT OF WAY
- VOL. VOLUME
- PG. PAGE
- PGS. PAGES
- MIN. F.F. MINIMUM FINISHED FLOOR ELEVATION
- 1% A.C. ZONE AE EFFECTIVE FEMA FLOODPLAIN PER FLOOD INSURANCE RATE MAP NO. 48187C230F EFFECTIVE DATE NOVEMBER 2, 2007.
- 1% A.C. ZONE AE EFFECTIVE FEMA FLOODWAY PER FLOOD INSURANCE RATE MAP NO. 48187C230F EFFECTIVE DATE NOVEMBER 2, 2007.
- 1% A.C. ZONE AE PROPOSED FLOODPLAIN PER LETTER OF MAP REVISION CASE NO. \_\_\_\_\_

**PRIVATE STREETS**

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

1. THAT \_\_\_\_\_, ('OWNER'), ACTING HEREIN BY AND THROUGH ITS DULY AUTHORIZED OFFICER, DOES HEREBY ADOPT THIS PLAT DESIGNATING THE HEREIN DESCRIBED PROPERTY AS \_\_\_\_\_, AN ADDITION TO THE CITY OF CIBOLO, TEXAS (THE 'CITY'), AND DOES HEREBY DEDICATE TO THE CITY: (I) EASEMENTS FOR THE PURPOSES SHOWN ON THIS PLAT AND FOR THE MUTUAL BENEFIT, USE, AND ACCOMMODATION OF ALL PUBLIC UTILITY ENTITIES INCLUDING THE CITY PROVIDING SERVICES TO THE ADDITION CREATED HEREBY AND DESIRING TO USE OR USING THE SAME, AND ALSO AN EASEMENT AND RIGHT-OF-WAY, UNDER, ACROSS, AND UPON BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ SHOWN HEREON FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, OPERATION, INSPECTION, REMOVAL, AND RECONSTRUCTION OF THE FACILITIES, EQUIPMENT, AND SYSTEMS OF SUCH PUBLIC UTILITY ENTITIES; AND (II) FOR THE USE, BENEFIT, AND ACCOMMODATION OF THE CITY, AN EASEMENT AND RIGHT-OF-WAY, UNDER, ACROSS, AND UPON BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ SHOWN HEREON FOR ANY PURPOSE RELATED TO THE EXERCISE OF A GOVERNMENTAL SERVICE OR FUNCTION INCLUDING, BUT NOT LIMITED TO, FIRE AND POLICE PROTECTION, GARBAGE COLLECTION, INSPECTION AND CODE ENFORCEMENT, AND THE REMOVAL OF ANY VEHICLE OR OBSTACLE THAT IMPAIRS EMERGENCY ACCESS. BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ AND ALL STREETS SHOWN HEREON ARE PRIVATE STREETS AND ARE NOT DEDICATED FOR USE AS PUBLIC STREETS, OR RIGHTS-OF-WAY AND THE PUBLIC SHALL HAVE NO RIGHT TO USE ANY PORTION OF SUCH PRIVATE STREETS. OWNER ACKNOWLEDGES THAT SO LONG AS THE STREETS AND RELATED IMPROVEMENTS CONSTRUCTED ON BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ SHOWN HEREON SHALL REMAIN PRIVATE, CERTAIN CITY SERVICES SHALL NOT BE PROVIDED ON SAID PRIVATE STREETS INCLUDING, BUT NOT LIMITED TO, STREET CLEANING, ROUTINE POLICE PATROLS, ENFORCEMENT OF TRAFFIC AND PARKING ORDINANCES, AND PREPARATION OF ACCIDENT REPORTS. EXCEPT FOR PRIVATE STREETS AND RELATED IMPROVEMENTS, NO BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER IMPROVEMENTS OR GROWTHS SHALL BE CONSTRUCTED OR PLACED UPON, OR ACROSS THE EASEMENTS DEDICATED HEREIN. THE CITY AND PUBLIC UTILITY ENTITIES SHALL HAVE THE RIGHT TO REMOVE AND KEEP REMOVED ALL OR PARTS OF ANY BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER PROHIBITED IMPROVEMENTS OR GROWTHS WHICH MAY IN ANY WAY ENDANGER OR INTERFERE WITH THEIR RESPECTIVE EASEMENTS. IN ADDITION, THE CITY SHALL HAVE THE RIGHT TO REMOVE AND KEEP REMOVED ANY VEHICLE OR OBSTACLE THAT IMPAIRS EMERGENCY ACCESS TO ITS EASEMENT. THE CITY AND PUBLIC UTILITY ENTITIES SHALL AT ALL TIMES HAVE THE FULL RIGHT OF INGRESS AND EGRESS TO AND FROM THEIR RESPECTIVE EASEMENTS WITHOUT THE NECESSITY AT ANY TIME OF PROCURING PERMISSION FROM ANYONE. THE USE, BY THE CITY AND PUBLIC UTILITY ENTITIES, OF THEIR RESPECTIVE EASEMENTS SHALL NOT UNREASONABLY INTERFERE WITH THE RIGHTS OF PROPERTY OWNERS AND THE HOMEOWNERS ASSOCIATION (THE 'ASSOCIATION') IN AND TO BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ SHOWN HEREON AS SET FORTH IN THE 'DECLARATION OF COVENANTS, RESTRICTIONS, AND EASEMENTS FOR THE \_\_\_\_\_', DATED \_\_\_\_\_, RECORDED IN GUADALUPE COUNTY RECORDER VOLUME \_\_\_\_\_, PAGE \_\_\_\_\_ OF THE OFFICIAL LAND RECORDS OF GUADALUPE COUNTY, TEXAS (THE 'DECLARATION').

2. THAT THE ASSOCIATION AGREES TO RELEASE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CITY AND ANY GOVERNMENTAL ENTITY OR PUBLIC UTILITY ENTITY THAT OWNS PUBLIC IMPROVEMENTS WITHIN THE ADDITION CREATED BY THIS PLAT (COLLECTIVELY, THE 'INDEMNITIES') FROM AND AGAINST ANY CLAIMS FOR DAMAGES TO THE PRIVATE STREETS, RESTRICTED ACCESS GATES AND ENTRANCES, AND RELATED APPURTENANCES (COLLECTIVELY, THE 'PRIVATE STREETS') CAUSED BY THE REASONABLE USE OF THE PRIVATE STREETS BY THE INDEMNITIES. THIS PARAGRAPH 2 DOES NOT APPLY TO DAMAGES TO THE PRIVATE STREETS CAUSED BY THE DESIGN, CONSTRUCTION, OR MAINTENANCE, OR ANY PUBLIC IMPROVEMENTS OWNED BY ANY OF THE INDEMNITIES.

3. THAT THE ASSOCIATION AGREES TO RELEASE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE INDEMNITIES FROM AND AGAINST ANY CLAIMS FOR DAMAGES TO PROPERTY AND INJURY TO PERSONS (INCLUDING DEATH) THAT ARISE OUT OF THE USE OF THE PRIVATE STREETS BY THE INDEMNITIES AND THAT ARE CAUSED BY THE FAILURE OF THE ASSOCIATION TO DESIGN, CONSTRUCT, OR MAINTAIN THE PRIVATE STREETS IN ACCORDANCE WITH CITY STANDARDS. THE INDEMNIFICATION CONTAINED IN THIS PARAGRAPH 3 SHALL APPLY REGARDLESS OF WHETHER A CONTRIBUTING FACTOR TO SUCH DAMAGES OR INJURY WAS THE NEGLIGENT ACTS OR OMISSIONS OF THE INDEMNITIES OR THEIR RESPECTIVE OFFICERS, EMPLOYEES, OR AGENTS.

4. THAT THE OWNER OF EACH LOT SHOWN ON THIS PLAT AGREES TO RELEASE THE INDEMNITIES FROM CLAIMS FOR DAMAGES TO PROPERTY AND INJURY TO PERSONS (INCLUDING DEATH) THAT ARISE OUT OF THE USE OF THE PRIVATE STREETS BY THE INDEMNITIES AND THAT ARE CAUSED BY THE FAILURE OF THE ASSOCIATION TO DESIGN, CONSTRUCT, OR MAINTAIN THE PRIVATE STREETS IN ACCORDANCE WITH CITY STANDARDS.

5. THAT THE OBLIGATIONS OF THE ASSOCIATION AND LOT OWNERS SET FORTH IN PARAGRAPHS 2, 3, AND 4 ABOVE SHALL IMMEDIATELY AND AUTOMATICALLY TERMINATE WHEN THE STREETS AND OTHER RIGHTS-OF-WAY HAVE BEEN DEDICATED TO AND ACCEPTED BY THE CITY.

6. THAT NO IMPROVEMENTS SHALL BE CONSTRUCTED OR INSTALLED IN THE \_\_\_\_\_ WALL AND WALL MAINTENANCE EASEMENT ON BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ EXCEPT FOR FENCING, LANDSCAPING, UNDERGROUND DRAINAGE PIPES, AND UNDERGROUND SPRINKLER SYSTEM.

7. THAT IF BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ IN THE FUTURE BECOMES A PUBLIC STREET AS PROVIDED IN THE DECLARATION, OWNER DEDICATES TO THE CITY A SIDEWALK EASEMENT ON THE PORTIONS OF BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ ON WHICH A SIDEWALK IS INSTALLED CONNECTING THE SIDEWALK ON BLOCK \_\_\_\_\_, LOT \_\_\_\_\_ INTO PUBLIC SIDEWALKS ON \_\_\_\_\_ TOGETHER WITH (A) THE AREA LYING BETWEEN SUCH SIDEWALKS AND THE LOT LINE OF BLOCK \_\_\_\_\_, LOT \_\_\_\_\_, AND (B) THE AREA LYING WITHIN TWO FEET OF THE OTHER SIDE OF THE SIDEWALKS.

CURVE TABLE						
CURVE	RADIUS	DELTA	TANGENT	LENGTH	CHORD	CHORD BEARING
C1	250.00'	35°58'25"	81.17'	156.96'	154.40'	S12°25'19"E
C2	10.00'	92°56'35"	10.53'	16.22'	14.50'	S40°54'24"E
C3	100.00'	33°16'51"	29.89'	58.09'	57.27'	N75°58'52"E
C4	125.00'	89°44'31"	124.44'	195.79'	176.38'	S75°47'18"E
C5	26.00'	36°37'04"	8.60'	16.62'	16.34'	S49°13'34"E
C6	50.00'	163°26'13"	343.51'	142.63'	98.96'	S14°11'00"W
C7	26.00'	36°37'04"	8.60'	16.62'	16.34'	S77°35'34"W
C8	175.00'	14°48'12"	22.73'	45.21'	45.09'	S66°41'08"W
C9	175.00'	14°48'12"	22.73'	45.21'	45.09'	S66°41'08"W
C10	26.00'	73°48'22"	19.52'	33.49'	31.22'	S22°22'51"W
C11	25.00'	90°02'51"	25.02'	39.29'	35.37'	S59°32'46"E
C12	25.00'	89°57'09"	24.98'	39.25'	35.34'	S30°27'14"W
C13	26.00'	33°59'51"	7.95'	15.43'	15.20'	N31°31'16"W
C14	50.00'	141°37'28"	143.68'	123.59'	94.44'	N22°17'33"E
C15	26.00'	33°59'51"	7.95'	15.43'	15.20'	N76°06'22"E
C16	26.00'	33°00'49"	7.70'	14.98'	14.77'	N42°36'01"E
C17	50.00'	129°54'21"	107.00'	113.36'	90.60'	S88°57'12"E
C18	26.00'	33°00'49"	7.70'	14.98'	14.77'	N40°30'26"W
C19	150.00'	42°29'31"	58.32'	111.24'	108.71'	N35°46'05"W
C20	225.00'	35°45'39"	72.59'	140.43'	138.16'	S03°21'29"W
C21	150.00'	54°11'30"	76.75'	141.87'	136.64'	S48°20'04"W
C22	10.00'	89°57'09"	9.99'	15.70'	14.14'	N30°27'14"E
C23	26.00'	47°51'06"	11.54'	21.71'	21.09'	N38°26'53"W
C24	50.00'	144°10'28"	154.68'	125.82'	95.15'	N09°42'48"E
C25	26.00'	22°30'59"	5.18'	10.22'	10.15'	N70°32'32"E
C26	225.00'	14°48'12"	29.23'	58.13'	57.97'	N66°41'08"E
C27	125.00'	14°48'12"	16.24'	32.30'	32.21'	N66°41'08"E
C28	10.00'	90°12'04"	10.04'	15.74'	14.17'	N14°11'00"E
C29	225.00'	36°28'55"	74.15'	143.26'	140.86'	N12°40'34"W
C30	200.00'	50°18'40"	93.92'	175.62'	170.03'	N19°35'27"W
C31	25.00'	66°19'11"	16.33'	28.94'	27.35'	S77°54'24"E
C32	50.00'	136°36'11"	125.65'	119.21'	92.91'	S42°45'53"E
C33	25.00'	55°56'40"	13.28'	24.41'	23.45'	S02°26'08"E
C34	150.00'	34°34'09"	46.68'	90.50'	89.14'	N76°37'31"E
C35	75.00'	89°44'31"	74.66'	117.47'	105.83'	S75°47'18"E
C36	26.00'	90°12'04"	26.09'	40.93'	36.83'	S14°11'00"W
C37	10.00'	89°47'56"	9.96'	15.67'	14.12'	N75°49'00"W
C38	175.00'	36°28'55"	57.68'	111.43'	109.56'	N12°40'35"W
C39	10.00'	88°20'42"	9.72'	15.42'	13.94'	N49°44'14"E
C40	10.00'	90°02'51"	10.01'	15.72'	14.15'	N59°32'46"W
C41	26.00'	73°37'46"	19.46'	33.41'	31.16'	N22°17'33"E
C42	26.00'	63°52'43"	16.21'	28.99'	27.51'	S88°57'12"E
C43	100.00'	42°29'31"	38.88'	74.16'	72.47'	S35°46'05"E
C44	175.00'	35°45'39"	56.46'	109.22'	107.46'	S03°21'29"W
C45	100.00'	54°11'30"	51.16'	94.58'	91.10'	S48°20'04"W
C46	215.00'	32°03'55"	61.78'	120.32'	118.76'	S01°30'38"W
C47	385.00'	34°07'31"	118.17'	229.31'	225.93'	S00°28'49"W
C48	185.00'	18°34'21"	30.25'	59.97'	59.71'	S25°52'07"E
C49	195.00'	58°51'02"	109.99'	200.29'	191.60'	S05°43'47"E
C50	85.00'	6°20'22"	4.71'	9.40'	9.40'	S20°31'33"W
C51	115.00'	41°50'09"	43.96'	83.97'	82.12'	S38°16'27"W
C52	85.00'	41°50'09"	32.49'	62.06'	60.70'	N38°16'27"E
C53	115.00'	6°20'22"	6.37'	12.72'	12.72'	N20°31'33"E
C54	165.00'	58°51'02"	93.07'	169.48'	162.13'	N05°43'47"W
C55	215.00'	18°34'21"	35.15'	69.69'	69.39'	N25°52'07"W
C56	415.00'	34°07'31"	127.38'	247.17'	243.54'	N00°28'49"E
C57	185.00'	32°03'55"	53.16'	103.53'	102.19'	N01°30'38"E
C58	435.00'	38°52'56"	153.54'	295.20'	289.57'	S78°00'41"W
C59	365.00'	38°09'34"	126.25'	243.09'	238.62'	N78°11'13"E
C60	435.00'	13°02'58"	49.75'	99.07'	98.86'	N89°15'29"W
C61	365.00'	39°02'14"	129.39'	248.68'	243.90'	S77°58'10"W

NOTE:  
SEE THIS SHEET FOR  
CURVE AND LINE TABLE

NOTE:  
PLAT NOTES APPLY TO EVERY PAGE  
OF THIS MULTIPLE PAGE PLAT.

**LAND STUDY**  
**SCHLATHER RANCH SUBDIVISION**

A 117.626 ACRE (5,123,781.94 SQUARE FEET) TRACT OF LAND, SITUATED IN THE TRINIDAD GARIA SURVEY NUMBER 94, ABSTRACT NUMBER 137, GUADALUPE COUNTY, TEXAS, BEING A PORTION OF AN 80 ACRE TRACT, DESIGNATED AS 'TRACT 1', AND BEING ALL OF A 70 ACRE TRACT, DESIGNATED AS 'TRACT II', BOTH AS CONVEYED TO SCHLATHER PROPERTIES, LLC, A TEXAS LIMITED LIABILITY COMPANY, BY SPECIAL WARRANTY DEED AS RECORDED IN VOLUME 3005, PAGES 73-79, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS,

107 SINGLE FAMILY RESIDENTIAL LOTS IN 4 BLOCKS. 4 VARIABLE WIDTH OPEN SPACE/DRAINAGE EASEMENT LOTS. 3 DRAINAGE EASEMENT LOTS. 2 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER/ACCESS EASEMENT LOT. 1 VARIABLE WIDTH GREENBELT LOT, VARIABLE WIDTH OPEN SPACE/SEWER/DRAINAGE EASEMENTS AND PEDESTRIAN EASEMENTS. 1 VARIABLE WIDTH OPEN SPACE/DRAINAGE/SEWER EASEMENT LOT. 1 OPEN SPACE LOT. 1 VARIABLE WIDTH DETENTION POND/OPEN SPACE/DRAINAGE/SEWER & ACCESS EASEMENT LOT. 1 VARIABLE WIDTH DETENTION POND/OPEN SPACE/DRAINAGE EASEMENT LOT.

DEVELOPER: KF SCHLATHER LP  
SHAD SCHMID GEN. PARTNER  
2722 W. BITTERS ROAD, SUITE 106  
SAN ANTONIO, TX 78248  
PH NO. (210) 882-6800



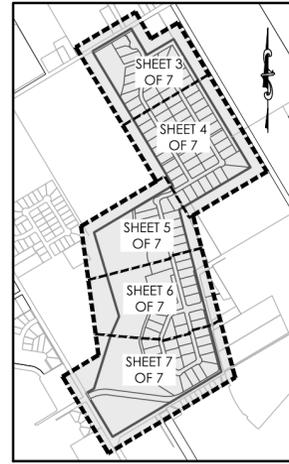
**Moy Tarin Ramirez Engineers, LLC**

TBPELS ENGINEERING: F-5297, SURVEYING: NO. 10131500  
5723 UNIVERSITY HEIGHTS BLVD, SUITE 103 TEL: (210) 698-5051  
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

DATE OF PREPARATION: December 11, 2025

LINE TABLE		
LINE	LENGTH	BEARING
L1	110.21'	N59°11'31"E
L2	115.96'	N59°28'37"E
L3	100.00'	N30°24'32"W
L4	14.16'	S14°32'03"W
L5	263.82'	S30°24'32"E
L6	87.28'	S05°33'53"W
L7	66.41'	N59°20'27"E
L8	52.38'	S74°05'14"W
L9	13.05'	S59°17'02"W
L10	145.75'	N75°25'49"E
L11	28.27'	N30°27'14"E
L12	19.25'	N75°28'20"E
L13	126.00'	S14°31'20"E
L14	19.25'	S75°28'20"W
L15	28.30'	N59°32'46"W
L16	145.75'	S75°25'49"W
L17	196.24'	N59°06'26"E
L18	72.27'	N57°00'51"W
L19	226.13'	N14°31'20"W
L20	101.53'	N75°25'49"E
L21	27.82'	N59°17'02"E
L22	52.38'	N74°05'14"E
L23	68.68'	S59°17'02"W
L24	85.17'	N30°24'32"W
L25	28.23'	N75°24'32"W
L26	66.41'	N59°20'27"E
L27	101.47'	N75°25'49"E
L28	227.10'	N59°06'26"E
L29	89.82'	S57°00'51"E
L30	226.13'	S14°31'20"E
L31	7.06'	S59°28'37"W
L32	31.14'	S75°24'32"E
L33	83.10'	S30°24'32"E
L34	5.00'	N59°35'47"E
L35	37.49'	S55°07'42"E
L36	44.67'	S81°49'37"E
L37	50.31'	S30°55'02"E
L38	19.04'	N30°53'17"W
L39	19.04'	S30°53'17"E
L40	9.04'	S30°53'17"E

LINE TABLE		
LINE	LENGTH	BEARING
L41	333.75'	N59°06'43"E
L42	381.45'	N59°06'43"E
L43	136.45'	N04°12'51"W
L44	48.94'	N36°09'41"W
L45	58.26'	N00°04'42"W
L46	56.22'	S00°04'42"E
L47	47.76'	S36°09'41"E
L48	129.96'	S04°12'51"E
L49	31.27'	N59°06'43"E
L50	46.93'	S14°31'20"E
L51	114.23'	S16°34'56"E
L52	86.23'	S35°09'18"E
L53	80.59'	N17°21'22"E
L54	20.86'	N17°21'22"E
L55	9.85'	S59°11'31"W
L56	30.00'	N30°48'29"W
L57	9.85'	N59°11'31"E
L58	28.44'	S30°48'29"E
L59	84.68'	S17°21'22"W
L60	86.23'	N35°09'18"W
L61	114.23'	N16°34'56"W
L62	38.12'	N14°31'20"W
L63	90.45'	S00°15'33"E
L64	35.97'	S10°51'21"E
L65	94.17'	S18°53'19"E
L66	100.54'	S14°31'20"E
L67	89.66'	S72°17'07"W
L68	82.07'	N68°45'41"W
L69	129.11'	N82°15'19"W
L70	83.37'	S20°03'35"E
L71	98.99'	S42°34'31"E
L72	29.96'	S22°17'33"W
L73	19.25'	S75°28'40"W
L74	43.17'	S14°31'20"E
L75	19.25'	S75°28'40"W
L76	208.79'	S62°56'27"W
L77	20.00'	N14°31'20"W



INDEX MAP NOT TO SCALE

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**LAND STUDY**

**SCHLATHER RANCH SUBDIVISION**

A 117.626 ACRE (5,123,781.94 SQUARE FEET) TRACT OF LAND, SITUATED IN THE TRINIDAD GARCIA SURVEY NUMBER 94, ABSTRACT NUMBER 137, GUADALUPE COUNTY, TEXAS, BEING A PORTION OF AN 80 ACRE TRACT, DESIGNATED AS "TRACT 1", AND BEING ALL OF A 70 ACRE TRACT, DESIGNATED AS "TRACT II", BOTH AS CONVEYED TO SCHLATHER PROPERTIES, LLC, A TEXAS LIMITED LIABILITY COMPANY, BY SPECIAL WARRANTY DEED AS RECORDED IN VOLUME 3005, PAGES 73-79, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS,

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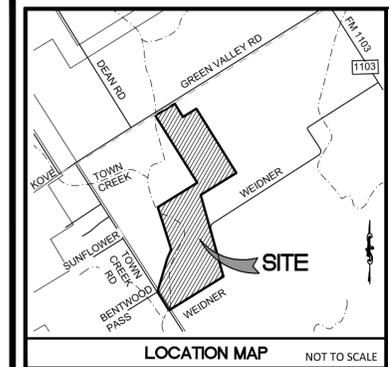
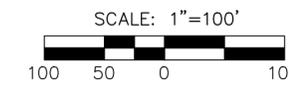
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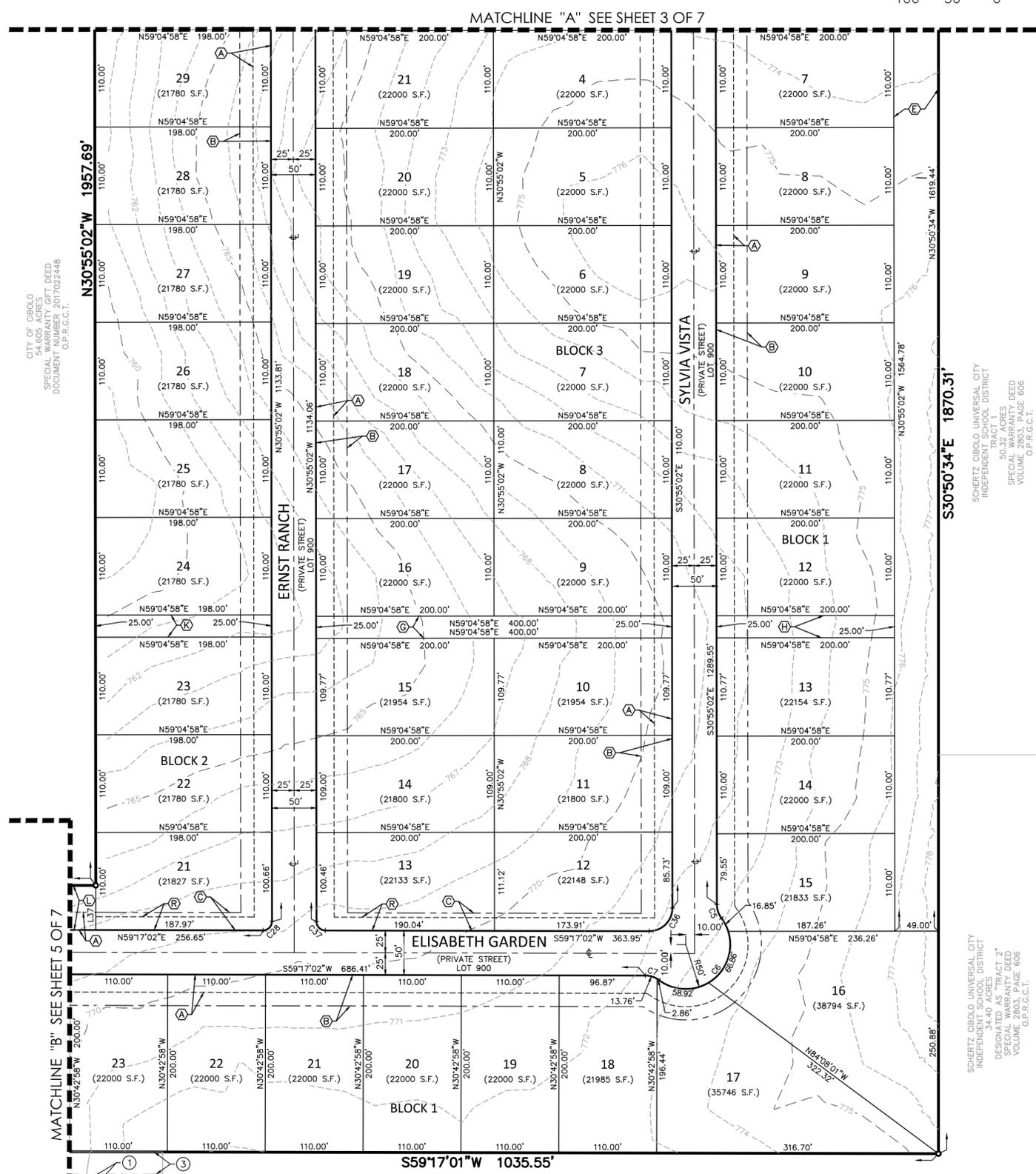
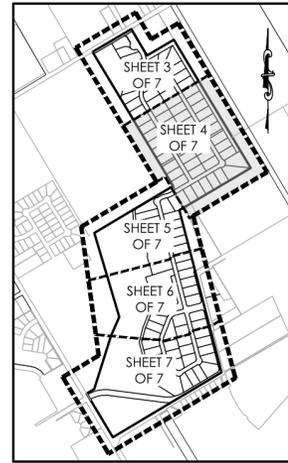
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DATE OF PREPARATION: December 11, 2025



- LEGEND**
- 856 --- EXISTING CONTOURS
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  - B.S.L. BUILDING SETBACK LINE
  - CL CENTER LINE
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  - E.G.T.C.A. ELECTRIC, GAS, TELEPHONE & CABLE TV
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CITY OF CIBOLO  
SPECIAL WARRANTY DEED  
DOCUMENT NUMBER 2017022448  
O.P.R.G.C.T.

SCHERTZ CIBOLO UNIVERSAL CITY  
INDEPENDENT SCHOOL DISTRICT  
TRACT 1  
50.32 ACRES  
SPECIAL WARRANTY DEED  
VOLUME 2803, PAGE 606  
O.P.R.G.C.T.

SCHERTZ CIBOLO UNIVERSAL CITY  
INDEPENDENT SCHOOL DISTRICT  
DESIGNATED AS "TRACT 2"  
SPECIAL WARRANTY DEED  
VOLUME 2803, PAGE 606  
O.P.R.G.C.T.

SCHERTZ CIBOLO UNIVERSAL CITY  
INDEPENDENT SCHOOL DISTRICT  
34.40 ACRES  
DESIGNATED AS "TRACT 2"  
SPECIAL WARRANTY DEED  
VOLUME 2803, PAGE 606  
O.P.R.G.C.T.

**NOTE:**  
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SCHLATHER RANCH SUBDIVISION

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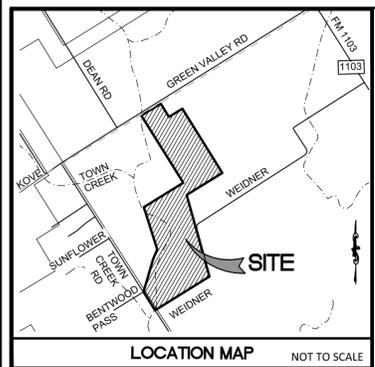
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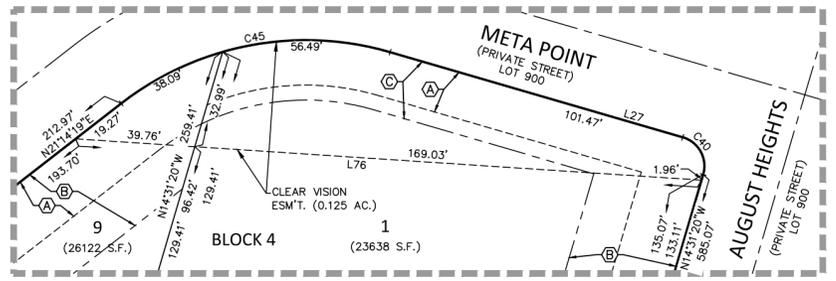
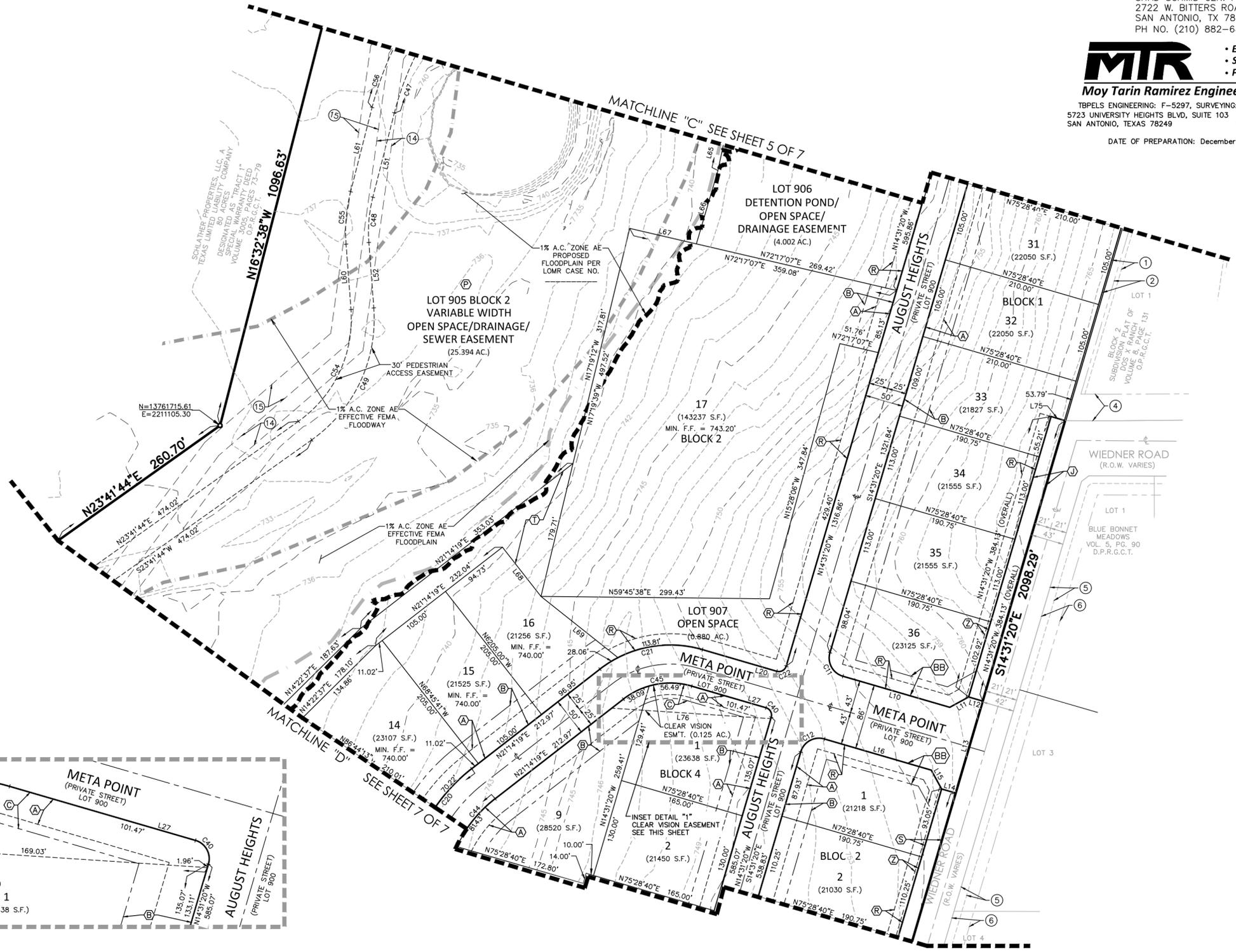
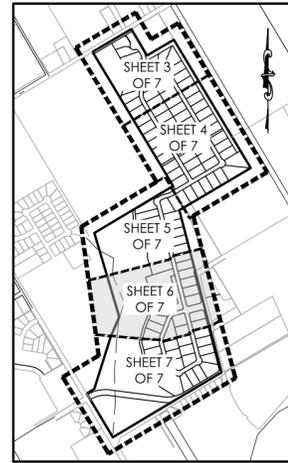
DATE OF PREPARATION: December 11, 2025



SCALE: 1"=100'  
100 50 0 100



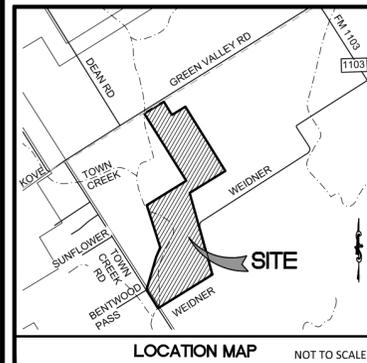
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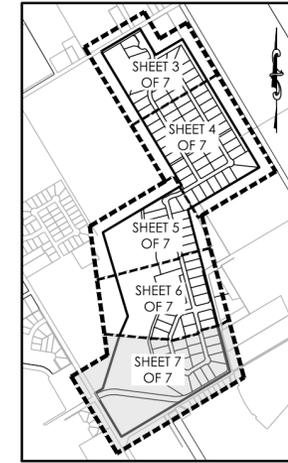
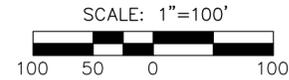
**CLEAR VISION EASEMENT INSET DETAIL 1**  
N.T.S.

**NOTE:**  
SEE SHEETS 1 & 2 OF 7 FOR PLAT NOTES, CURVE AND LINE TABLE

SCHLATHER RANCH SUBDIVISION



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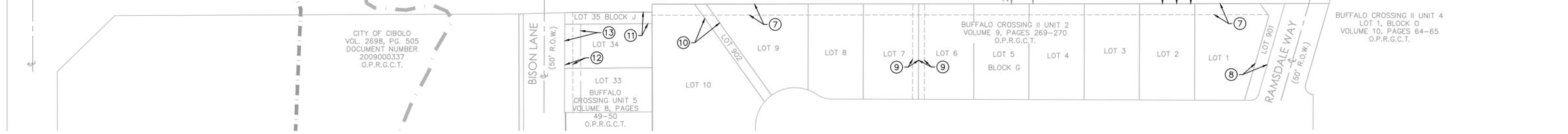
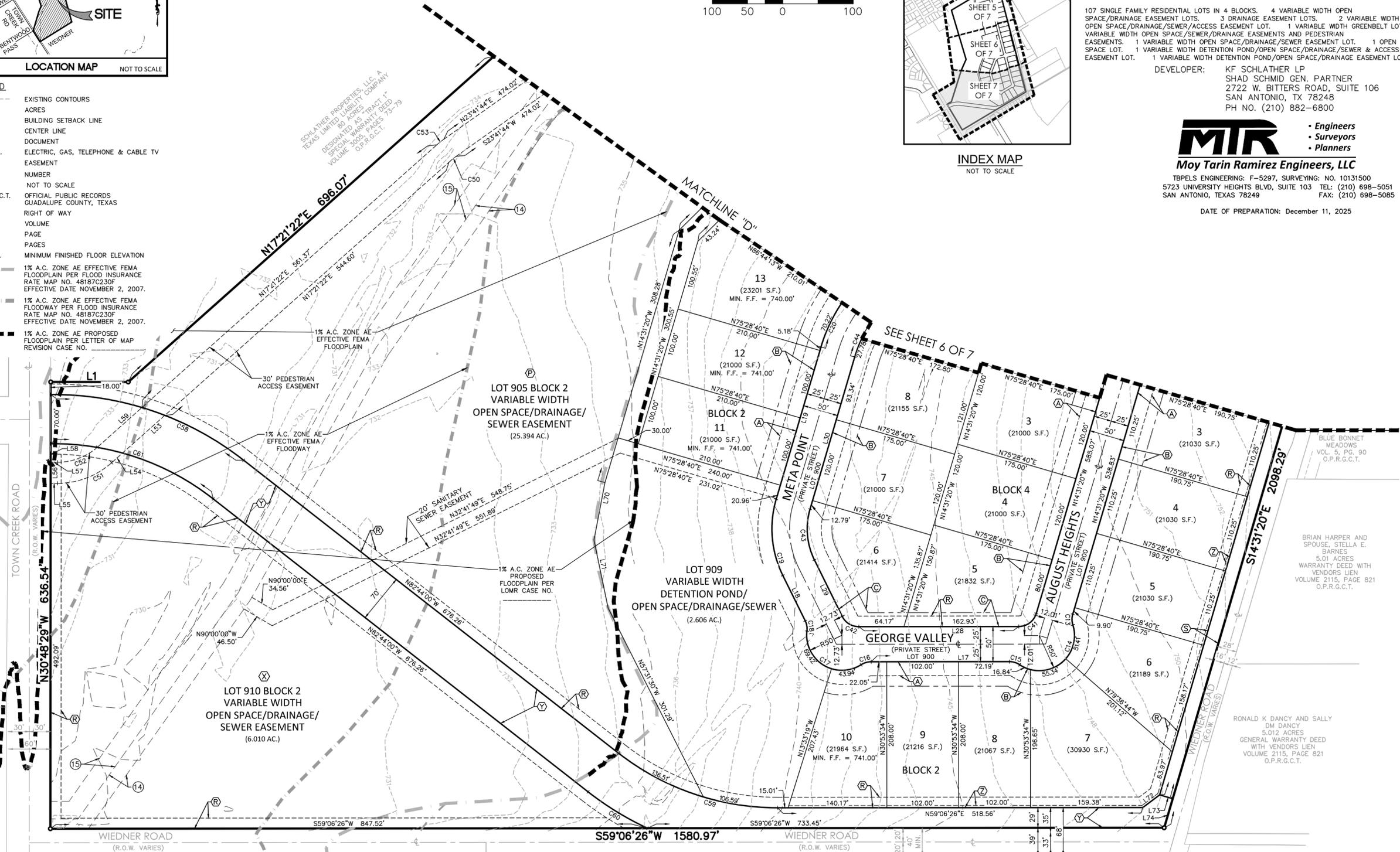
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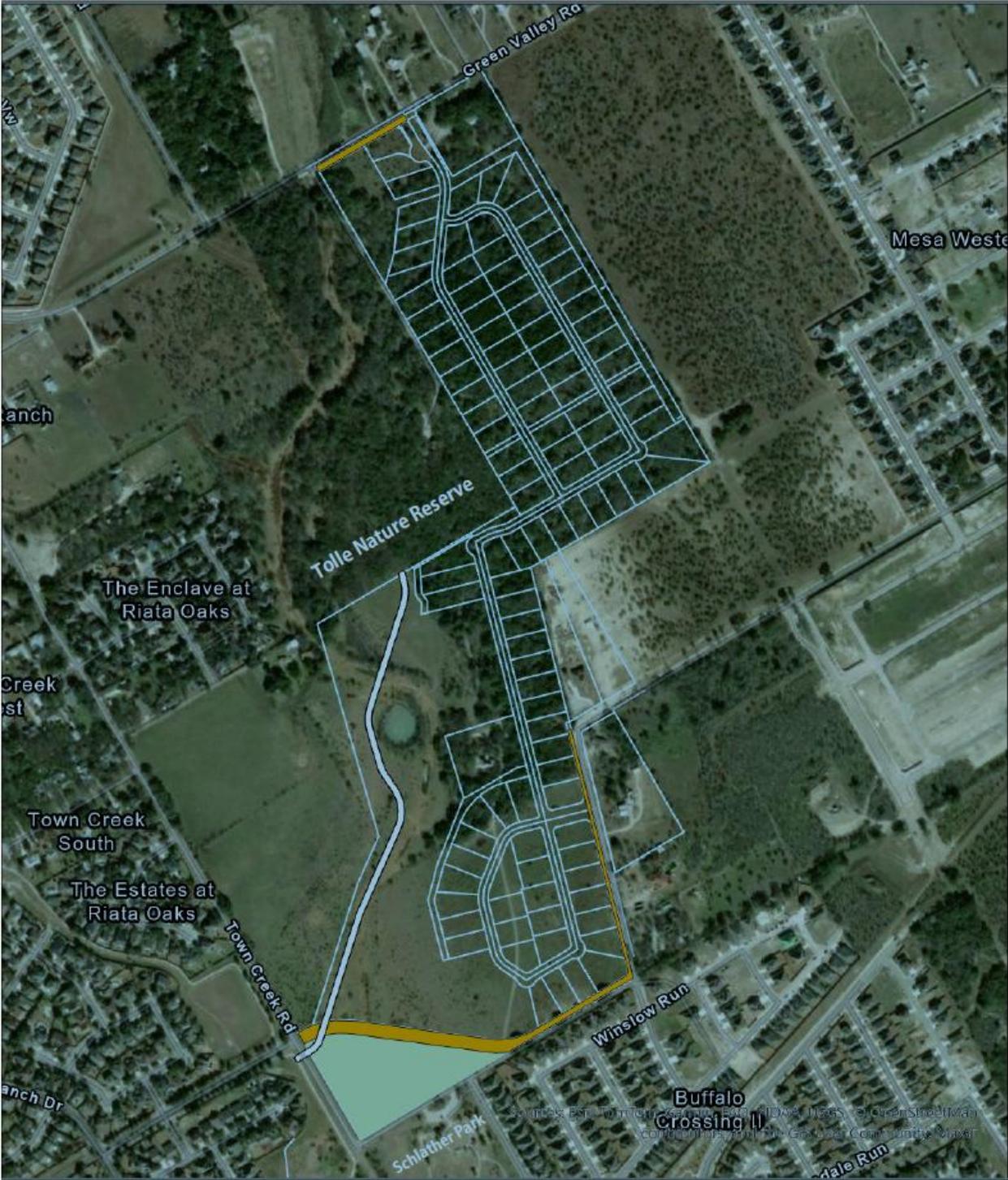
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SCHLATHER RANCH SUBDIVISION





Planning and Zoning Commission Staff Report

**B. Discussion/Action regarding the Final Plat of Steele Creek Unit 9.**

Meeting	Agenda Group
Wednesday, January 14, 2026, 6:30 PM	Discussion/Action Items Item: 9B.
From	
Olivia Hall, Planner I	

**PLANNING & ZONING COMMISSION ACTION:** Discussion/Action and Recommendation of the above referenced petition

**PROPERTY INFORMATION:**

**Project Name:** PC-25-20-FP (Steele Creek Unit 9)

**Owner:** Continental Homes of Texas, L.P.

**Representative:** Becky Carroll, Pape-Dawson Engineers

**Area:** 23.693 acres

**Location:** Southwest of the intersection of Town Creek Way and Lance Crossing

**Council Place:** 4

**Zoning ([map](#)):** Low Density Single-Family Residential (SF-2) & Medium-High Density Single-Family Housing (SF-5)

**Proposed Use:** 41 Single Family Residential Lots, 0 Open Space Lots in 2 Blocks

**Utility Providers:** Sewer/Water – City of Cibolo and Electricity – Guadalupe Valley Electric Cooperative (GVEC)

**FINDINGS/CURRENT ACTIVITY:**

In accordance with Section 20.3.5 of the Unified Development Code (UDC), ‘Final Plat’, is defined as: "The one official and authentic map of any given subdivision of land prepared from the actual field measurement and staking of all identifiable point by a surveyor or engineer, with the subdivision location referenced to a survey corner, and with all boundaries, corners and curves of the land division sufficiently described so that they can be reproduced without additional references."

On June 26, 2018, City Council approved the Land Study for the Steele Creek Subdivision. A Public Improvements Agreement (PIA) with Continental Homes of Texas, L.P., was later approved by Council on July 22, 2022. Both the Land Study and PIA were subsequently amended and approved on April 8, 2025.

Under the amended PIA, the developer is committed to several public improvements, including: (i) Tolle Road improvements, (ii) traffic signal construction at FM 1103 and Knights Crossing, (iii) sanitary sewer improvements, (iv) dedication of land to the City for a future North-South connector identified on the City's Master Thoroughfare Plan (MTP), and (v) construction of a public use trail within the subdivision.

The amended Land Study for Steele Creek covers 396.55 acres and includes a total of 919 residential lots. The Final Plat of Steele Creek Unit 9 proposes forty-one (41) single-family residential lots, with a typical lot size of 80' x 250', and zero (0) open space lots. The Preliminary Plat was approved by City Council on January 9, 2024.

**STREETS/MASTER THOROUGHFARE PLAN (MTP):**

The plat includes approximately 2,223 linear feet of roadway and establishes Lance Crossing, with a Fifty (50) feet right-of-way. The plat also establishes a portion of Magnolia Creek, with a Fifty (50) foot right-of-way. All proposed streets will be dedicated to the public and maintained by the City of Cibolo.

A Traffic Impact Analysis (TIA) report, dated May of 2018, was submitted and approved by the City Engineer as part of the review of this plat.

The Master Thoroughfare Plan (MTP) identifies a future North-South connector roadway generally located along the FEMA floodplain in Town Creek, west of Unit 9. To enhance safe and efficient vehicular connectivity within the subdivision, City staff has requested that the applicant to consider removing one lot (Lot 30, Block 16) and reserving the area for future right-of-way to allow Lance Crossing to be extended westward and connect to the planned North-South connector. With an existing ingress and egress at FM 1103 and future connection to Tolle Road, this additional roadway connection to the North-South connector would provide additional egress for the Steele Creek Subdivision and improve the safety and welfare for the approximately 919 residents anticipated at full build-out.

**UTILITIES:**

Sewer and water will be served by the City of Cibolo. Electricity will be served by Guadalupe Valley Electric Cooperative (GVEC). Water and sewer infrastructure should comply with and be inspected by the City of Cibolo.

Letters of Certification (LOCs) from both GVEC and Cibolo Creek Municipal Authority (CCMA), recommending approval of Unit 9, have been submitted.

**DRAINAGE:**

The Stormwater Management Plan (SWMP) for the Steele Creek Subdivision, dated May of 2018, was reviewed and approved by the City Engineer during the submittal and review for the land study. Compliance with the approved master drainage plan was verified as part of review of this plat.

While the FEMA-designated floodplain passes portions of the plat, along Magnolia Creek and a variable-width drainage easement within Lot 901, Block 14, the proposed development does not include any residential lots within the floodplain.

**PARKLAND:**

Parkland dedication is not proposed with this plat, as the requirement was previously met with the dedication provided in prior recorded units.

As outlined in the amended PIA, the developer is responsible for constructing an eight (8) foot-wide public trail, which will be constructed and completed concurrently with the public improvements for Unit 9 of the Steele Creek Subdivision.

**STAFF RECOMMENDATION:**

Staff and the City Engineer reviewed the plat and its associated documents. All comments have been addressed in accordance with the subdivision regulations outlined in the City's UDC and Section 212, Municipal Regulation of Subdivisions and Property Development, of the Texas Local Government Code.

Staff is recommending approval of the plat, subject to the condition that Lot 30, Block 16 be dedicated as future right-of-way to facilitate the westward extension of Lance Crossing and its connection to the planned North-South connector.

**Attachments**

[Approval Criteria - Supplemental Report](#)

[Application](#)

[Narrative](#)

[Final Plat](#)

[Staff Map](#)

[Tree Preservation Plan](#)

[Utility Plan](#)

[Traffic Impact Analysis](#)

[2025 Steele Creek Land Study Amendment](#)

## Supplemental Report

### Discussion/Action on the Final Plat of Steele Creek Unit 9.

Section 20.3.5.G.8 of the Unified Development Code (UDC) provides direction to the Planning and Zoning Commission and City Council when considering a final plat by outlining the following criteria for approval.

*In exercising its authority under this section, the Planning and Zoning Commission, in reviewing the final plat and making its recommendation, and the City Council, in considering final action on a final plat application should consider the following criteria:*

- a. Includes all information and supporting documentation required under applicable state and local laws;**

**STAFF FINDING:** The Final Plat for Steele Creek Unit 9 has been reviewed in accordance with Section 20.3.5 of the City's Unified Development Code (UDC) and Chapter 212 of the Texas Local Government Code. All required supporting documents—including a Traffic Impact Analysis, Stormwater Management Plan, and utility letters of certification—have been submitted and reviewed by Staff and the City Engineer. These documents are deemed to be consistent with applicable statutory requirements.

- b. If approved, the completed development will comply with all applicable zoning and subdivision regulations promulgated by the City and/or County (where applicable);**

**STAFF FINDING:** The final plat for Unit 9 contains 41 single-family residential lots each meeting the minimum lot size of 21,000 square feet and dimensional requirements of the SF-2, Low Density Residential District in the 2024 UDC. Further, the final plat complies with all applicable subdivision standards (Article 19) and subdivision regulations (Article 20) in the UDC, as verified by City Staff and the City Engineer.

- c. Compliance with all terms and conditions of a Public Improvement Agreement, if applicable, which may be evidenced by a certified letter, issued by an attorney representing the applicant, affirming that the applicant has reviewed the entire Public Improvement Agreement and determined that the proposed development is in compliance.**

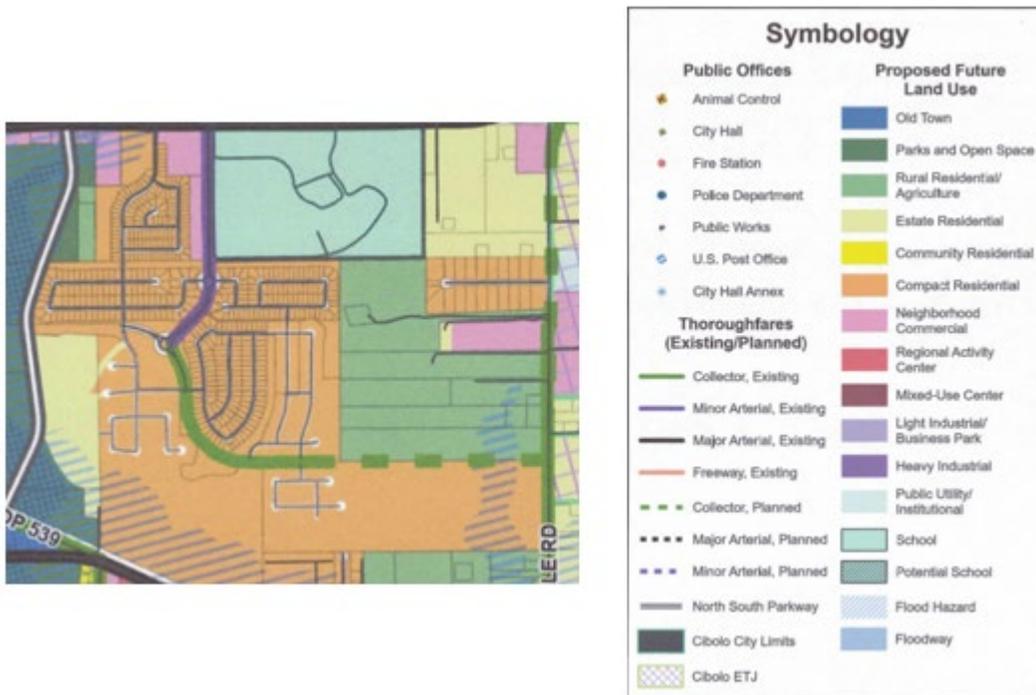
**STAFF FINDING:** On April 8, 2025, an amended Public Improvements Agreement (PIA) was approved for the Steele Creek Subdivision. Under the amended PIA, the developer is responsible for constructing an eight (8) foot-wide crushed granite public use trail within the subdivision. As specified in the PIA, the “developer intends to construct and complete its portion of the trail concurrently with public improvements for Unit 9.”

- d. Includes a Conditional Letter of Map Change (CLOMA, CLOMR, or CLOMR-F) issued by the Federal Emergency Management Agency, if any lot within the proposed subdivision will be located within an existing floodplain.**

**STAFF FINDING:** Although the FEMA floodplain crosses portions of the plat along Magnolia Creek and a variable width drainage easement in Lot 901, Block 14, no residential lots are proposed within the floodplain. Therefore, no CLOMA, CLOMR, or CLOMR-F is required for this plat.

**e. Conforms with, and is not contrary to, the City's Comprehensive Master Plan;**

**STAFF FINDING:** Unit 9 of the Steele Creek Subdivision is designated as Estate Residential on the City's adopted Future Land Use Map (FLUM). Primary land uses in Estate Residential include "Single-Family Detached Homes, Cluster Development, and Parks and Open Space." Single-family lot sizes can range up to one half to two acres. The final plat establishes 41 residential lots that are typically 21,000 square feet, which aligns with Estate Residential.



*Image: Future Land Use and Thoroughfare Plan Map, Cibolo Tomorrow Comprehensive Plan*

Internal streets in Unit 9 will connect to Knights Crossing, an existing minor arterial, and Lance Crossing, an existing collector with a portion of this road being a planned collector connecting to Tolle Road. This conforms with the City's adopted Master Thoroughfare Plan (MTP).

Therefore, the proposed infrastructure network, lot layout, and density of Steele Creek Unit 9 support the adopted policies and goals of the City's Comprehensive Plan.

- f. Includes fully executed agreements for all required easements and dedications, including any conveyances relating to public utilities or other public infrastructure;**

**STAFF FINDING:** The final plat dedicates approximately 2,223 linear feet of roadway for internal streets (plat note #18) and includes appropriate easements for utilities and drainage (plat notes #15 and #17). Parkland dedication is not proposed with this plat, as the requirement, 21.2 acres for this subdivision, was dedicated in previous units. These dedications have been reviewed and approved as part of the final plat review for this unit.

- g. Includes complete plans and specifications, approved in writing by all entities having jurisdiction over the proposed improvements, for the installation, maintenance and operation of adequate water utility service as required by Section 19.1(F) of the UDC, including a final engineering report certifying the availability of sufficient surface water and/or ground water to satisfy the ultimate needs of the subdivision and evidence that sufficient water rights have been obtained and dedicated, whether through acquisition or wholesale water supply agreement.**

**STAFF FINDING:** Water service for Unit 9 will be provided by the City of Cibolo. Construction plans for the subdivision's utility infrastructure have been reviewed and approved by the City Engineer as they meet the requirements of Section 19.1.F of the UDC, related to Adequate Service for Areas Proposed for Development.

- h. Where wastewater treatment is to be provided by an existing retail public utility, as that term is defined by §13.002(19); Texas Water Code, the applicant shall furnish evidence of a contractual agreement between the applicant and a retail public utility in substantially the form attached in Section 20.6. Before final plat approval, an appropriate permit to dispose of wastes shall have been obtained from the TCEQ and complete plans and specifications for the installation, maintenance and operation of adequate wastewater collection and treatment facilities, as required by Section 19.1(F) of the UDC, shall have been approved by all entities having jurisdiction over the proposed project.**

**STAFF FINDING:** Wastewater service will be provided by the City of Cibolo and routed through the Cibolo Creek Municipal Authority (CCMA) treatment plant. All necessary agreements and approvals for wastewater collection and treatment systems are in place, satisfying the requirements for the existing utility service area and complying with applicable TCEQ regulations.

- i. Where there is no existing retail public utility to construct and maintain the proposed sewerage facilities the applicant shall establish a retail public utility and obtain a CCN from the Public Utility Commission. Before final plat approval, a wastewater treatment permit authorizing the treatment of the wastewater for the ultimate build-out population of the subdivision shall have been obtained from the Texas Commission on**

***Environmental Quality and complete plans and specifications for the proposed wastewater facilities shall have been approved by all entities having jurisdiction over the proposed project.***

**STAFF FINDING:** This criterion is not applicable. Since wastewater service will be provided by the City of Cibolo, which is an existing public utility, the developer is not required to obtain a new Certificate of Convenience and Necessity (CCN) or establish a new retail public utility.



# City of Cibolo

Planning Department  
201 Loop 539 W/P.O. Box 826  
Cibolo, TX 78108  
Phone: (210) 658 - 9900

## UNIVERSAL APPLICATION - FINAL PLAT

Please fill out this form completely, supplying all necessary information and documentation to support your request. *Please use a separate application for each submittal.* Your application will not be accepted until the application is completed and required information provided.

Project Name: Steele Creek-Unit 9  
Total Acres: 23.946 Survey Name: Jeronimo Leal No. 85 Abstract No.: 210  
Project Location (address): Southwest of the intersection of Town Creek Way and Lance Crossing

Current Zoning: SF-2 Overlay:  None  Old Town  FM 78

Proposed Zoning: SF-2 # of Lots: 41 # of Units: 1

Please Choose One:  Single-Family  Multi-Family  Commercial  Industrial  
 Other

Current Use: Undeveloped Total Proposed Square Footage: \_\_\_\_\_

Proposed Use: Single-Family Residential (Commercial/Industrial only)

### Applicant Information:

Property Owner Name: Continental Homes of Texas, L.P.

Address: 5419 North Loop 1604 East City: San Antonio

State: Texas Zip Code: 78247 Phone: (210) 496-2668

Email: dbbrodbeck@drhorton.com Fax: \_\_\_\_\_

\*Applicant (if different than Owner): David Brodbeck

\* Letter of Authorization required

Address: 5419 North Loop 1604 East City: San Antonio

State: Texas Zip Code: 78247 Phone: (210) 496-2668

Email: dbbrodbeck@drhorton.com Fax: \_\_\_\_\_

Representative: Becky Carroll

Address: 2000 NW Loop 410 City: San Antonio

State: Texas Zip Code: 78213 Phone: (210) 375-9000

Email: bcarroll@pape-dawson.com Fax: (210) 375-9010

Authorization: By signing this application, you hereby grant Staff access to your property to perform work related to your application.

*[Handwritten Signature]*

Owner or Representative's Signature

David Brodbeck

Typed / Printed Name

State of TEXAS

County of BEXAR

Before me, Addison Johnson, on this day personally appeared  
Name of Notary Public

David Brodeck, to be the person(s) who is/are subscribed to the  
Name of signer(s)

foregoing instrument and acknowledge to me that he/she/they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 11<sup>th</sup> day of April, 2025

*[Handwritten Signature]*

Notary Public Signature

City of Cibolo  
Use Only

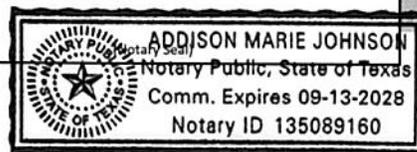
Total Fees

Payment Method

Submittal Date

Accepted by

Case Number



April 11, 2025

City of Cibolo  
Planning Department  
200 S. Main Street  
Cibolo, TX 78108

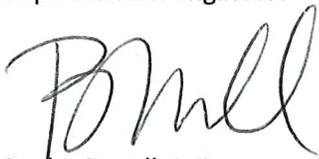
Re: Steele Creek-Unit 9  
Engineer's Summary Letter

To Whom It May Concern:

Steele Creek-Unit 9 is a ±23.9-acre single-family residential project located within the larger ±411-acre Steele Creek Subdivision. This project is located south of FM 1103, north of FM 78, and west of Tolle Road. This phase of the development will consist of construction to support the 41 single-family lot development, street infrastructure, drainage facilities, and utility improvements. Drainage runoff from the development of this phase of the subdivision was analyzed as part of the previously approved Stormwater Management Plan for Steele Creek Subdivision Land Study dated May 2018. Per the request of Mr. Rudolph Klein, P.E., the City Engineer for the City of Cibolo, detention is not being proposed for areas draining to Town Creek and Town Creek East Tributary No. 1 due to concerns regarding the timing of the release of the storm water run-off for the subdivision versus the timing of the peak in Town Creek.

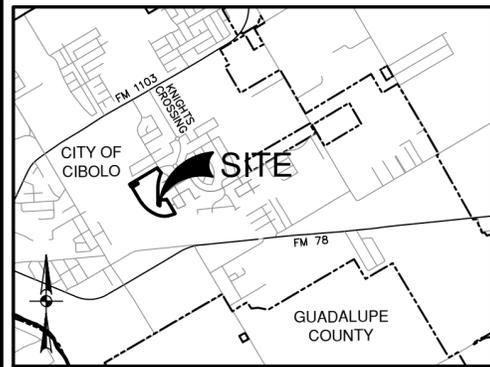
If you have any questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,  
Pape-Dawson Engineers



Becky Carroll, P.E.  
Senior Vice President

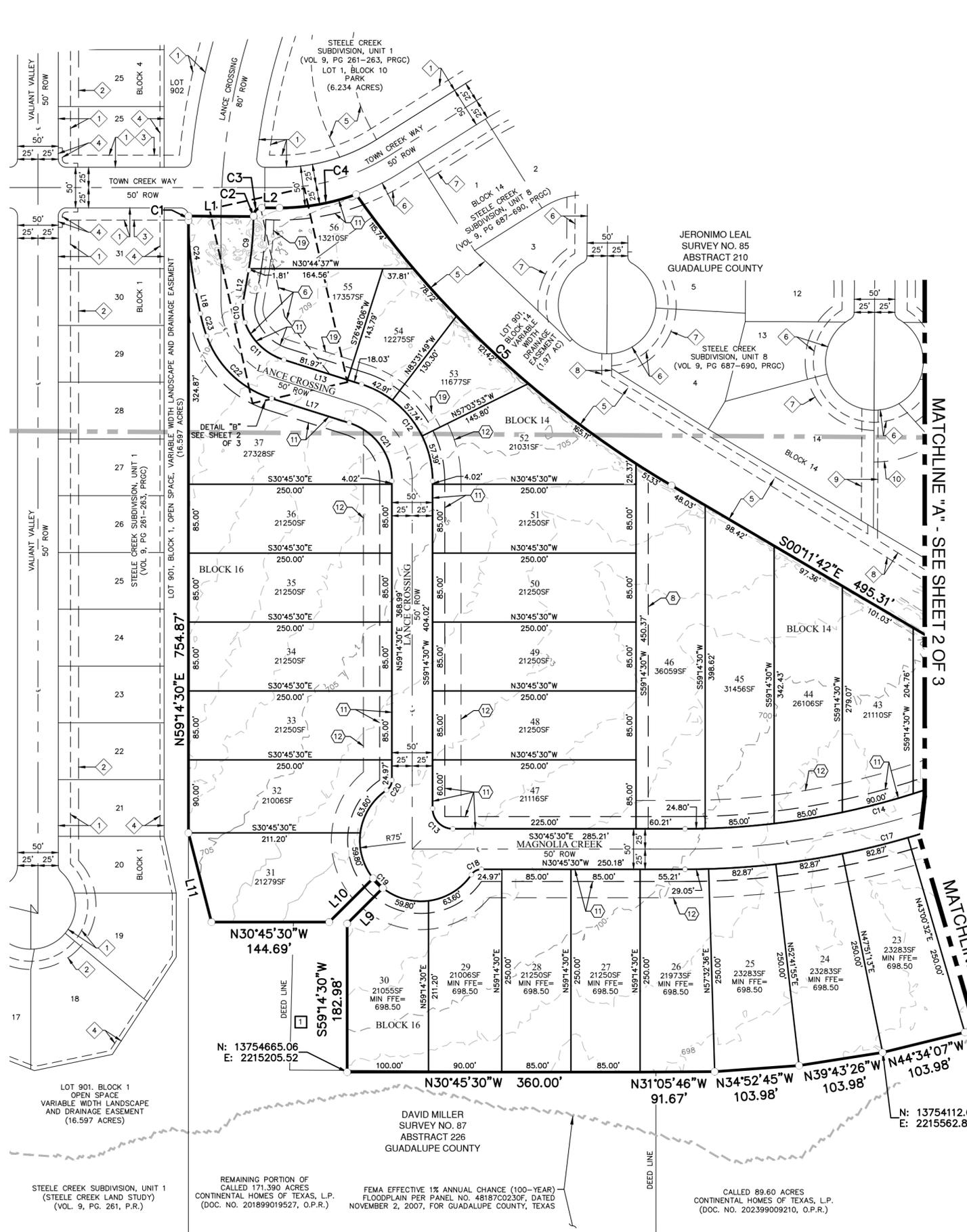
P:\126\29\09\Word\Letters\250411a1 Engineers Summary Letter.docx



LOCATION MAP  
NOT-TO-SCALE

LEGEND

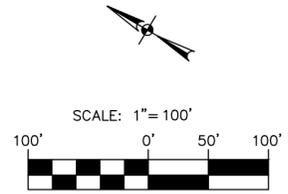
- |       |   |     |   |
|-------|---|-----|---|
| AC    | ACRE(S)   | VOL | VOLUME  |
| DOC   | DOCUMENT  | PG  | PAGE(S)   |
| DPRGC | DEED AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS                    | ROW | RIGHT-OF-WAY (SURVEYOR)                           |
| FFE   | FINISHED FLOOR ELEVATION  | ●   | FOUND 1/2" IRON ROD (CUDE UNLESS NOTED OTHERWISE) |
| NO    | NUMBER  | ○   | SET 1/2" IRON ROD (PD)                            |
| OPRGC | OFFICIAL PUBLIC RECORDS OF REAL PROPERTY OF GUADALUPE COUNTY, TEXAS | ○   | SET 1/2" IRON ROD (PD)-ROW INTERSECTION           |
|       |   | ○   | EASEMENT POINT OF INTERSECTION                    |
|       |   | SF  | SQUARE FEET                                       |
- 
- |     |      |  |     |                         |
|-----|------|--|-----|-------------------------|
| --- | 1140 | EXISTING CONTOURS  | --- | APPROXIMATE SURVEY LINE |
| --- | ---  | CENTERLINE   | --- | ---                     |
| --- | ---  | CITY OF CIBOLO CITY LIMITS   | --- | ---                     |
| --- | ---  | FEMA EFFECTIVE 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN PER PANEL NO. 48187C0230F, DATED NOVEMBER 2, 2007, FOR GUADALUPE COUNTY, TEXAS | --- | ---                     |
- 
- |   |   |   |   |
|---|---|---|---|
| ⑧ | VARIABLE WIDTH CLEAR VISION EASEMENT  | ⑤ | VARIABLE WIDTH DRAINAGE EASEMENT (VOL. 9, PG. 261-263, PRGC)                        |
| ⑦ | VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT  | ⑥ | 15' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (VOL. 9, PG. 687-690, PRGC)     |
| ⑧ | 10' PRIVATE DRAINAGE EASEMENT   | ⑦ | 25' BUILDING SETBACK (VOL. 9, PG. 687-690, PRGC)                                    |
| ⑪ | 15' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT                                 | ⑧ | 12' SANITARY SEWER EASEMENT (VOL. 9, PG. 687-690, PRGC)                             |
| ⑫ | 35' BUILDING SETBACK  | ⑨ | 20' SANITARY SEWER AND DRAINAGE EASEMENT (VOL. 9, PG. 687-690, PRGC)                |
| ⑬ | 20' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (TOTAL: 0.047 ACRES "OFF-SITE") | ⑩ | 64' BUILDING SETBACK (VOL. 9, PG. 687-690, PRGC)                                    |
| ⑭ | 20' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT                                 | ⑪ | 30' BUILDING SETBACK (VOL. 9, PG. 687-690, PRGC)                                    |
| ⑮ | VARIABLE WIDTH WATER EASEMENT (TOTAL: 0.077 ACRES "OFF-SITE")                       | ⑫ | 15' BUILDING SETBACK (VOL. 9, PG. 687-690, PRGC)                                    |
| ⑯ | VARIABLE WIDTH DRAINAGE EASEMENT (TOTAL: 0.003 ACRES "OFF-SITE")                    | ① | CALLED 89.60 ACRES CONTINENTAL HOMES OF TEXAS, L.P. (DOC. NO. 202399009210, O.P.R.) |
| ⑰ | 15' WIDTH WATER EASEMENT  |   |   |
| ⑱ | VARIABLE WIDTH DRAINAGE EASEMENT  |   |   |
| ⑲ | 25' BUILDING SETBACK  |   |   |
| ⑳ | 15' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (VOL. 9, PG. 261-263, PRGC)     |   |   |
| ㉑ | 25' BUILDING SETBACK (VOL. 9, PG. 261-263, PRGC)                                    |   |   |
| ㉒ | 15' BUILDING SETBACK (VOL. 9, PG. 261-263, PRGC)                                    |   |   |
| ㉓ | 1' VEHICLE NON-ACCESS EASEMENT (NOT-TO-SCALE) (VOL. 9, PG. 261-263, PRGC)           |   |   |



FINAL PLAT  
OF  
**STEELE CREEK-UNIT 9**  
23.693 ACRES OF LAND LOCATED IN THE JERONIMO LEAL SURVEY NO. 85, ABSTRACT NO. 210, IN THE CITY OF CIBOLO, GUADALUPE COUNTY, TEXAS, AND BEING A PORTION OF THE AT CERTAIN CALLED 85.592 ACRES OF LAND CONVEYED TO 258 STEELE CREEK INVESTMENTS, LLC, AS DESCRIBED IN DOCUMENT NO. 201899019519, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY.  
(41 SINGLE FAMILY RESIDENTIAL LOTS, 0 OPEN SPACE LOTS IN 2 BLOCKS)

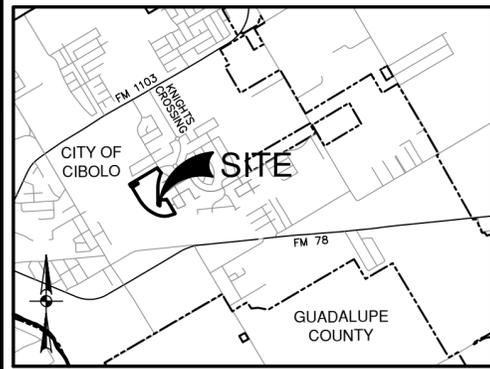
OWNER: CONTINENTAL HOMES OF TEXAS, LP  
A TEXAS LIMITED PARTNERSHIP  
BY: CHTEX OF TEXAS, INC  
A DELAWARE CORPORATION, ITS SOLE GENERAL PARTNER  
BY: LESLIE OSTRANDER, ASSISTANT SECRETARY  
5419 N LOOP 1604 E, SAN ANTONIO, TX 78247  
DATE OF PRINT: September 9, 2025

**PAPE-DAWSON**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800  
DATE OF PREPARATION: September 09, 2025



SEE SHEET 3 OF 3 FOR LINE AND CURVE TABLES  
PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT  
SHEET 1 OF 3

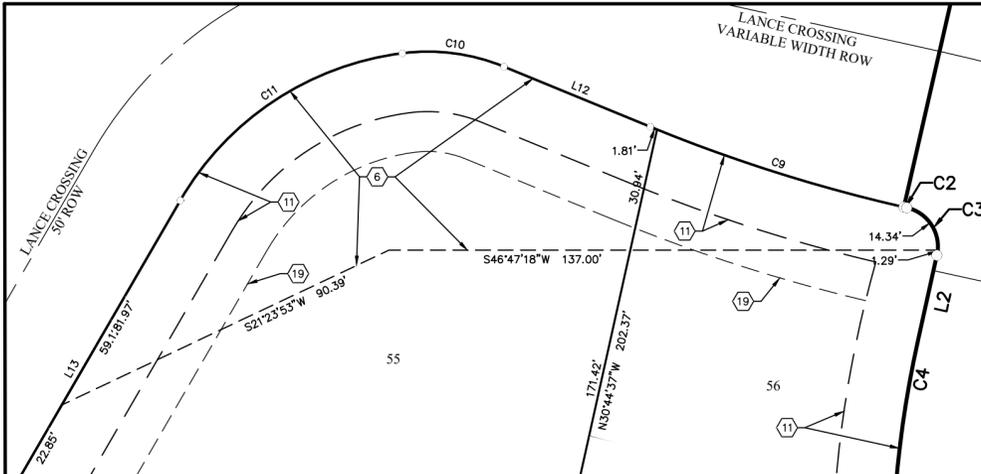
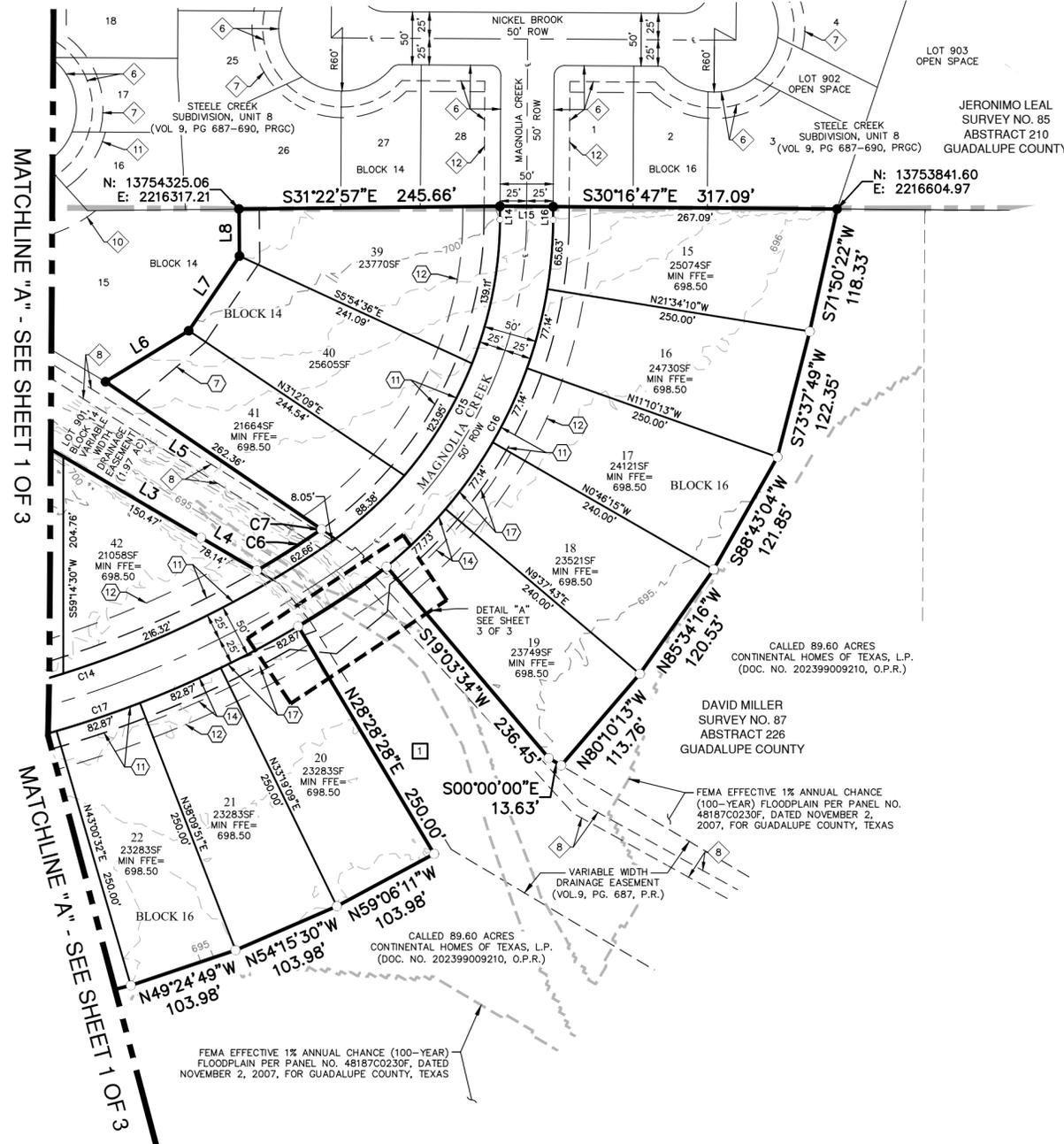
STEELE CREEK-UNIT 9  
Civil Job No. 12629-09; Survey Job No. 12629-09  
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LOCATION MAP  
NOT-TO-SCALE

LEGEND

- |       |   |     |  |
|-------|---|-----|--|
| AC    | ACRE(S)   | VOL | VOLUME   |
| DOC   | DOCUMENT  | PG  | PAGE(S)  |
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|       |   | ⊕   | EASEMENT POINT OF INTERSECTION   |
|       |   | SF  | SQUARE FEET  |
| ---   | 1140  | --- | EXISTING CONTOURS  |
| ---   | ---   | --- | CENTERLINE   |
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| ---   | ---   | --- | FEMA EFFECTIVE 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN PER PANEL NO. 48187C0230F, DATED NOVEMBER 2, 2007, FOR GUADALUPE COUNTY, TEXAS |
| ⬡     | 6   | ⬡   | VARIABLE WIDTH DRAINAGE EASEMENT   |
| ⬡     | 7   | ⬡   | VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT   |
| ⬡     | 8   | ⬡   | 10' PRIVATE DRAINAGE EASEMENT  |
| ⬡     | 11  | ⬡   | 15' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (VOL. 9, PG. 687-690, PRGC)  |
| ⬡     | 12  | ⬡   | 25' BUILDING SETBACK (VOL. 9, PG. 687-690, PRGC)   |
| ⬡     | 13  | ⬡   | 20' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (TOTAL: 0.047 ACRES "OFF-SITE")  |
| ⬡     | 14  | ⬡   | 20' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT  |
| ⬡     | 15  | ⬡   | VARIABLE WIDTH WATER EASEMENT (TOTAL: 0.077 ACRES "OFF-SITE")  |
| ⬡     | 16  | ⬡   | VARIABLE WIDTH DRAINAGE EASEMENT (TOTAL: 0.003 ACRES "OFF-SITE")   |
| ⬡     | 17  | ⬡   | 15' WIDTH WATER EASEMENT   |
| ⬡     | 18  | ⬡   | VARIABLE WIDTH DRAINAGE EASEMENT   |
| ⬡     | 19  | ⬡   | 25' BUILDING SETBACK   |
| ⬡     | 1   | ⬡   | 15' GAS, ELECTRIC, TELEPHONE, AND CABLE TV EASEMENT (VOL. 9, PG. 261-263, PRGC)  |
| ⬡     | 2   | ⬡   | 25' BUILDING SETBACK (VOL. 9, PG. 261-263, PRGC)   |
| ⬡     | 3   | ⬡   | 15' BUILDING SETBACK (VOL. 9, PG. 261-263, PRGC)   |
| ⬡     | 4   | ⬡   | 1' VEHILCE NON-ACCESS EASEMENT (NOT-TO-SCALE) (VOL. 9, PG. 261-263, PRGC)  |
| ⬡     | 5   | ⬡   | VARIABLE WIDTH DRAINAGE EASEMENT (VOL. 9, PG. 261-263, PRGC)   |
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| ⬡     | 1   | ⬡   | CALLED 89.60 ACRES CONTINENTAL HOMES OF TEXAS, L.P. (DOC. NO. 202399009210, O.P.R.)  |



DETAIL "B"  
SEE SHEET 1 OF 3  
SCALE: 1" = 30'

SEE SHEET 3 OF 3 FOR LINE AND CURVE TABLES

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 2 OF 3

FINAL PLAT  
OF  
**STEELE CREEK-UNIT 9**

23.693 ACRES OF LAND LOCATED IN THE JERONIMO LEAL SURVEY NO. 85, ABSTRACT NO. 210, IN THE CITY OF CIBOLO, GUADALUPE COUNTY, TEXAS, AND BEING A PORTION OF THE AT CERTAIN CALLED 85.592 ACRES OF LAND CONVEYED TO 258 STEELE CREEK INVESTMENTS, LLC, AS DESCRIBED IN DOCUMENT NO. 201899019519, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY.

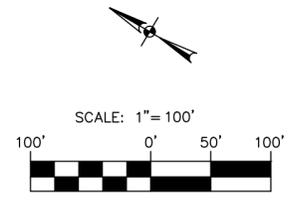
(41 SINGLE FAMILY RESIDENTIAL LOTS, 0 OPEN SPACE LOTS IN 2 BLOCKS)

OWNER: CONTINENTAL HOMES OF TEXAS, LP  
A TEXAS LIMITED PARTNERSHIP  
BY: CHTEX OF TEXAS, INC  
A DELAWARE CORPORATION, ITS SOLE GENERAL PARTNER  
BY: LESLIE OSTRANDER, ASSISTANT SECRETARY  
5419 N LOOP 1604 E, SAN ANTONIO, TX 78247

DATE OF PRINT: September 9, 2025

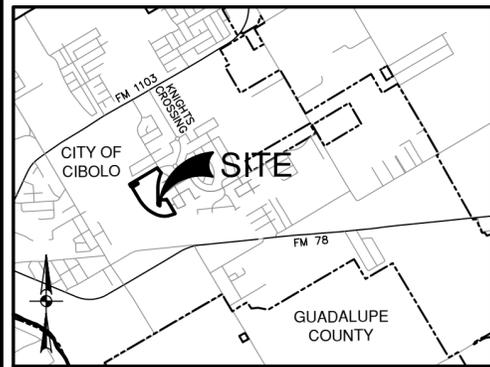
**PAPE-DAWSON**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800  
DATE OF PREPARATION: September 09, 2025



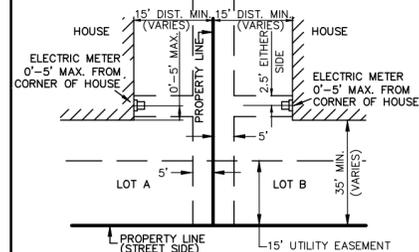
STEELE CREEK-UNIT 9  
Civil Job No. 12629-09; Survey Job No. 12629-09

Date: Sep 09, 2025, 3:44pm User: ID: rrcorales  
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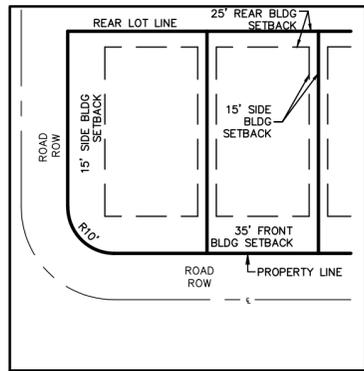


LOCATION MAP  
NOT-TO-SCALE

NOTE: GVEC WILL POSSESS A 5' WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.  
NOTE: GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.



TYPICAL EASEMENT ON  
INTERIOR PROPERTY LINE  
NOT-TO-SCALE



TYPICAL LOT SETBACKS  
EXCEPT AS NOTED  
NOT-TO-SCALE

STATE OF TEXAS  
COUNTY OF BEXAR

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN IN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND DRAINAGE LAYOUT. TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE CITY COUNCIL OF THE CITY OF CIBOLO.

LICENSED PROFESSIONAL ENGINEER

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20\_\_.

NOTARY PUBLIC IN AND FOR THE  
STATE OF TEXAS

STATE OF TEXAS  
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.

REGISTERED PROFESSIONAL LAND SURVEYOR

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20\_\_.

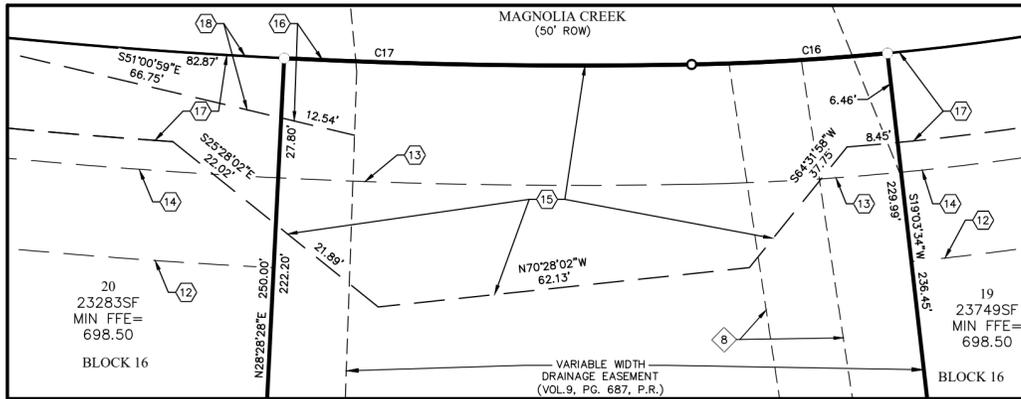
NOTARY PUBLIC IN AND FOR THE  
STATE OF TEXAS

GENERAL NOTES:

- IN ACCORDANCE WITH THE CIBOLO UDC, APPROXIMATELY 21.20 ACRES OF PARKLAND DEDICATION IS REQUIRED FOR THE OVERALL STEELE CREEK DEVELOPMENT. THIS UNIT CONTAINS 0.000 ACRES.
- SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF CIBOLO AND STATE PLATTING STATUTES, AND IS SUBJECT TO FINES AND WITHHOLDINGS OF UTILITIES AND BUILDING PERMITS.
- PLAT APPROVAL SHALL NOT BE DEEMED TO OR PRESUMED TO GIVE AUTHORITY TO VIOLATE, NULLIFY, VOID, OR CANCEL ANY PROVISIONS OF LOCAL, STATE, OR FEDERAL LAWS, ORDINANCES, OR CODES.
- THE CITY OF CIBOLO RESERVES THE RIGHT TO RENAME STREETS AND/OR CHANGE HOUSE NUMBERS DUE TO INCOMPATIBILITY WITH EXISTING NAME LAYOUT, EMERGENCY VEHICLE RESPONSE, AND MAIL DELIVERY.
- THE APPLICANT IS RESPONSIBLE FOR SECURING ANY FEDERAL PERMITS THAT MAY BE NECESSARY AS THE RESULT OF PROPOSED DEVELOPMENT ACTIVITY. THE CITY OF CIBOLO IS NOT RESPONSIBLE FOR DETERMINING THE NEED FOR, OR ENSURING COMPLIANCE WITH ANY FEDERAL PERMIT.
- APPROVAL OF THIS PLAT DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION, AND CALCULATIONS SUPPLIED BY THE APPLICANT, THE ENGINEER OF RECORD OR REGISTERED PROFESSIONAL LAND SURVEYOR IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEERS.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THIS PLAT REMAINS WITH THE ENGINEER OR SURVEYOR WHO PREPARED THEM, IN APPROVING THESE PLANS. THE CITY OF CIBOLO MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER AND/OR SURVEYOR OF RECORD.
- ROUTINE MAINTENANCE OF WEEDS AND GRASS IN ALL EASEMENTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, HOME OWNERS ASSOCIATION, OR PROPERTY OWNER ASSOCIATION, ON WHICH THE EASEMENT IS LOCATED IN ACCORDANCE WITH CITY OF CIBOLO CODE OF ORDINANCE PROVISIONS FOR HIGH WEEDS AND GRASS.
- A GEOTECHNICAL REPORT DEMONSTRATING COMPLIANCE WITH ALL RECOMMENDED PRACTICE FOR THE DESIGN OF RESIDENTIAL FOUNDATION, VERSION 1 STANDARDS OF THE TEXAS SECTION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS, THE GEOTECHNICAL STANDARDS OF THE CITY OF CIBOLO UDC, AND THE CITY OF CIBOLO BUILDING CODE, EACH OF WHICH AS MAY BE AMENDED, PRIOR TO ISSUANCE OF A BUILDING PERMIT.
- ACCORDING TO FIRM MAP NO. 48187C0230F DATED NOVEMBER, 2, 2007, ALL RESIDENTIAL LOTS WITHIN THE SUBJECT PROJECT SHOWN HEREON APPEARS TO LIE OUTSIDE ZONE "X" [AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN].
- THE ELEVATIONS SHOWN ARE BASED ON NAVD83 DATUM.
- THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF CIBOLO.
- THE PROPERTY SHOWN HEREON IS LOCATED INSIDE THE SHERTZ-CIBOLO-UNIVERSAL CITY SCHOOL DISTRICT.
- THE PROPERTY SHOWN HEREON WILL HAVE UTILITIES PROVIDED BY THE FOLLOWING:  
WATER: CITY OF CIBOLO  
SEWER: CITY OF CIBOLO  
ELECTRICITY: GVEC
- ALL RESIDENTIAL LOTS WITHIN THIS PLAT ARE WITHIN THE CITY OF CIBOLO, AND ARE ZONED SF-2. PER CITY ORDINANCE #1230.
- NO STRUCTURE, FENCES, WALLS, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS-SECTIONS OF THE DRAINAGE EASEMENTS, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE DIRECTOR OF PUBLIC WORKS. THE CITY OF CIBOLO SHALL HAVE THE RIGHT TO INGRESS AND EGRESS OVER THE GRANITOR'S ADJACENT PROPERTY TO REMOVE ANY IMPEDING OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
- APPROXIMATELY 2223 LF OF PUBLIC ROAD IS PROVIDED WITHIN THIS PLAT.
- ALL PROPOSED STREETS WILL BE DEDICATED TO THE PUBLIC AND MAINTAINED BY THE CITY OF CIBOLO, UNLESS OTHERWISE NOTED.

SURVEYOR'S NOTES:

- MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION AS NOTED. MONUMENTS AND LOT MARKERS WILL BE SET WITH 3" IRON ROD WITH CAP MARKED "PAPE-DAWSON" OR MAG NAIL WITH DISK MARKED "PAPE-DAWSON" AFTER THE COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
- COORDINATES SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE. IN US SURVEY FEET, DISPLAYED IN U.S. SURVEY FEET GRID VALUES DERIVED FROM THE NGS COOPERATIVE CORRS NETWORK.
- DIMENSIONS SHOWN ARE SURFACE. SURFACE ADJUSTMENT FACTOR: 1.00017
- BEARINGS ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00, FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE.
- CONTOURS SHOWN ARE BASED ON PD LIDAR DATE: JULY 10, 2023



DETAIL "A"  
SEE SHEET 2 OF 3  
SCALE: 1"=20'

STATE OF TEXAS  
COUNTY OF BEXAR

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

OWNER/DEVELOPER: DAVID B. BRODBECK, ASSISTANT SECRETARY  
BY: CHTEX OF TEXAS, INC.  
A DELAWARE CORPORATION,  
ITS SOLE GENERAL PARTNER OF  
CONTINENTAL HOMES OF TEXAS, L.P.  
5419 N. LOOP 1604 E  
SAN ANTONIO, TX 78247  
(210) 496-2668

STATE OF TEXAS  
COUNTY OF BEXAR

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED DAVID B. BRODBECK KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS DAY OF \_\_\_\_\_, A.D. 20\_\_.

NOTARY PUBLIC, BEXAR COUNTY, TEXAS

UNDERGROUND SUBDIVISION PLAT NOTES:

- WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.
- GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
- ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
- ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.
- ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5' X 30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.
- ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
- ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
- THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

DRAINAGE AND OPEN SPACE EASEMENT NOTE:

THIS PLAT IS HEREBY ADOPTED BY THE OWNERS (CALLED "OWNERS") AND APPROVED BY THE CITY OF CIBOLO, (CALLED "CITY") SUBJECT TO THE FOLLOWING CONDITIONS WHICH SHALL BE BINDING UPON THE OWNERS, THEIR HEIRS, GRANTEEES, SUCCESSOR, AND ASSIGNS: LOT 902, BLOCK 14, AS SHOWN ON THE PLAT IS CALLED "DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT." THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT IS HEREBY RESERVED FOR THE PUBLIC'S USE FOREVER, BUT INCLUDING THE FOLLOWING COVENANTS WITH REGARD TO MAINTENANCE RESPONSIBILITY. THE EXISTING CREEK OR CREEKS TRAVERING THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT SHALL REMAIN AS OPEN CHANNELS AT ALL TIMES AND SHALL BE MAINTAINED BY ALL OF THE OWNERS OF LOTS IN THE SUBDIVISION BY AND THROUGH A LAWFULLY CREATED HOMEOWNERS ASSOCIATION TO BE CREATED BY THE OWNERS. THE OWNERS COVENANT AND AGREE THAT SUCH A HOMEOWNERS ASSOCIATION (CALLED "ASSOCIATION") SHALL BE CREATED PRIOR TO THE FINAL ACCEPTANCE BY THE CITY. ASSOCIATION DOCUMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY AND SHALL SPECIFICALLY CONTAIN COVENANTS BINDING THE ASSOCIATION TO CONTINUOUSLY MAINTAIN THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT. SUCH COVENANTS SHALL NOT RELIEVE THE INDIVIDUAL LOT OWNERS OF THE RESPONSIBILITY TO MAINTAIN THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT SHOULD THE ASSOCIATION DEFAULT IN THE PERFORMANCE OF ITS MAINTENANCE RESPONSIBILITY. THE ASSOCIATION DOCUMENTS SHALL ALSO CONTAIN PROVISIONS THAT THEY MAY NOT BE AMENDED WITH REGARD TO THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT SHALL ALWAYS REMAIN IN THE ASSOCIATION. THE CITY WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF SAID CREEK, OR CREEKS OR FOR ANY DAMAGE OR INJURY TO PRIVATE PROPERTY OR PERSON THAT RESULTS FROM THE FLOW OF WATER ALONG SAID CREEK, OR FOR THE CONTROL OF EROSION. NO OBSTRUCTION TO THE NATURAL FLOW OF STORM WATER RUN-OFF SHALL BE PERMITTED BY CONSTRUCTION OF ANY TYPE OF BUILDING FENCE, OR ANY OTHER STRUCTURE WITHIN THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT. PROVIDED, HOWEVER, IT IS UNDERSTOOD THAT IN THE EVENT IT BECOMES NECESSARY FOR THE CITY TO CONSIDER CHANNELIZING OR ERECTING ANY TYPE OF DRAINAGE STRUCTURE IN ORDER TO IMPROVE THE STORM DRAINAGE, THEN IN SUCH EVENT, THE CITY SHALL HAVE THE RIGHT, BUT NOT THE OBLIGATION, TO ENTER UPON THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT AT ANY POINT, OR POINTS, WITH ALL RIGHTS OF INGRESS AND EGRESS TO INVESTIGATE, SURVEY, OR TO ERECT, CONSTRUCT, AND MAINTAIN ANY DRAINAGE FACILITY DEEMED NECESSARY FOR DRAINAGE PURPOSES. THE OWNERS AND ASSOCIATION SHALL KEEP THE NATURAL DRAINAGE CHANNELS WITHIN THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT FREE OF DEBRIS, SILT, OR ANY SUBSTANCE WHICH WOULD RESULT IN UNSANITARY CONDITIONS OR OBSTRUCT THE FLOW OF WATER, AND THE CITY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS FOR THE PURPOSE OF INSPECTION AND SUPERVISION OF MAINTENANCE WORK BY THE OWNERS AND THE ASSOCIATION TO ALLEVIATE ANY UNDESIRABLE CONDITIONS WHICH MAY OCCUR. THE CREEKS AND NATURAL DRAINAGE CHANNELS THROUGH THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT, AS IN THE CASE OF ALL NATURAL CHANNELS, ARE SUBJECT TO STORM WATER OVERFLOW AND NATURAL BANK EROSION TO AN EXTENT WHICH CANNOT BE DEFINITELY DEFINED. THE CITY SHALL NOT BE LIABLE FOR ANY DAMAGES AND INJURIES OF ANY NATURE RESULTING FROM THE OCCURRENCE OF THESE NATURAL PHENOMENA, NOR RESULTING FROM THE FAILURE OF ANY STRUCTURE OR STRUCTURES, WITHIN THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT, AND THE OWNERS HEREBY AGREE TO INDEMNIFY AND HOLD HARMLESS THE CITY FROM ANY SUCH DAMAGES AND INJURIES. BUILDING AREAS OUTSIDE THE DRAINAGE AND OPEN SPACE AND DRAINAGE EASEMENT SHALL BE FILLED TO A MINIMUM ELEVATION AS SHOWN ON THE PLAT.

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	820.00'	0°24'25"	N59°26'43"E	5.82'	5.82'
C2	740.00'	0°03'21"	N59°40'35"E	0.72'	0.72'
C3	10.00'	89°32'15"	S75°31'37"E	14.08'	15.63'
C4	275.00'	20°01'04"	S40°46'02"E	95.59'	96.08'
C5	1245.00'	24°29'50"	S12°03'13"W	528.26'	532.31'
C6	1036.42'	3°51'38"	S63°18'18"E	69.82'	69.83'
C7	110.35'	1°13'49"	S65°40'49"E	2.37'	2.37'
C9	400.00'	9°31'25"	S64°24'37"W	66.41'	66.49'
C10	50.00'	29°40'30"	S54°20'05"W	25.61'	25.90'
C11	75.00'	52°41'44"	S13°08'57"W	66.57'	68.98'
C12	125.00'	72°26'25"	S23°01'18"W	147.72'	158.04'
C13	25.00'	90°00'00"	S14°14'30"W	35.36'	39.27'
C14	930.00'	34°44'00"	S48°07'30"E	555.19'	563.78'
C15	375.00'	54°55'33"	N87°02'43"E	345.88'	359.49'
C16	425.00'	54°55'33"	S87°02'43"W	392.00'	407.42'
C17	980.00'	34°44'00"	N48°07'30"W	585.03'	594.09'
C18	15.00'	55°47'07"	N58°39'03"W	14.03'	14.60'
C19	75.00'	13°00'54"	S14°14'30"W	17.00'	17.04'
C20	15.00'	55°47'07"	N87°08'04"E	14.03'	14.60'
C21	75.00'	72°26'25"	N23°01'18"E	88.63'	94.82'
C22	125.00'	52°41'44"	N13°08'57"E	110.95'	114.96'
C23	200.00'	8°17'32"	N43°38'29"E	28.91'	28.93'
C24	450.00'	11°51'46"	N53°43'02"E	93.00'	93.17'

LINE TABLE		
LINE #	BEARING	LENGTH
L1	S30°21'05"E	80.00'
L2	S30°45'30"E	21.96'
L3	S0°11'42"E	495.31'
L4	S0°11'30"E	61.02'
L5	N3°39'45"E	246.40'
L6	S62°18'05"E	91.98'
L7	S86°37'19"E	85.04'
L8	N58°37'03"E	44.38'
L9	N75°45'30"W	62.12'
L10	S75°45'30"E	76.26'
L11	N44°49'03"E	113.58'
L12	S69°10'20"W	39.53'
L13	S13°11'54"E	100.00'
L14	N59°34'57"E	12.57'
L15	S30°16'47"E	50.00'
L16	S59°34'57"W	12.45'
L17	N13°11'54"W	100.00'
L18	N47°47'09"E	28.20'

FINAL PLAT  
OF  
STEELE CREEK-UNIT 9

23.693 ACRES OF LAND LOCATED IN THE JERONIMO LEAL SURVEY NO. 85, ABSTRACT NO. 210, IN THE CITY OF CIBOLO, GUADALUPE COUNTY, TEXAS, AND BEING A PORTION OF THE AT CERTAIN CALLED 85.592 ACRES OF LAND CONVEYED TO 258 STEELE CREEK INVESTMENTS, L.L.C. AS DESCRIBED IN DOCUMENT NO. 201899019519, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY.

( 41 SINGLE FAMILY RESIDENTIAL LOTS, 0 OPEN SPACE LOTS IN 2 BLOCKS)

OWNER: CONTINENTAL HOMES OF TEXAS, LP  
A TEXAS LIMITED PARTNERSHIP  
BY: CHTEX OF TEXAS, INC  
A DELAWARE CORPORATION, ITS SOLE GENERAL PARTNER  
BY: LESLIE OSTRANDER, ASSISTANT SECRETARY  
5419 N LOOP 1604 E, SAN ANTONIO, TX 78247

DATE OF PRINT: September 9, 2025

PAPE-DAWSON

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9800  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

DATE OF PREPARATION: September 09, 2025

THIS SUBDIVISION PLAT OF STEELE CREEK, UNIT 9, SUBMITTED AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

THIS PROPOSED DEVELOPMENT HAS BEEN REVIEWED AND APPROVED BY THE CIBOLO CREEK MUNICIPAL AUTHORITY (CCMA) FOR WASTEWATER TREATMENT PLANT CAPACITY AND EASEMENTS. ALL FEES DUE FOR IMPACT TO THE SYSTEM AT TIME OF CONNECTION WILL BE CALCULATED AT SUBMITTAL OF BUILDING PERMIT APPLICATION.

AGENT FOR CIBOLO CREEK MUNICIPAL AUTHORITY

APPROVED ON THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20 \_\_, BY THE CITY ENGINEER, CITY OF CIBOLO, TEXAS.

CITY ENGINEER, CITY OF CIBOLO

THIS PLAT OF STEELE CREEK, UNIT 9, HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS \_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20 \_\_.

BY: \_\_\_\_\_ CHAIR

BY: \_\_\_\_\_ VICE CHAIR

THIS PLAT OF STEELE CREEK, UNIT 9, HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY COUNCIL OF THE CITY OF CIBOLO, TEXAS AND IS HEREBY APPROVED BY SUCH CITY COUNCIL.

DATED THIS \_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20 \_\_.

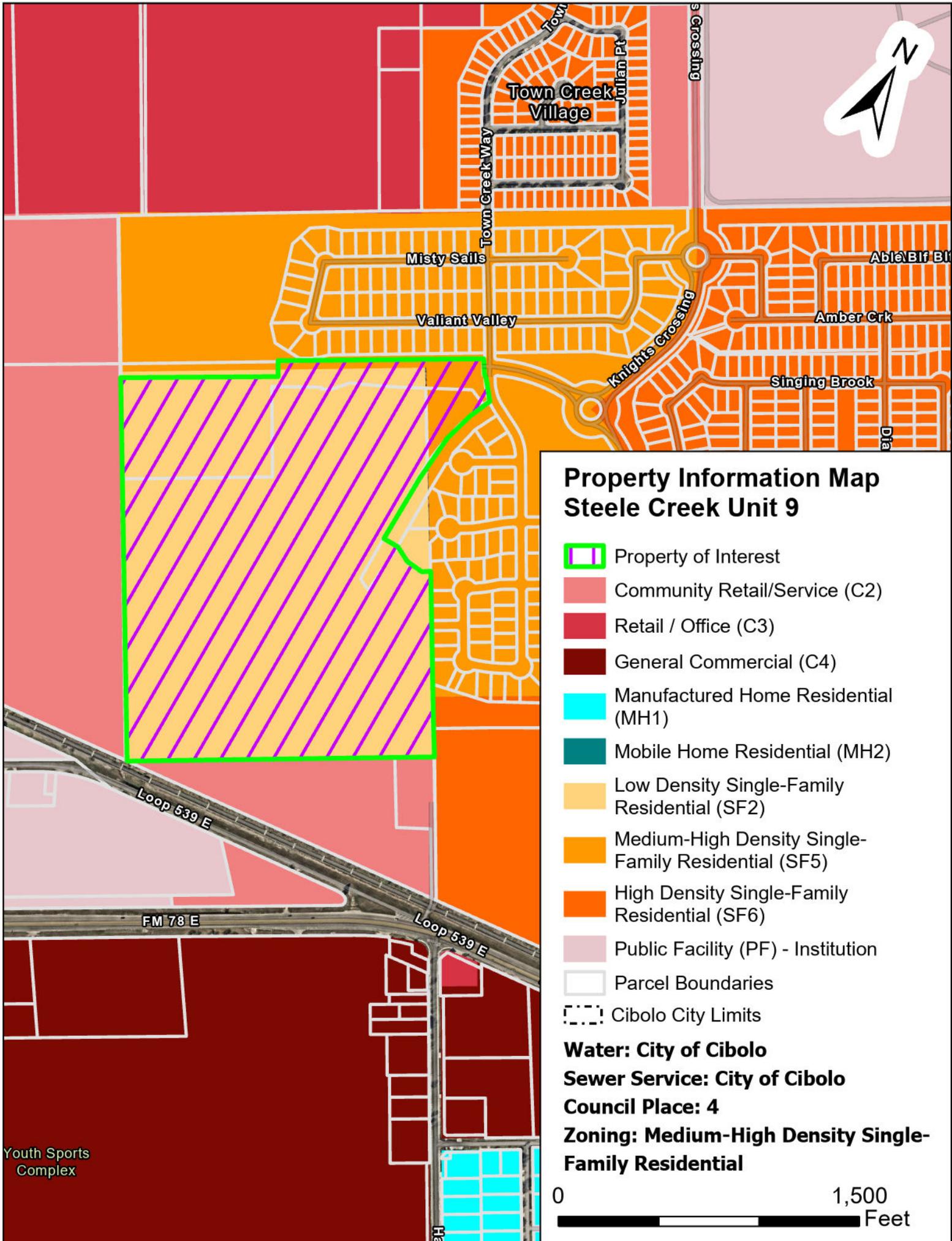
BY: \_\_\_\_\_ CITY SECRETARY BY: \_\_\_\_\_ MAYOR

SEE THIS SHEET FOR LINE AND CURVE TABLES

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 3 OF 3

STEELE CREEK-UNIT 9  
Civil Job No. 12629-09; Survey Job No. 12629-09  
Date: Sep 09, 2025, 3:46pm User: ID: rrcorades  
File: P:\12629\09\Design\Chm\PLAT\1262909.dwg



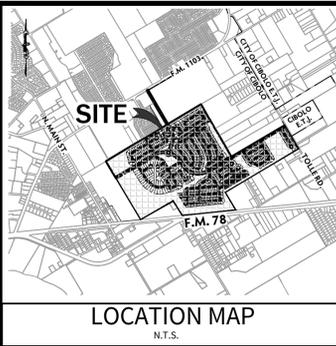
### Property Information Map Steele Creek Unit 9

-  Property of Interest
-  Community Retail/Service (C2)
-  Retail / Office (C3)
-  General Commercial (C4)
-  Manufactured Home Residential (MH1)
-  Mobile Home Residential (MH2)
-  Low Density Single-Family Residential (SF2)
-  Medium-High Density Single-Family Residential (SF5)
-  High Density Single-Family Residential (SF6)
-  Public Facility (PF) - Institution
-  Parcel Boundaries
-  Cibolo City Limits

**Water: City of Cibolo**  
**Sewer Service: City of Cibolo**  
**Council Place: 4**  
**Zoning: Medium-High Density Single-Family Residential**



Youth Sports Complex



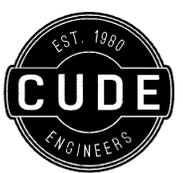
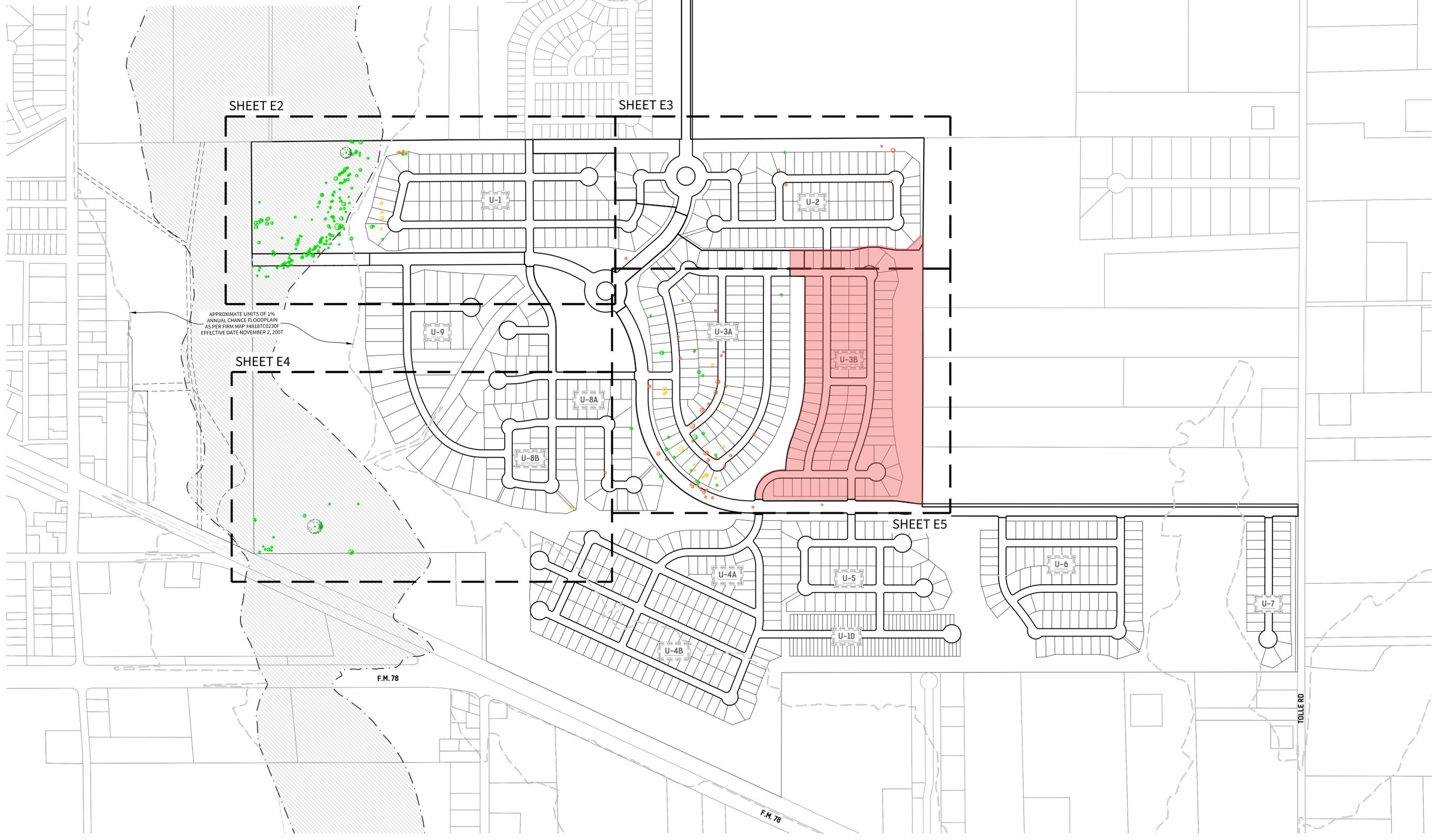
**DEVELOPER:**  
 D.R. HORTON, INC.  
 211 N. LOOP 1604 E, SUITE 130  
 SAN ANTONIO, TX 78232  
 CONTACT PERSON: LESLIE OSTRANDER

**CIVIL ENGINEER:**  
 CUDE ENGINEERS  
 CONTACT PERSON: PATRICK MURPHY, P.E.  
 4122 POND HILL ROAD, SUITE 101  
 SAN ANTONIO, TX 78231  
 TEL: (210) 681-2951  
 FAX: (210) 523-7112

**LEGEND**

- PROTECTED TREES TO BE PRESERVED
- PROTECTED TREES TO BE REMOVED
- HERITAGE TREE TO BE PRESERVED
- HERITAGE TREE TO BE REMOVED
- EXEMPT TREE

SCALE: 1" = 300'



CUDEENGINEERS.COM  
 4122 Pond Hill Road, Suite 101  
 San Antonio, Texas 78231  
 P: (210) 681-2951 F: (210) 523-7112

**STEELE CREEK SUBDIVISION**  
 MASTER TREE PRESERVATION PLAN

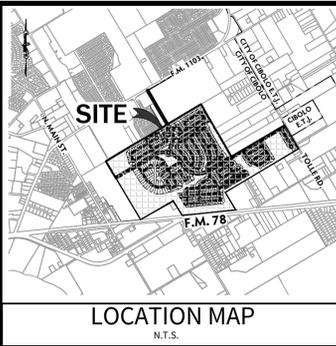
DATE	2018-11-30
PROJECT NO.	02907.300
DRAWN BY	PMB
CHECKED BY	WPM

REVISIONS	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

**CUDE ENGINEERS**  
 TBPE No. 455

**E1**

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.

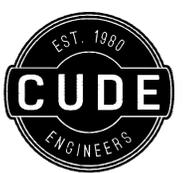


**DEVELOPER:**  
D.R. HORTON, INC.  
211 N. LOOP 1604 E, SUITE 130  
SAN ANTONIO, TX 78232  
CONTACT PERSON: LESLIE OSTRANDER

**CIVIL ENGINEER:**  
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**LEGEND**

- PROTECTED TREES TO BE PRESERVED
- PROTECTED TREES TO BE REMOVED
- HERITAGE TREE TO BE PRESERVED
- HERITAGE TREE TO BE REMOVED
- EXEMPT TREE



CUDEENGINEERS.COM  
4122 Pond Hill Road, Suite 101  
San Antonio, Texas 78231  
P: (210) 681-2951 F: (210) 523-7112



STEEL CREEK SUBDIVISION  
TREE PRESERVATION PLAN

DATE  
2018-11-30

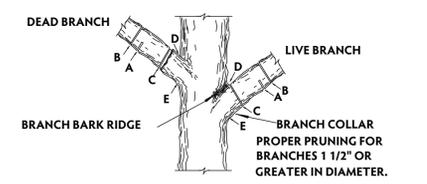
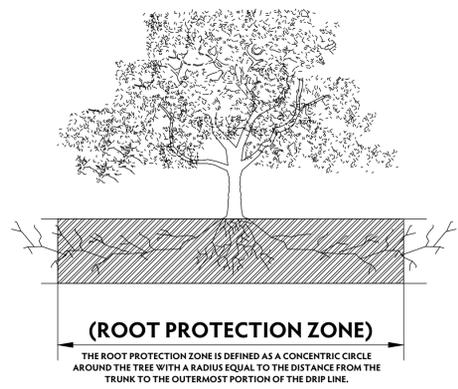
PROJECT NO.  
02907.300

DRAWN BY  
PMB

CHECKED BY  
WPM

**REVISIONS**

1.	
2.	
3.	
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NOTE: DO NOT CUT FROM D to E.

A. FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.  
B. SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.  
C. FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS  
D. BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

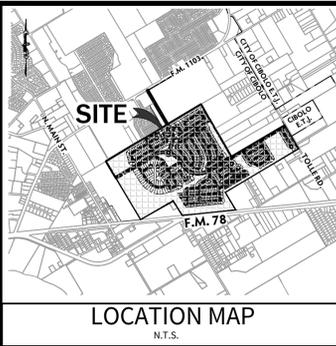
FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 60 MIN TO PREVENT THE SPREAD OF OAK WILT.



SCALE: 1" = 100'

CUDE ENGINEERS  
TBPE No. 455

**E2**



**DEVELOPER:**  
 D.R. HORTON, INC.  
 211 N. LOOP 1604 E, SUITE 130  
 SAN ANTONIO, TX 78232  
 CONTACT PERSON: LESLIE OSTRANDER

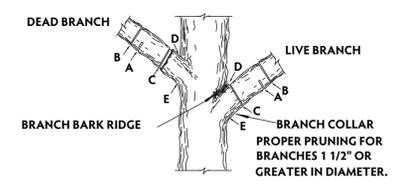
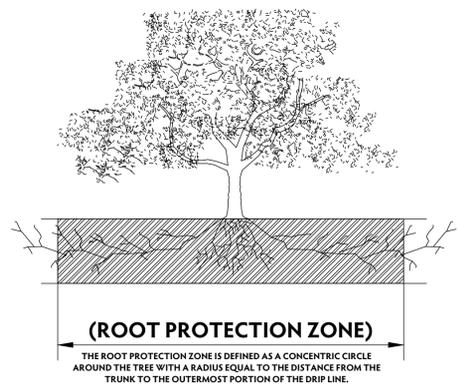
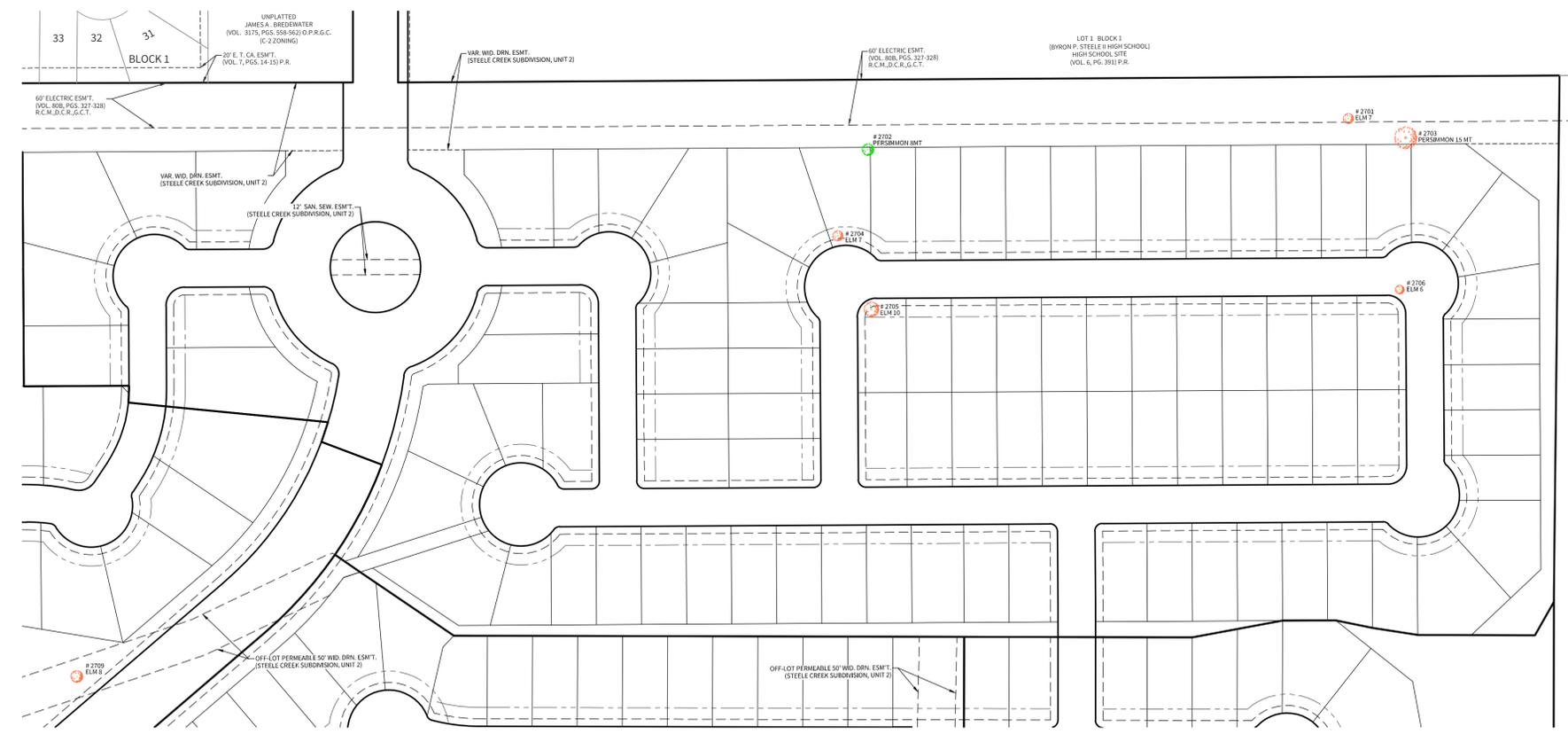
**CIVIL ENGINEER:**  
 CUDE ENGINEERS  
 CONTACT PERSON: PATRICK MURPHY, P.E.  
 4122 POND HILL ROAD, SUITE 101  
 SAN ANTONIO, TX 78231  
 TEL: (210) 681-2951  
 FAX: (210) 523-7112

**LEGEND**

	- PROTECTED TREES TO BE PRESERVED
	- PROTECTED TREES TO BE REMOVED
	- HERITAGE TREE TO BE PRESERVED
	- HERITAGE TREE TO BE REMOVED
	- EXEMPT TREE

CUDEENGINEERS.COM  
 4122 Pond Hill Road, Suite 101  
 San Antonio, Texas 78231  
 P:(210) 681.2951 F:(210) 523.7112

**STEELE CREEK SUBDIVISION**  
**TREE PRESERVATION PLAN**



- NOTE: DO NOT CUT FROM D to E.**
- FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
  - SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
  - FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS
  - BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.
- FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 60 MIN TO PREVENT THE SPREAD OF OAK WILT.**

**DATE**  
2018-11-30

**PROJECT NO.**  
02907.300

**DRAWN BY**  
PMB

**CHECKED BY**  
WPM

**REVISIONS**

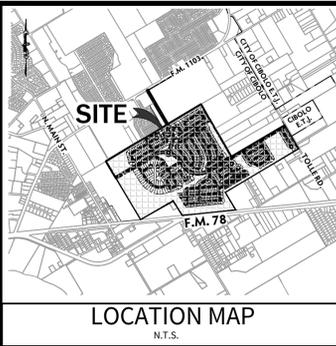
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**CUDE ENGINEERS**  
 TBPE No. 455



SCALE: 1" = 100'

**E3**

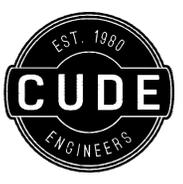


**DEVELOPER:**  
 D.R. HORTON, INC.  
 211 N. LOOP 1604 E, SUITE 130  
 SAN ANTONIO, TX 78232  
 CONTACT PERSON: LESLIE OSTRANDER

**CIVIL ENGINEER:**  
 CUDE ENGINEERS  
 CONTACT PERSON: PATRICK MURPHY, P.E.  
 4122 POND HILL ROAD, SUITE 101  
 SAN ANTONIO, TX 78231  
 TEL: (210) 681-2951  
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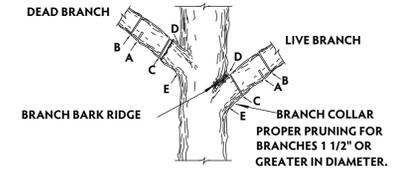
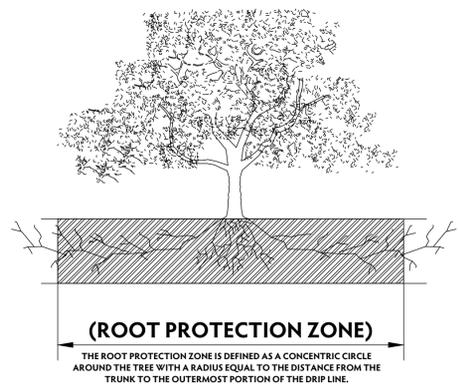
**LEGEND**

	- PROTECTED TREES TO BE PRESERVED
	- PROTECTED TREES TO BE REMOVED
	- HERITAGE TREE TO BE PRESERVED
	- HERITAGE TREE TO BE REMOVED
	- EXEMPT TREE



CUDEENGINEERS.COM  
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 San Antonio, Texas 78231  
 P:(210) 681.2951 F: (210) 523.7112

**STEELE CREEK SUBDIVISION**  
 TREE PRESERVATION PLAN



**NOTE: DO NOT CUT FROM D to E.**

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 B. SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.  
 C. FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS  
 D. BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

**FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 60 MIN TO PREVENT THE SPREAD OF OAK WILT.**

DATE  
2018-11-30

PROJECT NO.  
02907.300

DRAWN BY  
PMB

CHECKED BY  
WPM

**REVISIONS**

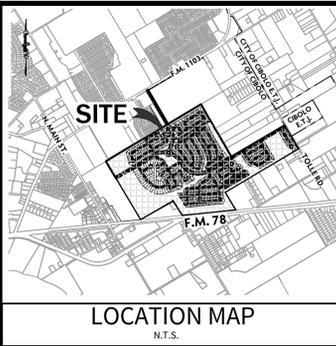
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**CUDE ENGINEERS**  
 TBPE No. 455



SCALE: 1" = 100'

**E4**

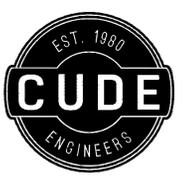


**DEVELOPER:**  
 D.R. HORTON, INC.  
 211 N. LOOP 1604 E, SUITE 130  
 SAN ANTONIO, TX 78232  
 CONTACT PERSON: LESLIE OSTRANDER

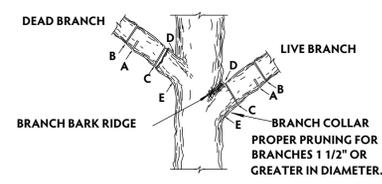
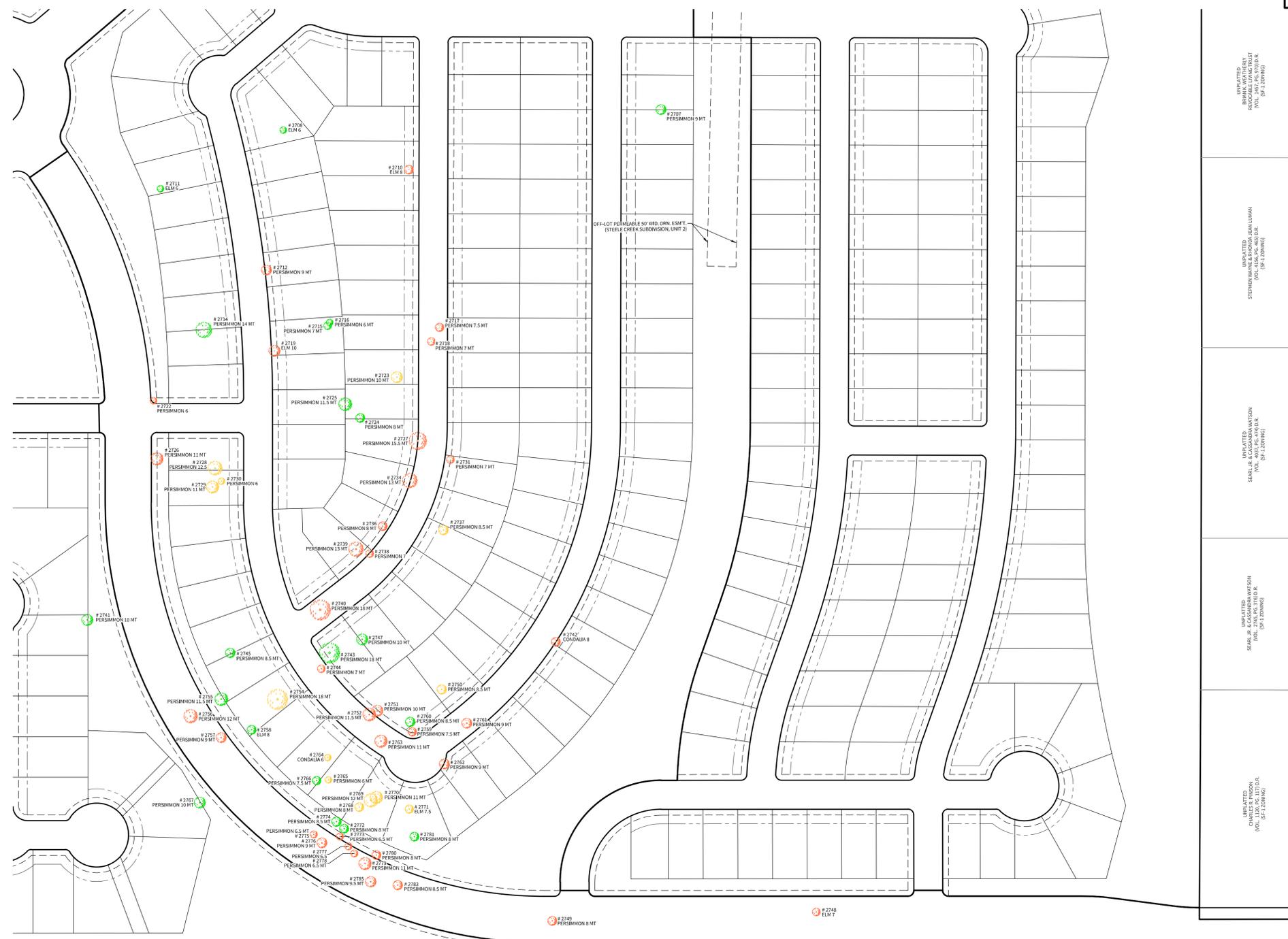
**CIVIL ENGINEER:**  
 CUDE ENGINEERS  
 CONTACT PERSON: PATRICK MURPHY, P.E.  
 4122 POND HILL ROAD, SUITE 101  
 SAN ANTONIO, TX 78231  
 TEL: (210) 681-2951  
 FAX: (210) 523-7112

**LEGEND**

- PROTECTED TREES TO BE PRESERVED
- PROTECTED TREES TO BE REMOVED
- HERITAGE TREE TO BE PRESERVED
- HERITAGE TREE TO BE REMOVED
- EXEMPT TREE



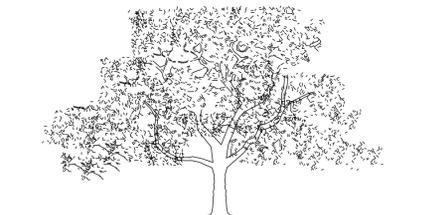
CUDEENGINEERS.COM  
 4122 Pond Hill Road, Suite 101  
 San Antonio, Texas 78231  
 P: (210) 681-2951 F: (210) 523-7112



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FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 60 MIN TO PREVENT THE SPREAD OF OAK WILT.



**(ROOT PROTECTION ZONE)**

THE ROOT PROTECTION ZONE IS DEFINED AS A CONCENTRIC CIRCLE AROUND THE TREE WITH A RADIUS EQUAL TO THE DISTANCE FROM THE TRUNK TO THE OUTERMOST PORTION OF THE DRIP LINE.

UNPLANTED BRANK W/ATHERLY BRANK (NO. 100, 100, 100, 100) (SP-1 ZONING)

UNPLANTED STEPHANANNA (NO. 100, 100, 100, 100) (SP-1 ZONING)

UNPLANTED UNPLANTED (NO. 100, 100, 100, 100) (SP-1 ZONING)

UNPLANTED UNPLANTED (NO. 100, 100, 100, 100) (SP-1 ZONING)

UNPLANTED UNPLANTED (NO. 100, 100, 100, 100) (SP-1 ZONING)

STEELE CREEK SUBDIVISION  
 TREE PRESERVATION PLAN

DATE  
2018-11-30

PROJECT NO.  
02907.300

DRAWN BY  
PMB

CHECKED BY  
WPM

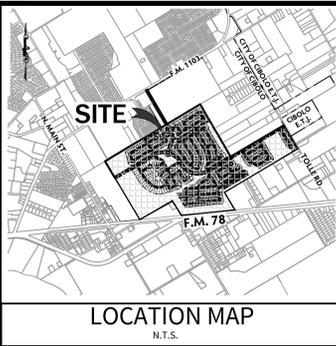
**REVISIONS**

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CUDE ENGINEERS  
 TBPE No. 455

**E5**





**DEVELOPER:**  
D.R. HORTON, INC.  
211 N. LOOP 1604 E, SUITE 130  
SAN ANTONIO, TX 78232  
CONTACT PERSON: LESLIE OSTRANDER

**CIVIL ENGINEER:**  
CUDE ENGINEERS  
CONTACT PERSON: PATRICK MURPHY, P.E.  
4122 POND HILL ROAD, SUITE 101  
SAN ANTONIO, TX 78231  
TEL: (210) 681-2951  
FAX: (210) 523-7112

Number	Species	Protected Tree	Protected Tree	Heritage Tree	Heritage Tree	Exempt Tree
		Inches Preserved	Inches Removed	Inches Preserved	Inches Removed	
2701	Elm					7
2702	Persimmon	8				
2703	Persimmon					15
2704	Elm					7
2705	Elm					10
2706	Elm					6
2707	Persimmon	9				
2708	Elm	6				
2709	Elm					8
2710	Elm					8
2711	Elm	6				
2712	Persimmon					9
2714	Persimmon	14				
2715	Persimmon	7				
2716	Persimmon	6				
2717	Persimmon					7.5
2718	Persimmon					7
2719	Elm					10
2722	Persimmon					6
2723	Persimmon		10			
2724	Persimmon	8				
2725	Persimmon	11.5				
2726	Persimmon					11
2727	Persimmon					15.5
2728	Persimmon		12.5			
2729	Persimmon		11			
2730	Persimmon		6			
2731	Persimmon					7
2734	Persimmon					13
2736	Persimmon					8
2737	Persimmon		8.5			
2738	Persimmon					7
2739	Persimmon					13
2740	Persimmon					18
2741	Persimmon	10				
2742	Condalia					8
2743	Persimmon	18				
2744	Persimmon					7
2745	Persimmon	8.5				
2747	Persimmon	10				
2748	Elm					7
2749	Persimmon					8
2750	Persimmon		8.5			
2751	Persimmon					10
2752	Persimmon					11.5
2754	Persimmon		18			
2755	Persimmon	11.5				
2756	Persimmon					12
2757	Persimmon					9
2758	Elm	8				
2759	Persimmon					7.5
2760	Persimmon	8.5				
2761	Persimmon					9
2762	Persimmon					9
2763	Persimmon					11
2764	Condalia		6			
2765	Persimmon		6			
2766	Persimmon	7.5				
2767	Persimmon	10				
2768	Persimmon		8			
2769	Persimmon		12			
2770	Persimmon		11			
2771	Elm		7.5			
2772	Persimmon	8				
2773	Persimmon					6.5
2774	Persimmon	8.5				
2775	Persimmon					6.5
2776	Persimmon					9
2777	Persimmon					6.5
2778	Persimmon					6.5
2779	Persimmon					11
2780	Persimmon	8				8
2781	Persimmon	8				
2783	Persimmon					8.5
2785	Persimmon					9.5
2786	Condalia		6			

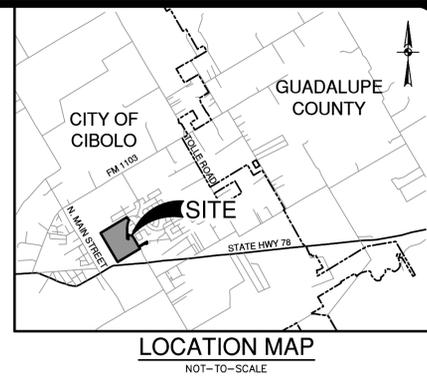
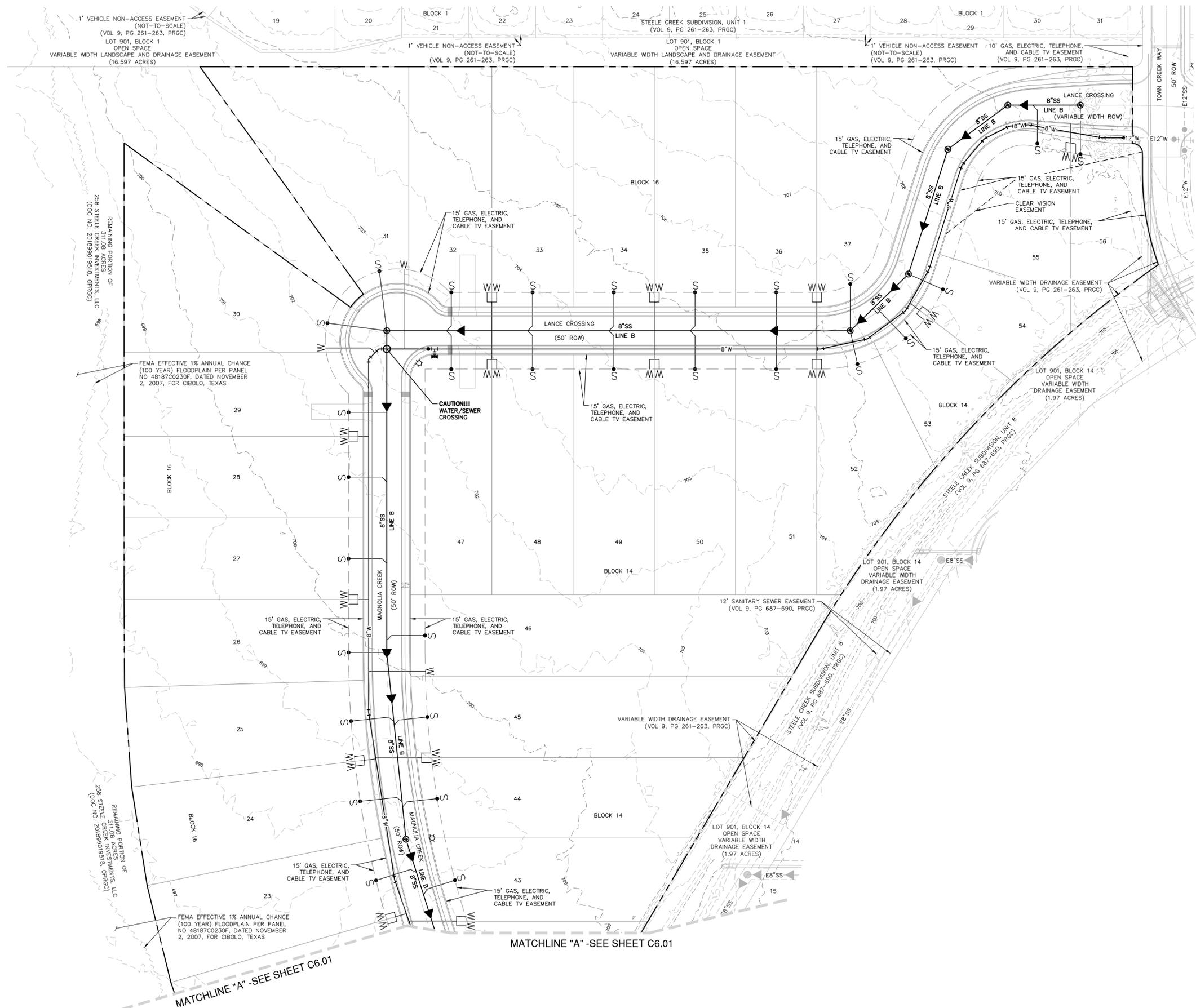
Number	Species	Protected Tree	Protected Tree	Heritage Tree	Heritage Tree	Exempt Tree
		Inches Preserved	Inches Removed	Inches Preserved	Inches Removed	
2787	Condalia		9			
2788	Condalia		10			
2789	Condalia	7				
2790	Condalia	7				
2792	Oak		12			
2793	Elm	7				
2794	Elm	6				
2795	Elm	14				
2796	Elm	9				
2797	Elm	7				
2798	Elm	8				
2799	Elm	7				
2800	Elm	7.5				
2801	Elm	8				
2802	Oak	6				
2803	Elm	6				
2813	Oak		12			
2814	Condalia		9.5			
2817	Oak	7				
2818	Oak	13				
2819	Elm	8				
2820	Elm	8				
2822	Elm	7				
2823	Elm	6				
2824	Elm	6				
2825	Elm	6.5				
2826	Elm	9				
2827	Elm	8				
2828	Elm	8				
2829	Elm	9.5				
2830	Elm	8				
2831	Elm	10				
2832	Elm	12				
2833	Elm	6				
2834	Elm	11.5				
2835	Oak		8			
2836	Elm	8				
2837	Oak	12				
2838	Oak	16				
2839	Oak	9				
2840	Oak	7				
2841	Oak	6				
2842	Oak	22.5				
2843	Elm	10.5				
2844	Elm	6				
2845	Elm	6				
2846	Elm	14				
2847	Elm	7				
2848	Elm	12				
2849	Elm	12				
2850	Elm	12.5				
2866	Elm	8				
2867	Elm	8				
2868	Elm	9				
2869	Elm	11				
2870	Oak	6.5				
2871	Elm	8				
2872	Elm	6.5				
2873	Elm	9				
2874	Elm	7				
2875	Elm	6				
2876	Oak	12				
2877	Oak	8.5				
2904	Elm	6				
2905	Elm	7				
2906	Elm	7				
2907	Elm	10				
2908	Elm	10				
2909	Elm	10				
2910	Elm	7				
2911	Elm	6				
2912	Elm	7				
2913	Elm	7				
2914	Elm	8				
2915	Elm	9				
2916	Elm	11				

Number	Species	Protected Tree	Protected Tree	Heritage Tree	Heritage Tree	Exempt Tree
		Inches Preserved	Inches Removed	Inches Preserved	Inches Removed	
2917	Elm	6				
2918	Elm	9				
2919	Elm	7				
2920	Elm	6				
2921	Elm	8				
2922	Elm	8.5				
2923	Oak	13.5				
2924	Elm	11				
2925	Elm	7				
2926	Elm	9				
2946	Condalia	7				
2948	Oak	10				
2949	Elm	8				
2950	Elm	7				
2951	Elm	8				
2952	Elm	6				
2953	Elm	6				
2954	Elm	7				
2955	Oak	8.5				
2956	Crabapple					6
2957	Crabapple					6
2958	Crabapple		10.5			
2959	Crabapple	7				
2960	Crabapple	6				
2961	Crabapple	8				
2963	Crabapple					6
2964	Crabapple					6
2967	Crabapple					9
2968	Oak			39		
2969	Elm	14				
2970	Elm	8				
2971	Elm	10				
2972	Elm	6.5				
2973	Condalia	8.5				
2974	Oak	11				
2975	Crabapple					
2976	Elm	6.5				
2977	Oak	8				
2978	Elm	8				
2979	Elm	6				
2980	Elm	7				
2981	Elm	7				
2982	Elm	11				
2983	Elm	6				
2984	Elm	6.5				
2985	Elm	6				
2986	Elm	7				
2987	Elm	7				
2988	Elm	9				
2989	Elm	6				
2990	Elm	7				
2991	Elm	6				
2992	Elm	8				
2993	Elm	10				
2994	Elm	6				
2995	Elm	8				
2996	Elm	11.5				
2998	Elm	7				
2999	Crabapple	7				
3000	Elm	10				7
13250	Elm					
13251	Elm	11				
13252	Pecan	8				
13253	Elm	7				
22008	Crabapple	6				
22009	Oak	7				
22010	Elm	9				
22011	Elm	13				
22012	Elm	10				
22013	Elm	9				
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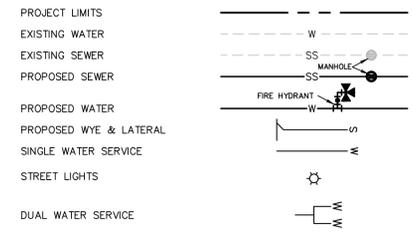
Number	Species	Protected Tree	Protected Tree	Heritage Tree	Heritage Tree	Exempt Tree
		Inches Preserved	Inches Removed	Inches Preserved	Inches Removed	
22020	Elm	8				
22021	Elm	7				
22022	Elm	6				
22023	Elm	7				
22024	Elm	6				
22025	Elm	6				
22026	Elm	7				
22027	Elm	6				
22028	Elm	6				
22029	Elm	6				
22030	Elm	6				
22031	Elm	9				
22032	Elm	6				
22033	Elm	8				
22034	Elm	11				
22035	Elm	7				
22036	Elm	8				
22037	Elm	14				
22038	Elm	8.5				
22097	Elm	10				
22098	Elm	10				
22099	Elm	6.5				
22100	Elm	6.5				
22101	Elm	6				
22102	Elm	6				
22103	Elm	6.5				
22104	Elm	6				
22105	Elm	6				
22106	Elm	7				
22107	Elm	6				
22108	Elm	7				
22109	Elm	6				

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File: P:\126\23\03\Design\Civil\01262309.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE/US UNLESS OTHERWISE NOTED. Imagery © 2016, CAPOCO, Digital Globe, Texas Orthology Program, USDA Farm Service Agency.



**UTILITY LEGEND**



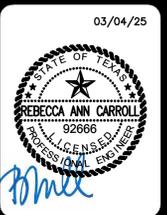
**NOTE:**  
WATER AND SEWER INFRASTRUCTURE SHOULD COMPLY WITH AND BE INSPECTED BY THE CITY OF CIBOLO. IN THE EVENT OF A CONFLICT, CITY OF CIBOLO SPECIFICATIONS CONTROL.

- CONDUIT NOTES:**
- CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
  - CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
  - ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

**TRENCH EXCAVATION SAFETY PROTECTION:**  
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**CAUTION!!**  
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, SECONDARY ELECTRICAL, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

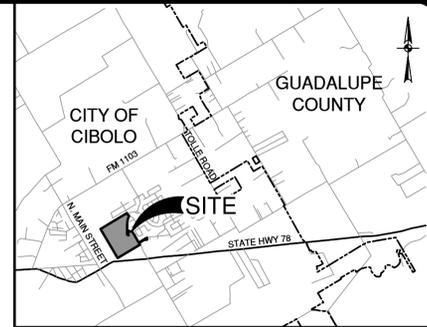
DATE	
NO.	
REVISION	



**PAPE-DAWSON ENGINEERS**  
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028860

**STEELE CREEK-UNIT 9**  
CITY OF CIBOLO, TEXAS  
OVERALL UTILITY PLAN  
(SHEET 1 OF 2)

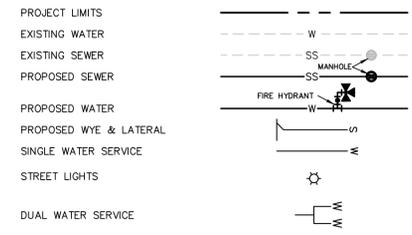
PLAT NO.	
JOB NO.	12629-09
DATE	MARCH 2025
DESIGNER	SS
CHECKED	DRAWN AR
SHEET	C6.00



LOCATION MAP  
NOT-TO-SCALE



UTILITY LEGEND



NOTE:

WATER AND SEWER INFRASTRUCTURE SHOULD COMPLY WITH AND BE INSPECTED BY THE CITY OF CIBOLO. IN THE EVENT OF A CONFLICT, CITY OF CIBOLO SPECIFICATIONS CONTROL.

CONDUIT NOTES:

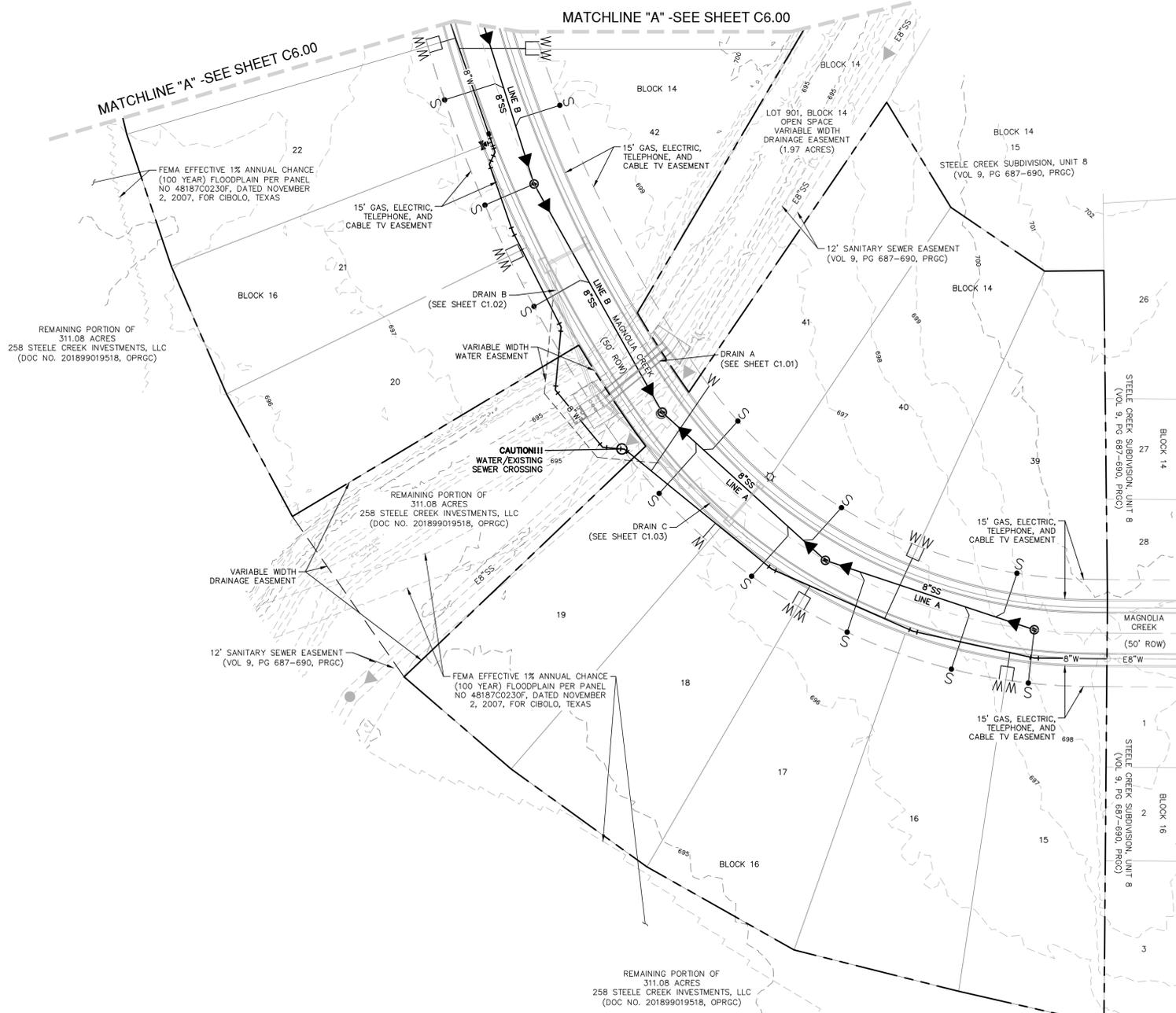
- CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
- CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
- ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



DATE	
NO.	REVISION



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 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**STEELE CREEK-UNIT 9**  
 CITY OF CIBOLO, TEXAS  
**OVERALL UTILITY PLAN**  
 (SHEET 2 OF 2)

PLAT NO.	
JOB NO.	12629-09
DATE	MARCH 2025
DESIGNER	SS
CHECKED	DRAWN AR
SHEET	C6.01

Prepared For:

DR Horton  
211 N. Loop 1604 E., Suite 130  
San Antonio, Texas



## TRAFFIC IMPACT STUDY



# Steele Creek Planned Unit Development 411.584 Acres, FM 1103 Cibolo, Texas



*Intelligent  
Engineering.  
Nature of Design.*

TRANSPORTATION

PUBLIC WORKS

DEVELOPMENT

SURVEYING

# TRAFFIC IMPACT ANALYSIS

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## Steele Creek Planned Unit Development 411.584 Acres, FM 1103 Cibolo, Texas

Prepared for:

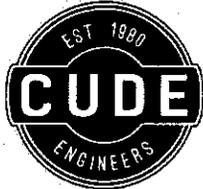
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Prepared In Cooperation With:



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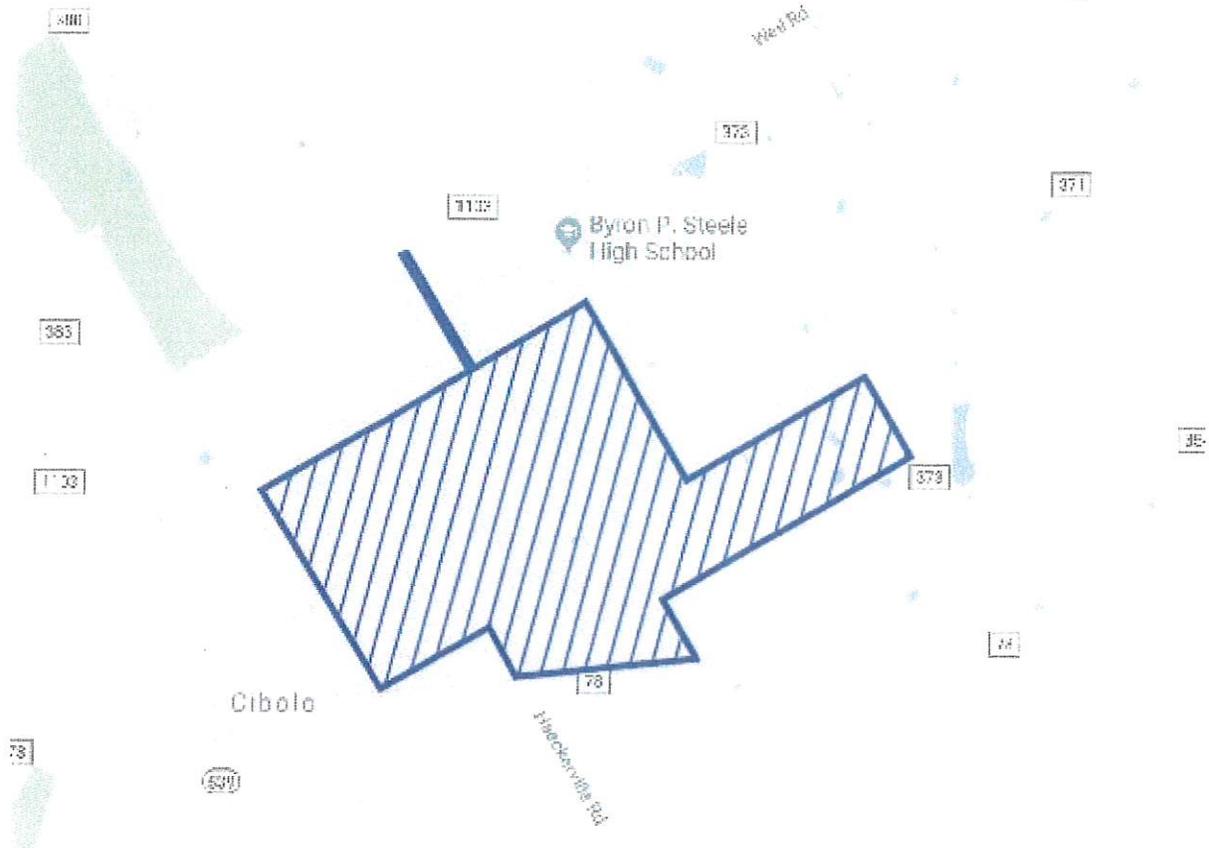
May 2018  
E0597600

## EXECUTIVE SUMMARY

### TRAFFIC IMPACT ANALYSIS Steele Creek Planned Unit Development 411.584 Acres, FM 1103 Cibolo, Texas

#### A. SITE LOCATION

The location of the Steele Creek Planned Unit Development is between FM 1103 and the Union Pacific Railroad and between Town Creek and Tolle Road, as shown in Figure i.



Source: Google Map

Figure i. Steele Creek Planned Unit Development Location

**B. DEVELOPMENT DESCRIPTION**

The Steele Creek Planned Unit Development is to consist of as many as 947 single family homes and 94 townhouses. The development is proposed to be built out in five years. The 412 acres are proposed to be developed in ten phases (units). The development will be served by two streets: an arterial street to access FM 1103 and a collector street to access Tolle Road. A collector street will be stubbed out at the eastern flood plain of Town Creek, right-of-way will be dedicated to the western border of the 412 acres to provide for the potential of a future extension of Schlather Street by others. The development layout is shown in Figure ii.

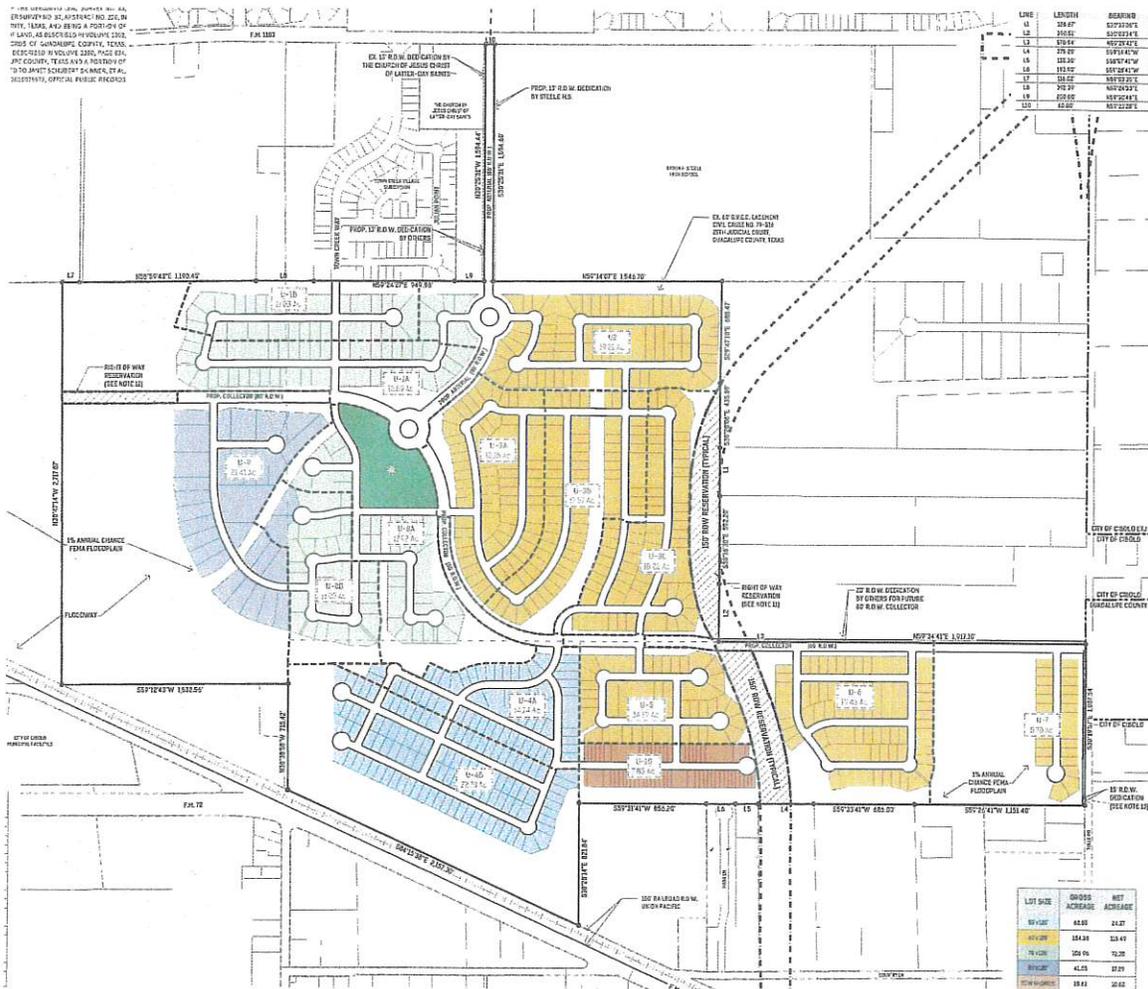


Figure ii Steele Creek Planned Unit Development

**C. PRINCIPAL FINDINGS**

**Trip Generation.** Using the Ninth Edition of the ITE *TRIP GENERATION MANUAL* reference, the proposed development is expected to generate trips based the number of residential units. Table i shows the anticipated trip generation for the proposed development.

**Table i. Trip Generation for Steele Creek Planned Unit Development**

<b>TRIP GENERATION</b>										
<b>ITE Code</b>	<b>Weekday 24 Hour</b>		<b>Weekday AM Peak</b>		<b>Weekday PM Peak</b>		<b>Saturday 24 Hour</b>		<b>Saturday Peak</b>	
<b>210</b>	<b>Single Family Residential – 947 Lots</b>									
<b>Rate / Unit</b>	9.52		0.75		1.00		9.91		0.93	
<b>Trips</b>	9,015		710		947		9,385		881	
<b>% Enter/Exit</b>	50%	50%	25%	75%	63%	37%	50%	50%	54%	46%
<b># Enter/Exit</b>	4,507	4,508	178	532	597	350	4,693	4,692	476	405
<b>230</b>	<b>Residential Townhouse - 94</b>									
<b>Rate / Unit</b>	5.81		0.44		0.52		5.67		0.47	
<b>Trips</b>	546		41		49		533		44	
<b>% Enter/Exit</b>	50%	50%	17%	83%	67%	33%	50%	50%	54%	46%
<b># Enter/Exit</b>	273	273	7	34	33	16	266	267	24	20
<b>Total</b>	<b>Total</b>									
<b>Trips</b>	9,561		751		996		9,918		925	
<b># Enter/Exit</b>	4,780	4,781	185	566	630	366	4,959	4,959	500	425

Source: ITE Trip Generation Manual, Ninth Edition

**Pass-By and/or Internal Trip Calculations and Reductions.** For the purpose of this report, no adjustment is made for pass-by or internal trip calculations.

**Identification of Impacts and Mitigation Improvements.**

The traffic models, optimizing the traffic signal operations on FM 1103 at Main Street and at Rodeo Way, indicate that during the current morning peak period, the roadway system operates with a level-of-service (LOS) C or better. The westbound Weil Road approach experiences an average delay resulting in a LOS D. The southbound Country Lane approach to FM 78 experiences an average delay resulting in a LOS E.

During the current weekday evening peak, the intersection of FM 1103 and Main Street experiences average delays on the eastbound FM 103 approach and the southbound Cibolo Parkway approach the result in LOS F, also resulting in a LOS F for the overall intersection.

The traffic models for the projected volumes for the year 2023, taking into account the proposed improvements to FM 1103 as far south and west to Rodeo Way, indicate the average delays at the intersection of FM 1103 and Main Street would have more delays. The approaches of Weil Road and Brite Road to FM 1103 would have average delays resulting in LOS F and E, respectively during the evening peak. The Country Lane approach to FM 78 would have average delays resulting in LOS F during both peak periods.

The addition of the Steele Creek traffic would result in increasing the delays on all approaches. The approaches with LOS D, E, and F would have LOS F.

The delays on the Weil Road and Brite Road approaches could be reduced significantly by adding a short right turn lane on these two approaches to FM 1103. These improvements could be accomplished at minimal cost with the FM 1103 improvements (Tables 9 and 10).

The new toll road, proposed to extend south from FM 1103 between Weil Road and Rodeo Way, would be expected to reduce the through traffic on FM 1103 west of the toll road and reduce the traffic on County Lane at FM 78. Tables 11 and 12 indicate the impact of 50% of the through traffic using the toll road on the intersections west of the toll road and south of FM 1103. The intersection of FM 1103 and Main Street would still have average delays resulting on LOS F but with significantly reduced delays. Future improvements to FM 1103 between Main Street and Rodeo Way to provide two through lanes in each direction would significantly improve the level-of-service of the intersection.

New arterial street at FM 1103. The new arterial street at FM 1103 would be expected to have as many as 499 vehicles an hour entering and exiting during the evening period. As a minor arterial street (typically a four-lane divided roadway or a five-lane roadway with a center left turn lane), the roadway would have a capacity of as many as 34,000 vehicles an hour. Initially constructed as a minor collector street (40-foot pavement width with one through lane in each direction and a third lane for turning movements), the roadway would have a capacity of 800 vehicles an hour. The new arterial street at FM 1103 would be constructed as a minor collector from the northwest property line of the development to FM 1103 due to having only 60 feet of right-of-way width, anticipating that adjacent properties would dedicate the additional right-of-way to make the street a minor arterial street. Within the development, the roadway will be constructed as minor arterial street to a round-about, connecting with two major collector streets, although based on anticipated volumes being less than 500 vehicles an hour, minor collector streets would suffice.

The new arterial street at FM 1103 would have a LOS C during both the morning and evening peak periods. The number of anticipated eastbound right turns would warrant a right turn lane; however, the length of the right turn lane would be limited by the spacing between the new street and the church driveway to the west. In addition, due to an existing bar ditch near the edge of pavement on the south side of FM 1103 and an existing sidewalk along the church property, a right turn lane cannot be constructed on FM 1103 within the existing right-of-way. The existing center two-way left turn lane along FM 1103 would accommodate the anticipated left turn demand. The construction of the new arterial street would be expected to include providing a driveway for the adjacent high school and perhaps closing the existing west drive from the school onto FM 1103. The traffic anticipated to be generated by the Steele Creek development would not be sufficient to warrant a traffic signal. However, with the inclusion of the school traffic, a traffic signal may be warranted.

New collector at Tolle Road. The new collector street at Tolle Road would be expected to have as many as 497 vehicles an hour entering and exiting during the evening period. As a major collector street (44-foot pavement width with two lanes in each direction), the roadway would have a capacity of 1,000 vehicles an hour. As a minor collector street (40-foot pavement width with one through lane in each direction and a third lane for turning movements), the roadway would have a capacity of 800 vehicles an hour. The new collector street at Tolle Road would be constructed as a major collector street. Between the proposed 1103 Toll Road and Tolle Road, a

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40-foot right-of-way dedication is expected from the adjacent property (as indicated on the master plan). Within the development the collector streets will be constructed as major collectors, although based on anticipated volumes being less than 500 vehicles an hour, minor collector streets would suffice.

The new collector street at Tolle Road would also have a LOS C during the morning and evening peak periods. The anticipated number of right turns from Tolle Road during the evening peak onto the new collector street would warrant a right turn lane. The number of anticipated left turns from Tolle Road onto the collector street during the evening peak would indicate the need for a left turn lane.

### **C. CONCLUSIONS & RECOMMENDATIONS**

The traffic anticipated to be generated by the Steele Creek development can be accommodated by the adjacent roadway system. The proposed improvements to FM 1103 will relieve much of the congestion west of Rodeo Way. The proposed toll road could have significant improvements to the traffic congestion on FM 1103 and Main Street. Right turn lanes on the Weil Road and Brite Road approaches to FM 1103 would reduce delays on these streets at FM 1103 and should be included in the FM 1103 improvements.

The number of anticipated right turns onto the new collector street at FM 1103 would warrant a right turn lane on FM 1103; however, due to an existing bar ditch near the edge of pavement on the south side of FM 1103 and an existing sidewalk along the church property, a right turn lane cannot be constructed on FM 1103 within the existing right-of-way.

A traffic signal at the intersection of the new collector street and FM 1103 is not warranted based on the Steele Creek development generated traffic. However, if the high school connects to the new street, a traffic signal will be needed at the new intersection.

The new collector street at Tolle Road should include both a right turn lane and a left turn lane on Tolle Road approaching the new intersection.

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# TRAFFIC IMPACT ANALYSIS

## Steele Creek Planned Unit Development

### 411.584 Acres, FM 1103 Cibolo, Texas

#### ◆ INTRODUCTION

##### A. Project Description

The Steele Creek Planned Unit Development is to consist of as many as 947 single family homes and 94 townhouses. The development is proposed to be built out in five years. The 412 acres are proposed to be developed in ten phases (units). The development will be served by two streets: an arterial street to access FM 1103 and a collector street to access Tolle Road. A collector street will be stubbed out at the eastern flood plain of Town Creek, right-of-way will be dedicated to the western border of the 412 acres to provide for the potential of a future extension of Schlather Street by others. The development layout is shown in Figure 1.

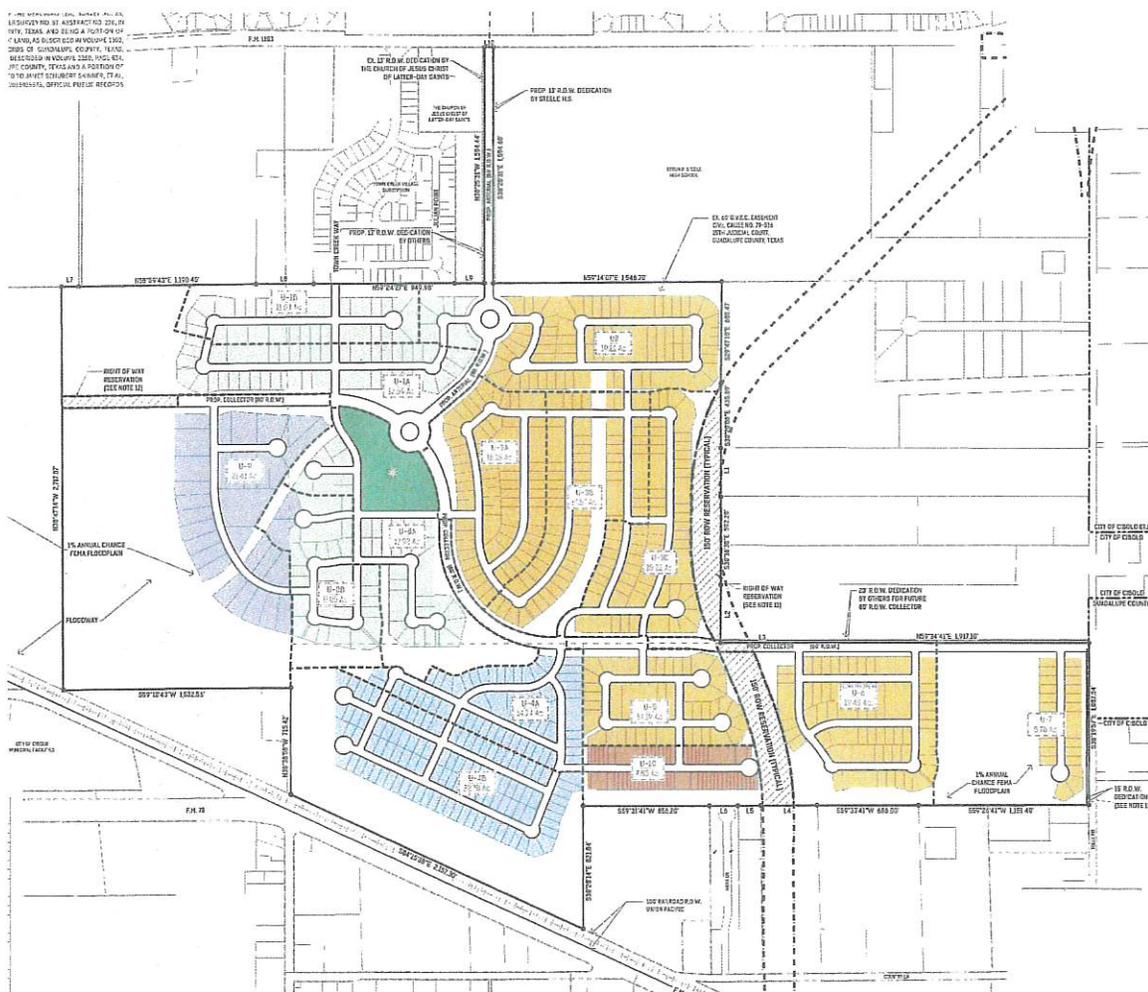
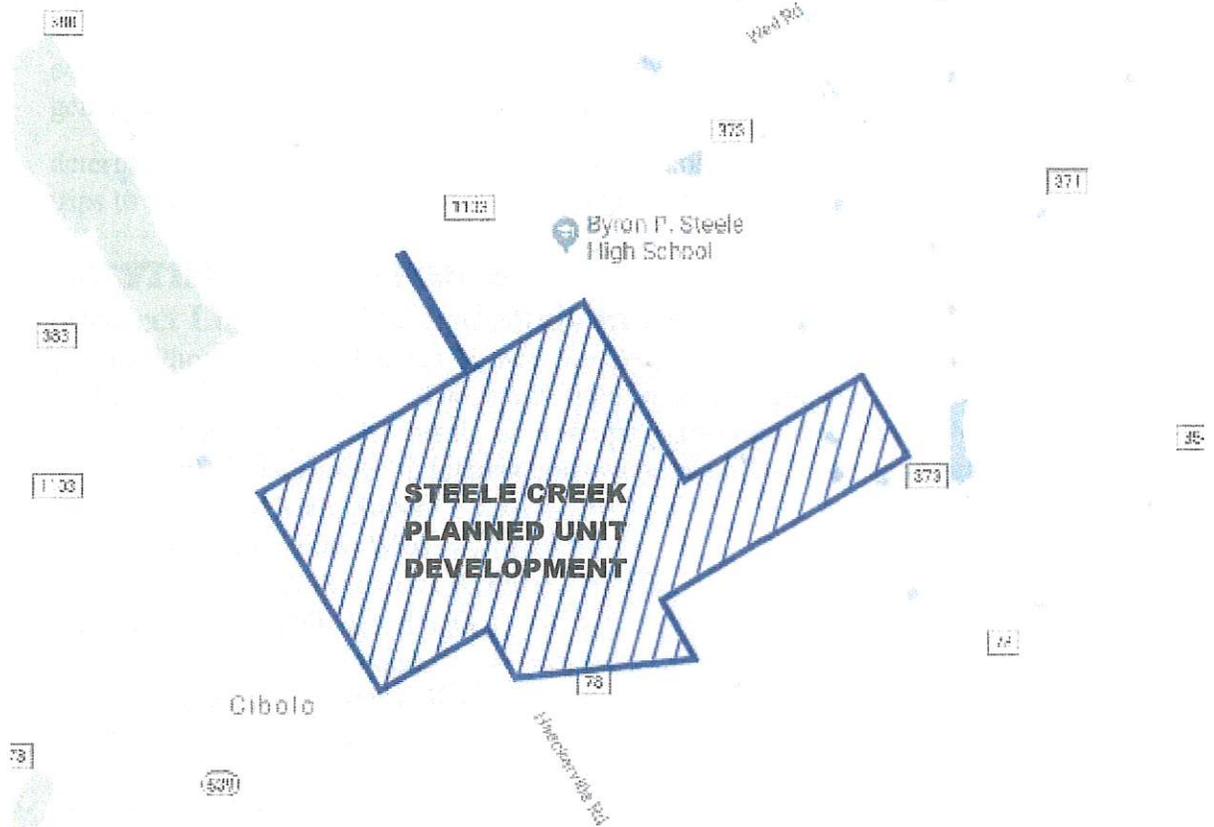


Figure 1. Steele Creek Planned Unit Development

## ◆ PROJECT LOCATION

The location of the Steele Creek Planned Unit Development is between FM 1103 and the Union Pacific Railroad and between Town Creek and Tolle Road, as shown in Figure 2.



Source: Google Map

Figure 2. Steele Creek Planned Unit Development Location

## ◆ PURPOSE OF PROJECT

The purpose of this project is to provide as many as 947 single family residential homes and 94 townhouse homes.

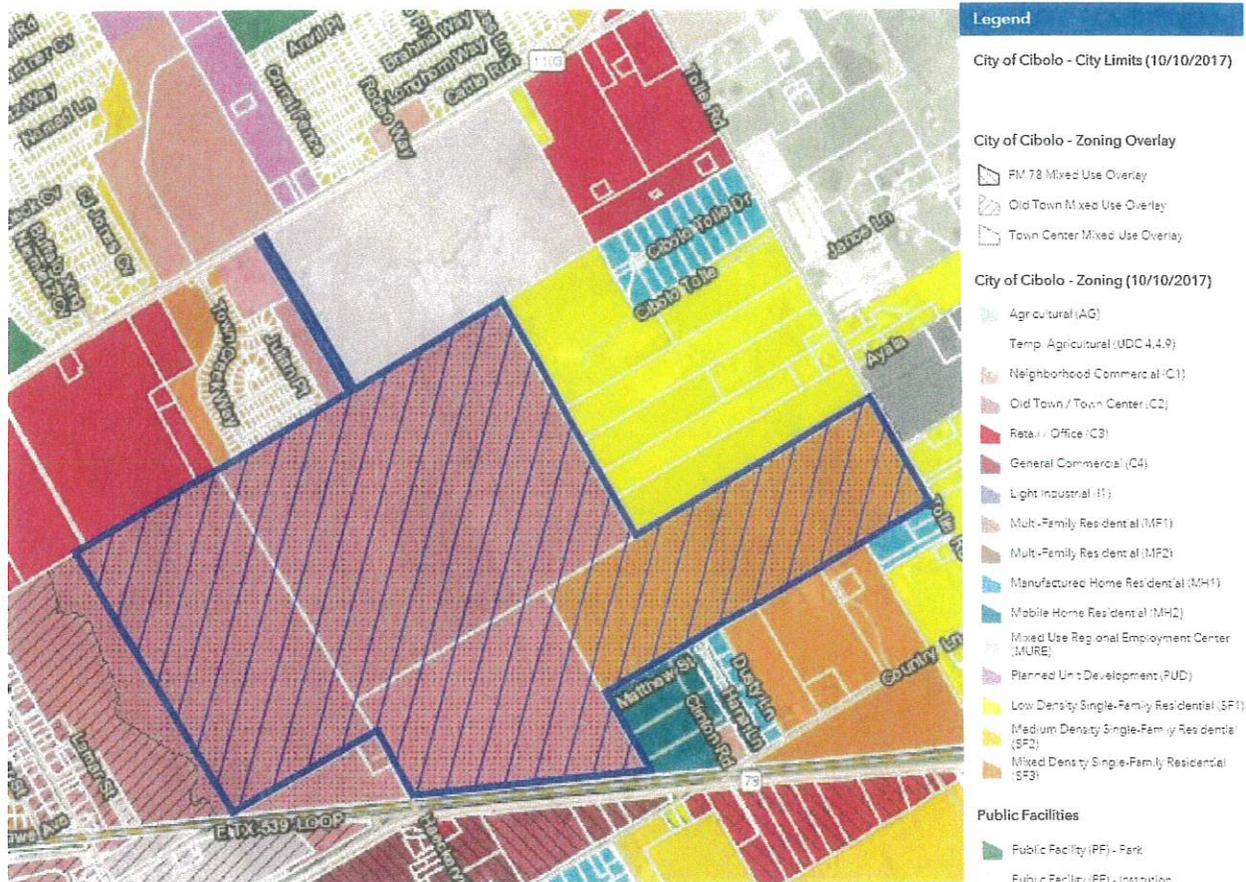
## ◆ STUDY PROCEDURE

The study procedure to determine the impact of the traffic generated by the proposed residential developments would normally include:

- determine the anticipated trips to be generated by the proposed development,
- determine a reasonable trip distribution of the trips during the peak periods of the development (7:00-8:00 AM weekdays and 5:00-6:00 PM weekdays).
- determine the current levels of service of those intersections to be impacted by the trips generated by the proposed developments,

### C. Land Use and Zoning

The property is zoned for residential uses with Town Center Mixed Use Overlay, as indicated in Figure 3



Source: City of Cibola Zoning Map

Figure 3. Steele Creek Planned Unit Development Zoning

#### ◆ “NO-BUILD” CONDITION

##### A. Future Roadway/Intersection Improvement Projects

As mentioned, a toll road is planned to extend from FM 1103 to south of FM 78 and would pass through the 412 acres west of Tolle Road.

##### B. Other Project Traffic

There would not be other project traffic.

**◆ TOTAL TRAFFIC CONDITION**

**A. Phasing Plan**

The development of the single family residential development and town house development are anticipated to be completed in five years, by 2023. The subdivision is proposed to be developed in ten phases (units).

**B. Project Traffic**

**i. Trip Generation.** Using the Ninth Edition of the ITE *TRIP GENERATION MANUAL* reference, the proposed development is expected to generate trips based the number of residential units. Table 1 shows the anticipated trip generation for the proposed development.

**Table 1. Trip Generation for Steele Creek Planned Unit Development**

<b>TRIP GENERATION</b>										
<b>ITE Code</b>	<b>Weekday 24 Hour</b>		<b>Weekday AM Peak</b>		<b>Weekday PM Peak</b>		<b>Saturday 24 Hour</b>		<b>Saturday Peak</b>	
<b>210</b>	<b>Single Family Residential – 947 Lots</b>									
<b>Rate / Unit</b>	9.52		0.75		1.00		9.91		0.93	
<b>Trips</b>	9,015		710		947		9,385		881	
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<b>230</b>	<b>Residential Townhouse - 94</b>									
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<b>% Enter/Exit</b>	50%	50%	17%	83%	67%	33%	50%	50%	54%	46%
<b># Enter/Exit</b>	273	273	7	34	33	16	266	267	24	20
<b>Total</b>	<b>Total</b>									
<b>Trips</b>	9,561		751		996		9,918		925	
<b># Enter/Exit</b>	4,780	4,781	185	566	630	366	4,959	4,959	500	425

Source: *ITE Trip Generation Manual, Ninth Edition*

**ii. Pass-By and/or Internal Trip Calculations and Reductions.** To this report, no adjustment is made for pass-by or internal trip calculations.

**iii. Modal Trip Adjustments.** To this report, no adjustment is made for modal trip adjustments during the peak hours of operation.

**iv. Trip Distribution by Intersection.** The trip distributions, by percentage and by volume, at the intersection of the new streets with FM 1103 and with Tolle Road are shown in Exhibits D1 and E1. Exhibits D2 and E2 indicate the trip distribution of the trips at the intersections of FM 1103 with Main Street, Rodeo Way, Weil Road, and Brite Road and the intersection of FM 78 and Country Lane. The directional trip distributions to and from the development on FM 1103 and on Country Lane are based on the directional distribution of the traffic movements observed in recent traffic counts on FM 1103 and on Country Lane [traffic data in Appendix B].

**v. Trip Distribution Figure by Land Use.** The trip distribution figures by land use are shown in Exhibits D1, D2, E1 and E2.

**vi. Trip Assignment by Intersection.** The trip assignments by street by percentage and by volume are shown in Exhibits D1, D2, E1, and E2.

**vii. Site Generated Peak Hour Entering and Exiting Volume Figure.** The development generated peak hour entering and exiting percentage and volume figures are shown in Exhibits D1, D2, E1, and E2, showing the anticipated traffic volumes, by movements of the development generated volumes at the street intersections.

**viii. Future Roadway Network ADT and Classification.** There are no other future public roadways associated with this project. The proposed toll road is to be constructed by others.

## ◆ CAPACITY ANALYSIS

### TRAFFIC IMPACT ASSESSMENT

In determining the anticipated traffic impact to the surrounding roadway system resulting from the trips to be generated by the proposed development, a microscopic traffic simulation software package is used to evaluate capacity and levels-of-service for each intersection within the study area. The traffic simulation software is used to compare three scenarios:

- existing 2017 volumes
- projected 2023 volumes with 5.75% average annual increase; and
- proposed 2023 volumes with full development.

### TRAFFIC SIMULATION ANALYSIS

SYNCHRO microscopic traffic simulation model application was utilized for comparison of the alternative scenarios. The analysis process involved the development of a base model (network with existing conditions), calibration of the base model (validation of traffic conditions), and alternative comparisons to the base model (traffic impact assessment).

Development of the base model involves the creation of a system network, also referred to as the link-node network. The network development inputs include: link-node assignment, traffic control, traffic signalization, roadway geometry, lane assignment, traffic volumes, and turning movements. The calibration of the base model requires the iterative adjustment of the network inputs to simulate existing roadway and traffic conditions. The analysis focused on the weekday morning and evening peak periods of the residential activities on the adjacent roadways.

As a method of assessing the operational impacts along the study roadways associated with the proposed development, two scenarios were considered for evaluation as listed below.

- Existing 2017 Traffic Volumes
- Projected 2023 Traffic Volumes
- Proposed 2023 Traffic Volumes with full development

**Table 2. Level-of-Service Criteria for Signalized and Unsignalized Intersections**

Level-of-Service (LOS)	Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤10.0	≤10.0	Very low vehicle delay, free traffic flow, good signal progression
B	10.1 to 20.0	10.1 to 15.0	Good signal progression, more vehicle stops and higher delay than LOS A
C	20.1 to 35.0	15.1 to 25.0	Stable traffic flow, fair signal progression, significant number of vehicle stops
D	35.1 to 55.0	25.1 to 35.0	Noticeable traffic congestion, longer delays and unfavorable signal progression
E	55.1 to 80.0	35.1 to 50.0	Limit of acceptable vehicle delay, unstable traffic flow, poor signal progression
F	> 80.0	> 50.0	Unacceptable delay, extremely unstable flow, heavy congestion, traffic exceeds capacity

Source: Highway Capacity Manual, Transportation Research Board, 2000.

## TRAFFIC SIMULATION RESULTS AND OBSERVATIONS

The study intersection and driveways were analyzed for the existing weekday morning and evening peak periods (7:00-8:00 AM weekdays and 5:00-6:00 PM weekdays). The individual Level of Service for each approach for each intersection is shown on the Intersection Level of Service Calculation Tables in Appendix C. Table 3 and 4 summarize the level-of-service results by approach with the existing traffic volumes. Tables 5 and 6 summarize the level-of-service results by approach projected for the 2023 projected traffic volumes. Tables 7 and 8 summarize the level-of-service results by approach for the 2023 proposed traffic volumes with the full development.

Table 3. Levels of Service Summary for the Study Area – Weekday Morning Peak Period – Existing (2017)

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103		WB FM 1103		NB Main Street		SB Cibolo Pkwy					
	48.3	D	34.9	C	18.9	B	28.5	C	33.9	C		
FM 1103 & Rodeo Way (signalized)	EB FM 1103		WB FM 1103		NB school drive		SB Rodeo Way					
	18.1	B	20.1	C	6.9	A	10.9	B	12.6	B		
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103		NB FM 1103		WB Weil Road							
	0.3	A	0.0	A	32.8	D			2.6	A		
FM 1103 & Brite Road (Brite Road stops)	SB FM 1103		NB FM 1103		WB Brite Road							
	0.5	A	0.0	A	16.4	C			1.0	A		
FM 78 & Country Lane (Country Lane stops)	EB FM 78		WB FM 78				SB Country Ln					
	0.8	A	0.0	A			42.0	E	11.6	B		

Table 4. Levels of Service Summary for the Study Area – Weekday Evening Peak Period – Existing (2017)

Intersection	Intersection Approaches									
	EB FM 1103		WB FM 1103		NB Main Street		SB Cibolo Pkwy		Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	140.3	F	32.5	C	21.9	C	248.9	F	137.4	F
	EB FM 1103	FM 1103	WB FM 1103	FM 1103	NB school drive	FM 1103	SB Rodeo Way			
	20.4	C	20.3	C	7.1	A	5.9	A	9.2	A
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	FM 1103	NB FM 1103	FM 1103	WB Weil Road	FM 1103			2.8	A
	0.6	A	0.0	A	32.3	D				
	SB FM 1103	FM 1103	NB FM 1103	FM 1103	WB Brite Road	FM 1103			1.6	F
FM 1103 & Brite Road (Brite Road stops)	0.8	A	0.0	A	20.8	C				
	EB FM 78	FM 78	WB FM 78	FM 78			SB Country Ln		2.4	A
	1.7	A	0.0	A			23.6	C		

Table 5. Levels of Service Summary for the Study Area – Weekday Morning Peak Period – Projected (2023)

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103	F	WB FM 1103	E	NB Main Street	C	SB Cibolo Pkwy	F				
	101.3		56.3		31.6		85.5				72.9	E
FM 1103 & Rodeo Way (signalized)	EB FM 1103	C	WB FM 1103	D	NB school drive	A	SB Rodeo Way	B				
	32.6		43.4		7.9		18.4				22.3	C
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	A	NB FM 1103	A	WB Weil Road	E						
	0.3		0.0		39.1						3.1	A
FM 1103 & Brite Road (Brite Road stops)	SB FM 1103	A	NB FM 1103	A	WB Brite Road	C						
	0.6		0.0		16.0						1.0	A
FM 78 & Country Lane (Country Lane stops)	EB FM 78	A	WB FM 78	A			SB Country Ln	F				
	1.1		0.0				55.7				15.3	C

Table 6. Levels of Service Summary for the Study Area – Weekday Evening Peak Period – Projected (2023)

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103		WB FM 1103		NB Main Street		SB Cibolo Pkwy					
	433.9	F	97.0	F	31.2	C	314.2	F			290.9	F
FM 1103 & Rodeo Way (signalized)	EB FM 1103		WB FM 1103		NB school drive		SB Rodeo Way					
	25.6	C	25.1	C	11.9	B	8.9	A			13.4	B
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103		NB FM 1103		WB Weil Road							
	0.6	A	0.0	A	92.6	F					7.5	A
FM 1103 & Brite Road (Brite Road stops)	SB FM 1103		NB FM 1103		WB Brite Road							
	1.3	A	0.0	A	41.5	E					2.5	A
FM 78 & Country Lane (Country Lane stops)	EB FM 78		WB FM 78				SB Country Ln					
	2.5	A	0.0	A			62.1	F			5.1	A

Table 7. Levels of Service Summary for the Study Area – Weekday Morning Peak Period – Proposed 2023

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103	F	WB FM 1103	F	NB Main Street	D	SB Cibolo Pkwy	F			107.5	F
	134.2		84.8		35.1		137.6					
FM 1103 & Rodeo Way (signalized)	EB FM 1103	C	WB FM 1103	D	NB school drive	A	SB Rodeo Way	C			24.3	C
	27.0		40.1		9.0		22.7					
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	A	NB FM 1103	A	WB Weil Road	F					19.3	C
	0.4		0.0		190.5							
FM 1103 & Brite Road (Brite Road stops)	SB FM 1103	A	NB FM 1103	A	WB Brite Road	D					2.0	A
	0.8		0.0		29.8							
FM 78 & Country Lane (Country Lane stops)	EB FM 78	A	WB FM 78	A			SB Country Ln	F			73.6	F
	1.6		0.0				212.5					
FM 1103 & new arterial (arterial stops)	EB FM 1103	A	WB FM 1103	A	NB arterial	C					6.5	A
	0.0		2.0		19.1							
Tolle Road & new collector (collector stops)	SB Tolle Road	A	NB Tolle Road	A			EB collector	C			6.8	A
	0.0		2.8				18.4					

Table 8. Levels of Service Summary for the Study Area – Weekday Evening Peak Period – Proposed 2023

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103	F	WB FM 1103	F	NB Main Street	C	SB Cibolo Pkwy	F			387.9	F
	520.8		109.5		34.3		501.8					
	EB FM 1103	B	WB FM 1103	B	NB school drive	E	SB Rodeo Way	C			33.0	C
FM 1103 & Rodeo Way (signalized)	10.8		11.6		58.2		20.1					
	SB FM 1103	A	NB FM 1103	A	WB Weil Road	F						
	1.0		0.0		837.9							
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	A	NB FM 1103	A	WB Brite Road	F						
	SB FM 1103	A	NB FM 1103	A	WB Brite Road	F						
	2.4		0.0		339.8							
FM 1103 & Brite Road (Brite Road stops)	EB FM 78	A	WB FM 78	A			SB Country Ln	F			41.2	E
	EB FM 78	A	WB FM 78	A			469.9					
	4.1		0.0									
FM 78 & Country Lane (Country Lane stops)	EB FM 1103	A	WB FM 1103	A	NB arterial	C						
	EB FM 1103	A	WB FM 1103	A								
	0.0		2.4		17.1							
Tolle Road & new collector (collector stops)	SB Tolle Road	A	NB Tolle Road	A			EB collector	C			6.8	A
	SB Tolle Road	A	NB Tolle Road	A			23.6					
	0.0		3.5									

**Table 9. Levels of Service Summary for the Study Area – Weekday Morning Peak Period – Proposed 2023 with right turn lanes at Weil Road and Brite Road**

Intersection	Intersection Approaches								Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	A	NB FM 1103	A	WB Weil Road				13.0	C
	0.4	A	0.0	A	127.9	F				
	SB FM 1103	A	NB FM 1103	A	WB Brite Road					
FM 1103 & Brite Road (Brite Road stops)	0.8	A	0.0	A	19.5	C			1.5	A

**Table 10. Levels of Service Summary for the Study Area – Weekday Evening Peak Period – Proposed 2023 with right turn lanes at Weil Road and Brite Road**

Intersection	Intersection Approaches								Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Weil Road (Weil Road stops)	SB FM 1103	A	NB FM 1103	A	WB Weil Road				24.6	C
	1.0	A	0.0	A	267.6	F				
	SB FM 1103	A	NB FM 1103	A	WB Brite Road					
FM 1103 & Brite Road (Brite Road stops)	2.4	A	0.0	A	90.6	F			6.8	A

**Table 11. Levels of Service Summary for the Study Area – Weekday Morning Peak Period – Proposed 2023 with 50% toll road impact**

Intersection	Intersection Approaches						Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103		WB FM 1103		NB Main Street		SB Cibolo Pkwy	
	63.2	E	45.4	D	18.2	B	38.6	D
FM 1103 & Rodeo Way (signalized)	EB FM 1103		WB FM 1103		NB school drive		SB Rodeo Way	
	27.0	C	40.1	D	9.0	A	22.7	C
FM 78 & Country Lane (Country Lane stops)	EB FM 78		WB FM 78				SB Country Ln	
	1.6	A	0.0	A			58.3	F
FM 1103 & new arterial (arterial stops)	EB FM 1103		WB FM 1103		NB arterial			
	0.0	A	2.0	A	19.1	C		
Tolle Road & new collector (collector stops)	SB Tolle Road		NB Tolle Road				EB collector	
	0.0	A	2.8	A			19.9	C

**Table 12. Levels of Service Summary for the Study Area – Weekday Evening Peak Period – Proposed 2023 with 50% toll road impact**

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
FM 1103 & Main Street (signalized)	EB FM 1103		WB FM 1103		NB Main Street		SB Cibolo Pkwy					
	185.8	F	57.1	E	13.5	B	157.5	F			141.5	F
	EB FM 1103		WB FM 1103		NB school drive		SB Rodeo Way				33.0	C
FM 1103 & Rodeo Way (signalized)	10.8	B	11.6	B	58.2	E	20.1	C				
	EB FM 78		WB FM 78				SB Country Ln				7.5	A
	2.8	A	0.0	A			98.7	F			3.8	A
FM 78 & Country Lane (Country Lane stops)	EB FM 1103		WB FM 1103		NB arterial							
	0.0	A	2.4	A	17.1	C						
	SB Tolle Road		NB Tolle Road				EB collector				6.8	A
Tolle Road & new collector (collector stops)	0.0	A	3.5	A			23.6	C				

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## ◆ IDENTIFICATION OF IMPACTS & MITIGATION IMPROVEMENTS

The traffic models, optimizing the traffic signal operations on FM 1103 at Main Street and at Rodeo Way, indicate that during the current morning peak period, the roadway system operates with a level-of-service (LOS) C or better. The westbound Weil Road approach experiences an average delay resulting in a LOS D. The southbound Country Lane approach to FM 78 experiences an average delay resulting in a LOS E.

During the current weekday evening peak, the intersection of FM 1103 and Main Street experiences average delays on the eastbound FM 103 approach and the southbound Cibolo Parkway approach the result in LOS F, also resulting in a LOS F for the overall intersection.

The traffic models for the projected volumes for the year 2023, taking into account the proposed improvements to FM 1103 as far south and west to Rodeo Way, indicate the average delays at the intersection of FM 1103 and Main Street would have more delays. The approaches of Weil Road and Brite Road to FM 1103 would have average delays resulting in LOS F and E, respectively during the evening peak. The Country Lane approach to FM 78 would have average delays resulting in LOS F during both peak periods.

The addition of the Steele Creek traffic would result in increasing the delays on all approaches. The approaches with LOS D, E, and F would have LOS F.

The delays on the Weil Road and Brite Road approaches could be reduced significantly by adding a short right turn lane on these two approaches to FM 1103. These improvements could be accomplished at minimal cost with the FM 1103 improvements (Tables 9 and 10).

The new toll road, proposed to extend south from FM 1103 between Weil Road and Rodeo Way, would be expected to reduce the through traffic on FM 1103 west of the toll road and reduce the traffic on County Lane at FM 78. Tables 11 and 12 indicate the impact of 50% of the through traffic using the toll road on the intersections west of the toll road and south of FM 1103. The intersection of FM 1103 and Main Street would still have average delays resulting on LOS F but with significantly reduced delays. Future improvements to FM 1103 between Main Street and Rodeo Way to provide two through lanes in each direction would significantly improve the level-of-service of the intersection.

New arterial street at FM 1103. The new arterial street at FM 1103 would be expected to have as many as 499 vehicles an hour entering and exiting during the evening period. As a minor arterial street (typically a four-lane divided roadway or a five-lane roadway with a center left turn lane), the roadway would have a capacity of as many as 34,000 vehicles an hour. Initially constructed as a minor collector street (40-foot pavement width with one through lane in each direction and a third lane for turning movements), the roadway would have a capacity of 800 vehicles an hour. The new arterial street at FM 1103 would be constructed as a minor collector from the northwest property line of the development to FM 1103 due to having only 60 feet of right-of-way width, anticipating that adjacent properties would dedicate the additional right-of-way to make the street a minor arterial street. Within the development, the roadway will be constructed as minor arterial street to a round-about, connecting with two major collector streets, although based on anticipated volumes being less than 500 vehicles an hour, minor collector streets would suffice.

The new arterial street at FM 1103 would have a LOS C during both the morning and evening peak periods. The number of anticipated eastbound right turns would warrant a right turn lane; however, the length of the right turn lane would be limited by the spacing between the new street and the church driveway to the west. In addition, due to an existing bar ditch near the edge of pavement on the south side of FM 1103 and an existing sidewalk along the church property, a right turn lane cannot be constructed on FM 1103 within the existing right-of-way. The existing center two-way left turn lane along FM 1103 would accommodate the anticipated left turn demand. The construction of the new arterial street would be expected to include providing a driveway for the adjacent high school and perhaps closing the existing west drive from the school onto FM 1103. The traffic anticipated to be generated by the Steele Creek development would not be sufficient to warrant a traffic signal. However, with the inclusion of the school traffic, a traffic signal may be warranted.

New collector at Tolle Road. The new collector street at Tolle Road would be expected to have as many as 497 vehicles an hour entering and exiting during the evening period. As a major collector street (44-foot pavement width with two lanes in each direction), the roadway would have a capacity of 1,000 vehicles an hour. As a minor collector street (40-foot pavement width with one through lane in each direction and a third lane for turning movements), the roadway would have a capacity of 800 vehicles an hour. The new collector street at Tolle Road would be constructed as a major collector street. Between the proposed 1103 Toll Road and Tolle Road, a 40-foot right-of-way dedication is expected from the adjacent property (as indicated on the master plan). Within the development the collector streets will be constructed as major collectors, although based on anticipated volumes being less than 500 vehicles an hour, minor collector streets would suffice.

The new collector street at Tolle Road would also have a LOS C during the morning and evening peak periods. The anticipated number of right turns from Tolle Road during the evening peak onto the new collector street would warrant a right turn lane. The number of anticipated left turns from Tolle Road onto the collector street during the evening peak would indicate the need for a left turn lane.

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## ◆ CONCLUSIONS & RECOMMENDATIONS

The traffic anticipated to be generated by the Steele Creek development can be accommodated by the adjacent roadway system. The proposed improvements to FM 1103 will relieve much of the congestion west of Rodeo Way. The proposed toll road could have significant improvements to the traffic congestion on FM 1103 and Main Street. Right turn lanes on the Weil Road and Brite Road approaches to FM 1103 would reduce delays on these streets at FM 1103 and should be included in the FM 1103 improvements.

The number of anticipated right turns onto the new collector street at FM 1103 would warrant a right turn lane on FM 1103; however, due to an existing bar ditch near the edge of pavement on the south side of FM 1103 and an existing sidewalk along the church property, a right turn lane cannot be constructed on FM 1103 within the existing right-of-way.

A traffic signal at the intersection of the new collector street and FM 1103 is not warranted based on the Steele Creek development generated traffic. However, if the high school connects to the new street, a traffic signal will be needed at the new intersection.

The new collector street at Tolle Road should include both a right turn lane and a left turn lane on Tolle Road approaching the new intersection.



Prepared by:

A handwritten signature in blue ink that reads "Joe F. Nix".

Joe F. Nix, P.E., P.T.O.E.  
CEC Tex Firm No. F-2274

# APPENDIX INDEX

- Appendix A**      **Land Use**
- Appendix B**      **Traffic Survey**
- Appendix C**      **Capacity Analysis Worksheets**
- Appendix D**      **Street Photos**

## APPENDIX A

### LAND USE

- TIA Threshold Worksheet
- Steele Creek Planned Unit Development MDP – Exhibit E24.2
- Aerial Photo – Exhibit B
- Guadalupe Appraisal Map – Exhibit C
- Weekday Peak Trip Distribution, Site Percentages – Exhibit D1
- Weekday Peak Trip Distribution, Area Percentages – Exhibit D2
- Weekday Peak Trip Distribution, Site Volumes – Exhibit E1
- Weekday Peak Trip Distribution, Area Volumes – Exhibit E2
- Existing 2017 Volumes – Exhibit F
- Projected 2023 Traffic Volumes – Exhibit G
- Proposed 2023 Traffic Volumes – Exhibit H

## Traffic Impact Analysis (TIA) Threshold Worksheet

Complete this form as an aid to determine if your project requires a Traffic Impact Analysis Study.

Project Name: Steele Creek Planned Unit Development		Threshold Worksheet Prepared by: Joe Nix, PE, PTOE	
Project Location: 412 Acres, FM 1103		Company: Civil Engineering Consultants	<input type="checkbox"/> Owner or <input checked="" type="checkbox"/> Owner's Agent
Date: 15 May 2018		Address: 11550 IH 10 West, Suite 395, San Antonio 78230	
Permit Type or Reason for TIA Study/Worksheet (Check one and indicate the number if known)		Email: jnix@cectexas.com	Phone: 210-641-9999
Zoning #:	Site Plan:	Plat:	Mixed Use:
			Other:

**Proposed Type of Development** (Multi building development or multi-occupancies may require additional tabulation sheets to determine total peak hour trips)

Anticipated Land/Building Use/Zoning	Project Size		Critical Peak Hour	Peak Hour Trip Rate (PHT) Rate	Peak Hour Trips (PHT)	Trip Rate Source
	Acres	# of Units				
Single Family Residential		947	Weekday PM	1.00	947	ITE Code: 210
Residential Townhouse		94	Weekday PM	0.52	49	ITE Code: 230

**Previous Development on Site** (Required for land with previous/current buildings occupied within 1 year of submittal or if Re-zoning property)

Previous Land/Building Use/Zoning	Size		Critical Peak Hour	Peak Hour Trip Rate (PHT) Rate	Peak Hour Trips (PHT)	Trip Rate Source
	Acres	# of Units				
						ITE Code:

**Previous TIA Report** (If property has a TIA on file) \_\_\_\_\_

Peak Hour Trips Projected in TIA on File \_\_\_\_\_

Peak Hour Trips Projected in Updated Development Plan \_\_\_\_\_

**Difference in PHT** (Proposed PHT - Previous Development PHT or TIA PHT)

\_\_\_\_\_

**Increase in Peak Hour Trips** (if an increase of 76 PHT or an increase of 10% of the total PHT, a new TIA is required)

\_\_\_\_\_

**Turn Lane Requirements for Developments with Less Than 76 PHT** (for developments with 76 or more PHT, this analysis will be included in the TIA)

Requirement	Right-turn lanes required at: (identify street/driveway name)	Left-turn lanes required at: (identify street/driveway name)
Median Openings	N/A	<input type="checkbox"/> _____ <input checked="" type="checkbox"/> None
Driveways or streets with a daily entering right- or left-turn traffic volume of 500 vehicle trips or 50 vehicle peak hour trips	<input checked="" type="checkbox"/> FM 1103 & new arterial <input checked="" type="checkbox"/> Tolle Rd & Prop collector	<input checked="" type="checkbox"/> FM 1103 & new arterial <input type="checkbox"/> None
Required by TxDOT	<input type="checkbox"/> _____ <input checked="" type="checkbox"/> None	<input type="checkbox"/> _____ <input checked="" type="checkbox"/> None
Where unsafe conditions may exist (limited sight distance, high speed, uneven grade, etc.)	<input type="checkbox"/> _____ <input checked="" type="checkbox"/> None	<input type="checkbox"/> _____ <input checked="" type="checkbox"/> None

**Comments**

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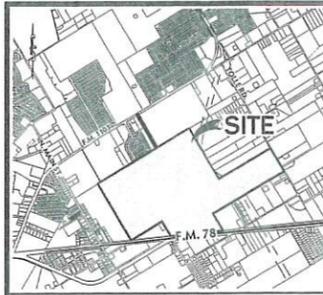
**(For Official Use Only, Do Not Write in this Box)**

TIA report is required.  A TIA report is **not required**. The traffic generated by the proposed development does not exceed the threshold requirements.

The traffic impact analysis has been waived for the following reasons: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: GFA = Gross Floor Area (bldg. size). ITE = Institute of Transportation Engineers, Trip Generation, 9th Edition. 525 School Street, S.W., Suite 410, Washington, DC 20024-2729; (202) 554-8050.



**LEGAL DESCRIPTION:**  
 411.584 ACRES OF LAND BEING OUT OF THE GERONIMO LEAL SURVEY NO. 85, ABSTRACT NO. 210 AND THE DAVID MILLER SURVEY NO. 87, ABSTRACT NO. 226, IN THE CITY OF CIBOLO, GUADALUPE COUNTY, TEXAS, AND BEING A PORTION OF THAT CERTAIN CALLED 310.989 ACRES OF LAND, AS DESCRIBED IN VOLUME 1302, PAGES 593-596, OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS; THAT CERTAIN CALLED 85.60 ACRES, AS DESCRIBED IN VOLUME 2250, PAGE 634, OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS AND A PORTION OF THAT CERTAIN TRACT OF LAND CONVEYED TO JANET SCHUBERT SKINNER, ET AL, AS DESCRIBED IN DOCUMENT NUMBER 2015025575, OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

**DEVELOPER:**  
 DR HORTON, INC.  
 211 N. LOOP 1604 E, SUITE 130  
 SAN ANTONIO, TX 78232  
 CONTACT PERSON: LESLIE OSTRANDER

**CIVIL ENGINEER:**  
 CUDE ENGINEERS  
 CONTACT PERSON: PATRICK MURPHY, P.E.  
 4122 POND HILL ROAD, SUITE 101  
 SAN ANTONIO, TX 78231  
 TEL: (210) 681-2951  
 FAX: (210) 523-7112

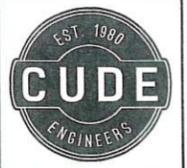
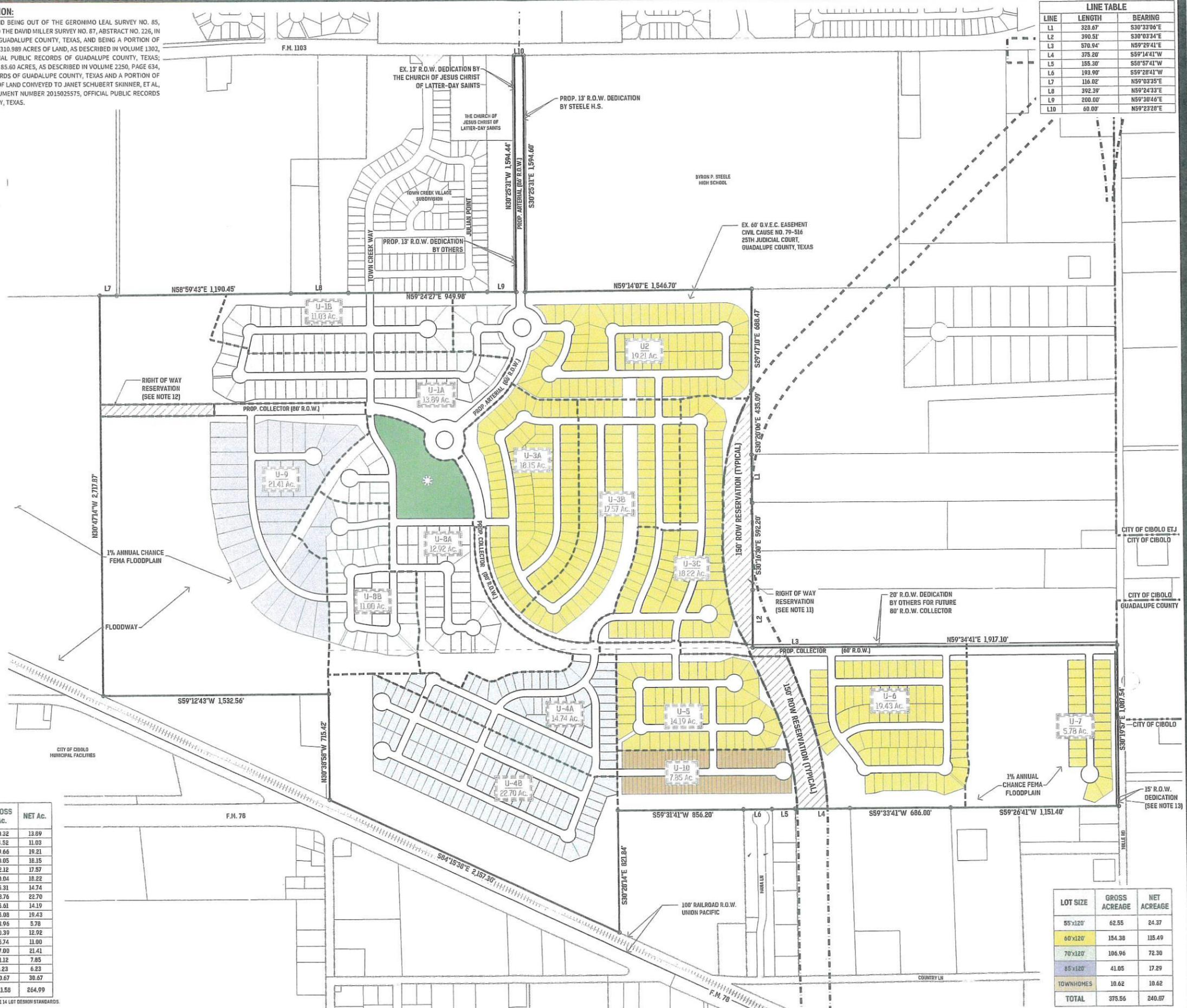
**LINE TABLE**

LINE	LENGTH	BEARING
L1	328.67	S30°33'06"E
L2	390.51	S30°03'34"E
L3	570.94	N59°29'41"W
L4	375.20	S59°14'41"W
L5	155.30	S58°57'41"W
L6	193.90	S59°28'41"W
L7	116.02	N59°03'35"E
L8	392.39	N59°24'33"E
L9	200.00	N59°30'46"E
L10	60.00	N59°23'28"E

- LEGEND:**
- SITE BOUNDARY
  - - - CITY LIMIT BOUNDARY
  - EXISTING LIFT STATION
  - EXISTING SEWER MAIN
  - EXISTING WATER MAIN
  - EXISTING OVERHEAD ELECTRIC
  - EXISTING RAIL ROAD TRACKS
  - EXISTING ZONING BOUNDARY
  - - - EXISTING DEED LINE
  - - - PROPOSED PHASE BOUNDARY
  - - - PROPOSED MAJOR THOROUGHFARE
  - PROPOSED PRIVATE PARK & AMENITY CENTER
  - 1% ANNUAL CHANCE FLOODPLAIN
  - FLOODWAY
  - PROPOSED CLOMR FLOODPLAIN REVISIONS
  - EXISTING CANOPY COVER
  - PROPOSED OPEN SPACE

UNIT	LAND USE TYPE	PLATTING ORDER	MAX. LOT COVERAGE	MAX DENSITY	GROSS Ac.	NET Ac.
1A	MEDIUM DENSITY RESIDENTIAL	2	60%	4	30.32	13.89
1B	MEDIUM DENSITY RESIDENTIAL	7	60%	4	14.52	11.03
2	MIXED DENSITY RESIDENTIAL	1	60%	5.5	29.66	19.21
3A	MIXED DENSITY RESIDENTIAL	3	60%	5.5	20.05	16.15
3B	MIXED DENSITY RESIDENTIAL	8	60%	5.5	22.12	17.57
3C	MIXED DENSITY RESIDENTIAL	12	60%	5.5	20.04	16.22
4A	MIXED DENSITY RESIDENTIAL	4	60%	5.5	15.31	14.74
4B	MIXED DENSITY RESIDENTIAL	9	60%	5.5	43.76	22.70
5	MIXED DENSITY RESIDENTIAL	5	60%	5.5	15.01	14.19
6	MIXED DENSITY RESIDENTIAL	14	60%	5.5	25.08	19.43
7	MIXED DENSITY RESIDENTIAL	15	60%	5.5	23.96	5.78
8A	MEDIUM DENSITY RESIDENTIAL	10	60%	4	20.39	12.92
8B	MEDIUM DENSITY RESIDENTIAL	13	60%	4	15.74	11.00
9	LOW DENSITY RESIDENTIAL	11	60%	2	67.00	21.41
10	TOWNHOME	6	75%	18	11.12	7.85
-	PARK SPACE				6.23	6.23
-	RIGHT OF WAY				30.67	30.67
<b>TOTAL</b>					<b>411.56</b>	<b>264.99</b>

① EQUIVALENT DISTRICT CODE WITH H DESIGNATION INDICATES A MODIFICATION TO ONE OR MORE OF THE ARTICLE 14 LOT DESIGN STANDARDS.  
 ② RIGHT-OF-WAY AS INDICATED ON THE MAJOR THOROUGHFARE PLAN & FUTURE LAND USE MAP.  
 ③ PARKLAND DEDICATION REQUIRED = 264.99 Ac. ± 0.68 ± 21.20 Ac.

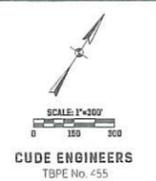


CUDEENGINEERS.COM  
 4122 Pond Hill Road, Suite 101  
 San Antonio, Texas 78231  
 P: (210) 681-2951 F: (210) 523-7112

**STEELE CREEK SUBDIVISION  
 PLANNED UNIT DEVELOPMENT**  
 LAND STUDY:  
 PROPOSED USE & DEVELOPMENT

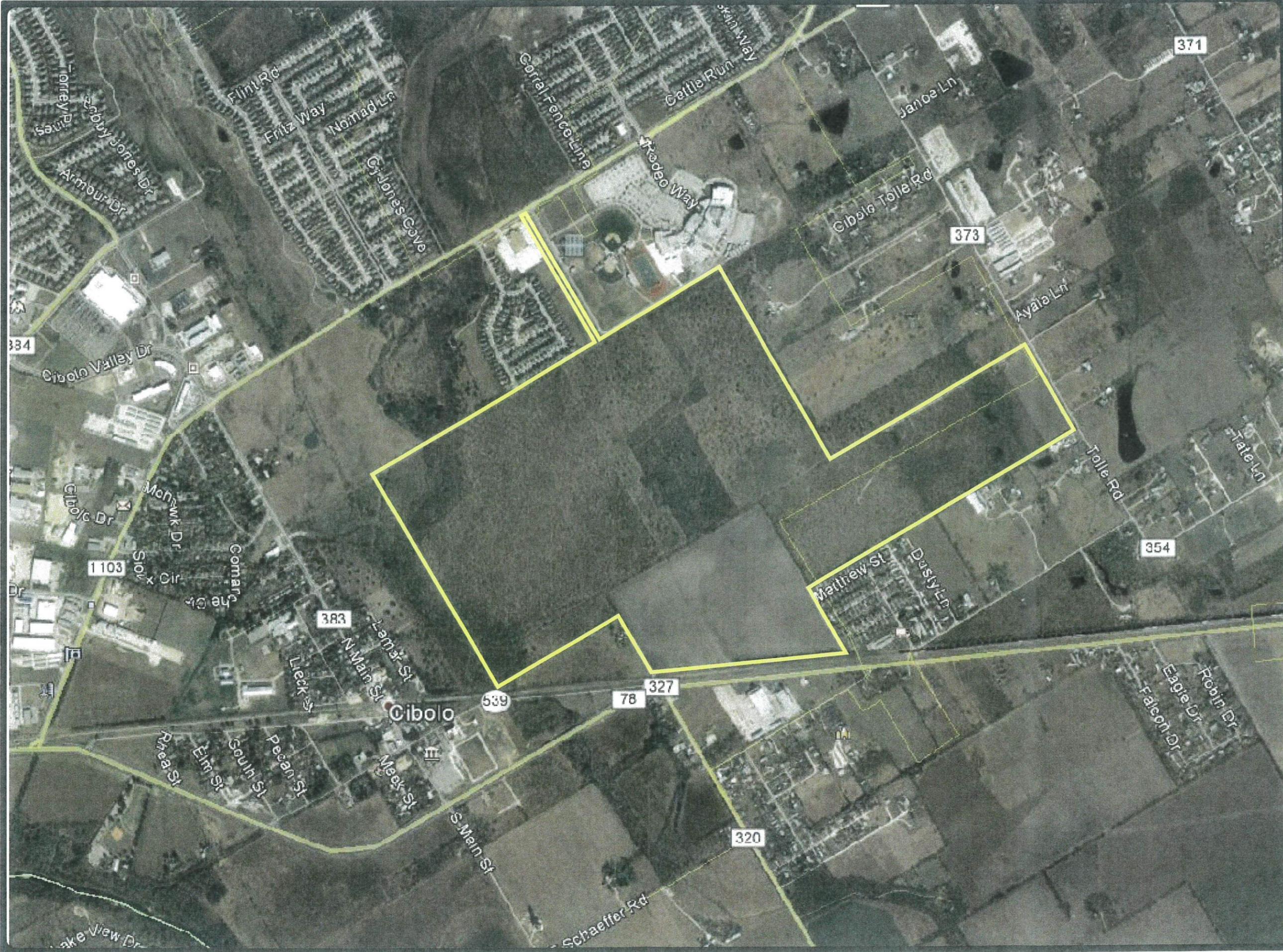
DATE: 2018-04-04  
 PROJECT NO.: 02907.300  
 DRAWN BY: PMB  
 CHECKED BY: JMC

- REVISIONS**
- - 
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  - 
  - 
  - 
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CUDE ENGINEERS  
 TBPE No. 455

**E24.2**



DESIGNED BY:  
 DRAWN BY:  
 CHECKED BY:  
 DATE: January 2018  
 JOB NUMBER: E059760

CIVIL ENGINEERING CONSULTANTS  
 DON D U R D E N , I N C .  
 11550 I.H. 10 WEST, SUITE 395  
 SAN ANTONIO, TEXAS 78230  
 TEL: 12101 641-9999  
 FAX: 12101 641-6440  
 EMAIL: cec@cectexas.com



REV	DATE	DESCRIPTION

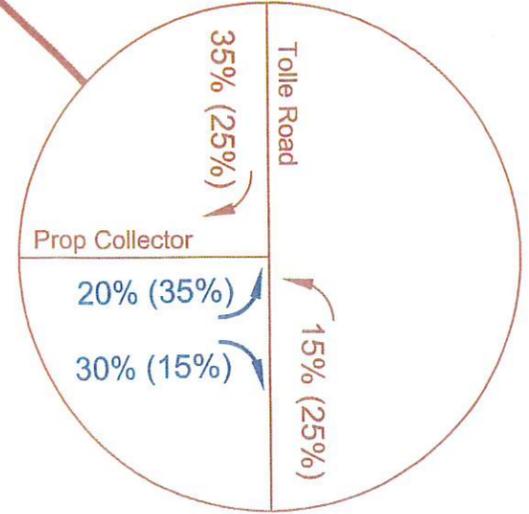
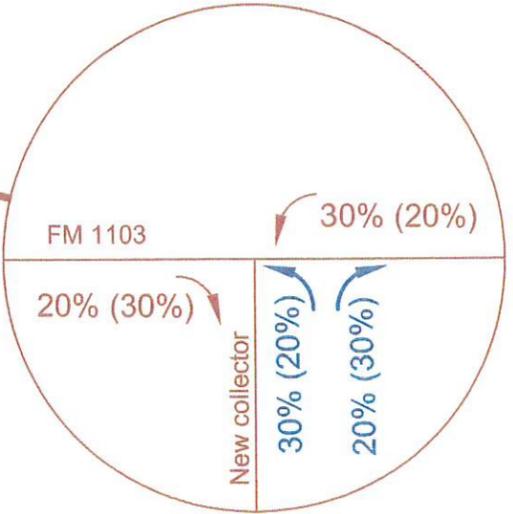
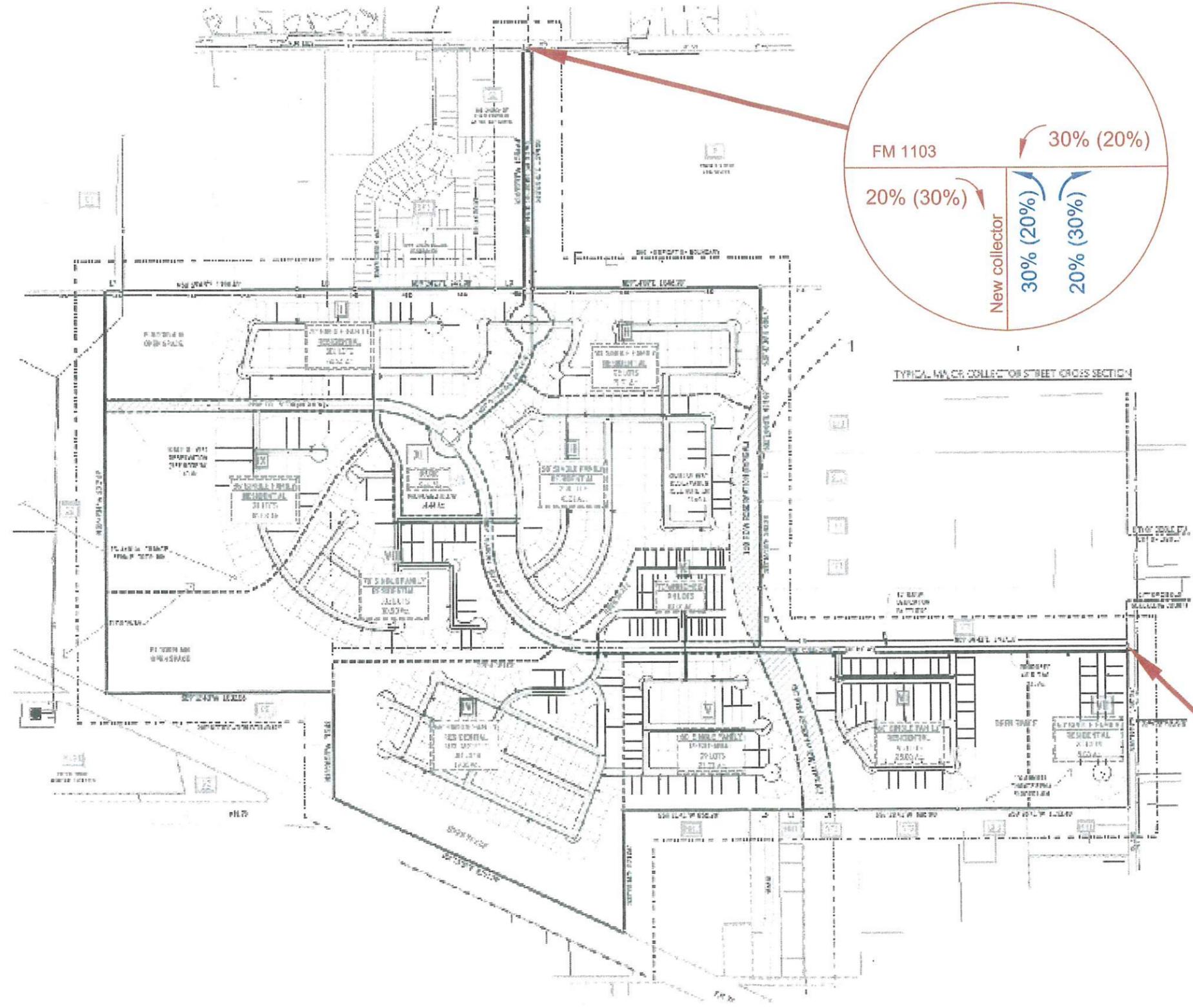
Steele Creek Planned Unit  
 Development  
 Aerial Photo Exhibit

**B**



# PEAK PERIOD TRIP DISTRIBUTION XX% (YY%) AM (PM) PERCENTAGE

← ENTER → EXIT



DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
DATE: January 2018  
JOB NUMBER: E0587000

CIVIL ENGINEERING CONSULTANTS  
**D O N D U R D E N , I N C .**  
11550 I.H. 10 WEST, SUITE 395  
SAN ANTONIO, TEXAS 78230  
TEL: (210) 641-9999  
FAX: (210) 641-6440  
EMAIL: cec@cecctexas.com



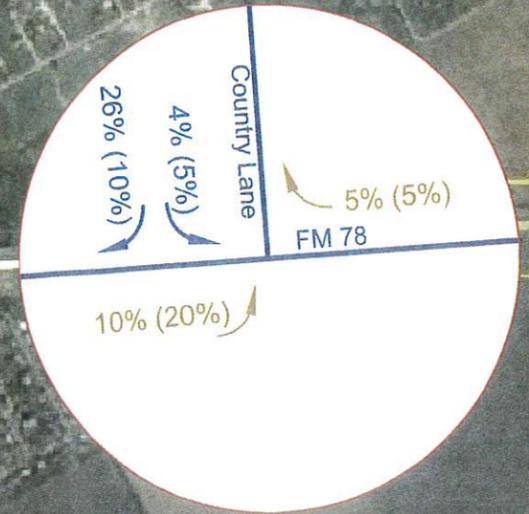
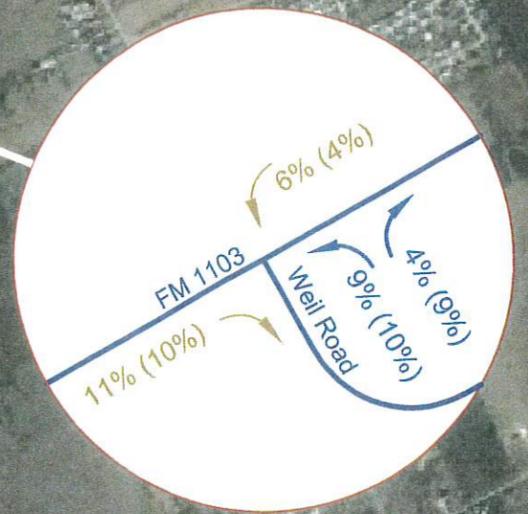
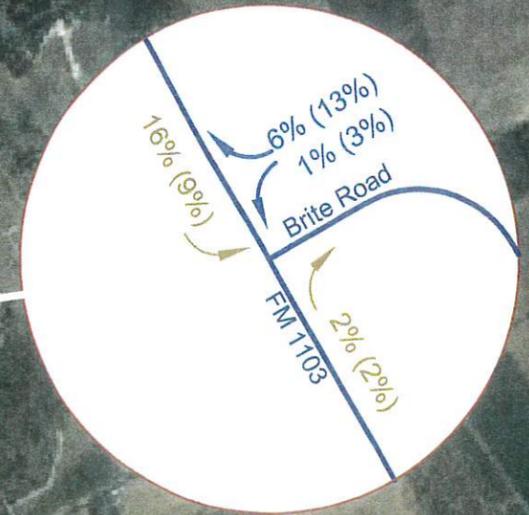
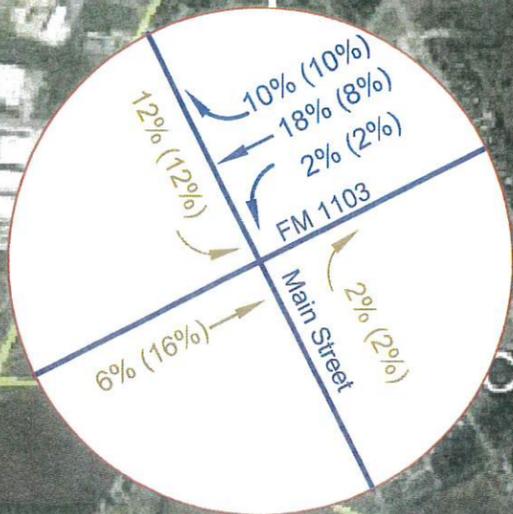
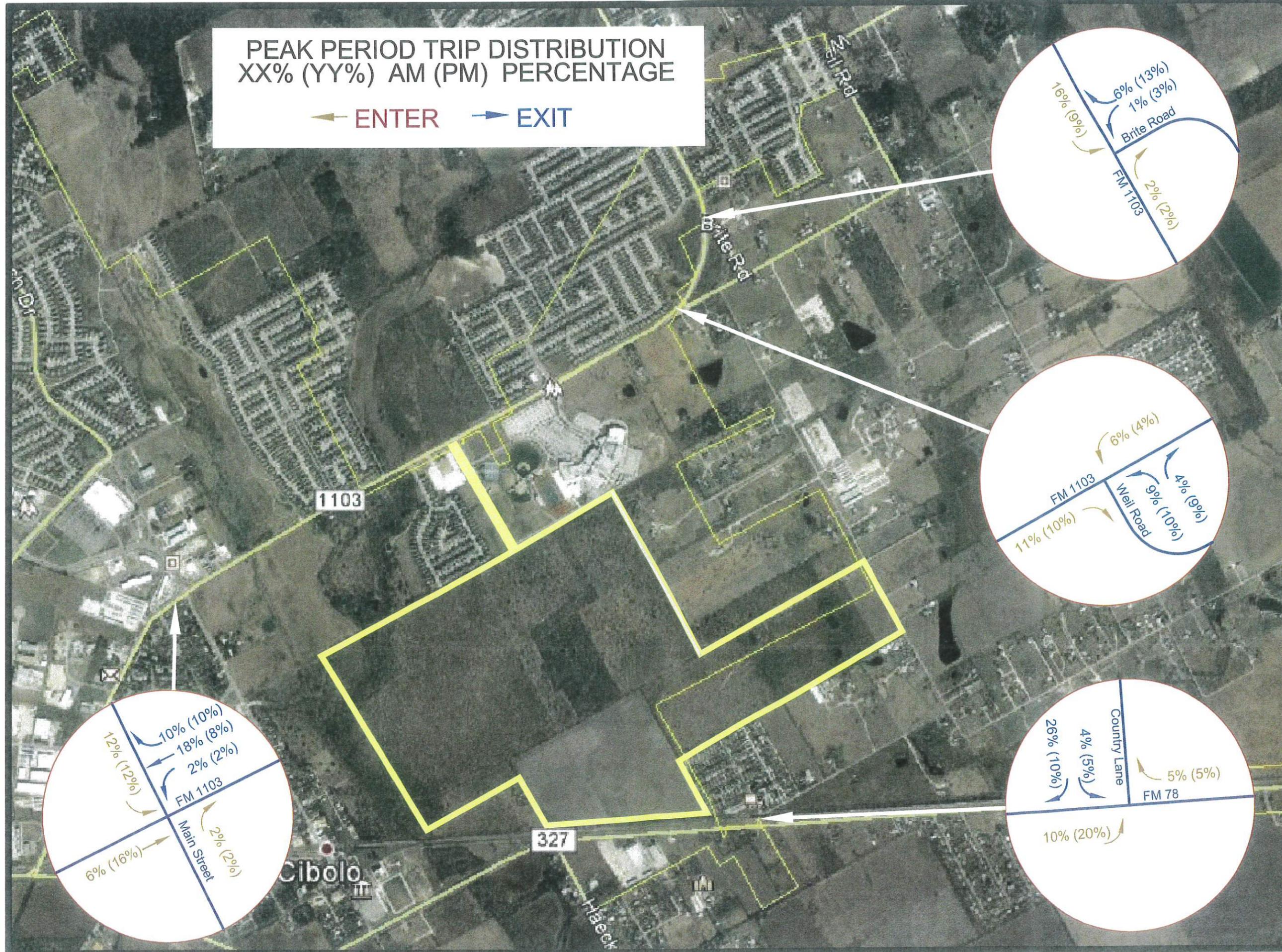
REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
Site Trip Distribution  
Percentage Exhibit

**D1**

PEAK PERIOD TRIP DISTRIBUTION  
XX% (YY%) AM (PM) PERCENTAGE

← ENTER → EXIT



DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
DATE: January 2018  
JOB NUMBER: E059700

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DON DURDEN, INC.  
11550 I.H. 10 WEST, SUITE 395  
SAN ANTONIO, TEXAS 78230  
TEL: (210) 641-9999  
FAX: (210) 641-6440  
EMAIL: cec@cectexas.com



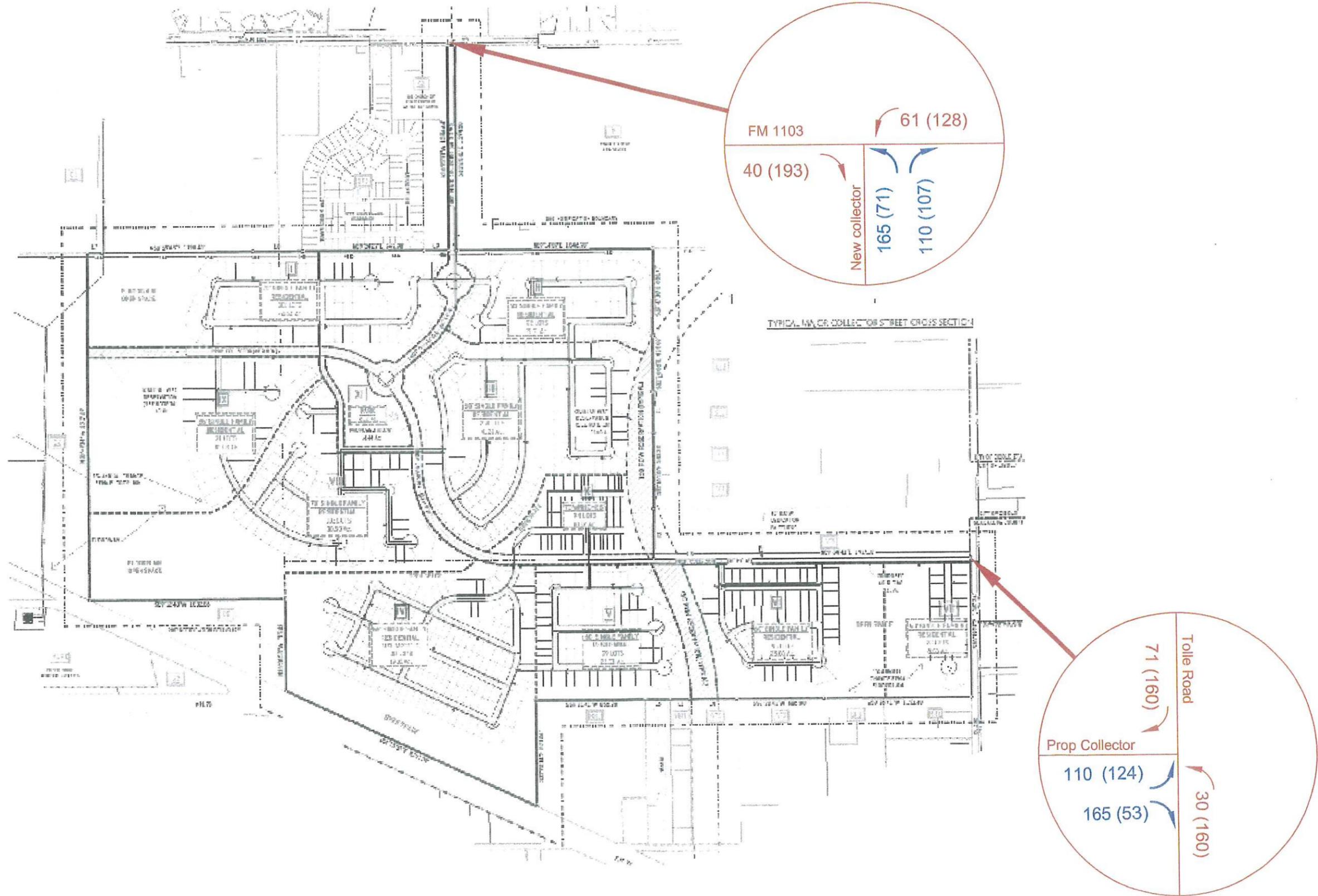
REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
Area Trip Distribution  
Percentage Exhibit

D2

# PEAK PERIOD TRIP DISTRIBUTION XX (YY) AM (PM) VOLUMES

← ENTER → EXIT



DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
DATE: January 2018  
JOB NUMBER: EG597000



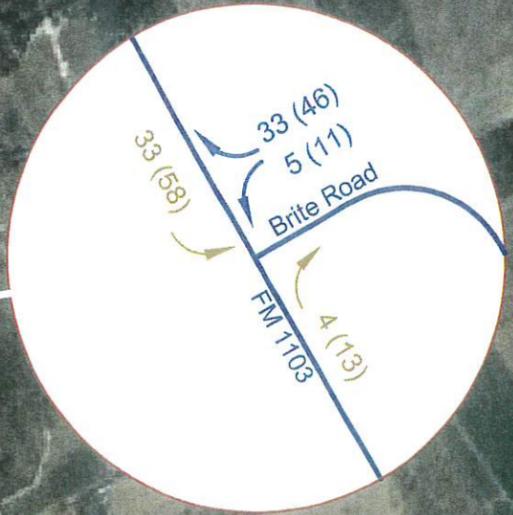
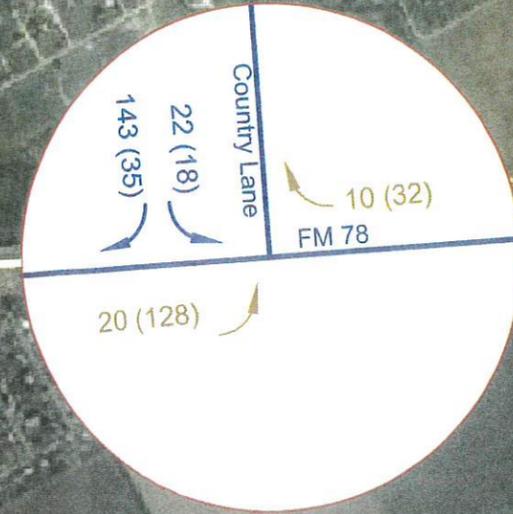
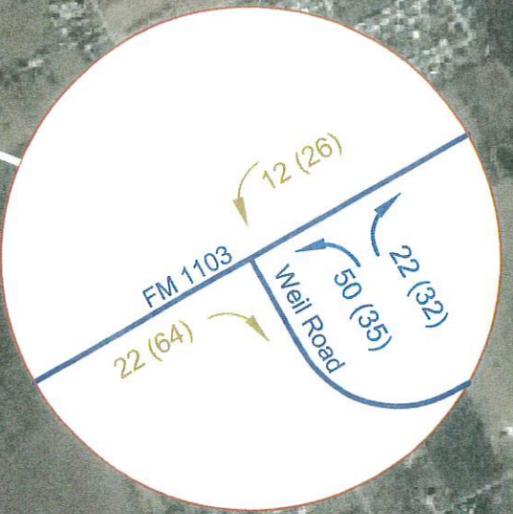
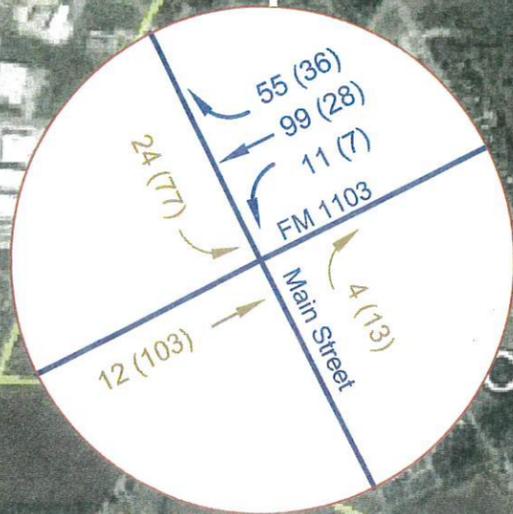
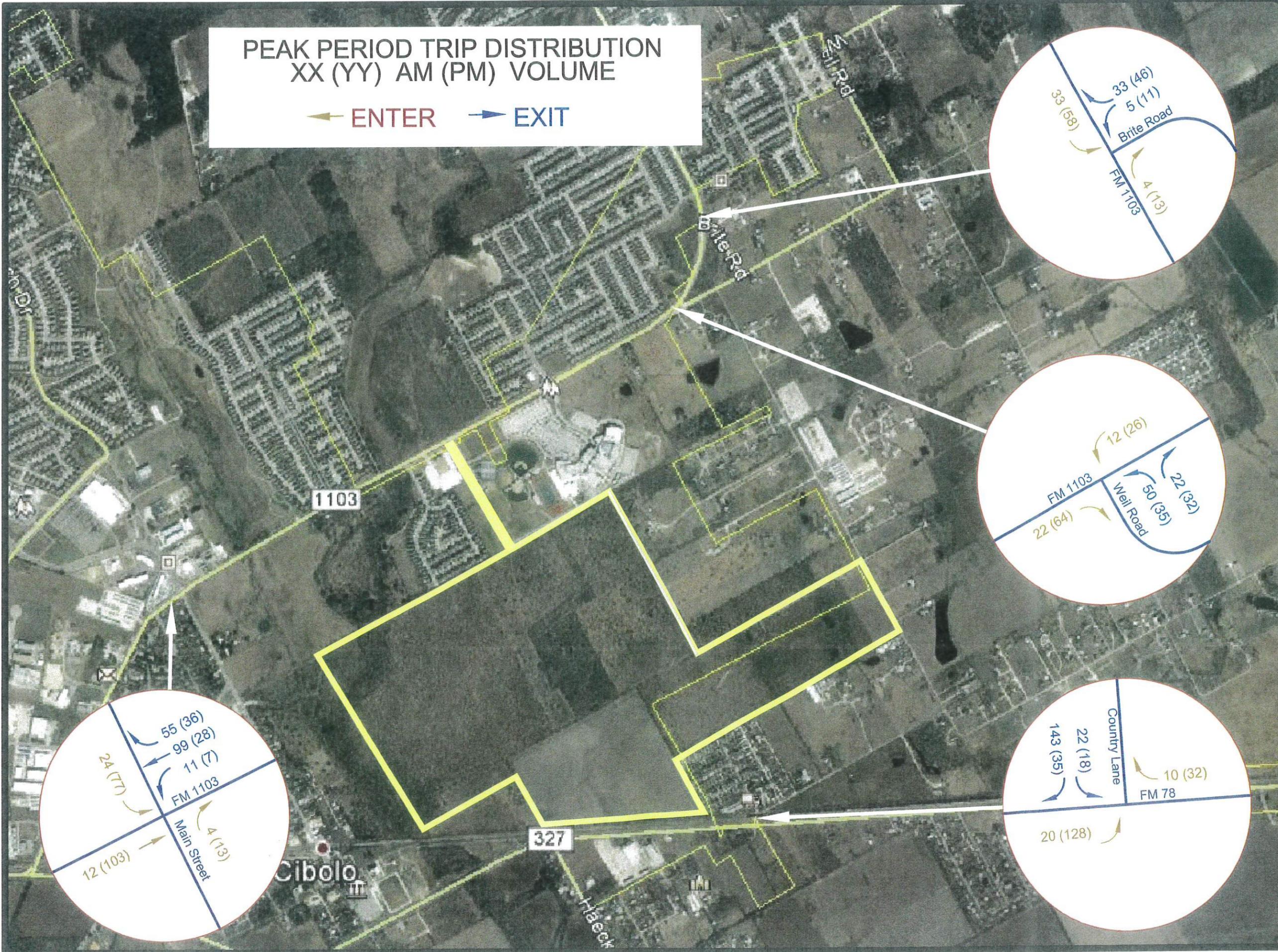
CIVIL ENGINEERING CONSULTANTS  
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SAN ANTONIO, TEXAS 78230  
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EMAIL: cec@cectexas.com

REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
Site Trip Distribution  
Volume Exhibit

PEAK PERIOD TRIP DISTRIBUTION  
XX (YY) AM (PM) VOLUME

← ENTER → EXIT



DESIGNED BY:  
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CHECKED BY:  
DATE: January 2018  
JOB NUMBER: EC59760

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DON D U R D E N , I N C .  
11550 I.H. 10 WEST, SUITE 395  
SAN ANTONIO, TEXAS 78230  
TEL: 12101 641-9999  
FAX: 12101 641-6440  
EMAIL: cec@cectexas.com



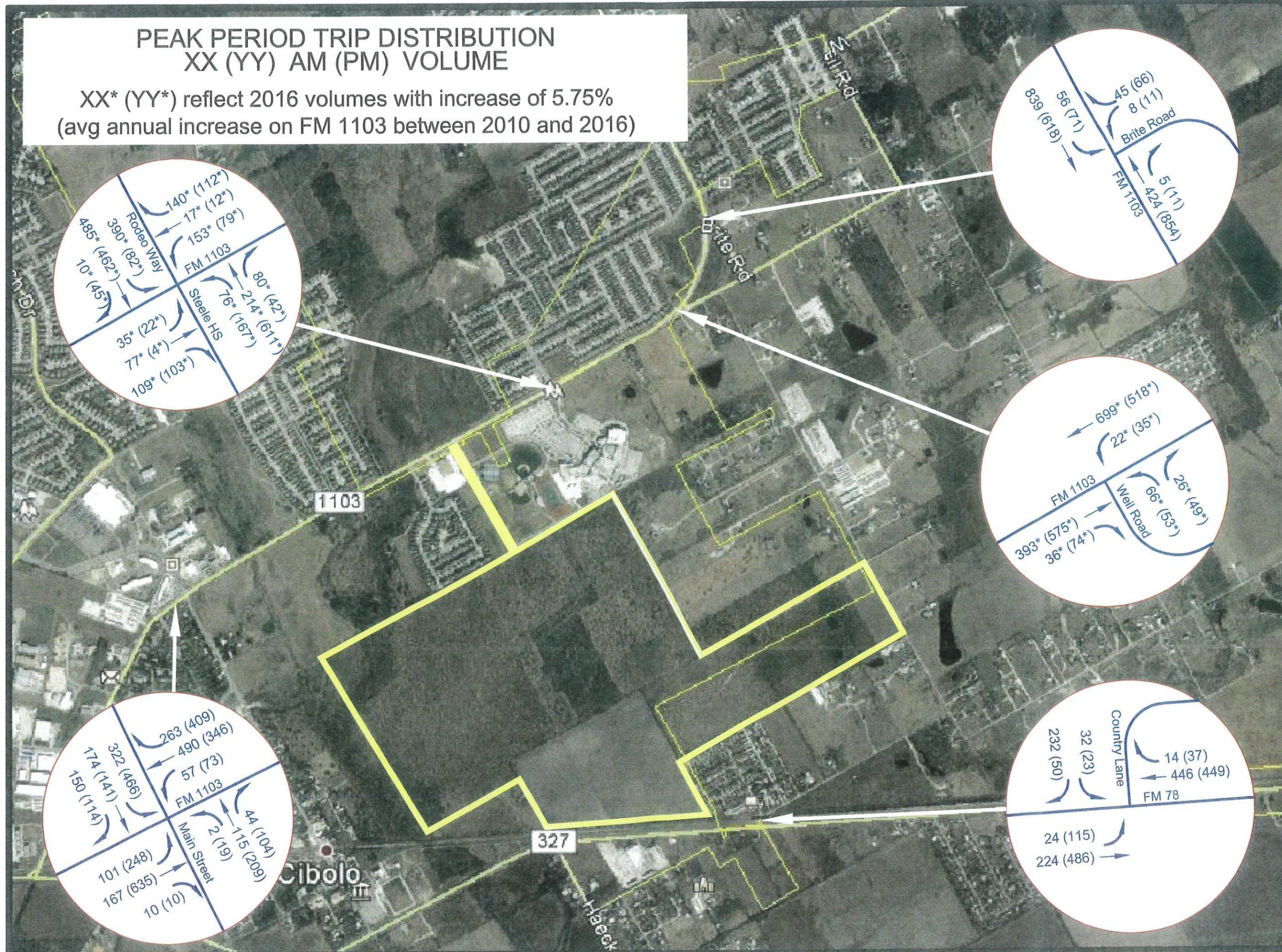
REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
Area Trip Distribution  
Volume Exhibit

E2

# PEAK PERIOD TRIP DISTRIBUTION XX (YY) AM (PM) VOLUME

XX\* (YY\*) reflect 2016 volumes with increase of 5.75%  
(avg annual increase on FM 1103 between 2010 and 2016)



DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
DATE: January 2018  
JOB NUMBER: E057600

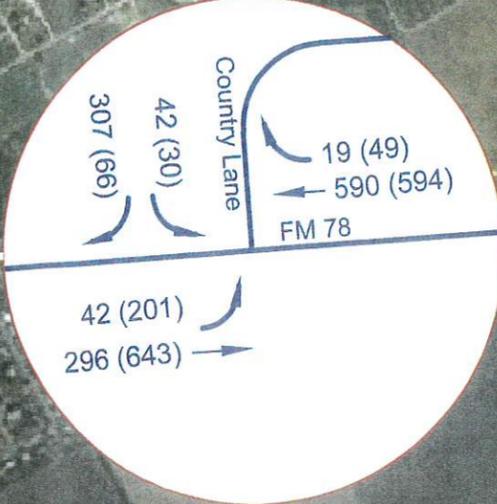
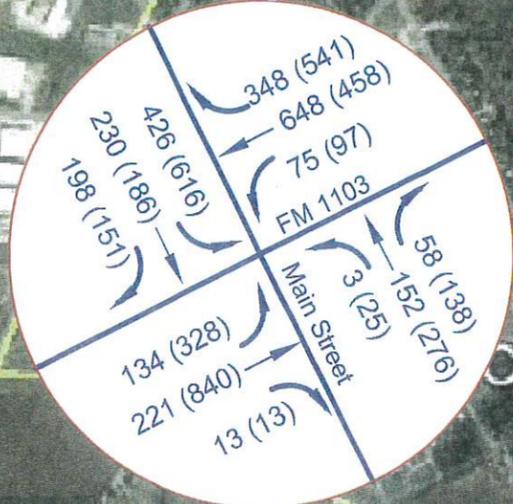
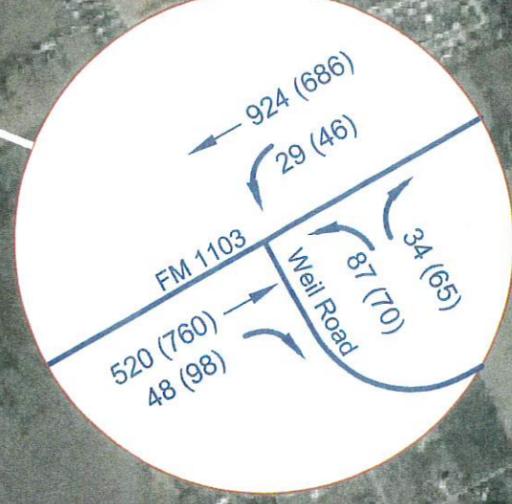
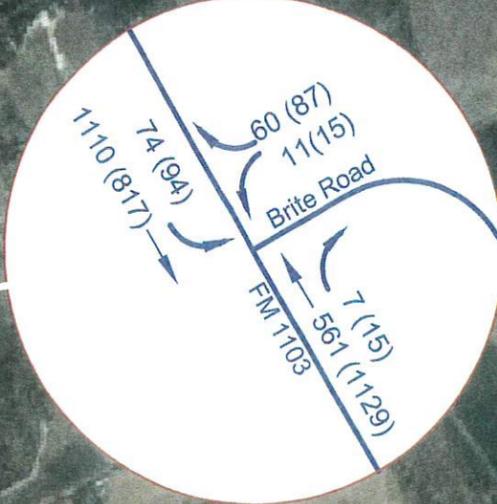
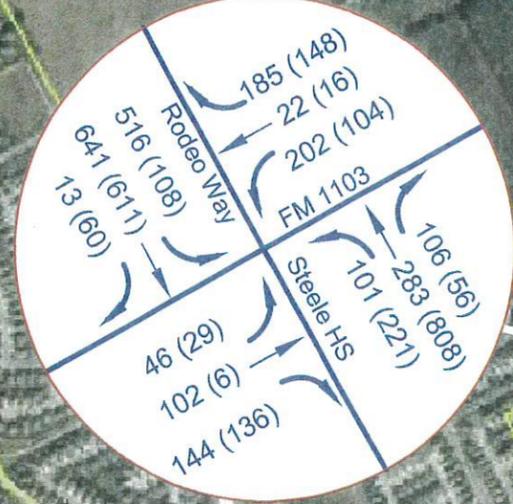
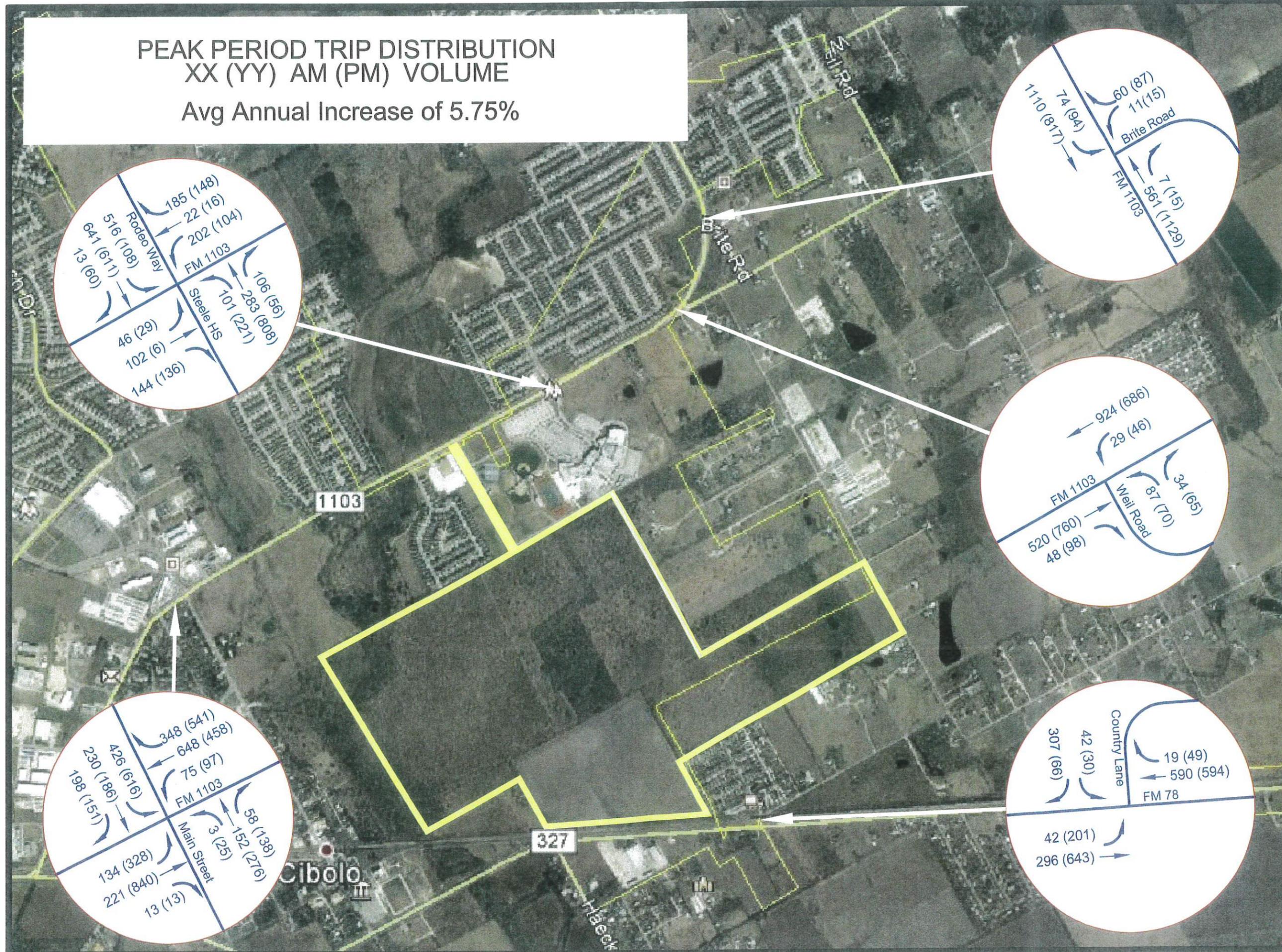
CIVIL ENGINEERING CONSULTANTS  
DON DURDEN, INC.  
11550 I.H. 40 WEST, SUITE 395  
SAN ANTONIO, TEXAS 78230  
TEL: 12101 641-9999  
FAX: 12101 641-6440  
EMAIL: cec@cectexas.com



REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
2017 Existing Volumes  
Exhibit

**PEAK PERIOD TRIP DISTRIBUTION**  
**XX (YY) AM (PM) VOLUME**  
 Avg Annual Increase of 5.75%



DESIGNED BY:  
 DRAWN BY:  
 CHECKED BY:  
 DATE: January 2018  
 JOB NUMBER: EC69760

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 11550 I.H. 10 WEST, SUITE 395  
 SAN ANTONIO, TEXAS 78230  
 TEL: 12101 641-9999  
 FAX: 12101 641-6440  
 EMAIL: cec@cectexas.com

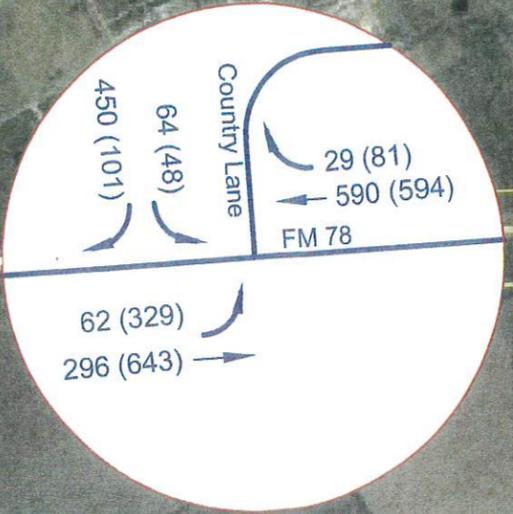
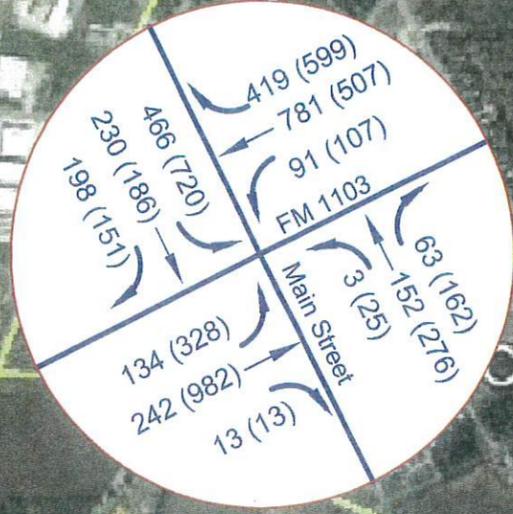
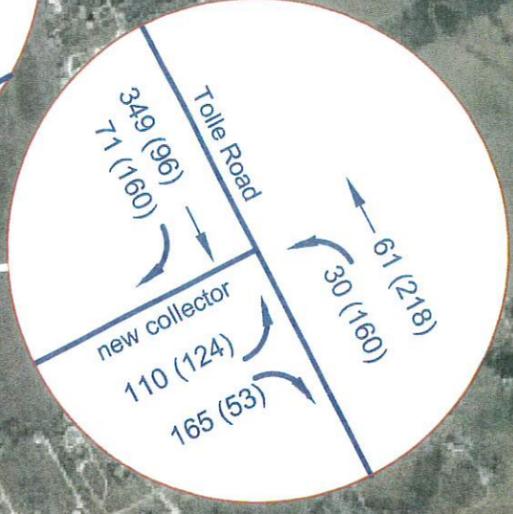
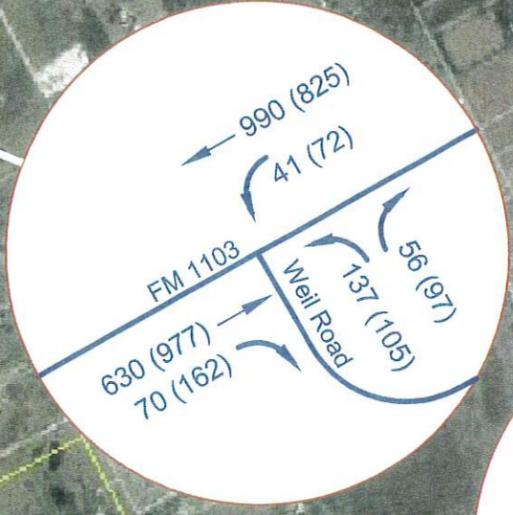
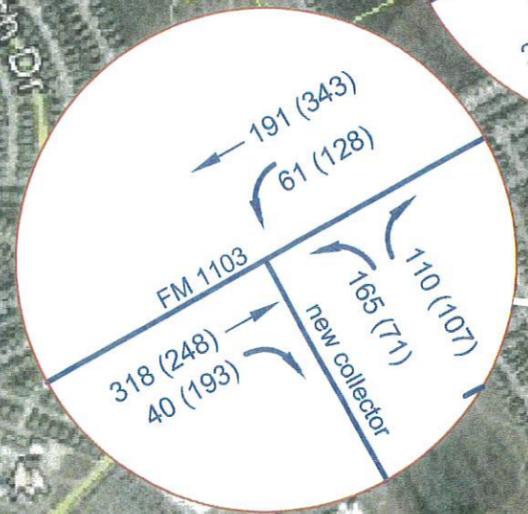
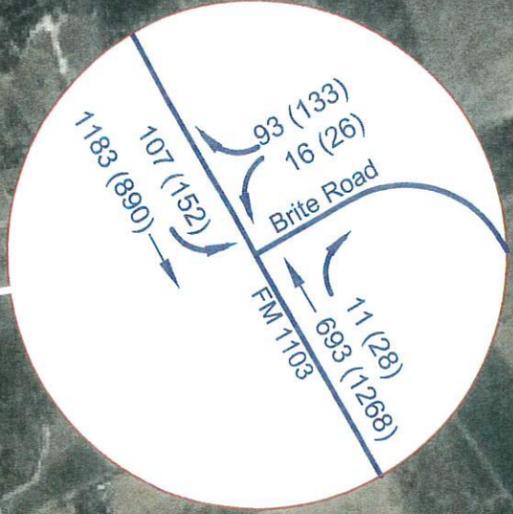
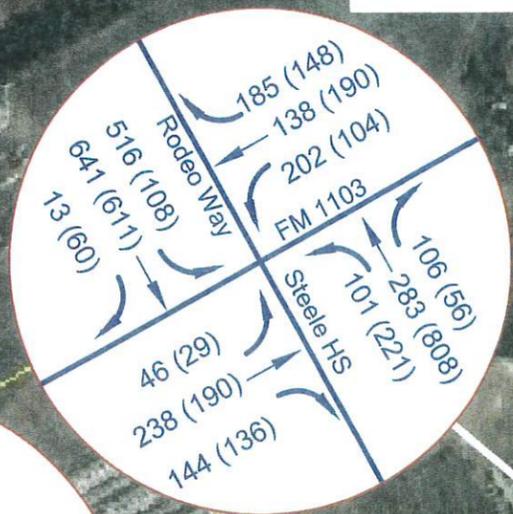
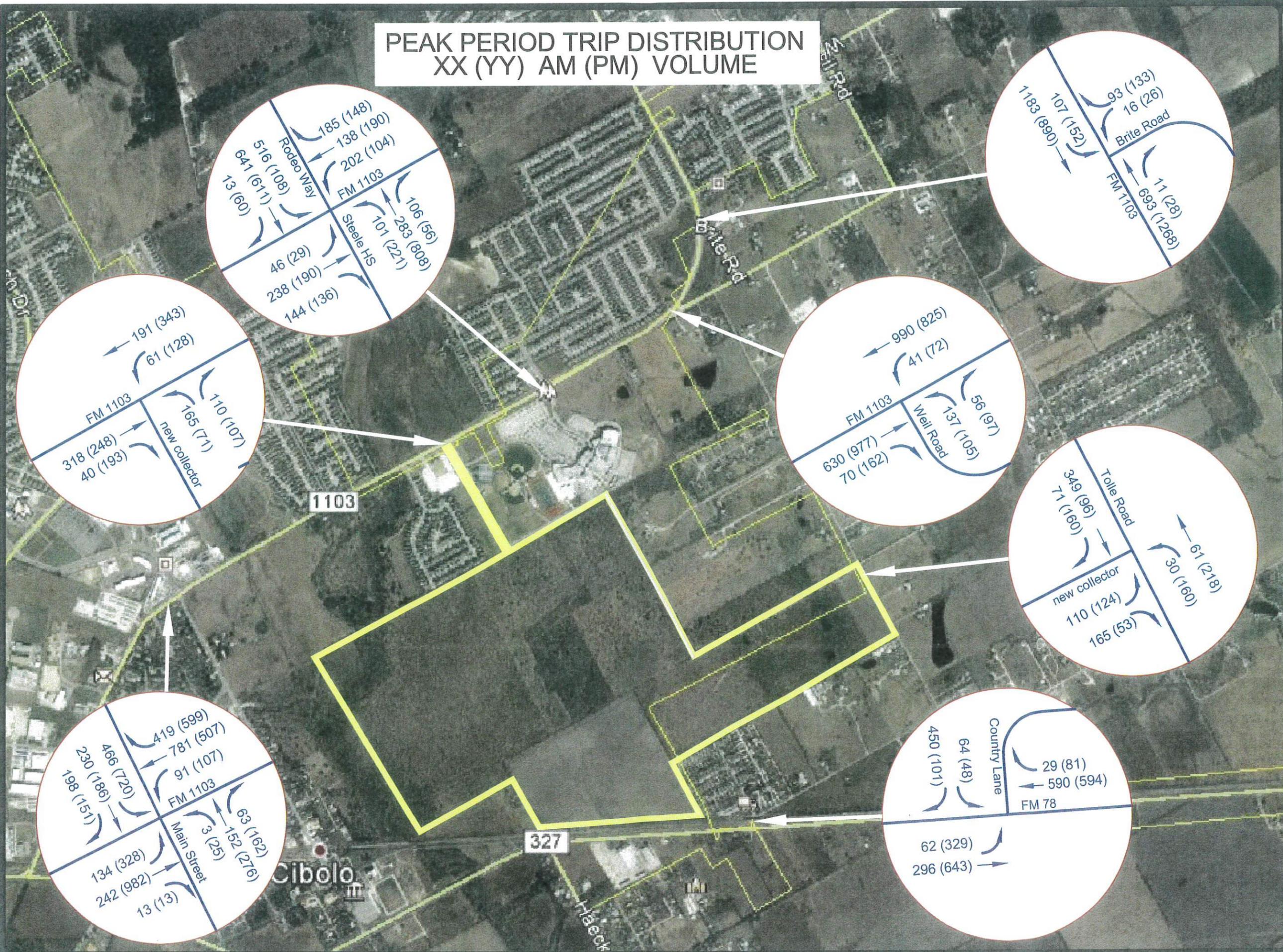


REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
 Development  
 2023 Projected Volumes  
 Exhibit



# PEAK PERIOD TRIP DISTRIBUTION XX (YY) AM (PM) VOLUME



DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
DATE: January 2018  
JOB NUMBER: E0687600

CIVIL ENGINEERING CONSULTANTS  
DON D U R D E N , I N C .  
11550 I.H. 10 WEST, SUITE 395  
SAN ANTONIO, TEXAS 78230  
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REV	DATE	DESCRIPTION

Steele Creek Planned Unit  
Development  
2023 Proposed Volumes  
Exhibit



# APPENDIX B

# TRAFFIC SURVEY

# TRAFFIC DATA SURVEY

**FM 1103  
Cibolo, Texas  
Guadalupe County**



**Prepared for:** Civil Engineering Consultants  
11550 IH 10 W, Suite 395  
San Antonio, Texas 78230



**Prepared By:** AC Group, LLC  
5828 Sebastian Place, Ste. 108  
San Antonio, Texas 78249



**Project 2017011200  
December 19, 2017**



5828 Sebastian Place, Suite 108  
San Antonio, Texas 78249

Office (210) 256-2447  
Fax (210) 509-9680

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December 19, 2017

Civil Engineering Consultants  
Mr. Joe Nix, P.E., PTOE  
11550 IH 10 W, Suite 395  
San Antonio, Texas 78230

Mr. Nix,

This report contains the traffic survey requested for three intersections in Cibolo, Texas. Turning movement count (TMC) data were collected on Wednesday, December 13, 2017 during the morning (7:00 – 9:00 AM) and evening (4:00 – 6:00 PM) peak period. A site map is included to illustrate the study area.

The traffic data found in this document is true and conducted to the best of our ability. Thank you for the opportunity to assist you and AC Group, LLC looks forward to working with Civil Engineering Consultants in the future.

A handwritten signature in black ink, appearing to read 'Rene Arredondo', is positioned above a horizontal line.

---

Rene Arredondo, P.E., PTOE  
Principal  
AC Group, LLC



➔ Average Daily Traffic Data (24-Hour)  
● Turning Movement Count Data (AM/PM)



FM 1103  
Cibolo, Texas

**TURNING MOVEMENT COUNT (TMC) DATA**  
**Wednesday, December 13, 2017**





FM 1103 and Brite Road																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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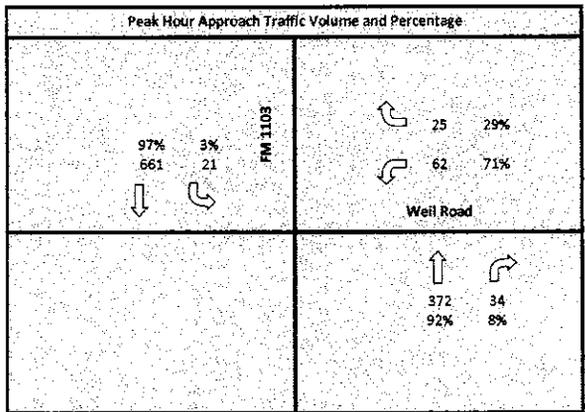
# FM 1103 and Weil Road

Intersection: North/South Street : FM 1103  
 East/West Street : Weil Road  
 City / State: San Antonio, Texas  
 Project No.: 010-16  
 Date Recorded: Friday, February 12, 2016



Peak Period: 1 7:00 AM - 9:00 AM  
 Peak Hour: 7:45 AM to 8:45 AM

Start Time	Intersection Approaches																Traffic Control	
	FM 1103				FM 1103				Weil Road				Weil Road				Total	Hourly Total
	Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Westbound					
Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	47	4	0	0	10	156	0	0	9	0	5	0	7	0	5	0	231	932
7:15 AM	57	7	0	0	9	140	0	0	0	0	0	0	7	0	5	0	225	
7:30 AM	46	8	0	0	13	144	0	0	0	0	0	0	11	0	5	0	227	
7:45 AM	82	8	0	0	5	140	0	0	0	0	0	0	7	0	7	0	249	
8:00 AM	82	7	0	0	9	170	0	0	0	0	0	0	9	0	4	0	281	
8:15 AM	106	11	0	0	3	208	0	0	0	0	0	0	27	0	7	0	362	
8:30 AM	102	8	0	0	4	143	0	0	0	0	0	0	19	0	7	0	283	
8:45 AM	51	7	0	0	2	74	0	0	0	0	0	0	13	0	5	0	152	
<b>Total</b>	0	573	60	0	55	1175	0	0	0	0	0	0	102	0	45	0		
Peak Total	0	372	34	0	21	661	0	0	0	0	0	0	62	0	25	0		
Peak Turn Percent	0%	92%	8%	0%	3%	97%	0%	0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	71%	0%	29%	0%		
Peak Approach Total	406				582				0				87					
PHF	FORMULA				FORMULA				FORMULA				FORMULA					
	0	424	44		36	832	0		0	0	0		108	0	28			
	#DIV/0! 0.8774 0.7727				0.5833 0.7945 #DIV/0!				#DIV/0! #DIV/0! #DIV/0!				0.5741 #DIV/0! 0.8929					
Comments																		

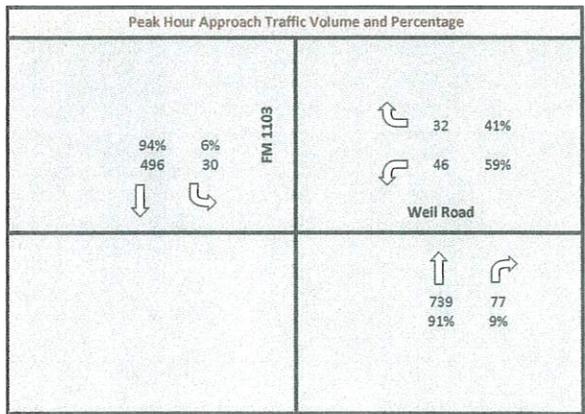


# FM 1103 and Weil Road

**Intersection** North/South Street : FM 1103 East/West Street : Weil Road  
**City / State** San Antonio, Texas  
**Project No.** 010-16  
**Date Recorded:** Friday, February 12, 2016  
**Peak Period :** 5 **Peak Hour:** 3:00 PM - 5:00 PM  
4:00 PM to 5:00 PM



Start Time	Intersection Approaches																Traffic Control	
	FM 1103				FM 1103				Weil Road				Weil Road				Total	Hourly Total
	Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound			
Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U			
3:00 PM	114	21	0	0	4	100	0	0					10		8	0	257	1105
3:15 PM	124	12	0	0	10	123	0	0					10		9	0	288	
3:30 PM	128	19	0	0	5	112	0	0					11		9	0	284	
3:45 PM	110	19	0	0	6	118	0	0					10		13	0	276	
4:00 PM	194	20	0	0	5	122	0	0					16		10	0	367	
4:15 PM	242	22	0	0	13	116	0	0					13		6	0	412	
4:30 PM	146	20	0	0	7	135	0	0					6		9	0	323	
4:45 PM	157	15	0	0	5	123	0	0					11		7	0	318	
<b>Total</b>																		
Peak Total	0	739	77	0	30	496	0	0	0	0	0	0	46	0	32	0		
Peak Turn Percent	0%	91%	9%	0%	6%	94%	0%	0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	59%	0%	41%	0%		
Peak Approach Total	816				526				0				78					
PHF	0	968	88		52	540	0		0	0	0		64	0	40			
FORMULA	#DIV/0!	0.7634	0.875		0.5769	0.9185	#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!		0.7188	#DIV/0!	0.8			
Comments																		





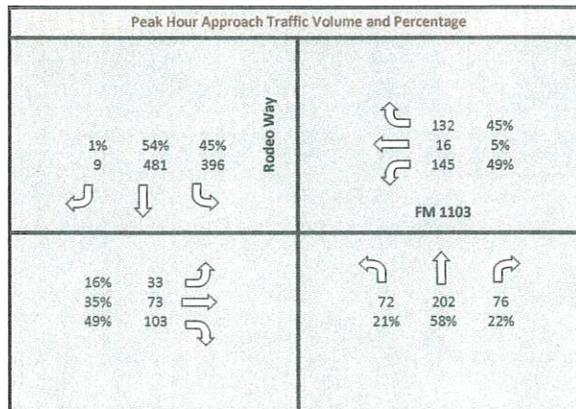
# Rodeo Way and FM 1103

**Intersection** North/South Street : Rodeo Way  
 East/West Street : FM 1103  
**City / State** San Antonio, Texas  
**Project No.** 010-16  
**Date Recorded:** Wednesday, February 17, 2016



**Peak Period :** 1 **7:00 AM - 9:00 AM**  
**Peak Hour:** 7:45 AM to 8:45 AM

Start Time	Intersection Approaches																Traffic Control	
	Rodeo Way				Rodeo Way				FM 1103				FM 1103				Total	Hourly Total
	Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound			
Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U	Total	Hourly Total	
7:00 AM	2	42	4	0	4	132	0	0	7	1	23	0	2	0	3	0	220	1277
7:15 AM	9	55	5	0	23	200	4	0	12	0	53	0	10	0	7	0	378	
7:30 AM	8	39	9	0	10	128	2	0	9	4	46	0	9	0	14	0	278	
7:45 AM	19	46	17	0	63	150	3	0	19	7	33	0	17	1	26	0	401	
8:00 AM	21	54	26	0	92	128	1	0	6	17	24	0	24	3	29	0	425	
8:15 AM	22	55	20	0	147	109	4	0	6	23	25	0	44	4	39	0	498	
8:30 AM	10	47	13	0	94	94	1	0	2	26	21	0	60	8	38	0	414	
8:45 AM	7	48	2	0	8	76	3	0	1	1	21	0	8	1	8	0	184	
<b>HOV 3+ (Truck and Bus)</b>																		
7:00 AM																	0	0
7:15 AM																	0	
7:30 AM																	0	
7:45 AM																	0	
8:00 AM																	0	
8:15 AM																	0	
8:30 AM																	0	
8:45 AM																	0	
<b>HOV 2+ (Car, Truck, and Bus)</b>																		
7:00 AM	2	42	4	0	4	132	0	0	7	1	23	0	2	0	3	0	220	1277
7:15 AM	9	55	5	0	23	200	4	0	12	0	53	0	10	0	7	0	378	
7:30 AM	8	39	9	0	10	128	2	0	9	4	46	0	9	0	14	0	278	
7:45 AM	19	46	17	0	63	150	3	0	19	7	33	0	17	1	26	0	401	
8:00 AM	21	54	26	0	92	128	1	0	6	17	24	0	24	3	29	0	425	
8:15 AM	22	55	20	0	147	109	4	0	6	23	25	0	44	4	39	0	498	
8:30 AM	10	47	13	0	94	94	1	0	2	26	21	0	60	8	38	0	414	
8:45 AM	7	48	2	0	8	76	3	0	1	1	21	0	8	1	8	0	184	
<b>Total</b>	98	386	96	0	441	1017	18	0	62	79	246	0	174	17	164	0		
<b>Peak Total</b>	72	202	76	0	396	481	9	0	33	73	103	0	145	16	132	0		
<b>Peak Turn Percent</b>	21%	58%	22%	0%	45%	54%	1%	0%	16%	35%	49%	0%	49%	5%	45%	0%		
<b>Peak Approach Total</b>	350				886				209				293					
<b>FORMULA</b>	88	220	104		588	600	16		76	104	132		240	32	156			
<b>PHF</b>	0.8182	0.9182	0.7308		0.6735	0.8017	0.5625		0.4342	0.7019	0.7803		0.6042	0.5	0.8462			
<b>Comments</b>																		

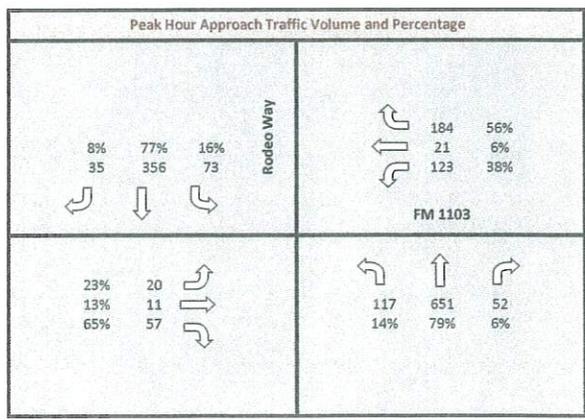


# Rodeo Way and FM 1103

**Intersection** North/South Street : Rodeo Way East/West Street : FM 1103  
**City / State** San Antonio, Texas  
**Project No.** 010-16  
**Date Recorded:** Wednesday, February 17, 2016  
**Peak Period :** 5 3:00 PM - 5:00 PM  
**Peak Hour:** 4:00 PM to 5:00 PM



Start Time	Intersection Approaches																Traffic Control																		
	Rodeo Way				Rodeo Way				FM 1103				FM 1103				Total	Hourly Total																	
	Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound																				
	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U																			
3:00 PM	25	72	7	0	7	107	7	0	4	3	21	0	8	1	7	0	269	1166																	
3:15 PM	24	87	6	0	15	93	10	0	7	1	16	0	7	1	11	0	278																		
3:30 PM	37	107	13	0	10	72	5	0	4	3	16	0	20	7	22	0	316																		
3:45 PM	21	110	11	0	25	71	6	0	3	6	26	0	10	0	14	0	303																		
4:00 PM	24	150	22	0	29	92	10	0	4	2	9	0	37	7	65	0	451																		
4:15 PM	29	193	14	0	18	81	7	0	6	3	18	0	47	5	57	0	478																		
4:30 PM	32	155	8	0	11	96	14	0	5	4	8	0	21	6	36	0	396																		
4:45 PM	32	153	8	0	15	87	4	0	5	2	22	0	18	3	26	0	375																		
<b>Total</b>																		224	1027	89	0	130	699	63	0	38	24	136	0	168	30	238	0		
<b>Peak Total</b>																		117	651	52	0	73	356	35	0	20	11	57	0	123	21	184	0		
<b>Peak Turn Percent</b>																		14%	79%	6%	0%	16%	77%	8%	0%	23%	13%	65%	0%	38%	6%	56%	0%		
<b>Peak Approach Total</b>																		820				464				88				328					
<b>PHF</b>																		0.9141	0.8433	0.5909		0.6293	0.9271	0.625		0.8333	0.6875	0.6477		0.6543	0.75	0.7077			
<b>Comments</b>																																			



# Rodeo Way and FM 1103

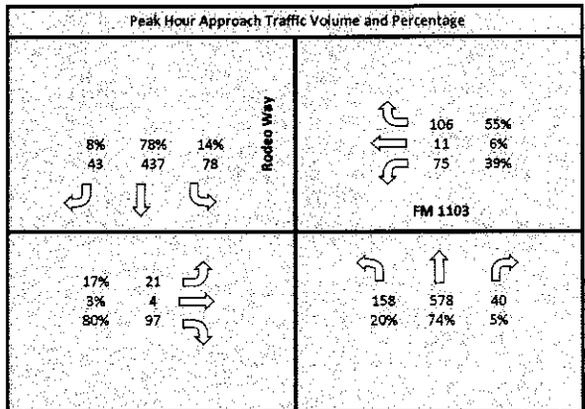
**Intersection** North/South Street : Rodeo Way  
 East/West Street : FM 1103  
**City / State** San Antonio, Texas  
**Project No.** 010-16  
**Date Recorded:** Wednesday, February 17, 2016



**Peak Period :** 4  
**Peak Hour:** 5:00 PM to 6:00 PM

Start Time	Intersection Approaches																Traffic Control		
	Rodeo Way				Rodeo Way				FM 1103				FM 1103				Total	Hourly Total	
	Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound				
Car	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U	Left	Thur	Right	U			
5:00 PM	31	124	7	0	20	91	16	0	3	0	21	0	18	1	24	0	356	1648	
5:15 PM	49	129	14	0	16	112	7	0	6	1	24	0	22	1	33	0	414		
5:30 PM	36	156	11	0	28	119	12	0	8	1	26	0	20	4	22	0	443		
5:45 PM	42	169	8	0	14	115	8	0	4	2	26	0	15	5	27	0	435		
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	158	578	40	0	78	437	43	0	21	4	97	0	75	11	106	0			
<b>Peak Total</b>	158	578	40	0	78	437	43	0	21	4	97	0	75	11	106	0			
<b>Peak Turn Percent</b>	20%	74%	5%	0%	14%	78%	8%	0%	17%	3%	80%	0%	39%	6%	55%	0%			
<b>Peak Approach Total</b>	776				558				122				192						
<b>FORMULA</b>	196	676	56		112	476	64		32	8	104		88	20	132				
<b>PHF</b>	0.8061	0.855	0.7143		0.6964	0.9181	0.6719		0.6563	0.5	0.9327		0.8523	0.55	0.803				

Comments



## APPENDIX C

# CAPACITY ANALYSIS WORKSHEETS

Intersection

Int Delay, s/veh 11.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘↗	
Traffic Vol, veh/h	24	224	446	14	232	32
Future Vol, veh/h	24	224	446	14	232	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	243	485	15	252	35

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	500	0	788
Stage 1	-	-	492
Stage 2	-	-	296
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1064	-	360
Stage 1	-	-	615
Stage 2	-	-	755
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1064	-	351
Mov Cap-2 Maneuver	-	-	351
Stage 1	-	-	615
Stage 2	-	-	737

Approach	EB	WB	SW
HCM Control Delay, s	0.8	0	42
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1
Capacity (veh/h)	1064	-	-	368
HCM Lane V/C Ratio	0.025	-	-	0.78
HCM Control Delay (s)	8.5	-	-	42
HCM Lane LOS	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	6.5

**Intersection**

Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	8	45	424	5	56	839
Future Vol, veh/h	8	45	424	5	56	839
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	49	461	5	61	912

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1498	464	0	0	466	0
Stage 1	464	-	-	-	-	-
Stage 2	1034	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	135	598	-	-	1095	-
Stage 1	633	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	120	598	-	-	1095	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	304	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	373	1095	-
HCM Lane V/C Ratio	-	-	0.154	0.056	-
HCM Control Delay (s)	-	-	16.4	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	167	10	57	490	263	2	115	44	322	174	150
Future Volume (veh/h)	101	167	10	57	490	263	2	115	44	322	174	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	110	182	0	62	533	0	2	125	0	350	189	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	227	0	582	611	0	488	775	0	543	775	0
Arrive On Green	0.12	0.12	0.00	0.33	0.33	0.00	0.42	0.42	0.00	0.42	0.42	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1189	1863	0	1261	1863	0
Grp Volume(v), veh/h	110	182	0	62	533	0	2	125	0	350	189	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1189	1863	0	1261	1863	0
Q Serve(g_s), s	5.8	9.6	0.0	2.5	27.1	0.0	0.1	4.2	0.0	24.2	6.6	0.0
Cycle Q Clear(g_c), s	5.8	9.6	0.0	2.5	27.1	0.0	6.8	4.2	0.0	28.5	6.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	216	227	0	582	611	0	488	775	0	543	775	0
V/C Ratio(X)	0.51	0.80	0.00	0.11	0.87	0.00	0.00	0.16	0.00	0.64	0.24	0.00
Avail Cap(c_a), veh/h	319	335	0	995	1045	0	488	775	0	543	775	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	43.0	0.0	23.6	31.8	0.0	21.3	18.4	0.0	27.3	19.1	0.0
Incr Delay (d2), s/veh	1.8	8.4	0.0	0.1	4.3	0.0	0.0	0.4	0.0	5.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.4	0.0	1.2	14.7	0.0	0.0	2.3	0.0	9.2	3.6	0.0
LnGrp Delay(d),s/veh	43.3	51.4	0.0	23.6	36.2	0.0	21.3	18.9	0.0	33.1	19.9	0.0
LnGrp LOS	D	D		C	D		C	B		C	B	
Approach Vol, veh/h		292			595			127			539	
Approach Delay, s/veh		48.3			34.9			18.9			28.5	
Approach LOS		D			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.4		16.8		46.4		37.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		41.9		18.1		41.9		56.5				
Max Q Clear Time (g_c+I1), s		8.8		11.6		30.5		29.1				
Green Ext Time (p_c), s		3.3		0.7		2.5		3.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.9									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↑		↓			↑
Traffic Vol, veh/h	66	26	393	36	22	699
Future Vol, veh/h	66	26	393	36	22	699
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	28	427	39	24	760

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1255	447	0
Stage 1	447	-	-
Stage 2	808	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	189	612	1095
Stage 1	644	-	-
Stage 2	438	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	182	612	1095
Mov Cap-2 Maneuver	182	-	-
Stage 1	644	-	-
Stage 2	421	-	-

Approach	WB	NE	SW
HCM Control Delay, s	32.8	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	WBLn1	SWL	SWT
Capacity (veh/h)	-	-	227	1095	-
HCM Lane V/C Ratio	-	-	0.441	0.022	-
HCM Control Delay (s)	-	-	32.8	8.4	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0.1	-

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

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01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	77	109	153	17	140	76	214	80	390	485	10
Future Volume (veh/h)	35	77	109	153	17	140	76	214	80	390	485	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	38	84	118	166	18	152	83	233	87	424	527	11
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	435	370	363	40	336	511	779	291	675	1095	23
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1210	1863	1583	1175	170	1439	864	1294	483	1055	1818	38
Grp Volume(v), veh/h	38	84	118	166	0	170	83	0	320	424	0	538
Grp Sat Flow(s),veh/h/ln	1210	1863	1583	1175	0	1609	864	0	1777	1055	0	1856
Q Serve(g_s), s	1.5	2.0	3.4	7.2	0.0	5.0	3.3	0.0	4.8	17.9	0.0	8.9
Cycle Q Clear(g_c), s	6.5	2.0	3.4	9.2	0.0	5.0	12.2	0.0	4.8	22.6	0.0	8.9
Prop In Lane	1.00		1.00	1.00		0.89	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	305	435	370	363	0	376	511	0	1070	675	0	1118
V/C Ratio(X)	0.12	0.19	0.32	0.46	0.00	0.45	0.16	0.00	0.30	0.63	0.00	0.48
Avail Cap(c_a), veh/h	419	612	520	475	0	528	511	0	1070	675	0	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	16.9	17.4	20.6	0.0	18.0	9.5	0.0	5.3	10.8	0.0	6.1
Incr Delay (d2), s/veh	0.2	0.2	0.5	0.9	0.0	0.9	0.7	0.0	0.7	4.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.5	2.4	0.0	2.3	0.9	0.0	2.5	5.9	0.0	4.9
LnGrp Delay(d),s/veh	21.0	17.1	17.9	21.4	0.0	18.8	10.2	0.0	6.0	15.2	0.0	7.6
LnGrp LOS	C	B	B	C		B	B		A	B		A
Approach Vol, veh/h		240			336			403			962	
Approach Delay, s/veh		18.1			20.1			6.9			10.9	
Approach LOS		B			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		17.3		37.5		17.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s		14.2		8.5		24.6		11.2				
Green Ext Time (p_c), s		8.2		2.0		4.9		1.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	115	486	449	37	23	50
Future Vol, veh/h	115	486	449	37	23	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	125	528	488	40	25	54

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	528	0	1286
Stage 1	-	-	508
Stage 2	-	-	778
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1039	-	141
Stage 1	-	-	547
Stage 2	-	-	389
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1039	-	128
Mov Cap-2 Maneuver	-	-	128
Stage 1	-	-	481
Stage 2	-	-	342

Approach	EB	WB	SW
HCM Control Delay, s	1.7	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1039	-	-	-	272
HCM Lane V/C Ratio	0.12	-	-	-	0.292
HCM Control Delay (s)	8.9	-	-	-	23.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.2

Intersection

Int Delay, s/veh 1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↗			↖
Traffic Vol, veh/h	11	66	854	11	6	71
Future Vol, veh/h	11	66	854	11	6	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	72	928	12	7	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1024	934	0	0	940	0
Stage 1	934	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	261	322	-	-	729	-
Stage 1	382	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	258	322	-	-	729	-
Mov Cap-2 Maneuver	258	-	-	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	20.8		0		0.8
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	311	729	-
HCM Lane V/C Ratio	-	-	0.269	0.009	-
HCM Control Delay (s)	-	-	20.8	10	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

HCM 2010 Signalized Intersection Summary  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	635	10	73	346	409	19	209	104	466	141	114
Future Volume (veh/h)	248	635	10	73	346	409	19	209	104	466	141	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	270	690	0	79	376	0	21	227	0	507	153	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	492	517	0	420	441	0	373	517	0	315	517	0
Arrive On Green	0.28	0.28	0.00	0.24	0.24	0.00	0.28	0.28	0.00	0.28	0.28	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1229	1863	0	1149	1863	0
Grp Volume(v), veh/h	270	690	0	79	376	0	21	227	0	507	153	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1229	1863	0	1149	1863	0
Q Serve(g_s), s	8.4	18.0	0.0	2.3	12.5	0.0	0.9	6.5	0.0	11.5	4.2	0.0
Cycle Q Clear(g_c), s	8.4	18.0	0.0	2.3	12.5	0.0	5.1	6.5	0.0	18.0	4.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	517	0	420	441	0	373	517	0	315	517	0
V/C Ratio(X)	0.55	1.33	0.00	0.19	0.85	0.00	0.06	0.44	0.00	1.61	0.30	0.00
Avail Cap(c_a), veh/h	492	517	0	492	517	0	373	517	0	315	517	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	23.4	0.0	19.8	23.7	0.0	20.4	19.3	0.0	28.7	18.4	0.0
Incr Delay (d2), s/veh	1.3	163.4	0.0	0.2	11.5	0.0	0.3	2.7	0.0	289.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	32.5	0.0	1.1	7.8	0.0	0.3	3.7	0.0	30.8	2.4	0.0
LnGrp Delay(d),s/veh	21.3	186.8	0.0	20.0	35.2	0.0	20.7	22.0	0.0	318.0	19.9	0.0
LnGrp LOS	C	F		B	D		C	C		F	B	
Approach Vol, veh/h		960			455			248			660	
Approach Delay, s/veh		140.3			32.5			21.9			248.9	
Approach LOS		F			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		19.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+l1), s		8.5		20.0		20.0		14.5				
Green Ext Time (p_c), s		3.3		0.0		0.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			137.4									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		↑			↑
Traffic Vol, veh/h	53	49	575	74	35	518
Future Vol, veh/h	53	49	575	74	35	518
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	53	625	80	38	563

Major/Minor	Minor1	Minor2	Major1	Major2	Major2	Major2
Conflicting Flow All	1304	665	0	0	705	0
Stage 1	665	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	177	460	-	-	893	-
Stage 1	511	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	166	460	-	-	893	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	493	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	32.3	0	0.6
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NWL	n1	SWL	SWT
Capacity (veh/h)	-	-	240	893	-	-
HCM Lane V/C Ratio	-	-	0.462	0.043	-	-
HCM Control Delay (s)	-	-	32.3	9.2	0	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	2.3	0.1	-	-

HCM 2010 Signalized Intersection Summary  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	4	103	79	12	112	167	611	42	82	462	45
Future Volume (veh/h)	22	4	103	79	12	112	167	611	42	82	462	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	4	112	86	13	122	182	664	46	89	502	49
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	295	251	344	25	230	584	1138	79	474	1104	108
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1249	1863	1583	1271	155	1452	853	1722	119	736	1671	163
Grp Volume(v), veh/h	24	4	112	86	0	135	182	0	710	89	0	551
Grp Sat Flow(s),veh/h/ln	1249	1863	1583	1271	0	1607	853	0	1842	736	0	1834
Q Serve(g_s), s	0.9	0.1	3.2	3.0	0.0	3.8	6.5	0.0	10.6	3.8	0.0	7.3
Cycle Q Clear(g_c), s	4.7	0.1	3.2	3.1	0.0	3.8	13.8	0.0	10.6	14.4	0.0	7.3
Prop In Lane	1.00		1.00	1.00		0.90	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	246	295	251	344	0	255	584	0	1217	474	0	1212
V/C Ratio(X)	0.10	0.01	0.45	0.25	0.00	0.53	0.31	0.00	0.58	0.19	0.00	0.45
Avail Cap(c_a), veh/h	502	677	576	604	0	584	584	0	1217	474	0	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	17.7	19.0	19.0	0.0	19.2	7.4	0.0	4.7	8.6	0.0	4.1
Incr Delay (d2), s/veh	0.2	0.0	1.2	0.4	0.0	1.7	1.4	0.0	2.0	0.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.5	1.1	0.0	1.8	1.7	0.0	5.8	0.9	0.0	3.9
LnGrp Delay(d),s/veh	21.6	17.7	20.2	19.4	0.0	21.0	8.8	0.0	6.7	9.5	0.0	5.3
LnGrp LOS	C	B	C	B		C	A		A	A		A
Approach Vol, veh/h		140			221			892			640	
Approach Delay, s/veh		20.4			20.3			7.1			5.9	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.4		12.4		37.4		12.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1				
Max Q Clear Time (g_c+I1), s		15.8		6.7		16.4		5.8				
Green Ext Time (p_c), s		9.8		1.2		9.6		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 15.3

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	
Traffic Vol, veh/h	42	296	590	19	42	307
Future Vol, veh/h	42	296	590	19	42	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	322	641	21	46	334

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	662	0	1065
Stage 1	-	-	652
Stage 2	-	-	413
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	927	-	246
Stage 1	-	-	518
Stage 2	-	-	668
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	927	-	234
Mov Cap-2 Maneuver	-	-	234
Stage 1	-	-	518
Stage 2	-	-	635

Approach	EB	WB	SW
HCM Control Delay, s	1.1	0	55.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	927	-	-	-	418
HCM Lane V/C Ratio	0.049	-	-	-	0.908
HCM Control Delay (s)	9.1	-	-	-	55.7
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	9.8

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		↑	↑↑
Traffic Vol, veh/h	11	60	561	7	74	1110
Future Vol, veh/h	11	60	561	7	74	1110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	65	610	8	80	1207

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1378	309	0	0	617	0
Stage 1	614	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	136	687	-	-	959	-
Stage 1	502	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	125	687	-	-	959	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	405	959	-
HCM Lane V/C Ratio	-	-	0.191	0.084	-
HCM Control Delay (s)	-	-	16	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	221	13	75	648	348	3	152	58	426	230	198
Future Volume (veh/h)	134	221	13	75	648	348	3	152	58	426	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	240	0	82	704	0	3	165	0	463	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	239	0	712	747	0	366	703	0	435	703	0
Arrive On Green	0.13	0.13	0.00	0.40	0.40	0.00	0.38	0.38	0.00	0.38	0.38	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	240	0	82	704	0	3	165	0	463	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.3	18.5	0.0	4.2	52.6	0.0	0.3	8.7	0.0	45.8	13.9	0.0
Cycle Q Clear(g_c), s	11.3	18.5	0.0	4.2	52.6	0.0	14.2	8.7	0.0	54.5	13.9	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	227	239	0	712	747	0	366	703	0	435	703	0
V/C Ratio(X)	0.64	1.01	0.00	0.12	0.94	0.00	0.01	0.23	0.00	1.06	0.36	0.00
Avail Cap(c_a), veh/h	227	239	0	780	819	0	366	703	0	435	703	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	59.8	63.0	0.0	27.2	41.6	0.0	37.5	30.7	0.0	52.0	32.4	0.0
Incr Delay (d2), s/veh	6.0	59.9	0.0	0.1	18.0	0.0	0.0	0.8	0.0	61.4	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	13.4	0.0	2.1	30.7	0.0	0.1	4.6	0.0	24.7	7.4	0.0
LnGrp Delay(d),s/veh	65.9	122.9	0.0	27.2	59.7	0.0	37.5	31.5	0.0	113.4	33.8	0.0
LnGrp LOS	E	F		C	E		D	C		F	C	
Approach Vol, veh/h		386			786			168			713	
Approach Delay, s/veh		101.3			56.3			31.6			85.5	
Approach LOS		F			E			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		23.0		59.0		62.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		54.5		18.5		54.5		63.5				
Max Q Clear Time (g_c+1), s		16.2		20.5		56.5		54.6				
Green Ext Time (p_c), s		4.9		0.0		0.0		3.4				

Intersection Summary

HCM 2010 Ctrl Delay	72.9
HCM 2010 LOS	E

Intersection

Int Delay, s/veh 3.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↑↑		↑↑		↑	↑↑
Traffic Vol, veh/h	87	34	520	48	29	924
Future Vol, veh/h	87	34	520	48	29	924
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	37	565	52	32	1004

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1156	309	0	0	617	0
Stage 1	591	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	190	687	-	-	959	-
Stage 1	516	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	184	687	-	-	959	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	39.1	0	0.3
HCM LOS	E		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	- 232	959	-
HCM Lane V/C Ratio	-	- 0.567	0.033	-
HCM Control Delay (s)	-	- 39.1	8.9	-
HCM Lane LOS	-	- E	A	-
HCM 95th %tile Q(veh)	-	- 3.1	0.1	-

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO

01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	102	144	202	22	185	101	283	106	516	641	13
Future Volume (veh/h)	46	102	144	202	22	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	111	157	220	24	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	728	325	279	364	325	451	899	336	655	1264	25
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1151	3539	1583	1107	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	111	157	220	24	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1151	1770	1583	1107	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.7	2.3	7.9	16.2	1.0	10.4	7.8	0.0	8.6	50.7	0.0	17.1
Cycle Q Clear(g_c), s	14.1	2.3	7.9	18.5	1.0	10.4	24.9	0.0	8.6	59.3	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	184	728	325	279	364	325	451	0	1234	655	0	1289
V/C Ratio(X)	0.27	0.15	0.48	0.79	0.07	0.62	0.24	0.00	0.34	0.86	0.00	0.55
Avail Cap(c_a), veh/h	184	728	325	279	364	325	451	0	1234	655	0	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.0	29.3	31.5	37.7	28.8	32.5	13.0	0.0	5.5	17.4	0.0	6.8
Incr Delay (d2), s/veh	0.8	0.1	1.1	14.0	0.1	3.5	1.3	0.0	0.8	13.5	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	3.5	6.5	0.5	4.8	1.7	0.0	4.4	15.7	0.0	9.1
LnGrp Delay(d),s/veh	39.7	29.4	32.6	51.7	28.9	36.0	14.3	0.0	6.3	30.9	0.0	8.5
LnGrp LOS	D	C	C	D	C	D	B		A	C		A
Approach Vol, veh/h		318			445			533			1272	
Approach Delay, s/veh		32.6			43.4			7.9			18.4	
Approach LOS		C			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.0		23.0		67.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		62.5		18.5		62.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		16.1		61.3		20.5				
Green Ext Time (p_c), s		17.0		1.0		1.0		0.0				

Intersection Summary

HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	↗
Traffic Vol, veh/h	201	643	594	49	30	66
Future Vol, veh/h	201	643	594	49	30	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	218	699	646	53	33	72

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	699	0	1808
Stage 1	-	-	672
Stage 2	-	-	1136
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	898	-	87
Stage 1	-	-	508
Stage 2	-	-	306
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	898	-	66
Mov Cap-2 Maneuver	-	-	66
Stage 1	-	-	508
Stage 2	-	-	232

Approach	EB	WB	SW
HCM Control Delay, s	2.5	0	62.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	898	-	-	-	160
HCM Lane V/C Ratio	0.243	-	-	-	0.652
HCM Control Delay (s)	10.3	-	-	-	62.1
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	3.7

Intersection

Int Delay, s/veh 2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↓		Y	↑↑
Traffic Vol, veh/h	15	87	1129	15	94	817
Future Vol, veh/h	15	87	1129	15	94	817
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	95	1227	16	102	888

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1883	622	0	0	1243	0
Stage 1	1235	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	63	430	-	-	556	-
Stage 1	238	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	51	430	-	-	556	-
Mov Cap-2 Maneuver	51	-	-	-	-	-
Stage 1	238	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	41.5		0		1.3
HCM LOS	E				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)	-	- 205	556	-	
HCM Lane V/C Ratio	-	- 0.541	0.184	-	
HCM Control Delay (s)	-	- 41.5	12.9	-	
HCM Lane LOS	-	- E	B	-	
HCM 95th %tile Q(veh)	-	- 2.8	0.7	-	

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	840	13	97	458	541	25	276	138	616	186	151
Future Volume (veh/h)	328	840	13	97	458	541	25	276	138	616	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	913	0	105	498	0	27	300	0	670	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	428	0	455	478	0	463	789	0	384	789	0
Arrive On Green	0.23	0.23	0.00	0.26	0.26	0.00	0.42	0.42	0.00	0.42	0.42	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	913	0	105	498	0	27	300	0	670	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	29.1	34.5	0.0	7.0	38.5	0.0	2.3	16.6	0.0	46.9	10.5	0.0
Cycle Q Clear(g_c), s	29.1	34.5	0.0	7.0	38.5	0.0	12.8	16.6	0.0	63.5	10.5	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	408	428	0	455	478	0	463	789	0	384	789	0
V/C Ratio(X)	0.87	2.13	0.00	0.23	1.04	0.00	0.06	0.38	0.00	1.74	0.26	0.00
Avail Cap(c_a), veh/h	408	428	0	455	478	0	463	789	0	384	789	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.7	57.8	0.0	44.0	55.8	0.0	32.1	29.7	0.0	54.5	28.0	0.0
Incr Delay (d2), s/veh	18.6	516.8	0.0	0.3	52.4	0.0	0.2	1.4	0.0	345.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	79.2	0.0	3.5	26.7	0.0	0.8	8.8	0.0	52.8	5.6	0.0
LnGrp Delay(d),s/veh	74.3	574.5	0.0	44.3	108.2	0.0	32.4	31.1	0.0	400.2	28.8	0.0
LnGrp LOS	E	F		D	F		C	C		F	C	
Approach Vol, veh/h		1270			603			327			872	
Approach Delay, s/veh		433.9			97.0			31.2			314.2	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.0		39.0		68.0		43.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		63.5		34.5		63.5		38.5				
Max Q Clear Time (g_c+l1), s		18.6		36.5		65.5		40.5				
Green Ext Time (p_c), s		8.4		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				290.9								
HCM 2010 LOS				F								

Intersection

Int Delay, s/veh 7.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		↑↓		Y	↑↑
Traffic Vol, veh/h	70	65	760	98	46	686
Future Vol, veh/h	70	65	760	98	46	686
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	71	826	107	50	746

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1352	466	0	0	933	0
Stage 1	879	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	4.14	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	109	543	-	-	729	-
Stage 1	309	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	543	-	-	729	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	NW		NE		SW
HCM Control Delay, s	92.6		0		0.6
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	- 169	729	-
HCM Lane V/C Ratio	-	- 0.868	0.069	-
HCM Control Delay (s)	-	- 92.6	10.3	-
HCM Lane LOS	-	- F	B	-
HCM 95th %tile Q(veh)	-	- 6.2	0.2	-

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	6	136	104	16	148	221	808	56	108	611	60
Future Volume (veh/h)	29	6	136	104	16	148	221	808	56	108	611	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	7	148	113	17	161	240	878	61	117	664	65
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	614	275	325	307	275	458	1177	82	325	1142	112
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1201	3539	1583	1227	1770	1583	723	1722	120	594	1670	164
Grp Volume(v), veh/h	32	7	148	113	17	161	240	0	939	117	0	729
Grp Sat Flow(s),veh/h/ln	1201	1770	1583	1227	1770	1583	723	0	1842	594	0	1834
Q Serve(g_s), s	1.6	0.1	5.4	5.3	0.5	5.9	16.4	0.0	20.7	10.0	0.0	13.1
Cycle Q Clear(g_c), s	7.5	0.1	5.4	5.4	0.5	5.9	29.6	0.0	20.7	30.7	0.0	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	211	614	275	325	307	275	458	0	1259	325	0	1253
V/C Ratio(X)	0.15	0.01	0.54	0.35	0.06	0.59	0.52	0.00	0.75	0.36	0.00	0.58
Avail Cap(c_a), veh/h	346	1012	453	463	506	453	458	0	1259	325	0	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	21.5	23.7	23.8	21.7	23.9	13.0	0.0	6.4	16.3	0.0	5.2
Incr Delay (d2), s/veh	0.3	0.0	1.6	0.6	0.1	2.0	4.3	0.0	4.1	3.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	2.5	1.8	0.3	2.7	3.8	0.0	11.6	1.9	0.0	7.2
LnGrp Delay(d),s/veh	27.7	21.5	25.3	24.4	21.8	25.9	17.3	0.0	10.5	19.4	0.0	7.2
LnGrp LOS	C	C	C	C	C	C	B		B	B		A
Approach Vol, veh/h		187			291			1179				846
Approach Delay, s/veh		25.6			25.1			11.9				8.9
Approach LOS		C			C			B				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.5		15.4		47.5		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.0		18.0		43.0		18.0				
Max Q Clear Time (g_c+I1), s		31.6		9.5		32.7		7.9				
Green Ext Time (p_c), s		9.5		1.5		8.6		1.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 73.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	↗
Traffic Vol, veh/h	62	296	590	29	64	450
Future Vol, veh/h	62	296	590	29	64	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	70	489

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	212.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	918	-	-	-	405
HCM Lane V/C Ratio	0.073	-	-	-	1.379
HCM Control Delay (s)	9.2	-	-	-	212.5
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	27

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¶¶		↑↑		¶	↑↑
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	4.14	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	67	615	-	-	844	-
Stage 1	365	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	60	615	-	-	844	-
Mov Cap-2 Maneuver	60	-	-	-	-	-
Stage 1	365	-	-	-	-	-
Stage 2	267	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.8	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	261	844	-
HCM Lane V/C Ratio	-	0.454	0.138	-
HCM Control Delay (s)	-	29.8	9.9	-
HCM Lane LOS	-	D	A	-
HCM 95th %tile Q(veh)	-	2.2	0.5	-

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	259	157	220	150	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	818	366	255	409	366	416	849	317	617	1194	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1026	3539	1583	966	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	259	157	220	150	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1026	1770	1583	966	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.6	4.9	6.8	13.6	5.7	8.9	7.8	0.0	8.6	43.9	0.0	17.1
Cycle Q Clear(g_c), s	12.6	4.9	6.8	18.5	5.7	8.9	24.9	0.0	8.6	52.5	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
V/C Ratio(X)	0.24	0.32	0.43	0.86	0.37	0.55	0.26	0.00	0.36	0.91	0.00	0.58
Avail Cap(c_a), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	25.5	26.2	34.9	25.8	27.1	14.6	0.0	6.2	19.4	0.0	7.7
Incr Delay (d2), s/veh	0.6	0.2	0.8	24.9	0.5	1.7	1.6	0.0	0.9	19.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	3.0	6.6	2.9	4.1	1.8	0.0	4.4	15.7	0.0	9.2
LnGrp Delay(d),s/veh	33.2	25.7	27.0	59.8	26.4	28.8	16.2	0.0	7.1	39.1	0.0	9.7
LnGrp LOS	C	C	C	E	C	C	B		A	D		A
Approach Vol, veh/h		466			571			533			1272	
Approach Delay, s/veh		27.0			40.1			9.0			22.7	
Approach LOS		C			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		23.0		57.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		18.5		52.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		14.6		54.5		20.5				
Green Ext Time (p_c), s		14.3		2.1		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Traffic Vol, veh/h	318	40	61	191	165	110
Future Vol, veh/h	318	40	61	191	165	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	43	66	208	179	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	389
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1170
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1170
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	550	-	-	1170	-
HCM Lane V/C Ratio	0.543	-	-	0.057	-
HCM Control Delay (s)	19.1	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.2	-	-	0.2	-

**Intersection**

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	550	418	457	0	-	0
Stage 1	418	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	496	635	1104	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	481	635	1104	-	-	-
Mov Cap-2 Maneuver	481	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	18.4		2.8		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1104	-	563	-	-
HCM Lane V/C Ratio	0.03	-	0.531	-	-
HCM Control Delay (s)	8.4	0	18.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.1	-	-

Intersection

Int Delay, s/veh 73.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↖	↗	↔		↖	
Traffic Vol, veh/h	62	296	590	29	64	450
Future Vol, veh/h	62	296	590	29	64	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	70	489

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	212.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	918	-	-	-	405
HCM Lane V/C Ratio	0.073	-	-	-	1.379
HCM Control Delay (s)	9.2	-	-	-	212.5
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	27

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↕↔		↘	↗
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	92	615	-	-	844	-
Stage 1	423	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	615	-	-	844	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	19.5		0		0.8
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	79	615	844	-
HCM Lane V/C Ratio	-	-	0.22	0.164	0.138	-
HCM Control Delay (s)	-	-	63	12	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.6	0.5	-

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO

01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	230	0	763	801	0	337	664	0	406	664	0
Arrive On Green	0.12	0.12	0.00	0.43	0.43	0.00	0.36	0.36	0.00	0.36	0.36	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.8	18.5	0.0	5.1	64.5	0.0	0.3	9.4	0.0	44.1	15.0	0.0
Cycle Q Clear(g_c), s	11.8	18.5	0.0	5.1	64.5	0.0	15.3	9.4	0.0	53.5	15.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
V/C Ratio(X)	0.67	1.14	0.00	0.13	1.06	0.00	0.01	0.25	0.00	1.25	0.38	0.00
Avail Cap(c_a), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	65.8	0.0	25.8	42.8	0.0	41.5	34.1	0.0	55.6	35.9	0.0
Incr Delay (d2), s/veh	7.5	104.0	0.0	0.1	48.9	0.0	0.0	0.9	0.0	131.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.1	0.0	2.5	44.0	0.0	0.1	5.0	0.0	31.6	8.0	0.0
LnGrp Delay(d),s/veh	70.3	169.7	0.0	25.9	91.6	0.0	41.6	35.0	0.0	187.0	37.5	0.0
LnGrp LOS	E	F		C	F		D	C		F	D	
Approach Vol, veh/h		409			948			168			757	
Approach Delay, s/veh		134.2			84.8			35.1			137.6	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		23.0		58.0		69.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		18.5		53.5		64.5				
Max Q Clear Time (g_c+I1), s		17.3		20.5		55.5		66.5				
Green Ext Time (p_c), s		5.1		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				107.5								
HCM 2010 LOS				F								

Intersection

Int Delay, s/veh 13

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↘	↗	↕↕		↘	↕↕
Traffic Vol, veh/h	137	56	630	70	41	990
Future Vol, veh/h	137	56	630	70	41	990
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	61	685	76	45	1076

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1350	380	0	0	761	0
Stage 1	723	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 142	618	-	-	847	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 134	618	-	-	847	-
Mov Cap-2 Maneuver	~ 134	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NE	SW
HCM Control Delay, s	127.9	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	WBLn1	WBLn2	SWL	SWT
Capacity (veh/h)	-	-	134	618	847	-
HCM Lane V/C Ratio	-	-	1.111	0.098	0.053	-
HCM Control Delay (s)	-	-	175.5	11.5	9.5	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	8.5	0.3	0.2	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	259	157	220	150	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	818	366	255	409	366	416	849	317	617	1194	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1026	3539	1583	966	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	259	157	220	150	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1026	1770	1583	966	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.6	4.9	6.8	13.6	5.7	8.9	7.8	0.0	8.6	43.9	0.0	17.1
Cycle Q Clear(g_c), s	12.6	4.9	6.8	18.5	5.7	8.9	24.9	0.0	8.6	52.5	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
V/C Ratio(X)	0.24	0.32	0.43	0.86	0.37	0.55	0.26	0.00	0.36	0.91	0.00	0.58
Avail Cap(c_a), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	25.5	26.2	34.9	25.8	27.1	14.6	0.0	6.2	19.4	0.0	7.7
Incr Delay (d2), s/veh	0.6	0.2	0.8	24.9	0.5	1.7	1.6	0.0	0.9	19.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	3.0	6.6	2.9	4.1	1.8	0.0	4.4	15.7	0.0	9.2
LnGrp Delay(d),s/veh	33.2	25.7	27.0	59.8	26.4	28.8	16.2	0.0	7.1	39.1	0.0	9.7
LnGrp LOS	C	C	C	E	C	C	B		A	D		A
Approach Vol, veh/h		466			571			533			1272	
Approach Delay, s/veh		27.0			40.1			9.0			22.7	
Approach LOS		C			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		23.0		57.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		18.5		52.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		14.6		54.5		20.5				
Green Ext Time (p_c), s		14.3		2.1		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									

**Intersection**

Int Delay, s/veh 6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Vol, veh/h	318	40	61	191	165	110
Future Vol, veh/h	318	40	61	191	165	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	43	66	208	179	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	389
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1170
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1170
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	550	-	-	1170	-
HCM Lane V/C Ratio	0.543	-	-	0.057	-
HCM Control Delay (s)	19.1	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.2	-	-	0.2	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	550	418	457 0
Stage 1	418	-	- -
Stage 2	132	-	- -
Critical Hdwy	6.42	6.22	4.12 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.218 -
Pot Cap-1 Maneuver	496	635	1104 -
Stage 1	664	-	- -
Stage 2	894	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	481	635	1104 -
Mov Cap-2 Maneuver	481	-	- -
Stage 1	664	-	- -
Stage 2	866	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.4	2.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1104	-	563	-	-
HCM Lane V/C Ratio	0.03	-	0.531	-	-
HCM Control Delay (s)	8.4	0	18.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.1	-	-

Intersection

Int Delay, s/veh 15.5

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	
Traffic Vol, veh/h	62	296	590	29	43	297
Future Vol, veh/h	62	296	590	29	43	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	47	323

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %			
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	58.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	918	-	-	-	404
HCM Lane V/C Ratio	0.073	-	-	-	0.915
HCM Control Delay (s)	9.2	-	-	-	58.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	9.8

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		↓	↑↑
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	92	615	-	-	844	-
Stage 1	423	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	615	-	-	844	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	23.8		0		0.8
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	844	-
HCM Lane V/C Ratio	-	-	0.385	0.138	-
HCM Control Delay (s)	-	-	23.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	-

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	132	13	91	457	419	3	152	63	466	230	198
Future Volume (veh/h)	134	132	13	91	457	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	143	0	99	497	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	190	0	533	560	0	518	909	0	591	909	0
Arrive On Green	0.10	0.10	0.00	0.30	0.30	0.00	0.49	0.49	0.00	0.49	0.49	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	143	0	99	497	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	9.9	9.2	0.0	5.1	31.3	0.0	0.2	6.1	0.0	49.4	9.8	0.0
Cycle Q Clear(g_c), s	9.9	9.2	0.0	5.1	31.3	0.0	10.0	6.1	0.0	55.5	9.8	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	181	190	0	533	560	0	518	909	0	591	909	0
V/C Ratio(X)	0.81	0.75	0.00	0.19	0.89	0.00	0.01	0.18	0.00	0.86	0.28	0.00
Avail Cap(c_a), veh/h	260	273	0	844	886	0	518	909	0	591	909	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.0	53.7	0.0	31.9	41.0	0.0	21.6	17.7	0.0	33.3	18.6	0.0
Incr Delay (d2), s/veh	11.7	7.0	0.0	0.2	7.0	0.0	0.0	0.4	0.0	14.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	5.1	0.0	2.5	17.2	0.0	0.1	3.3	0.0	18.9	5.2	0.0
LnGrp Delay(d),s/veh	65.7	60.7	0.0	32.0	48.0	0.0	21.6	18.1	0.0	48.1	19.4	0.0
LnGrp LOS	E	E		C	D		C	B		D	B	
Approach Vol, veh/h		289			596			168			757	
Approach Delay, s/veh		63.2			45.4			18.2			38.6	
Approach LOS		E			D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.5		17.0		64.5		41.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		60.0		18.0		60.0		58.5				
Max Q Clear Time (g_c+I1), s		12.0		11.9		57.5		33.3				
Green Ext Time (p_c), s		5.2		0.6		1.2		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			42.9									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 19.3

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	Y		↑↓		↓	↑↑
Traffic Vol, veh/h	137	56	630	70	41	990
Future Vol, veh/h	137	56	630	70	41	990
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	61	685	76	45	1076

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1350	380	0	0	761	0
Stage 1	723	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 142	618	-	-	847	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 134	618	-	-	847	-
Mov Cap-2 Maneuver	~ 134	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB		NE		SW
HCM Control Delay, s	190.5		0		0.4
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NER	WBLn1	SWL	SWT
Capacity (veh/h)	-	-	173	847	-
HCM Lane V/C Ratio	-	-	1.213	0.053	-
HCM Control Delay (s)	-	-	190.5	9.5	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	11.5	0.2	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	259	157	220	150	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	818	366	255	409	366	416	849	317	617	1194	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1026	3539	1583	966	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	259	157	220	150	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1026	1770	1583	966	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.6	4.9	6.8	13.6	5.7	8.9	7.8	0.0	8.6	43.9	0.0	17.1
Cycle Q Clear(g_c), s	12.6	4.9	6.8	18.5	5.7	8.9	24.9	0.0	8.6	52.5	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
V/C Ratio(X)	0.24	0.32	0.43	0.86	0.37	0.55	0.26	0.00	0.36	0.91	0.00	0.58
Avail Cap(c_a), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	25.5	26.2	34.9	25.8	27.1	14.6	0.0	6.2	19.4	0.0	7.7
Incr Delay (d2), s/veh	0.6	0.2	0.8	24.9	0.5	1.7	1.6	0.0	0.9	19.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	3.0	6.6	2.9	4.1	1.8	0.0	4.4	15.7	0.0	9.2
LnGrp Delay(d),s/veh	33.2	25.7	27.0	59.8	26.4	28.8	16.2	0.0	7.1	39.1	0.0	9.7
LnGrp LOS	C	C	C	E	C	C	B		A	D		A
Approach Vol, veh/h		466			571			533			1272	
Approach Delay, s/veh		27.0			40.1			9.0			22.7	
Approach LOS		C			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		23.0		57.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		18.5		52.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		14.6		54.5		20.5				
Green Ext Time (p_c), s		14.3		2.1		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Traffic Vol, veh/h	318	40	61	191	165	110
Future Vol, veh/h	318	40	61	191	165	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	43	66	208	179	120

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	389	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1170	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1170	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	550	-	-	1170	-
HCM Lane V/C Ratio	0.543	-	-	0.057	-
HCM Control Delay (s)	19.1	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.2	-	-	0.2	-

HCM 2010 TWSC  
 19: New Collector 2 & Tolle RD

01/24/2018

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	550	418	457 0
Stage 1	418	-	- -
Stage 2	132	-	- -
Critical Hdwy	7.12	6.22	4.12 -
Critical Hdwy Stg 1	6.12	-	- -
Critical Hdwy Stg 2	6.12	-	- -
Follow-up Hdwy	3.518	3.318	2.218 -
Pot Cap-1 Maneuver	446	635	1104 -
Stage 1	612	-	- -
Stage 2	871	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	435	635	1104 -
Mov Cap-2 Maneuver	435	-	- -
Stage 1	593	-	- -
Stage 2	844	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	19.9	2.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1104	-	536	-	-
HCM Lane V/C Ratio	0.03	-	0.558	-	-
HCM Control Delay (s)	8.4	0	19.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.4	-	-

Intersection

Int Delay, s/veh 73.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↖	↗	↖		↖	
Traffic Vol, veh/h	62	296	590	29	64	450
Future Vol, veh/h	62	296	590	29	64	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	70	489

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	212.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1
Capacity (veh/h)	918	-	-	405
HCM Lane V/C Ratio	0.073	-	-	1.379
HCM Control Delay (s)	9.2	-	-	212.5
HCM Lane LOS	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	27

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑		↔	↑↑
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	92	615	-	-	844	-
Stage 1	423	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	79	615	-	-	844	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	844	-
HCM Lane V/C Ratio	-	-	0.385	0.138	-
HCM Control Delay (s)	-	-	23.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	-

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	230	0	763	801	0	337	664	0	406	664	0
Arrive On Green	0.12	0.12	0.00	0.43	0.43	0.00	0.36	0.36	0.00	0.36	0.36	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.8	18.5	0.0	5.1	64.5	0.0	0.3	9.4	0.0	44.1	15.0	0.0
Cycle Q Clear(g_c), s	11.8	18.5	0.0	5.1	64.5	0.0	15.3	9.4	0.0	53.5	15.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
V/C Ratio(X)	0.67	1.14	0.00	0.13	1.06	0.00	0.01	0.25	0.00	1.25	0.38	0.00
Avail Cap(c_a), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	65.8	0.0	25.8	42.8	0.0	41.5	34.1	0.0	55.6	35.9	0.0
Incr Delay (d2), s/veh	7.5	104.0	0.0	0.1	48.9	0.0	0.0	0.9	0.0	131.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.1	0.0	2.5	44.0	0.0	0.1	5.0	0.0	31.6	8.0	0.0
LnGrp Delay(d),s/veh	70.3	169.7	0.0	25.9	91.6	0.0	41.6	35.0	0.0	187.0	37.5	0.0
LnGrp LOS	E	F		C	F		D	C		F	D	
Approach Vol, veh/h		409			948			168			757	
Approach Delay, s/veh		134.2			84.8			35.1			137.6	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		23.0		58.0		69.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		18.5		53.5		64.5				
Max Q Clear Time (g_c+1), s		17.3		20.5		55.5		66.5				
Green Ext Time (p_c), s		5.1		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			107.5									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	318	40	61	191	165	110
Future Vol, veh/h	318	40	61	191	165	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	43	66	208	179	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	346
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1213
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1213
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	-	-	1213	-
HCM Lane V/C Ratio	0.533	-	-	0.055	-
HCM Control Delay (s)	18.5	-	-	8.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.1	-	-	0.2	-

Intersection

Int Delay, s/veh 6.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	TT
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	511	379	0
Stage 1	379	-	-
Stage 2	132	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	523	668	1179
Stage 1	692	-	-
Stage 2	894	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	508	668	1179
Mov Cap-2 Maneuver	508	-	-
Stage 1	692	-	-
Stage 2	868	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1179	-	593	-	-
HCM Lane V/C Ratio	0.028	-	0.504	-	-
HCM Control Delay (s)	8.1	0	17.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.8	-	-

Intersection

Int Delay, s/veh 73.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	↗
Traffic Vol, veh/h	62	296	590	29	64	450
Future Vol, veh/h	62	296	590	29	64	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	70	489

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	212.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	918	-	-	-	405
HCM Lane V/C Ratio	0.073	-	-	-	1.379
HCM Control Delay (s)	9.2	-	-	-	212.5
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	27

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↑		↑↑		↑	↑↑
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	92	615	-	-	844	-
Stage 1	423	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	615	-	-	844	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	23.8		0		0.8
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	844	-
HCM Lane V/C Ratio	-	-	0.385	0.138	-
HCM Control Delay (s)	-	-	23.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	-

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO

01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	230	0	763	801	0	337	664	0	406	664	0
Arrive On Green	0.12	0.12	0.00	0.43	0.43	0.00	0.36	0.36	0.00	0.36	0.36	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.8	18.5	0.0	5.1	64.5	0.0	0.3	9.4	0.0	44.1	15.0	0.0
Cycle Q Clear(g_c), s	11.8	18.5	0.0	5.1	64.5	0.0	15.3	9.4	0.0	53.5	15.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
V/C Ratio(X)	0.67	1.14	0.00	0.13	1.06	0.00	0.01	0.25	0.00	1.25	0.38	0.00
Avail Cap(c_a), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	65.8	0.0	25.8	42.8	0.0	41.5	34.1	0.0	55.6	35.9	0.0
Incr Delay (d2), s/veh	7.5	104.0	0.0	0.1	48.9	0.0	0.0	0.9	0.0	131.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.1	0.0	2.5	44.0	0.0	0.1	5.0	0.0	31.6	8.0	0.0
LnGrp Delay(d),s/veh	70.3	169.7	0.0	25.9	91.6	0.0	41.6	35.0	0.0	187.0	37.5	0.0
LnGrp LOS	E	F		C	F		D	C		F	D	
Approach Vol, veh/h		409			948			168			757	
Approach Delay, s/veh		134.2			84.8			35.1			137.6	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		23.0		58.0		69.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		18.5		53.5		64.5				
Max Q Clear Time (g_c+I1), s		17.3		20.5		55.5		66.5				
Green Ext Time (p_c), s		5.1		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			107.5									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 19.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↔		↕↔		↔	↕↕
Traffic Vol, veh/h	137	56	630	70	41	990
Future Vol, veh/h	137	56	630	70	41	990
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	61	685	76	45	1076

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1350	380	0	0	761	0
Stage 1	723	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 142	618	-	-	847	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 134	618	-	-	847	-
Mov Cap-2 Maneuver	~ 134	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	190.5	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	NWL	n1	SWL	SWT
Capacity (veh/h)	-	-	173	847	-	-
HCM Lane V/C Ratio	-	-	1.213	0.053	-	-
HCM Control Delay (s)	-	-	190.5	9.5	-	-
HCM Lane LOS	-	-	F	A	-	-
HCM 95th %tile Q(veh)	-	-	11.5	0.2	-	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	259	157	220	150	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	818	366	255	409	366	416	849	317	617	1194	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1026	3539	1583	966	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	259	157	220	150	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1026	1770	1583	966	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.6	4.9	6.8	13.6	5.7	8.9	7.8	0.0	8.6	43.9	0.0	17.1
Cycle Q Clear(g_c), s	12.6	4.9	6.8	18.5	5.7	8.9	24.9	0.0	8.6	52.5	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
V/C Ratio(X)	0.24	0.32	0.43	0.86	0.37	0.55	0.26	0.00	0.36	0.91	0.00	0.58
Avail Cap(c_a), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	25.5	26.2	34.9	25.8	27.1	14.6	0.0	6.2	19.4	0.0	7.7
Incr Delay (d2), s/veh	0.6	0.2	0.8	24.9	0.5	1.7	1.6	0.0	0.9	19.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	3.0	6.6	2.9	4.1	1.8	0.0	4.4	15.7	0.0	9.2
LnGrp Delay(d),s/veh	33.2	25.7	27.0	59.8	26.4	28.8	16.2	0.0	7.1	39.1	0.0	9.7
LnGrp LOS	C	C	C	E	C	C	B		A	D		A
Approach Vol, veh/h		466			571			533			1272	
Approach Delay, s/veh		27.0			40.1			9.0			22.7	
Approach LOS		C			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		23.0		57.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		18.5		52.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		14.6		54.5		20.5				
Green Ext Time (p_c), s		14.3		2.1		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	318	40	61	191	165	110
Future Vol, veh/h	318	40	61	191	165	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	43	66	208	179	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	346
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1213
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1213
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	-	-	1213	-
HCM Lane V/C Ratio	0.565	-	-	0.055	-
HCM Control Delay (s)	20.3	-	-	8.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.5	-	-	0.2	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗			↖↗	↖↗	
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	550	418	457	0	-	0
Stage 1	418	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	496	635	1104	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	481	635	1104	-	-	-
Mov Cap-2 Maneuver	481	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.4	2.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1104	-	563	-	-
HCM Lane V/C Ratio	0.03	-	0.531	-	-
HCM Control Delay (s)	8.4	0	18.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.1	-	-

Intersection

Int Delay, s/veh 73.6

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	62	296	590	29	64	450
Future Vol, veh/h	62	296	590	29	64	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	322	641	32	70	489

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673	0	1114
Stage 1	-	-	657
Stage 2	-	-	457
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	918	-	230
Stage 1	-	-	516
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	918	-	213
Mov Cap-2 Maneuver	-	-	213
Stage 1	-	-	516
Stage 2	-	-	591

Approach	EB	WB	SW
HCM Control Delay, s	1.6	0	212.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	918	-	-	-	405
HCM Lane V/C Ratio	0.073	-	-	-	1.379
HCM Control Delay (s)	9.2	-	-	-	212.5
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	27

Notes

-: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓		↔	↑↑
Traffic Vol, veh/h	16	93	693	11	107	1183
Future Vol, veh/h	16	93	693	11	107	1183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	101	753	12	116	1286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1635	383	0	0	765	0
Stage 1	759	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	92	615	-	-	844	-
Stage 1	423	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	615	-	-	844	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	844	-
HCM Lane V/C Ratio	-	-	0.385	0.138	-
HCM Control Delay (s)	-	-	23.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	-

HCM Signalized Intersection Capacity Analysis  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
01/24/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (vph)	134	242	13	91	781	419	3	152	63	466	230	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95		1.00	0.96		1.00	0.93	
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1849		1770	1765		1770	1781		1770	1734	
Fit Permitted	0.95	1.00		0.59	1.00		0.23	1.00		0.50	1.00	
Satd. Flow (perm)	1770	1849		1098	1765		421	1781		932	1734	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	263	14	99	849	455	3	165	68	507	250	215
RTOR Reduction (vph)	0	1	0	0	13	0	0	10	0	0	21	0
Lane Group Flow (vph)	146	276	0	99	1291	0	3	223	0	507	444	0
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	18.5	18.5		64.5	64.5		53.5	53.5		53.5	53.5	
Effective Green, g (s)	18.5	18.5		64.5	64.5		53.5	53.5		53.5	53.5	
Actuated g/C Ratio	0.12	0.12		0.43	0.43		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	218	228		472	758		150	635		332	618	
v/s Ratio Prot	0.08	c0.15			c0.73			0.13			0.26	
v/s Ratio Perm				0.09			0.01			c0.54		
v/c Ratio	0.67	1.21		0.21	1.70		0.02	0.35		1.53	0.72	
Uniform Delay, d1	62.8	65.8		26.8	42.8		31.3	35.5		48.2	41.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	128.5		0.2	322.0		0.2	1.5		252.0	7.1	
Delay (s)	70.4	194.2		27.0	364.8		31.5	37.0		300.2	48.8	
Level of Service	E	F		C	F		C	D		F	D	
Approach Delay (s)		151.5			340.9			37.0			180.0	
Approach LOS		F			F			D			F	

Intersection Summary

HCM 2000 Control Delay	239.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	230	0	763	801	0	337	664	0	406	664	0
Arrive On Green	0.12	0.12	0.00	0.43	0.43	0.00	0.36	0.36	0.00	0.36	0.36	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.8	18.5	0.0	5.1	64.5	0.0	0.3	9.4	0.0	44.1	15.0	0.0
Cycle Q Clear(g_c), s	11.8	18.5	0.0	5.1	64.5	0.0	15.3	9.4	0.0	53.5	15.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
V/C Ratio(X)	0.67	1.14	0.00	0.13	1.06	0.00	0.01	0.25	0.00	1.25	0.38	0.00
Avail Cap(c_a), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	65.8	0.0	25.8	42.8	0.0	41.5	34.1	0.0	55.6	35.9	0.0
Incr Delay (d2), s/veh	7.5	104.0	0.0	0.1	48.9	0.0	0.0	0.9	0.0	131.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.1	0.0	2.5	44.0	0.0	0.1	5.0	0.0	31.6	8.0	0.0
LnGrp Delay(d),s/veh	70.3	169.7	0.0	25.9	91.6	0.0	41.6	35.0	0.0	187.0	37.5	0.0
LnGrp LOS	E	F		C	F		D	C		F	D	
Approach Vol, veh/h		409			948			168			757	
Approach Delay, s/veh		134.2			84.8			35.1			137.6	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		23.0		58.0		69.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		18.5		53.5		64.5				
Max Q Clear Time (g_c+I1), s		17.3		20.5		55.5		66.5				
Green Ext Time (p_c), s		5.1		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			107.5									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 19.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		↑↓		↓	↑↑
Traffic Vol, veh/h	137	56	630	70	41	990
Future Vol, veh/h	137	56	630	70	41	990
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	61	685	76	45	1076

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1350	380	0	0	761	0
Stage 1	723	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 142	618	-	-	847	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 134	618	-	-	847	-
Mov Cap-2 Maneuver	~ 134	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	NW		NE		SW
HCM Control Delay, s	190.5		0		0.4
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	- 173	847	-
HCM Lane V/C Ratio	-	- 1.213	0.053	-
HCM Control Delay (s)	-	- 190.5	9.5	-
HCM Lane LOS	-	- F	A	-
HCM 95th %tile Q(veh)	-	- 11.5	0.2	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM Signalized Intersection Capacity Analysis  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (vph)	46	238	144	202	138	185	101	283	106	516	641	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3235		1770	1787		1770	1857	
Flt Permitted	0.46	1.00	1.00	0.57	1.00		0.30	1.00		0.48	1.00	
Satd. Flow (perm)	866	3539	1583	1069	3235		553	1787		891	1857	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	259	157	220	150	201	110	308	115	561	697	14
RTOR Reduction (vph)	0	0	122	0	156	0	0	17	0	0	1	0
Lane Group Flow (vph)	50	259	35	220	195	0	110	406	0	561	710	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.9	17.9	17.9	17.9	17.9		52.5	52.5		52.5	52.5	
Effective Green, g (s)	17.9	17.9	17.9	17.9	17.9		52.5	52.5		52.5	52.5	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.66	0.66		0.66	0.66	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	797	356	240	729		365	1181		589	1227	
v/s Ratio Prot		0.07			0.06			0.23			0.38	
v/s Ratio Perm	0.06		0.02	c0.21			0.20			c0.63		
v/c Ratio	0.26	0.32	0.10	0.92	0.27		0.30	0.34		0.95	0.58	
Uniform Delay, d1	25.3	25.7	24.4	30.0	25.3		5.7	5.9		12.3	7.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.2	0.1	36.0	0.2		2.1	0.8		27.0	2.0	
Delay (s)	26.0	25.9	24.5	66.0	25.5		7.8	6.7		39.4	9.4	
Level of Service	C	C	C	E	C		A	A		D	A	
Approach Delay (s)		25.5			41.1			6.9			22.6	
Approach LOS		C			D			A			C	

Intersection Summary

HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Future Volume (veh/h)	46	238	144	202	138	185	101	283	106	516	641	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	259	157	220	150	201	110	308	115	561	697	14
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	818	366	255	409	366	416	849	317	617	1194	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1026	3539	1583	966	1770	1583	736	1294	483	960	1820	37
Grp Volume(v), veh/h	50	259	157	220	150	201	110	0	423	561	0	711
Grp Sat Flow(s),veh/h/ln	1026	1770	1583	966	1770	1583	736	0	1777	960	0	1856
Q Serve(g_s), s	3.6	4.9	6.8	13.6	5.7	8.9	7.8	0.0	8.6	43.9	0.0	17.1
Cycle Q Clear(g_c), s	12.6	4.9	6.8	18.5	5.7	8.9	24.9	0.0	8.6	52.5	0.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.02
Lane Grp Cap(c), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
V/C Ratio(X)	0.24	0.32	0.43	0.86	0.37	0.55	0.26	0.00	0.36	0.91	0.00	0.58
Avail Cap(c_a), veh/h	213	818	366	255	409	366	416	0	1166	617	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	25.5	26.2	34.9	25.8	27.1	14.6	0.0	6.2	19.4	0.0	7.7
Incr Delay (d2), s/veh	0.6	0.2	0.8	24.9	0.5	1.7	1.6	0.0	0.9	19.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	3.0	6.6	2.9	4.1	1.8	0.0	4.4	15.7	0.0	9.2
LnGrp Delay(d),s/veh	33.2	25.7	27.0	59.8	26.4	28.8	16.2	0.0	7.1	39.1	0.0	9.7
LnGrp LOS	C	C	C	E	C	C	B		A	D		A
Approach Vol, veh/h		466			571			533			1272	
Approach Delay, s/veh		27.0			40.1			9.0			22.7	
Approach LOS		C			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		23.0		57.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		18.5		52.5		18.5				
Max Q Clear Time (g_c+I1), s		26.9		14.6		54.5		20.5				
Green Ext Time (p_c), s		14.3		2.1		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									

HCM Signalized Intersection Capacity Analysis  
 18: New Collector 1 & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Volume (vph)	318	40	61	191	165	110
Future Volume (vph)	318	40	61	191	165	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	1.00	1.00	0.95	1.00	0.97	
Satd. Flow (prot)	1863	1583	1770	1863	1711	
Flt Permitted	1.00	1.00	0.41	1.00	0.97	
Satd. Flow (perm)	1863	1583	763	1863	1711	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	346	43	66	208	179	120
RTOR Reduction (vph)	0	30	0	0	33	0
Lane Group Flow (vph)	346	13	66	208	266	0
Turn Type	NA	Perm	Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases		4	8			
Actuated Green, G (s)	14.5	14.5	14.5	14.5	25.7	
Effective Green, g (s)	14.5	14.5	14.5	14.5	25.7	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	549	466	224	549	893	
v/s Ratio Prot	c0.19			0.11	c0.16	
v/s Ratio Perm		0.01	0.09			
v/c Ratio	0.63	0.03	0.29	0.38	0.30	
Uniform Delay, d1	15.0	12.3	13.4	13.8	6.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.4	0.0	0.7	0.4	0.9	
Delay (s)	17.4	12.4	14.1	14.2	7.5	
Level of Service	B	B	B	B	A	
Approach Delay (s)	16.8			14.2	7.5	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	49.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	110	165	30	61	349	71
Future Vol, veh/h	110	165	30	61	349	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	179	33	66	379	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	511	379	379	0	-	0
Stage 1	379	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	7.12	6.22	4.12	-	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	473	668	1179	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	463	668	1179	-	-	-
Mov Cap-2 Maneuver	463	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1179	-	567	-	-
HCM Lane V/C Ratio	0.028	-	0.527	-	-
HCM Control Delay (s)	8.1	0	18.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.1	-	-

Intersection

Int Delay, s/veh 41.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↑	↕		↘	↑
Traffic Vol, veh/h	329	643	594	81	48	101
Future Vol, veh/h	329	643	594	81	48	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	699	646	88	52	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	2104
Stage 1	-	-	690
Stage 2	-	-	1414
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	57
Stage 1	-	-	498
Stage 2	-	-	225
Platoon blocked, %			
Mov Cap-1 Maneuver	871	-	~ 34
Mov Cap-2 Maneuver	-	-	~ 34
Stage 1	-	-	498
Stage 2	-	-	133

Approach	EB	WB	SW
HCM Control Delay, s	4.1	0	\$ 469.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	871	-	-	-	91
HCM Lane V/C Ratio	0.411	-	-	-	1.78
HCM Control Delay (s)	12	-	-	-	-\$ 469.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	13.4

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 22.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↑		↑↓		↑	↑↑
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2207	704	0
Stage 1	1393	-	-
Stage 2	814	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	38	379	480
Stage 1	195	-	-
Stage 2	396	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	~ 25	379	480
Mov Cap-2 Maneuver	~ 25	-	-
Stage 1	195	-	-
Stage 2	260	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 339.8	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 114	480	-
HCM Lane V/C Ratio	-	- 1.516	0.344	-
HCM Control Delay (s)	-	- \$ 339.8	16.4	-
HCM Lane LOS	-	- F	C	-
HCM 95th %tile Q(veh)	-	- 12.5	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	453	0	479	503	0	428	739	0	350	739	0
Arrive On Green	0.24	0.24	0.00	0.27	0.27	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	28.6	36.5	0.0	7.7	40.5	0.0	2.4	17.4	0.0	42.1	11.0	0.0
Cycle Q Clear(g_c), s	28.6	36.5	0.0	7.7	40.5	0.0	13.4	17.4	0.0	59.5	11.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
V/C Ratio(X)	0.83	2.35	0.00	0.24	1.10	0.00	0.06	0.41	0.00	2.24	0.27	0.00
Avail Cap(c_a), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	56.8	0.0	42.8	54.7	0.0	35.2	32.5	0.0	56.8	30.6	0.0
Incr Delay (d2), s/veh	12.5	616.1	0.0	0.3	68.7	0.0	0.3	1.7	0.0	566.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	96.3	0.0	3.8	30.4	0.0	0.8	9.3	0.0	69.5	5.9	0.0
LnGrp Delay(d),s/veh	66.3	672.9	0.0	43.0	123.4	0.0	35.4	34.2	0.0	623.1	31.5	0.0
LnGrp LOS	E	F		D	F		D	C		F	C	
Approach Vol, veh/h		1424			667			327			985	
Approach Delay, s/veh		520.8			109.5			34.3			501.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		41.0		64.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		36.5		59.5		40.5				
Max Q Clear Time (g_c+I1), s		19.4		38.5		61.5		42.5				
Green Ext Time (p_c), s		9.6		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				387.9								
HCM 2010 LOS				F								

Intersection

Int Delay, s/veh 76

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↑↑		↑↑		↑	↑↑
Traffic Vol, veh/h	105	97	977	162	72	825
Future Vol, veh/h	105	97	977	162	72	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	105	1062	176	78	897

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1755	619	0	0	1238	0
Stage 1	1150	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	4.14	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 54	432	-	-	558	-
Stage 1	211	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 48	432	-	-	558	-
Mov Cap-2 Maneuver	~ 48	-	-	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	388	-	-	-	-	-

Approach	NW		NE		SW
HCM Control Delay, s	\$ 837.9		0		1
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	84	558	-
HCM Lane V/C Ratio	-	-	2.614	0.14	-
HCM Control Delay (s)	-	-	\$ 837.9	12.5	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	20.9	0.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Future Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	207	148	113	207	161	240	878	61	117	664	65
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1017	455	438	558	413	283	818	57	190	794	78
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1010	3539	1583	1022	1941	1437	723	1722	120	594	1670	164
Grp Volume(v), veh/h	32	207	148	113	188	180	240	0	939	117	0	729
Grp Sat Flow(s),veh/h/ln	1010	1770	1583	1022	1770	1609	723	0	1842	594	0	1834
Q Serve(g_s), s	1.0	1.7	2.8	3.6	3.2	3.4	4.9	0.0	18.0	0.0	0.0	13.1
Cycle Q Clear(g_c), s	4.4	1.7	2.8	5.2	3.2	3.4	18.0	0.0	18.0	18.0	0.0	13.1
Prop In Lane	1.00		1.00	1.00		0.89	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	389	1017	455	438	508	462	283	0	875	190	0	871
V/C Ratio(X)	0.08	0.20	0.33	0.26	0.37	0.39	0.85	0.00	1.07	0.62	0.00	0.84
Avail Cap(c_a), veh/h	579	1682	752	630	841	765	283	0	875	190	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	10.2	10.6	12.2	10.8	10.8	18.0	0.0	9.9	18.9	0.0	8.7
Incr Delay (d2), s/veh	0.1	0.1	0.4	0.3	0.4	0.5	25.7	0.0	52.0	14.0	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.2	1.0	1.6	1.6	4.4	0.0	21.4	1.9	0.0	8.8
LnGrp Delay(d),s/veh	12.7	10.3	11.0	12.5	11.2	11.4	43.6	0.0	61.9	33.0	0.0	18.0
LnGrp LOS	B	B	B	B	B	B	D		F	C		B
Approach Vol, veh/h		387			481			1179				846
Approach Delay, s/veh		10.8			11.6			58.2				20.1
Approach LOS		B			B			E				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.4		22.5		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		6.4		20.0		7.2				
Green Ext Time (p_c), s		0.0		3.8		0.0		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	248	193	128	343	71	107
Future Vol, veh/h	248	193	128	343	71	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	210	139	373	77	116

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	479	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1083	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1083	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	488	-	-	1083	-
HCM Lane V/C Ratio	0.396	-	-	0.128	-
HCM Control Delay (s)	17.1	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.9	-	-	0.4	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↗	
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	776	191	278	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	366	851	1285	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	851	1285	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.6	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1285	-	382	-	-
HCM Lane V/C Ratio	0.135	-	0.504	-	-
HCM Control Delay (s)	8.2	0	23.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	2.7	-	-

Intersection

Int Delay, s/veh 41.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	329	643	594	81	48	101
Future Vol, veh/h	329	643	594	81	48	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	699	646	88	52	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	2104
Stage 1	-	-	690
Stage 2	-	-	1414
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	57
Stage 1	-	-	498
Stage 2	-	-	225
Platoon blocked, %			
Mov Cap-1 Maneuver	871	-	~ 34
Mov Cap-2 Maneuver	-	-	~ 34
Stage 1	-	-	498
Stage 2	-	-	133

Approach	EB	WB	SW
HCM Control Delay, s	4.1	0	\$ 469.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	871	-	-	-	91
HCM Lane V/C Ratio	0.411	-	-	-	1.78
HCM Control Delay (s)	12	-	-	-	\$ 469.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	13.4

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↕↔		↘	↗
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2207	704	0	0	1409	0
Stage 1	1393	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	38	379	-	-	480	-
Stage 1	195	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	~ 25	379	-	-	480	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-
Stage 1	195	-	-	-	-	-
Stage 2	260	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	90.6		0		2.4
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	25	379	480	-
HCM Lane V/C Ratio	-	-	1.13	0.381	0.344	-
HCM Control Delay (s)	-	-\$	450.6	20.2	16.4	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	3.5	1.7	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	453	0	479	503	0	428	739	0	350	739	0
Arrive On Green	0.24	0.24	0.00	0.27	0.27	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	28.6	36.5	0.0	7.7	40.5	0.0	2.4	17.4	0.0	42.1	11.0	0.0
Cycle Q Clear(g_c), s	28.6	36.5	0.0	7.7	40.5	0.0	13.4	17.4	0.0	59.5	11.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
V/C Ratio(X)	0.83	2.35	0.00	0.24	1.10	0.00	0.06	0.41	0.00	2.24	0.27	0.00
Avail Cap(c_a), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	56.8	0.0	42.8	54.7	0.0	35.2	32.5	0.0	56.8	30.6	0.0
Incr Delay (d2), s/veh	12.5	616.1	0.0	0.3	68.7	0.0	0.3	1.7	0.0	566.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	96.3	0.0	3.8	30.4	0.0	0.8	9.3	0.0	69.5	5.9	0.0
LnGrp Delay(d),s/veh	66.3	672.9	0.0	43.0	123.4	0.0	35.4	34.2	0.0	623.1	31.5	0.0
LnGrp LOS	E	F		D	F		D	C		F	C	
Approach Vol, veh/h		1424			667			327			985	
Approach Delay, s/veh		520.8			109.5			34.3			501.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		41.0		64.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		36.5		59.5		40.5				
Max Q Clear Time (g_c+l1), s		19.4		38.5		61.5		42.5				
Green Ext Time (p_c), s		9.6		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			387.9									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 24.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↘	↗	↕↔		↘	↕↕
Traffic Vol, veh/h	105	97	977	162	72	825
Future Vol, veh/h	105	97	977	162	72	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	105	1062	176	78	897

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1755	619	0	0	1238	0
Stage 1	1150	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 76	432	-	-	558	-
Stage 1	264	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 65	432	-	-	558	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	NW		NE		SW
HCM Control Delay, s	267.6		0		1
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NERNWLn1	NWLn2	SWL	SWT
Capacity (veh/h)	-	-	65 432	558	-
HCM Lane V/C Ratio	-	-	1.756 0.244	0.14	-
HCM Control Delay (s)	-	-	\$ 500.1 16	12.5	-
HCM Lane LOS	-	-	F C	B	-
HCM 95th %tile Q(veh)	-	-	10.3 0.9	0.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Future Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	207	148	113	207	161	240	878	61	117	664	65
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1017	455	438	558	413	283	818	57	190	794	78
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1010	3539	1583	1022	1941	1437	723	1722	120	594	1670	164
Grp Volume(v), veh/h	32	207	148	113	188	180	240	0	939	117	0	729
Grp Sat Flow(s),veh/h/ln	1010	1770	1583	1022	1770	1609	723	0	1842	594	0	1834
Q Serve(g_s), s	1.0	1.7	2.8	3.6	3.2	3.4	4.9	0.0	18.0	0.0	0.0	13.1
Cycle Q Clear(g_c), s	4.4	1.7	2.8	5.2	3.2	3.4	18.0	0.0	18.0	18.0	0.0	13.1
Prop In Lane	1.00		1.00	1.00		0.89	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	389	1017	455	438	508	462	283	0	875	190	0	871
V/C Ratio(X)	0.08	0.20	0.33	0.26	0.37	0.39	0.85	0.00	1.07	0.62	0.00	0.84
Avail Cap(c_a), veh/h	579	1682	752	630	841	765	283	0	875	190	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	10.2	10.6	12.2	10.8	10.8	18.0	0.0	9.9	18.9	0.0	8.7
Incr Delay (d2), s/veh	0.1	0.1	0.4	0.3	0.4	0.5	25.7	0.0	52.0	14.0	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.2	1.0	1.6	1.6	4.4	0.0	21.4	1.9	0.0	8.8
LnGrp Delay(d),s/veh	12.7	10.3	11.0	12.5	11.2	11.4	43.6	0.0	61.9	33.0	0.0	18.0
LnGrp LOS	B	B	B	B	B	B	D		F	C		B
Approach Vol, veh/h		387			481			1179				846
Approach Delay, s/veh		10.8			11.6			58.2				20.1
Approach LOS		B			B			E				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.4		22.5		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		6.4		20.0		7.2				
Green Ext Time (p_c), s		0.0		3.8		0.0		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖		↕	
Traffic Vol, veh/h	248	193	128	343	71	107
Future Vol, veh/h	248	193	128	343	71	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	210	139	373	77	116

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	479
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1083
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1083
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	-	-	1083	-
HCM Lane V/C Ratio	0.426	-	-	0.128	-
HCM Control Delay (s)	18.7	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.1	-	-	0.4	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	776	191	278	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	366	851	1285	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	851	1285	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.6	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1285	-	382	-	-
HCM Lane V/C Ratio	0.135	-	0.504	-	-
HCM Control Delay (s)	8.2	0	23.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	2.7	-	-

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↘		↘	
Traffic Vol, veh/h	229	643	594	81	33	68
Future Vol, veh/h	229	643	594	81	33	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	249	699	646	88	36	74

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	1887
Stage 1	-	-	690
Stage 2	-	-	1197
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	77
Stage 1	-	-	498
Stage 2	-	-	286
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	871	-	55
Mov Cap-2 Maneuver	-	-	55
Stage 1	-	-	498
Stage 2	-	-	204

Approach	EB	WB	SW
HCM Control Delay, s	2.8	0	98.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	871	-	-	-	134
HCM Lane V/C Ratio	0.286	-	-	-	0.819
HCM Control Delay (s)	10.8	-	-	-	98.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1.2	-	-	-	5.1

Intersection

Int Delay, s/veh 35.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↓		↑↓		↑↓	↑↑
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2207	704	0	0	1409	0
Stage 1	1393	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	4.14	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 25	379	-	-	480	-
Stage 1	149	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	~ 18	379	-	-	480	-
Mov Cap-2 Maneuver	~ 18	-	-	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	222	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 540.7	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 89	480	-
HCM Lane V/C Ratio	-	- 1.942	0.344	-
HCM Control Delay (s)	-	- \$ 540.7	16.4	-
HCM Lane LOS	-	- F	C	-
HCM 95th %tile Q(veh)	-	- 14.8	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	562	13	107	78	599	25	276	162	720	186	151
Future Volume (veh/h)	328	562	13	107	78	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	611	0	116	85	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	424	0	153	161	0	671	1063	0	587	1063	0
Arrive On Green	0.23	0.23	0.00	0.09	0.09	0.00	0.57	0.57	0.00	0.57	0.57	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	611	0	116	85	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	22.7	26.5	0.0	7.5	5.1	0.0	1.3	9.6	0.0	56.9	6.1	0.0
Cycle Q Clear(g_c), s	22.7	26.5	0.0	7.5	5.1	0.0	7.4	9.6	0.0	66.5	6.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	403	424	0	153	161	0	671	1063	0	587	1063	0
V/C Ratio(X)	0.88	1.44	0.00	0.76	0.53	0.00	0.04	0.28	0.00	1.34	0.19	0.00
Avail Cap(c_a), veh/h	403	424	0	358	376	0	671	1063	0	587	1063	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.5	45.0	0.0	52.1	51.0	0.0	13.8	12.8	0.0	32.8	12.1	0.0
Incr Delay (d2), s/veh	20.2	212.1	0.0	7.5	2.7	0.0	0.1	0.7	0.0	162.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	38.5	0.0	4.0	2.7	0.0	0.4	5.1	0.0	45.1	3.3	0.0
LnGrp Delay(d),s/veh	63.8	257.2	0.0	59.6	53.7	0.0	13.9	13.5	0.0	194.9	12.4	0.0
LnGrp LOS	E	F		E	D		B	B		F	B	
Approach Vol, veh/h		968			201			327			985	
Approach Delay, s/veh		185.8			57.1			13.5			157.5	
Approach LOS		F			E			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.0		31.0		71.0		14.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		66.5		26.5		66.5		23.5				
Max Q Clear Time (g_c+I1), s		11.6		28.5		68.5		9.5				
Green Ext Time (p_c), s		10.0		0.0		0.0		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			141.5									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 49.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↑↑		↑↓		↑	↑↑
Traffic Vol, veh/h	105	97	977	162	72	825
Future Vol, veh/h	105	97	977	162	72	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	105	1062	176	78	897

Major/Minor	Minor1	Minor2	Major1	Major2	Major2
Conflicting Flow All	1755	619	0	0	1238
Stage 1	1150	-	-	-	-
Stage 2	605	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	~ 76	432	-	-	558
Stage 1	264	-	-	-	-
Stage 2	508	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 65	432	-	-	558
Mov Cap-2 Maneuver	~ 65	-	-	-	-
Stage 1	264	-	-	-	-
Stage 2	437	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	\$ 544	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	- 110	558	-
HCM Lane V/C Ratio	-	- 1.996	0.14	-
HCM Control Delay (s)	-	- \$ 544	12.5	-
HCM Lane LOS	-	- F	B	-
HCM 95th %tile Q(veh)	-	- 18.2	0.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Future Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	207	148	113	207	161	240	878	61	117	664	65
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1017	455	438	558	413	283	818	57	190	794	78
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1010	3539	1583	1022	1941	1437	723	1722	120	594	1670	164
Grp Volume(v), veh/h	32	207	148	113	188	180	240	0	939	117	0	729
Grp Sat Flow(s),veh/h/ln	1010	1770	1583	1022	1770	1609	723	0	1842	594	0	1834
Q Serve(g_s), s	1.0	1.7	2.8	3.6	3.2	3.4	4.9	0.0	18.0	0.0	0.0	13.1
Cycle Q Clear(g_c), s	4.4	1.7	2.8	5.2	3.2	3.4	18.0	0.0	18.0	18.0	0.0	13.1
Prop In Lane	1.00		1.00	1.00		0.89	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	389	1017	455	438	508	462	283	0	875	190	0	871
V/C Ratio(X)	0.08	0.20	0.33	0.26	0.37	0.39	0.85	0.00	1.07	0.62	0.00	0.84
Avail Cap(c_a), veh/h	579	1682	752	630	841	765	283	0	875	190	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	10.2	10.6	12.2	10.8	10.8	18.0	0.0	9.9	18.9	0.0	8.7
Incr Delay (d2), s/veh	0.1	0.1	0.4	0.3	0.4	0.5	25.7	0.0	52.0	14.0	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.2	1.0	1.6	1.6	4.4	0.0	21.4	1.9	0.0	8.8
LnGrp Delay(d),s/veh	12.7	10.3	11.0	12.5	11.2	11.4	43.6	0.0	61.9	33.0	0.0	18.0
LnGrp LOS	B	B	B	B	B	B	D		F	C		B
Approach Vol, veh/h		387			481			1179				846
Approach Delay, s/veh		10.8			11.6			58.2				20.1
Approach LOS		B			B			E				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.4		22.5		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		6.4		20.0		7.2				
Green Ext Time (p_c), s		0.0		3.8		0.0		3.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Traffic Vol, veh/h	248	193	128	343	71	107
Future Vol, veh/h	248	193	128	343	71	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	210	139	373	77	116

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	479	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1083	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1083	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	488	-	-	1083	-
HCM Lane V/C Ratio	0.396	-	-	0.128	-
HCM Control Delay (s)	17.1	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.9	-	-	0.4	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↙	↗	
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	776	191	278
Stage 1	191	-	-
Stage 2	585	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	366	851	1285
Stage 1	841	-	-
Stage 2	557	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	309	851	1285
Mov Cap-2 Maneuver	309	-	-
Stage 1	841	-	-
Stage 2	470	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.6	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1285	-	382	-	-
HCM Lane V/C Ratio	0.135	-	0.504	-	-
HCM Control Delay (s)	8.2	0	23.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	2.7	-	-

Intersection

Int Delay, s/veh 41.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↕		↘	↗
Traffic Vol, veh/h	329	643	594	81	48	101
Future Vol, veh/h	329	643	594	81	48	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	699	646	88	52	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	2104
Stage 1	-	-	690
Stage 2	-	-	1414
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	57
Stage 1	-	-	498
Stage 2	-	-	225
Platoon blocked, %			
Mov Cap-1 Maneuver	871	-	~ 34
Mov Cap-2 Maneuver	-	-	~ 34
Stage 1	-	-	498
Stage 2	-	-	133

Approach	EB	WB	SW
HCM Control Delay, s	4.1	0	\$ 469.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	871	-	-	-	91
HCM Lane V/C Ratio	0.411	-	-	-	1.78
HCM Control Delay (s)	12	-	-	-	\$ 469.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	13.4

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 22.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		Y	↑↑
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2207	704	0	0	1409	0
Stage 1	1393	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	38	379	-	-	480	-
Stage 1	195	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 25	379	-	-	480	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-
Stage 1	195	-	-	-	-	-
Stage 2	260	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 339.8	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	114	480	-
HCM Lane V/C Ratio	-	-	1.516	0.344	-
HCM Control Delay (s)	-	-	\$ 339.8	16.4	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	12.5	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	453	0	479	503	0	428	739	0	350	739	0
Arrive On Green	0.24	0.24	0.00	0.27	0.27	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	28.6	36.5	0.0	7.7	40.5	0.0	2.4	17.4	0.0	42.1	11.0	0.0
Cycle Q Clear(g_c), s	28.6	36.5	0.0	7.7	40.5	0.0	13.4	17.4	0.0	59.5	11.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
V/C Ratio(X)	0.83	2.35	0.00	0.24	1.10	0.00	0.06	0.41	0.00	2.24	0.27	0.00
Avail Cap(c_a), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	56.8	0.0	42.8	54.7	0.0	35.2	32.5	0.0	56.8	30.6	0.0
Incr Delay (d2), s/veh	12.5	616.1	0.0	0.3	68.7	0.0	0.3	1.7	0.0	566.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	96.3	0.0	3.8	30.4	0.0	0.8	9.3	0.0	69.5	5.9	0.0
LnGrp Delay(d),s/veh	66.3	672.9	0.0	43.0	123.4	0.0	35.4	34.2	0.0	623.1	31.5	0.0
LnGrp LOS	E	F		D	F		D	C		F	C	
Approach Vol, veh/h		1424			667			327			985	
Approach Delay, s/veh		520.8			109.5			34.3			501.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		41.0		64.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		36.5		59.5		40.5				
Max Q Clear Time (g_c+l1), s		19.4		38.5		61.5		42.5				
Green Ext Time (p_c), s		9.6		0.0		0.0		0.0				

Intersection Summary

HCM 2010 Ctrl Delay	387.9
HCM 2010 LOS	F

Intersection

Int Delay, s/veh 49.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		↑↑		↑	↑↑
Traffic Vol, veh/h	105	97	977	162	72	825
Future Vol, veh/h	105	97	977	162	72	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	105	1062	176	78	897

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1755	619	0	0	1238	0
Stage 1	1150	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 76	432	-	-	558	-
Stage 1	264	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 65	432	-	-	558	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	\$ 544	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	- 110	558	-
HCM Lane V/C Ratio	-	- 1.996	0.14	-
HCM Control Delay (s)	-	- \$ 544	12.5	-
HCM Lane LOS	-	- F	B	-
HCM 95th %tile Q(veh)	-	- 18.2	0.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
 15: STEELE HS/RODEO WAY & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Future Volume (veh/h)	29	190	136	104	190	148	221	808	56	108	611	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	207	148	113	207	161	240	878	61	117	664	65
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	774	346	282	424	314	407	1113	77	273	1079	106
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1010	3539	1583	1022	1941	1437	723	1722	120	594	1670	164
Grp Volume(v), veh/h	32	207	148	113	188	180	240	0	939	117	0	729
Grp Sat Flow(s),veh/h/ln	1010	1770	1583	1022	1770	1609	723	0	1842	594	0	1834
Q Serve(g_s), s	1.9	3.2	5.4	6.9	6.2	6.6	19.4	0.0	24.5	11.8	0.0	15.5
Cycle Q Clear(g_c), s	8.5	3.2	5.4	10.1	6.2	6.6	34.9	0.0	24.5	36.3	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.89	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	229	774	346	282	387	352	407	0	1190	273	0	1185
V/C Ratio(X)	0.14	0.27	0.43	0.40	0.49	0.51	0.59	0.00	0.79	0.43	0.00	0.62
Avail Cap(c_a), veh/h	282	957	428	335	479	435	407	0	1190	273	0	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	21.6	22.4	25.8	22.7	22.9	17.2	0.0	8.5	21.6	0.0	6.9
Incr Delay (d2), s/veh	0.3	0.2	0.8	0.9	0.9	1.2	6.2	0.0	5.4	4.8	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	2.4	2.0	3.1	3.0	4.6	0.0	14.0	2.3	0.0	8.5
LnGrp Delay(d),s/veh	26.9	21.8	23.2	26.7	23.7	24.0	23.3	0.0	13.9	26.4	0.0	9.3
LnGrp LOS	C	C	C	C	C	C	C		B	C		A
Approach Vol, veh/h		387			481			1179				846
Approach Delay, s/veh		22.8			24.5			15.8				11.7
Approach LOS		C			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.5		19.0		47.5		19.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.0		18.0		43.0		18.0				
Max Q Clear Time (g_c+l1), s		36.9		10.5		38.3		12.1				
Green Ext Time (p_c), s		5.3		2.9		4.2		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				17.0								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	248	193	128	343	71	107
Future Vol, veh/h	248	193	128	343	71	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	210	139	373	77	116

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	270
Stage 1	-	-	270
Stage 2	-	-	651
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1293	300
Stage 1	-	-	775
Stage 2	-	-	519
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1293	268
Mov Cap-2 Maneuver	-	-	373
Stage 1	-	-	775
Stage 2	-	-	463

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	540	-	-	1293	-
HCM Lane V/C Ratio	0.358	-	-	0.108	-
HCM Control Delay (s)	15.3	-	-	8.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.4	-

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	↑
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	689	104	104	0	-	0
Stage 1	104	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	412	951	1488	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	356	951	1488	-	-	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	3.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1488	-	438	-	-
HCM Lane V/C Ratio	0.117	-	0.439	-	-
HCM Control Delay (s)	7.7	0	19.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2.2	-	-

**Intersection**

Int Delay, s/veh 41.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗	↘		↗	
Traffic Vol, veh/h	329	643	594	81	48	101
Future Vol, veh/h	329	643	594	81	48	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	699	646	88	52	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	2104
Stage 1	-	-	690
Stage 2	-	-	1414
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	57
Stage 1	-	-	498
Stage 2	-	-	225
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	871	-	~ 34
Mov Cap-2 Maneuver	-	-	~ 34
Stage 1	-	-	498
Stage 2	-	-	133

Approach	EB	WB	SW
HCM Control Delay, s	4.1	0	\$ 469.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1
Capacity (veh/h)	871	-	-	91
HCM Lane V/C Ratio	0.411	-	-	1.78
HCM Control Delay (s)	12	-	-	\$ 469.9
HCM Lane LOS	B	-	-	F
HCM 95th %tile Q(veh)	2	-	-	13.4

**Notes**

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 22.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↓		↑	↑↑
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2207	704	0	0	1409	0
Stage 1	1393	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	38	379	-	-	480	-
Stage 1	195	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 25	379	-	-	480	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-
Stage 1	195	-	-	-	-	-
Stage 2	260	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 339.8		0		2.4
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 114	480	-
HCM Lane V/C Ratio	-	- 1.516	0.344	-
HCM Control Delay (s)	-	-\$ 339.8	16.4	-
HCM Lane LOS	-	- F	C	-
HCM 95th %tile Q(veh)	-	- 12.5	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 2010 Signalized Intersection Summary  
7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO

01/24/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	453	0	479	503	0	428	739	0	350	739	0
Arrive On Green	0.24	0.24	0.00	0.27	0.27	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	28.6	36.5	0.0	7.7	40.5	0.0	2.4	17.4	0.0	42.1	11.0	0.0
Cycle Q Clear(g_c), s	28.6	36.5	0.0	7.7	40.5	0.0	13.4	17.4	0.0	59.5	11.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
V/C Ratio(X)	0.83	2.35	0.00	0.24	1.10	0.00	0.06	0.41	0.00	2.24	0.27	0.00
Avail Cap(c_a), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	56.8	0.0	42.8	54.7	0.0	35.2	32.5	0.0	56.8	30.6	0.0
Incr Delay (d2), s/veh	12.5	616.1	0.0	0.3	68.7	0.0	0.3	1.7	0.0	566.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	96.3	0.0	3.8	30.4	0.0	0.8	9.3	0.0	69.5	5.9	0.0
LnGrp Delay(d),s/veh	66.3	672.9	0.0	43.0	123.4	0.0	35.4	34.2	0.0	623.1	31.5	0.0
LnGrp LOS	E	F		D	F		D	C		F	C	
Approach Vol, veh/h		1424			667			327			985	
Approach Delay, s/veh		520.8			109.5			34.3			501.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		41.0		64.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		36.5		59.5		40.5				
Max Q Clear Time (g_c+l1), s		19.4		38.5		61.5		42.5				
Green Ext Time (p_c), s		9.6		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			387.9									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 49.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↑↑		↑↑		↑	↑↑
Traffic Vol, veh/h	105	97	977	162	72	825
Future Vol, veh/h	105	97	977	162	72	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	105	1062	176	78	897

Major/Minor	Minor1	Minor2	Major1	Major2	Major2	Major2
Conflicting Flow All	1755	619	0	0	1238	0
Stage 1	1150	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 76	432	-	-	558	-
Stage 1	264	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	~ 65	432	-	-	558	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	\$ 544	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	110	558	-
HCM Lane V/C Ratio	-	-	1.996	0.14	-
HCM Control Delay (s)	-	-	\$ 544	12.5	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	18.2	0.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↕			↕	↕	
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	776	191	278	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	366	851	1285	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	851	1285	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.6	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1285	-	382	-	-
HCM Lane V/C Ratio	0.135	-	0.504	-	-
HCM Control Delay (s)	8.2	0	23.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	2.7	-	-

Intersection

Int Delay, s/veh 41.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↖	↗	↖		↖	
Traffic Vol, veh/h	329	643	594	81	48	101
Future Vol, veh/h	329	643	594	81	48	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	699	646	88	52	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	734	0	2104
Stage 1	-	-	690
Stage 2	-	-	1414
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	871	-	57
Stage 1	-	-	498
Stage 2	-	-	225
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	871	-	~ 34
Mov Cap-2 Maneuver	-	-	~ 34
Stage 1	-	-	498
Stage 2	-	-	133

Approach	EB	WB	SW
HCM Control Delay, s	4.1	0	\$ 469.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	871	-	-	-	91
HCM Lane V/C Ratio	0.411	-	-	-	1.78
HCM Control Delay (s)	12	-	-	-	\$ 469.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	13.4

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 22.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑↓		↑	↑↑
Traffic Vol, veh/h	26	133	1268	28	152	890
Future Vol, veh/h	26	133	1268	28	152	890
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	145	1378	30	165	967

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2207	704	0
Stage 1	1393	-	-
Stage 2	814	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	38	379	480
Stage 1	195	-	-
Stage 2	396	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	~ 25	379	480
Mov Cap-2 Maneuver	~ 25	-	-
Stage 1	195	-	-
Stage 2	260	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 339.8	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 114	480	-
HCM Lane V/C Ratio	-	- 1.516	0.344	-
HCM Control Delay (s)	-	- \$ 339.8	16.4	-
HCM Lane LOS	-	- F	C	-
HCM 95th %tile Q(veh)	-	- 12.5	1.5	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

E0597600 SIENNA MDP CIBOLO

7: MAIN ST & FM 1103

01/24/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (vph)	328	982	13	107	507	599	25	276	162	720	186	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.92		1.00	0.94		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1859		1770	1711		1770	1759		1770	1738	
Flt Permitted	0.95	1.00		0.28	1.00		0.37	1.00		0.26	1.00	
Satd. Flow (perm)	1770	1859		520	1711		696	1759		484	1738	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	1067	14	116	551	651	27	300	176	783	202	164
RTOR Reduction (vph)	0	0	0	0	28	0	0	14	0	0	19	0
Lane Group Flow (vph)	357	1081	0	116	1174	0	27	462	0	783	347	0
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	36.5	36.5		40.5	40.5		59.5	59.5		59.5	59.5	
Effective Green, g (s)	36.5	36.5		40.5	40.5		59.5	59.5		59.5	59.5	
Actuated g/C Ratio	0.24	0.24		0.27	0.27		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	430	452		140	461		276	697		191	689	
v/s Ratio Prot	0.20	c0.58			c0.69			0.26			0.20	
v/s Ratio Perm				0.22			0.04			c1.62		
v/c Ratio	0.83	2.39		0.83	2.55		0.10	0.66		4.10	0.50	
Uniform Delay, d1	53.8	56.8		51.5	54.8		28.4	37.0		45.2	34.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.8	633.0		31.4	701.9		0.7	4.9		1407.1	2.6	
Delay (s)	66.6	689.7		82.9	756.7		29.1	42.0		1452.4	36.7	
Level of Service	E	F		F	F		C	D		F	D	
Approach Delay (s)		535.0			697.4			41.3			1001.4	
Approach LOS		F			F			D			F	

Intersection Summary

HCM 2000 Control Delay	648.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	160.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Future Volume (veh/h)	328	982	13	107	507	599	25	276	162	720	186	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	453	0	479	503	0	428	739	0	350	739	0
Arrive On Green	0.24	0.24	0.00	0.27	0.27	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Grp Volume(v), veh/h	357	1067	0	116	551	0	27	300	0	783	202	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1175	1863	0	1075	1863	0
Q Serve(g_s), s	28.6	36.5	0.0	7.7	40.5	0.0	2.4	17.4	0.0	42.1	11.0	0.0
Cycle Q Clear(g_c), s	28.6	36.5	0.0	7.7	40.5	0.0	13.4	17.4	0.0	59.5	11.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
V/C Ratio(X)	0.83	2.35	0.00	0.24	1.10	0.00	0.06	0.41	0.00	2.24	0.27	0.00
Avail Cap(c_a), veh/h	432	453	0	479	503	0	428	739	0	350	739	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	56.8	0.0	42.8	54.7	0.0	35.2	32.5	0.0	56.8	30.6	0.0
Incr Delay (d2), s/veh	12.5	616.1	0.0	0.3	68.7	0.0	0.3	1.7	0.0	566.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	96.3	0.0	3.8	30.4	0.0	0.8	9.3	0.0	69.5	5.9	0.0
LnGrp Delay(d),s/veh	66.3	672.9	0.0	43.0	123.4	0.0	35.4	34.2	0.0	623.1	31.5	0.0
LnGrp LOS	E	F		D	F		D	C		F	C	
Approach Vol, veh/h		1424			667			327			985	
Approach Delay, s/veh		520.8			109.5			34.3			501.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		41.0		64.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		36.5		59.5		40.5				
Max Q Clear Time (g_c+I1), s		19.4		38.5		61.5		42.5				
Green Ext Time (p_c), s		9.6		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				387.9								
HCM 2010 LOS				F								

HCM Signalized Intersection Capacity Analysis  
 18: New Collector 1 & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Volume (vph)	248	193	128	343	71	107
Future Volume (vph)	248	193	128	343	71	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.92	
Flt Protected	1.00	1.00	0.95	1.00	0.98	
Satd. Flow (prot)	1863	1583	1770	1863	1678	
Flt Permitted	1.00	1.00	0.54	1.00	0.98	
Satd. Flow (perm)	1863	1583	1012	1863	1678	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	270	210	139	373	77	116
RTOR Reduction (vph)	0	143	0	0	59	0
Lane Group Flow (vph)	270	67	139	373	134	0
Turn Type	NA	Perm	Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases		4	8			
Actuated Green, G (s)	15.4	15.4	15.4	15.4	23.8	
Effective Green, g (s)	15.4	15.4	15.4	15.4	23.8	
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.49	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	595	505	323	595	828	
v/s Ratio Prot	0.14			c0.20	c0.08	
v/s Ratio Perm		0.04	0.14			
v/c Ratio	0.45	0.13	0.43	0.63	0.16	
Uniform Delay, d1	13.1	11.7	12.9	14.0	6.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.1	0.9	2.1	0.4	
Delay (s)	13.6	11.8	13.9	16.0	7.1	
Level of Service	B	B	B	B	A	
Approach Delay (s)	12.8			15.4	7.1	
Approach LOS	B			B	A	

Intersection Summary

HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	124	53	160	218	96	160
Future Vol, veh/h	124	53	160	218	96	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	58	174	237	104	174

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	689	104	0
Stage 1	104	-	-
Stage 2	585	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	412	951	1488
Stage 1	920	-	-
Stage 2	557	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	356	951	1488
Mov Cap-2 Maneuver	356	-	-
Stage 1	920	-	-
Stage 2	482	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	3.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1488	-	438	-	-
HCM Lane V/C Ratio	0.117	-	0.439	-	-
HCM Control Delay (s)	7.7	0	19.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2.2	-	-

HCM 2010 Signalized Intersection Summary  
 7: MAIN ST & FM 1103

E0597600 SIENNA MDP CIBOLO  
 01/24/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Future Volume (veh/h)	134	242	13	91	781	419	3	152	63	466	230	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	230	0	763	801	0	337	664	0	406	664	0
Arrive On Green	0.12	0.12	0.00	0.43	0.43	0.00	0.36	0.36	0.00	0.36	0.36	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Grp Volume(v), veh/h	146	263	0	99	849	0	3	165	0	507	250	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1125	1863	0	1216	1863	0
Q Serve(g_s), s	11.8	18.5	0.0	5.1	64.5	0.0	0.3	9.4	0.0	44.1	15.0	0.0
Cycle Q Clear(g_c), s	11.8	18.5	0.0	5.1	64.5	0.0	15.3	9.4	0.0	53.5	15.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
V/C Ratio(X)	0.67	1.14	0.00	0.13	1.06	0.00	0.01	0.25	0.00	1.25	0.38	0.00
Avail Cap(c_a), veh/h	219	230	0	763	801	0	337	664	0	406	664	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	65.8	0.0	25.8	42.8	0.0	41.5	34.1	0.0	55.6	35.9	0.0
Incr Delay (d2), s/veh	7.5	104.0	0.0	0.1	48.9	0.0	0.0	0.9	0.0	131.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.1	0.0	2.5	44.0	0.0	0.1	5.0	0.0	31.6	8.0	0.0
LnGrp Delay(d),s/veh	70.3	169.7	0.0	25.9	91.6	0.0	41.6	35.0	0.0	187.0	37.5	0.0
LnGrp LOS	E	F		C	F		D	C		F	D	
Approach Vol, veh/h		409			948			168			757	
Approach Delay, s/veh		134.2			84.8			35.1			137.6	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		23.0		58.0		69.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		18.5		53.5		64.5				
Max Q Clear Time (g_c+I1), s		17.3		20.5		55.5		66.5				
Green Ext Time (p_c), s		5.1		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				107.5								
HCM 2010 LOS				F								

Intersection

Int Delay, s/veh 19.3

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	↔		↕↔		↔	↕↕
Traffic Vol, veh/h	137	56	630	70	41	990
Future Vol, veh/h	137	56	630	70	41	990
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	61	685	76	45	1076

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1350	380	0	0	761	0
Stage 1	723	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 142	618	-	-	847	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 134	618	-	-	847	-
Mov Cap-2 Maneuver	~ 134	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB		NE		SW
HCM Control Delay, s	190.5		0		0.4
HCM LOS	F				

Minor Lane/Major Mvmt	NET	NER	WBLn1	SWL	SWT
Capacity (veh/h)	-	-	173	847	-
HCM Lane V/C Ratio	-	-	1.213	0.053	-
HCM Control Delay (s)	-	-	190.5	9.5	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	11.5	0.2	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

## APPENDIX D

## STREET PHOTOS



Source: Google Earth

FM 1103 at Main Street, looking east



Source: Google Earth

FM 1103 at Main Street, looking west



Source: Google Earth  
Main Street at FM 1103, looking north



Source: Google Earth  
Cibolo Parkway at FM 1103, looking south



Source: Google Earth  
FM 1103 at west school drive, looking east



Source: Google Earth  
FM 1103 at Rodeo Way, looking east



Source: Google Earth  
FM 1103 at Rodeo Way, looking west



Source: Google Earth  
Weil Road at FM 1103



Source: Google Earth

**Brite Road at FM 1103**



Source: Google Earth

**Tolle Road near new collector location, looking north**



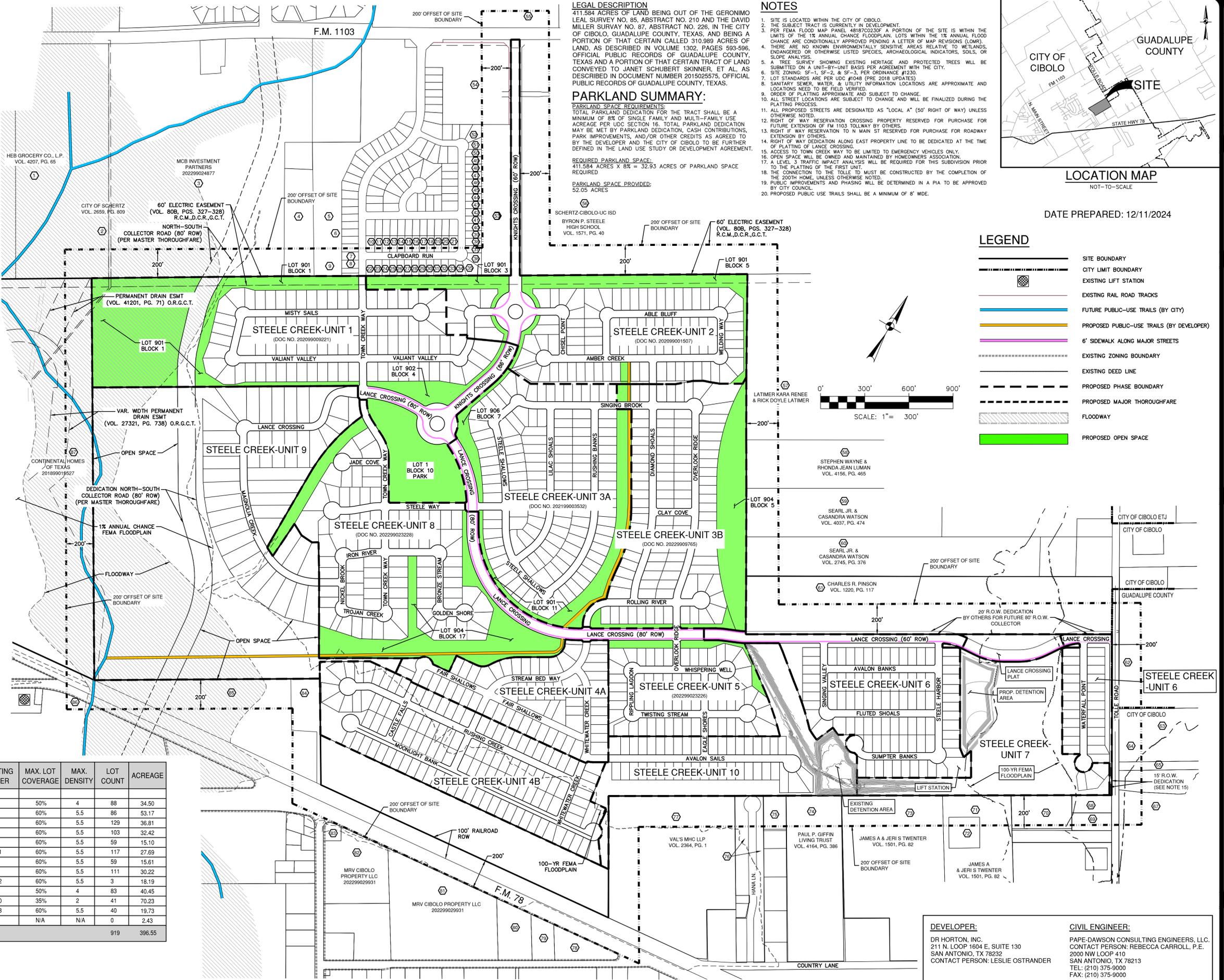
Source: Google Earth  
FM 78 at Country Lane, looking east



Source: Google Earth  
Country Lane approaching FM 78

ADJACENT PROPERTY SUMMARY			
PROPERTY	OWNER	VOLUME	PAGE
4	TRAN KHIEM THANH	2021-99019339	
5	TRAN KHIEM THANH	2021-99019339	
6	KEENAN J MOORE	2633	111
7	AGUILERA HECTOR	202099032644	
8	OURHONCADE CARROLL & MICHAEL GRACE LIND SESE	2617	621
9	CITY OF CIBOLO	7	209-210
10	BRADLEY MCBRIDE JR	2015008072	
11	LEAL MATTHEW VINCENT & AMANDA BRADY LEAL	202199033095	
12	SFR TEXAS ACQUISITION 3 LLC	202299020039	
13	SONNARA BUN KUCH	2014017088	
14	ALJON RAZON GIANXIAN	2596	1014
15	INDUS MONTAGES TX LLC	202299019665	
16	JAY M LOMHER	3025	400
17	JOSEPH & DAWN R COLLINS	2629	429
18	ABRAMS CAMILLE	201999016219	
19	KNAPP JARROLD REED & KRISTINA ANN	202299004454	
20	VALANTE JANSEN & JACQUELINE PLAZA	202199014298	
21	GABRIEL & APRIL N ROSAS	4067	790
22	JAMES E SANCHEZ & GABRIELA JIMENEZ SANCHEZ	2017017482	
23	MIGUEL & KATHIA A FLORES	2737	292
24	DEMARCUS JACKSON	2821	917
25	RALPH LOGAN & MICHELLE BROWN	2845	569
26	ROY SAIZ JR & NGOC-DIEM THI DUONG	2017020554	
27	CADY CHRISTOPHER AND RACHEL M	201899021588	
28	SCOTT A SIMPSON	2747	676
29	ANESIM & RHONDA TUUFULI	2526	158
30	FUCKINGER LEVI & JESSICA	202299021973	
31	GREEN CARMEN & DAVID CLAY	202199029919	
32	IVORY CHARLES ASHBY	2689	736
33	PRITTIERS TRISTYN & RUSSELL PRITTIERS III	202399023281	
34	WALTERS SHANE	202099023515	
35	WESTENDORF ALEX THOMAS	202299035686	
36	ANDREW FOX	2016009439	
37	SFR PROPERTY OWNER 3 LLC	202299015379	
38	GREGORY & MONIQUE A MCCLAIN	19295	703
39	RICARDO & DELMA SANTA CRUZ	2386	150
40	WANDER JUSTIN	202299000549	
41	TESCH JOSHUA & BRITTANY	202299017554	
42	THOMAS M & LISA L HAAG	2469	275
43	VERONICA LOPEZ	2400	760
44	LIZBETH ANGUIANO	2427	594
45	ALVA ALAN	202199022702	
46	DIRKES LAURANCE	202299028413	
47	MULTIPLE OWNERS		
48	STEPHEN & DEENA KILPATRICK	2435	451
49	DINO & MARIA LAURENTI	2427	971
50	JOHN PATRICK & TONYA ROSE MARS	2018000201	
51	JUAN & DANIELLE VILLAREAL	2637	963
52	HESTER ANTHONY REY & MELISSA AREND	202199031293	
53	VERTURO LAND ASSET 4 LLC	202299013410	
54	CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	3175	558
55	30 ASSOCIATES LTD	2015017573	
56	TOLLE FAMILY FARM LLC	202499012878	
57	JAMES A & MISTY HESTER	2129	982
58	JAMES A & MISTY HESTER II	4006	225
59	MARY J HESTER	556	783
60	JAMES A HESTER ESTATE	DEATH CERT - 2170164	
61	JAMES A HESTER ESTATE	DEATH CERT - 2170164	
62	MALCOLM MACLAUCHLAN	2619	174
63	GONZALEZ WALBERTO	202299025217	
64	MALCOLM H MACLAUCHLAN	2940	846
65	ESTATE OF CHARLES C TROYER	DEATH CERTIFICATE	
66	COUNTRY LANE MOBILE ESTATES, LLC	2015013580	
67	MGT PROPERTIES LLC	201999005215	
68	UNVARYING QUALITY	202099037072	
69	DAVID W & LAUREL L CALE	2626	872
70	GPM CITICOI LLC	202199038702	
71	CENTI PAUL J & ERIKA	201899022809	
72	CENTI PAUL J & ERIKA	201899022809	
73	CITY OF CIBOLO	1262	712

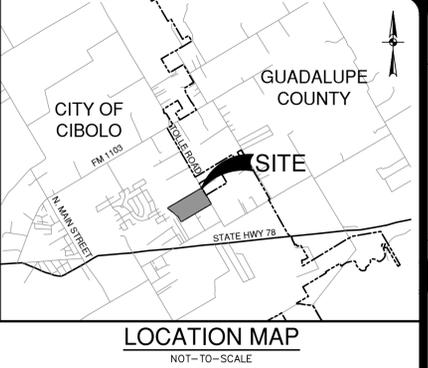
UNIT	LAND USE TYPE	PLATTING ORDER	MAX. LOT COVERAGE	MAX. DENSITY	LOT COUNT	ACREAGE
1	MEDIUM DENSITY RESIDENTIAL (SF2)	2	50%	4	88	34.50
2	MIXED DENSITY RESIDENTIAL (SF3)	1	60%	5.5	86	53.17
3A	MIXED DENSITY RESIDENTIAL (SF3)	3	60%	5.5	129	36.81
3B	MIXED DENSITY RESIDENTIAL (SF3)	4	60%	5.5	103	32.42
4A	MIXED DENSITY RESIDENTIAL (SF3)	9	60%	5.5	59	15.10
4B	MIXED DENSITY RESIDENTIAL (SF3)	11	60%	5.5	117	27.69
5	MIXED DENSITY RESIDENTIAL (SF3)	5	60%	5.5	59	15.61
6	MIXED DENSITY RESIDENTIAL (SF3)	7	60%	5.5	111	30.22
7	MIXED DENSITY RESIDENTIAL (SF3)	12	60%	5.5	3	18.19
8	MEDIUM DENSITY RESIDENTIAL (SF2)	6	50%	4	83	40.45
9	LOW DENSITY RESIDENTIAL (SF1)	10	35%	2	41	70.23
10	MIXED DENSITY RESIDENTIAL (SF3)	13	60%	5.5	40	19.73
	LANCE CROSSING	8	N/A	N/A	0	2.43
TOTAL						919 396.55



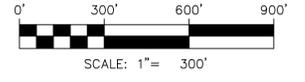
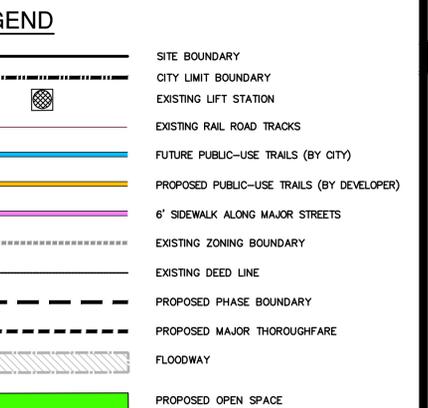
**LEGAL DESCRIPTION**  
 411.584 ACRES OF LAND BEING OUT OF THE GERONIMO LEAL SURVEY NO. 87, ABSTRACT NO. 210 AND THE DAVID MILLER SURVEY NO. 87, ABSTRACT NO. 226, IN THE CITY OF CIBOLO, GUADALUPE COUNTY, TEXAS, AND BEING A PORTION OF THAT CERTAIN CALLED 310.989 ACRES OF LAND, AS DESCRIBED IN VOLUME 1302, PAGES 593-596, OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS AND A PORTION OF THAT CERTAIN TRACT OF LAND CONVEYED TO JANET SCHUBERT SKINNER, ET AL, AS DESCRIBED IN DOCUMENT NUMBER 2015025575, OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

**PARKLAND SUMMARY:**  
**PARKLAND SPACE REQUIREMENTS:**  
 TOTAL PARKLAND DEDICATION FOR THE TRACT SHALL BE A MINIMUM OF 8% OF SINGLE FAMILY AND MULTI-FAMILY USE ACREAGE PER UDC SECTION 16. TOTAL PARKLAND DEDICATION MAY BE MET BY PARKLAND DEDICATION, CASH CONTRIBUTIONS, PARK IMPROVEMENTS, AND/OR OTHER CREDITS AS AGREED TO BY THE DEVELOPER AND THE CITY OF CIBOLO TO BE FURTHER DEFINED IN THE LAND USE STUDY OR DEVELOPMENT AGREEMENT.  
**REQUIRED PARKLAND SPACE:**  
 411.584 ACRES X 8% = 32.93 ACRES OF PARKLAND SPACE REQUIRED  
**PARKLAND SPACE PROVIDED:**  
 52.05 ACRES

- NOTES**
- SITE IS LOCATED WITHIN THE CITY OF CIBOLO.
  - THE SUBJECT TRACT IS CURRENTLY IN DEVELOPMENT.
  - PER FEMA FLOOD MAP PANEL 48187C0230F A PORTION OF THE SITE IS WITHIN THE LIMITS OF THE 1% ANNUAL CHANCE FLOODPLAIN. LOTS WITHIN THE 1% ANNUAL FLOOD CHANCE ARE CONDITIONALLY APPROVED PENDING A LETTER OF MAP REVISIONS (LDMR).
  - THERE ARE NO KNOWN ENVIRONMENTALLY SENSITIVE AREAS RELATIVE TO WETLANDS, ENDANGERED OR OTHERWISE LISTED SPECIES, ARCHAEOLOGICAL INDICATORS, SOILS, OR SLOPE ANALYSIS.
  - A TREE SURVEY SHOWING EXISTING HERITAGE AND PROTECTED TREES WILL BE SUBMITTED ON A UNIT-BY-UNIT BASIS PER AGREEMENT WITH THE CITY.
  - SITE ZONING: SF-1, SF-2, & SF-3, PER ORDINANCE #1230.
  - LOT STANDARDS ARE PER UDC #1048 (PRE 2018 UPDATES).
  - SANITARY SEWER, WATER, & UTILITY INFORMATION LOCATIONS ARE APPROXIMATE AND LOCATIONS NEED TO BE FIELD VERIFIED.
  - ORDER OF PLATTING APPROXIMATE AND SUBJECT TO CHANGE.
  - ALL STREET LOCATIONS ARE SUBJECT TO CHANGE AND WILL BE FINALIZED DURING THE PLATTING PROCESS.
  - ALL PROPOSED STREETS ARE DESIGNATED AS "LOCAL A" (50' RIGHT OF WAY) UNLESS OTHERWISE NOTED.
  - RIGHT OF WAY RESERVATION CROSSING PROPERTY RESERVED FOR PURCHASE FOR FUTURE EXTENSION OF FM 1103 TOLLWAY BY OTHERS.
  - RIGHT IF WAY RESERVATION TO N MAIN ST RESERVED FOR ROADWAY EXTENSION BY OTHERS.
  - RIGHT OF WAY DEDICATION ALONG EAST PROPERTY LINE TO BE DEDICATED AT THE TIME OF PLATTING OF LANCE CROSSING.
  - ACCESS TO TOWN CREEK WAY TO BE LIMITED TO EMERGENCY VEHICLES ONLY.
  - OPEN SPACE WILL BE OWNED AND MAINTAINED BY HOMEOWNERS ASSOCIATION.
  - A LEVEL 3 TRAFFIC IMPACT ANALYSIS WILL BE REQUIRED FOR THIS SUBDIVISION PRIOR TO THE PLATTING OF THE FIRST UNIT.
  - THE CONNECTION TO THE TOLLE MUST BE CONSTRUCTED BY THE COMPLETION OF THE SOUTH HOME, UNLESS OTHERWISE NOTED.
  - PUBLIC IMPROVEMENTS AND PHASING WILL BE DETERMINED IN A PIA TO BE APPROVED BY CITY COUNCIL.
  - PROPOSED PUBLIC USE TRAILS SHALL BE A MINIMUM OF 8' WIDE.



DATE PREPARED: 12/11/2024



**PAPE-DAWSON ENGINEERS**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

**STEEL CREEK**  
 CIBOLO, TEXAS

**LAND STUDY**  
**PROPOSED USE AND DEVELOPMENT**

PLAT NO.	
JOB NO.	12629-00
DATE	DECEMBER 2024
DESIGNER	SS
CHECKED	DRAWN SS
SHEET	



Planning and Zoning Commission Staff Report

**C. Discussion/Action regarding a request to amend the Future Land Use Map (FLUM) in the Cibolo Tomorrow Comprehensive Plan to change the future land use designation from Community Residential to Compact Residential for certain real properties located at 4240 and 4270 Green Valley Road, legally described as ABS: 137 SUR: T GARCIA 6.8620 AC, and ABS: 137 SUR: T GARCIA 4.9580 AC.**

Meeting	Agenda Group
Wednesday, January 14, 2026, 6:30 PM	Discussion/Action Items Item: 9C.
From	
Eron Spencer, Assistant Planning Director	
Staff Contact(s)	
Eron Spencer,	

**PROPERTY INFORMATION:**

Project Name: PZ-2025-20-TA

Owners: Gary & Darla Pundt

Representatives: Killen, Griffin & Farrimond, PLLC

Location/Area: 4240 & 4270 Green Valley Road, 11.82 acres

Location: South of Green Valley Road and West of FM 1103

Council Place: 3

Existing,

[Future Land Use:](#) Community Residential

Proposed,

[Future Land Use:](#) Compact Residential

Existing [Zoning:](#) Low Density Single-Family Residential (SF-2)

Existing Use: Single-Family Residential

Proposed Use: Multi-Family Residential

**FINDINGS:**

On behalf of the property owners, the applicant, Killen, Griffin & Farrimond, is requesting an amendment to the Future Land Use Map (FLUM), contained in the Cibolo Tomorrow Comprehensive Plan, to change the future land use designation from Community Residential to Compact Residential for two (2) parcels totaling 11.82 acres – 4240 Green Valley Road (6.862 acres) and 4270 Green Valley Road (4.958 acres). According to the applicant's narrative letter, which is attached herein, they intend to develop "an approximately 248-unit senior (55+) residential community on the property."

In accordance with Section 211.004 of the Texas Local Government Code, zoning regulations must be adopted in accordance with the adopted comprehensive plan. When a proposed development (i.e., land use, zoning district, etc.) is not consistent with the "text of the Comprehensive Plan or the boundaries shown on the Future Land Use Map, Master Thoroughfare Plan, or any other applicable maps contained in the Comprehensive Plan," an amendment to the Comprehensive Plan will be required per Section 3.6 of the City's Unified Development Code (UDC).

If this FLUM amendment is approved, the applicant may proceed with their initial request to rezone the parcels from Low Density Single-Family Residential (SF-2) to Multi-Family Residential (MF-2) to allow the proposed development and ensure consistency with the Comprehensive Plan and its new FLUM designation.

#### **PUBLIC NOTICE:**

Notice of the public hearing was scheduled for the December 17, 2025, Planning & Zoning Commission meeting and published within the local newspaper (Seguin Gazette) on November 30, 2025, and the City's website. To date, no public comments have been received.

#### **PLANNING & ZONING COMMISSION ACTION:**

The following are sample motions that can be made by the Planning & Zoning Commission regarding this agenda item.

1. **Approve** the request to amend the Future Land Use Map (FLUM) in the Cibolo Tomorrow Comprehensive Plan to change the future land use designation from Community Residential to Compact Residential for certain real properties located at 4240 and 4270 Green Valley Road, legally described as ABS: 137 SUR: T GARCIA 6.8620 AC, and ABS: 137 SUR: T GARCIA 4.9580 AC.
2. **Approve** the request, *with conditions*.
3. **Deny** the request, *with findings*.

#### **STAFF ANALYSIS:**

Section 3.6.D of the City's UDC provides direction to the Planning & Zoning Commission and City Council when considering an amendment to the Comprehensive Plan, including changes to the Future Land Use Map (FLUM), by outlining the following criteria for approval:

1. ***The proposed amendment promotes the health, safety, or general welfare of the City and the safe, orderly, efficient and healthful development of the City;***

PlaceType: **Community Residential**

Land Use Considerations:

- Primary Land Uses: Single-Family Detached Homes
- Secondary Land Uses: Civic and Institutional, Parks and Open Space
- Indicators & Assumptions: Lot size (range) 9,000 sq ft to ½ acre (21,780 sq ft)

Example Locations:

- Mesa Western
- *(Cibolo Tomorrow Comprehensive Plan, pg. 41)*

PlaceType: **Compact Residential**

Land Use Considerations:

- Primary Land Uses: Single-Family Detached Homes, Single-Family Attached Homes, Patio Homes, Townhomes, Multifamily Complex
- Secondary Land Uses: Civic and Institutional, Small Scale Offices, Parks and Open Space
- Indicators and Assumptions: Single Family Lot Size (Range) up to 9,000 sq ft.

Example Locations:

- Single-Family Detached Homes: Bentwood Ranch, Cibolo Valley Ranch
- Duplexes: Sydney Cove
- Multifamily Complexes: Grand at Cibolo, Trophy Oak
- *(Cibolo Tomorrow Comprehensive Plan, pg. 42)*

**STAFF FINDING:** The City of Cibolo’s Future Land Use Map (FLUM) was adopted as part of the 2024 Cibolo Tomorrow Comprehensive Plan on September 10, 2024, under Ordinance 1465. The FLUM is the community’s visual guide for development decisions and includes the logical and orderly placement of PlaceTypes in the City and ETJ. Together the Comprehensive Plan and FLUM were adopted to promote public health, safety, and general welfare of the City and ensure safe and orderly development.

The subject properties are currently designated as Community Residential on the City’s FLUM. According to the Comprehensive Plan, the character and intent of the Community Residential PlaceType includes “Predominantly single-family housing developments located throughout the community...” Primary land uses in Community Residential consist of “Single-Family Detached Homes.” The Community Residential PlaceType allows lot sizes ranging from 9,000 square feet to ½ acre (21,780 square feet).

The applicant is requesting a FLUM amendment to Compact Residential, which is the PlaceType designated for the neighboring Turning Stone Subdivision. Compact Residential supports “a variety of housing types, including small-lot single-family detached, patio homes, townhomes, and duplexes,”... and it “also supports multifamily.” A “Multifamily Complex” is listed as one of primary land uses within this PlaceType. The Comprehensive Plan also identifies locations near “key intersections (i.e., FM 78 and FM 1103) and areas within walking distance of local commercial” as being appropriate for Compact Residential, “except between residential neighborhoods and communities (infill development).”

The proposed use of a multi-family senior residential community on the property being in close proximity to neighborhood-oriented commercial uses along FM 1103 and Green Valley Road, would align with the intent and locational guidance of the Compact Residential PlaceType. In addition, the Comprehensive Plan recommends incorporating “‘missing middle’ housing options, such as...housing tailored for seniors...” (pg. 99).

Considering these factors, the proposed FLUM amendment could reasonably be interpreted as promoting the health, safety, and general welfare of Cibolo’s senior population while supporting the safe and orderly development of the City.

***2. An amendment to the text is consistent with other policies of the Comprehensive Master Plan, taking into account the nature of any proposed map amendment associated with the text amendment;***

**STAFF FINDING:** This criterion is not applicable because no amendment to the text of the Comprehensive Plan is proposed or required.

***3. An amendment to the Future Land Use Map, Thoroughfare Plan or any other applicable maps contained in the Comprehensive Master Plan is consistent with the policies of the Comprehensive Master Plan that apply to the map being amended, taking into account the nature of any proposed land use associated with the map amendment;***

**STAFF FINDING:** The following policies and recommended actions within the Cibolo Tomorrow Comprehensive Plan are relevant to this request for a FLUM amendment:

**Land Use and Character**

**Action L-2:** Utilize the Future Land Use Map to diversify uses and character within Cibolo.

The surrounding land uses, FLUM designations, and zoning district are summarized in Table 1 below.

**Table 1. Surrounding FLUM Designations, Land Uses, and Zoning Districts.**

Location	Existing Land Use	FLUM Designation	Zoning District
North	Residential	Compact Residential	High Density Single-Family Residential (SF-6)
	Commercial	Neighborhood Commercial	Retail/Office (C-3)
	Institutional	Public Utility/Institutional	High Density Single-Family Residential (SF-6)
South	Residential	Community Residential	Low Density Single-Family Residential (SF-2)
	Residential	Community Residential	Multi-Family Residential (MF-1)
East	Residential	Community Residential	Low Density Single-Family Residential (SF-2)
	Commercial	Neighborhood Commercial	Neighborhood Commercial (C-1)
West	Residential	Community Residential	Planned Unit Development (PUD): C-2 & MF-2

This mix of adjacent land uses and zoning districts illustrates a diverse mix of uses where residential densities and housing types vary, which aligns with the intent of the Compact Residential PlaceType.

### **Housing and Neighborhoods**

**Action HN-3:** Review and amend the Cibolo Unified Development Code (UDC) to allow for and encourage a greater variety of housing types.

The City is currently in the process of rewriting the UDC. Encouraging a broader mix of housing options, including those serving seniors, is one of the recommendations to be incorporated into the updated code. Until the new UDC is adopted, however, development proposals must comply with the standards in the current UDC, which permits multi-family development only with the Multi-Family Residential (MF-1) and Multi-Family Residential (MF-2) zoning districts.

Lot design standards for the City's multi-family residential zoning districts are depicted in Table 2 below.

**Table 2. Multi-Family Lot Design Standards, Unified Development Code.**

<b>Article 14.1 Lot Design Standards (Residential)</b>								
<b>Zoning District</b>	<b>Max. Density (units/ac)</b>	<b>Max. Lot Area</b>	<b>Min. Lot Width</b>	<b>Front Setback</b>	<b>Rear Setback</b>	<b>Side Setback</b>	<b>Max. Height</b>	<b>Max. Impervious Coverage</b>
Multi-Family Residential (MF-1)	18.00	20 ac.	100'	25'	10'	10'	45'	75%
Multi-Family Residential (MF-2)	24.00	30 ac.	100'	25'	10'	10'	45'	80%

If the FLUM amendment is approved, the applicant intends to pursue rezoning from Low Density Residential (SF-2) to Multi-Family Residential (MF-2) to accommodate the proposed senior multifamily development. This pathway aligns with both the existing UDC framework and the Comprehensive Plan's broader policy direction encourage diverse housing opportunities.

**4. Any proposed amendment is consistent with the goals and objectives of the Comprehensive Master Plan;**

**STAFF FINDING:** The goals and objectives of the Cibolo Tomorrow Comprehensive Plan are reflected in the following five guiding principles:

1. Prioritize infrastructure to support existing needs and future growth.
2. **Plan for and promote the health, safety, security, and general welfare of all residents.**
3. Balance growth through responsible planning of city assets and land to promote a community environment.
4. Provide parks, recreation, trails, and open space to serve citizens and visitors while protecting the natural environment and wildlife.
5. Preserve the history of Cibolo and promote the small town feel through community programs and events.

*(Cibolo Tomorrow Comprehensive Plan, pg. 21)*

As previously noted, the requested FLUM amendment, from Community Residential to Compact Residential, would accommodate the development of a senior multi-family community. This proposed use aligns with the Comprehensive Plan's guiding principles, particularly the goal of promoting the health, safety, security, and general welfare of all residents, including Cibolo's growing senior population.

- 5. Any proposed amendment addresses circumstances that have changed since the last time the plan map or text was considered, implements plan policies better than the current plan map or text corrects a mapping error or addresses a deficiency in the plan; and**

**STAFF FINDING:** No notable circumstances have changed since the Comprehensive Plan was adopted on September 10, 2024. However, the FLUM contains a few undeveloped properties designated as Compact Residential, and the City has a limited supply of senior housing options (i.e., El Sereno). The proposed amendment could help address this deficiency in available housing types and support the implementation of some policies and actions in the Comprehensive Plan (including L-2 and HN-3) by supporting a broader mix of residential options, particularly those serving seniors.

- 6. Such criteria, that City Council finds, in its legislative discretion, to have a substantial relationship to the public's health, safety and general welfare. In utilizing the criteria stated in this subsection, City Council may consider the recommendation of the Planning and Zoning Commission; and shall direct that any written decision to amend the Comprehensive Master Plan based, in whole, or part, on the criteria stated in this subsection shall include a written description of the specific criteria utilized.**

**STAFF FINDING:** This criterion is contingent upon City Council's affirmative findings for each of the preceding criteria outlined in Section 3.6.D of the UDC.

## **Attachments**

[Application](#)

[Narrative](#)

[Aerial View](#)

[Future Land Use Map](#)

[Zoning Map](#)



**City of Cibolo**  
 Planning Department  
 201 Loop 539 W/P.O. Box 826  
 Cibolo, TX 78108  
 Phone: (210) 658 - 9900

**UNIVERSAL APPLICATION - LAND USE AMENDMENT**

Please fill out this form completely, supplying all necessary information and documentation to support your request. *Please use a separate application for each submittal.* Your application will not be accepted until the application is completed and required information provided.

Project Name: 4240 & 4270 Green Valley Plan Amendment  
 Total Acres: 11.82 Survey Name: \_\_\_\_\_ Abstract No.: \_\_\_\_\_  
 Project Location (address): 4240 & 4270 Green Valley Road

Current Zoning: SF2 Overlay:  None  Old Town  FM 78  
 Proposed Zoning: MF2 # of Lots: \_\_\_\_\_ # of Units: 248  
 Please Choose One:  Single-Family  Multi-Family  Commercial  Industrial  
 Other \_\_\_\_\_  
 Current Use: Single Family Total Proposed Square Footage: \_\_\_\_\_  
 Proposed Use: Multifamily (Commercial/Industrial only)

**Applicant Information:**

Property Owner Name: Gary A. Pundt and Darla J. Pundt  
 Address: 4240 Green Valley Road City: Cibolo  
 State: TX Zip Code: 78108 Phone: 210.960.2750  
 Email: ashley@kgftx.com Fax: \_\_\_\_\_

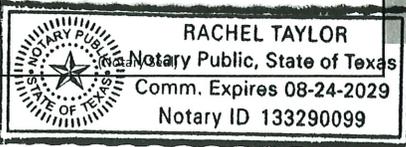
\*Applicant (if different than Owner): Kittle Property Group, Inc.  
 \* Letter of Authorization required  
 Address: 310 E. 96th Street, Suite 400 City: Indianapolis  
 State: IN Zip Code: 46240 Phone: 210.960.2750  
 Email: ashley@kgftx.com Fax: \_\_\_\_\_

Representative: Killen, Griffin & Farrimond, PLLC  
 Address: 10101 Reunion Place, Suite 250 City: San Antonio  
 State: TX Zip Code: 78216 Phone: 210.960.2750  
 Email: nuriddin@kgftx.com Fax: \_\_\_\_\_

Authorization: By signing this application, you hereby grant Staff access to your property to perform work related to your application.

Ashley Farrimond  
 Owner or Representative's Signature  
Ashley Farrimond, Killen, Griffin & Farrimond, PLLC  
 Typed / Printed Name  
 State of Texas  
 County of Bexar  
 Before me, Rachel Taylor, on this day personally appeared  
 Name of Notary Public  
Ashley Farrimond, to be the person(s) who is/are subscribed to the  
 Name of signer(s)  
 foregoing instrument and acknowledge to me that he/she/they executed the same for the purposes and consideration therein expressed.  
 Given under my hand and seal of office this 27 day of October 2025  
[Signature]  
 Notary Public Signature

<b>City of Cibolo Use Only</b>
Total Fees
Payment Method
Submittal Date
Accepted by
Case Number



Yes	No	N/A	Checklist																		
<i>Form and Contents per UDC Article 3, Section 3.6. - Land Use Amendment</i>																					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completed Application Form and Narrative of Application Request																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>A non-refundable check payable to the city in the amount specified within the Fee Schedule of the city, as amended</p> <p>See <a href="#">Fee Schedule</a> for any other applicable fees</p> <table border="0"> <thead> <tr> <th></th> <th style="text-align: center;">Input # of acres</th> <th style="text-align: center;">Input cost per acre</th> <th style="text-align: center;">+</th> <th style="text-align: center;">Input Base Fee</th> <th style="text-align: center;">Amount Due</th> </tr> </thead> <tbody> <tr> <td>Fees:</td> <td style="text-align: center;">(# of acres</td> <td style="text-align: center;">* Cost per acre)</td> <td style="text-align: center;">+</td> <td style="text-align: center;">Base fee</td> <td style="text-align: center;">Amount Due</td> </tr> <tr> <td>* \$750 + \$100/acre+</td> <td style="text-align: center;">11.8200</td> <td style="text-align: center;">\$ 100.00</td> <td style="text-align: center;">+</td> <td style="text-align: center;">\$ 750.00</td> <td style="text-align: center;">\$ 1,932.00</td> </tr> </tbody> </table> <p><i>* Applicant will be responsible to pay additional fees of actual costs for any application associated with review or pre-development conference requiring consultation with City Consultants (such as contracted engineers, planners, attorneys, architects, plan reviews, inspectors, etc)</i></p>		Input # of acres	Input cost per acre	+	Input Base Fee	Amount Due	Fees:	(# of acres	* Cost per acre)	+	Base fee	Amount Due	* \$750 + \$100/acre+	11.8200	\$ 100.00	+	\$ 750.00	\$ 1,932.00
	Input # of acres	Input cost per acre	+	Input Base Fee	Amount Due																
Fees:	(# of acres	* Cost per acre)	+	Base fee	Amount Due																
* \$750 + \$100/acre+	11.8200	\$ 100.00	+	\$ 750.00	\$ 1,932.00																
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	An accurate mete and bounds description of the subject property (or other suitable legal description), identifying the property as a lot of record																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A survey exhibit and other appropriate exhibit as identified in this Article for the individual permit; and																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any additional documents, forms, or other materials required by the city manager or designee or identified in this UDC for the processing of a specific development application																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Application for Zoning Change consistent with requested Future Land Use Map amendment for land within the city limits																		

By signing below, I do hereby attest that the information contained in this application is true, accurate and complete.

I also understand that I will be responsible for any third-party city consultants fees billed in addition for my project reviews (such as contracted engineers, planners, attorneys, architects, plan reviews, inspections, etc.)

  
Signature

Ashley Farrimond

Printed Signature

10.27.2025

Date

Killen, Griffin & Farrimond, PLLC

Company

**City of Cibolo Use Only**

Complete Application

Incomplete Application

Accepted By: \_\_\_\_\_

Date: \_\_\_\_\_

## City of Cibolo

### Deposit Agreement for Development Review

This agreement is made this 1st day of September, 2025, by the Applicant in favor of the City of Cibolo, Texas ("City").

Applicant: Name and Address

Kittle Property Group, Inc.

310 E. 96th Street, Suite 400

Indianapolis, IN 46240

Applicant is requesting City approval of a rezoning, subdivision, variance, site plan, preliminary plat, final plat, conditional use permit, or any other development-related application. Under authority granted to it by applicable state and local laws, the City requires the Applicant to execute this Agreement and to provide a cash deposit to the City for the payment of all costs incurred by the City in reviewing the application.

Applicant shall deposit in cash with the City the initial amount identified within the approved Fee Schedule, a current copy of which is attached to this Agreement as Exhibit "A." A copy of the application that is subject to this Agreement is attached hereto as Exhibit "B." If the application is longer than ten (10) pages, a summary may be attached hereto in lieu of the full application, so long as the summary contains sufficient information to accurately identify the subject application.

Applicant acknowledges that the application shall not be deemed complete and accepted for processing, and the City shall not commence to review and process an application, until this Agreement is executed by the Applicant and the Agreement and the full deposit are delivered to the City.

The City will deposit the money in its account and draw upon the deposit to pay the costs it incurs in connection with the application. The City shall determine all of its costs, including both administrative and consulting services, in accordance with the Fee Schedule, as annually adopted by the City. To the extent that any interest accrues on any cash deposit held by the City under this Agreement, such interest shall be deemed to be part of the total review costs incurred by the City; as such, Applicant hereby waives any claim to such interest and acknowledges that the City shall not be responsible for paying any interest on money deposited under this Agreement.

If in the discretion of the City, there is deemed to be an inadequate balance in the Deposit Account to pay for all the fees and costs incurred by the City, the City will notify the Applicant of the need for additional funds and the amount required to be further paid. Applicant shall pay such additional funds within ten (10) calendar days of receipt of such notice. For purposes hereof, receipt of notice shall be deemed made upon written, email notification to the Applicant. If an application is placed upon a meeting agenda for public hearing and/or consideration by City Council or another City board or commission, failure by the Applicant to submit payment in full for any additional funds required under this Agreement may be cited as grounds for recommending disapproval or disapproving of an application, as applicable.

Internal Use: \_\_\_\_\_ (Case File#)

If the application process is completed, withdrawn by the Applicant, or disapproved by the City, any remaining balance in the Deposit Account shall be paid to the Applicant within 60 calendar days of the date on which the application process was completed, withdrawn, or disapproved.

Upon request, the City will provide the Applicant an accounting of all expenses charged against the Deposit Account, but in no event more often than monthly. An accounting will be provided when a notice is made by the City for additional funds.

Applicant shall indemnify and hold the City harmless from any liability, claim, action, or suit or any obligation to the Applicant arising from or in connection with the terms and conditions of this Agreement. The applicant shall pay all costs and expenses, including reasonable attorney fees and suit costs, incurred by the City arising from or in connection with the City enforcing any terms and conditions of this Agreement.

APPLICANT:

**Jeffrey L. Kittle, President**

Name and Title

Signature

**September 1**, 20**25**

Date

Internal Use: \_\_\_\_\_ (Case File#)

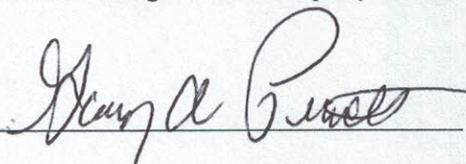
August 27, 2025

City of Cibolo  
Planning Department  
201 West Loop 539  
Cibolo, Texas 78108

Attn: Authorization to Submit and Process a Zone Change Application for Property Generally Located at 4240 & 4270 Green Valley Road ("Property"), within the City of Cibolo ("City"), Guadalupe County, Texas

The purpose of this correspondence is to provide authorization to Kittle Property Group, Inc. and Killen, Griffin & Farrimond, PLLC to act as applicant and representative in the filing and processing for approval an application for a Zone Change for the Property.

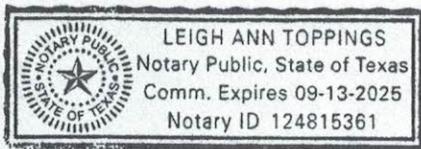
I hereby declare that, along with Darla J. Pundt, we are the owners of the Property and have the authority to grant permission to request and process for approval a Zone Change for the Property. Thank you for your time and attention to this matter.

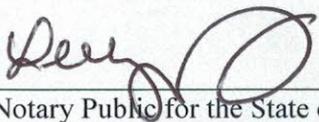
By:   
Name: Gary A. Pundt  
Title: OWNER

State of Texas §  
County of BEAR §  
§

Before me, the undersigned authority, a notary public for the State of Texas, on this day personally appeared Gary A. Pundt, known to me to be the person whose name is subscribed to the foregoing letter and acknowledge to me that they executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office, this the 29<sup>th</sup> day of August, 2025.



  
Notary Public for the State of Texas

**KG** KILLEN, GRIFFIN & FARRIMOND

ATTORNEYS AT LAW

October 27, 2025

Rick Vasquez  
Planning & Economic Development Director  
201 W Loop 539  
Cibolo, TX 78108

RE: Comprehensive Plan and Future Land Use Map (“FLUM”) Amendment (collectively, “Plan Amendment”) for Approximately 11.82 Acres of Property Generally Located 4240 & 4270 Green Valley Road (“Property”) within the City of Cibolo (“City”), Texas; Also Described as Guadalupe County Appraisal District Parcel Numbers 63734 and 63735.

Dear Director Vasquez,

Our firm represents Kittle Property Group, Inc. (“Kittle”), the applicant and proposed developer of the Property. Kittle is proposing the development of an approximately 248-unit senior (55+) residential community on the Property. To develop the community, the Property will need to be rezoned from “SF-2” Low Density Residential to “MF-2” Multi-Family Residential. The Property is designated Community Residential. To allow for proposed rezoning and associated project, a Plan Amendment to Compact Residential is necessary.

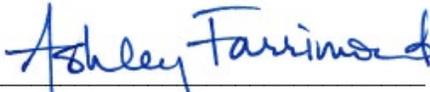
Kittle is proposing the development of a multi-family residential community consisting of four (4) buildings located on the Property. Each of the proposed buildings will be three (3) stories in height and will be equipped with elevators to ensure full accessibility for all residents. The residential units will be a designed mix of one-bedroom and two-bedroom floor plans. The project will provide more parking than is required by the City’s zoning regulations.

A variety of on-site amenities are planned for the Property. Each building will feature dedicated activity rooms, and the development will include a community space. A dog park will also be incorporated in the development. All dumpsters will be appropriately screened from the public right-of-way, and the entire Property will be fenced to minimize any potential impact on surrounding properties.

If there is any additional information or documentation that we can provide to assist in your review of this application, please do not hesitate to contact me at (210) 960-2750 or via email at [ashley@kgftx.com](mailto:ashley@kgftx.com).

Sincerely,

KILLEN, GRIFFIN & FARRIMOND, PLLC

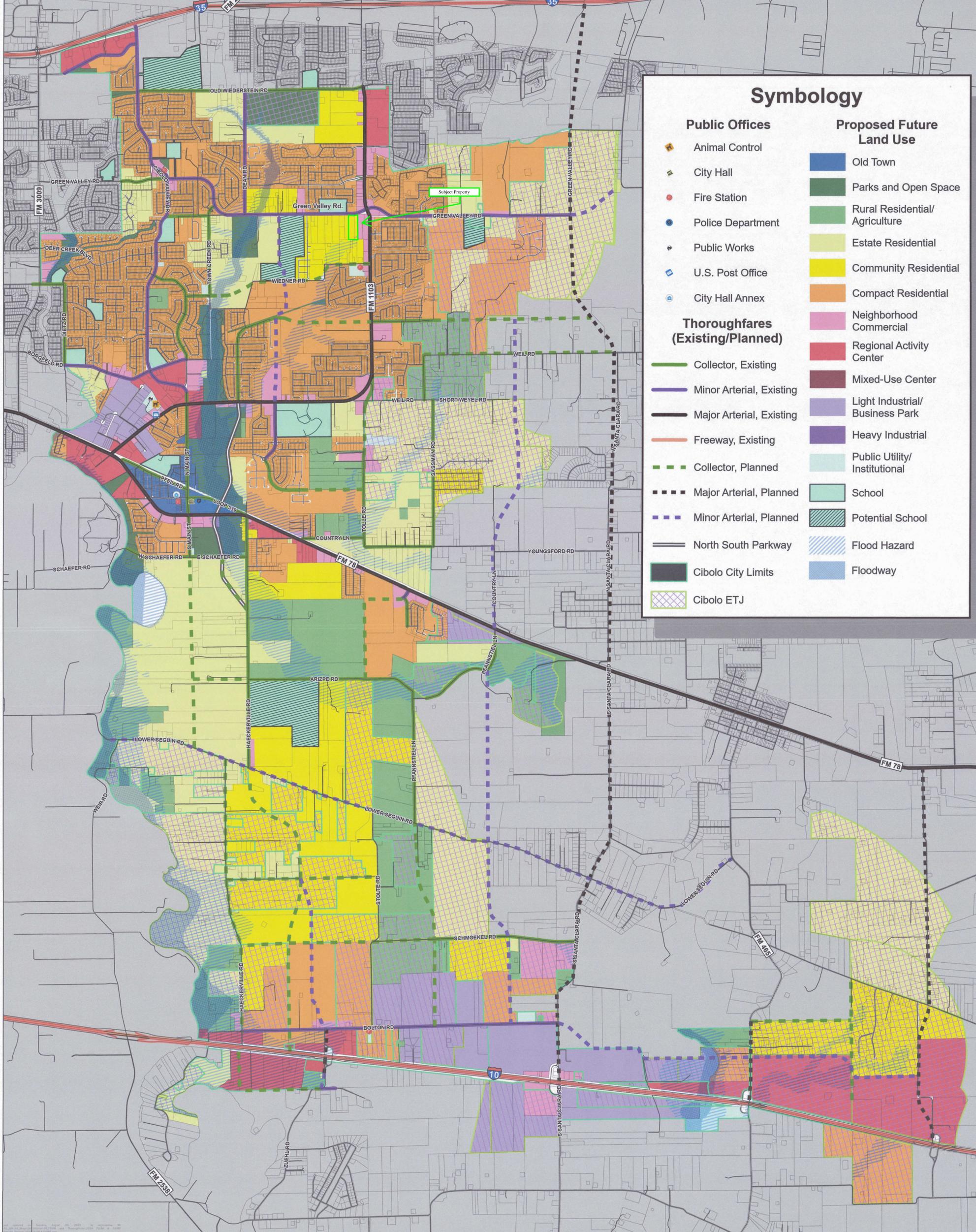
By:   
Ashley Farrimond



# Zoning Map - City of Cibolo

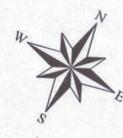


Maxar | This data was first created by an unknown engineering firm and then passed off to the GIS Technician at the City of Cibolo where it is now being maintained and updated. | Esri Community Maps Contributors, City of Cibolo, Texas, City of New Braunfels, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



### Symbology

Public Offices	Proposed Future Land Use
Animal Control	Old Town
City Hall	Parks and Open Space
Fire Station	Rural Residential/Agriculture
Police Department	Estate Residential
Public Works	Community Residential
U.S. Post Office	Compact Residential
City Hall Annex	Neighborhood Commercial
Thoroughfares (Existing/Planned)	Regional Activity Center
Collector, Existing	Mixed-Use Center
Minor Arterial, Existing	Light Industrial/Business Park
Major Arterial, Existing	Heavy Industrial
Freeway, Existing	Public Utility/Institutional
Collector, Planned	School
Major Arterial, Planned	Potential School
Minor Arterial, Planned	Flood Hazard
North South Parkway	Floodway
Cibolo City Limits	
Cibolo ETJ	



1:23,000

# Future Land Use and Thoroughfare Map

City of Cibolo

September 10th 2024

This is to certify this map as the Official Future Land Use Map/Future Thoroughfare Plan adopted on 10 Sept 2024 by the City Council of the City of Cibolo, Texas.

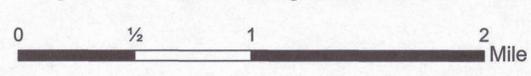
SIGNED: Mark Allen, Mayor

ATTEST: Peggy Cimics, City Secretary



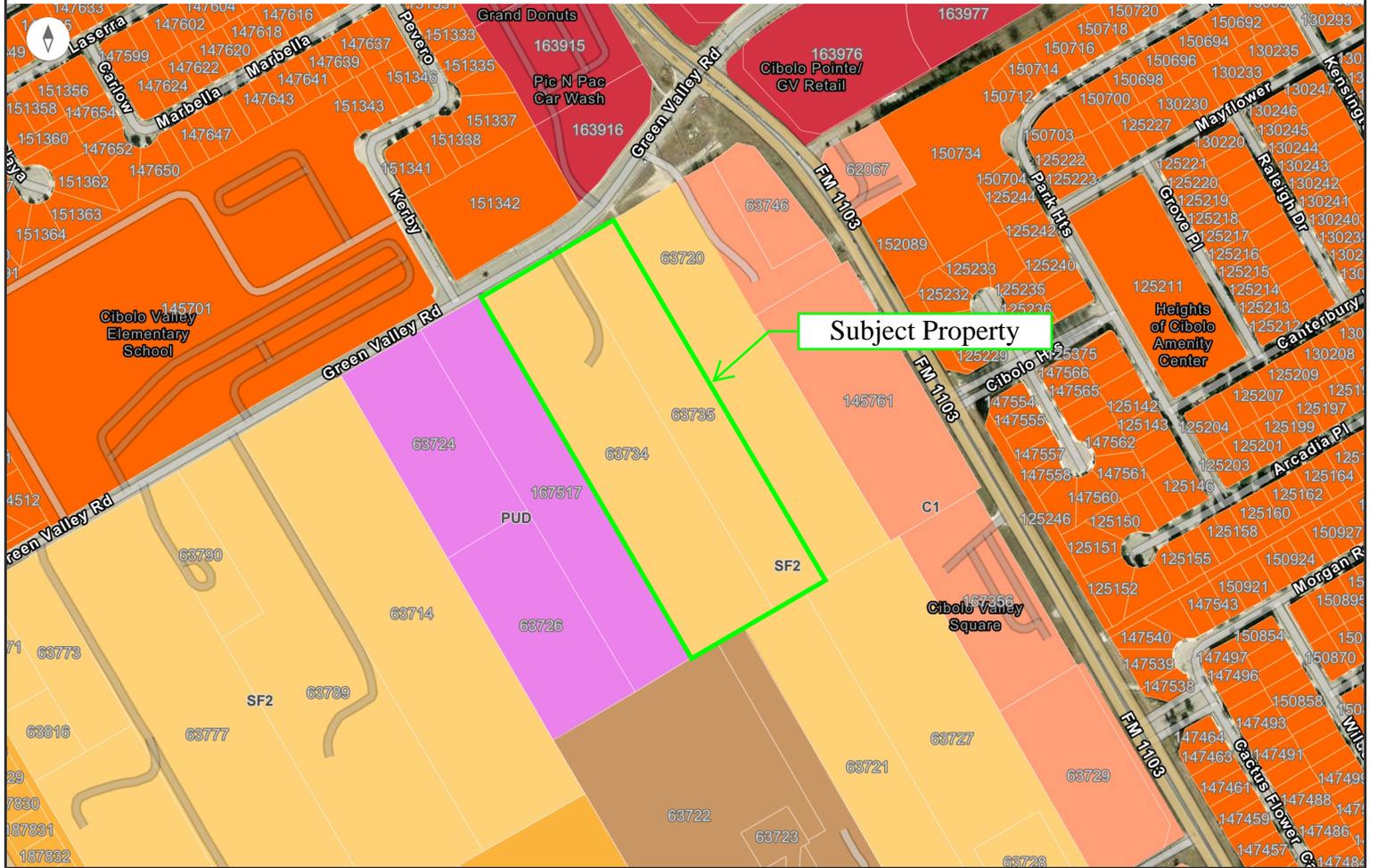
DISCLAIMER: All geospatial data products on this page are for informational purposes only and are not suitable for legal, engineering, or surveying purposes. The City of Cibolo cannot accept any responsibility for any errors, omissions, or positional accuracy, and therefore, there are no warranties which accompany these products. Boundaries do not represent an on-the-ground survey conducted by or under the supervision of a registered professional land surveyor and represents only the approximate relative location of property boundaries. These products may not reflect some data otherwise available. These products are not a substitute for obtaining a survey or other professional advice about a specific property, specific question, or situation.

\*\*\*A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries\*\*\*





# Zoning Map - City of Cibolo



Maxar | This data was first created by an unknown engineering firm and then passed off to the GIS Technician at the City of Cibolo where it is now being maintained and updated. | This data was first created by an unknown entity and then passed off to the GIS Technician at the City of Cibolo where it is now being maintained and updated. | Esri Community Maps Contributors, City of Cibolo, Texas, City of New Braunfels, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Planning and Zoning Commission Staff Report

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**A. Staff Updates**

Meeting	Agenda Group
Wednesday, January 14, 2026, 6:30 PM	UDC, CIP, Master Plan and Staff Updates Item: 10A.
From	
Eron Spencer, Assistant Planning Director	
Staff Contact(s)	
Eron Spencer,	

**PRIOR CITY COUNCIL ACTION:**

N/A

**BACKGROUND:**

N/A

**STAFF RECOMMENDATION:**

N/A

**FINANCIAL IMPACT:**

N/A

**MOTION(S):**

N/A

**Attachments**

[1-14-26 Staff Update](#)

[Economic Development Report- November 2025](#)

# Planning Department - Staff Update

January 14, 2026

## Site Plans currently in review

Project	Description
Borgfeld Plaza	Retail
Dorado Amenity Center	Community Amenity Center
Cibolo Small Animal Hospital	Veterinarian Commercial Renovation
Chamberlin Roofing & Waterproofing	Roofing Contractor Warehouse
Cibolo Creek Collective	Burn Boot Camp
21001 Old Wiederstein	Storage Facility

To follow permitted projects, visit our [website](#) for an interactive map on Current Development.

## Site Plans & Administrative Plats recently approved

Project	Description
Cibolo Creek Center	Gas Station
506 N Main Street	Mixed Use
Cibolo Crossing MF Amenity Center	Amending Plat
Cibolo Crossing Commercial Phase II	Amending Plat
Cibolo Crossing Commercial Phase I	Amending Plat
Olive Garden	Site Plan
Venado Crossing Amenity Center	Community Amenity Center
Buffalo Crossing II Amenity Center	Community Amenity Center

## Plats currently in review

Project	Application Type
Steele Creek Unit 9	Final Plat
611 FM 1103	Replat
Venado Crossing Unit 4	Final Plat
21001 Old Wiederstein	Preliminary Plat
Tackett Commercial Subdivision	Preliminary Plat
Cibolo Farms Unit 4	Final Plat
21001 Old Wiederstein	Final Plat

## P&Z Recommendations/City Council Action

Agenda item	P&Z recommendation	date	City Council action	date
21001 Old Wiederstein	Approval	12/17/2025	-	1/13/2026



# CIBOLO CITY COUNCIL

# *Economic Development*

# REPORT

Date: NOVEMBER 2025

# IN PLANNING REVIEW

<b>CIBOLO CROSSING</b>	<ul style="list-style-type: none"> <li>• Dorado @ Cibolo Crossing (Site Plan under review, no comments received since 5/14/25, project appears to be on hold for moment)</li> <li>• Olive Garden (Site plan and Sign permits approved)</li> <li>• Gringos (Amending Plat approved)</li> </ul>
<b>CIBOLO VALLEY DRIVE</b>	
<b>DOWNTOWN/ OLD TOWN</b>	<ul style="list-style-type: none"> <li>• Grooming Coop (Pre-Application)</li> </ul>
<b>FM 1103</b>	<ul style="list-style-type: none"> <li>• Old Wiederstein Road Self-Storage CUP (Preliminary Plat in review and scheduled for P&amp;Z in December)</li> <li>• Seatcraft (Minor Plat under review)</li> <li>• Midas (Site plan under review)</li> </ul>
<b>FM 78</b>	<ul style="list-style-type: none"> <li>• Cibolo Small Animal Hospital (Approved)</li> </ul>
<b>IH-10</b>	<ul style="list-style-type: none"> <li>• Industrial Warehouses @ 465/Linne Rd &amp; IH-10 (Pre-Application)</li> <li>• Data Center @ 1000 Bolton Rd (Pre-Application)</li> </ul>
<b>OTHER</b>	<ul style="list-style-type: none"> <li>• Borgfeld Plaza Retail Center (Site Plan in Review)</li> <li>• Chamberlin Roofing and Waterproofing (Site Plan Approved)</li> <li>• Cibolo Creek Collective/Burn Boot Camp (Site plan under review)</li> <li>• Tackett Commercial Subdivision (Preliminary Plat under review)</li> <li>• 370 FM 78 Land Study application has been submitted</li> </ul>

# BUILDING PERMITS IN PROCESS

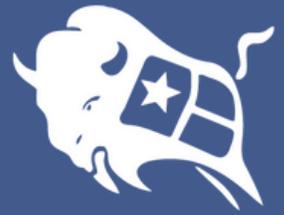
<p><b>CIBOLO CROSSING</b></p>	<ul style="list-style-type: none"> <li>• Dorado @ Cibolo Crossing (MEP's Permit Application on Hold, site plan under review, no comments received since 5/14/25, project appears to be on hold for moment; building permit has been extended three times but not picked up for issuance. This permit will expire on January 6, 2026)</li> <li>• Olive Garden (Permitted under construction)</li> <li>• Max &amp; Louie's New York Dinner (Permitted and interior finish out)</li> </ul>
<p><b>CIBOLO VALLEY DRIVE</b></p>	<ul style="list-style-type: none"> <li>• Dental Office of Dr Schroeder (Finish out, Unit 110)</li> <li>• Boss Bagel (Permitted, ready for tenant finish out)</li> <li>• Ace Hardware (Awaiting Payment for Building Permit)</li> </ul>
<p><b>DOWNTOWN/ OLD TOWN</b></p>	
<p><b>FM 1103</b></p>	<ul style="list-style-type: none"> <li>• QT – Location #1 at FM 1103 &amp; Old Wiederstein Road (Permitted)</li> <li>• Cibolo Food Mart Shell Bldg (Awaiting Payment for Building Permit)</li> <li>• Thera Nails Lab (Permitted, ready for tenant finish out)</li> </ul>
<p><b>FM 78</b></p>	
<p><b>IH-10</b></p>	
<p><b>OTHER</b></p>	<ul style="list-style-type: none"> <li>• Signature Plating (Inspection Completed, pending site approval)</li> </ul>

# NOW OPEN / C OF O ISSUED

<b>CIBOLO CROSSING</b>	
<b>CIBOLO VALLEY DRIVE</b>	<ul style="list-style-type: none"><li>• Andy's Frozen Custard (Opened Dec 3)</li><li>• PT Solutions (C of O issues, not open to public yet)</li></ul>
<b>DOWNTOWN/ OLD TOWN</b>	
<b>FM 1103</b>	<ul style="list-style-type: none"><li>• Jimmy Johns (Certificate of Occupancy Issued and now open)</li></ul>
<b>FM 78</b>	<ul style="list-style-type: none"><li>• Texas Farm Bureau (C of O issued)</li></ul>
<b>IH-10</b>	
<b>OTHER</b>	

# Department Updates

*Business Attraction and Business Retention & Expansion (BRE) Efforts*



## Business Attraction Efforts

Number of Eligible RFIs Submitted: 1

Number of Prospect Visits: 0

# of Prospect Meetings: 0

*Notes: We received 8 requests for information in November. Which resulted in 1 submittal*

## Business Retention & Expansion Efforts

Number of Business Support Meetings/Activities: 17

*Visited: 1.Smoothie King, 2.Fluff Butts, 3.Andy's Frozen Custard, 4.Grand Donut, 5.Rubber Doggies, 6.Cibolo Small Animal Hospital, 7.The Pastret Corner, 8.The Scoop, 9.RD's Burgers, 10.Kid Academy, 11.Magic China, 12.Grampies Pizzeria, 13.CityVet Cibolo Crossing, 14.Harmon's BBQ, 15.The Rooted Fork, 16.Walmart, 17.Tractor Supply*

## Highlights/Successes

- *Staff attended the Texas Downtown Conference*
- *Regional Job Fair held in New Braunfels*
- *Staff attended the TML Economic Development Conference*
- *Staff attended the Chamber Luncheon*
- *greater:SATX Regional Partners Meeting*