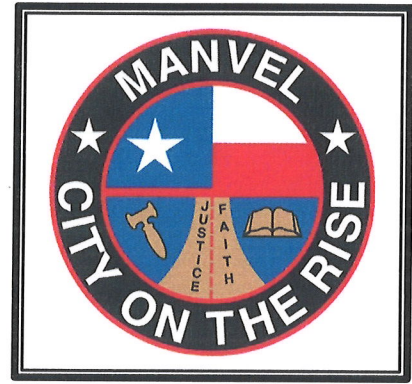


THE STATE OF TEXAS §
COUNTY OF BRAZORIA §
CITY OF MANVEL §



NOTICE OF A MEETING
MANVEL PLANNING DEVELOPMENT AND ZONING COMMISSION
August 11, 2025

NOTICE IS HEREBY GIVEN
6:00 P.M.

Pursuant to Chapter 551, Title 5 of the Texas Government Code, the Texas Open Meetings Act, notice is hereby given that the Planning Development and Zoning Commission will convene a regular meeting at the Manvel City Hall, located at **20031 Hwy 6, Manvel Tx 77578** for the purpose of discussing and if appropriate, take action with respect to the following items:

NOTE: The PD&Z Commission of the City of Manvel reserves the right to discuss any items in Closed Session whenever authorized under the Texas Open Meetings Act, Chapter 551, of the Texas Government Code. They may discuss the items on this agenda in any order.

This facility is wheelchair accessible and accessible parking spaces are available. Requests for accommodations or interpreter services must be made 48 hours prior to this meeting. Please contact the City Secretary at 281-489-0630 for further information.

CITY OF MANVEL MISSION STATEMENT

The City of Manvel is a safe and responsible community, embracing the values of our past, present, and future citizens.

Regular Session

Call to Order

Position #1 Ryan Miller, Chair 03/2027
Position #2 Kyle Marasckin, Vice-Chair 03/2027
Position #3 Mary Ann Atkinson 03/2027
Position #4 Kenneth Haynes 03/2027
Position #5 Christy Kennard 03/2026
Position #6 Delores Martin 03/2026
Position #7 William Richardson 03/2026

Pledge

Pledge of Allegiance and Texas Pledge: "Honor the Texas flag; I pledge allegiance to thee Texas, one state under God, one and indivisible.

Public Comments: "Comment Card" Required

o Members of the public with business before the board, NOT scheduled on the agenda as a public hearing (that have submitted a public comment card) may have three (3) minutes to address the board. o The board may not participate in any discussion and cannot vote on the subject you present unless it is listed on the agenda as an action item.

Consent PDZ

All Consent Agenda items listed are considered to be routine by the Planning Development and Zoning Commission and will be approved by one motion. There will be no separate discussion of these items unless a Planning Development and Zoning Member so requests, in which event the item will be removed from the Consent Agenda and considered in sequence on the Agenda.

- A. Approve Final Plat for Meridiana Section 26A;
BEING A SUBDIVISION OF 12.92 ACRES OUT OF THE OLIVER HALL SURVEY, ABSTRACT 203; ALSO BEING A PARTIAL REPLAT OF LOTS 8 THROUGH 13 OF LULLING STONE SECTION ONE, AS PER PLAT RECORDED IN VOLUME 21, PAGE 267-270 OF THE BRAZORIA COUNTY PLAT RECORDS; CITY OF MANVEL, BRAZORIA COUNTY, TEXAS.
- B. Approve Meridiana Section 32D Preliminary Plat;
BEING A SUBDIVISION OF 9.67 ACRES, OUT OF THE OLIVER HALL SURVEY, A-203, CITY OF MANVEL, BRAZORIA COUNTY, TEXAS.
- C. Approve the meeting minutes to date.

Regular Agenda

- A. Consideration and possible action to approve the Primrose Detention Reserve 'A' Preliminary Plat;
BEING A SUBDIVISION OF 26.76 ACRES OUT OF THE H.T. & B. R.R. CO. SURVEY, SECTION 71, A-291, BEING OUT OF THE EMIGRATION LAND COMPANY SUBDIVISION AS RECORDED IN VOL 2., PG. 81-82, B.C.P.R., CITY OF MANVEL ETJ, BRAZORIA COUNTY, TEXAS.
- B. Consideration and possible action to approve Primrose Section 1 Preliminary Plat;
BEING A SUBDIVISION OF 25.55 ACRES OUT OF THE H.T. & B. R.R. CO. SURVEY, SECTION 71, A-291, CITY OF MANVEL ETJ, BRAZORIA COUNTY, TEXAS, AND ALSO BEING OUT OF THE EMIGRATION LAND COMPANY SUBDIVISION AS RECORDED IN VOL. 2, PG. 81-82, B.C.P.R.
- C. Consideration and possible action to approve Primrose Section 2 Preliminary Plat;
BEING A SUBDIVISION OF 12.34 ACRES OUT OF THE H.T. & B. R.R. CO. SURVEY, SECTION 71, A-291, CITY OF MANVEL ETJ, BRAZORIA COUNTY, TEXAS AND ALSO BEING OUT OF THE EMIGRATION LAND COMPANY SUBDIVISION AS RECORDED IN VOL. 2, PG. 81-82, B.C.P.R.
- D. Consideration and possible action to forward a Final Report recommending approval to City Council;
AMENDING ORDINANCE NO. 2024-O-35, PERTAINING TO DEL BELLO LAKES PLANNED UNIT DEVELOPMENT (PUD) TO INCLUDE AN APPROXIMATE 106.8 ACRES OF LAND LOCATED IN THE MARY V. O'DONNELL SURVEY, ABSTRACT 469, OF BRAZORIA COUNTY, TEXAS, BEING A PORTION OF LOTS 1, 2, 7, AND 16, AND ALL OF LOTS 3, 4, 8, 9, 10, 13, 14, 15, 19, AND 20, OF

August 11, 2025 PLANNING DEVELOPMENT AND ZONING MEETING

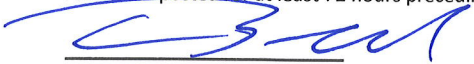
DIVISION "O" OF THE ALLISON RICHEY GULF COAST HOME COMPANY PART OF SUBURBAN GARDENS, A SUBDIVISION OF RECORD IN VOLUME 2, PAGES 91, AND 92, OF THE PLAT RECORDS OF BRAZORIA COUNTY, TEXAS (B.C.P.R); CURRENTLY ZONED OPEN SINGLE-FAMILY RESIDENTIAL DISTRICT (O-SFR), INTO THE DEL BELLO LAKES PUD AND GENERALLY LOCATED EAST OF MANVEL PKWY, SOUTH OF CROIX RD, AND NORTH OF DEL BELLO LN; AND PROVIDING FOR THE AMENDMENT OF THE CITY'S OFFICIAL ZONING MAP. (Proposed Ordinance No. 2025-0-22)

- E. Presentation and discussion on Comprehensive Plan update and Major Thoroughfare Plan update by Kendig Keast Collaborative.
- F. Consideration and possible action to direct staff to provide Applicants written statements of the conditions for any conditional approvals, and the reasons for disapproval of any plans or plats that were not approved, per Texas Local Government Code §212.0091.

Adjourn

CERTIFICATION

I, Tammy Bell, City Secretary for the City of Manvel, do hereby certify that the foregoing Agenda of the Planning Development and Zoning Commission is true and correct and that I posted such notice on the bulletin board at the Manvel City Hall; a place convenient and readily accessible to the public on 08/07/2025 in accordance with the Texas Open Meetings Act (Tex. Gov't. Code §551.001 et.seq). Said notice remained posted for at least 72 hours preceding the scheduled time of the meeting.



TAMMY BELL, CITY SECRETARY
CITY OF MANVEL, TEXAS



City of Manvel

P. O. Box 187
20025 HWY 6
Manvel, Texas 77578

(281) 489-0630
Fax (281) 489-0634

AGENDA REQUEST

REQUEST MUST BE MADE ACCORDING TO THE SUBMITTAL SCHEDULE

Meeting Requested: (Please check applicable meeting)

Planning, Development & Zoning	☒	City Council	☐	Both	☐
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Date of Request: 07/14/2025 (08/11/2025 PD&Z Meeting)

YOUR REQUEST WILL BE PLACED ON THE NEXT AVAILABLE MEETING DATE. MEETINGS ARE SECOND AND FOURTH MONDAYS FOR PLANNING, DEVELOPMENT & ZONING AND FIRST AND THIRD MONDAYS FOR CITY COUNCIL. THE AGENDAS ARE POSTED TO THE GENERAL PUBLIC AT MANVEL CITY HALL AND ON OUR WEBSITE AT www.cityofmanvel.com. THE AGENDA IS POSTED AND WILL REMAIN POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF THE MEETING. PLEASE CHECK THE BOARD FOR YOUR MEETING SCHEDULE. WE STRONGLY ENCOURAGE YOU TO ATTEND THE MEETING FOR QUESTIONS AND ANSWERS. IF YOU ARE UNABLE TO ATTEND ACTION MAY BE TABLED UNTIL THE FOLLOWING MEETING.

Person to Speak: Jared Bowlin or Brad Sweitzer

Daytime Phone: 713-784-4500 Fax Number: 713-784-4577

E-mail Address: jbowlin@ehrainc.com or bsweitzer@ehrainc.com

Description of Request and Physical Address:

Consideration and possible action to approve Final Plat for Meridiana Section 26A
Being a subdivision of 12.92 acres out of the Oliver Hall Survey, Abstract 203;
also being a partial replat of lots 8 through 13 of Lulling Stone Section One, as per plat recorded in Volume 21,
Page 267-270 of the Brazoria County Plat Records; City of Manvel, Brazoria County, Texas

Plats:

Preliminary _____

Final x

ALL DOCUMENTATION AND FEES ASSOCIATED WITH THIS AGENDA REQUEST MUST BE SUBMITTED ACCORDING TO THE MEETING SUBMITTAL SCHEDULE WHICH CAN BE FOUND ON OUR WEBSITE. BY SIGNING THIS AGENDA REQUEST FORM I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS AGENDA REQUEST FORM.

Kaitlin Gile
SIGNATURE

07/14/2025
DATE



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

STAFF REPORT TO PLANNING, DEVELOPMENT AND ZONING COMMISSION **PLAT APPLICATION**

Plat Name:	Meridiana Section 26A – Final Plat
Applicant:	Kaitlin Gile, EHRA
PD&Z Meeting Date:	August 11, 2025
Submitted By:	Jesica Portie, Assistant Planner
Report Approved by:	Dan Johnson, City Manager/ City Engineer Jose Abraham, Director of Development Services
Recommendation of Approval:	<u>YES</u>

BACKGROUND/ REVIEW NOTES

- *This proposed plat is for a new residential section within the Meridiana Master Planned Development, which was established as an Open Planned Unit Development (O-PUD) in 2009. The City Council approved the third O-PUD amendment on April 1, 2024.*
- *The 23rd amendment to the Meridiana General Development Plan (GDP) was approved by the Planning, Development, and Zoning Commission on March 25, 2024.*
- *The subject site is located on the south side of South Inspiration Way and east side of Meridiana Pkwy.*
- *The subject site is located within the City of Manvel and is part of Brazoria County Municipal Utility District (MUD) No. 57 and Brazoria County Drainage District No. 5.*
- *The proposed section includes single family lots with a minimum lot width of 55 feet and a 20-foot front setback for lots in sections in which 50% or more of the lots are 60 feet or less in width or 25 feet for lots in sections in which more than 50% of the lots are greater than 60 feet in width.*
- *The proposed plat subdivides 12.92 acre tract into 47 residential lots, 2 blocks, and 4 reserves for landscaping, open space, and utility purposes.*
- *The proposed plat generally conforms to the preliminary plat approved in July.*

STAFF RECOMMENDATION

The City staff recommends approval of this proposed plat - Meridiana Section 26A Final Plat

STATE OF TEXAS §
COUNTY OF BRAZORIA §

We, GR-M1, LTD., a Texas Limited Partnership, acting by and through Matt Lawson, President of Rise Communities, LLC, A Nevada Limited Liability Company, Authorized Agent for GR-M1, LTD., a Texas Limited Partnership, owner of the property subdivided in this plat, MERIDIANA SECTION 26A, do hereby make subdivision of said property for and on behalf of said GR-M1, LTD., a Texas Limited Partnership, according to the lines, lots, building lines, streets, alleys, parks and easements as shown hereon and dedicate for public use, the streets, alleys, parks and easements shown hereon forever, and do hereby waive all claims for damages occasioned by the establishment of grades as approved for the streets and drainage easements dedicated, or occasioned by the alteration of the surface, or any portion of the streets or drainage easements to conform to such grades, and do hereby bind ourselves, our heirs, successors and assigns to warrant and defend the title to the land so dedicated.

FURTHER, we do hereby certify that we are the owners of all property immediately adjacent to and adjoining the boundaries of the above and foregoing subdivision of MERIDIANA SECTION 26A where building setback lines or public utility easements are to be established outside the boundaries of the above and foregoing subdivision and do hereby make and establish all building setback lines and dedicate to the use of the public, all public utility easements shown in said adjacent acreage.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public utility purposes forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional eleven feet, six inches (11'-6") for ten feet (10'-0") perimeter easements or seven feet, six inches (7'-6") for fourteen feet (14'-0") perimeter easements or five feet, six inches (5'-6") for sixteen feet (16'-0") perimeter easements from a plane sixteen feet (16'-0") above the ground level upward, located adjacent to and adjoining said public utility easement that are designated with aerial easements (U.E. & A.E.) as indicated and depicted, hereon, whereby the aerial easement totals twenty one feet, six inches (21'-6") in width.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public for public utility purpose forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional ten feet (10'-0") for ten feet (10'-0") back-to-back easements, or eight feet (8'-0") for fourteen feet (14'-0") back-to-back easements or seven feet (7'-0") for sixteen feet (16'-0") back-to-back easements, from a plane sixteen feet (16'-0") above ground level upward, located adjacent to both sides and adjoining said public utility easements that are designated with aerial easements (U.E. & A.E.) as indicated and depicted hereon, whereby the aerial easement totals thirty feet (30'-0") in width.

IN TESTIMONY WHEREOF, GR-M1, LTD., a Texas Limited Partnership, has caused these presents to be signed by Matt Lawson, President of Rise Communities, LLC, a Nevada Limited Liability Company, Authorized Agent for GR-M1, LTD., a Texas Limited Partnership, thereunto authorized this ____ day of _____, 2025.

OWNER

GR-M1, LTD., a Texas Limited Partnership
By: Rise Communities, LLC,
a Nevada Limited Liability Company,
its Authorized Agent

BY: _____
Print Name: Matt Lawson
Title: President

STATE OF TEXAS §
COUNTY OF HARRIS §

BEFORE ME, the undersigned authority, on this day personally appeared Matt Lawson, President of Rise Communities, LLC, a Nevada Limited Liability Company, Authorized Agent for GR-M1, LTD., a Texas Limited Partnership, 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 as the act and deed of said limited liability company.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this ____ day of _____, 2025.

Notary Public in and for the
State of Texas
My Notary Commission Expires _____

I, Robert L. Boelsche, a Registered Professional Land Surveyor of the State of Texas, hereby certify that this subdivision is true and correct; was prepared from an actual boundary survey of the property made on the ground under my supervision according to the standards of practice of the Texas Board of Professional Land Surveyors; that the plat boundary corners have been tied to the nearest street intersection; that the boundary corners, angle points, points of curvature/tangency and interior corners of this subdivision were not set at the time this plat was signed by me and that these corners are to be set after construction of the public infrastructure and final lot grading within the subdivision; and that all previously existing property markers are sufficiently described on this document as found and all set markers are a minimum of 5/8- inch diameter iron rod with surveyor's cap.

Robert L. Boelsche, Registered Professional Land Surveyor
Texas Registration No. 4446

This is to certify that the Planning, Development, and Zoning Commission of the City of Manvel, Texas, has approved this plat of MERIDIANA SECTION 26A in conformance with laws of the State of Texas and the Ordinances of the City of Manvel as shown hereon and authorizes the recording of this plat this ____ day of _____, 2025.

Planning, Development, and Zoning Commission

METES AND BOUNDS DESCRIPTION
MERIDIANA SECTION 26A
BEING 12.92 ACRES SITUATED IN THE
OLIVER HALL SURVEY, ABSTRACT 203,
BRAZORIA COUNTY, TEXAS

DESCRIPTION OF A 12.92 ACRE TRACT OF LAND SITUATED IN THE OLIVER HALL SURVEY, ABSTRACT 203, BRAZORIA COUNTY, TEXAS, BEING A PORTION OUT OF LOTS 8 THROUGH 13 OF LULLING STONE SECTION ONE, A SUBDIVISION AS PER PLAT RECORDED IN VOLUME 21, PAGE 267-270 OF THE BRAZORIA COUNTY PLAT RECORDS AND CONVEYED TO GR-M1 IN BRAZORIA COUNTY CLERK'S FILE NUMBER (B.C.C.F. NO.), 2008028085, 2009012754, 2007050802, 2009006907, 2008035803 AND 2008035888; SAID 12.92 ACRE TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (BEARINGS BASED ON TEXAS STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH CENTRAL ZONE 4204, AS DETERMINED BY GPS MEASUREMENTS):

COMMENCING at a 5/8-inch iron rod found at the original southeasterly corner of a called 884.331 acre tract conveyed to GR-M1 under B.C.C.F. NO. 2006035182, same being the northeasterly corner of Lot 1 of said Lulling Stone Section One;

THENCE, South 59°53'03" West, along the common line of said Lulling Stone Section One and the said 884.331 acre tract a distance of 1,870.87 feet to a point for corner;

THENCE, South 30°06'57" East, a distance of 1,051.65 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set marking the most northerly corner and the POINT OF BEGINNING of the herein described tract of land;

1) THENCE, South 33°02'37" East, for a distance of 69.43 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

2) THENCE, South 54°21'52" East, for a distance of 242.62 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

3) THENCE, South 57°49'48" East, for a distance of 52.77 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

4) THENCE, South 67°36'54" East, for a distance of 53.03 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

5) THENCE, South 76°03'26" East, for a distance of 54.14 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

6) THENCE, South 78°27'29" East, for a distance of 55.50 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

7) THENCE, South 87°09'23" East, for a distance of 64.57 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

8) THENCE, North 80°29'19" East, for a distance of 120.87 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

9) THENCE, South 09°30'41" East, for a distance of 120.62 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

10) THENCE, South 11°32'31" West, for a distance of 465.00 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for corner;

11) THENCE, North 78°27'29" West, for a distance of 968.97 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set in the arc of a non-tangent curve;

12) THENCE, in a northeasterly direction along the arc of a non-tangent curve to the left having a radius of 275.00 feet, an arc length of 21.06 feet, an angle of 04°23'16", and a chord bearing North 04°22'39" East, for a distance of 21.05 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for tangency;

13) THENCE, North 02°11'01" East, for a distance of 49.84 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for curvature;

14) THENCE, in a northwesterly direction along the arc of a curve to the left having a radius of 200.00 feet, an arc length of 123.85 feet, an angle of 35°28'55", and a chord bearing North 15°33'26" West, for a distance of 121.89 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for tangency;

15) THENCE, North 33°17'53" West, for a distance of 31.87 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for curvature;

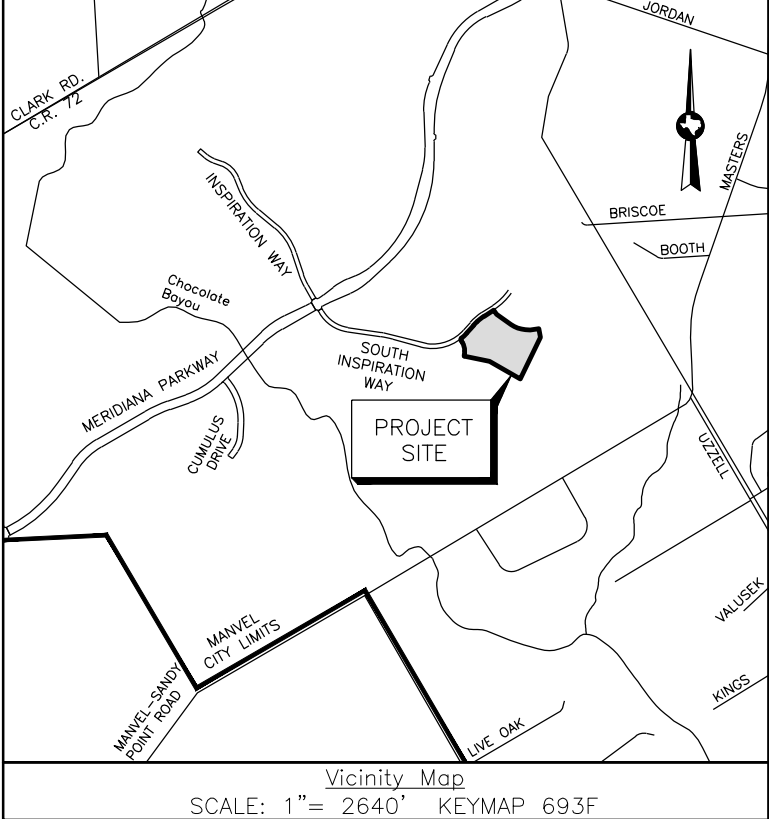
16) THENCE, in a northeasterly direction along the arc of a curve to the right having a radius of 25.00 feet, an arc length of 36.78 feet, an angle of 84°18'17", and a chord bearing North 08°51'15" East, for a distance of 33.56 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for reverse curvature;

17) THENCE, in a northeasterly direction along the arc of a reverse curve to the left having a radius of 630.00 feet, an arc length of 104.89 feet, an angle of 09°32'22", and a chord bearing North 46°14'13" East, for a distance of 104.77 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for tangency;

18) THENCE, North 41°28'02" East, for a distance of 138.84 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for curvature;

19) THENCE, in a northeasterly direction along the arc of a curve to the right having a radius of 720.00 feet, an arc length of 194.64 feet, an angle of 15°29'21", and a chord bearing North 49°12'43" East, for a distance of 194.05 feet to a 5/8-inch capped iron rod stamped "E.H.R.A. 713-784-4500" set for tangency;

20) THENCE, North 56°57'23" East, for a distance of 155.22 feet to the POINT OF BEGINNING and containing 12.92 acres of land.



BENCHMARK:

NGS MONUMENT # F 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO, AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND.
ELEV.=52.00 (NAVD '88) 1991 ADJUSTMENT

FINAL PLAT MERIDIANA SECTION 26A

BEING A SUBDIVISION OF 12.92 ACRES OUT OF THE
OLIVER HALL SURVEY, ABSTRACT 203;
ALSO BEING A PARTIAL REPLAT OF LOTS 8 THROUGH 13 OF
LULLING STONE SECTION ONE, AS PER PLAT RECORDED IN
VOLUME 21, PAGE 267-270 OF THE
BRAZORIA COUNTY PLAT RECORDS;
CITY OF MANVEL,
BRAZORIA COUNTY, TEXAS.

47 LOTS 2 BLOCKS 4 RESERVES (0.7271 ACRES)

OWNER

GR-M1, LTD.
A TEXAS LIMITED PARTNERSHIP
1602 AVENUE D, SUITE 100
KATY, TEXAS 77493
PH (832) 437-7863

AUGUST 1, 2025

ENGINEER/SURVEYOR



10011 MEADOWGLEN LN
HOUSTON, TEXAS 77042
713-784-4500
WWW.EHRA.TEAM
TBPE No. F-726
TBPELS No. 10092300

GENERAL NOTES:

1. Bearing orientation is based on the Texas State Plane Coordinate System of 1983, SouthCentral Zone as determined by GPS measurements. The coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale factor: 0.99986742185.
2. According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No. 48039C0110K and 48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone "X".

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA.

3. A indicates Abstract.
B.C.C.F. NO. indicates Brazoria County Clerk's File Number.
B.C.P.R. indicates Brazoria County Plat Records.
B.L. indicates Building Line.
(F) indicates Found 5/8-inch iron rod with cap stamped "E.H.R.A. 713-784-4500".
FND. indicates Found.
I.R. indicates Iron Rod.
NO. indicates Number.
PG. indicates Page.
P.A.E. indicates Permanent Access Easement.
P.O.B. indicates Point of Beginning.
P.O.C. indicates Point Of Commencing.
P.U.E. indicates Public Utility Easement.
P.V.T. indicates Private.
R indicates Radius.
R.O.W. indicates Right-Of-Way.
S.S.E. indicates Sanitary Sewer Easement.
S.T.M.S.E. indicates Storm Sewer Easement.
SQ. FT. indicates Square Foot.
W.L.E. indicates Water Line Easement.
U.E. indicates Utility Easement.
VOL. indicates Volume.
 indicates change in street name.

4. Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of any fences, buildings, plantings, or other obstructions.
5. The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel, Brazoria County M.U.D. No. 57, Alvin Independent School District, and Brazoria County Drainage District #5.
6. The terms and conditions of Ordinance numbers 2024-0-13 of the City of Manvel, Texas dated April 1, 2024, may affect this plat.
7. All sidewalks shall be constructed in accordance with City of Manvel Ordinance No. 2024-0-13.
8. No building, plumbing, electrical, or mechanical permit shall be issued by the city for the construction or repair of any structure on a lot, tract, or parcel of land within a subdivision for which a final, minor, or amending plat has not been approved by the city and filed of record. No building, plumbing, electrical, or mechanical permit shall be issued by the city for the construction or repair of any structure on a lot, tract, or parcel of land within a subdivision in which the required storm drainage improvements, which may include detention ponds, have not been constructed and the permanent public improvements have not been approved and accepted by the city.
9. No residential, commercial, or industrial structure, other than structures necessary to operate the pipeline, shall be erected or moved to a location nearer than 50 feet to any pipeline, except for low pressure distribution system pipeline as defined in section 62-2, as per Manvel Ordinance Sec. 62-116a.
10. No residential, commercial, or industrial structures shall be permitted to be erected nearer than 150 feet from any oil or gas well or related facility other than structures necessary to operate the oil or gas well or facility, as per Manvel Ordinance Sec. 62-116a.
11. This final plat will expire two (2) years after final approval by Planning, Development and Zoning Commission, if construction of the improvements has not commenced within the two-year initial period and the one-year extension period granted by the Planning, Development and Zoning Commission.
12. A two-year maintenance bond, in the amount of fifty percent (50%) of the cost of the infrastructure improvements, valid two (2) years from the date the infrastructure is accepted and/or approved by the City (within city if applicable and will be required before permits are issued).
13. All boundary corners for the plat shown hereon are set 5/8-inch iron rods with cap stamped "E.H.R.A. 713-784-4500", unless otherwise noted.
14. The boundary for this plat has a closure in excess of 1:15,000.
15. The drainage on adjacent property will not be impacted by this development.
16. Development regulations and City permits are required on all property.
17. Percentage of lots 60' wide or less: 85.11%

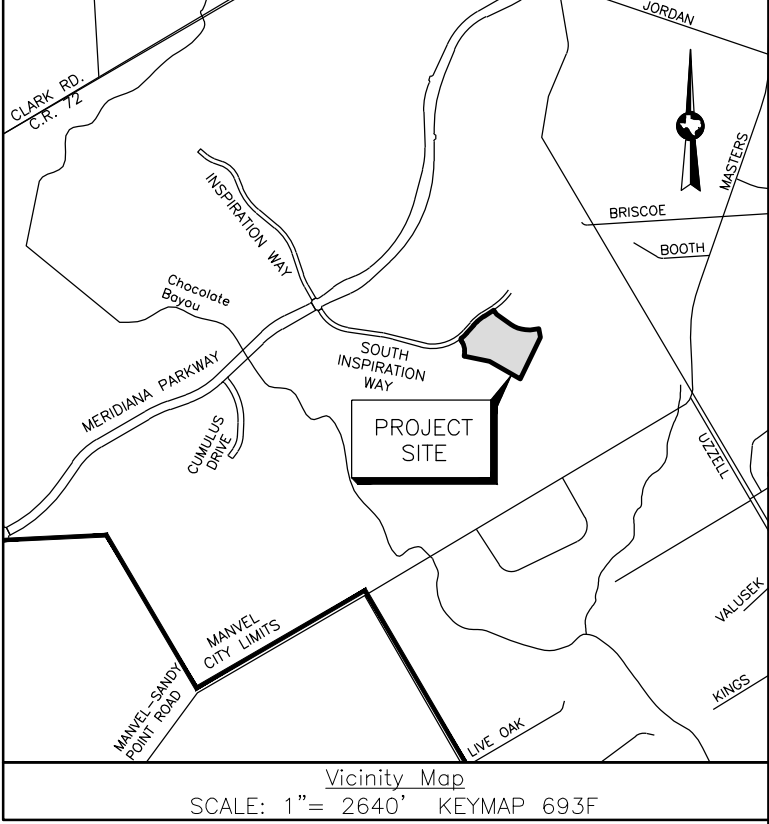
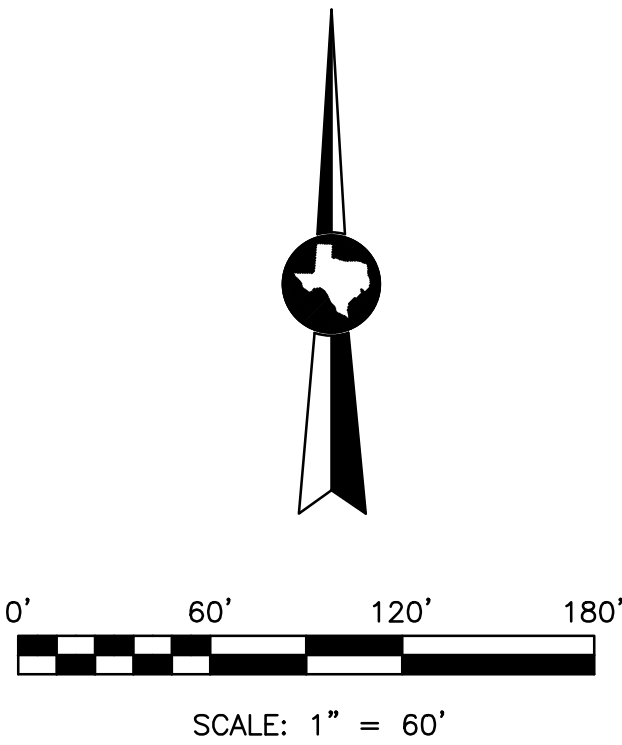
LOT TABLE			
BLOCK	LOT	SQ. FEET	LOT WIDTH
1	1	8,027	56.23'
	2	7,367	55.00'
	3	10,184	55.00'
	4	9,519	55.00'
	5	7,192	55.00'
	6	6,950	55.60'
	7	7,110	58.27'
	8	7,701	68.25'
	9	7,598	69.25'
	10	7,183	62.85'
	11	6,660	55.60'
	12	7,209	55.71'
2	13	17,912	55.50'
	14	11,739	55.19'
	15	6,844	55.17'
	16	6,875	55.00'
	17	6,847	55.17'
	18	11,677	55.00'
	19	15,910	55.00'
	20	7,450	55.00'
	21	7,150	55.00'
	22	7,150	55.00'
	23	7,150	55.00'
3	24	7,150	55.00'
	25	7,150	55.00'
	26	7,150	55.00'
	27	7,150	55.00'
	28	7,684	55.00'
	29	8,598	55.00'
	30	10,035	55.00'
	31	11,875	55.00'
	32	10,557	55.00'
	33	11,976	55.00'
	34	11,102	55.00'
4	35	7,022	56.49'
	36	10,974	60.61'
	37	8,118	71.74'
	38	7,618	64.35'
	39	8,639	58.98'
	40	10,870	92.77'
	41	11,249	59.75'
	42	11,349	59.75'
	43	10,888	59.75'
	44	10,240	59.75'
	45	9,822	59.75'
	46	9,822	59.75'

BENCHMARK:

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND.
ELEV.=52.00 (NAVD '88) 1991 ADJUSTMENT



RESERVE TABLE			
RESERVE	RESTRICTED TO	AREA	MAINTENANCE
A	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	8,996 SQ. FT. / 0.2065 ACRES	BRAZORIA COUNTY MUD NO. 57
B	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	1,300 SQ. FT. / 0.0298 ACRES	BRAZORIA COUNTY MUD NO. 57
C	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	15,517 SQ. FT. / 0.3562 ACRES	BRAZORIA COUNTY MUD NO. 57
D	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	5,865 SQ. FT. / 0.1346 ACRES	BRAZORIA COUNTY MUD NO. 57
TOTAL		31,678 SQ. FT. / 0.7271 ACRES	



CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING
C1	275.00'	21.06'	4°23'16"	N 04°22'39" E 21.05'
C2	200.00'	123.85'	35°28'55"	N 15°33'26" W 121.89'
C3	25.00'	36.78'	84°18'17"	N 08°51'15" E 35.56'
C4	630.00'	104.89'	9°32'22"	N 46°14'13" E 104.77'
C5	720.00'	194.64'	15°29'21"	N 49°12'43" E 194.05'
C6	600.00'	153.21'	14°37'48"	N 48°46'56" E 152.79'
C7	50.00'	60.68'	69°32'17"	S 89°08'01" E 57.03'
C8	500.00'	210.26'	24°05'37"	S 66°24'41" E 208.51'
C9	50.00'	78.54'	90°00'00"	S 33°27'29" E 70.71'
C10	50.00'	78.54'	90°00'00"	S 56°32'31" W 70.71'
C11	500.00'	156.69'	28°55'51"	S 43°59'44" W 154.91'
C12	50.00'	78.54'	90°00'00"	N 03°31'58" W 70.71'
C13	25.00'	41.70'	95°34'29"	S 00°44'44" E 37.03'
C14	25.00'	36.42'	83°28'17"	N 89°43'54" E 35.28'
C15	625.00'	83.56'	7°59'37"	N 51°59'13" E 9.13'
C16	25.00'	8.65'	19°49'08"	N 45°44'49" E 8.60'
C17	50.00'	96.72'	110°50'15"	S 88°44'38" E 82.33'
C18	25.00'	9.18'	21°02'22"	S 43°59'44" W 9.13'
C19	475.00'	199.74'	24°05'37"	S 66°24'41" E 198.27'
C20	25.00'	9.18'	21°02'22"	S 88°58'40" E 9.13'
C21	50.00'	115.26'	132°04'44"	S 33°27'29" E 91.38'
C22	25.00'	9.18'	21°02'22"	S 22°03'42" W 9.13'
C23	25.00'	9.18'	21°02'22"	S 01°01'20" W 9.13'
C24	50.00'	115.26'	132°04'44"	S 56°32'31" W 91.38'
C25	25.00'	9.18'	21°02'22"	N 67°56'18" W 9.13'
C26	325.00'	169.75'	29°45'31"	N 63°29'44" W 167.82'
C27	25.00'	9.18'	21°02'22"	N 59°03'09" W 9.13'
C28	50.00'	115.26'	132°04'44"	N 03°31'58" W 91.38'
C29	25.00'	9.18'	21°02'22"	N 51°59'13" E 9.13'
C30	25.00'	39.27'	90°00'00"	N 03°31'58" W 35.36'
C31	25.00'	39.27'	90°00'00"	S 86°28'02" W 35.36'
C32	575.00'	146.82'	14°37'48"	N 48°46'56" E 146.42'
C33	25.00'	30.34'	69°32'17"	S 89°08'01" E 28.51'
C34	525.00'	220.77'	24°05'37"	S 66°24'41" E 219.15'
C35	25.00'	39.27'	90°00'00"	S 33°27'29" E 35.36'
C36	575.00'	146.82'	14°37'48"	N 48°46'56" E 146.42'
C37	275.00'	143.63'	29°55'31"	N 63°29'44" W 142.00'
C38	25.00'	39.27'	90°00'00"	N 03°31'58" W 35.36'
C39	500.00'	114.39'	13°06'31"	N 36°40'12" W 114.15'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S 33°02'37" E	69.43'
L2	S 57°49'48" E	62.77'
L3	S 67°36'54" E	53.03'
L4	S 76°03'26" E	54.14'
L5	S 78°27'29" E	55.50'
L6	S 87°09'23" E	64.57'
L7	N 02°11'01" E	49.84'
L8	N 33°17'53" W	31.87'
L9	S 78°27'29" E	96.50'
L10	N 48°11'58" W	29.58'
L11	N 41°28'02" E	85.70'
L12	S 00°31'21" E	13.71'
L13	S 33°27'29" W	7.57'
L14	N 86°28'02" E	7.57'
L15	N 86°28'02" E	21.21'
L16	N 00°01'55" E	19.50'
L17	N 49°13'44" E	61.48'
L18	N 56°57'23" E	54.58'
L19	N 23°46'49" E	59.66'
L20	S 68°24'29" E	19.53'
L21	N 65°17'03" W	61.36'
L22	S 56°32'31" W	7.57'

MINIMUM FINISH FLOOR ELEVATION	
BLOCK/RESERVE	ELEVATION
BLOCKS 1-2	49.0
EXISTING ELEVATION INFORMATION	
NATURAL GROUND	ELEVATION
1% ANNUAL CHANCE FLOOD	44.9
0.2% ANNUAL CHANCE FLOOD	45.2

FINAL PLAT
MERIDIANA SECTION 26A

BEING A SUBDIVISION OF 12.92 ACRES OUT OF THE
OLIVER HALL SURVEY, ABSTRACT 203;
ALSO BEING A PARTIAL REPLAT OF LOTS 8 THROUGH 13 OF
LULLING STONE SECTION ONE, AS PER PLAT RECORDED IN
VOLUME 21, PAGE 267-270 OF THE
BRAZORIA COUNTY PLAT RECORDS:
CITY OF MANVEL,
BRAZORIA COUNTY, TEXAS.

47 LOTS 2 BLOCKS 4 RESERVES (0.7271 ACRES)

OWNER

GR-MI, LTD.
A TEXAS LIMITED PARTNERSHIP
1602 AVENUE D, SUITE 100
KATY, TEXAS 77493
PH (832) 437-7863

AUGUST 1, 2025

ENGINEER/SURVEYOR



10011 MEADOWGLEN LN
HOUSTON, TEXAS 77042
713-784-4500
WWW.EHRA.TEAM
TBPE No. F-726
TBPEs No. 10092300

Land Use Table		
Use	Gross Area	%
Single Family (SF)	+/- 914 Ac.	53%
Garden Home (GH)	+/- 30 Ac.	2%
Patio Home (PH)	+/- 88 Ac.	4%
Townhome (TH)	+/- 35 Ac.	2%
Village Center (VC)	+/- 38 Ac.	2%
Commercial (C)	+/- 15 Ac.	1%
Institutional (I)	+/- 70 Ac.	4%
Rights-of-Way*	+/- 96 Ac.	6%
Parks & Open Space (P-OS)	+/- 450 Ac.	26%
Drill Site		
Totals	+/- 1,736 Ac.	100%
* Includes proposed major thoroughfares, collectors, and neighborhood collectors.		

Legend

Private Gated Section

Public Section

Divided or Boulevard Entry
(See Note 1)

Standard Entry
(See Note 2)

- Notes**

1. A divided or boulevard entry consisting of two (2) 20-foot wide travel lanes separated by a median having a minimum width of 14 feet shall be considered two points of access.

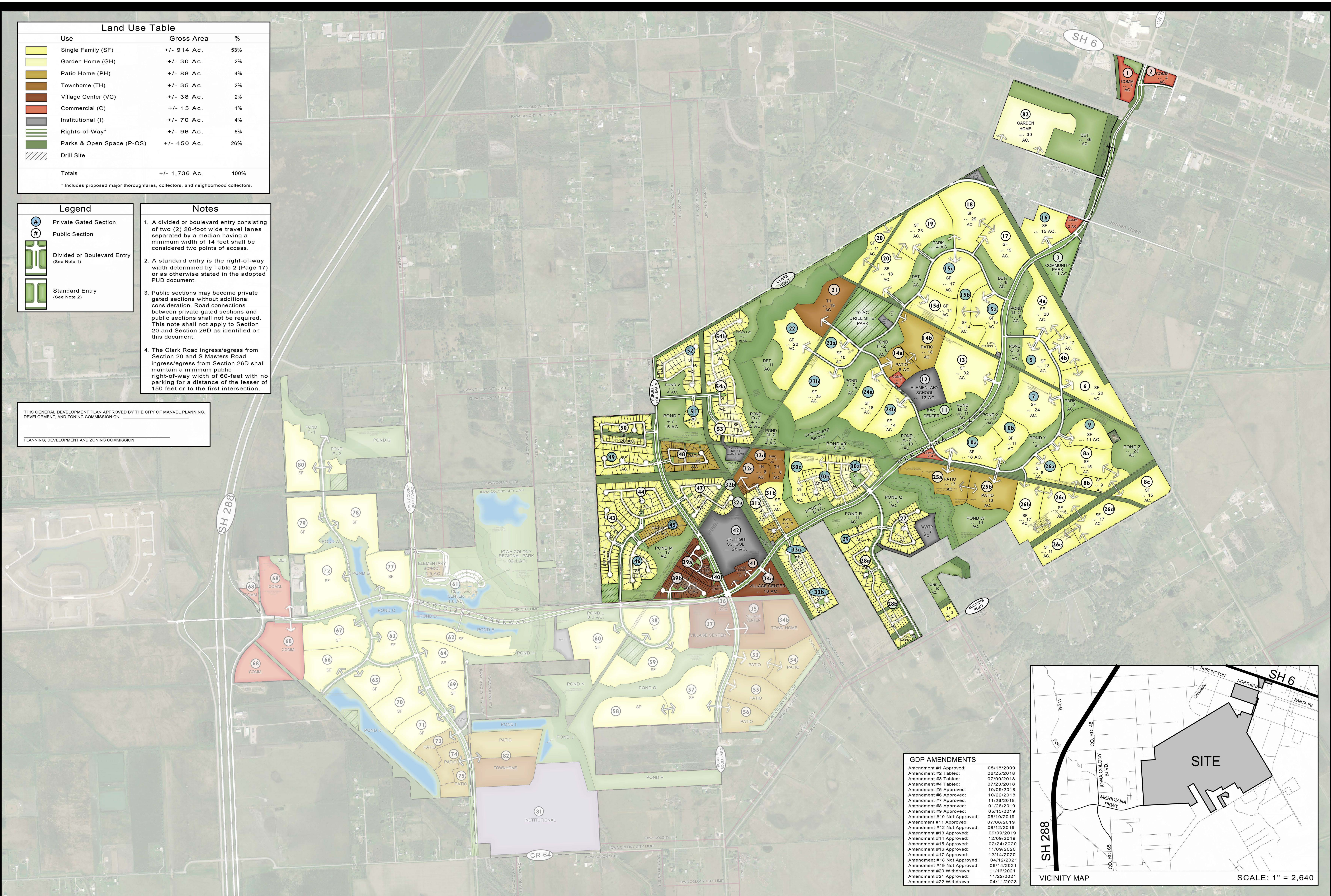
2. A standard entry is the right-of-way width determined by Table 2 (Page 17) or as otherwise stated in the adopted PUD document.

3. Public sections may become private gated sections without additional consideration. Road connections between private gated sections and public sections shall not be required. This note shall not apply to Section 20 and Section 26D as identified on this document.

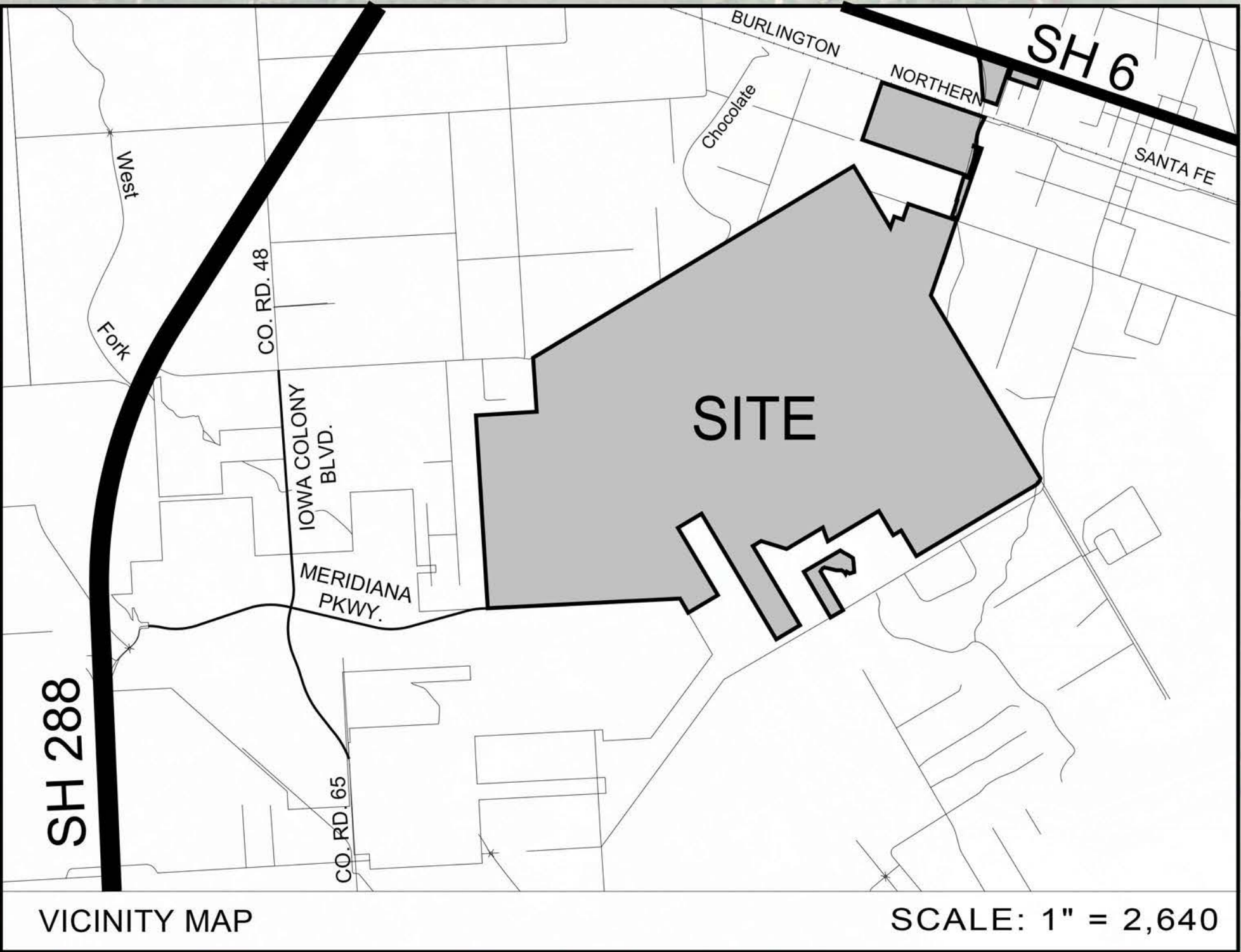
4. The Clark Road ingress/egress from Section 20 and S Masters Road ingress/egress from Section 26D shall maintain a minimum public right-of-way width of 60-feet with no parking for a distance of the lesser of 150 feet or to the first intersection.

THIS GENERAL DEVELOPMENT PLAN APPROVED BY THE CITY OF MANVEL PLANNING, DEVELOPMENT, AND ZONING COMMISSION ON _____

PLANNING, DEVELOPMENT AND ZONING COMMISSION _____



GDP AMENDMENTS	
Amendment #1 Approved:	05/18/2009
Amendment #2 Tabled:	06/25/2018
Amendment #3 Tabled:	07/09/2018
Amendment #4 Tabled:	07/23/2018
Amendment #5 Approved:	10/09/2018
Amendment #6 Approved:	10/22/2018
Amendment #7 Approved:	11/26/2018
Amendment #8 Approved:	01/28/2019
Amendment #9 Approved:	05/13/2019
Amendment #10 Not Approved:	06/10/2019
Amendment #11 Approved:	07/08/2019
Amendment #12 Not Approved:	08/12/2019
Amendment #13 Approved:	09/09/2019
Amendment #14 Approved:	12/09/2019
Amendment #15 Approved:	02/24/2020
Amendment #16 Approved:	11/09/2020
Amendment #17 Approved:	12/14/2020
Amendment #18 Not Approved:	04/12/2021
Amendment #19 Not Approved:	06/14/2021
Amendment #20 Withdrawn:	11/16/2021
Amendment #21 Approved:	11/22/2021
Amendment #22 Withdrawn:	04/11/2023





City of Manvel

P. O. Box 187
20025 HWY 6
Manvel, Texas 77578

(281) 489-0630
Fax (281) 489-0634

AGENDA REQUEST

REQUEST MUST BE MADE ACCORDING TO THE SUBMITTAL SCHEDULE

Meeting Requested: (Please check applicable meeting)

Planning, Development & Zoning	☒	City Council	☐	Both	☐
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Date of Request: August 11, 2025

YOUR REQUEST WILL BE PLACED ON THE NEXT AVAILABLE MEETING DATE. MEETINGS ARE SECOND AND FOURTH MONDAYS FOR PLANNING, DEVELOPMENT & ZONING AND FIRST AND THIRD MONDAYS FOR CITY COUNCIL. THE AGENDAS ARE POSTED TO THE GENERAL PUBLIC AT MANVEL CITY HALL AND ON OUR WEBSITE AT www.cityofmanvel.com. THE AGENDA IS POSTED AND WILL REMAIN POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF THE MEETING. PLEASE CHECK THE BOARD FOR YOUR MEETING SCHEDULE. WE STRONGLY ENCOURAGE YOU TO ATTEND THE MEETING FOR QUESTIONS AND ANSWERS. IF YOU ARE UNABLE TO ATTEND ACTION MAY BE TABLED UNTIL THE FOLLOWING MEETING.

Person to Speak: Michael Turzillo

Daytime Phone: 713-784-4500 Fax Number: N/A

E-mail Address: mturzillo@ehra.team

Description of Request and Physical Address:

Consideration and possible action to approve Meridiana Section 32D Preliminary Plat, being a
subdivision of 9.67 acres, out of the Oliver Hall Survey, A-203, City of Manvel,
Brazoria County, Texas.

Plats:

Preliminary X

Final

ALL DOCUMENTATION AND FEES ASSOCIATED WITH THIS AGENDA REQUEST MUST BE SUBMITTED ACCORDING TO THE MEETING SUBMITTAL SCHEDULE WHICH CAN BE FOUND ON OUR WEBSITE. BY SIGNING THIS AGENDA REQUEST FORM I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS AGENDA REQUEST FORM.

SIGNATURE

07/14/2025

DATE



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

STAFF REPORT TO PLANNING, DEVELOPMENT AND ZONING COMMISSION **PLAT APPLICATION**

Plat Name:	Meridiana Section 32D - Preliminary Plat
Applicant:	Brad Sweitzer – EHRA Engineering
PD&Z Meeting Date:	August 11, 2025
Submitted By:	Jesica Portie, Assistant Planner
Report Approved by:	Dan Johnson, City Manager/ City Engineer Jose Abraham, Director of Development Services
Recommendation of Approval:	<u>YES</u>

BACKGROUND/ REVIEW NOTES

- *This proposed plat is for a new residential section within the Meridiana Master Planned Development, which was established as an Open Planned Unit Development (O-PUD) in 2009. The City Council approved the third O-PUD amendment on April 1, 2024.*
- *The 23rd amendment to the Meridiana General Development Plan (GDP) was approved by the Planning, Development, and Zoning Commission on March 25, 2024.*
- *The subject site is located on the east side of Brazoria County MUD No.56 Water Plant and west side of Meridiana Pkwy.*
- *The subject site is located within the City of Manvel and is part of Brazoria County Municipal Utility District (MUD) No. 56 and Brazoria County Drainage District No. 5.*
- *The proposed section includes townhome lots with a minimum lot width of 25 feet and a 20-foot front setback for front-loaded units, or a 10-foot setback for rear-loaded units.*
- *The proposed plat subdivides 9.67-acre tract into 52 residential lots, 3 blocks, and 8 reserves for landscaping, open space, parking, and utility purposes.*

STAFF RECOMMENDATION

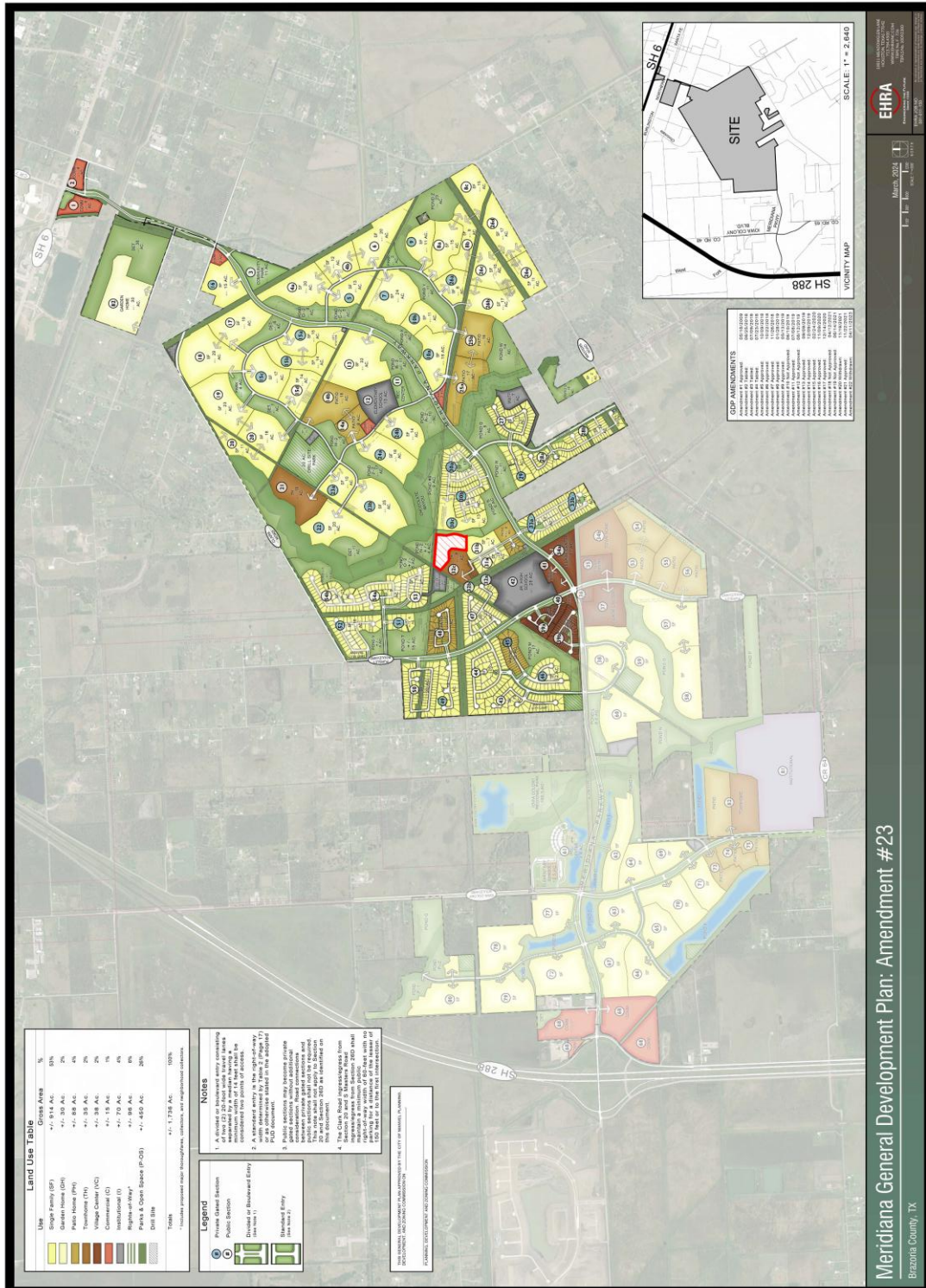
The City staff recommends approval of this proposed plat - Meridiana Section 32D Preliminary Plat



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

Meridiana General Development Plan Amendment No. 23 (dated March 25,2024)



GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 0.99998742185.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No. 48039C0110K, dated December 30, 2020, the property lies partially within Unshaded Zone X, partially within Shaded Zone X, and partially within Zone AE.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA.
- B.C.C.F. indicates Brazoria County Clerk's File.
B.C.P.R. indicates Brazoria County Plat Records.
B.L. indicates Building Line.
D.E. indicates Drainage Easement.
M.H. indicates Manhole.
P.G. indicates Page.
P.A.E. indicates Permanent Access Easement.
P.O.B. indicates Point of Beginning.
P.U.E. indicates Public Utility Easement.
P.V.T. indicates Private.
R indicates Radius.
R.O.W. indicates Right-Of-Way.
S.S.E. indicates Sanitary Sewer Easement.
S.T.M.S.E. indicates Storm Sewer Easement.
U.E. indicates Utility Easement.
VOL. indicates Volume.
W.L.E. indicates Water Line Easement.
↗ indicates change in street name.
- The property subdivided in the foregoing plat lies in Brazoria County, Alvin Independent School District, Brazoria County Drainage District #5, City of Manvel, and Brazoria County MUD No. 56.
- Property within the boundaries of the plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences, buildings, plantings, and other obstructions.
- Contour lines shown hereon are based on the NGS Benchmark E 306 being noted hereon.
- No residential, commercial, or industrial structure, other than structures necessary to operate the pipeline, shall be erected or moved to a location nearer than 50 feet to any pipeline, except for low pressure distribution system pipeline as defined in section 62-2, as per Manvel Ordinance Sec. 62-116a.
- Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document.
- Approval of the preliminary plat does not constitute acceptance of the subdivision, but is merely an authorization to proceed with the preparation of the final plat. Approval of the preliminary plat shall expire 12 months after commission approval, unless the final plat has been submitted to commission for final approval during that time. Upon written request of the subdivider, an extension of time may be given, at the discretion of the commission, for a single extension period of six months, provided the subdivider has shown good faith in proceeding to complete the work necessary prior to filing the final plat.
- The 1% annual Base Flood Elevation (BFE) for this site is 46.5. The 0.2% annual BFE is 47.0.
- The following lots are permitted to have two-story structures: Lot 28, Lot 29, and Lot32 - Block 1 and Lot 11-Block 2. All other lots are limited to one-story structures.
- Percentage of lots 60' wide or less: 96.15%
- Percentage of lots 70' wide or greater: 2.00%
- 9 Off-street guest parking spaces will be provided by Reserves B, E, and H. The remaining required spaces will be provided by Reserve G in Section 32C which has 4 excess parking spaces.

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 66°32'50" W	143.19'
L2	S 07°44'16" E	140.98'
L3	S 12°46'28" E	63.38'
L4	S 08°04'06" W	96.79'
L5	S 20°09'45" W	94.57'
L6	S 00°58'03" E	48.54'
L7	S 36°54'10" E	65.76'
L8	S 30°05'50" E	71.00'
L9	S 15°00'02" W	21.21'
L10	S 60°00'02" W	99.63'
L11	S 53°55'13" W	88.77'
L12	N 60°00'02" E	46.00'
L13	N 29°59'58" W	53.50'
L14	S 60°00'02" W	16.00'
L15	N 29°59'58" W	16.00'
L16	S 60°00'02" W	80.00'
L17	N 29°59'58" W	95.00'
L18	N 51°55'38" E	28.57'
L19	N 02°38'50" W	96.50'
L20	N 08°45'31" E	145.34'
L21	N 04°23'29" E	165.42'
L22	N 84°44'48" W	95.88'
L23	S 87°20'36" W	81.78'
L24	S 39°40'44" W	54.71'
L25	N 55°14'07" W	173.54'
L26	S 33°29'10" W	11.26'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	60.00'	107.61'	S 02°32'20" W	93.76'
C2	20.00'	31.42'	N 74°59'58" W	28.28'
C3	475.00'	36.42'	N 83°24'44" W	36.41'
C4	525.00'	11.72'	S 34°07'31" W	11.71'

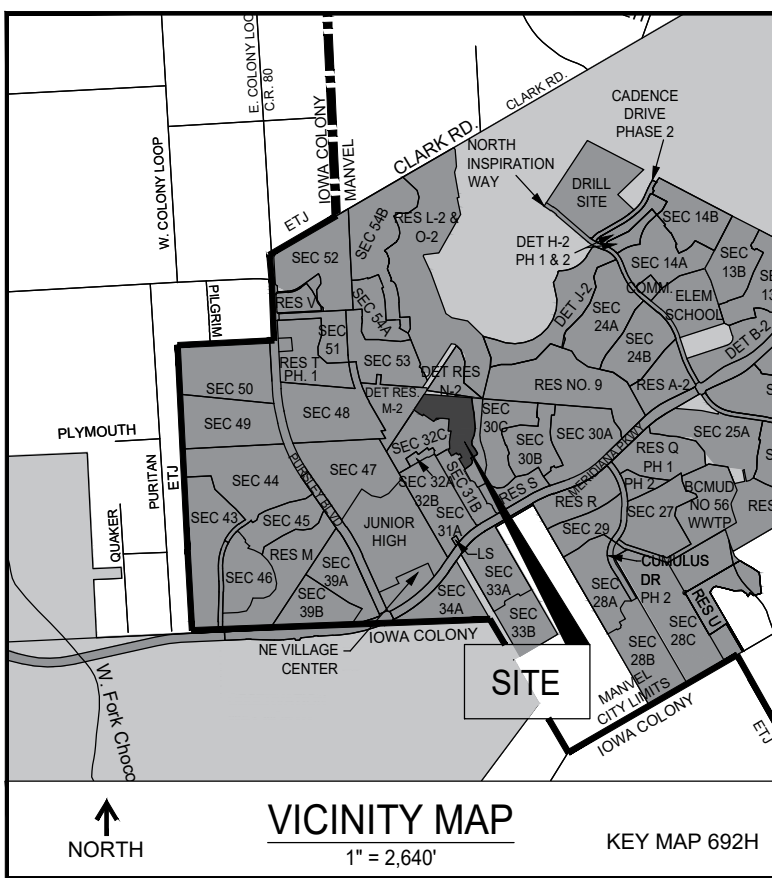
RESERVE TABLE

RESERVE	RESTRICTIONS	SQ. FT.	ACREAGE	MAINTENANCE
A	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	2,199.15	0.05	B.C.M.U.D. NO. 56
B	PARKING & UTILITY PURPOSES	840.50	0.02	B.C.M.U.D. NO. 56
C	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	4,288.04	0.11	B.C.M.U.D. NO. 56
D	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	1,526.10	0.04	B.C.M.U.D. NO. 56
E	PARKING & UTILITY PURPOSES	635.50	0.01	B.C.M.U.D. NO. 56
F	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	5,220.21	0.12	B.C.M.U.D. NO. 56
G	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	11,847.06	0.27	B.C.M.U.D. NO. 56
H	PARKING & UTILITY PURPOSES	422.58	0.01	B.C.M.U.D. NO. 56
	TOTAL	26,879.14	0.63	

LOT SIZE TABLE

BLOCK NO.	LOT NO.	LOT AREA (SQ. FT.)	*LOT WIDTH (FT.)
1	1	5,735.99	40.01'
	2	5,844.26	40.15'
	3	6,029.45	40.20'
	4	5,167.64	40.02'
	5	12,864.71	40.40'
	6	6,615.81	40.07'
	7	6,424.12	40.00'
	8	6,431.49	40.00'
	9	6,118.68	40.00'
	10	5,756.50	40.00'
	11	5,756.16	40.00'
	12	6,031.07	40.00'
	13	6,115.93	40.00'
	14	6,221.77	45.91'
	15	6,051.34	40.05'
	16	7,894.46	39.55'
	17	11,961.79	40.00'
	18	5,942.52	40.00'
	19	4,880.00	40.00'
	20	4,880.00	40.00'
	21	4,880.00	40.00'
	22	4,880.00	40.00'
	23	5,442.16	40.00'
	24	5,514.51	40.00'
	25	5,512.93	40.00'
	26	5,386.61	40.00'
	27	4,880.00	40.00'
	28	7,181.98	75.91'
	29	6,883.95	65.60'
	30	6,183.83	48.20'
	31	5,852.86	40.08'
	32	5,733.12	54.16'
2	1	5,483.07	48.53'
	2	6,098.82	42.56'
	3	5,078.35	42.04'
	4	4,876.03	42.95'
	5	4,606.19	40.00'
	6	4,641.07	40.28'
	7	4,913.19	44.74'
3	8	4,652.50	40.86'
	9	4,600.00	40.00'
	10	4,580.33	40.00'
	11	6,556.21	54.59'
	12	4,715.00	41.00'
	13	4,715.00	41.00'
6	1	5,058.37	41.00'
	2	7,059.47	49.30'
	3	6,095.85	40.00'
	4	5,946.07	40.00'
	5	5,814.54	40.00'
	6	5,770.22	40.00'

* Lot width measured at the front building setback line.



OWNER CONTACT INFORMATION
GR-M1, LTD., A TEXAS LIMITED PARTNERSHIP
1602 AVENUE D, STE. 100
KATY, TX 77493
832-916-2162

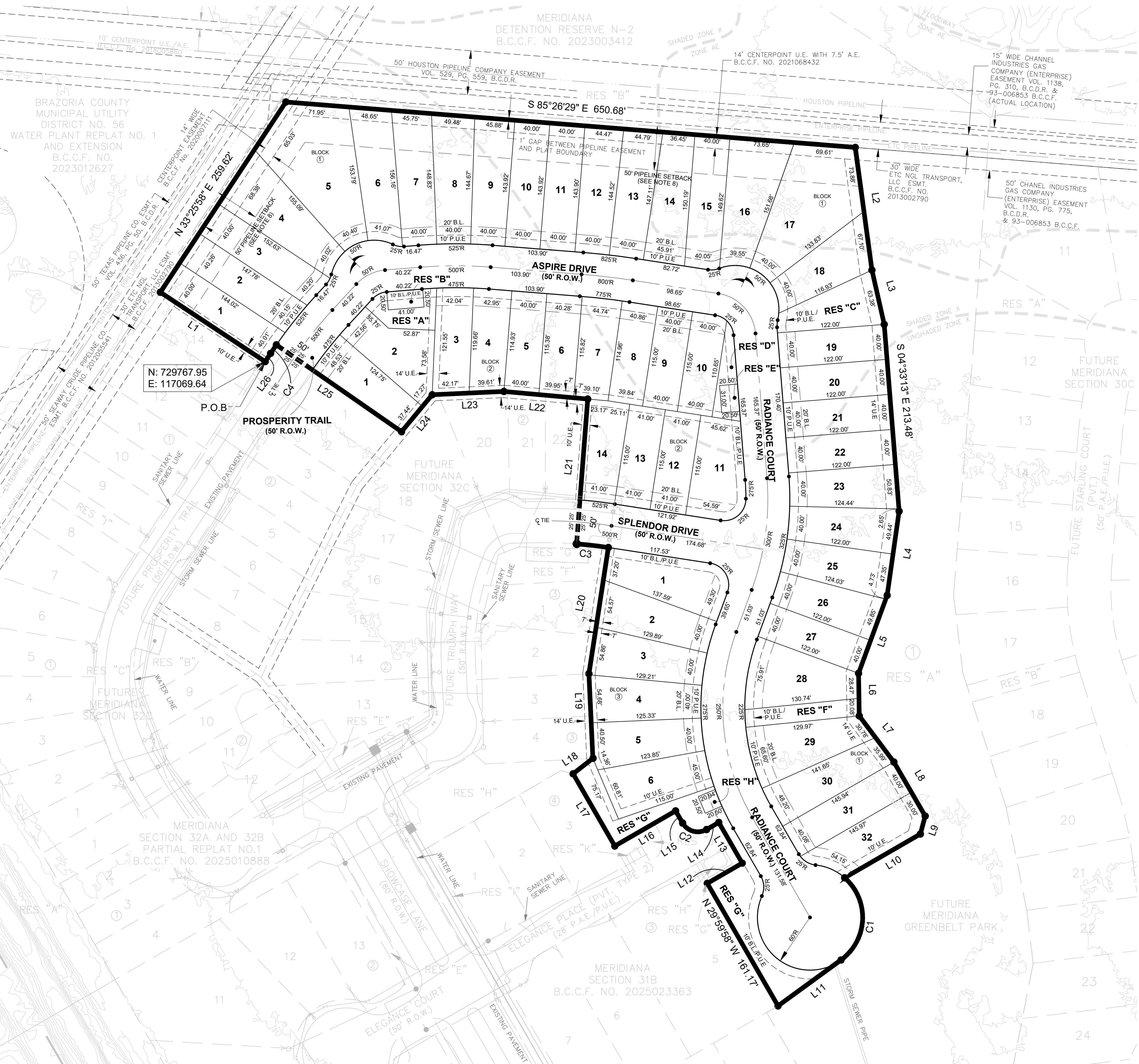
OFF-STREET GUEST PARKING SPACES

NO. OF PROPOSED LOTS	NO. OF GUEST SPACES REQUIRED	NO. OF GUEST SPACES PROVIDED
52	13	9*

*4 EXCESS SPACES IN SECTION 32C

BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND.
ELEV.=52.00' (NAVD '88) 1991 ADJUSTMENT

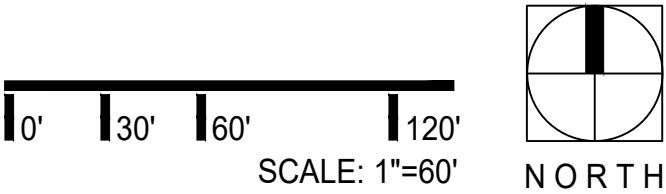


Meridiana Section 32D Preliminary Plat

A Subdivision of 9.67 acres out of the Oliver Hall Survey, A-203, City of Manvel, Brazoria County, Texas.

52 Lots, 3 Blocks and 8 Reserves

Owner: GR-M1, LTD., a Texas Limited Partnership



10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
WWW.EHRINC.COM
TBPE No. F - 726
TBPLS No. 10092300

EHRA JOB NO.
081-011-32-04

No warranty or representation of intended use, design or proposed improvements are made herein. All Plans for land or facilities are subject to change without notice.

August 5, 2025

Land Use Table		
Use	Gross Area	%
Single Family (SF)	+/- 914 Ac.	53%
Garden Home (GH)	+/- 30 Ac.	2%
Patio Home (PH)	+/- 88 Ac.	4%
Townhome (TH)	+/- 35 Ac.	2%
Village Center (VC)	+/- 38 Ac.	2%
Commercial (C)	+/- 15 Ac.	1%
Institutional (I)	+/- 70 Ac.	4%
Rights-of-Way*	+/- 96 Ac.	6%
Parks & Open Space (P-OS)	+/- 450 Ac.	26%
Drill Site		
Totals	+/- 1,736 Ac.	100%
* Includes proposed major thoroughfares, collectors, and neighborhood collectors.		

Legend

Private Gated Section

Public Section

Divided or Boulevard Entry
(See Note 1)

Standard Entry
(See Note 2)

- Notes**

1. A divided or boulevard entry consisting of two (2) 20-foot wide travel lanes separated by a median having a minimum width of 14 feet shall be considered two points of access.

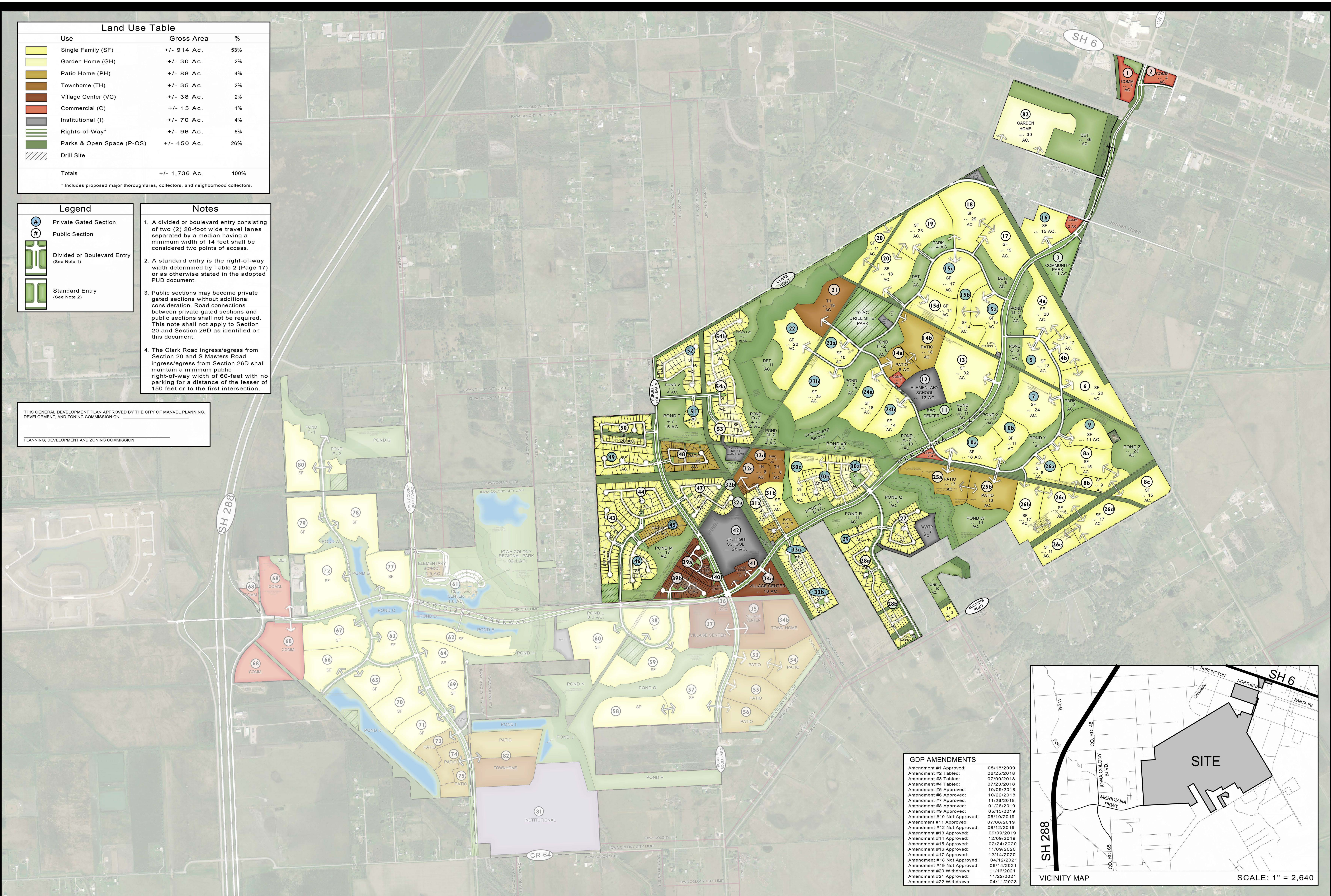
2. A standard entry is the right-of-way width determined by Table 2 (Page 17) or as otherwise stated in the adopted PUD document.

3. Public sections may become private gated sections without additional consideration. Road connections between private gated sections and public sections shall not be required. This note shall not apply to Section 20 and Section 26D as identified on this document.

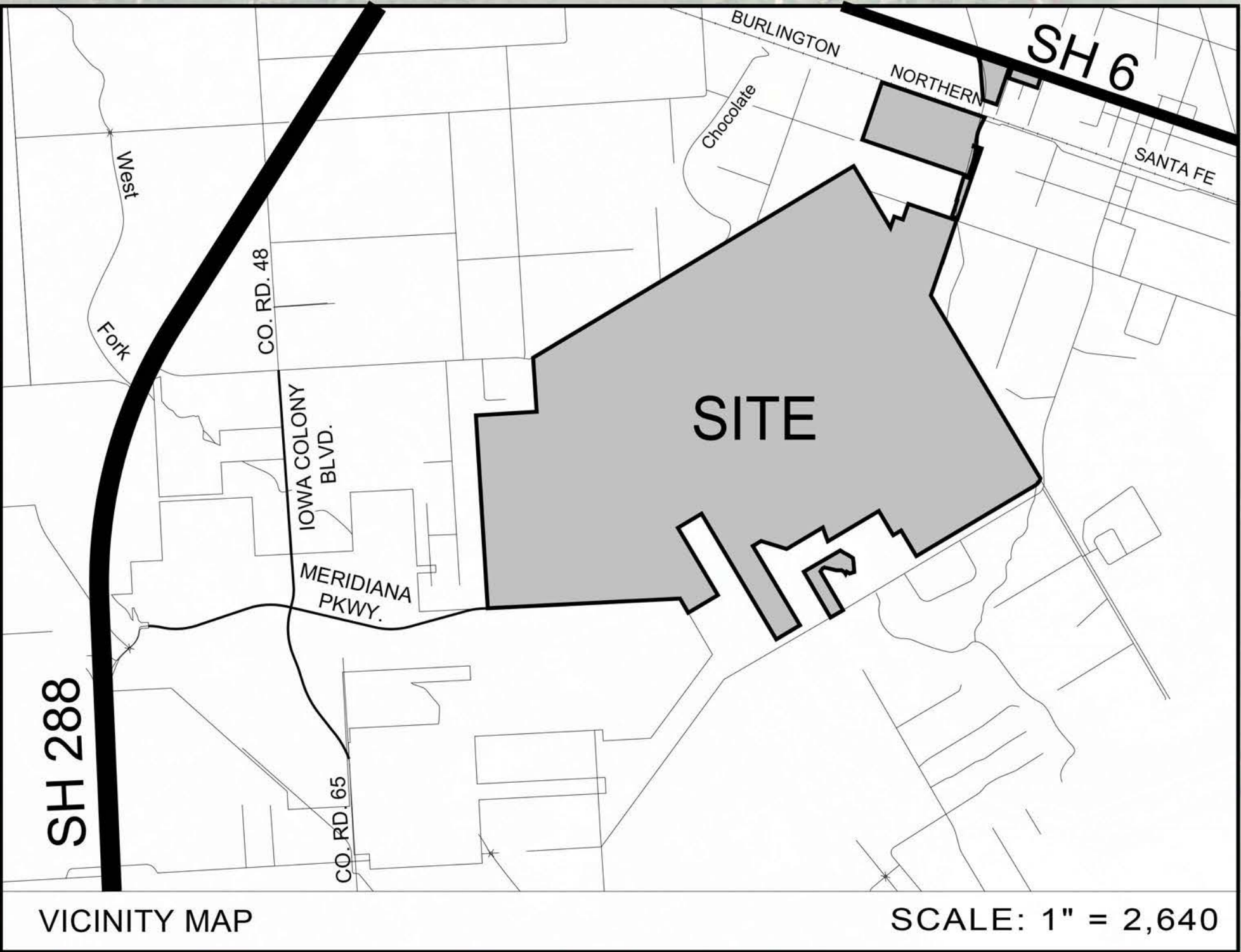
4. The Clark Road ingress/egress from Section 20 and S Masters Road ingress/egress from Section 26D shall maintain a minimum public right-of-way width of 60-feet with no parking for a distance of the lesser of 150 feet or to the first intersection.

THIS GENERAL DEVELOPMENT PLAN APPROVED BY THE CITY OF MANVEL PLANNING, DEVELOPMENT, AND ZONING COMMISSION ON _____

PLANNING, DEVELOPMENT AND ZONING COMMISSION _____



GDP AMENDMENTS	
Amendment #1 Approved:	05/18/2009
Amendment #2 Tabled:	06/25/2018
Amendment #3 Tabled:	07/09/2018
Amendment #4 Tabled:	07/23/2018
Amendment #5 Approved:	10/09/2018
Amendment #6 Approved:	10/22/2018
Amendment #7 Approved:	11/26/2018
Amendment #8 Approved:	01/28/2019
Amendment #9 Approved:	05/13/2019
Amendment #10 Not Approved:	06/10/2019
Amendment #11 Approved:	07/08/2019
Amendment #12 Not Approved:	08/12/2019
Amendment #13 Approved:	09/09/2019
Amendment #14 Approved:	12/09/2019
Amendment #15 Approved:	02/24/2020
Amendment #16 Approved:	11/09/2020
Amendment #17 Approved:	12/14/2020
Amendment #18 Not Approved:	04/12/2021
Amendment #19 Not Approved:	06/14/2021
Amendment #20 Withdrawn:	11/16/2021
Amendment #21 Approved:	11/22/2021
Amendment #22 Withdrawn:	04/11/2023



THE STATE OF TEXAS §
COUNTY OF BRAZORIA §
CITY OF MANVEL §



**MANVEL PLANNING DEVELOPMENT AND ZONING COMMISSION
NOTICE IS HEREBY GIVEN
6:00 P.M.**

MINUTES 7/29/2025

Regular Session

Call to Order

PDZ Member Ryan Miller called the meeting of the PDZ to order at 6:00 p.m. Those in attendance were:

Present: Ryan Miller
Kyle Marasckin
Kenneth Haynes
Delores Martin
William Richardson
MaryAnn Atkinson
Absent: Christy Kennard
Also Present: Tammy Bell, City Secretary
Elaheh Roohbakhsh, Senior Planner
Matt De La Rosa, Assistant City Engineer

Pledge

Public Comments: "Comment Card" Required

Staff Presentation on Public Hearing Item(s)

Public Hearing

***CANCELLED

TO HEAR INPUT FROM THE PUBLIC REGARDING AN ORDINANCE OF THE CITY OF MANVEL, TEXAS, AMENDING THE ZONING CLASSIFICATION OF AN APPROXIMATE 13.08-ACRE TRACT DEVELOPED WITH A RETAIL BUILDING AND ASSOCIATED PARKING, DESCRIBED AS RESERVE "A" OF MANVEL TOWN CENTER PHASE ONE B, LOCATED AT 17315 HIGHWAY 6, MANVEL, TEXAS (PID: 713693), FROM PLANNED UNIT DEVELOPMENT DISTRICT / STATE HIGHWAY 6 OVERLAY DISTRICT (PUD/SH6) TO PLANNED UNIT DEVELOPMENT DISTRICT / STATE HIGHWAY 6 OVERLAY DISTRICT WITH SPECIFIC USE PERMIT (PUD/SH6-SUP); PROVIDING FOR THE GRANTING OF A SPECIFIC USE PERMIT WITH CONDITIONS TO AUTHORIZE THE USE OF A LEASE

SPACE (SUITE 101) FOR NAICS USE 621111 “OFFICES OF PHYSICIANS (EXCEPT MENTAL HEALTH SPECIALISTS)””; PROVIDING FOR THE AMENDMENT OF THE CITY’S OFFICIAL ZONING MAP; PROVIDING FOR SEVERABILITY; AND PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED \$2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF.

Consent PDZ

- A. Approve the meeting minutes to date.

PDZ Member Delores Martin made the motion to approve. PDZ Member Kyle Marasckin seconded the motion.

The motion carried with a vote: 6/0

Yes: Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin, William Richardson, MaryAnn Atkinson
No: None
Absent: Christy Kennard
Abstained: None

Regular Agenda

- A. Consideration and possible action to forward a recommendation of approval to City Council for Meridiana GDP Amendment No. 24. (*Postponed at the 7/14/2025 PD&Z Meeting*)

Commissioners raised concerns about the traffic impact of approximately 100 new homes, particularly related to congestion on Masters Road and Meridiana Parkway, school zones, and emergency access. Discussion included whether right-turn-only exits or restricted access for non-emergency vehicles could alleviate congestion.

The applicant clarified that a traffic impact study had been submitted during the rezoning process and estimated 10 trips per day per household, with projections indicating most traffic would flow to Meridiana Parkway. Commissioners remained concerned about real-world traffic impacts and long-term infrastructure limitations.

Staff recommends approval with the following condition:

1. Municipal Utility District (MUD) annexation process shall be completed. (Section 62-38 (a) (14)).

PDZ Member Kyle Marasckin made the motion to approve with the condition. PDZ Member Delores Martin seconded the motion.

The motion carried with a vote: 4/2

Yes: Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin
No: William Richardson, MaryAnn Atkinson
Absent: Christy Kennard
Abstained: None

- B. Consideration and possible action to approve Meridiana Section 28C Preliminary Plat; BEING A SUBDIVISION OF 29.60 ACRES, BEING A PARTIAL REPLAT OF LOTS 7, 8, AND 9 OF LULLING STONE SECTION 3 AS RECORDED AT VOLUME 22, PAGES 231- 234, BRAZORIA COUNTY PLAT RECORDS, CITY OF MANVEL, BRAZORIA COUNTY, TEXAS. ALSO BEING A PARTIAL REPLAT OF CUMULUS DRIVE PHASE 2 AS RECORDED AT BRAZORIA COUNTY CLERK'S FILE NO. 2022027318 AND CUMULUS DRIVE PHASE 3 AS RECORDED AT BRAZORIA COUNTY CLERK'S FILE NO. 2022052111. (*Postponed at the 7/14/2025 PD&Z Meeting*)
- C. Consideration and possible action to approve Meridiana Detention Reserve U Phase 2 Preliminary Plat;

BEING A SUBDIVISION OF 9.25 ACRES, BEING A PARTIAL REPLAT OF LOT 9, BLOCK 1 OF LULLING STONE SECTION 3 AS RECORDED AT VOLUME 22, PAGES 231-234, BRAZORIA COUNTY PLAT RECORDS, CITY OF MANVEL, TEXAS. (*Postponed at the 7/14/2025 PD&Z Meeting*)

***Regular Agenda Items B & C were combined.**

Staff recommends approval with the following conditions:

For B -

1. Amendment to the General Development Plan (GDP) shall be approved (Section 62-38 (a) (15)).
2. Municipal Utility District (MUD) annexation shall be completed prior to any further action (Section 62-38 (a) (14)).
3. The west boundary is inconsistent with the recorded plat of Cumulus Drive, specifically the dimension C1 in the Reserve Table. (Section 62-38 (a)(4) & (6)).
4. Verify the location of the existing MUD boundary— it should extend south to Masters Road along the East side of Pond U Ph 1 (Section 62-38 (a)(11)).
5. Extend to show the floodplain limits line to the eastern boundary of the Plat (Section 62-38 (a)(12)).
6. Provide a tree survey to show trees within the plat boundary to ensure that creation of new lots will not impact preservation of protected trees. (Section 77-44 - Tree Preservation, Landscaping, and Screening)
7. Additional clarification/ discussion is needed on the Water Capacity provided on the submitted spreadsheet. Specifically, the ESFC for the Pressure Tanks. (Subdivision Ordinance: Section 62-112; City of Manvel – Design Criteria Manual (DCM) Section 2, 1.04 Design Requirements, F. General Requirements; and City of Manvel – Design Criteria Manual (DCM) Section 2, 2.02 Design Analysis).

For C -

1. Amendment to the General Development Plan (GDP) shall be approved (Section 62-38 (a) (15)).
2. Municipal Utility District (MUD) annexation shall be completed. (Section 62-38 (a) (14)).
3. Provide a tree survey to show trees within the plat boundary to ensure that the proposed reserve will not impact preservation of protected trees. (Section 77-44 - Tree Preservation, Landscaping, and Screening).

PDZ Member Kenneth Haynes made the motion to approve Regular Agenda Items B & C with conditions. PDZ Member Delores Martin seconded the motion.

The motion carried with a vote: 4/2

Yes:	Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin
No:	William Richardson, MaryAnn Atkinson
Absent:	Christy Kennard
Abstained:	None

- D. Consideration and possible action to approve Meridiana Detention Reserve Z Phase 2 Preliminary Plat;
BEING A SUBDIVISION OF 9.26 ACRES, BEING A PARTIAL REPLAT OF LOTS 1-6, BLOCK 1 OF LULLING STONE SECTION 1, AS RECORDED AT VOLUME 21, PAGES 267-270, BRAZORIA COUNTY PLAT RECORDS, CITY OF MANVEL, BRAZORIA COUNTY, TEXAS.

The proposal includes abandoning an existing access easement and providing temporary access along the maintenance berm of the detention pond. Permanent access to the neighboring property will be established in the future Meridiana Section 8A. The applicant clarified that temporary

access will be a gravel road tying into the existing driveway to minimize disruption.

Staff recommends approval with the following conditions:

1. The proposed temporary access to abutting residential property shall be recorded prior to Final Plat Submittal and referenced on the plat. Additionally, submit written authorization from the Development Services Department property owner indicating consent to the abandonment of the existing access easement and future access arrangement. (Section 62-38(a)(8)).
2. Please confirm accuracy of the detention ledger shown on the drainage plan. A park was shown in the previous ledger of the approved plans for Ph1 Z. Please clarify (Section 62-38 (a)(12)).

PDZ Member Ryan Miller made the motion to approve with conditions. PDZ Member Kyle Marasckin seconded the motion.

The motion carried with a vote: 4/2

Yes:	Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin
No:	William Richardson, MaryAnn Atkinson
Absent:	Christy Kennard
Abstained:	None

- E. Consideration and possible action to approve Minor Plat of City Hall Park (now formally named Heritage Park);
BEING A SUBDIVISION OF A 2.01 ACRES TRACT OF LAND, COMPROMISED OF A 1.004 ACRE (43,725 SQUARE FEET) TRACT OF LAND, SITUATED IN MANVEL OUT LOT NUMBER 92, ACCORDING TO THE PLAT RECORDS OF SAID MANVEL AND SURROUNDING ACREAGE AS RECORDED IN VOLUME 1, PAGE 69 OF THE PLAT RECORDS OF BRAZORIA COUNTY, TEXAS, AND 1.004 ACRE (CALLED 1.00 ACRE) OF LAND, SITUATED IN MANVEL OUTLOT NO. 92, ACCORDING TO THE PLAT RECORDS OF SAID MANVEL AND SURROUNDING ACREAGE AS RECORDED IN VOLUME 1, PAGE 69 OF THE PLAT RECORDS OF BRAZORIA COUNTY, TEXAS.

Staff recommends approval with the following conditions:

1. Please revise the plat name to “Heritage Park” (Section 62-41(b)(1)).
2. Please accurately depict the City/ETJ Limits on the East Side of the Vicinity Map, specifically in the area where Wolfe Airpark was de-annexed. Please correct the spelling of Kreuzer Road and Loudon St on the Vicinity Map. Please update the date on the plat (Section 62-41(b)(2)).
3. Please provide approved construction plans for the property (Section 62-41(b)(25) & (b)(26) & (b)(28).
4. Note: Please revise sheet numbers on plat (Typographic Error).

PDZ Member Delores Martin made the motion to approve with conditions. PDZ Member Mary Ann Atkinson seconded the motion.

The motion carried with a vote: 6/0

Yes:	Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin, William Richardson, MaryAnn Atkinson
No:	None
Absent:	Christy Kennard
Abstained:	None

- F. Presentation of Meridiana PUD Annual Progress Report.

Brad Schwitzer of EHRA Engineering presented the first annual PUD progress report for Meridiana on behalf of Rise Communities. Key highlights included:

Growth & Impact: Since 2018, Meridiana has brought over 2,200 homes and approximately 3,300 residents to Manvel, generating over \$540 million in taxable value.

Platting Status: Of the 3,489 planned lots in Manvel, 66% have been platted (1,591 recorded, 659

under construction, 52 preliminarily approved).

Infrastructure: Over 21.5 miles of roads, significant drainage improvements, and completion of Meridiana Parkway and bridge upgrades.

Amenities: Two Alvin ISD schools in Manvel, two recreation centers with a third in permitting, Challenger Park, 20 acres for Buddy Williams Park, and 35.5 miles of sidewalks.

Commercial Growth: New businesses along Hwy 6 include retail and healthcare, with more planned, including a daycare and the Meridiana Golf entertainment venue.

Future Development: 20 sections currently under construction, 5 new ponds underway, and a new 4.1-acre park in permitting.

Questions were raised about future commercial options like a mini-market and public access to amenities, which were addressed by the presenter. **No formal action was required.**

G. Presentation of Manvel Town Center PUD Annual Progress Report.

Developers provided an update on the 270-acre Manvel Town Center. Of the 103 acres under development, 18 tenants are open with 20 more in negotiation, including PNC Bank and In-N-Out Burger. Lowe's is expected to open by year-end. A central plaza with patios, lighting, and green space is being built to enhance the visitor experience. The focus remains on retail and service businesses, with no plans for industrial or office uses. PD&Z expressed appreciation. **No formal action was required.**

H. Development Services Staff Update.

Elaheh Roohbakhsh, Senior Planner, provided the update.

I. Consideration and possible action to direct staff to provide Applicants written statements of the conditions for any conditional approvals, and the reasons for disapproval of any plans or plats that were not approved, per Texas Local Government Code §212.0091.

PDZ Member Ryan Miller made the motion to approve. PDZ Member Delores Martin seconded the motion.

The motion carried with a vote: 6/0

Yes: Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin, William Richardson, MaryAnn Atkinson

No: None

Absent: Christy Kennard

Abstained: None

Adjourn

PDZ Member Ryan Miller made the motion to adjourn the meeting at 6:43 p.m. PDZ Member Delores Martin seconded the motion.

The motion carried with a vote: 6/0

Yes: Ryan Miller, Kyle Marasckin, Kenneth Haynes, Delores Martin, William Richardson, MaryAnn Atkinson

No: None

Absent: Christy Kennard

Abstained: None

CERTIFICATION

TAMMY BELL, CITY SECRETARY
CITY OF MANVEL, TEXAS



City of Manvel

P. O. Box 187
20025 HWY 6
Manvel, Texas 77578

(281) 489-0630
Fax (281) 489-0634

AGENDA REQUEST

REQUEST MUST BE MADE ACCORDING TO THE SUBMITTAL SCHEDULE

Meeting Requested: (Please check applicable meeting)

Planning, Development & Zoning	☒	City Council	☐	Both	☐
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Date of Request: August 11, 2025 (PD&Z)

YOUR REQUEST WILL BE PLACED ON THE NEXT AVAILABLE MEETING DATE. MEETINGS ARE SECOND AND FOURTH MONDAYS FOR PLANNING, DEVELOPMENT & ZONING AND FIRST AND THIRD MONDAYS FOR CITY COUNCIL. THE AGENDAS ARE POSTED TO THE GENERAL PUBLIC AT MANVEL CITY HALL AND ON OUR WEBSITE AT www.cityofmanvel.com. THE AGENDA IS POSTED AND WILL REMAIN POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF THE MEETING. PLEASE CHECK THE BOARD FOR YOUR MEETING SCHEDULE. WE STRONGLY ENCOURAGE YOU TO ATTEND THE MEETING FOR QUESTIONS AND ANSWERS. IF YOU ARE UNABLE TO ATTEND ACTION MAY BE TABLED UNTIL THE FOLLOWING MEETING.

Person to Speak: Ashley Waggoner

Daytime Phone: 713-429-0726 Fax Number: N/A

E-mail Address: awaggoner@ehra.team

Description of Request and Physical Address:

Consideration and possible action to approve the preliminary plat for Primrose Detention Reserve 'A',
being a subdivision of 26.76 acres out of the H.T. & B. R.R. Co. Survey,
Section 71, A-291, being out of the Emigration Land Company Subdivision
as recorded in Vol 2., Pg. 81-82, B.C.P.R., City of Manvel ETJ,
Brazoria County, Texas

Plats:

Preliminary X

Final

ALL DOCUMENTATION AND FEES ASSOCIATED WITH THIS AGENDA REQUEST MUST BE SUBMITTED ACCORDING TO THE MEETING SUBMITTAL SCHEDULE WHICH CAN BE FOUND ON OUR WEBSITE. BY SIGNING THIS AGENDA REQUEST FORM I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS AGENDA REQUEST FORM.

Ashley Waggoner
SIGNATURE

8/6/2025
DATE



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

STAFF REPORT TO PLANNING, DEVELOPMENT AND ZONING COMMISSION **PLAT APPLICATION**

Plat Name:	Primrose Detention Reserve A - Preliminary Plat
Applicant:	Ashley Waggoner – EHRA Engineering
PD&Z Meeting Date:	August 11, 2025
Submitted By:	Ellie Roohbakhsh, Senior Planner
Report Approved by:	Dan Johnson, City Manager/ City Engineer Jose Abraham, Director of Development Services
Recommendation of Approval:	Conditional Approval

BACKGROUND/ REVIEW NOTES

- *This proposed Plat is for a detention facility within the Primrose Master Planned Development, which was approved by City Council on July 7, 2025.*
- *The subject site is located along the eastern side of County Road 48, south of the future Primrose Section 2, and west of the future Kirby Drive extension.*
- *The subject site is located within the City of Manvel Extraterritorial Jurisdictions (ETJ) and is part of Brazoria County Municipal Utility Districts (MUDs) No. 47 & 29, and Brazoria County Drainage District No. 4.*
- *The proposed plat subdivides a 26.76-acre tract into 1 block and 1 reserve.*

STAFF RECOMMENDATION

The City staff recommends approval of the Primrose Detention Reserve A Preliminary Plat with the following conditions:

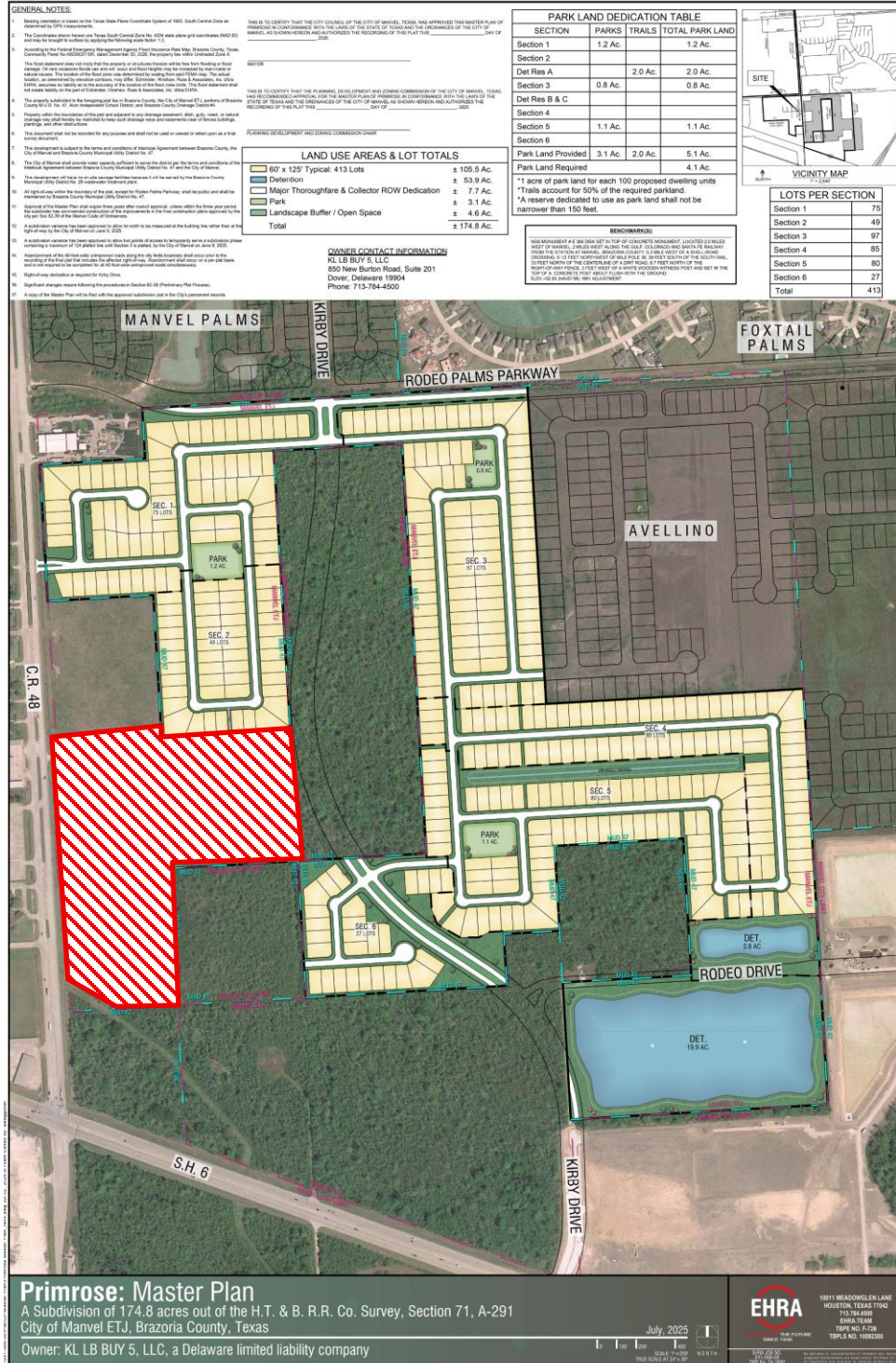
1. Please add a note to the plat that “Future Kirby alignment is subject to change as the Master Plan develops” (Section 62-38 (a)(6)).
2. Provide MUD 29 LONO (Section 62-38(a)(14)).
3. Provide a tree survey to show trees within the plat boundary to ensure that the proposed reserve will not impact preservation of protected trees (Section 77 (44) Tree Preservation, Landscaping, and Screening).



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

Primrose Master Plan



GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA.

B.C.C.F. indicates Brazoria County Clerk's File.
B.C.P.R. indicates Brazoria County Public Records.
B.C.D.R. indicates Brazoria County Deed Records.
B.C.M.U.D. indicates Brazoria County Municipal Utility District.
O.P.R.O.R.P. indicates Official Public Records of Real Property.
O.P.R.O.B.C. indicates Official Public Records of Brazoria County.
B.L. indicates Building Line.
D.E. indicates Drainage Easement.
ETJ indicates Extraterritorial Jurisdiction.
M.H. indicates Manhole.
O.H.P. indicates Over Head Power.
PG. indicates Page.
P.A.E. indicates Permanent Access Easement.
P.O.B. indicates Point of Beginning.
P.P. indicates Power Pole.
P.U.E. indicates Public Utility Easement.
P.V.T. indicates Private.
R indicates Radius.
R.O.W. indicates Right-Of-Way.
S.S.E. indicates Sanitary Sewer Easement.
S.T.M.S.E. indicates Storm Sewer Easement.
U.E. indicates Utility Easement.
VOL. indicates Volume.
W.L.E. indicates Water Line Easement.
↘ indicates change in street name.

- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences buildings, plantings, and other obstructions.
- Contour lines shown hereon are based on the NGS Benchmark E 306 being noted hereon.
- No residential, commercial, or industrial structure, other than structures necessary to operate the pipeline, shall be erected or moved to a location nearer than 50 feet to any pipeline, except for low pressure distribution system pipeline as defined in section 62-2, as per Manvel Ordinance Sec. 62-116a.
- Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document
- The 40' wide unimproved road will be fully abandoned prior to the approval of the final plat. Abandonment shall occur on a per-plat basis and is not required to be completed for all 40-foot wide unimproved roads simultaneously within the project.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County and Brazoria County Municipal Utility District No. 47.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 Wastewater Treatment Plant.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- 2.00 acres of this plat shall be considered as Parkland per the approved Master Plan.
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on Monday, June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on Monday, June 9, 2025.
- No pipeline or pipeline easement exist within the boundaries of this plat.

BRAZORIA COUNTY DRAINAGE DISTRICT NO. 4 NOTES:

- Any governmental body for purposes of drainage work may use drainage easements and fee strips provided the DISTRICT is properly notified.
- Permanent structures, including fences and permanent landscaping, shall not be erected in a drainage easement, access easement, or fee strip.
- Maintenance of detention facilities is the sole responsibility of the owner of the property. The DISTRICT will provide maintenance of regional facilities owned and constructed by the DISTRICT, or sub regional facilities constructed by developer(s) for which ownership has been transferred to the DISTRICT with the DISTRICT'S approval. The DISTRICT is responsible only for the maintenance of facilities owned by the DISTRICT unless the DISTRICT specifically contracts or agrees to maintain other facilities.
- Contractor shall notify the DISTRICT'S Inspector at least forty-eight (48) hours before beginning work and twenty-four (24) hours before placing any concrete.
- The DISTRICT'S personnel shall have the right to enter upon the property for inspection at any time during construction or as may be warranted to ensure the detention facility and drainage system are operating properly.
- Appropriate cover for the side slopes, bottom, and maintenance berm shall be established prior to acceptance of the construction by the DISTRICT. At least 95% germination of the grass must be established prior to acceptance of construction by the DISTRICT.
- No building permit shall be issued for any lot within this development until the detention facility has been constructed and approved by the DISTRICT.
- The DISTRICT'S approval of the Final Drainage Plan (and Final Plat if required) does not affect the property rights of third parties. The developer is responsible for obtaining and maintaining any and all easements, fee strips, and/or any other rights-of-way across third parties' properties for purposes of moving excess runoff to the DISTRICT'S drainage facilities as contemplated by the Final Drainage Plan and Final Plat.
- Drainage Easements shall be used only for the purposes of constructing, operating, maintaining, repairing, replacing, and reconstructing of a drainage facility, and any and all related equipment and facilities together with any and all necessary incidentals and appurtenances thereto in, upon, over, across, and through the Easement Area. The DISTRICT'S successors, assigns, agents, employees, workmen, and representatives shall at all present and future times, have the right and privilege of ingress and egress in, upon, over, across, and through the Easement Area.
- Access Easements shall be used for ingress and egress to the DISTRICT'S drainage facilities and shall be kept clear of any and all obstructions.
- An As-Built Certificate and As-Built Survey are required to be submitted to the DISTRICT before a Certificate of Compliance can be issued. Contract the DISTRICT'S Inspector for further clarification.
- All drainage plans and plats shall be conformance with the DISTRICT'S Rules, Regulations & Guidelines. Board approval of a drainage plan or plat does not constitute permission to deviate. Deviation from the DISTRICT'S Rules, Regulations & Guidelines is only authorized and allowed by a separate Request for Variance which was approved by the Board. Any Board approved variance shall be referenced on the plan cover page and on the appropriate sheet where applicable. The use of the term "Guidelines" herein does not effect the mandatory nature of these Rules, Regulations & Guidelines.

OWNER CONTACT INFORMATION
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND.
ELEV.=52.00 (NAVD '88) 1991 ADJUSTMENT

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE PLAT OF PRIMROSE DETENTION POND RESERVE "A" IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

LINE TABLE

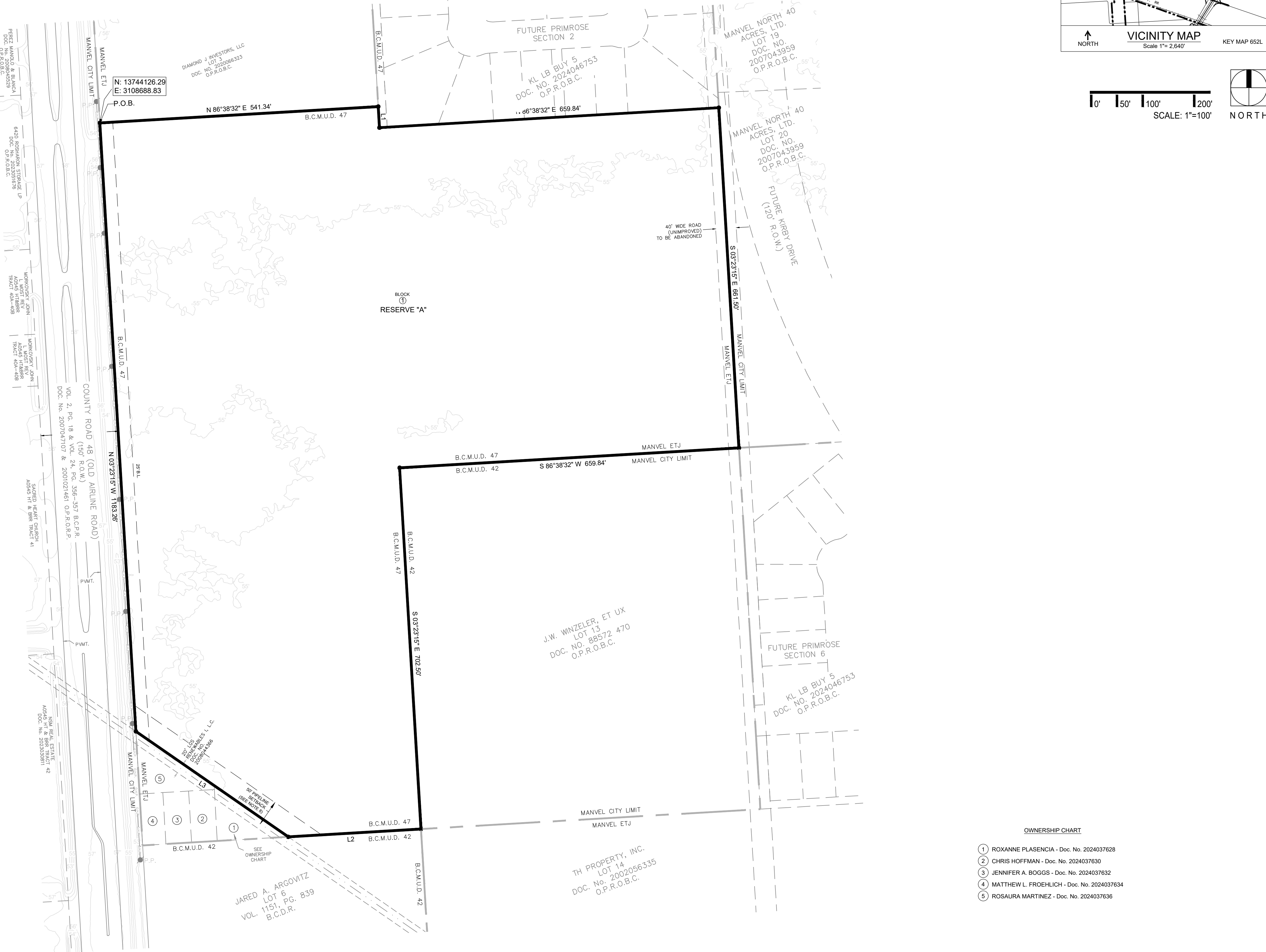
LINE	BEARING	DISTANCE
L1	S 03°23'15" W	41.00'
L2	S 86°38'32" W	258.14'
L2	N 15°18'37" W	359.76'

RESERVE TABLE

RESERVE	RESTRICTIONS	SQ. FT	ACREAGE	MAINTENANCE
A	DETENTION, LANDSCAPE, OPEN SPACE, RECREATION & UTILITY PURPOSES	1,165,665.80	26.76	B.C.M.U.D. NO. 47
	TOTAL	1,165,665.80	26.76	

PARKLAND TABLE

PLAT	ACREAGE
PRIMROSE DETENTION RESERVE "A"	2.00 AC.
TOTAL	2.00 AC.
REQUIRED	0.00 AC.
*Parkland required based on City of Manvel ordinance wherein 1 acre of parkland shall be dedicated for each 100 proposed dwelling units.	



OWNERSHIP CHART

- ROXANNE PLASENCIA - Doc. No. 2024037628
- CHRIS HOFFMAN - Doc. No. 2024037630
- JENNIFER A. BOGGS - Doc. No. 2024037632
- MATTHEW L. FROELICH - Doc. No. 2024037634
- ROSAURA MARTINEZ - Doc. No. 2024037636

Primrose Detention Reserve 'A' Preliminary Plat

A Subdivision of 26.76 acres out of the H.T. & B. R.R. CO. Survey, Section 71, A-291, being out of the Emigration Land Company Subdivision as recorded in Vol 2., Pg. 81-82, B.C.P.R., City of Manvel ETJ, Brazoria County, Texas

1 Block and 1 Reserve totaling 26.76 Acres

Owner: KL LB Buy 5 LLC

June 16, 2025



NO WARRANTY OR REPRESENTATION OF Interest, use, ability or proposed improvements are made herein. All plans for land or facilities are subject to change without notice.

EHRA JOB NO. 241-008-10

10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA/TEAM
TBPE No. F-28
TBPLS No. 1009200

GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA.
- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, portions of Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences buildings, plantings, and other obstructions.
- This document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County, the City of Manvel and Brazoria County Municipal Utility District No. 47.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 wastewater treatment plant.
- All right-of-way within the boundary of the plat, except for Rodeo Palms Parkway, shall be public and shall be maintained by Brazoria County Municipal Utility District No. 47.
- Approval of the Master Plan shall expire three years after council approval, unless within the three year period, the subdivider has commenced construction of the improvements in the final construction plans approved by the city per Sec 62-39 of the Manvel Code of Ordinances.
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on June 9, 2025.
- Abandonment of the 40-foot-wide unimproved roads along the city limits boundary shall occur prior to the recording of the final plat that includes the affected right-of-way. Abandonment shall occur on a per-plat basis and is not required to be completed for all 40-foot-wide unimproved roads simultaneously.
- Right-of-way dedication is required for Kirby Drive.
- Significant changes require following the procedures in Section 62-38 (Preliminary Plat Process).
- A copy of the Master Plan will be filed with the approved subdivision plat in the City's permanent records.

THIS IS TO CERTIFY THAT THE CITY COUNCIL OF THE CITY OF MANVEL, TEXAS, HAS APPROVED THIS MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

MAYOR

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

LAND USE AREAS & LOT TOTALS

60' x 125' Typical: 413 Lots	± 105.5 Ac.
Detention	± 53.9 Ac.
Major Thoroughfare & Collector ROW Dedication	± 7.7 Ac.
Park	± 3.1 Ac.
Landscape Buffer / Open Space	± 4.6 Ac.
Total	± 174.8 Ac.

OWNER CONTACT INFORMATION

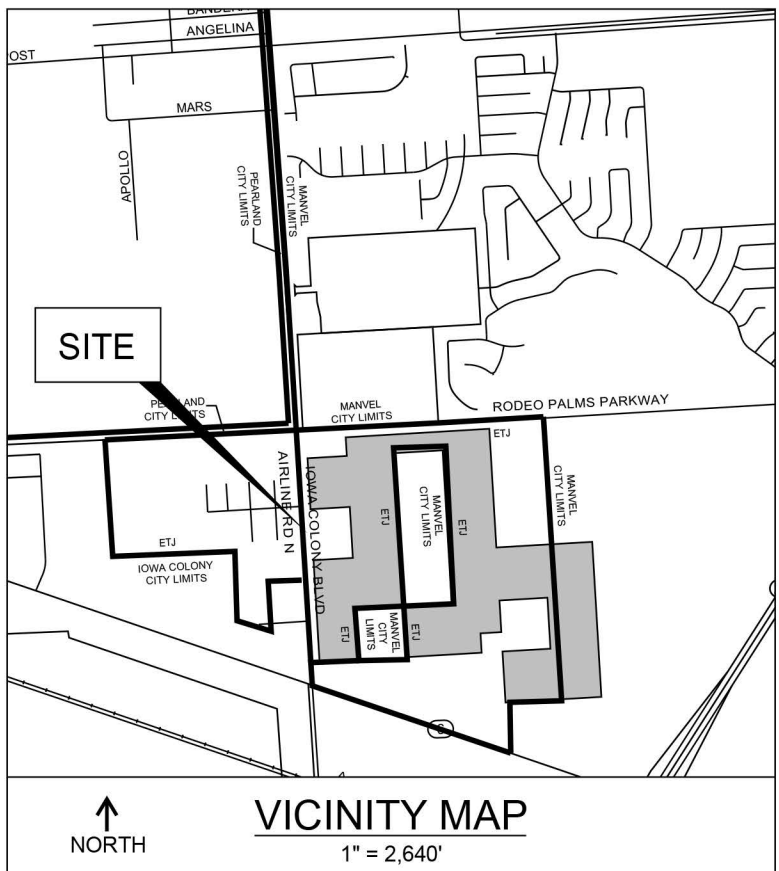
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

PARK LAND DEDICATION TABLE			
SECTION	PARKS	TRAILS	TOTAL PARK LAND
Section 1	1.2 Ac.		1.2 Ac.
Section 2			
Det Res A		2.0 Ac.	2.0 Ac.
Section 3	0.8 Ac.		0.8 Ac.
Det Res B & C			
Section 4			
Section 5	1.1 Ac.		1.1 Ac.
Section 6			
Park Land Provided	3.1 Ac.	2.0 Ac.	5.1 Ac.
Park Land Required			4.1 Ac.

*1 acre of park land for each 100 proposed dwelling units
*Trails account for 50% of the required parkland.
*A reserve dedicated to use as park land shall not be narrower than 150 feet.

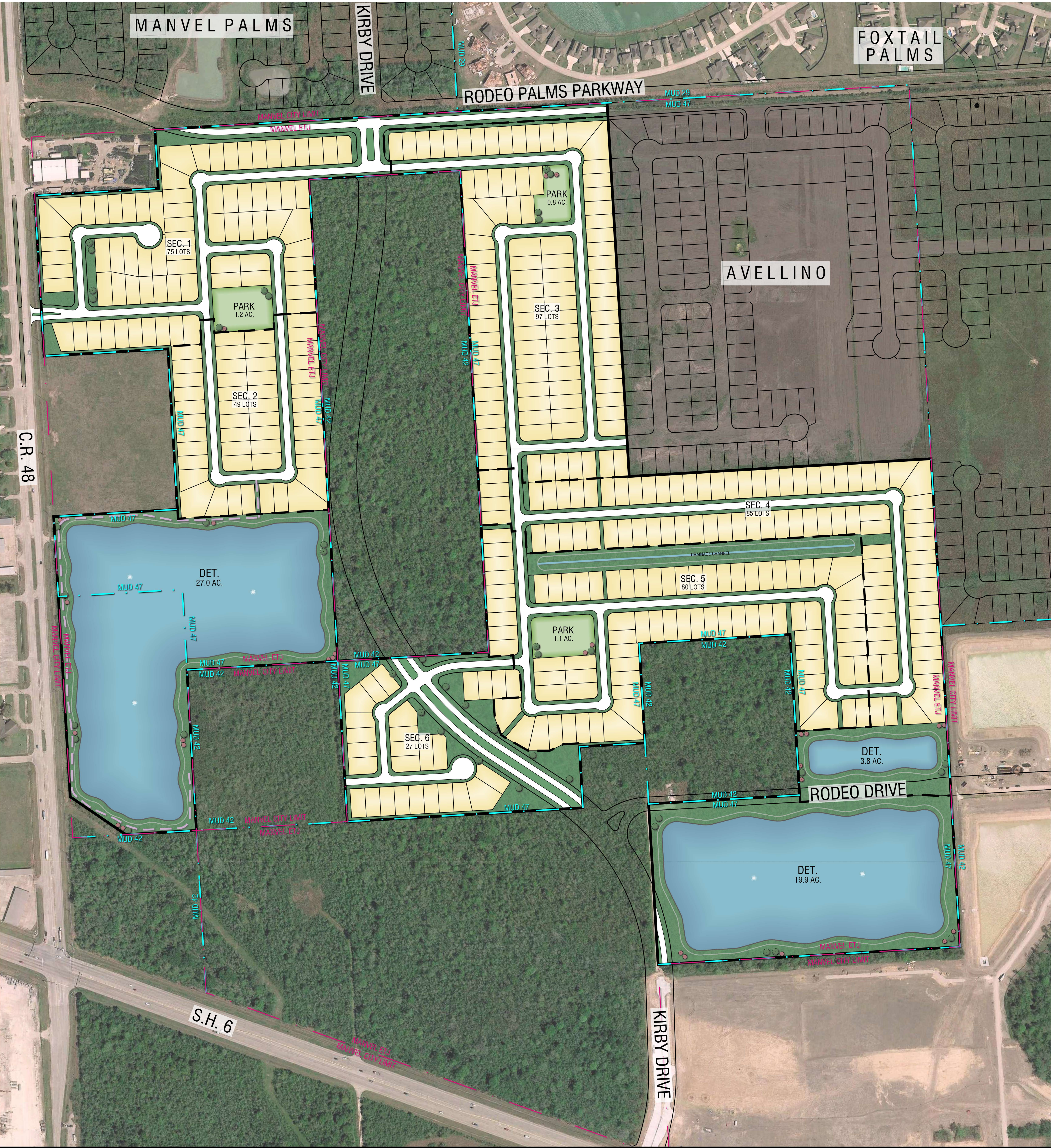
BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND. ELEV. +52.00 (NAVD 88) 1991 ADJUSTMENT



LOTS PER SECTION

Section 1	75
Section 2	49
Section 3	97
Section 4	85
Section 5	80
Section 6	27
Total	413

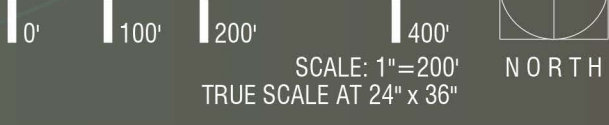


Primrose: Master Plan

A Subdivision of 174.8 acres out of the H.T. & B. R.R. Co. Survey, Section 71, A-291
City of Manvel ETJ, Brazoria County, Texas

Owner: KL LB BUY 5, LLC, a Delaware limited liability company

July, 2025



10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA TEAM
TBPE NO. F-726
TBPLS NO. 10092300

ENHANCING THE FUTURE
SINCE 1936

EHRA JOB NO.
241-068-00
TRIP NO. 24-1600

No warranty or representation of intended use, design or proposed improvements are made herein. All Plans for land or facilities are subject to change without notice.



City of Manvel

P. O. Box 187
20025 HWY 6
Manvel, Texas 77578

(281) 489-0630
Fax (281) 489-0634

AGENDA REQUEST

REQUEST MUST BE MADE ACCORDING TO THE SUBMITTAL SCHEDULE

Meeting Requested: (Please check applicable meeting)

Planning, Development & Zoning	☒	City Council	☐	Both	☐
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Date of Request: August 11, 2025 (PD&Z)

YOUR REQUEST WILL BE PLACED ON THE NEXT AVAILABLE MEETING DATE. MEETINGS ARE SECOND AND FOURTH MONDAYS FOR PLANNING, DEVELOPMENT & ZONING AND FIRST AND THIRD MONDAYS FOR CITY COUNCIL. THE AGENDAS ARE POSTED TO THE GENERAL PUBLIC AT MANVEL CITY HALL AND ON OUR WEBSITE AT www.cityofmanvel.com. THE AGENDA IS POSTED AND WILL REMAIN POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF THE MEETING. PLEASE CHECK THE BOARD FOR YOUR MEETING SCHEDULE. WE STRONGLY ENCOURAGE YOU TO ATTEND THE MEETING FOR QUESTIONS AND ANSWERS. IF YOU ARE UNABLE TO ATTEND ACTION MAY BE TABLED UNTIL THE FOLLOWING MEETING.

Person to Speak: Ashley Waggoner

Daytime Phone: 713-429-0726 Fax Number: N/A

E-mail Address: awaggoner@ehra.team

Description of Request and Physical Address:

Consideration and possible action to approve the preliminary plat for Primrose Section 1,
being a subdivision of 25.55 acres out of the H.T. & B. R.R. Co. Survey,
Section 71, A-291, being out of the Emigration Land Company Subdivision
as recorded in Vol 2., Pg. 81-82, B.C.P.R., City of Manvel ETJ,
Brazoria County, Texas

Plats:

Preliminary X

Final _____

ALL DOCUMENTATION AND FEES ASSOCIATED WITH THIS AGENDA REQUEST MUST BE SUBMITTED ACCORDING TO THE MEETING SUBMITTAL SCHEDULE WHICH CAN BE FOUND ON OUR WEBSITE. BY SIGNING THIS AGENDA REQUEST FORM I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS AGENDA REQUEST FORM.

Ashley Waggoner
SIGNATURE

7/14/25
DATE



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

STAFF REPORT TO PLANNING, DEVELOPMENT AND ZONING COMMISSION **PLAT APPLICATION**

Plat Name:	Primrose Section 1 - Preliminary Plat
Applicant:	Ashley Waggoner – EHRA Engineering
PD&Z Meeting Date:	August 11, 2025
Submitted By:	Ellie Roohbakhsh, Senior Planner
Report Approved by:	Dan Johnson, City Manager/ City Engineer Jose Abraham, Director of Development Services
Recommendation of Approval:	<u>Conditional Approval</u>

BACKGROUND/ REVIEW NOTES

- *This proposed Plat is for a new residential section within the Primrose Master Planned Development, which was approved by City Council on July 7, 2025.*
- *The subject site is located along east side of County Road 48 and South of Rodeo Palms Parkway.*
- *The subject site is located within the City of Manvel Extraterritorial Jurisdictions (ETJ) and is part of Brazoria County Municipal Utility Districts (MUDs) No. 47 & 29, and Brazoria County Drainage District No. 4.*
- *The proposed plat subdivides 25.55-acre tract into 75 residential lots, 4 blocks, and 4 reserves for landscaping, open space, and utility purposes.*

STAFF RECOMMENDATION

The City staff recommends approval of the Primrose Section 1 Preliminary Plat with the following conditions:

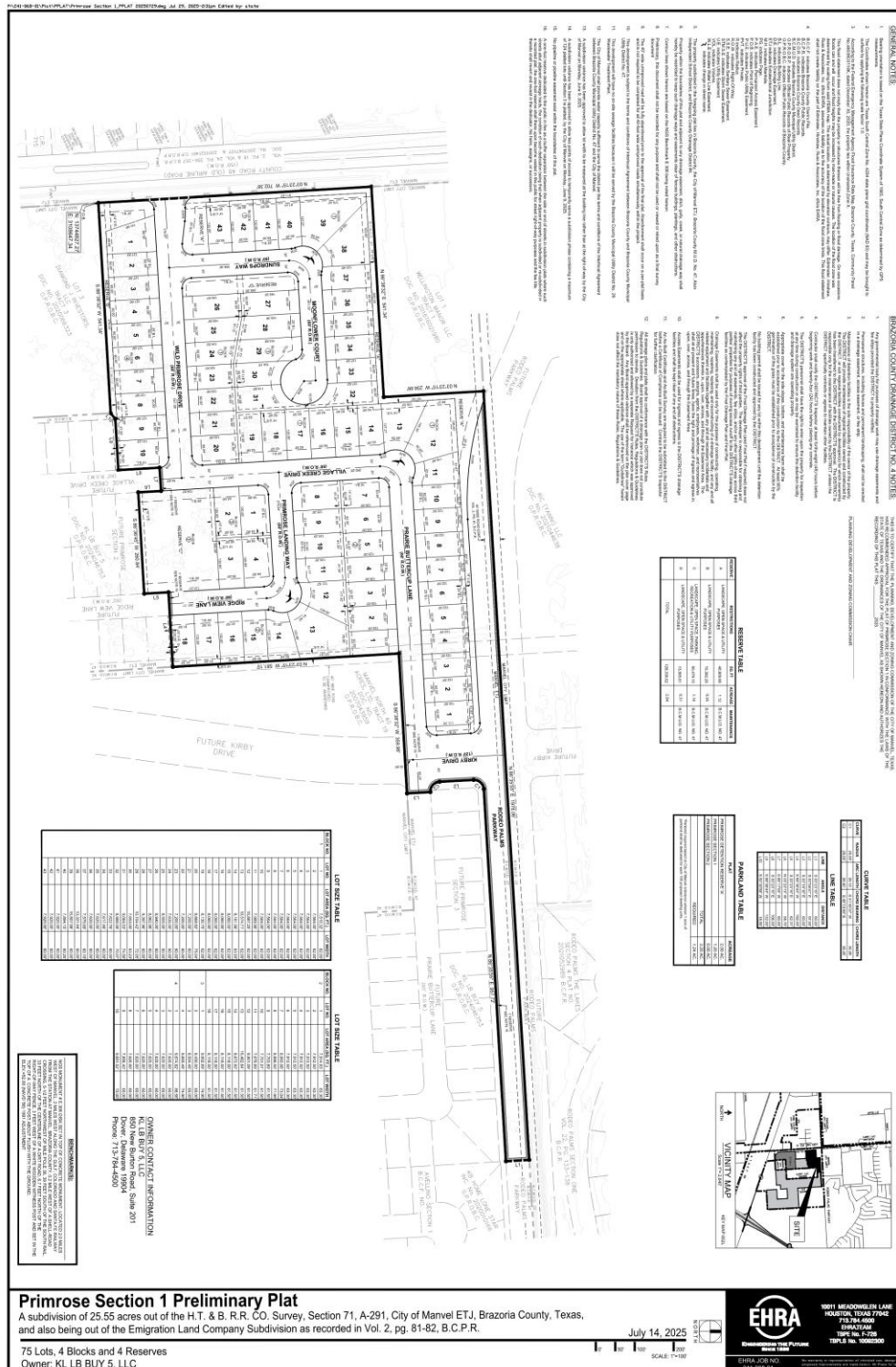
1. Please provide clarification regarding the 40-foot right-of-way (ROW) shown along Rodeo Palms Parkway, as this ROW is not indicated on the approved plats of adjacent properties. Additionally, please add a note to the plat that “Future Kirby alignment is subject to change as the Master Plan develops” (Section 62-38 (a)(6)).
2. Please show the acreage of the sections and their associated flows on the drainage exhibits (Section 62-38 (a)(12)).
3. Provide MUD 29 LONO (Section 62-38(a)(14)).
4. Provide a tree survey to show trees within the plat boundary to ensure that the proposed reserves and lots will not impact preservation of protected trees (Section 77 (44) Tree Preservation, Landscaping, and Screening).



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

Plat Exhibit



GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA.
- B.C.C.F. indicates Brazoria County Clerk's File.
B.C.P.R. indicates Brazoria County Public Records.
B.C.D.R. indicates Brazoria County Deed Records.
B.C.M.U.D. indicates Brazoria County Municipal Utility District.
O.P.R.O.R.P. indicates Official Public Records of Real Property.
O.P.R.O.B.C. indicates Official Public Records of Brazoria County.
B.L. indicates Building Line.
D.E. indicates Drainage Easement.
ETJ indicates Extraterritorial Jurisdiction.
M.H. indicates Manhole.
P.G. indicates Page.
P.A.E. indicates Permanent Access Easement.
P.O.B. indicates Point of Beginning.
P.U.E. indicates Public Utility Easement.
P.V.T. indicates Private.
R indicates Radius.
R.O.W. indicates Right-Of-Way.
S.S.E. indicates Sanitary Sewer Easement.
S.T.M.S.E. indicates Storm Sewer Easement.
U.E. indicates Utility Easement.
VOL. indicates Volume.
W.L.E. indicates Water Line Easement.
↘ indicates change in street name.
- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences, buildings, plantings, and other obstructions.
- Contour lines shown hereon are based on the NGS Benchmark E 306 being noted hereon.
- Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document.
- The 40' wide unimproved road will be fully abandoned prior to the approval of the final plat. Abandonment shall occur on a per-plat basis and is not required to be completed for all 40-foot wide unimproved roads simultaneously within the project.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County and Brazoria County Municipal Utility District No. 47.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 Wastewater Treatment Plant.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on Monday, June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on Monday, June 9, 2025.
- No pipeline or pipeline easement exist within the boundaries of this plat.
- A one-foot reserve dedicated to the public in fee as a buffer separation between the side or end of streets in subdivision plats where such streets abut adjacent acreage tracts, the condition of such dedication being that when adjacent property is subdivided or re-subdivided in a recorded plat, the one-foot reserve shall there upon become vested in the public for street right-of-way purposes and the fee title thereto shall revert and revest in the dedicator, his heirs, assigns, or successors.

BRAZORIA COUNTY DRAINAGE DISTRICT NO. 4 NOTES:

- Any governmental body for purposes of drainage work may use drainage easements and fee strips provided the DISTRICT is properly notified.
- Permanent structures, including fences and permanent landscaping, shall not be erected in a drainage easement, access easement, or fee strip.
- Maintenance of detention facilities is the sole responsibility of the owner of the property. The DISTRICT will provide maintenance of regional facilities owned and constructed by the DISTRICT, or sub regional facilities constructed by developer(s) for which ownership has been transferred to the DISTRICT with the DISTRICT's approval. The DISTRICT is responsible only for the maintenance of facilities owned by the DISTRICT unless the DISTRICT specifically contracts or agrees to maintain other facilities.
- Contractor shall notify the DISTRICT'S Inspector at least forty-eight (48) hours before beginning work and twenty-four (24) hours before placing any concrete.
- The DISTRICT'S personnel shall have the right to enter upon the property for inspection at any time during construction or as may be warranted to ensure the detention facility and drainage system are operating properly.
- Appropriate cover for the side slopes, bottom, and maintenance berm shall be established prior to acceptance of the construction by the DISTRICT. At least 95% germination of the grass must be established prior to acceptance of construction by the DISTRICT.
- No building permit shall be issued for any lot within this development until the detention facility has been constructed and approved by the DISTRICT.
- The DISTRICT'S approval of the Final Drainage Plan (and Final Plat if required) does not affect the property rights of third parties. The developer is responsible for obtaining and maintaining any and all easements, fee strips, and/or any other rights-of-way across third parties' properties for purposes of moving excess runoff to the DISTRICT'S drainage facilities as contemplated by the Final Drainage Plan and Final Plat.
- Drainage Easements shall be used only for the purposes of constructing, operating, maintaining, repairing, replacing, and reconstructing of a drainage facility, and any and all related equipment and facilities together with any and all necessary incidentals and appurtenances thereto in, upon, over, across, and through the Easement Area. The DISTRICT'S successors, assigns, agents, employees, workmen, and representatives shall at all present and future times, have the right and privilege of ingress and egress in, upon, over, across, and through the Easement Area.
- Access Easements shall be used for ingress and egress to the DISTRICT'S drainage facilities and shall be kept clear of any and all obstructions.
- An As-Built Certificate and As-Built Survey are required to be submitted to the DISTRICT before a Certificate of Compliance can be issued. Contact the DISTRICT'S Inspector for further clarification.
- All drainage plans and plats shall be conformance with the DISTRICT'S Rules, Regulations & Guidelines. Board approval of a drainage plan or plat does not constitute permission to deviate. Deviation from the DISTRICT'S Rules, Regulations & Guidelines is only authorized and allowed by a separate Request for Variance which was approved by the Board. Any Board approved variance shall be referenced on the plan cover page and on the appropriate sheet where applicable. The use of the term "Guidelines" herein does not affect the mandatory nature of these Rules, Regulations & Guidelines.

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE PLAT OF PRIMROSE SECTION 1 IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

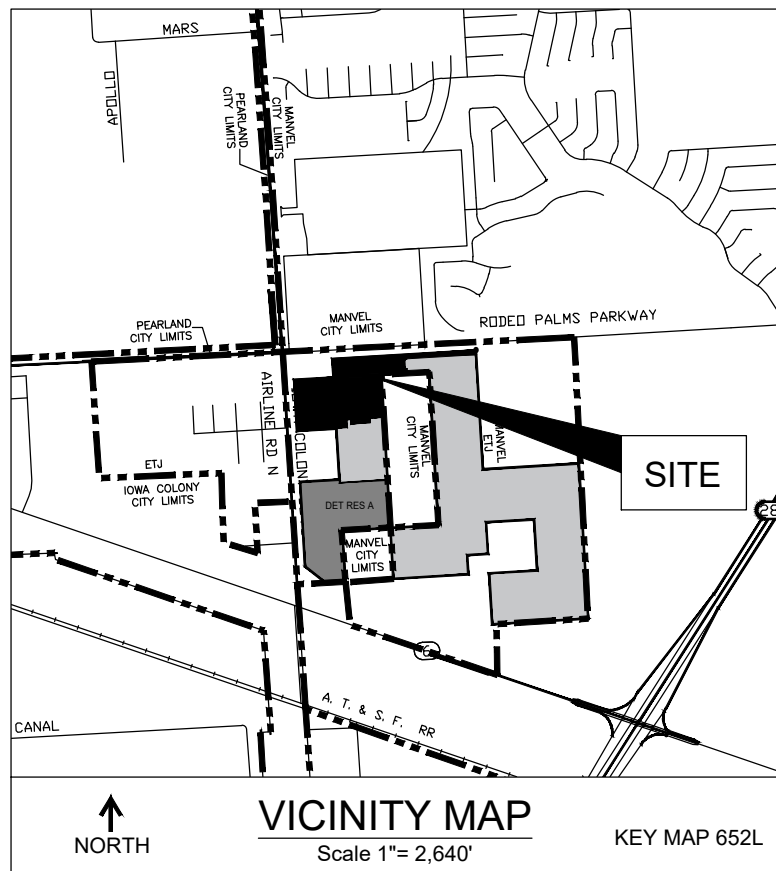
RESERVE TABLE				
RESERVE	RESTRICTIONS	SQ. FT.	ACREAGE	MAINTENANCE
A	LANDSCAPE, OPEN SPACE & UTILITY PURPOSES	48,909.66	1.12	B.C.M.U.D. NO. 47
B	LANDSCAPE, OPEN SPACE & UTILITY PURPOSES	15,382.25	0.35	B.C.M.U.D. NO. 47
C	LANDSCAPE, OPEN SPACE, PARKING, RECREATION & UTILITY PURPOSES	50,479.10	1.16	B.C.M.U.D. NO. 47
D	LANDSCAPE, OPEN SPACE & UTILITY PURPOSES	13,565.61	0.31	B.C.M.U.D. NO. 47
TOTAL		128,336.62	2.94	

CURVE TABLE				
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	25.00'	39.13'	S 41°45'37" W	35.26'
C2	25.00'	39.40'	S 48°13'49" E	35.45'

LINE TABLE		
LINE	ANGLE	DISTANCE
L1	S 03°23'15" E	60.00'
L2	S 03°04'41" E	97.00'
L3	S 03°19'16" E	60.00'
L4	S 86°36'45" W	192.00'
L5	S 03°23'15" E	62.31'
L6	N 03°23'15" W	58.70'
L7	S 86°17'05" W	60.00'
L8	S 03°23'15" E	106.00'
L9	S 86°36'45" W	132.00'
L10	S 50°30'58" W	18.56'

PARKLAND TABLE	
PLAT	ACREAGE
PRIMROSE DETENTION RESERVE 'A'	2.00 AC.
PRIMROSE SECTION 1	1.20 AC.
PRIMROSE SECTION 2	0.00 AC.
TOTAL	3.20 AC.
REQUIRED	1.24 AC.

*Parkland required based on City of Manvel ordinance wherein 1 acre of parkland shall be dedicated for each 100 proposed dwelling units.



Primrose Section 1 Preliminary Plat

A subdivision of 25.55 acres out of the H.T. & B. R.R. CO. Survey, Section 71, A-291, City of Manvel ETJ, Brazoria County, Texas, and also being out of the Emigration Land Company Subdivision as recorded in Vol. 2, pg. 81-82, B.C.P.R.

75 Lots, 4 Blocks and 4 Reserves
Owner: KL LB BUY 5, LLC

July 14, 2025



SCALE: 1"=100'

10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA TEAM
TYPE No. F-28
TBPLS No. 1002300
ENGINEERING THE FUTURE
Since 1958
EHRA JOB NO.
241-008-01



No warranty or representation of interest in any property or proposed improvements are made herein. All rights for land or facilities are subject to change without notice.

OWNER CONTACT INFORMATION
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND. ELEV.=52.00 (NAVD 83) 1991 ADJUSTMENT

LOT SIZE TABLE			
BLOCK NO.	LOT NO.	LOT AREA (SQ. FT.)	LOT WIDTH
1	1	7,510.32	62.00'
	2	7,564.00'	62.00'
	3	7,564.00'	62.00'
	4	7,564.00'	62.00'
	5	7,564.00'	62.00'
	6	7,564.00'	62.00'
	7	7,564.00'	62.00'
	8	8,886.50'	62.00'
	9	7,564.00'	62.00'
	10	7,564.00'	62.00'
	11	7,989.96'	62.00'
	12	15,887.25'	62.00'
2	1	7,564.00'	62.00'
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	10	7,564.00'	62.00'
	11	7,989.96'	62.00'
	12	15,887.25'	62.00'
3	1	9,602.69'	74.90'
	2	8,450.00'	65.00'
	3	8,504.48'	65.00'
	4	9,665.48'	74.90'
	5	9,674.92'	74.90'
	6	9,674.92'	74.90'
	7	9,674.92'	74.90'
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	11	9,674.92'	74.90'
	12	9,674.92'	74.90'

GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA.
- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, portions of Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences buildings, plantings, and other obstructions.
- This document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County, the City of Manvel and Brazoria County Municipal Utility District No. 47.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 wastewater treatment plant.
- All right-of-way within the boundary of the plat, except for Rodeo Palms Parkway, shall be public and shall be maintained by Brazoria County Municipal Utility District No. 47.
- Approval of the Master Plan shall expire three years after council approval, unless within the three year period, the subdivider has commenced construction of the improvements in the final construction plans approved by the city per Sec 62-39 of the Manvel Code of Ordinances.
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on June 9, 2025.
- Abandonment of the 40-foot-wide unimproved roads along the city limits boundary shall occur prior to the recording of the final plat that includes the affected right-of-way. Abandonment shall occur on a per-plat basis and is not required to be completed for all 40-foot-wide unimproved roads simultaneously.
- Right-of-way dedication is required for Kirby Drive.
- Significant changes require following the procedures in Section 62-38 (Preliminary Plat Process).
- A copy of the Master Plan will be filed with the approved subdivision plat in the City's permanent records.

THIS IS TO CERTIFY THAT THE CITY COUNCIL OF THE CITY OF MANVEL, TEXAS, HAS APPROVED THIS MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

MAYOR

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

LAND USE AREAS & LOT TOTALS

60' x 125' Typical: 413 Lots	± 105.5 Ac.
Detention	± 53.9 Ac.
Major Thoroughfare & Collector ROW Dedication	± 7.7 Ac.
Park	± 3.1 Ac.
Landscape Buffer / Open Space	± 4.6 Ac.
Total	± 174.8 Ac.

OWNER CONTACT INFORMATION

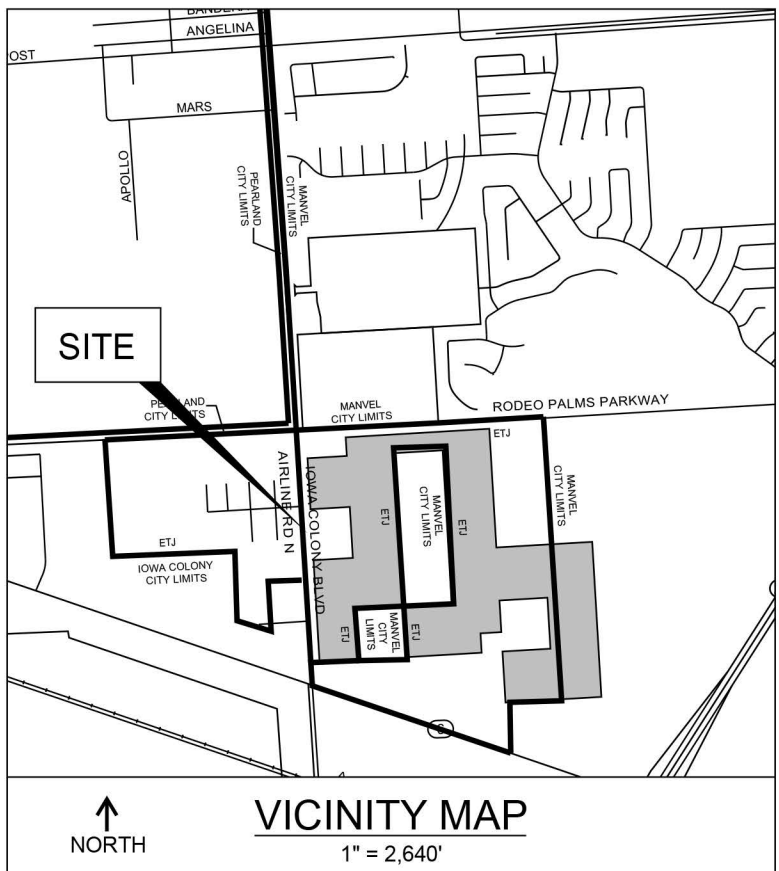
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

PARK LAND DEDICATION TABLE			
SECTION	PARKS	TRAILS	TOTAL PARK LAND
Section 1	1.2 Ac.		1.2 Ac.
Section 2			
Det Res A		2.0 Ac.	2.0 Ac.
Section 3	0.8 Ac.		0.8 Ac.
Det Res B & C			
Section 4			
Section 5	1.1 Ac.		1.1 Ac.
Section 6			
Park Land Provided	3.1 Ac.	2.0 Ac.	5.1 Ac.
Park Land Required			4.1 Ac.

*1 acre of park land for each 100 proposed dwelling units
*Trails account for 50% of the required parkland.
*A reserve dedicated to use as park land shall not be narrower than 150 feet.

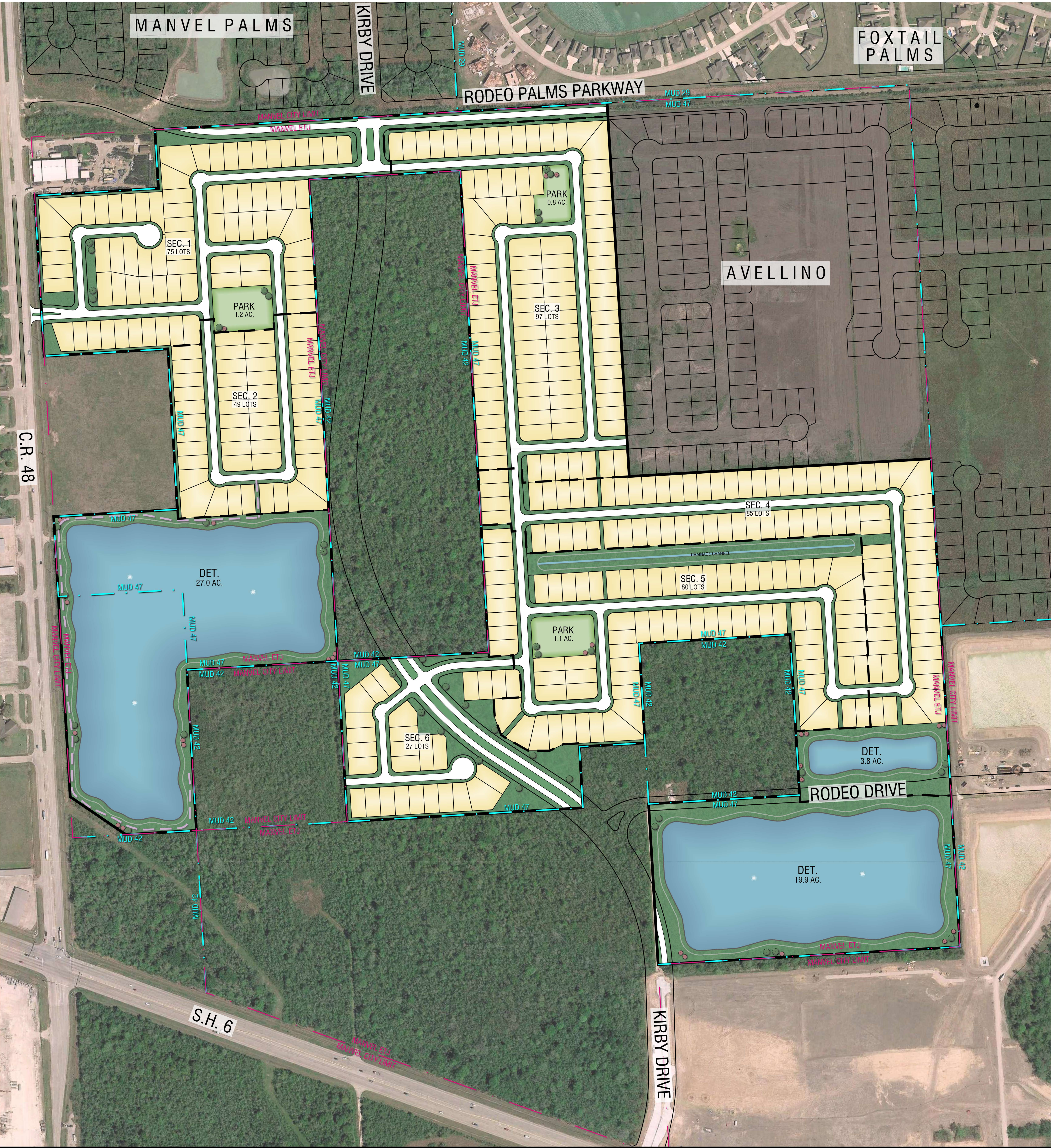
BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND. ELEV. +52.00 (NAVD 88) 1991 ADJUSTMENT



LOTS PER SECTION

Section 1	75
Section 2	49
Section 3	97
Section 4	85
Section 5	80
Section 6	27
Total	413



Primrose: Master Plan

A Subdivision of 174.8 acres out of the H.T. & B. R.R. Co. Survey, Section 71, A-291
City of Manvel ETJ, Brazoria County, Texas

Owner: KL LB BUY 5, LLC, a Delaware limited liability company

July, 2025



10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA TEAM
TBPE NO. F-726
TBPLS NO. 10092300

ENHANCING THE FUTURE
SINCE 1936

EHRA JOB NO.
241-068-00
TRIP NO. 24-1600

No warranty or representation of intended use, design or proposed improvements are made herein. All Plans for land or facilities are subject to change without notice.



City of Manvel

P. O. Box 187
20025 HWY 6
Manvel, Texas 77578

(281) 489-0630
Fax (281) 489-0634

AGENDA REQUEST

REQUEST MUST BE MADE ACCORDING TO THE SUBMITTAL SCHEDULE

Meeting Requested: (Please check applicable meeting)

Planning, Development & Zoning	☒	City Council	☐	Both	☐
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Date of Request: August 11, 2025 (PD&Z)

YOUR REQUEST WILL BE PLACED ON THE NEXT AVAILABLE MEETING DATE. MEETINGS ARE SECOND AND FOURTH MONDAYS FOR PLANNING, DEVELOPMENT & ZONING AND FIRST AND THIRD MONDAYS FOR CITY COUNCIL. THE AGENDAS ARE POSTED TO THE GENERAL PUBLIC AT MANVEL CITY HALL AND ON OUR WEBSITE AT www.cityofmanvel.com. THE AGENDA IS POSTED AND WILL REMAIN POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF THE MEETING. PLEASE CHECK THE BOARD FOR YOUR MEETING SCHEDULE. WE STRONGLY ENCOURAGE YOU TO ATTEND THE MEETING FOR QUESTIONS AND ANSWERS. IF YOU ARE UNABLE TO ATTEND ACTION MAY BE TABLED UNTIL THE FOLLOWING MEETING.

Person to Speak: Ashley Waggoner

Daytime Phone: 713-429-0726 Fax Number: N/A

E-mail Address: awaggoner@ehra.team

Description of Request and Physical Address:

Consideration and possible action to approve the preliminary plat for Primrose Section 2,
being a subdivision of 12.34 acres out of the H.T. & B. R.R. Co. Survey,
Section 71, A-291, being out of the Emigration Land Company Subdivision
as recorded in Vol 2., Pg. 81-82, B.C.P.R., City of Manvel ETJ,
Brazoria County, Texas

Plats:

Preliminary X

Final

ALL DOCUMENTATION AND FEES ASSOCIATED WITH THIS AGENDA REQUEST MUST BE SUBMITTED ACCORDING TO THE MEETING SUBMITTAL SCHEDULE WHICH CAN BE FOUND ON OUR WEBSITE. BY SIGNING THIS AGENDA REQUEST FORM I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS AGENDA REQUEST FORM.

Ashley Waggoner
SIGNATURE

07/14/25
DATE



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

STAFF REPORT TO PLANNING, DEVELOPMENT AND ZONING COMMISSION **PLAT APPLICATION**

Plat Name:	Primrose Section 2- Preliminary Plat
Applicant:	Ashley Waggoner – EHRA Engineering
PD&Z Meeting Date:	August 11, 2025
Submitted By:	Ellie Roohbakhsh, Senior Planner
Report Approved by:	Dan Johnson, City Manager/ City Engineer Jose Abraham, Director of Development Services
Recommendation of Approval:	<u>Conditional Approval</u>

BACKGROUND/ REVIEW NOTES

- *This proposed Plat is for a new residential section within the Primrose Master Planned Development, which was approved by City Council on July 7, 2025.*
- *The subject site is located on the east side of County Road 48, north of the future Primrose Detention Reserve A, and west of the future Kirby Drive extension.*
- *The subject site is located within the City of Manvel Extraterritorial Jurisdictions (ETJ) and is part of Brazoria County Municipal Utility Districts (MUDs) No. 47 & 29, and Brazoria County Drainage District No. 4.*
- *The proposed plat subdivides 12.34-acre tract into 49 residential lots, 2 blocks, and 2 reserves for landscaping, open space, and utility purposes.*

STAFF RECOMMENDATION

The City staff recommends approval of the Primrose Section 2 Preliminary Plat with the following conditions:

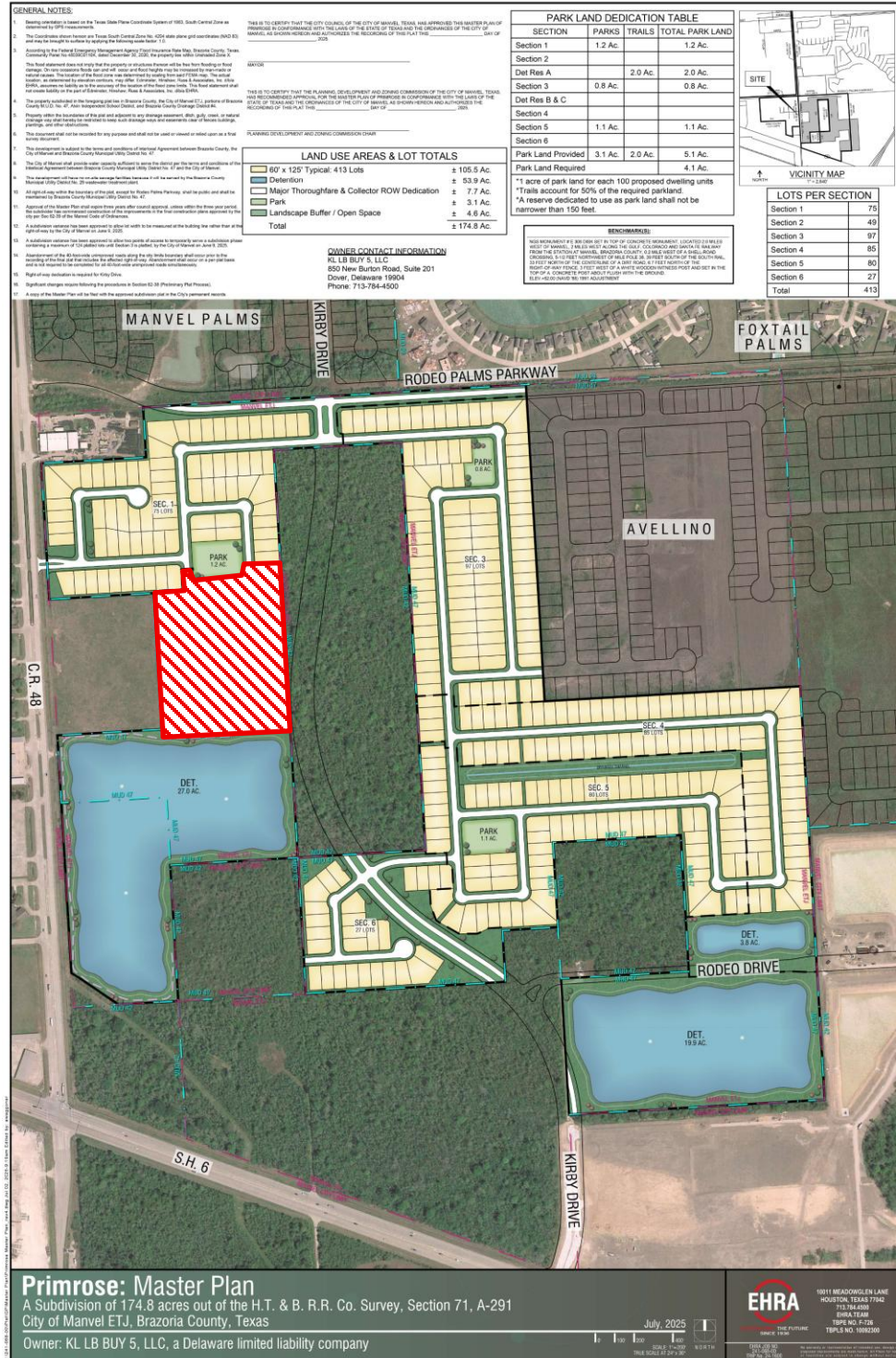
1. Please add a note to the plat that “Future Kirby alignment is subject to change as the Master Plan develops” (Section 62-38 (a)(6)).
2. Please review Note 9 and clarify how it addresses the maintenance responsibility for Rodeo Palms Parkway. If applicable, provide any supporting documentation or draft covenants that establish responsibility for ongoing maintenance, in accordance with the City’s requirements. Additionally, please provide a draft copy of any other applicable protective covenants (Section 62-38(a)(8).
3. Please show the acreage of the sections and their associated flows on the drainage exhibits (Section 62-38 (a)(12)).
4. Provide MUD 29 LONO (Section 62-38 (a)(14)).
5. Provide a tree survey to show trees within the plat boundary to ensure that the proposed reserves and lots will not impact preservation of protected trees (Section 77 (44) Tree Preservation, Landscaping, and Screening).



DEVELOPMENT SERVICES DEPARTMENT

20025 Highway 6, Manvel, TX 77578 | Ph: 281-489-0630

Primrose Master Plan



GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. db/a EHRA.
- B.C.C.F. indicates Brazoria County Clerk's File.
B.C.P.R. indicates Brazoria County Public Records.
B.C.M.U.D. indicates Brazoria County Municipal Utility District.
O.P.R.O.R. indicates Official Public Records of Real Property.
O.P.R.O.B.C. indicates Official Public Records of Brazoria County
B.L. indicates Building Line.
D.E. indicates Drainage Easement.
E.T.J. indicates Extraterritorial Jurisdiction.
M.H. indicates Manhole.
P.G. indicates Page.
P.A.E. indicates Permanent Access Easement.
P.O.B. indicates Point of Beginning.
P.U.E. indicates Public Utility Easement.
P.V.T. indicates Private.
R indicates Radius.
R.O.W. indicates Right-Of-Way.
S.S.E. indicates Sanitary Sewer Easement.
S.T.M.S.E. indicates Storm Sewer Easement.
U.E. indicates Utility Easement.
VOL. indicates Volume.
W.L.E. indicates Water Line Easement.
↗ indicates change in street name.

- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences buildings, plantings, and other obstructions.
- Contour lines shown hereon are based on the NGS Benchmark A 306 being noted hereon.
- Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document
- All right-of-way within the boundary of the plat, except for Rodeo Palms Parkway, shall be public and shall be maintained by Brazoria County Municipal Utility District No. 47.
- All street pavement within the boundary of the plat will be concrete.
- All streets within the boundary of the plat shall consist of two undivided lanes.
- The 40' wide unimproved roads along the city limits will be fully abandoned prior to approval of a final plat. Abandonment shall occur on a per plat basis and is not required to be completed for all 40' wide unimproved roads simultaneously.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County and Brazoria County Municipal Utility District No. 47.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 Wastewater Treatment Plant.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- The proposed land use for Primrose Section 2 shall consist of Residential, Landscape, and Open Space
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on Monday, June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on Monday, June 9, 2025.

BRAZORIA COUNTY DRAINAGE DISTRICT NO. 4 NOTES:

- Any governmental body for purposes of drainage work may use drainage easements and fee strips provided the DISTRICT is properly notified.
- Permanent structures, including fences and permanent landscaping, shall not be erected in a drainage easement, access easement, or fee strip.
- Maintenance of detention facilities is the sole responsibility of the owner of the property. The DISTRICT will provide maintenance of regional facilities owned and constructed by the DISTRICT, or sub regional facilities constructed by developer(s) for which ownership has been transferred to the DISTRICT with the DISTRICT'S approval. The DISTRICT is responsible only for the maintenance of facilities owned by the DISTRICT unless the DISTRICT specifically contracts or agrees to maintain other facilities.
- Contractor shall notify the DISTRICT'S Inspector at least forty-eight (48) hours before beginning work and twenty-four (24) hours before placing any concrete.
- The DISTRICT'S personnel shall have the right to enter upon the property for inspection at any time during construction or as may be warranted to ensure the detention facility and drainage system are operating properly.
- Appropriate cover for the side slopes, bottom, and maintenance berm shall be established prior to acceptance of the construction by the DISTRICT. At least 95% germination of the grass must be established prior to acceptance of construction by the DISTRICT.
- No building permit shall be issued for any lot within this development until the detention facility has been constructed and approved by the DISTRICT.
- The DISTRICT'S approval of the Final Drainage Plan (and Final Plat if required) does not affect the property rights of third parties. The developer is responsible for obtaining and maintaining any and all easements, fee strips, and/or any other rights-of-way across third parties' properties for purposes of moving excess runoff to the DISTRICT'S drainage facilities as contemplated by the Final Drainage Plan and Final Plat.
- Drainage Easements shall be used only for the purposes of constructing, operating, maintaining, repairing, replacing, and reconstructing of a drainage facility, and any and all related equipment and facilities together with any and all necessary incidentals and appurtenances thereto in, upon, over, across, and through the Easement Area. The DISTRICT'S successors, assigns, agents, employees, workmen, and representatives shall at all present and future times, have the right and privilege of ingress and egress in, upon, over, across, and through the Easement Area.
- Access Easements shall be used for ingress and egress to the DISTRICT'S drainage facilities and shall be kept clear of any and all obstructions.
- An As-Built Certificate and As-Built Survey are required to be submitted to the DISTRICT before a Certificate of Compliance can be issued. Contract the DISTRICT'S Inspector for further clarification.
- All drainage plans and plats shall be conformance with the DISTRICT'S Rules, Regulations & Guidelines. Board approval of a drainage plan or plat does not constitute permission to deviate. Deviation from the DISTRICT'S Rules, Regulations & Guidelines is only authorized and allowed by a separate Request for Variance which was approved by the Board. Any Board approved variance shall be referenced on the plan cover page and on the appropriate sheet where applicable. The use of the term "Guidelines" herein does not affect the mandatory nature of these Rules, Regulations & Guidelines.

BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND.
ELEV. =52.00 (NAVD '88) 1991 ADJUSTMENT

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE PLAT OF PRIMROSE SECTION 2 IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 86°17'5" E	60.00'
L2	S 03°23'15" E	58.70'
L3	N 03°23'15" W	62.31'
L4	N 86°36'45" E	192.00'
L5	N 80°30'58" E	18.58'
L6	N 86°36'45" E	132.00'
L7	N 03°23'15" W	106.00'

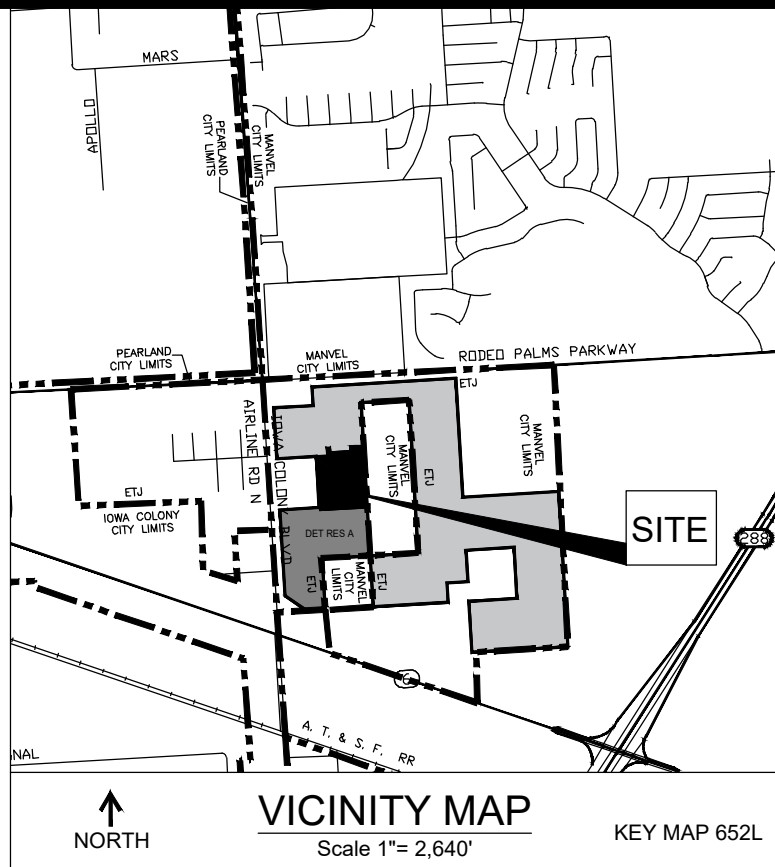
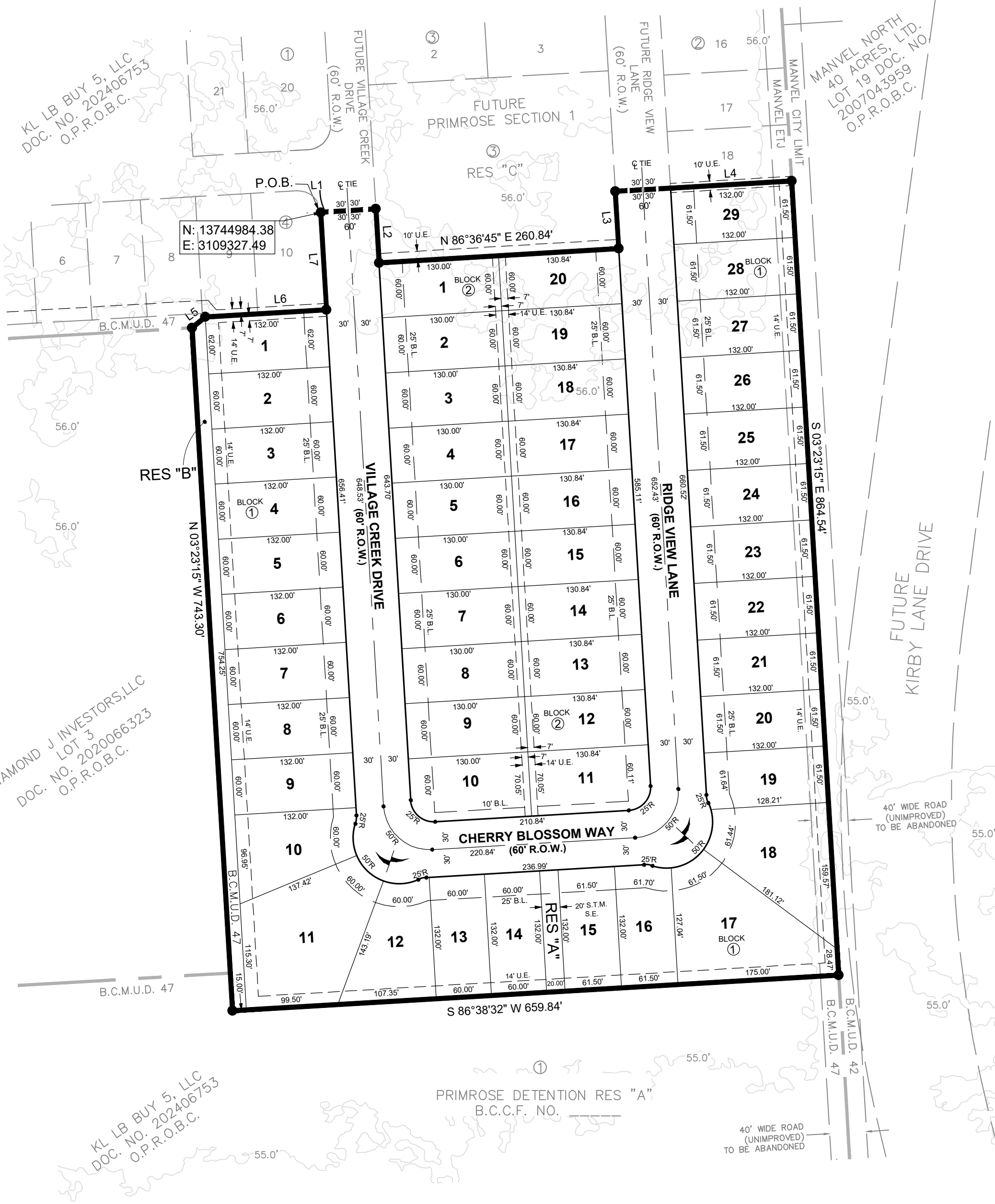
RESERVE TABLE

RESERVE	RESTRICTIONS	SQ. FT	ACREAGE	MAINTENANCE
A	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	2,640.00	0.06	B.C.M.U.D. NO. 47
B	LANDSCAPE, OPEN SPACE, & UTILITY PURPOSES	11,231.64	0.26	B.C.M.U.D. NO. 47
	TOTAL	13,871.64	0.32	

PARKLAND TABLE

PLAT	ACREAGE
PRIMROSE DETENTION RESERVE 'A'	2.00 AC.
PRIMROSE SECTION 1	1.20 AC.
PRIMROSE SECTION 2	0.00 AC.
TOTAL	3.20 AC.
REQUIRED	1.24 AC.

*Parkland required based on City of Manvel ordinance wherein 1 acre of parkland shall be dedicated for each 100 proposed dwelling units.



OWNER CONTACT INFORMATION
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

LOT SIZE TABLE

BLOCK NO.	LOT NO.	LOT AREA (SQ. FT.)	LOT WIDTH
1	1	8,184.00	62.00'
	2	7,920.00	60.00'
	3	7,920.00	60.00'
	4	7,920.00	60.00'
	5	7,920.00	60.00'
	6	7,920.00	60.00'
	7	7,920.00	60.00'
	8	7,920.00	60.00'
	9	7,920.00	60.00'
	10	9,623.48	60.00'
	11	17,980.65	60.00'
	12	10,211.79	60.00'
	13	7,920.00	60.00'
	14	7,920.00	60.00'
	15	8,118.00	61.50'
	16	8,032.56	61.70'
	17	16,834.94	61.50'
	18	13,674.32	61.44'
	19	8,093.32	61.64'
	20	8,118.00	61.50'
2	1	7,800.00	60.00'
	2	7,800.00	60.00'
	3	7,800.00	60.00'
	4	7,800.00	60.00'
	5	7,800.00	60.00'
	6	7,800.00	60.00'
	7	7,800.00	60.00'
	8	7,800.00	60.00'
	9	7,800.00	60.00'
	10	8,968.73	60.00'
	11	9,035.95	60.11'
	12	7,850.40	60.00'
	13	7,850.40	60.00'
	14	7,850.40	60.00'
	15	7,850.40	60.00'
	16	7,850.40	60.00'
	17	7,850.40	60.00'
	18	7,850.40	60.00'
	19	7,850.40	60.00'
	20	7,850.40	60.00'

Primrose Section 2 Preliminary Plat

A subdivision of 12.34 acres out of the H.T. & B. R.R. CO. Survey, Section 71, A-291, City of Manvel ETJ, Brazoria County, Texas and also being out of the Emigration Land Company Subdivision as recorded in VOL. 2, PG. 81-82, B.C.P.R.

49 Lots, 2 Blocks and 2 Reserves
Owner: KL LB Buy 5, LLC



ENGINEERING THE FUTURE
Since 1988

EHRA JOB NO.
241-008-02

July 14, 2025

10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA TEAM
TBPE No. F-78
TBPLS No. 1009200

No warranty or representation of intended use, ability or proposed improvements are made herein. All plans for land or facilities are subject to change without notice.

GENERAL NOTES:

- Bearing orientation is based on the Texas State Plane Coordinate System of 1983, South Central Zone as determined by GPS measurements.
- The Coordinates shown hereon are Texas South Central Zone No. 4204 state plane grid coordinates (NAD 83) and may be brought to surface by applying the following scale factor: 1.0.
- According to the Federal Emergency Management Agency Flood Insurance Rate Map, Brazoria County, Texas, Community Panel No.48039C0110K, dated December 30, 2020, the property lies within Unshaded Zone X.

This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. The location of the flood zone was determined by scaling from said FEMA map. The actual location, as determined by elevation contours, may differ. Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA, assumes no liability as to the accuracy of the location of the flood zone limits. This flood statement shall not create liability on the part of Edminster, Hinshaw, Russ & Associates, Inc. d/b/a EHRA.
- The property subdivided in the foregoing plat lies in Brazoria County, the City of Manvel ETJ, portions of Brazoria County M.U.D. No. 47, Alvin Independent School District, and Brazoria County Drainage District #4.
- Property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences buildings, plantings, and other obstructions.
- This document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document.
- This development is subject to the terms and conditions of Interlocal Agreement between Brazoria County, the City of Manvel and Brazoria County Municipal Utility District No. 47.
- The City of Manvel shall provide water capacity sufficient to serve the district per the terms and conditions of the Interlocal Agreement between Brazoria County Municipal Utility District No. 47 and the City of Manvel.
- This development will have no on-site sewage facilities because it will be served by the Brazoria County Municipal Utility District No. 29 wastewater treatment plant.
- All right-of-way within the boundary of the plat, except for Rodeo Palms Parkway, shall be public and shall be maintained by Brazoria County Municipal Utility District No. 47.
- Approval of the Master Plan shall expire three years after council approval, unless within the three year period, the subdivider has commenced construction of the improvements in the final construction plans approved by the city per Sec 62-39 of the Manvel Code of Ordinances.
- A subdivision variance has been approved to allow lot width to be measured at the building line rather than at the right-of-way by the City of Manvel on June 9, 2025.
- A subdivision variance has been approved to allow two points of access to temporarily serve a subdivision phase containing a maximum of 124 platted lots until Section 3 is platted, by the City of Manvel on June 9, 2025.
- Abandonment of the 40-foot-wide unimproved roads along the city limits boundary shall occur prior to the recording of the final plat that includes the affected right-of-way. Abandonment shall occur on a per-plat basis and is not required to be completed for all 40-foot-wide unimproved roads simultaneously.
- Right-of-way dedication is required for Kirby Drive.
- Significant changes require following the procedures in Section 62-38 (Preliminary Plat Process).
- A copy of the Master Plan will be filed with the approved subdivision plat in the City's permanent records.

THIS IS TO CERTIFY THAT THE CITY COUNCIL OF THE CITY OF MANVEL, TEXAS, HAS APPROVED THIS MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

MAYOR

THIS IS TO CERTIFY THAT THE PLANNING, DEVELOPMENT AND ZONING COMMISSION OF THE CITY OF MANVEL, TEXAS, HAS RECOMMENDED APPROVAL FOR THE MASTER PLAN OF PRIMROSE IN CONFORMANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE ORDINANCES OF THE CITY OF MANVEL AS SHOWN HEREON AND AUTHORIZES THE RECORDING OF THIS PLAT THIS _____ DAY OF _____, 2025.

PLANNING DEVELOPMENT AND ZONING COMMISSION CHAIR

LAND USE AREAS & LOT TOTALS

60' x 125' Typical: 413 Lots	± 105.5 Ac.
Detention	± 53.9 Ac.
Major Thoroughfare & Collector ROW Dedication	± 7.7 Ac.
Park	± 3.1 Ac.
Landscape Buffer / Open Space	± 4.6 Ac.
Total	± 174.8 Ac.

OWNER CONTACT INFORMATION

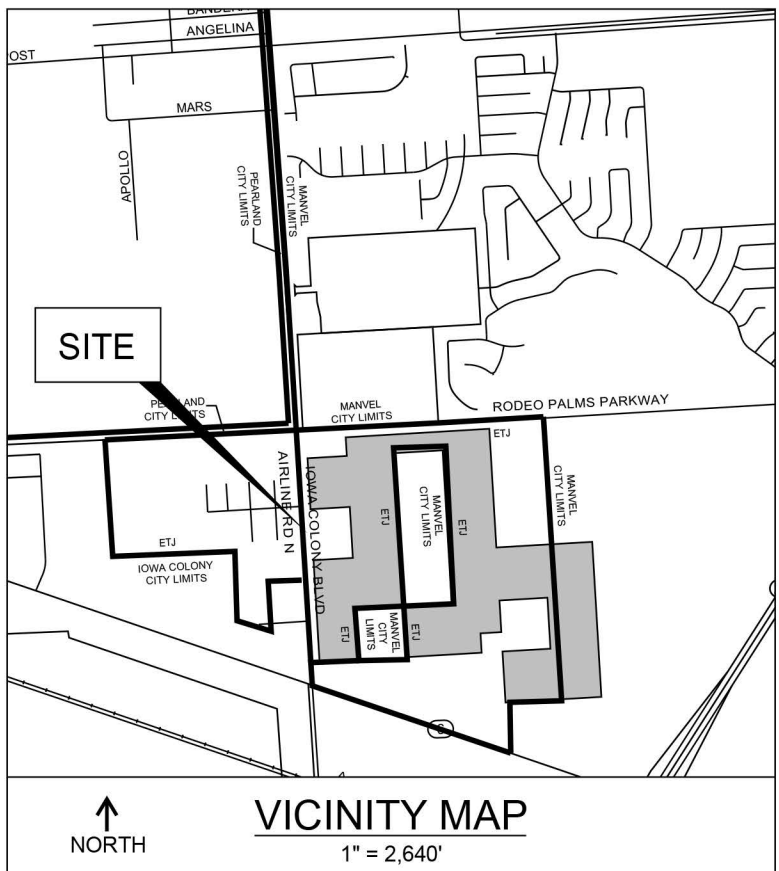
KL LB BUY 5, LLC
850 New Burton Road, Suite 201
Dover, Delaware 19904
Phone: 713-784-4500

PARK LAND DEDICATION TABLE			
SECTION	PARKS	TRAILS	TOTAL PARK LAND
Section 1	1.2 Ac.		1.2 Ac.
Section 2			
Det Res A		2.0 Ac.	2.0 Ac.
Section 3	0.8 Ac.		0.8 Ac.
Det Res B & C			
Section 4			
Section 5	1.1 Ac.		1.1 Ac.
Section 6			
Park Land Provided	3.1 Ac.	2.0 Ac.	5.1 Ac.
Park Land Required			4.1 Ac.

*1 acre of park land for each 100 proposed dwelling units
*Trails account for 50% of the required parkland.
*A reserve dedicated to use as park land shall not be narrower than 150 feet.

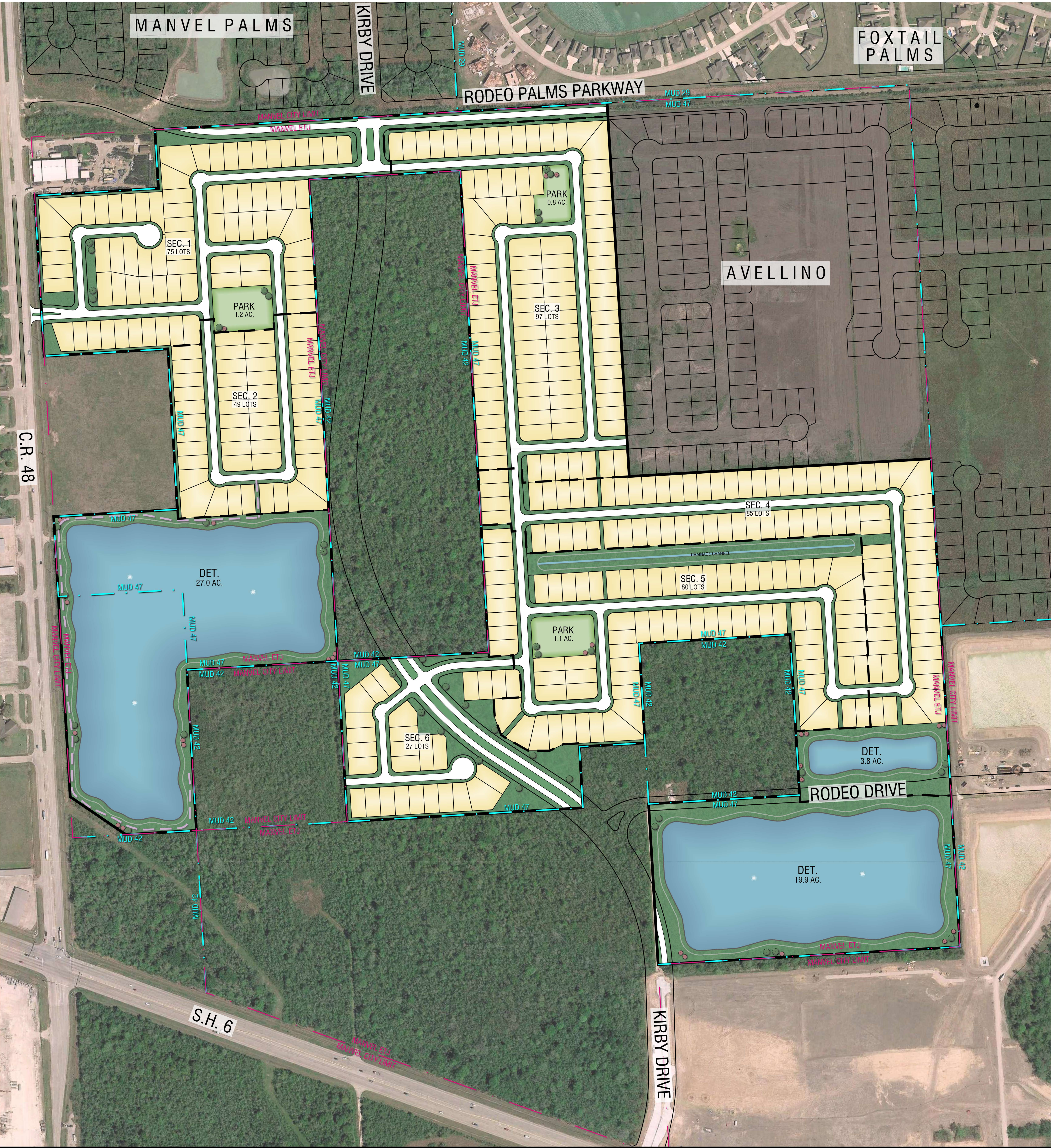
BENCHMARK(S):

NGS MONUMENT # E 306 DISK SET IN TOP OF CONCRETE MONUMENT, LOCATED 2.0 MILES WEST OF MANVEL, 2 MILES WEST ALONG THE GULF, COLORADO AND SANTA FE RAILWAY FROM THE STATION AT MANVEL, BRAZORIA COUNTY, 0.2 MILE WEST OF A SHELL-ROAD CROSSING, 5-1/2 FEET NORTHWEST OF MILE POLE 38, 39 FEET SOUTH OF THE SOUTH RAIL, 33 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 6.7 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 3 FEET WEST OF A WHITE WOODEN WITNESS POST AND SET IN THE TOP OF A CONCRETE POST ABOUT FLUSH WITH THE GROUND. ELEV. +52.00 (NAVD 88) 1991 ADJUSTMENT



LOTS PER SECTION

Section 1	75
Section 2	49
Section 3	97
Section 4	85
Section 5	80
Section 6	27
Total	413



Primrose: Master Plan

A Subdivision of 174.8 acres out of the H.T. & B. R.R. Co. Survey, Section 71, A-291
City of Manvel ETJ, Brazoria County, Texas

Owner: KL LB BUY 5, LLC, a Delaware limited liability company

July, 2025



10011 MEADOWGLEN LANE
HOUSTON, TEXAS 77042
713.784.4500
EHRA TEAM
TBPE NO. F-726
TBPLS NO. 10092300

EHRA JOB NO.
241-068-00
TRIP NO. 24-1600

No warranty or representation of intended use, design or proposed improvements are made herein. All Plans for land or facilities are subject to change without notice.



MANVEL PD&Z COMMISSION DATA SHEET

MEETING DATE: August 11, 2025

TOPIC: Consideration of a request to amend the Del Bello Lakes Planned Unit Development (PUD) to include an approximate 106.2-acre tract of land generally located east of Manvel Pkwy, south of Croix Rd, and North of Del Bello Ln. The subject site is currently zoned Open-Single Family Residential District (O-SFR).

BACKGROUND:

The applicant, Julia Herzog with META Planning + Design, LLC, representing the property owners Crawford William II Living Trust and Michael Daily, is requesting to amend the Del Bello Lakes Planned Unit Development (PUD) to include an approximate 106.2-acre tract of land generally located east of Manvel Pkwy, south of Croix Rd, and North of Del Bello Ln.

The Planning and Zoning Commission held a public hearing on June 23, 2025, to receive public input. Staff could not provide a recommendation of approval at that time and PD&Z tabled this item. During the public hearing, two members of the public spoke in opposition to the proposed PUD amendment, citing traffic, safety, drainage, and lack of landscape buffer concerns. One member spoke in support. Two written comments were also read; one in support, and one in opposition. After a presentation and discussion, the Commission postponed the item to allow the applicant more time to address critical issues, especially, Traffic study.

Since that time, the applicant has submitted revised and additional documentation. Details and staff analysis are provided in the attached staff report.

CITY COUNCIL HELD PUBLIC HEARING: At the July 7, 2025, City Council public hearing, no opposition was expressed regarding the subject SUP request.

STAFF RECOMMENDATION: The proposed PUD amendment conforms to the goals of the Comprehensive Master Plan. Since the initial submittal, the applicant has provided more details and made some improvements to the proposed layout. However, as indicated above, the applicant is working on providing more clarity on detention and traffic. Staff can recommend approval of this request if the applicant is able to provide additional clarity on detention and traffic prior to or at the 08.11.2025 PD&Z Meeting.

ATTACHMENTS: Staff Report, PUD document redline, Revised Conceptual Development Plan exhibits, Preliminary Drainage Analysis, and TIA.

FUNDING ISSUES

- ☒ Not applicable
☐ Not budgeted
☐ Full amount already budgeted
☐ Funds to be transferred from Acct.#

SUBMITTING STAFF MEMBER

Ellie Roohbakhsh,
Senior Planner

FINANCE DIRECTOR APPROVAL __NA__

CITY MANAGER APPROVAL __YES__





STAFF REPORT TO PLANNING, DEVELOPMENT, AND ZONING COMMISSION

Planned Unit Development Amendment

Agenda of:	August 11, 2025	Initiated By:	Jose Abraham Director, Development Services
Subject:	Del Bello Lakes PUD Amendment	Presented By:	Ellie Roohbakhsh Senior Planner
Recommended Action:	Consideration and possible action to provide a recommendation to City Council.		

The applicant, Julia Herzog with META Planning + Design, LLC, representing the property owners Crawford William II Living Trust and Michael Daily, is requesting to amend the Del Bello Lakes Planned Unit Development (PUD) to include an approximate 106.2-acre tract of land generally located east of Manvel Pkwy, south of Croix Rd, and North of Del Bello Ln. This request was considered at the 6/23/2025 PD&Z meeting. Staff could not provide a recommendation of approval at that time and PD&Z tabled this item. Since then, the applicant has submitted additional documentation and revisions, including the following:

- **Preliminary Drainage Analysis:** A preliminary drainage analysis memo was submitted to show the existing drainage conditions and post development considerations. The memo also indicates the possibility of the proposed development draining to west into Cooper Ditch and/or south into C12 Ditch (routed through the proposed detention pond). Additional modeling (e.g., H&H study with routing analysis) and a more detailed drainage plan will be considered for plat and construction plan approval. The applicant intends to provide additional details based on staff comments at the meeting, such as volume considered for proposed pond and detention volume need per phase.
- **Traffic impact Analysis (TIA):** A TIA memo was submitted, and staff has provided some clarification questions to the applicant to address at the PD&Z meeting. The submitted TIA recommends construction of:
 - An eastbound right-turn lane on Croix Road at the intersection with the proposed driveway.
 - An eastbound left-turn lane on Del Bello Boulevard at its intersection with Manvel Parkway.
- **MUD Annexation:** The process is currently underway.
- **Site Plan Revisions:** Includes updates to:
 - Total acreage: A correction was made to the total acreage (106.8 acres to 106.2 acres).
 - Lot count: Reduced from 315 to 296 lots.
 - Parks: A 1.6-acre park space was added.
 - The overall layout: The overall layout of lots and detention pond has changed.
 - Buffer: Landscape Buffer width along Del Bello Ln was increased to 20 feet.
 - Access points: The proposed access points do not meet the multiple access point requirement of the subdivision ordinance. Previously, the layout included two proposed access points to existing throughfares and two access points to abutting properties. The plan is now revised to remove one of the access points to the abutting property on the west side.
- **Construction of rights-of-way:** Construction responsibility for right-of-way is still under consideration as part of the MUD annexation process.
- **Phasing Plans:** The applicant has submitted an updated phasing plan.



- **GCWA Coordination:** An email from GCWA confirms receipt of the proposed plan, with discussions regarding requirements still ongoing.

Based on the revised submittals and the site's strategic location along two major thoroughfares, staff supports the proposed annexation into the existing Del Bello Lakes PUD. However, additional clarification is still required regarding the following items:

- Number and justification of access points
- Finalized detention requirements
- Implementation and phasing of traffic improvements
- Right-of-way construction responsibilities and timeline
- Completion of MUD annexation

Attachments: Previous Staff Report, PUD document redlines, revised Conceptual Development Plan exhibits, Preliminary Drainage Analysis, and Turn Lane Analysis, and TIA.

Staff Recommendation: The proposed PUD amendment conforms to the goals of the Comprehensive Master Plan. Since the initial submittal, the applicant has provided more details and made some improvements to the proposed layout. However, as indicated above, the applicant is working on providing more clarity on detention and traffic. Staff can recommend approval of this request if the applicant is able to provide additional clarity on detention and traffic prior to or at the 08.11.2025 PD&Z Meeting.



STAFF REPORT TO PLANNING, DEVELOPMENT, AND ZONING COMMISSION

Planned Unit Development Amendment

Agenda of:	June 23, 2025	Initiated By:	Jose Abraham Director, Development Services
Subject:	Del Bello Lakes PUD Amendment	Presented By:	Ellie Roohbakhsh Senior Planner
Recommended Action:	A Public Hearing followed by consideration and action to provide a recommendation to City Council.		
<u>SUMMARY</u>			
The applicant, Julia Herzog with META Planning + Design, LLC, representing the property owners Crawford William II Living Trust and Michael Daily, is requesting to amend the Del Bello Lakes Planned Unit Development (PUD) to include an approximate 106.8-acre tract of land generally located east of Manvel Pkwy, south of Croix Rd, and North of Del Bello Ln. The subject site is currently zoned Open-Single Family Residential District (O-SFR). O-SFR district requires minimum 1-acre lots. The subject site abuts Del Bello Lakes development on the west side. Ordinance No. 2017-O-45 originally established the Del Bello Lakes PUD and allowed for single family residential, Light commercial, and car dealership. Since then, four amendments have been requested, with three of them approved, to allow temporary residential signage, signage for Keating Toyota, and allowance for an additional car dealership along SH 288.			
The applicant met with staff during a pre-development meeting in January 2025 to discuss the proposed project, followed by multiple follow-up discussions. Additionally, the applicant participated in a City Council workshop on February 3, 2025. At the time of preparing this report, the applicant has not provided information related to traffic study, drainage, utilities, phasing, right-of-way construction responsibilities, or coordination with Brazoria County and GCWA regarding access points. Additionally, no details have been submitted concerning parkland dedication or related calculations.			
<i>Staff is not able to provide a recommendation of approval at this time.</i>			

EXHIBITS

Aerial Vicinity Map, Zoning Vicinity Map, Major Thoroughfare Plan Map, Application, Letter of Authorization, Letter of Request, Schematic Development Plan, Conceptual Development Plan, Public Hearing Notice, and PUD Document Redline.

GENERAL SITE INFORMATION

The following is a summary of general site information.

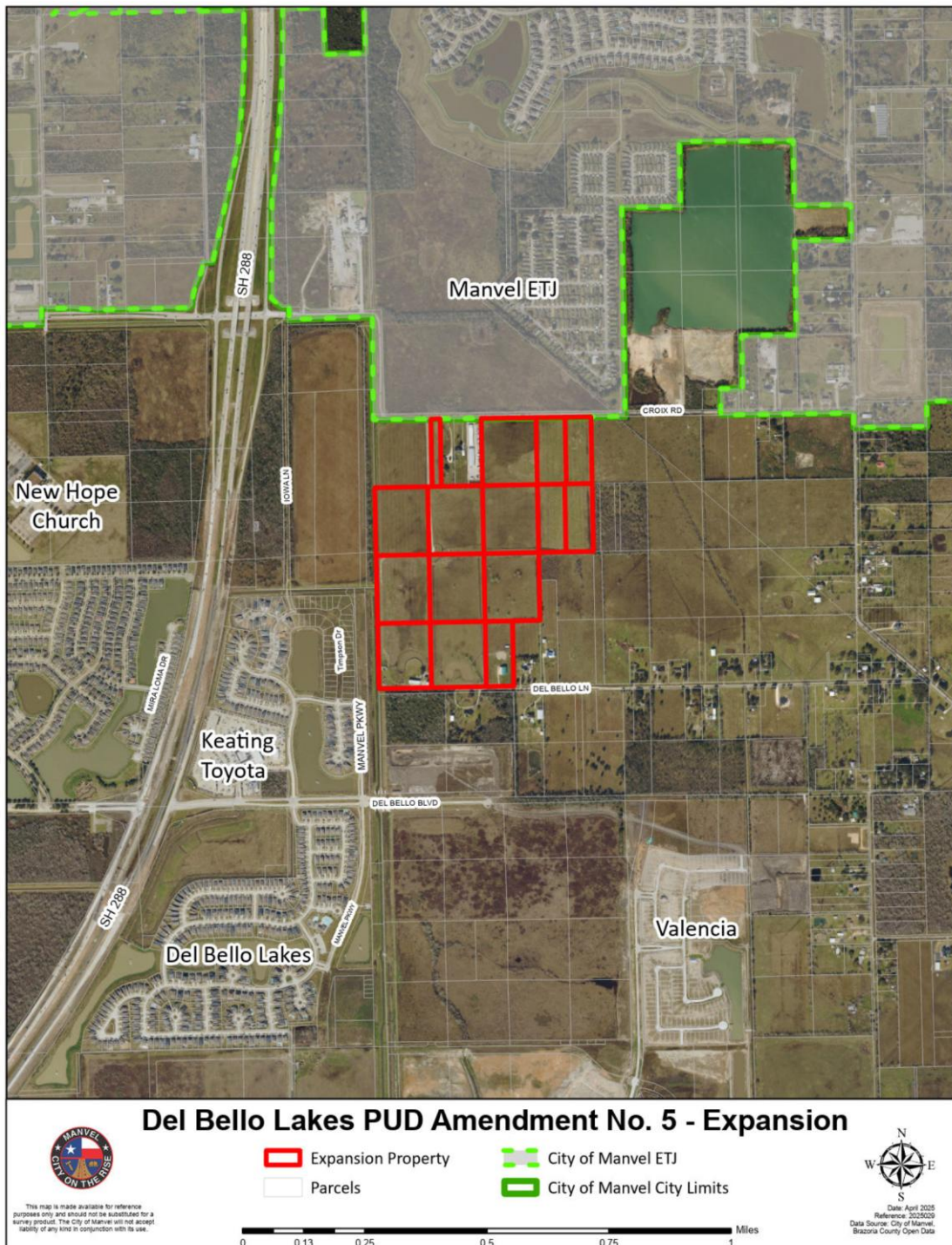
Surrounding Property Zoning	North: Extra Territorial Jurisdiction (ETJ) / Open-Single-Family Residential District (O-SFR) / Light Commercial District – Specific Use Permit (LC/SUP) – (Lessors of Mini Warehouses and Self-Storage Units) South: Open-Single-Family Residential District (O-SFR) East: Open-Single-Family Residential District (O-SFR) West: Reserve at Manvel Planned Unit Development (PUD) / Del Bello Lakes Planned Unit Development (PUD)
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Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

Surrounding Land Use	North: Undeveloped land (Sedona Lakes) / Residential home / Diamond Storage South: Residential home / Undeveloped land East: Residential home / Undeveloped land West: Residential home (Del Bello Lakes)/ Undeveloped Light Commercial land (Reserve at Manvel)
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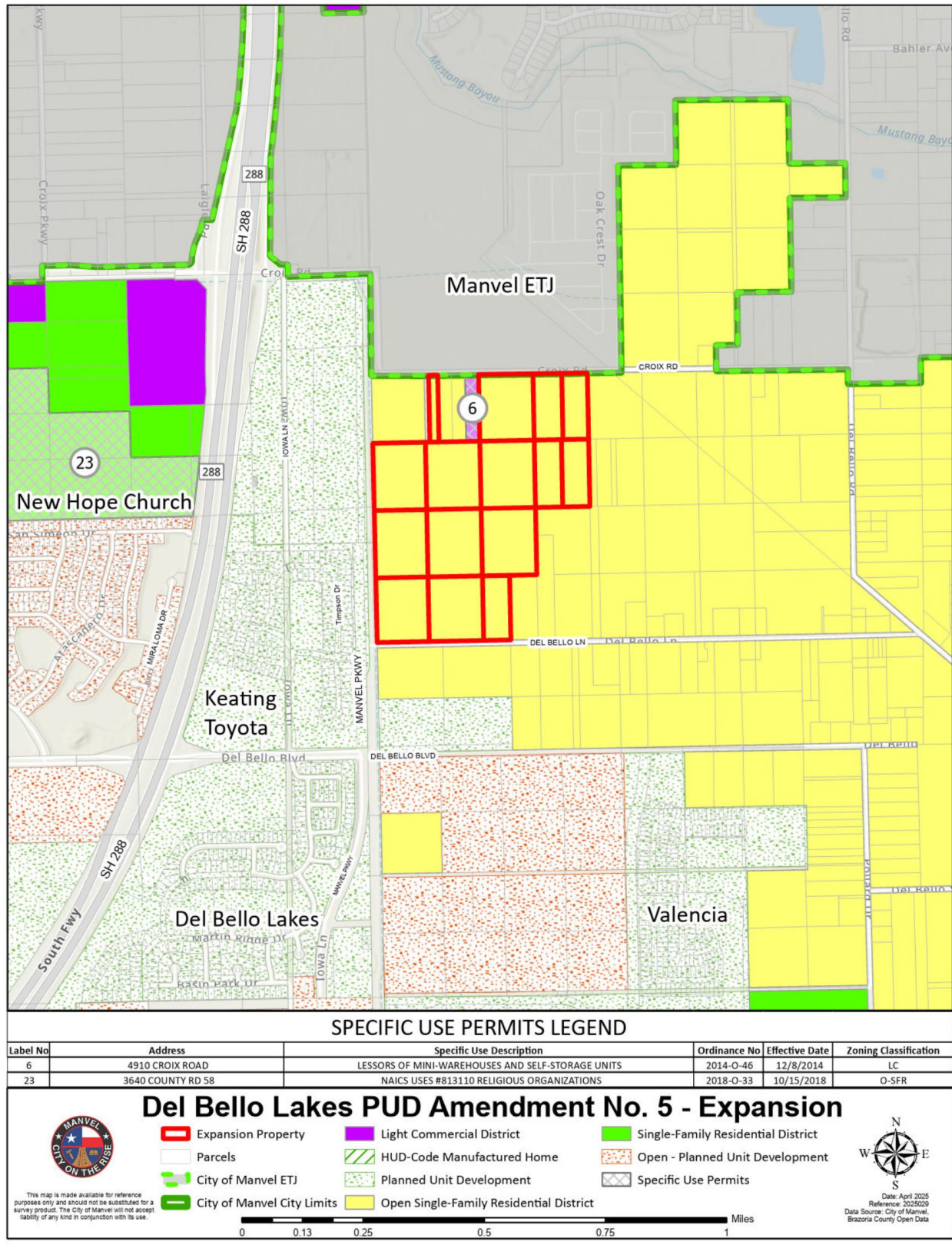
AERIAL VICINITY MAP





Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

ZONING VICINITY MAP





ZONING ORDINANCE PROVISIONS FOR PLANNED UNIT DEVELOPMENT

In Section 77-29 (a) of the City of Manvel Zoning Ordinance, *“the purpose of a planned unit development district (PUD) is to promote diversity and creativity in site design. The PUD process is provided as an option to encourage unique developments which may combine a mixture of residential and non-residential land uses and building functions. The PUD allows flexibility in the application of development standards by permitting departures from the conventional siting, setback, and density requirements of a particular zoning district in the interest of achieving site development not otherwise possible.”*

In Section 77-29 (a) of the Zoning Ordinance it further states, *“All PUD applications shall be developed in compliance with the standards of the major thoroughfare plan, the city's comprehensive plan and vision statement. The future land use element of the comprehensive plan shall also be considered in all PUD applications. A planned unit development manual (“PUD Manual”) establishing the procedural process and requirements for application and approval of a PUD may be adopted and amended from time to time by resolution of the council.”*

PROJECT DETAILS

The subject site is a mostly undeveloped tract of approximately 106.8 acres, generally located east of Manvel Parkway, south of Croix Road, and north of Del Bello Lane. The applicant intends to incorporate this site into the existing Del Bello Lakes Planned Unit Development (PUD) (Ordinance No. 2024-O-35) and designate it under the Single-Family Residential (SFR) land use category. The existing Del Bello PUD is located along SH 288 and includes an approximate 267.7-acre mixed use development with allowance for Single Family Residential, Light Commercial uses, and Car Dealerships. This SFR category permits 50- and 60-foot-wide lots with a depth of 125 feet. The proposed amendment would expand the total Del Bello Lakes PUD area from 267.7 acres to approximately 374.5 acres. A pre-development meeting with staff was held in January 2025, followed by multiple discussions with the applicant. The applicant also participated in a workshop at the City Council meeting (February 3, 2025). As part of the PUD amendment application, the applicant has submitted a Conceptual Development Plan along with the redline version of the proposed amendments to the PUD document (see attached exhibits).

The subject site currently has access via Croix Road on the north side, a county road consisting of two asphalt lanes with no sidewalks. Road and sidewalk improvements must comply with Brazoria County's minimum standards. Both the City and County Thoroughfare Plans show Croix Road as a future 120-foot-wide Parkway with a new alignment. A second access point is proposed from Manvel Parkway to the west. Currently, only half the width of Manvel Parkway is constructed—from Dogwood Avenue (south) to Autumn Breeze Drive (north), passing Del Bello Boulevard. There is no existing access from Manvel Parkway to the subject site. To establish access, a bridge over the American (GCWA) canal is required. Based on Section 104 (5), *Multiple access points*, the proposed development plan with 326 residential lots would require a total of four (4) access points. The subject site must be platted, and vehicular access must be formally established as part of the development process.

Of the 106.8-acre tract, approximately 27.5 acres are planned for a lake, detention pond, pedestrian trails, and a dog park. The remaining acreage is planned for Single-Family Residential (SFR) use and a lift station. The proposed changes will increase the number of residential lots from 437 to 763.



Although the lot count is increasing, the overall residential density will not change significantly, shifting slightly from 0.49 to 0.42 dwelling units per acre. The new SFR development with 326 lots is proposed to maintain the neighborhood character, comply with existing design standards, and be consistent with the quality and regulations established in the original PUD. All Development Plans must demonstrate general conformance with the City of Manvel's site development standards. A detailed review will occur during the platting and permitting phases.

The current PUD allocates approximately 81.6% of acreage for residential lots, infrastructure, and amenities, and 18.4% (approx. 50 acres) for commercial use. The proposed amendment increases residential lot allocation to 86.5%. The current PUD limits lots with a width of 50 feet to no more than 22% of total lots (or 115 lots, whichever is less). However, the proposed amendment will increase the 50-foot lots to 32% of total lots, 241 lots total, exceeding the original cap. Proposed redline also shows adding secondary neighborhood monument signs at new entrances from Croix Rd and Manvel Pkwy. It also includes an update for open space and parkland requirements. The proposed Conceptual Development Plan appears to meet the parkland dedication requirement provided in the PUD, however, a detailed calculation identifying parkland area has not been submitted.

Regarding utilities, Municipal Utility District (MUD) 1 (Sedona Lakes) is located to the north of the subject site, MUD 79 (Reserve at Manvel) and MUD 43 (Del Bello Lakes) are to the west, and MUD 83 (Valencia) lies to the south. The PUD and MUD annexation approval processes should be considered together to ensure coordinated development and utility planning across jurisdictions.

Note: At the time of preparing this report, the applicant has not provided information related to drainage, utilities, phasing, right-of-way construction responsibilities, or coordination with Brazoria County and GCWA regarding access points. Additionally, no details have been submitted concerning parkland dedication or related calculations.

PUD CRITERIA FOR APPROVAL AND STAFF ANALYSIS

Section 77-29(f)(5) of the Zoning Ordinance provides the following approval criteria for PUD requests. A PUD application shall be evaluated based on the following criteria:

1. *The proposal is unique in design to warrant the use of a PUD and the development is not possible using the existing zoning regulation of the property:*

The portion being added to the PUD does not include non-residential uses. The subject property is currently zoned Open-Single Family Residential (O-SFR), which requires a minimum lot size of one acre. The applicant is proposing smaller lots—ranging from 50 to 60 feet in width—which are not permitted under the existing zoning designation and is therefore, requesting for this PUD amendment. Please note that the Single Family Residential (SFR) district allows for 60-foot-wide lots. This being a PUD amendment, the proposal should align with the lot sizes and development standards established in the existing Del Bello Lakes PUD and does not introduce a distinctly unique design.

2. *The project depicts creative land development, providing a variety in the development patterns of the city which conform to the intended purpose of the city's comprehensive plan and vision statement:*



If developed appropriately, the proposed rezoning to PUD supports the *City of Manvel's 2015 Comprehensive Plan*, which emphasizes preserving the city's rural character and small-town values while managing growth. This request aligns with several key vision statements, including:

- "Benefiting from our strategic location by encouraging well-planned quality retail, commercial, and residential development that reflects and enhances our small-town quality of life." The subject property being located along major thoroughfares, makes it an appropriate location for the proposed use and suggests general alignment with the Comprehensive plan goals.
- "Promoting a strong and diverse economic base that supports efficient high-quality public infrastructure, municipal services, education, and collaborative governance." The subject property via constructing public infrastructures and getting annexed to the MUD will promote quality of life.
- "Offering a variety of housing choices that reinforce our small-town values."

Additionally, the rezoning proposal directly supports Goal Statements No. 2 and 5 from the Land Use section of the Comprehensive Plan:

- Goal 2: "Provide a variety of lot size options to offer opportunities for all lifestyles and life stages, avoid a large number of small lots, and require more open space to retain the history of the rural character." While the proposed SFR lots are smaller than the minimum one-acre lots found in the O-SFR district, the inclusion of significant open space and parkland helps offset this shift by maintaining community character and recreational opportunities.
- Goal 5: "Include more and a wider variety of park and recreational amenity uses and options."

The requested Amendment is a significant change in terms of intensity (in comparison to the current zoning allowance). The applicant has not provided sufficient details for staff to evaluate its impact on traffic and drainage.

3. *Mixed uses and building functions if proposed shall be complementary, and pose minimal impact to adjacent uses or functions:*

The subject site abuts existing SFR areas in the current Del bello Lakes and is consistent in land use character with the adjacent properties which are zoned residential or located in the ETJ (Sedona Lakes). However, without a traffic study, drainage plan, or clarity on access and off-site infrastructure coordination (GCWA canal bridge, Croix Rd), it's impossible to conclude that impacts will be minimal.

4. *Development within the PUD encourages the use of alternative transportation circulation between structures and open spaces, including pedestrian and bicyclist:*

The proposed plan includes pedestrian trails and a dog park, which could promote walkability within the larger development. Additionally, the proposed redline amendment indicates that the subject site will maintain the neighborhood character, comply with existing design standards, and remain consistent with the quality and regulations established in the original PUD.

5. *Landscaping areas shall visually enhance the structures within the development and conform to the city's comprehensive plan and vision statement:*



Although the proposed redline indicates that the subject site will maintain compliance with existing landscape, open space, and parkland standards, additional details and standards specific for the PUD amendment could be considered. Specifically, accurate and comprehensive information—including corresponding calculations—related to open space, landscaping, and parkland dedication is required for a thorough evaluation.

6. *The proposed project is in compliance with the minimum development requirements described in the PUD Manual:*

The proposed project generally appears to align with the minimum development requirements outlined in the PUD Manual. However, because the application lacks detailed information on several critical elements such as traffic study, access point justification, phasing, preliminary drainage, utilities, and interagency coordination (GCWA, Brazoria County), staff cannot fully confirm the impact of the development. These outstanding items will need to be addressed and thoroughly reviewed during the platting and permitting phases, however, are also critical is review of a zoning change. Additionally, the PUD and MUD annexation approval processes should be considered together to ensure coordinated development and utility planning across jurisdictions.

STAFF RECOMMENDATION

The site's location along the two major thoroughfares supports its annexation to the existing Del Bello Lakes PUD. However, the application packet does not provide sufficient clarity on the following critical items:

- Traffic related impact and mitigation,
- Drainage related impact and mitigation,
- Status of MUD annexation.

Due to insufficient information on drainage, utilities, phasing, right of way construction responsibilities, communication with County and GCWA regarding accesses, parkland and calculations, and other site plan and PUD redline details discussed above, **STAFF IS NOT ABLE TO PROVIDE RECOMMENDATION OF APPROVAL** for this requested PUD amendment to rezone the subject site from O-SFR to Del Bello Lakes PUD.

If the commission considers approval of this request, the following revisions and additions to the PUD document should be considered:

- Updated maps, exhibits, and tables to reflect the proposed annexation area.
- Clarification and updates to the Acreage per Land Use Summary table, with a written explanation justifying the changes.
- Adjustments to ensure lot sizes, particularly 50-foot-wide lots, comply with the existing PUD limitation of no more than 22% of the total lot count.
- Inclusion of additional detail on drainage, utilities, phasing, and right-of-way construction responsibilities.
- Documentation of coordination with Brazoria County and GCWA, specifically regarding access from Croix Road and the proposed Manvel Parkway bridge.



Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

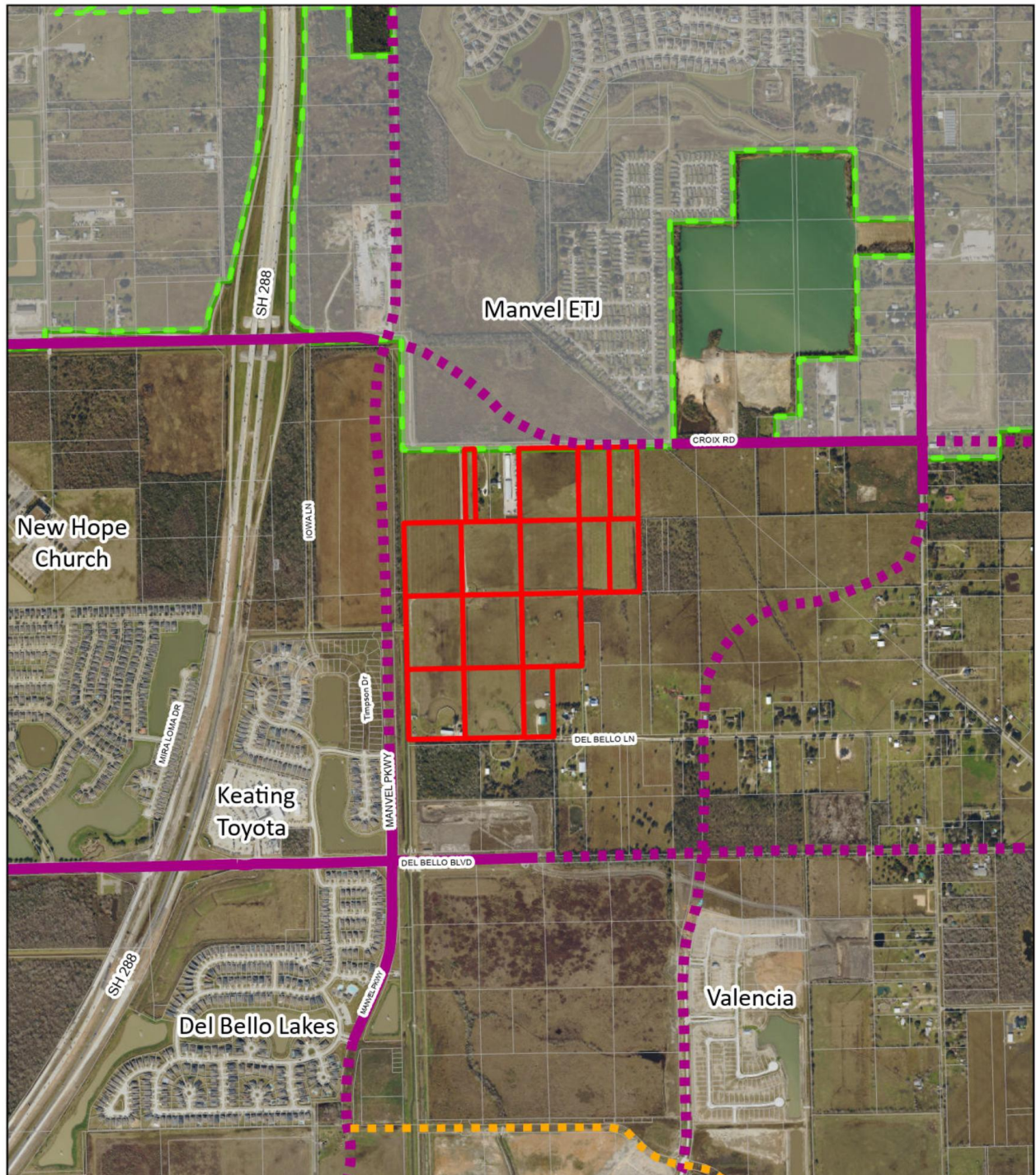
- Complete and accurate information regarding open space, landscaping, parkland dedication, and corresponding calculations.
- A Traffic Impact Analysis (TIA) for the overall proposed development shall be submitted for review and approval by the City Engineer.
- All traffic mitigation measures necessary to address the impacts identified in the TIA shall be incorporated into the project construction. Any phasing of these improvements must be reviewed and approved by the City Engineer.

PUBLIC HEARING

The Notice of Public Hearing was published in the newspaper of general circulation. All property owners within 200 feet of the property were notified. At the time of writing this report, no information inquiries have been received and staff is not aware of opposition.



MAJOR THOROUGHFARE PLAN MAP





*Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment*

APPLICATION



Staff Use Only:

Date Received: _____

Received by: _____

Date Complete: _____

Completeness Review by: _____

Planned Unit Development (PUD) Application

Incomplete Applications will not be accepted.
Please review application submittal requirements
contained in the City of Manvel PUD Manual.

(Please Type or Print Clearly with Dark Ink)



Master Plan PUD



Small PUD



Site Plan Only

General Information

PUD Name: Del Bello Lakes

Number of Units Proposed: 315 lots (expansion tract only) Current Zoning Designation: O-SFR

Zoning District under Which PUD Will Be Designed: PUD

Address/Location: Croix Road / CR 58

Brazoria County Parcel Number (s): 173731, 173736, 173722, 508477, 173737, 173716, 173723, 173732, 173734, Acres: 106.8 (expansion tract only)

Legal Description: Abstract 469, Subdivision O, A-469 BLK O, Lot 8

Applicant Information

Name: Julia Herzog Daytime Phone: 281-749-1492

Mailing Address: 24285 Katy Freeway, Suite 525

City/State/Zip: Katy, TX 77494

Contact Person: Julia Herzog

Email Address: jherzog@meta-pd.com

Property Owner Information (If different from applicant; attach additional signature page or appropriate letter of consent/agreement if more than one property owner)

Name: Michael Daily Daytime Phone: _____

Mailing Address: 2613 Sleepy Hollow Drive

City/State/Zip: Pearland, TX 77581

Email Address: _____



*Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment*

APPLICATION



Staff Use Only:

Date Received: _____
Received by: _____
Date Complete: _____
Completeness Review by: _____

Planned Unit Development (PUD) Application

Incomplete Applications will not be accepted.
Please review application submittal requirements
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Applicant Information

Name: Julia Herzog Daytime Phone: 281-749-1492

Mailing Address: 24285 Katy Freeway, Suite 525

City/State/Zip: Katy, TX 77494

Contact Person: Julia Herzog

Email Address: jherzog@meta-pd.com

Property Owner Information (If different from applicant; attach additional signature page or appropriate letter of consent/agreement if more than one property owner)

Name: Crawford William II Living Trust Daytime Phone: _____

Mailing Address: 6110 Edgemoor

City/State/Zip: Houston, TX 77081

Email Address: _____



APPLICATION

CITY OF MANVEL PLANNED UNIT DEVELOPMENT APPLICATION, PAGE 2

(Attach additional sheets if necessary to fully answer the following.)

1. Contiguous Land Ownership- Please specify if the owner(s) own any property that is directly adjacent to the proposed PUD and describe any future projects in adjacent property:

The developer of this property also owns the adjoining subdivision to the west, Del Bello Lakes. The expansion tract will be an extension of the existing Del Bello Lakes and will reflect the same neighborhood characteristics. The remainder of the properties immediately surrounding is primarily undeveloped.

2. Concept Statement- Brief description of the project including proposed the use or uses:

The proposed development will consist of single-family residential, centralized detention, a dog park, and pedestrian trails.

The proposed activities and uses shall be shown on an attached PUD plan based on the exhibit requirements for master plan and site plan review. Please refer to the City of Manvel PUD Manual for the master plan and site plan requirements.

3. Statement of Justification- Brief description outlining how the proposed PUD is consistent with the purpose of the Zoning Ordinance and all departures from the provisions of the underlying zoning district that are necessary to provide superior site development:

The project will be consistent with the purpose of the Zoning Ordinance by developing a single-family residential neighborhood with lot sizes the meeting the City's standardized minimum lot square footage for residential zoned properties. All proposed development regulations are consistent with the existing approved PUD for Del Bello Lakes.

4. Statement of Compliance with the Comprehensive Plan- Description of how the PUD meets or exceeds the City vision as described in the Comprehensive Plan:

The Comprehensive Plan designates the property as single-family residential. The developer intends to meet the goals of the Comprehensive Plan by developing a residential neighborhood with amenities and green space consistent with the City's goals.

5. Statement of Compatibility- Describe how the proposed project is compatible with the surrounding uses and will not have significant adverse impacts on the properties:

The surrounding uses are compatible with the proposed impact adjoining properties because it will be developed with compatible design regulations, aesthetics and quality. The land uses are primarily residential and amenities which is consistent with existing and proposed surrounding developments.

4-10-25

Date

Julia Herzog
Applicant's Signature

Date

Owner's Signature (If different from Applicant)

The above signed property owners, certify that the above information is true and correct to the best of our knowledge and state that we are the legal owners of the property included in this application and/or designate the applicant to act as our agent with respect to this application. If there are more than one property owner(s), attach additional signature sheets or letter of consent to application.



LETTER OF AUTHORIZATION

Michael Daily
2613 Sleepy Hollow Drive
Pearland, Texas 77581

May 5, 2025

City of Manvel
Planning and Development Department
20025 Highway 6
Manvel, Texas 77578

RE: Del Bello Lakes PUD Amendment

Dear Jorge,

I, Michael Daily, am the current owner of the parcel totaling approximately ±10.0 acres located in the ABST - 469 SUBD - Div. O, A-469 BLK - O Tract - 15 south of Croix road and north Del Bello Lane in Manvel, Texas.

I hereby authorize META Planning + Design LLC to act as my agent in the application for a PUD amendment concerning this property. Please contact me if you have any questions.

Sincerely,

Michael Daily
713 478 6649
daily1955@yahoo.com.sg



LETTER OF AUTHORIZATION

Crawford William II Living Trust
6110 Edgemoor
Houston, Texas 77081

April 11, 2025

City of Manvel
Planning and Development Department
20025 Highway 6
Manvel, Texas 77578

RE: Del Bello Lakes PUD Amendment

Dear Jorge,

I, Bill Crawford II am an authorized representative of Crawford William II Living Trust, the current owner of the parcels totaling approximately ±104.5 acres located in the ABST - 469 SUBD - Div. O, A-469 BLK - O Lot - 14 south of Croix road and north Del Bello Lane in Manvel, Texas.

I hereby authorize META Planning + Design LLC to act as my agent in the application for a PUD amendment concerning this property. Please contact me if you have any questions.

Sincerely,





LETTER OF REQUEST



April 11, 2025

Jorge Reyna
City of Manvel
Planning and Development Department
20025 Highway 6
Manvel, Texas 77578

Re: DEL BELLO LAKES PUD AMMENDMENT

Dear Jorge,

On behalf of our clients, MAK Development and Shea Homes, we are submitting the application for a Planned Unit Development amendment for Del Bello Lakes. Included in the submittal are the following items:

- Application fee
- Application
- Three (3) copy of the Planned Unit Development document
- Three (3) copy of the Planned Unit Development Exhibits

We request that this item be considered at the next available City Planning Development and Zoning Commission meeting.

Please contact me if you need any additional information.

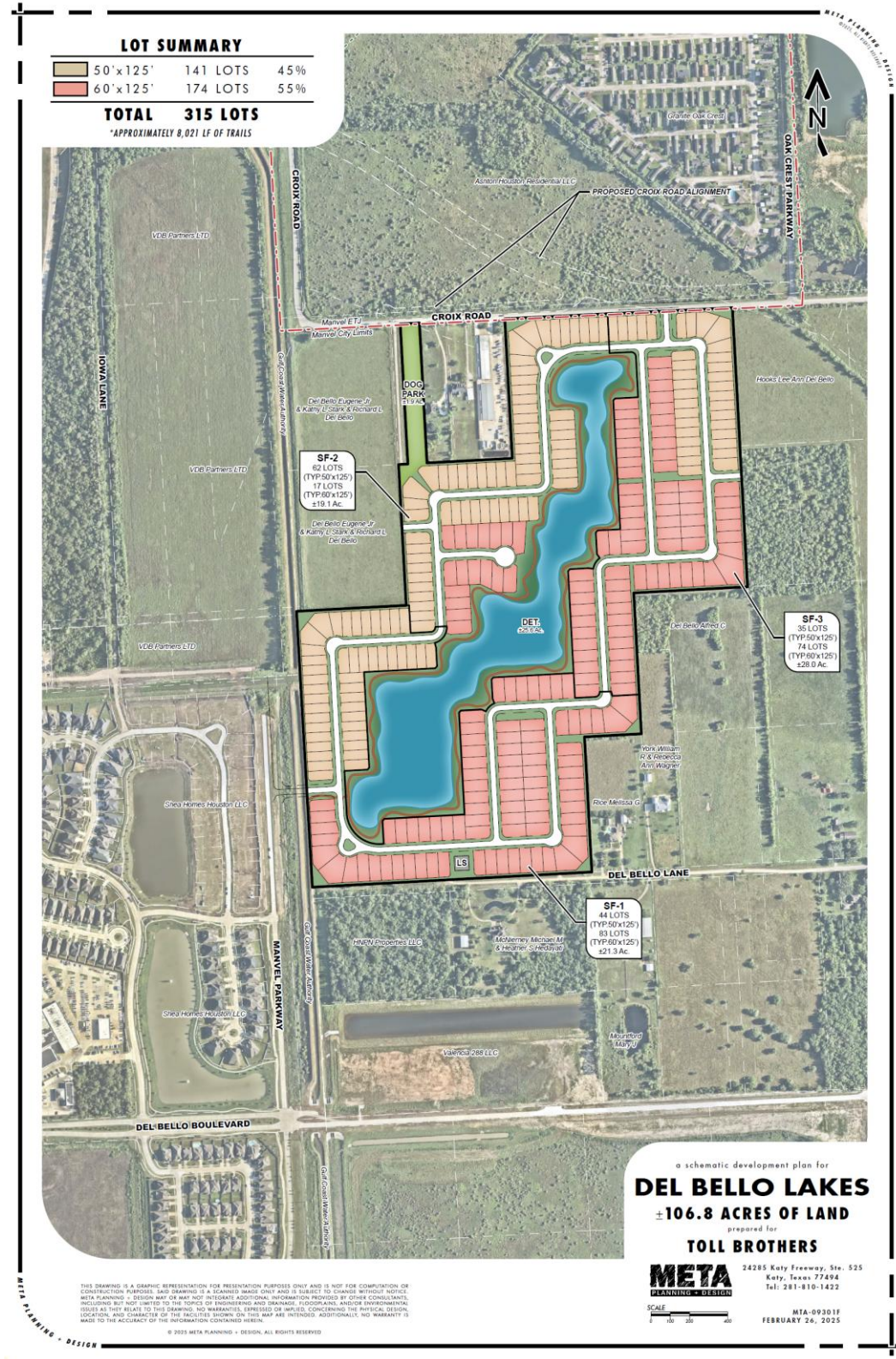
Sincerely,

Julia Herzog
Enclosure



Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

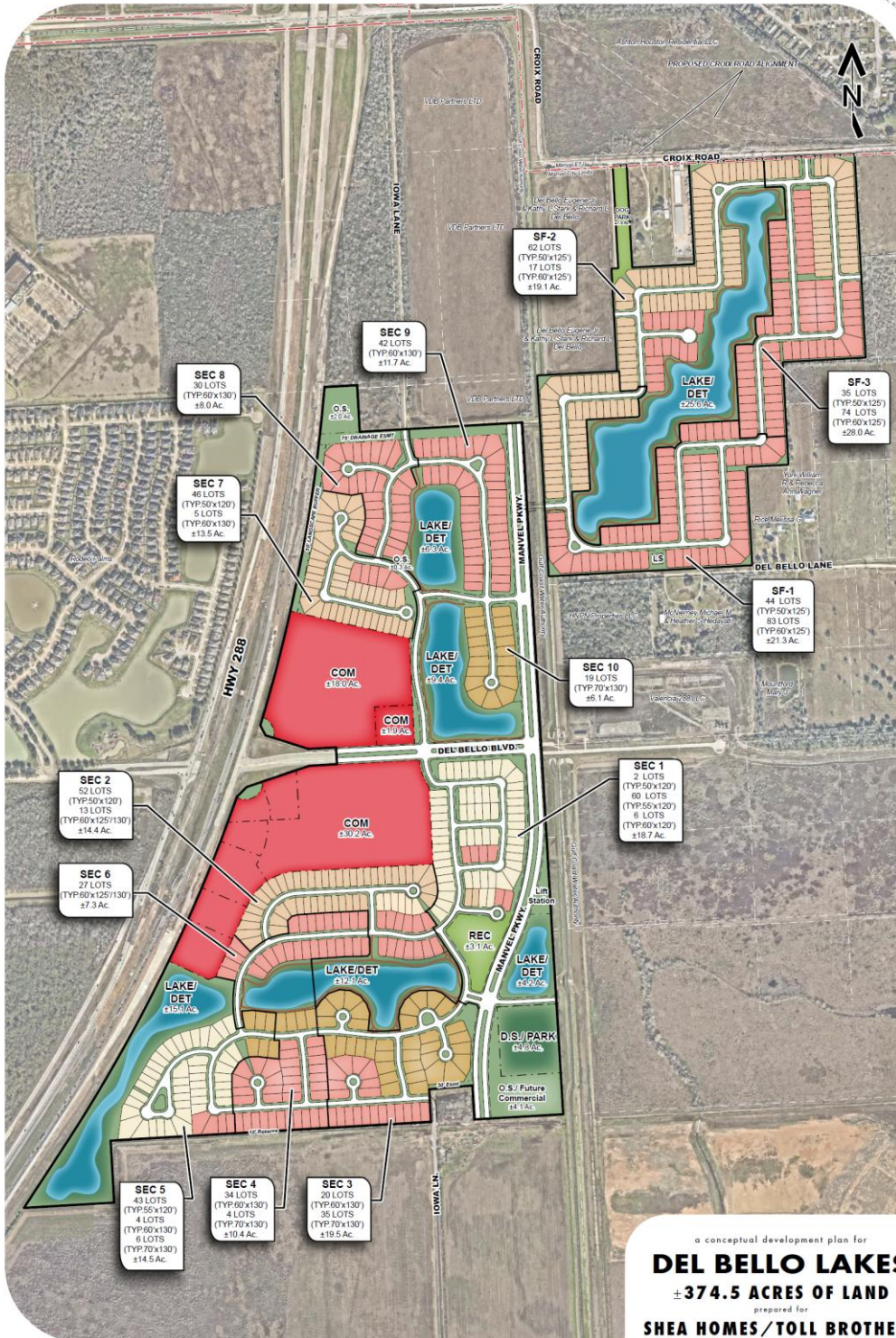
SCHEMATIC DEVELOPMENT PLAN





Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

CONCEPTUAL DEVELOPMENT PLAN



a conceptual development plan for
DEL BELLO LAKES
± 374.5 ACRES OF LAND
prepared for
SHEA HOMES/TOLL BROTHERS

META
PLANNING + DESIGN

24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 100 200 Feet

MTA-09301F
MARCH 31, 2025

THIS DRAWING IS A GRAPHIC REPRESENTATION FOR PRESENTATION PURPOSES ONLY AND IS NOT FOR CONSTRUCTION OR CONSTRUCTION PURPOSES. SAID DRAWING IS A SCANNED IMAGE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. META PLANNING + DESIGN MAY OR MAY NOT INTEGRATE ADDITIONAL INFORMATION PROVIDED BY OTHER CONSULTANTS, INCLUDING BUT NOT LIMITED TO THE TOPICS OF ENGINEERING AND DRAINAGE, FLOODPLAIN, AND/OR ENVIRONMENTAL ISSUES AS THEY RELATE TO THIS DRAWING. NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE PHYSICAL DESIGN, LOCATION, AND CHARACTER OF THE FACILITIES SHOWN ON THIS MAP ARE INTENDED. ADDITIONALLY, NO WARRANTY IS MADE TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.

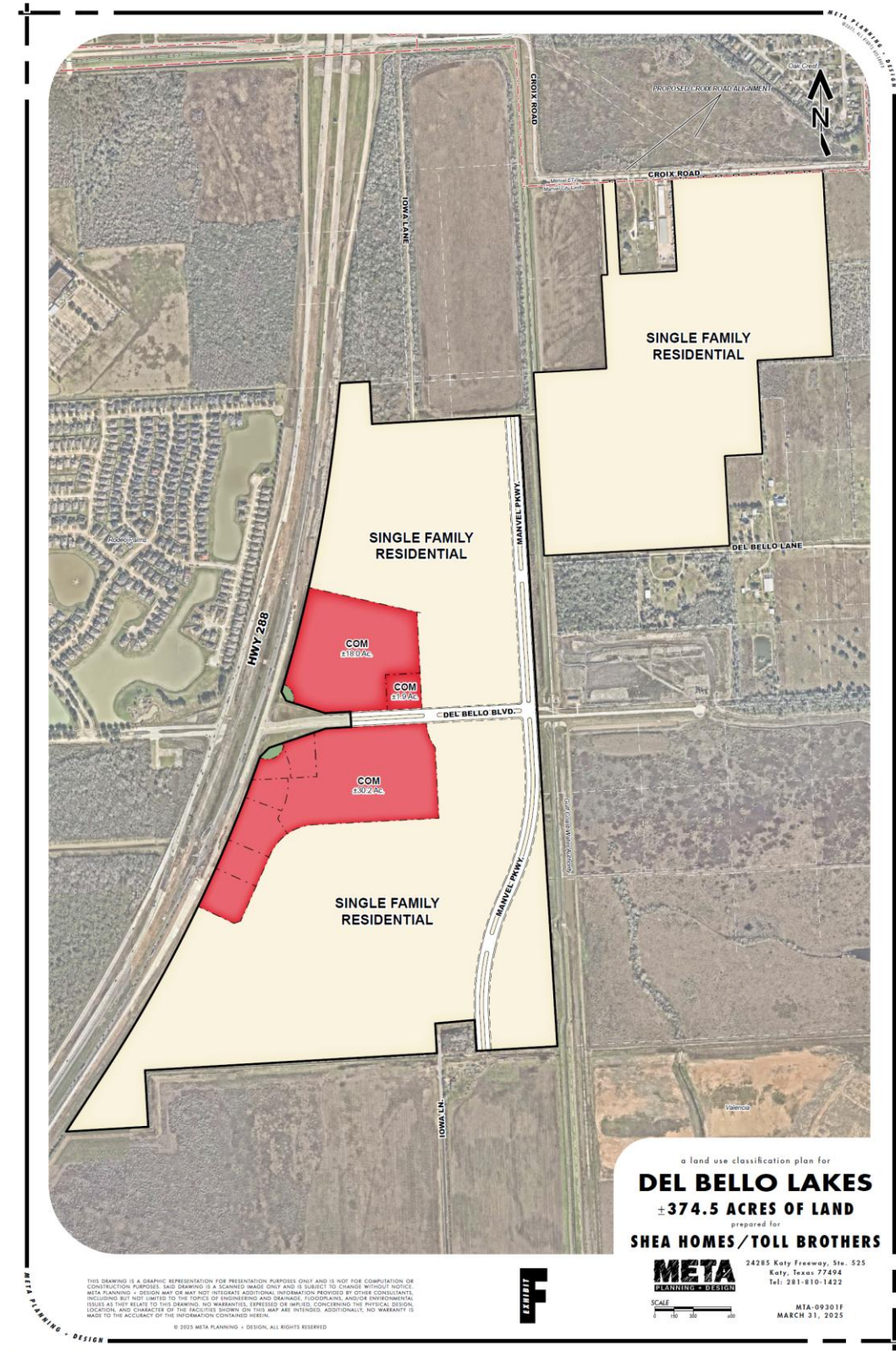
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META PLANNING + DESIGN

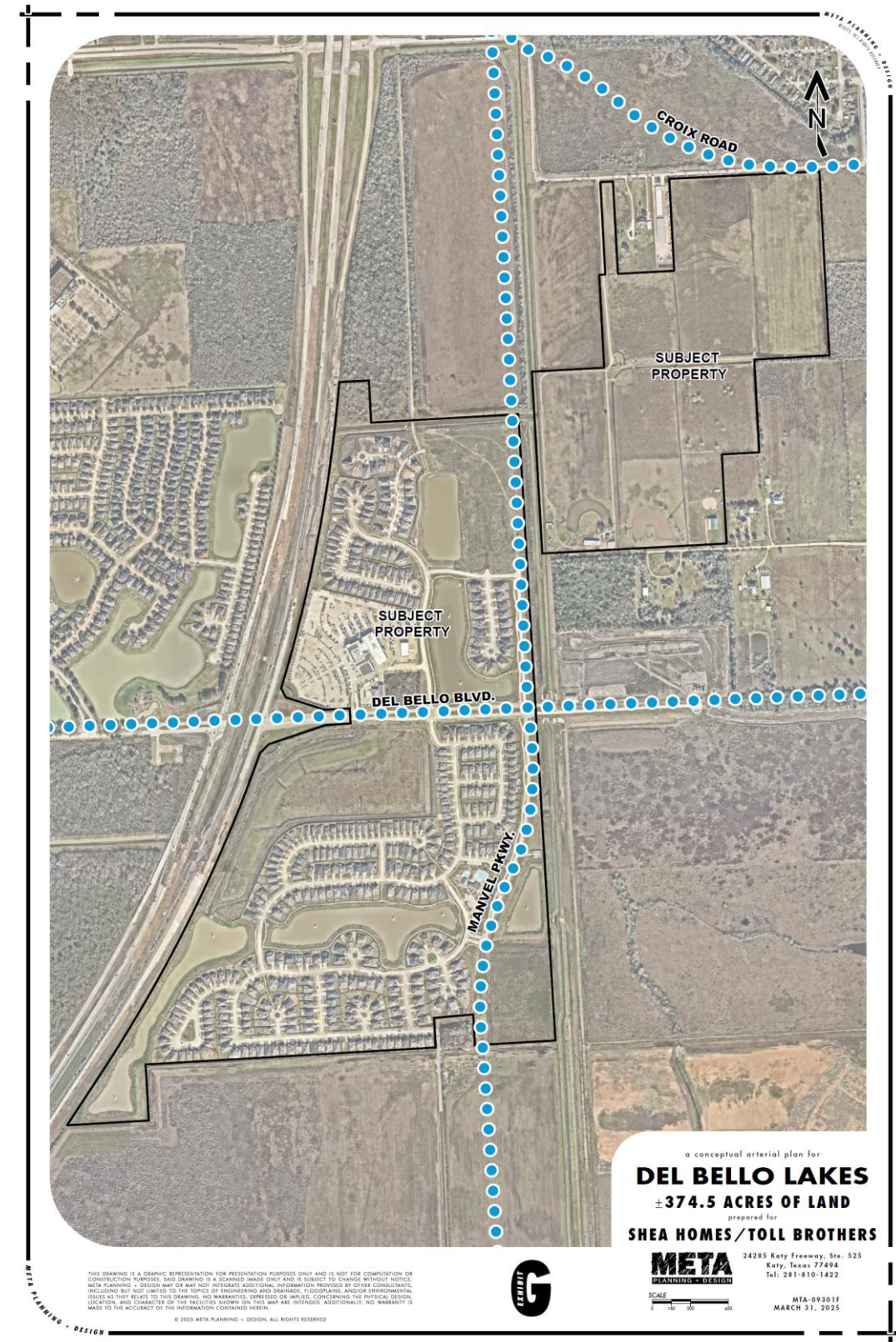


CONCEPTUAL DEVELOPMENT PLAN





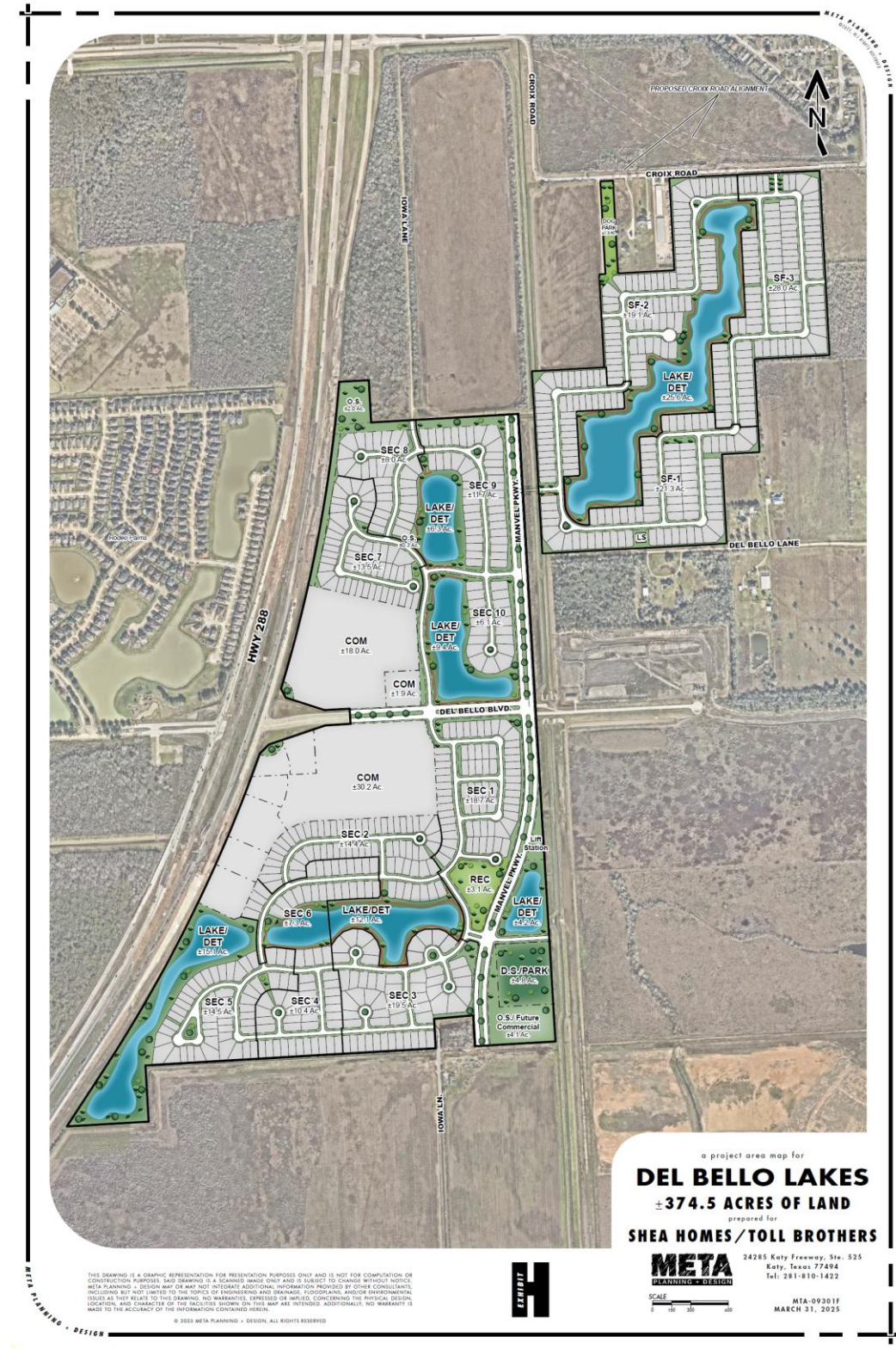
CONCEPTUAL DEVELOPMENT PLAN





Staff Report to Planning, Development, and Zoning Commission
Planned Unit Development Amendment

CONCEPTUAL DEVELOPMENT PLAN





Public Hearing Notice to run on Sunday 06/08/2025

A PUBLIC HEARING WILL BE HELD AT MANVEL CITY HALL, 20031 HWY 6, MANVEL, TX 77578 AT 6:00 P.M. ON MONDAY, JUNE 23, 2025 BEFORE THE MANVEL PLANNING, DEVELOPMENT, AND ZONING COMMISSION AND AT 6:00 P.M. ON MONDAY, JULY 7, 2025 BEFORE THE MANVEL CITY COUNCIL TO HEAR INPUT FROM THE PUBLIC REGARDING AN ORDINANCE OF THE CITY OF MANVEL, TEXAS, AMENDING ORDINANCE NO. 2024-O-35, PERTAINING TO DEL BELLO LAKES PLANNED UNIT DEVELOPEMNT (PUD) TO INCLUDE AN APPROXIMATE 106.8 ACRES OF LAND LOCATED IN THE MARY V. O'DONNELL SURVEY, ABSTRACT 469, OF BRAZORIA COUNTY, TEXAS, BEING A PORTION OF LOTS 1, 2, 7, AND 16, AND ALL OF LOTS 3, 4, 8, 9, 10, 13, 14, 15, 19, AND 20, OF DIVISION "O" OF THE ALLISION RICHEY GULF COAST HOME COMPANY PART OF SUBURBAN GARDENS, A SUBDIVISION OF RECORD IN VOLUME 2, PAGES 91, AND 92, OF THE PLAT RECORDS OF THE BRAZORIA COUNTY, TEXAS (B.C.O.R); CURRENTLY ZONED OPEN SINGLE-FAMILY RESIDENTIAL DISTRICT (O-SFR), INTO THE DEL BELLO LAKES PUD AND GENERALLY LOCATED EAST OF MANVEL PKWY, SOUTH OF CROIX RD, AND NORTH OF DEL BELLO LN; AND PROVIDING FOR THE AMENDMENT OF THE CITY'S OFFICIAL ZONING MAP; PROVIDING FOR SEVERABILITY; AND PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED \$2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF.

/S/ TAMMY BELL, CITY SECRETARY.

DEL BELLO LAKES
formally known as
Southpointe Crossing

Planned Unit Development
~~±267.7~~ ±373.9 ACRES

Prepared for:
MAK Development
and Shea Homes

AMENDMENT PREPARED BY:

META Planning + Design

META
PLANNING + DESIGN

24285 KATY FREEWAY, SUITE 525

KATY, TX 77494 BGEI Kerry R. Gilbert
and Associates 23501 Cinco
Ranch Blvd.

Suite A-250
Katy, Texas 77494

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VEHICLE DEALER*

I. **INTRODUCTION**

This application was prepared on behalf of MAK Development pursuant to the City of Manvel's ordinances related to Planned Unit Development District (PUD). The purpose of the PUD District is to encourage flexibility in the use and development of land in order to promote the most appropriate uses; to provide a high level of amenities and encourage a pedestrian friendly environment; and to provide flexibility in the development of land subject to the development standards coordinated with the necessary public services and facilities. The PUD also provided long-term certainty in the regulator requirements, development standards and the construction of public and private improvements. This PUD is critical to securing financing and investment for the development. The developers are proceeding with reliance on the binding nature of this document and the city to allow development in accordance with this document.

The ~~Southpointe Crossing~~Del Bello Lakes (f.k.a. ~~Southpointe Crossing~~) PUD District ("~~Southpointe Crossing~~Del Bello Lakes") is a mixed-use project located within the City of Manvel, Brazoria County, Texas. ~~Southpointe Crossing~~Del Bello Lakes consists of approximately ~~267.7~~267.7 acres of land and is physically located immediately east of SH 288, north of Highway 6, south of County Road 58, and generally west of FM 1128. The Area Location Map (Exhibit A) located in the Exhibits section of this document illustrates the location of ~~Southpointe Crossing~~Del Bello Lakes. The overall project site is comprised of several large tracts.

A strong community character ~~will be~~has been achieved within the proposed development by creatively mixing land uses, administering high quality architectural and design standards and providing a variety of amenities. ~~Southpointe Crossing~~Del Bello Lakes ~~will be~~has been divided into two areas: 1) commercial and 2) single-family residential. The commercial area will be immediately adjacent to SH 288 and the residential area ~~will~~composes the remainder of the tract. As a part of the residential component, ~~Southpointe Crossing~~Del Bello Lakes ~~will~~contains a wide variety of housing products and price ranges.

In 2025, MAK Development and Shea Homes amended the PUD document to add an additional ±106.2 acres of land to the now existing Del Bello Lakes. The remainder of this document has been updated to reflect the expansion tract as part of Del Bello Lakes, totaling approximately 373.9 acres of land.

II. EXISTING CONDITIONS

SITE DESCRIPTION

Consistent with property in the region, the site upon which ~~Southpointe Crossing~~ Del Bello Lakes will be located (the "Site") is generally flat with ground elevations ranging from 55 feet to 60 feet. Brazoria County is considered to be the coastal prairie with its proximity to the Gulf Coast. The Site has some vegetation but is mostly prairie land and fields. North of the site is CR 58 and the American Canal, at which the American Canal then turns ninety degrees and continues south through the site to Highway 6. Although there are a number of bayous in the region, the Site is not encumbered with a bayou and the Site is not impacted by the floodway or floodplain.

There are a number of existing roads that impact the Site, including,

- SH 288 abuts the western boundary of the Site and is a state roadway. It should be noted that the segment of SH 288 from CR 58 south to SH 6 does not currently include frontage roads.
- CR 82, also known as Iowa Lane, runs north-south through the Site. Iowa Lane provides a strong connection from its current location at CR 58 south to Highway 6. Currently, Iowa Lane is a two lane unimproved roadway.
- ~~Rodeo Palms~~ Manvel Parkway is midway between CR 58 and SH 6, and intersects with SH 288. Rodeo Palms Parkway is the boulevard entry into the Rodeo Palms subdivision located on the west side of SH 288. To the east of SH 288, the roadway ~~will have~~ become Del Bello Boulevard. ~~Currently, to the east of SH 288, the portion of the road located within the TXDOT right-of-way is paved. A grade-separated intersection is planned for the SH 288 and Rodeo Palms/Del Bello Blvd intersection.~~
- CR 58 (Croix Rd.) located north of the property, currently is a two lane county road that intersects with SH 288.

Also affecting the Site is a fault zone which traverses east/west in two different locations. The location impacts the southern portion of the SLP Tract. A sixty (60) foot easement has been designated for the fault line. A geologist study of the fault was conducted in recent years and, as with other fault zones in the Houston area, earthquakes are not associated with this fault zone.

The development of the Site ~~will be~~ affected by various required proposed physical features including arterial roadways and drainage facilities.

Exhibit B shows an aerial photo of the Site. Exhibits ~~C and~~ D, ~~and D1~~ provide a legal description and boundary survey for the property.

SURROUNDING LAND USE

Generally, the surrounding land use is undeveloped acreage with some large lot residential. A residential development, Rodeo Palms, is located across SH 288 to the west and is primarily single-family residential. New Hope Church is also located west of the property, across SH 288. Manvel High School is located nearby on Highway 6.

The surrounding area can be seen on the Area Map and the Project Aerial map (Exhibit A and B). The Sedona Lakes neighborhood is located further north of the site. Pomona is located northwest of the project, on the northern side of CR 58 (Croix Rd).

III. GOALS AND OBJECTIVES

The ~~Southpointe-CrossingDel Bello Lakes~~ PUD District creates a quality development with the following goals: community cohesiveness, multiple housing options, quality and character of community, and orderly growth. Further, the goals reflect the flexibility to achieve a high quality mixed-use development in a coordinated suburban setting.

The goals and objectives for ~~Southpointe-CrossingDel Bello Lakes~~ are outlined below.

<u>Goal</u>	<u>Objective</u>
Community Cohesiveness	Provide compatible and functional land uses for employment, shopping, living and recreation activities.
Multiple Housing Options	Provide a variety of housing options and price ranges in a single cohesive neighborhood.
Quality and Character of Community	Provide high quality planning and architecture along with implementation of creative designs, building standards, and uniformity in building construction.
Orderly Growth	Provide community integrity through an experienced development team and careful application of flexible regulations and architectural controls.

The goals and objectives for ~~Southpointe-CrossingDel Bello Lakes~~ ~~will-beare~~ achieved through the implementation of a strong neighborhood character and coordination of compatible land uses. In addition, ~~Southpointe-CrossingDel Bello Lakes~~'s desirability ~~shall-beis~~ enhanced by various commercial and retail components including shopping, restaurants, and convenience retail, as well as other community and neighborhood amenities including recreational uses, parks, open space, greenbelts, and trails. The combination of commercial and residential uses in a coordinated and controlled environment will provide the residents with the quality and convenience essential to the community.

The community's strong character ~~will-beis~~ ensured through guidelines and controls for architectural standards and design aesthetics, open space and landscaping, perimeter treatments and neighborhood amenities, such as sidewalks and neighborhood recreation spaces. There ~~will-beare~~ guidelines and controls for the single-family residential and for the Commercial development.

Long-term sustainability ~~will-beare~~ provided for the community through the adoption of a land use plan and regulations that allow for quality responses to market conditions.

Orderly growth ~~will-beis~~ achieved through a master plan implemented by an experienced land development team. This ~~will-ensures~~ a completed project that is consistent in character and content, providing residents, businesses and visitors with a clear sense of community.

In summary, the planning strategies that will be implemented for ~~Southpointe-CrossingDel Bello Lakes~~ ~~will-ensures~~ its economic feasibility, desirability and quality, by providing flexible land use controls, high quality planning, thoughtful architectural and aesthetic guidelines and meaningful neighborhood recreation spaces.

IV. PROJECT / PLAN DESCRIPTION

LAND USE

~~Southpointe Crossing~~Del Bello Lakes will be composed of multiple land uses that may include single-family residential, commercial, retail, recreational, etc. The final composition of the allowed land uses shall be dictated by market conditions.

The Conceptual Development Plan (Exhibit E) for ~~Southpointe Crossing~~Del Bello Lakes illustrates the mix of uses proposed and the potential for a variety of housing products and commercial areas. The Commercial District includes a number of commercial reserves for larger retail and anchor stores and also smaller pad sites for retail and restaurants. SH 288 and Del Bello Blvd provide the primary access to this area.

The residential component is located ~~east and~~ west of Manvel Parkway and the American Canal. It ~~will be~~ a collection of individual neighborhood cells that take their access from Del Bello Blvd., Manvel Parkway, ~~Croix Road~~ and/or an internal local street system that provides connections within the neighborhood and to the surrounding areas. The lake/detention components are located throughout the residential areas. The residential cells ~~will be~~ developed with varying lot sizes and product types as market conditions dictate.

The table below lists the various land uses illustrated on the conceptual development plan (Exhibit E), along with their respective acreages and percentage of the gross land area.

Acreage Per Land Use Summary

Land Use Category	Acreage*	% Of Gross Acreage
Infrastructure/Constraints	+34.8	12.0%
Major Thoroughfares (Manvel Parkway and Del Bello Blvd)	+17.9	
Local Streets	+6.7	
Water Plant Site	+2.2	
Wastewater Treatment Plant Sites	+3.0	
Elevated Storage Tank Site**	+2.0	
Recreation / Open Space	+67.0	25%
Recreation Center/Parks	+4.1	
Landscape/ Open Space/ Easements	+9.2	
American Canal	+7.7	
Detention Lakes/Drainage Easements	+41.2	
Drill Site/Park	+4.8	
Non-Residential	+50.0	19%
Commercial	+50.0	
Residential	+148.9	44%
SF Residential (50' x 120')	97 lots	22%
SF Residential (55' x 120')	101 lots	23%
SF Residential (60' x 125')	150 lots	35%
SF Residential (70' x 125')	89 lots	20%
Total	**437 lots	
TOTALS	267.7	

Land Use Category	Acreage*	% Of Gross Acreage
Infrastructure/Constraints	+20.0	11%
Major Thoroughfares (Manvel Parkway and Del Bello Blvd)	+17.6	
Lift Stations	+0.4	
Elevated Storage Tank Site	+2.0	

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Recreation / Open Space	+104.4	28%
Recreation Center/Parks	+9.9	
Landscape/ Open Space/ Easements	+14.6	
BDD#4 Ditch	+2.5	
Detention Lakes/Drainage Easements	+72.6	
Drill Site/Park	+4.8	
Non-Residential	+54.2	14%
Commercial	+54.2	
Residential	+195.3	52%
SF Residential (50' x 120/125')	231 lots	31%
SF Residential (55' x 120/125')	103 lots	14%
SF Residential (60' x 120/125/130')	346 lots	47%
SF Residential (70' x 125/130')	64 lots	8%
Total	**744 lots	
TOTALS	373.9	

*All acreages are preliminary and are subject to change as development occurs

**Final lot count subject to change in accordance with PUD regulations as development occurs

*** Elevated Storage Tank site: If not used by the City, that site may be developed for any use approved in the PUD or any governmental use.

LAND USE/ REGULATORY COMPLIANCE

In order to implement the conceptual master plan as currently proposed, each of the proposed land uses has been assigned zoning categories consistent with the current City of Manvel zoning regulations. The assigned zoning designations and the total acreage for each are as follows (see Exhibit F):

Zoning Designation	Acreage	% Of Gross Acreage
Light Commercial (LC) Commercial, Retail, Office, Hotel, Mixed-Use, etc.	50.0 <u>54.2</u> acres	48.4 <u>14.5</u> %
Single-family Residential Single Family Residential, Recreation/ Open Space, Drainage/Detention, Utilities (WTP, WWTP, Drill Site)	247.7 <u>319.7</u> acres	81.6 <u>85.5</u> %
TOTAL	±267.7 <u>373.9</u> acres	100.0%

*All acreages are preliminary and are subject to change as development occurs

Land use shall be regulated on a total acreage basis. Each land use/zoning category may be increased in acreage by up to 10% with a corresponding decrease in the other use. The percentage land use area change is required to ensure the success of ~~Southpointe-Crossing~~ Del Bello Lakes by maintaining the flexibility to modify land use sizes in response to changes in economic and market conditions. This will allow ~~Southpointe-Crossing~~ Del Bello Lakes to remain competitive in the real estate market over the life of the project and the ability to make adjustments as necessary to accommodate specific end users in a timely manner. However, the following restrictions still apply to specific lot sizes within the development:

- ~~a. Lots having a minimum width of fifty (50) feet shall not exceed the lesser of twenty-two percent (22%) of the total lots in the community or 115 total lots.~~
- ~~b. a. Lots having a minimum width of less than sixty (60) feet shall not exceed the lesser of forty five percent (45%) of the total lots in the community or 225-360 total lots.~~
- ~~c. b. Lots having a minimum width of sixty (60) feet or greater shall comprise at least fifty five percent (55%) of the total lots in the community.~~
- ~~d. c. The total number of lots for the development shall not exceed 500-800 lots.~~

Lot Distribution Table

Typical Lot Size	Percentage of Lots
Less than 60' wide	45%
60' wide or larger	55%

Typical Lot Size	Percentage of Lots
50'X120'	22%
55'X120'	23%
60' wide or larger	55%

Land uses and location of the various lots sizes may be interchanged within the boundaries of the PUD, provided they are in compliance with the acreage and percentage restrictions referred to above and otherwise conform to the City of Manvel's regulations for such uses (unless specifically excepted in this document). In the event a proposed land use exceeds the established acreage by more than 10%, a variance must be requested and approved by the City of Manvel City Council.

The land use/zoning designations for each parcel within ~~Southpointe-Crossing~~ Del Bello Lakes are illustrated on the Land Use/ Zoning Categories, Exhibit F.

PERMITTED USES

Residential

In addition to all uses permitted with the City of Manvel Single Family Residential Zoning District the following uses are permitted within the PUD's Single Family Residential District.

Water Plant
Waste Water Treatment Plant
Recreation Center
Sports Fields
Drill Site
[Lift Stations](#)

Commercial

All uses permitted with the City of Manvel Light Commercial Zoning District are permitted within the PUD's Light Commercial District. In addition, the following uses shall be considered permitted uses with the PUD.

Automobile Sales: NAICS Code 441 (2017) - Motor Vehicle and Parts Dealers. This use is allowed without a Specific Use Permit:

- a) On commercial property located north of Del Bello Blvd,
- b) On the specified 16+/- acre tract south of Del Bello Blvd as identified on Exhibit L, subject to the following conditions:
 1. Motor Vehicle Sales use on the south side of Del Bello Road shall be limited to 16 acres of land as shown in the proposed concept plan ("16-acre Tract").
 2. Only motor vehicle sales use which primarily sells new cars shall be permitted.
 3. At least 60% of vehicle sales shall be new vehicle sales.
 4. A minimum 30-foot landscaping buffer shall be provided between the 16-acre Tract and abutting residential lots with a minimum of one 3.5-inch caliper evergreen tree planted every 25-feet.
 5. A minimum 8-foot-tall perimeter masonry fence shall be installed within the outer edge of the landscape buffer.
 6. Outdoor lighting shall be shielded and shall conform with the Illuminating Engineering Society of North America ("IES") criteria for full cut-off fixtures, which is 100 percent of light output below 90 degrees, and 90 percent of light output below 80 degrees from a vertical line through the fixture.
 7. Outdoor lighting shall be deflected, shaded, dimmable and focused away from abutting properties and shall not be a nuisance to abutting properties, and shall be designed so that any overspill of lighting onto abutting properties shall not exceed three-tenths foot-candles, measured vertically and horizontally.
 8. Motor vehicle sales use must accommodate any vehicle transport deliveries on property.
 9. No mini storage shall be permitted on the 30-acre commercial tract south of Del Bello Boulevard.
 10. No Public Storage, self-storage, mini storage, boat storage, and RV storage shall be permitted on the 30-acre commercial tract south of Del Bello Boulevard.
 11. An updated Traffic Impact analysis (TIA), reflecting the impact of the proposed motor vehicle sales use and its remediation, shall be submitted and must be approved by the City Engineer.

THOROUGHFARE PLAN

Southpointe-CrossingDel Bello Lakes will havehas ample mobility through the variety of thoroughfares, both existing and future, in and around the tract. The community will havehas direct access off of SH 288 on the west side of the property. In addition, Del Bello Blvd will beis developed as a 120' wide Parkway that extends east west and connects to SH 288. Manvel Parkway (120' ROW) will be constructed north south through the property. Manvel Parkway will connect the tract to SH 6 and CR 58 (Croix Rd) which further increased the mobility.

Commercial Tract

The access to the commercial areas will comes primarily from Del Bello Boulevard and SH 288. Additional traffic flow and circulation will beis accommodated by Manvel Parkway connecting to Southpointe-CrossingDel Bello Lakes from CR 58 (Croix Rd) and SH 6.

Residential

The single-family residential component of the development will takes primary access off Manvel Parkway. Additional access may be taken from Del Bello Blvd, and CR 58 (Croix Rd) where appropriate. Internal local streets will complete the circulation of the residential neighborhood. An additional stub street will also be provided for future access to abutting future development to the east of the tract.

The thoroughfare street plan for Southpointe-CrossingDel Bello Lakes and the surrounding vicinity is illustrated on Exhibit G - Conceptual Arterial Plan.

DEVELOPMENT GUIDELINES

Unless otherwise outlined in this document, all City of Manvel Subdivision and Zoning regulations in place at the time this document is adopted shall apply to this PUD. Any change to the below guidelines and/or other applicable regulations shall require a variance granted by the City of Manvel City Council.

Residential

The following regulations apply to all single family development.

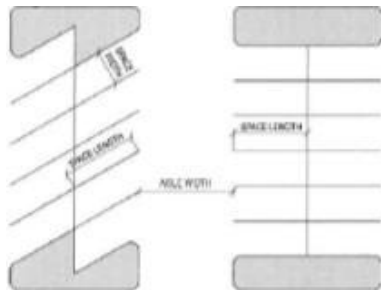
- 1) Lot Size - See lot distribution table on Page 7
 - a. Minimum lot size - 6,000 sq. ft.
 - b. Minimum lot width - Fifty (50) feet measured at the building line. Lot width is subject to lot width caps specified under Land Use/ Regulatory Compliance (see page 7).
 - c. Minimum lot depth - No minimum lot depth
- 2) Building Setbacks
 - a. Minimum front yard setback - Twenty five (25) feet on typical lots
- Twenty (20) feet on cul de sac lots
 - b. Minimum side yard setback- Five (5) feet
 - c. Minimum corner yard setback- Ten (10) feet
 - d. Minimum rear yard setback- Fifteen (15) feet, five (5) feet for accessory structures
- 3) Building Height
 - a. Maximum building height - Forty (40) feet
- 4) Points of Access
 - a. The expansion tract must have a minimum of two (2) points of access to existing collectors.

Commercial

- 1) Lot Size
 - i. Minimum lot width - Sixty (60) feet measured at the building line.
 - ii. Minimum lot depth - 100feet
- 2) Building Setbacks
 - i. Minimum front yard setback - Twenty five (25) feet
 - ii. Minimum side yard setback - Zero (0) feet

- iii. Minimum corner yard setback-Ten (10) feet
- iv. Minimum rear yard setback - Ten (10) feet

- 3) Building Height
 - i. Building heights must be in compliance with the below standards:
 - i. Pad Site - No building may exceed thirty five (35) feet in height.
 - ii. Commercial Anchor Tenant- No building may exceed sixty (60) feet in height
- 4) Building Materials
 - i. All commercial buildings must be composed of a minimum of seventy five (75) percent masonry exclusive of windows, doors or other transparent materials. The calculation shall be based on the total square footage of all facades.
 - ii. The following materials shall meet the masonry requirement:
 - ~~g.i.~~ Stone
 - ii. Brick
 - iii. Concrete (including tilt wall)
 - iv. Hollow clay tile
 - v. Concrete Masonry Unit (CMU)
 - vi. Glass block
 - vii. True Stucco
 - viii. Insulated concrete forms (ICF)
 - iii.i Non masonry materials may not exceed twenty five (25) percent of the building's elevation.
 - v. The following non-masonry materials are permitted. Prior to approval of the use of the below materials, proof must be provided to show that the material and installation process meets ICC and Texas Windstorm standards and as approved by the City's Building Official or City Engineer.
 - i. Cementitious Fiber
 - ii. EIFS
 - iii. Architectural metal panels
 - v. Nationally or regionally recognized chains will be permitted to use trademarked "trade dress" specific materials not listed above (metal roofing and/or siding, wood siding, etc.)
 - i. Regionally recognized chains shall mean any chain with a minimum of five (5) locations within the greater Houston area.
 - ii. Nationally recognized chains shall mean any chain with a minimum of ten (10) locations within two (2) or more states.
 - vi. All color selections shall be harmonious with adjacent development within the site and consistent with first rate commercial development in the area.
- 5) Parking
 - i. The project should have a minimum of 5.0 spaces per 1,000 square feet of gross leasable floor area.
 - ii. Shared parking is permitted subject to a public document agreement between the participating owners. Shared parking shall meet the minimum parking ratio requirements.
 - iii. All parking shall be measured based on the below illustration:



- iv. All parking stalls shall be a minimum of ten (10) feet in width by nineteen (19) feet in length and must meet the minimum requirements in the table below:

	Angle	Aisle Width (ft)
One Way	0 Degrees	14
	60 Degrees	24
	90 Degrees	24
Two Way	0 Degrees	20
	60 Degrees	24
	90 Degrees	24

- v. All parking lots shall comply with the Fort Bend County Outdoor Lighting Regulations.
- 6) Open Storage
- Open storage is permitted within the parking lot for temporary seasonal sales or temporary promotional events.
 - No permits are required for temporary storage
- 7) Landscape Requirements
- A minimum of ten (10) percent of the site (excluding building footprint) shall be landscaped. All pervious area shall be counted toward the total landscape area (excluding pavers).
 - Landscaping and/or decorative fence shall screen outside storage areas, loading docks, garbage collection bins and delivery entrances from adjacent property and public street right-of-way
 - Street Trees
 - A minimum of 1 and ½ caliper inches is required for every thirty (30) feet of street frontage.
 - No street tree shall be less than three (3) inch caliper
 - The maximum allowed spacing between trees is forty five (45) feet.
 - Trees may grouped or placed at regular intervals so long as the spacing requirements listed above are met.
 - Parking lot landscaping
 - In addition to the Street Trees noted above, a tree of minimum two inch (2") caliper shall be provided within or adjacent to the parking area at tree islands that:
 - Are at least nine feet(9') wide.
 - Each have a square footage of minimum 180 SF
 - Are located so that no parking **space is** further away than one hundred feet (100') from a tree island
 - Shrub planting shall be placed along the perimeter of a parking lot in order to screen the parking lot. The shrubs shall be maintained at a maximum height of 36 inches.
 - At entrance and exits, shrubs shall be no higher than twelve (12) inches in height.

UTILITIES

Utilities ~~will be~~ provided by B.C.M.U.D. No. 43 and the City pursuant to a Utility Agreement. Utilities for the expansion tract will be coordinated through B.C.M.U.D. No. 43.

SIGNAGE

Signage within the PUD shall conform to overall sign guidelines established below.

- 1) Temporary Signs
 - a. Temporary signs used during construction of the development recognizing builders, architects, engineers, leasing representative, lenders, etc., must all be tastefully displayed on one (1) 4' x 8' vertical sign. All temporary signs must be removed when the principle building on the applicable Building Site is occupied. Additional, temporary Builder Signs directing potential home buyers to various neighborhoods/model homes may be installed. These temporary signs will remain as long as homebuilders are constructing in the neighborhood. See Exhibit K for approved signage size and style.
 - b. Notwithstanding anything set forth in the PUD to the contrary, temporary billboard signs used by the developer to advertise the development shall be permitted one time over the life of the project. Del Bello Lakes may include one temporary billboard sign ("Dual-Face Sign") generally located at the southwest corner of the development (shown on Exhibit K1 attached hereto), with dimensions not to exceed a sign area of 34.75 feet in width by 10 feet in height, and an overall maximum sign height of 13 feet (measured at grade) (as shown on Exhibit K2 attached hereto), at the general locations shown on Exhibit K3 attached hereto (collectively, "Temporary Signs"). The temporary billboard sign shall be removed on or before April 30, 2021.
- 2) Neighborhood Monumentation
 - a. Primary Neighborhood Monumentation
 - i. ~~Shall be~~ located at intersection of S.H. 288 and Del Bello Blvd
 - ii. May incorporate structural, landscape and water elements
 - iii. Maximum height shall be twenty five (25) feet.
 - iv. Maximum width for the monument structure is 170'
 - v. Letter height shall be proportional to the signage structure
 - b. Secondary Monumentation is permitted at all the following locations
 - i. Entrances to individual sections
 - ~~i-ii.~~ Entrances to expansion tract off of Croix Road and Manvel Parkway
 - ~~ii-iii.~~ Intersection of HWY 288 and Del Bello Blvd
 - ~~iii-iv.~~ Intersection of Manvel Pkwy and DelBello Blvd.
 - ~~iv-v.~~ Signage shall be consistent with the style of the Primary Neighborhood Monumentation
 - ~~v-vi.~~ Signage height shall not exceed eight (8) feet when measured from grade
 - ~~vi-vii.~~ Signage width shall not exceed fifteen (15) feet
- 3) Commercial Signage
 - a. **Multi-Tenant Pylon Signs** -A multi-tenant sign is defined as a freestanding sign with signage panels for multiple tenants within a single development. (For example, a multi-tenant sign serving a shopping center may be located on land not owned by the primary tenant but would still be permitted, provided that it's a part of the same development.)
 - i. Maximum Height
 - 1) Signs shall not exceed fifty (50) feet in height along SH 288 frontage.
 - 2) Signs shall not exceed forty (40) in height along all other street frontage.
 - 3) The bottom of such sign message area shall not be less than

- ten (10) feet above the surrounding finished grade level.
- ii. Maximum Width - twenty five (25) feet.

- iii. Off-Premise signage located within the development is permitted for other tenants located within the shopping center. No billboard signs are permitted.
- iv. One (1) multi-tenant sign is permitted for each entrance into the development from SH 288 and/or Del Bello Blvd. that is approved by the Texas Department of Transportation (TxDot)
- b. **Single Tenant Monument/Pylon Signs** - A single-tenant sign is defined as a freestanding sign advertising a single use.
 - i. Maximum Height
 - 1) Signs may not exceed six (6) feet in height.
 - ii. Signs shall not exceed fifty (50) square footage in area
 - iii. One single tenant monument sign is permitted for each parcel. If a parcel has frontage on two thoroughfares, one monument sign is permitted on each street frontage.
 - iv. At no point shall any single tenant monument/pylon sign be within 100 feet of any other sign.
 - v. Notwithstanding anything to the contrary set forth herein, on the 18 Ac. Commercial Tract located at the northeast corner of Hwy 288 and Del Bello Blvd, the following signage regulations apply:
 - 1) A single tenant monument/pylon sign no greater than forty (40) feet in height is permitted along Hwy 288. See Exhibit K4 and K6 for approved sign design and location.
- c. **Wall Mounted Signage**
 - i. Buildings thirty (30) feet or less in height.
 - 1) Maximum Letter Height - thirty six (36) inches for one line of text, eighteen (18) inches for two lines of text
 - 2) Maximum overall Height - thirty six (36) inches for one line of text, forty two (42) inches for two lines of text.
 - 3) The signage face shall not exceed 80% of storefront width of the tenant space.
 - ii. Buildings over thirty (30) feet in height.
 - 1) For every additional six (6) feet in height over thirty (30) feet, an additional twelve (12) inches of letter height is permitted, up to a maximum overall height of seventy two (72) inches.
 - 2) The signage face shall not exceed 80% of the storefront width of the tenant.
 - iii. Notwithstanding anything to the contrary set forth herein, on the 18 Ac. Commercial Tract located at the northeast corner of Hwy 288 and Del Bello Blvd, the following additional wall mounted signage regulations apply:
 - 1) Primary wall mounted signage is permitted on the front entrance portal. The signage must be consistent with the approved sign design and location as shown in Exhibit K5 and Exhibit K6.
 - a. Additional wall mounted signage is permitted for any buildings on this tract but will be subject to the regulations listed in i. and ii. above.
- d. All signage shall be located a minimum of ten (10) feet from the property line.
- e. There shall be a minimum of 100 feet between signs.
- f. All signage must be perpendicular to the right of way.

- g. Electronic Reader Boards/ LED screens are permitted under the following regulations:
 - i. LED signs are permitted for on premised signs and/or for tenants within a single development.
 - ii. No internal or external illumination of the LED screens will be allowed between the hours of 10pm and 6am.
 - iii. Maximum illumination will be the difference between ambient light and full wattage cannot be more than .2 foot-candles at 75 feet. Automatic dimmer equipment must be installed and operational.
 - iv. Maximum wattage at 6,500.
 - 1) Temporary Signage
 - a. Subject to the regulations listed in Section 53-10 of the City of Manvel Code of Ordinances in effect at the time this document is approved by City Council.
 - 2) Prohibited Signage
 - a. Unless specifically permitted in the above regulations, all signage listed in 53-11 of the City of Manvel Code of Ordinances in effect at the time this document is approved by City Council, is prohibited.

SITE PLANS

The development of individual commercial parcels shall meet all development guidelines specified above, and within all applicable City of Manvel ordinances.

1) Development Review and Approval

In lieu of the review process specified in Section 77-51 of the Manvel Code of Ordinances, all development plans for non-residential projects within the PUD boundary will be reviewed and approved by the city staff and the Development Review Committee. Staff and the DRC will review to ensure compliance with the PUD document. A permit cannot be unreasonably withheld so long as all PUD standards are met, it meets all applicable laws and city codes and it does not negatively impact the health and safety of the community. If denied, an appeal can be made to the Board of Appeals and/or other applicable committee. This does not apply to the platting process.

AMENITIES/ OPEN SPACE

Open space accounts for approximately ~~2628~~% of the gross acreage within the ~~Southpointe Crossing~~~~Del Bello Lakes~~. The Open Space calculation includes all parks, landscape reserves, landscaped right-of-ways, pipeline easements, drainage easements, trails, linear parks, tot lots, natural open space areas, drill sites and publicly accessible detention/ drainage facilities. The proposed open space amenities and the acreages are as follows:

<u>Amenities / Open Space</u>	<u>Acreage*</u>
Recreation Center/Parks	±4.1 <u>14.7</u>
Landscape/ Open Space	±1.2 <u>14.6</u>
American-Canal BDD#4 Ditch	±7.7 <u>2.5</u>
Detention Lakes/Drainage Easements	±41.2 <u>72.6</u>
Drill Site/Park	±4.8
TOTAL	67.0 <u>104.4</u>

*All acreages are preliminary and are subject to change as development occurs

Parks Ordinance

Per the City of Manvel parks requirement, there shall be a minimum of one (1) acre of park land for every 100 proposed dwelling units dedicated for the use of parks. Based upon the estimated number of ~~437-744~~ single-family residential homes, the ~~Southpointe-Crossing~~~~Del Bello Lakes~~ PUD district will be required to provide approximately ~~±4.47~~4 acres of park space. If the total lot count changes, the parkland dedication requirement will be adjusted in accordance with the minimum requirement listed above. The requirement will be fulfilled with the dedication of ~~±4.1~~14.7 acres of a park and recreation center for the ~~Southpointe-Crossing~~~~Del Bello Lakes~~ as well as ~~over ±40.72~~6 acres of lake/detention areas within the subdivision. The recreation center will be located centrally within the residential component and will be easily accessible for all residents. The center ~~will likely include~~includes a clubhouse and pool facilities. See Exhibit H for a Conceptual Amenities Plan.

- 1) Parkland will be credited based on the following criteria:
 - A. Parkland Dedication may be provided through the following methods
 - a. Private Parkland and/or;
 1. No more than fifty (50) percent of the required parkland dedication acreage may be comprised of private parkland
 - b. Public parks/open space and/or;
 - v. Public Parkland may be dedicated to the City of Manvel and/or owned and maintained by the HOA or MUD. However, to be considered public parkland, the area must be available to all residents of the City of Manvel.

- c. Trails and/or;
 - 1. No more than fifty (50) percent of the required parkland dedication acreage may be comprised of trails
 - 2. In order to qualify for credit as trails, land must contain elements as outlined below.
 - a. All-weather hike/bike and or equestrian paths, landscaping and sodding installed according to the construction standards of the city for trails;
 - b. Have connections to surrounding parks, recreation areas, school and/or trails and sidewalks (when applicable).
 - c. Contain an average minimum width of 30 feet and a minimum width of 20 feet;
 - d. Have side slopes not to exceed a three to one (3:1) ratio; and
 - d. Money in lieu of land
- B. The development shall provide ten (10) parking spaces for every acre of required parkland. The required parking may be provided within any of the applicable dedicated parkland reserves. As long as the total number of required parking spaces for the entire development are provided, separate parking is not required for each parkland reserve. The parking requirement may be met through the following methods and/or any combination of each method-
- a. Off street parking
 - b. Adjacent parking
 - 1. On local residential streets, parallel and/or head in parking immediately adjacent to the travel lanes is permitted so long as the following requirements are met:
 - a. Additional pavement must be provided to accommodate the parking. This must be in addition to the minimum paving width of the required travel lanes.
 - b. The parking must be privately maintained by the MUD or HOA
 - c. May be located within the ROW or adjacent reserve

THOROUGHFARE REALIGNMENT

As part of the City of Manvel thoroughfare plan a variety of major thoroughfares, and major and minor collector streets will be constructed to replace existing city roads throughout the city. These new roadways will be superior to, or at least functionally equivalent to the existing roads. One of the roads proposed to be realigned is Iowa Lane. Currently, Iowa Lane runs north and south through the proposed ~~Southpointe Crossing~~Del Bello Lakes development.

As a part of the development process for ~~Southpointe Crossing~~Del Bello Lakes, Iowa Lane ~~is proposed to be eliminated~~was and replaced with Manvel Parkway through the below steps:

- 1) Abandon the Iowa Lane road right of way thru the property. Abandonment ~~will be~~was completed per the applicable Right of Way abandonment ordinance
- 2) The Developer ~~will construct~~ed a public road that connects to Iowa Lane at the north property line and the south property line. The Developer may temporarily interrupt continuous access during development, provided the connections are made with the development of the final plats, on the north and south end respectively. Temporarily is defined as 120 days.
- 3) If utilities are located within the Right of Way, any existing easements ~~must be~~were retained as needed.
- 4) Phasing of the roadway replacement ~~will maintain~~ed a public North south roadway thru the property.

Existing CR 58 (Croix Rd) abuts the expansion tract to the north and will be used as a secondary access point to the proposed development. A future realignment of CR 58 (Croix Rd) has been submitted by the adjoining development to the north. Our access point to the north of the expansion tract will be coordinated to connect to the future alignment of Croix Rd.

DESIGN AND CONSTRUCTION STANDARDS AND APPLICABLE ORDINANCES

- 1) Regulatory Standards and Development Quality.

One of the primary purposes of this Agreement is to provide for quality development of the Property and certainty as to the regulatory requirements applicable to the development of the Property throughout the development process. Feasibility of the development of the Property is dependent upon a predictable regulatory environment and stability in the projected land uses. In exchange for the Developer's performance of the obligations under this Agreement to develop the Property in accordance with certain standards and to provide the overall quality of development described in this Agreement, the City agrees that it will not impose or attempt to impose any moratoriums on building or growth within the Property except when based on shortage of essential public utilities as specified in Texas Local Government Code Section 212.135.

The City and the Developer intend to establish development and design rules and regulations which will ensure a quality, unified development, yet afford the Developer predictability of regulatory requirements throughout the term of this Agreement. The City of Manvel Design Criteria Manual (excluding the items specified within this document) and Construction Standards in effect at the time of building permit applications shall apply to all development within the PUD. However, the following sections of Section 6 of the Design Criteria Manual, as set forth on Appendix A attached hereto and made a part hereof, shall be grandfathered for the PUD.

2) Vested Rights

The City and the Developer agree that the approval for this PUD Ordinance, on TBD (the "Vesting Date"), constitutes a "permit" for the purposes of Texas Local Government Code Chapter 245, and that Chapter 245 shall apply to the development of the Property. The development of public and private Improvements to the Property shall be governed by those City Ordinances that are in effect on the Vesting Date. The Developer may avail itself of changes in the City Ordinances after the Vesting Date that enhance or protect the development of the Property by providing written notice to the City of its intent to do so. This Agreement shall not be construed to prohibit the City's application to the project or the Property of new or amended ordinances or regulations that are exempt from the application of Chapter 245 as provided by §245.004 of such Chapter 245 unless such new or amended ordinance conflicts with an express provision of this Ordinance or the Utility Agreement.

3) Precedence of Regulations

The design, construction, financing, ownership and operation of the public improvements shall be governed the City Ordinances as of the Vesting Date, this Ordinance, and by the Utility Agreement with Brazoria County MUD No. 43. In the event of conflict or inconsistency among those documents, precedence will be given in the following order: the Utility Agreement, this Ordinance, the City Ordinances as of the Vesting Date.

PHASING / DEVELOPMENT SCHEDULE

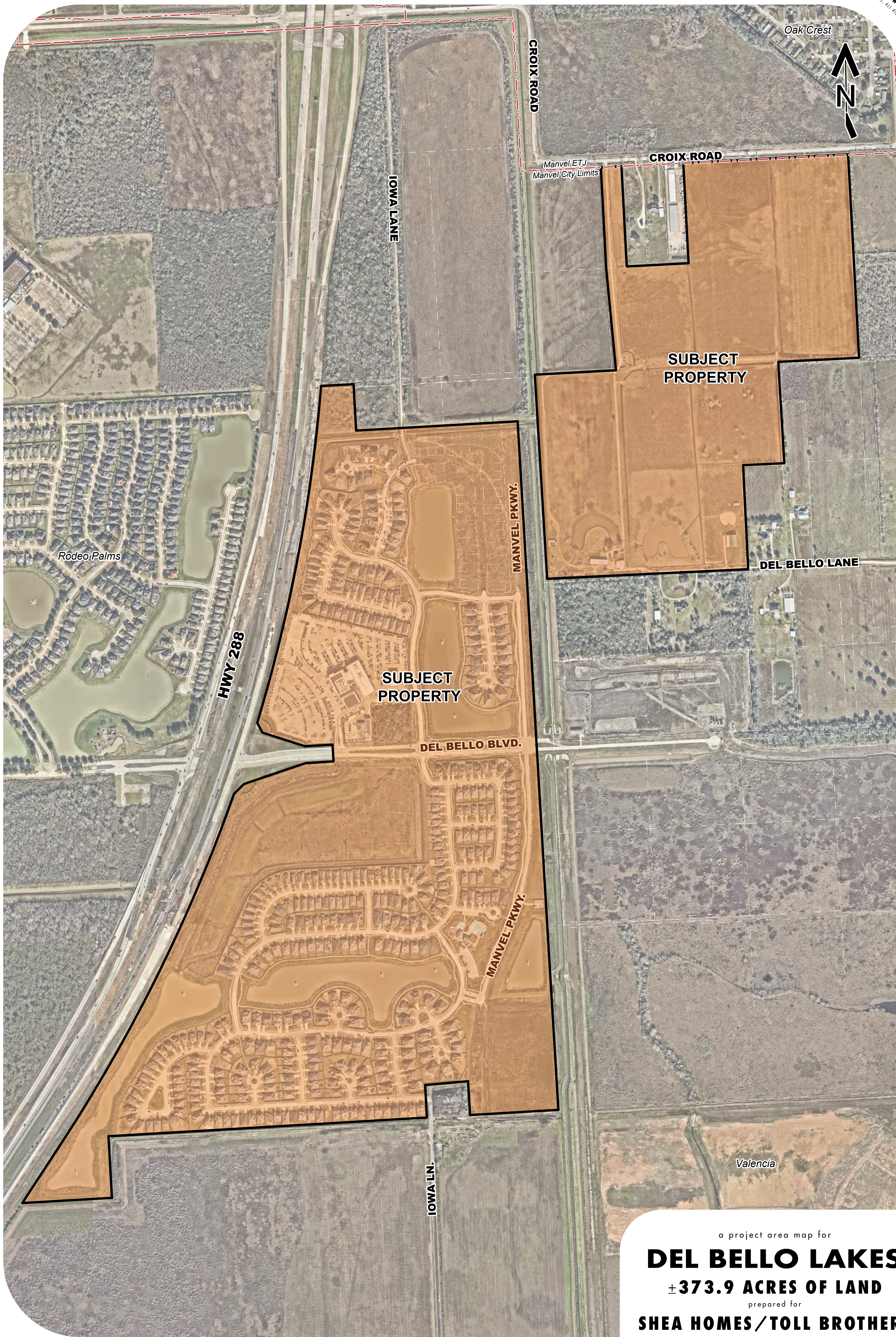
The first phase of the single family development will be south of Del Bello Blvd and north of the detention/lake. Phase two will be the remainder of the southern portion of the development. Phase 3 and 4 will include development of the tracts north of Del Bello Blvd. A separate roadway construction and phasing plan will be included as a part of the utility agreement. The final location and timing of all phases will be dependent upon market conditions and is subject to change. See Exhibit J for a Preliminary Phasing Map. Commercial development will be driven by market conditions.

At the time of the first plat for the development is submitted/approved, the full right of way for Del Bello Blvd from S.H. 288 to the eastern edge of the property must be dedicated. This may be done through a separate street dedication plat or as a part of a section plat. The following conditions apply

- The developer does not have to construct the improvements until development begins adjacent to the thoroughfare and access is needed. Specific triggers for construction are established through the Phasing Plan included in the Utility Agreement for the project and will be constructed proportional to development.

The expansion tract will be developed in 2-3 phases* with the detention being split through phases* (See Exhibit J).

*Number of phases and phase boundaries are preliminary and subject to change.



a project area map for

DEL BELLO LAKES

± 373.9 ACRES OF LAND

prepared for

SHEA HOMES / TOLL BROTHERS



24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 150 300 600

MTA-09301F
AUGUST 11, 2025

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EXHIBIT
A



a project area map for

DEL BELLO LAKES

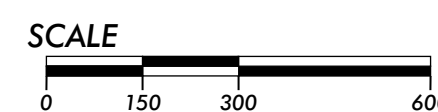
± 373.9 ACRES OF LAND

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Tel: 281-810-1422

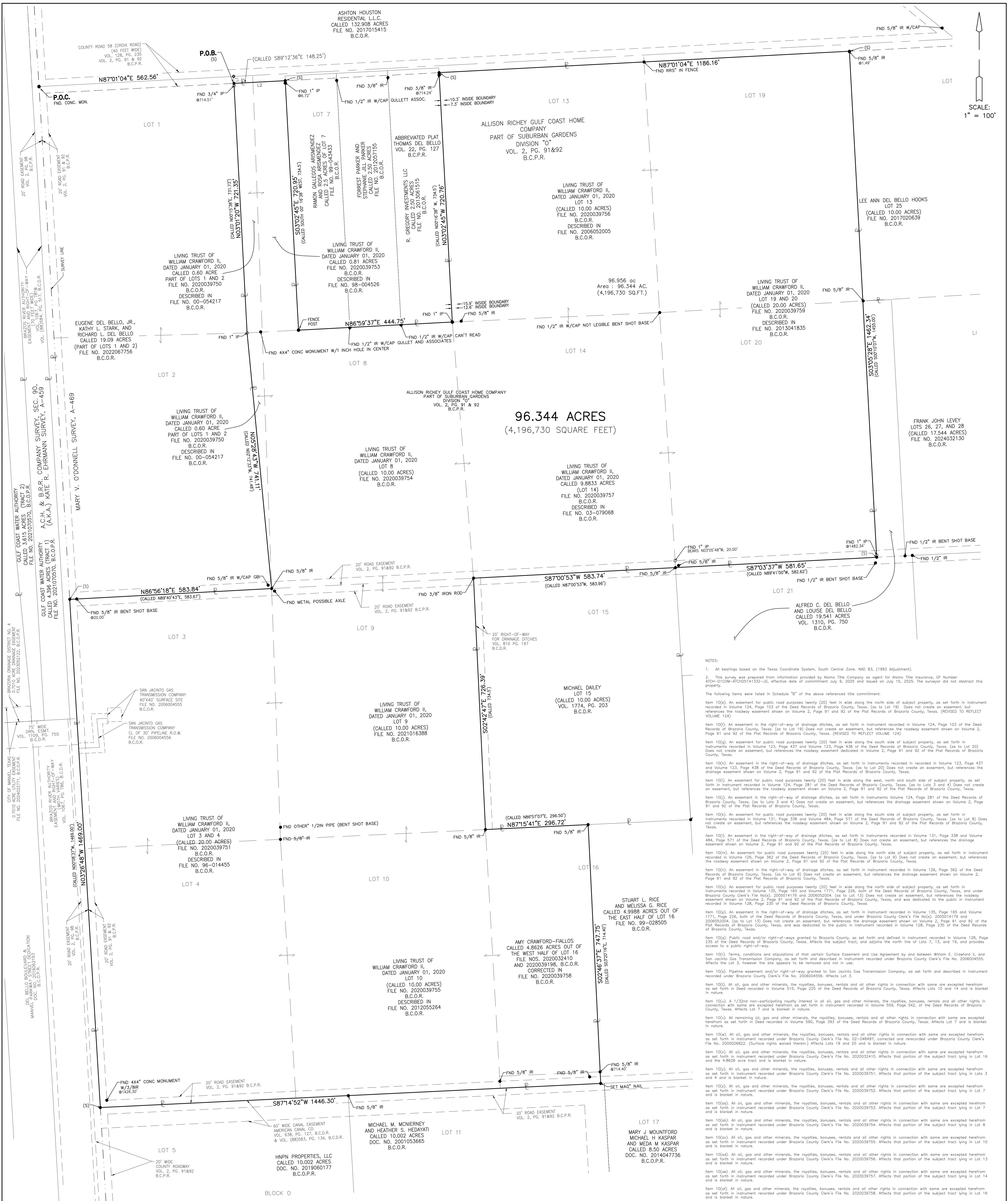


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NOTES:

- All bearings based on the Texas Coordinate System, South Central Zone, NAD 83, (1993 Adjustment).
- This survey was prepared from information provided by Aloha Title Company as agent for Aloha Title Insurance, OF Number ATCH-0100M-ATDMS141332-16, effective date of commitment July 9, 2025 and issued on July 15, 2025. The surveyor did not obstruct this property.

The following items were listed in Schedule "B" of the above referenced title commitment:

Item 10(c). An easement for public road purposes twenty (20) feet in wide along the north side of subject property, as set forth in instrument recorded in Volume 124, Page 103 of the Deed Records of Brazoria County, Texas. (as to Lot 19) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(d). An easement in the right-of-way of drainage ditches, as set forth in instrument recorded in Volume 124, Page 103 of the Deed Records of Brazoria County, Texas. (as to Lot 19) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(e). An easement for public road purposes twenty (20) feet in wide along the south side of subject property, as set forth in instruments recorded in Volume 123, Page 437 and Volume 123, Page 438 of the Deed Records of Brazoria County, Texas. (as to Lot 20) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(f). An easement in the right-of-way of drainage ditches, as set forth in instruments recorded in Volume 123, Page 437 and Volume 123, Page 438 of the Deed Records of Brazoria County, Texas. (as to Lot 20) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(g). An easement for public road purposes twenty (20) feet in wide along the north side of subject property, as set forth in instrument recorded in Volume 124, Page 281 of the Deed Records of Brazoria County, Texas. (as to Lots 3 and 4) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(h). An easement in the right-of-way of drainage ditches, as set forth in instruments recorded in Volume 124, Page 281 of the Deed Records of Brazoria County, Texas. (as to Lots 3 and 4) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(i). An easement for public road purposes twenty (20) feet in wide along the south side of subject property, as set forth in instruments recorded in Volume 131, Page 338 and Volume 484, Page 571 of the Deed Records of Brazoria County, Texas. (as to Lot 8) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(j). An easement in the right-of-way of drainage ditches, as set forth in instruments recorded in Volume 131, Page 338 and Volume 484, Page 571 of the Deed Records of Brazoria County, Texas. (as to Lot 8) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(k). An easement for public road purposes twenty (20) feet in wide along the north side of subject property, as set forth in instrument recorded in Volume 126, Page 362 of the Deed Records of Brazoria County, Texas. (as to Lot 9) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(l). An easement in the right-of-way of drainage ditches, as set forth in instrument recorded in Volume 126, Page 362 of the Deed Records of Brazoria County, Texas. (as to Lot 9) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas.

Item 10(m). An easement for public road purposes twenty (20) feet in wide along the north side of subject property, as set forth in instruments recorded in Volume 135, Page 165 and Volume 171, Page 226, both of the Deed Records of Brazoria County, Texas, and under Brazoria County Clerk's File No(s). 2005014179 and 2006052004. (as to Lot 13) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas, and was dedicated to the public in instrument recorded in Volume 128, Page 235 of the Deed Records of Brazoria County, Texas.

Item 10(n). An easement in the right-of-way of drainage ditches, as set forth in instrument recorded in Volume 135, Page 165 and Volume 171, Page 226, both of the Deed Records of Brazoria County, Texas, and under Brazoria County Clerk's File No(s). 2005014179 and 2006052004. (as to Lot 13) Does not create an easement, but references the roadway easement shown on Volume 2, Page 91 and 92 of the Plat Records of Brazoria County, Texas, and was dedicated to the public in instrument recorded in Volume 128, Page 235 of the Deed Records of Brazoria County, Texas.

Item 10(o). Public road and/or right-of-way granted to Brazoria County, as set forth and defined in instrument recorded in Volume 128, Page 235 of the Deed Records of Brazoria County, Texas. Affects the subject tract, and adjoins the north line of Lots 7, 13, and 19, and provides access to a public right-of-way.

Item 10(p). Terms, conditions and stipulations of that certain Surface Easement and Use Agreement by and between William E. Crawford II, and San Jacinto Gas Transmission Company, as set forth and described in instrument recorded under Brazoria County Clerk's File No. 2006004556. Affects the Lot 3, however the site appears to be removed and not in use.

Item 10(q). Pipeline easement and/or right-of-way granted to San Jacinto Gas Transmission Company, as set forth and described in instrument recorded under Brazoria County Clerk's File No. 2006004556. Affects Lot 3.

Item 10(r). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in Deed recorded in Volume 515, Page 225 of the Deed Records of Brazoria County, Texas. Affects Lots 10 and 14 and is blanket in nature.

Item 10(s). A 1/32nd non-participating royalty interest in oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded in Volume 559, Page 542, of the Deed Records of Brazoria County, Texas. Affects Lot 7 and is blanket in nature.

Item 10(t). All remaining oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in Deed recorded in Volume 590, Page 393 of the Deed Records of Brazoria County, Texas. Affects Lot 7 and is blanket in nature.

Item 10(u). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005026822. (Surface rights waived therein.) Affects Lots 19 and 20 and is blanket in nature.

Item 10(v). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005032410. Affects that portion of the subject tract lying in Lot 16 and is blanket in nature.

Item 10(w). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 3 and 4 and is blanket in nature.

Item 10(x). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(y). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(z). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(aa). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ab). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ac). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ad). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ae). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(af). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ag). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ah). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ai). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(aj). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(ak). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(al). All oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as set forth in instrument recorded under Brazoria County Clerk's File No. 2005037515. Affects that portion of the subject tract lying in Lot 7 and is blanket in nature.

Item 10(am). Terms, conditions and stipulations of that certain Designation of Gas Unit, as set forth and described in instrument recorded under Brazoria County Clerk's File No. 200506773. Affects Lots 3 and 4 of the subject tract and is blanket in nature.

Item 10(an). Terms, conditions and stipulations of that certain Development Agreement (For Variance) by and between the City of Manvel, Texas, and any Crawford-Fiallos, as set forth and described in instrument recorded under Brazoria County Clerk's File No. 202101585. Affects that portion of the subject tract lying in Lot 16 and the 4.8626 acre tract and is blanket in nature.

Item 10(ao). Terms, conditions and stipulations of that certain Affidavit to the Public in connection with an on-site wastewater treatment system, recorded under Brazoria County Clerk's File No. 2021025815. Affects that portion of the subject tract lying in Lot 16 and is blanket in nature.

3. By graphical plotting the subject tract lies within in "Zone "X" (unshaded on the FIRM map) as shown on Federal Emergency Management Agency Flood Insurance Rate Map, Map Number 480390020M, map revised December 30, 2020. LIA DOES NOT WARRANT NOR SUBSCRIBE TO THE ACCURACY OF SCALE OF SAID MAP.

4. A Metes and Bounds description was prepared for the subject tract instrument by the undersigned dated April 18, 2025, and revised July 23, 2025.

5. Field work was performed March, 2025.

6. The surveyor has not been provided with any title easements or servitudes at the time of this survey.

7. Only perimeter improvements were located. Internal improvements were not located at the Client's request.

Line Table		
Line #	Direction	Length
L1	S03°01'20"E	20.00'
L2	N87°01'04"E	148.22'

SURVEYOR'S CERTIFICATE

TO: LIVING TRUST OF WILLIAM CRAWFORD II, DATED JANUARY 01, 2020 AND ANY CRAWFORD-FIALLOS, SHEA HOMES HOUSTON, LLC, ALAMO TITLE COMPANY AS AGENT FOR ALAMO TITLE INSURANCE,

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY SUPERVISION, THAT THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF SURVEY, AND THAT THIS PROFESSIONAL SERVICE SUBSTANTIALLY CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1A, CONDITION 3, SURVEY.

DATED APRIL 18, 2025
REVISED JULY 23, 2025, NEW TITLE COMMITMENT.



GARY D. NUTTER
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 5659

**LAND TITLE SURVEY OF
96.344 ARES
ALLISON RICHEY GULF COAST
HOME COMPANY PART OF SUBURBAN GARDENS
DIVISION "O"
VOL. 2, PAGE 91 & 92, B.C.P.R.
LOCATED IN THE
MARY V. O'DONELL SURVEY, ABSTRACT 469
BRAZORIA COUNTY, TEXAS**

APRIL 2025 JOB NO. LJA5001-2660-2501

LJA SURVEYING, INC.

3630 W Sam Houston Parkway S
Suite 175
Houston, Texas 77042

Phone 713.953.5200
Fax 713.953.5026
TBPels Firm No. 10194382

NOTES:

1. ALL BEARINGS BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD 83, (1993 ADJUSTMENT).

2. THIS SURVEY WAS PREPARED FROM INFORMATION PROVIDED BY ALAMO TITLE INSURANCE, OF NUMBER ATCH-01COM-ATCH25141793-JG, EFFECTIVE DATE OF COMMITMENT FEBRUARY 25, 2025 AND ISSUED ON MARCH 5, 2025. THE SURVEYOR DID NOT ABSTRACT THIS PROPERTY.

THE FOLLOWING ITEMS WERE LISTED IN SCHEDULE "B" OF THE ABOVE REFERENCED TITLE COMMITMENT:

ITEM 10(C), ONE-HALF (1/2) INTEREST IN ALL OIL, GAS AND OTHER MINERALS, THE ROYALTIES, BONUSES, RENTALS AND ALL OTHER RIGHTS IN CONNECTION WITH SAME ARE EXCEPTED HEREFROM AS SET FORTH IN DEED DATED JANUARY 10, 1962 AND RECORDED IN VOLUME 810, PAGE 197 OF THE DEED RECORDS OF BRAZORIA COUNTY, TEXAS. AFFECTS THE SUBJECT TRACT, AND IS BLANKET IN NATURE. AFFECTS THE SUBJECT TRACT AND IS BLANKET IN NATURE.

ITEM 10(D), EASEMENT FOR ROAD PURPOSES 20 FEET IN WIDTH ALONG THE WEST SIDE OF SAID TRACT OF LAND AND TO RIGHTS-OF-WAY OR DRAINAGE DITCHES, IF ANY, IN BRAZORIA COUNTY DRAINAGE DISTRICT NO. 4 AS SET OUT IN DEED RECORDED JANUARY 10, 1962 AND RECORDED IN VOLUME 810, PAGE 197 OF THE DEED RECORDS OF BRAZORIA COUNTY, TEXAS. AFFECTS THE SUBJECT TRACT AND IS SHOWN HEREON.

ITEM 10(E), OIL, GAS AND MINERAL LEASE EXECUTED BY AND BETWEEN MICHAEL DAILEY AND MERCURY OIL COMPANY, DATED APRIL 21, 1992 AND RECORDED UNDER BRAZORIA COUNTY CLERK'S FILE NO. VOL.(92)1061 PG. 389. AFFECTS THE SUBJECT TRACT, AND IS BLANKET IN NATURE, HOWEVER MAY HAVE EXPIRED AS IT APPEARS IT WAS A 3 YEAR LEASE EFFECTIVE AS OF APRIL 21, 1992.

ITEM 10(F), NOTICE OF SEISMIC PERMIT AND LEASE OPTION AGREEMENT OIL, GAS AND MINERAL LEASE EXECUTED BY AND BETWEEN MICHAEL DAILEY AND ASPECT RESOURCES, LLC, DATED MARCH 8, 2000 AND RECORDED UNDER BRAZORIA COUNTY CLERK'S FILE NO. 01-021403. AFFECTS THE SUBJECT TRACT, AND IS BLANKET IN NATURE, HOWEVER MAY HAVE EXPIRED AS IT APPEARS IT WAS A 1 YEAR LEASE.

ITEM 10(G), NOTICE OF OIL, GAS AND MINERAL LEASE EXECUTED BY AND BETWEEN MICHAEL DAILEY AND ASPECT RESOURCES, LLC, DATED MARCH 8, 2000 AND RECORDED UNDER BRAZORIA COUNTY CLERK'S FILE NO. 02-015483. AFFECTS THE SUBJECT TRACT, AND IS BLANKET IN NATURE, HOWEVER MAY HAVE EXPIRED AS IT APPEARS IT WAS A 3 YEAR LEASE EFFECTIVE AS OF SEPTEMBER 8, 2001.

ITEM 10(H), OIL, GAS AND MINERAL LEASE EXECUTED BY AND BETWEEN MICHAEL DAILEY AND ORBIT RESOURCE CORPORATION, DATED JULY 24, 2006 AND RECORDED UNDER BRAZORIA COUNTY CLERK'S FILE NO. 2006074987. AFFECTS THE SUBJECT TRACT, AND IS BLANKET IN NATURE.

3. BY GRAPHICAL PLOTTING THE SUBJECT TRACT LIES WITHIN IN ZONE "X" (UNSHADED ON THE FIRM MAP) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 48039C0020K, MAP REVISED DECEMBER 30, 2020. LJA DOES NOT WARRANT NOR SUBSCRIBE TO THE ACCURACY OF SCALE OF SAID MAP.

4. A METES AND BOUNDS DESCRIPTION WAS PREPARED FOR THE SUBJECT TRACT INSTRUMENT BY THE UNDERSIGNED DATED APRIL 18, 2025

5. FIELD WORK WAS PERFORMED MARCH, 2025.

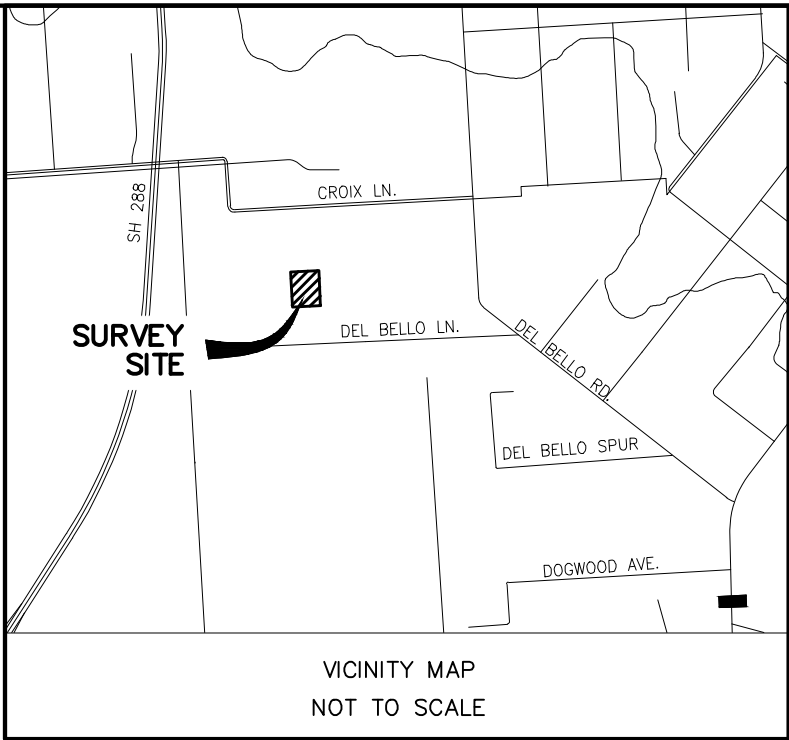
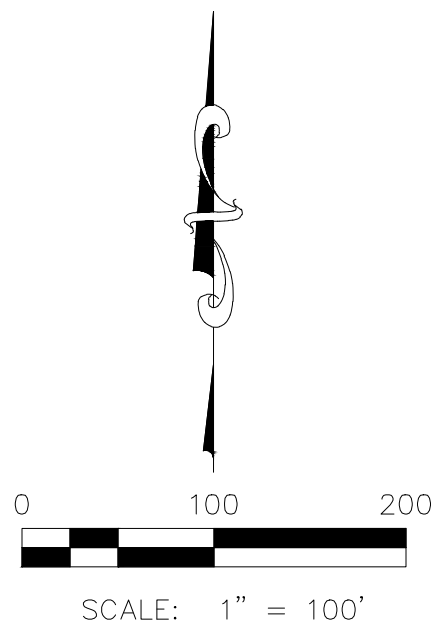
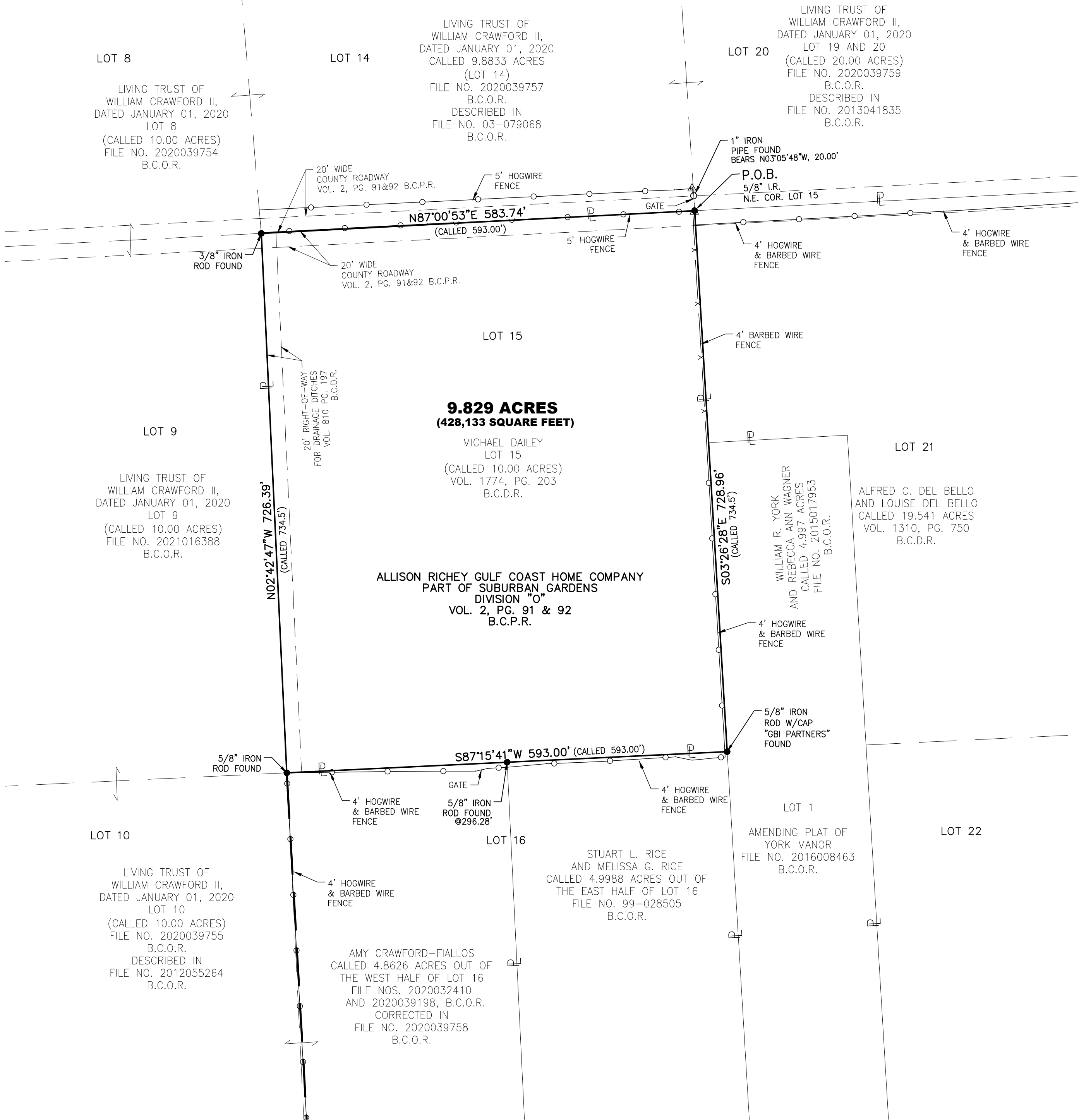
SURVEYOR'S CERTIFICATE

TO: MICHAEL DAILEY, SHEA HOMES HOUSTON, LLC, ALAMO TITLE COMPANY AS AGENT FOR ALAMO TITLE INSURANCE:

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY SUPERVISION, THAT THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF SURVEY, AND THAT THIS PROFESSIONAL SERVICE SUBSTANTIALLY CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1A, CONDITION 3, SURVEY. DATED APRIL 18, 2025

"Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document."

GARY D. NUTTER, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 5659



LEGEND	
B.C.D.R.	DEED RECORDS OF BRAZORIA COUNTY, TEXAS
B.C.O.R.	OFFICIAL RECORDS OF BRAZORIA COUNTY, TEXAS
VOL./PG.	VOLUME/PAGE
P.O.B.	POINT OF BEGINNING
U.E.	UTILITY EASEMENT
RES.	RESERVE
FND.	FOUND
CONC.	CONCRETE MONUMENT
— —	SAME OWNER
—P—	PROPERTY LINE
—X—	FENCE (AS SPECIFIED)

**LAND TITLE SURVEY OF
9.829 ACRES (LOT 15)
ALLISON RICHEY GULF COAST
HOME COMPANY PART OF SUBURBAN GARDENS
DIVISION "O"
VOL. 2, PAGE 91 & 92, B.C.P.R.
LOCATED IN THE
MARY V. O'DONELL SURVEY, ABSTRACT 469
BRAZORIA COUNTY, TEXAS**

APRIL 2025 JOB NO. LJAS001-2660-2501

LJA SURVEYING, INC.

3600 W Sam Houston Parkway S
Suite 175
Houston, Texas 77042

Phone 713.953.5200
Fax 713.953.5026
TBPELS Firm No. 10194382

DESCRIPTION OF
96.344 ACRES

Being 96.344 acres (4,196,730 of land located in the Mary V. O'Donnell Survey, Abstract 469, of Brazoria County, Texas, being a portion of Lots 1, 2, 7, and 16, and all of Lots 3, 4, 8, 9, 10, 13, 14, 19, and 20, of Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens, a subdivision of record in Volume 2, Pages 91 and 92 of the Plat Records of Brazoria County, Texas (B.C.P.R.), all of said Lots 3 and 4 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039751 and described in File Number 96-014455, in the Official Records of said Brazoria County, Texas (B.C.O.R.), all of said Lot 8 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039754, B.C.O.R., all of said Lot 9 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2021016388 B.C.O.R., all of said Lot 10 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039755 and described in File Number 2012055264, B.C.O.R., all of said Lot 13 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039756 and described in File Number 2006052005, B.C.O.R., said all of Lot 14 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039757 and described in File Number 03-079068, B.C.O.R., all of said Lots 19 and 20 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039759 and described in File Number 2013041835, B.C.O.R., all that certain called 0.60 acre tract (a portion of said Lots 1 and 2) conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039750 and described in File Number 00-054217, B.C.O.R., all that certain called 0.81 acre tract (a portion of said Lot 7) conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039753 and described in File Number 98-004526, B.C.O.R., and that portion of a 2.50 acre tract lying within Lot 7 conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039752 and described in File Number 97-039876, B.C.O.R., and all that certain called 4.8626 acre tract conveyed to Amy Crawford-Fiallos, by instruments of record in File Number 2020032410 and File Number 2020039198, B.C.O.R. and corrected in File Number 2020039758, B.C.O.R., said 96.344 acres being more particularly described by metes and

bounds as follows (all bearings referenced to the Texas Coordinate System, South Central Zone, NAD 83 (1993 adjustment));

COMMENCING for reference at a concrete monument found for the northwest corner of Lot 1 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, same being the southwest corner of that certain called 132.908 acre tract conveyed to Ashton Houston Residential L.L.C., by an instrument of record under File Number 2017015415, B.C.O.R., and on the east line of the A. C. H. & B. R. R. Co. Survey, Section 90 also known as the Kate R. Ehrmann Survey, Abstract 459, also being Section 90 of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens, a subdivision of record in Volume 2, Page 98, B.C.P.R., said point located on the centerline of County Road 58 (Croix Road) (40-foot wide as shown on said Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision of which the south 20 feet dedicated to the public in Volume 128, Page 235, of the Deed Records of Brazoria County, Texas (B.C.D.R.) ;

Thence, North $87^{\circ} 01' 04''$ East, along the centerline of said County Road 58, the south line of said 132.908 acre tract, and the north line of said Lot 1, the residue of Lots 1 being a portion of that certain called 19.09 acre tract conveyed to Eugene Del Bello, Jr., Kathy L. Stark, and Richard L. Del Bello by an instrument of record under File number 2022067756, B.C.O.R., 562.56 feet to a point;

Thence, South $03^{\circ} 01' 20''$ East, departing the centerline of said County Road 58, the south line of said 132.908 acre tract, and the north line of said Lot 1, 20.00 feet to a Mag nail set for the northwest corner of said 0.60 acre tract, and the northwest corner and POINT OF BEGINNING of the herein described tract, said point being on the south right-of-way line of said County Road 58 as described in Volume 128, Page 235, B.C.D.R.;

Thence, North $87^{\circ} 01' 04''$ East, along the south right-of-way line of said County Road 58, 148.22 feet to a Mag nail set for corner, said point being on the west line of that certain called 2.5 acre tract out of Lot 7 conveyed to Ramon Gallegos Arismendez and Rosa Arismendez by and instrument of record under File Number 99-043433, B.C.O.R.;

Thence, South 03° 02' 45" East (called South 00° 16' 38" West per File Number 97-039876, B.C.O.R.), departing the south right-of-way line of said County Road 58, at 6.72 feet pass a 1-inch iron pipe found for reference, continuing in all a total distance of 720.95 feet (called 734.5 feet) to a fence post found for the common south corner of said 0.81 acre tract and said 2.5 acre Arismendez tract, said point being on the south line of Lot 7 and the north line of the aforementioned Lot 8;

Thence, North 86° 59' 37" East, along the south line of said Lot 7 and the north line of said Lot 8, 444.75 feet to a 1-inch iron pipe found for the southeast corner of Tract "D" of Abbreviated Plat Thomas Del Bello, said Tract "D" (called 2.50 acres) conveyed to R. Gregory Investments LLC by an instrument of record under File Number 2013061515, B.C.O.R.;

Thence, North 03° 02' 45" West (called North 00° 00' 00" West per File Number 2006052005, B.C.O.R.), along the east line of said Tract "D", at 714.24 feet pass a found 3/8-inch iron rod found for reference, continuing in all 720.76 feet (called 734.5 feet) to a Mag nail set for corner on the south right-of-way line of said County Road 58;

Thence, North 87° 01' 04" East (called South 89° 27' 36" East per File Number 2006052005, B.C.O.R.), along the south right-of-way line of said County Road 58, 1,186.16 feet to a Mag nail for set for corner on the recognized east line of Lot 19 and the west line of Lot 25, said Lot 25 (called 10 acres) conveyed to Lee Ann Del Bello Hooks by an instrument of record under File Number 2017020639, B.C.O.R.;

Thence, South 03° 05' 28" East (called South 00° 10' 07" West per File Number 2013041835, B.C.O.R.), along the recognized east line of said Lot 19 and the west line of said Lot 25, at 1.49 feet pass a found 5/8-inch iron rod, at 1,456.30 feet pass a 1-inch iron pipe found for reference, continuing in all a total distance of 1,462.34 feet (called 1,455.00 feet) to a 5/8-inch iron rod with cap stamped "LJA Survey" set for the southeast corner of the aforementioned Lot 20, and the common corner of Lots 21, 26, and 27 of the aforementioned Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, said point being an interior corner on the westerly lines of that certain called 19.541 acre tract conveyed to Alfred C. Del Bello and Louis Del Bello by an instrument of record in Volume 1310, Page 750, B.C.D.R., said point also being the centerline of a 40 foot wide platted road easement

(unimproved) as shown on said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision;

Thence, South $87^{\circ} 03' 37''$ West (called North $89^{\circ} 41' 00''$ West per File Number 2013041835, B.C.O.R.), along the south line of said Lot 20 and the north line of said Lot 21, the centerline of said 40-foot wide road easement, and a north line of said 19.541 acre tract, 581.65 feet (called 593 feet per plat and 582.62 feet per File Number 2013041835, B.C.O.R.) to a 5/8-inch iron rod found for the common corner of Lots 14, 15, 20 and 21, from which a found 1-inch iron pipe bears North $03^{\circ} 05' 48''$ West, 20.00 feet as described in said Volume 1310, Page 750, B.C.D.R.;

Thence, South $87^{\circ} 00' 53''$ West (called North $87^{\circ} 00' 53''$ West per File Number 03-079068, B.C.O.R.), along the south line of Lot 14 and the north line of Lot 15, and the centerline of said 40-foot wide road easement, 583.74 feet (called 593 feet per plat and called 583.96 feet per File Number 03-079068, B.C.O.R.) to a 3/8-inch iron rod found for the common corner of Lots 8, 9, 14, and 15;

Thence, South $02^{\circ} 42' 47''$ East, along the east line of said Lot 9 and the west line of said Lot 15, 726.39 feet (called 734.5 feet per plat) to a 5/8-inch iron rod found for the common corner of said Lots 9, 10, 15, and 16;

Thence, North $87^{\circ} 15' 41''$ East (called North $86^{\circ} 57' 07''$ East per File Number 2020032410, B.C.O.R.), along the south line of said Lot 15 and the north line of said Lot 16, 296.72 feet (called 296.50 feet) to a 5/8-inch iron rod found for the northeast corner of the aforementioned 4.8626 acre tract, same being the northwest corner of that certain called 4.9988 acre tract conveyed to Stuart L. Rice and Melissa G. Rice by an instrument of record under File Number 99-028505, B.C.O.R.;

Thence, South $02^{\circ} 46' 37''$ East (called South $03^{\circ} 20' 16''$ East, along the east line of said 4.8626 acre tract and the west line of said 4.9988 acre tract, at 714.28 feet (called 714.40 feet) pass a 5/8-inch iron rod found for the southeast corner of said 4.8626 acre tract, continuing 747.75 feet to a Mag nail set for corner on the south line of said Lot 16, same being in the

centerline of Del Bello Lane (a 40 feet wide road easement) as shown on said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision;

Thence, South $87^{\circ} 14' 52''$ West, along the centerline of Del Bello Lane and said road easement, and along the south lines of Lots 16, 10 and 4, and the north line of Lots 10 and 5 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, at 1,426.30 feet and 20.00 feet to the right pass a concrete monument with 3/8-inch iron rod in the center found for reference as described in File Number 96-014455, B.C.O.R., continuing in all a total distance of 1,446.30 feet to a 5/8-inch iron rod with cap stamped "LJA Survey" set for the common west corner of Lots 4 and 5, said point being on the east line of the aforementioned Section 90 of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision;

Thence, North $03^{\circ} 26' 48''$ West (called North $00^{\circ} 08' 37''$ West per File Number 96-014455, B.C.O.R.), along the east line of said Section 90 and the west lines of said Lots 4 and 3, 1,469.00 feet (called 1,469.00 feet) to a 5/8-inch iron rod with cap stamped "LJA Survey" set for the common west corner of the aforementioned Lots 2 and 3;

Thence, North $86^{\circ} 56' 18''$ East (called North $89^{\circ} 40' 43''$ East per File Number 96-014455, B.C.O.R.), departing the east line of said Section 90 and along the south line of said Lot 2 and the north line of said Lot 3, at 20 feet pass a 5/8-inch iron rod (bent) found for reference, continuing in all a total distance of 583.84 feet (called 593 per plat and 583.67 feet per File Number 96-014455, B.C.O.R.) to a 5/8-inch iron rod found for the common corner of Lots 2, 3, 8, and 9 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, said point being the common south corner of the aforementioned 19.09 acre tract and the aforementioned 0.60 acre tract;

Thence, North $05^{\circ} 28' 43''$ West (called North $02^{\circ} 12' 33''$ West per File Number 00-054217, B.C.O.R.), along the east line of said 19.09 acre tract and the west line of said 0.60 acre tract, 741.11 feet (called 741.48 feet) to a 1-inch iron pipe found for corner;

Thence, North 03° 01' 20" West (called North 00° 15' 38" East per File Number 00-054217, B.C.O.R.), continuing along the east line of said 19.09 acre tract and the west line of said 0.60 acre tract, at 714.74 feet (called 714.51 feet) pass a 3/4-inch iron pipe found for reference, continuing in all a total distance of 741.35 feet (called 731.73 feet) to the POINT OF BEGINNING and containing 96.344 acres (4,196,730 square feet) of land of land.



Gary D. Nutter
Registered Professional Land Surveyor
Texas Registration Number 5659
LJA Surveying, Inc.



DESCRIPTION OF
9.829 ACRES

Being 9.829 acres of land located in the Mary V. O'Donnell Survey, Abstract 469, of Brazoria County, Texas, being all of Lot 15, of Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens, a subdivision of record in Volume 2, Pages 91 and 92 of the Plat Records of Brazoria County, Texas (B.C.P.R.), said Lot 15 conveyed to Michael Daily by an instrument of record in Volume 1774, Page 203, of the Deed Records of Brazoria County, Texas (B.C.D.R.), said 9.829 acres being more particularly described by metes and bounds as follows (all bearings referenced to the Texas Coordinate System, South Central Zone, NAD 83 (1993 adjustment));

BEGINNING at 5/8-inch iron rod found for the common corner of Lots 14, 15, 20, and 21 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, said point being the southeast corner of that certain called 9.8833 acre tract conveyed to Living Trust of William Crawford II dated January 01, 2020, by an instrument of record in File Number 2020039757, in the Official Records of said Brazoria County, Texas (B.C.O.R.) and described in File Number 03-079068, B.C.O.R., said point being the northwest corner of that certain called 19.541 acre tract conveyed to Alfred C. Del Bello and Louis Del Bello by an instrument of record in Volume 1310, Page 750, B.C.D.R., from which a found 1-inch iron pipe bears North 03° 05' 48" West, 20.00 feet as described in said Volume 1310, Page 750, B.C.D.R.;

Thence, South 03° 26' 28" East, along the east line of said Lot 15 and the west line of said Lot 21, 728.96 feet (called 734.5 feet) to a 5/8-inch iron rod capped "GBI PARTNERS" found for the common corner of Lots 15, 16, 21, and 22 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision, said point being on the west line of Lot 1 of the Amending Plat of York Manor, a subdivision of record in File Number 2013008463, B.C.O.R., also being the northeast corner of that certain called 4.9988 acre tract conveyed to Stuart L. Rice and Melissa G. Rice by an instrument of record under File Number 99-028505, B.C.O.R.;

Thence, South 87° 15' 41" West, along the south line of said Lot 15 and the north line of said Lot 16, at 296.28 feet pass a 5/8-inch iron rod found for the common north corner of said 4.9988 acre tract and that certain called 4.8626 acre tract conveyed to Amy Crawford-Fiallos, by instruments of record in File Number 2020032410 and File Number 2020039198, B.C.O.R. and corrected in File Number 2020039758, B.C.O.R., continuing in all a total distance of 593.00 feet (called 593.0 feet) to a 5/8-inch iron rod found for the common corner of Lots 9, 10, 15 and 16, of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision;

Thence, North 02° 42' 47" West, along the west line of said Lot 15 and the east line of said Lot 9, 726.39 feet (called 734.5 feet) to a 3/8-inch iron rod found for the common corner of Lots 8, 9, 14, and 15 of said Division "O" of the Allison Richey Gulf Coast Home Company Part of Suburban Gardens subdivision;

Thence, North 87° 00' 53" East, along the north line of said Lot 15 and the south line of said Lot 14, 583.74 feet (called 593.0 feet) to the POINT OF BEGINNING and containing 9.829 acres (428,133 square feet) of land of land.

"Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document."

Gary D. Nutter
Registered Professional Land Surveyor
Texas Registration Number 5659
LJA Surveying, Inc.

DEL BELLO LAKES

TYP. 50'x120'	100 LOTS	22%
TYP. 55'x120'	103 LOTS	23%
TYP. 60'x120'	181 LOTS	40%
TYP. 70'x120'	64 LOTS	15%

TOTAL 448 LOTS

DEL BELLO LAKES EXPANSION

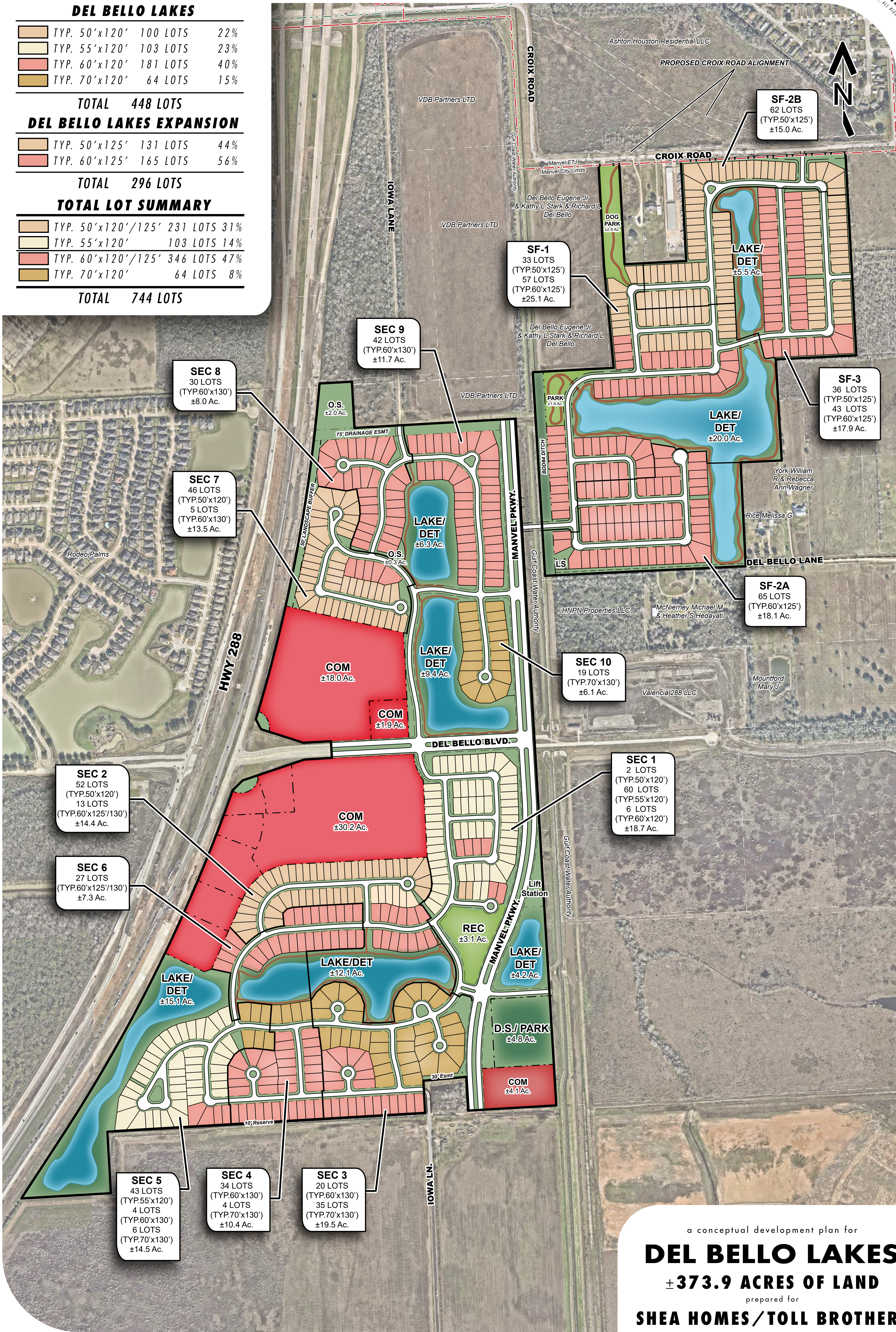
TYP. 50'x125'	131 LOTS	44%
TYP. 60'x125'	165 LOTS	56%

TOTAL 296 LOTS

TOTAL LOT SUMMARY

TYP. 50'x120'/125'	231 LOTS	31%
TYP. 55'x120'	103 LOTS	14%
TYP. 60'x120'/125'	346 LOTS	47%
TYP. 70'x120'	64 LOTS	8%

TOTAL 744 LOTS



a conceptual development plan for

DEL BELLO LAKES

± 373.9 ACRES OF LAND

prepared for

SHEA HOMES/TOLL BROTHERS

META
PLANNING + DESIGN

24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 150 300 600

MTA-09301F
AUGUST 11, 2025

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LOT SUMMARY

50'x125'	131 LOTS	44 %
60'x125'	165 LOTS	56 %

TOTAL 296 LOTS



a schematic development plan for

DEL BELLO LAKES

±106.2 ACRES OF LAND

prepared for

SHEA HOMES/TOLL BROTHERS

META
PLANNING + DESIGN

24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 100 200 400

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AUGUST 11, 2025

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EXHIBIT
E1



a land use classification plan for

DEL BELLO LAKES

± 373.9 ACRES OF LAND

prepared for

SHEA HOMES / TOLL BROTHERS

META
PLANNING + DESIGN

24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

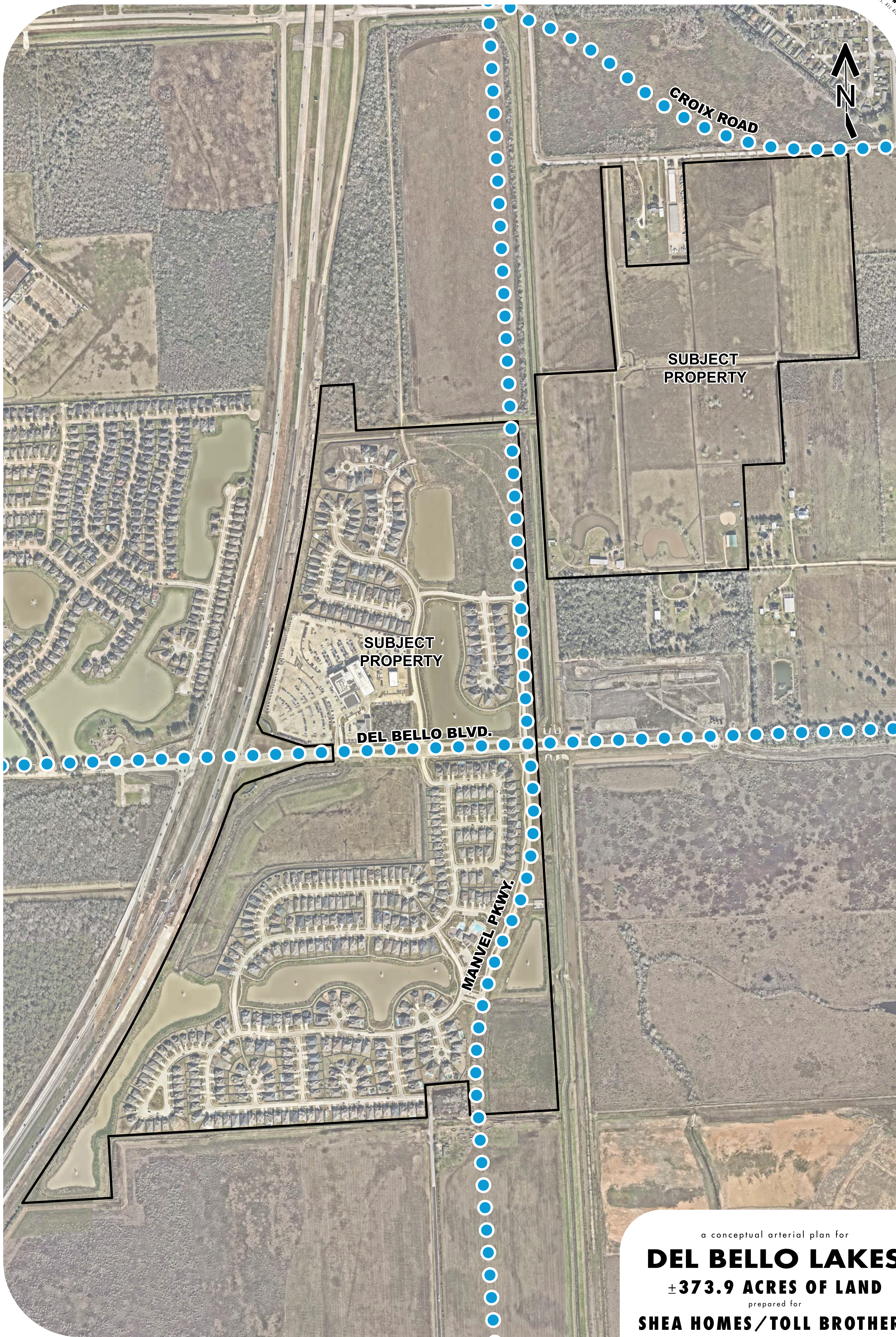
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MTA-09301F
AUGUST 11, 2025

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EXHIBIT **F**



a conceptual arterial plan for

DEL BELLO LAKES

± 373.9 ACRES OF LAND

prepared for

SHEA HOMES / TOLL BROTHERS



24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 150 300 600

MTA-09301F
AUGUST 11, 2025

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DEL BELLO LAKES

PARK	PARKS	(3.8%) ±10.2 AC.
	DETENTION/DRAINAGE	(17.6%) ±47.1 AC.
	LANDSCAPE/OPEN SPACE	(4.5%) ±12.1 AC.
TOTAL		±69.4 AC. (25.9%)

DEL BELLO LAKES EXPANSION

PARK	PARKS	(4.2%) ±4.5 AC.
	DETENTION/DRAINAGE	(26.4%) ±28.0 AC.
	LANDSCAPE/OPEN SPACE	(2.2%) ±2.3 AC.
TOTAL		±34.8 AC. (32.8%)

TOTAL OPEN SPACE

PARK	PARKS	(2.7%) ±14.7 AC.
	DETENTION/DRAINAGE	(19.5%) ±72.6 AC.
	LANDSCAPE/OPEN SPACE	(3.9%) ±14.6 AC.
TOTAL		±104.4 AC. (27.9%)



a project area map for

DEL BELLO LAKES
±373.9 ACRES OF LAND

prepared for

SHEA HOMES/TOLL BROTHERS



24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

SCALE
0 150 300 600

MTA-09301F
AUGUST 11, 2025

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PHASING SUMMARY

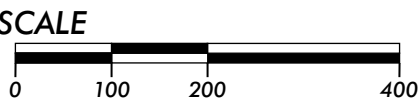
	50'x125'	60'x125'	TOTALS
PHASE I	33 LOTS	57 LOTS	90 LOTS
PHASE II	62 LOTS	65 LOTS	127 LOTS
PHASE III	36 LOTS	43 LOTS	79 LOTS
TOTALS	131 LOTS	165 LOTS	296 LOTS



a preliminary phasing plan for
DEL BELLO LAKES
±106.2 ACRES OF LAND
prepared for
SHEA HOMES/TOLL BROTHERS



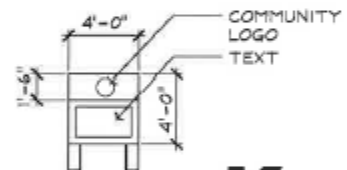
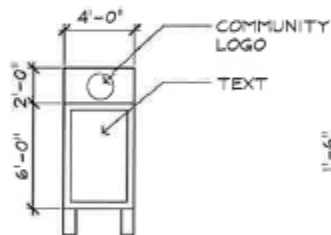
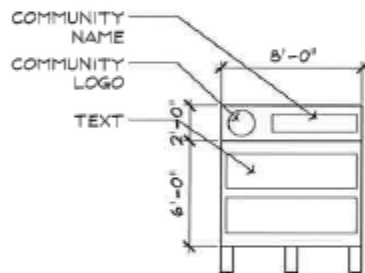
24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422



MTA-09301F
AUGUST 11, 2025

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FINAL DESIGN SOLUTIONS ARE SUBJECT TO CHANGE.

K
a signage exhibit for
**SOUTHPONTE
CROSSING**
± 267.7 ACRES OF LAND

BCE
2100 South Beach Blvd., Suite 200
Boca Raton, FL 33433

SCALE
1" = 10'-0"

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Exhibit K1

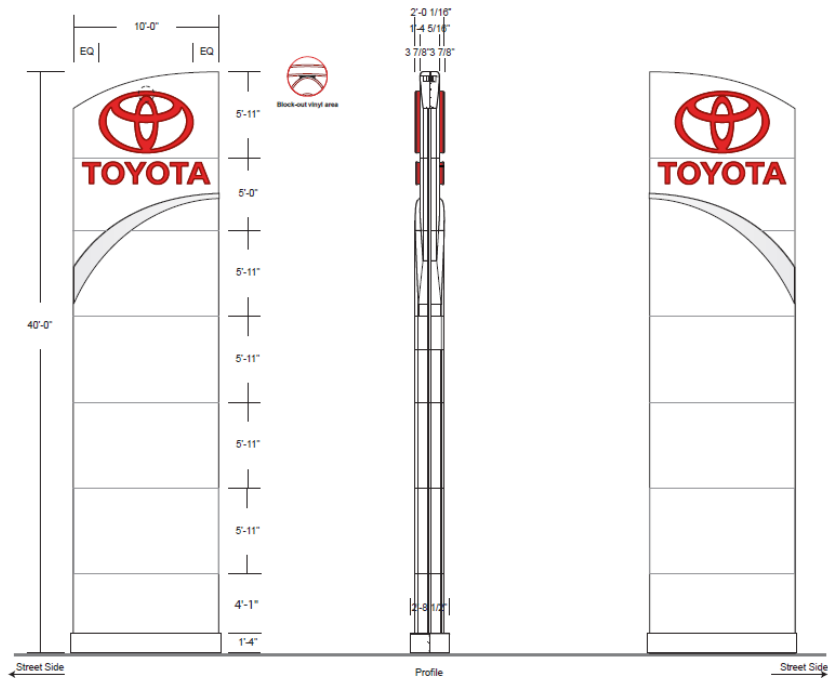


Exhibit K2



EXHIBIT K4

CUSTOM 40' HEIGHT TO BE REVIEWED
& APPROVED BY TOYOTA



Specifications

Custom 1040 - D/F Illuminated Pylon Sign

1/8" aluminum fabricated panels
Painted Toyota white

Toy-5: Panned & embossed molded Toyota logo
(4'-3"h x 6'-6 13/16"w) 21.99 sq.ft.
Clamshell trim
Lexan polycarbonate: Bayer Red D99
3M 3635-208 block out vinyl applied second surface
Aluminum coil pre-painted red
Illuminated with red LED

Panned & embossed molded Toyota letters
(1'-5 13/16"h x 8'-10 15/16"w) 13.22 sq.ft.
Clamshell trim
Lexan polycarbonate: Bayer Red D99
Aluminum coil pre-painted red
Illuminated with red LED

1/8" aluminum 3D "Swoosh"
Painted 31 Medium Gray

Electrical hook-up by others

Colors

- ☐ Toyota White
- ☒ Bayer Red D99
- ☒ 3M 3635-208 Block Out Vinyl
- ☒ 31 Medium Gray

Project ID
NF2-25965

Date: Jan-23-2019
Scale: 1/8" = 1'-0"
Sales: N.Fry
Designer: A.Ioannou

Rev. #: R1
Date: May-1-2019

Revision Note:
Revised to custom 40'
height.

☒ Conceptual

Information Required:

☒ Master

☒ Electrical

☒ 120V ☐ 347V
☐ Other _____

Customer Approval

Signature

MM/DD/YYYY

It is the Customer's responsibility to ensure that the structure of the building is designed and constructed to accept the installation of the signs being ordered. Please call PDS to provide further details if required.

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TOYOTA

42321s
Toyota of Alvin
3507 FM 528
Alvin, TX

Sign Item

5GB

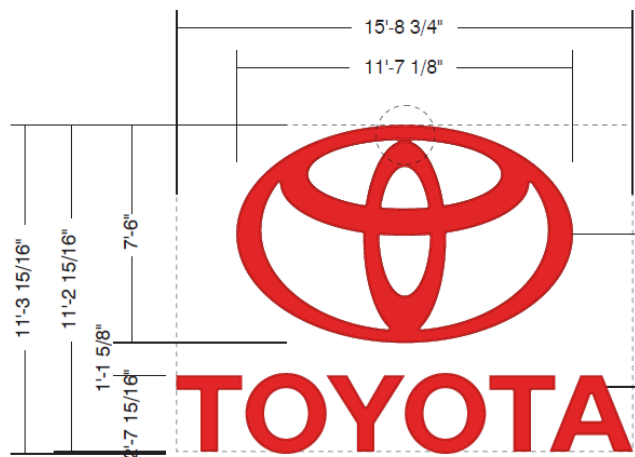


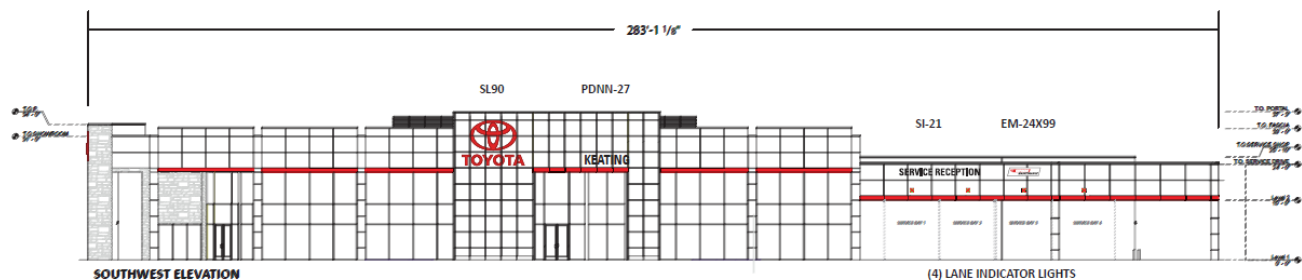
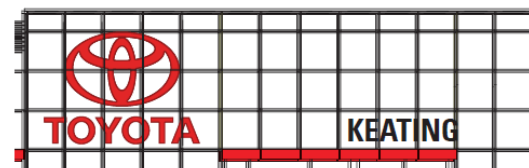
EXHIBIT K5



Toyota Brand
Overall Perimeter
11'-2 15/16" x 15'-8 3/4"
176.87 SQ. FT.
68.69 SQ. FT.

41.86 SQ. FT.
Toyota Brand Element
110.55 SQ. FT.

11'-0 1/8"
24.77 SQ. FT.
2'-3" **KEATING**



555 Ellesmere Road Toronto, Ontario, Canada M1R 4E8
(Toll Free) 1.866.635.1110 (Fax) 1.855.759.4965
www.pattisonsign.com



This sign to be installed in accordance with the requirements of Article 600 of the
National Electrical Code and/or other applicable local codes.
This includes proper grounding and bonding of the sign.



Fluorescent, Neon and HID lamps contain Mercury (HG).
Dispose of the lamps according to Local, Provincial, State or Federal Laws.

Project ID
NF2-25965

Date: Jan-23-2019
Scale: 1/4" = 1'-0"
Sales: N.Fry
Designer: C.Sabatino

Rev. #: R3
Date: FEB-20-2020

Revision Note:
Variance Package

☒ Conceptual

Information Required:

☐ Master

☒ Electrical

☒ 120V ☐ 347V
☐ Other _____

Customer Approval

Signature _____

MM/DD/YYYY

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TOYOTA
423215
Toyota of Alvin
3507 FM 528
ALVIN, TX

Sign Item

SG1

Exhibit K5

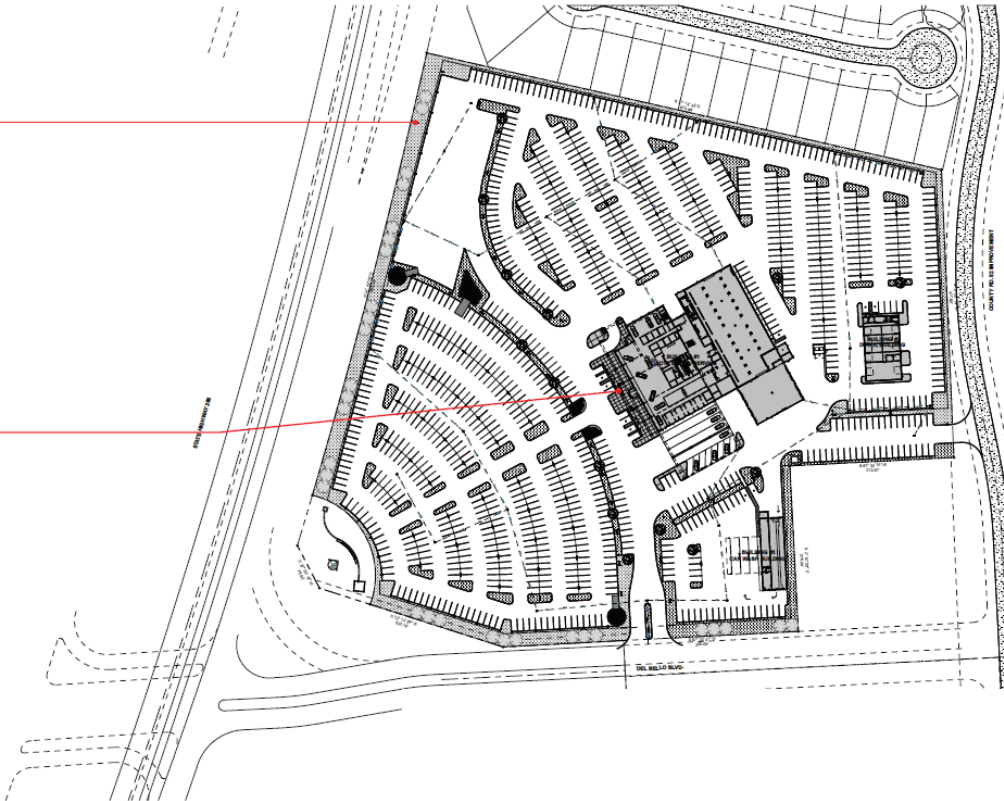


1040



SL90

EXHIBIT K6



Project ID
NF2-25965

Date: FEB-20-2020
Scale: N.T.S.
Sales: N.Fry
Designer: C.Sabatino

Rev. #: R5

Date:

Revision Note:

☒ Conceptual

Information Required:

☒ Master

☒ Electrical

☐ 120V ☐ 347V

☐ Other _____

Customer Approval

Signature

MM/DD/YYYY

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425215
Toyota of Alvin
3507 FM 528
Alvin, TX

Sign Item

Site Plan



555 Ellesmere Road Toronto, Ontario, Canada M1R 4E8
(Toll Free) 1.866.635.1110 (Fax) 1.855.759.4865
www.pattisontsign.com



This sign to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.



Fluorescent, Neon and HID lamps contain Mercury (Hg). Dispose of the lamps according to local, Provincial, State or Federal Laws.

Exhibit K6

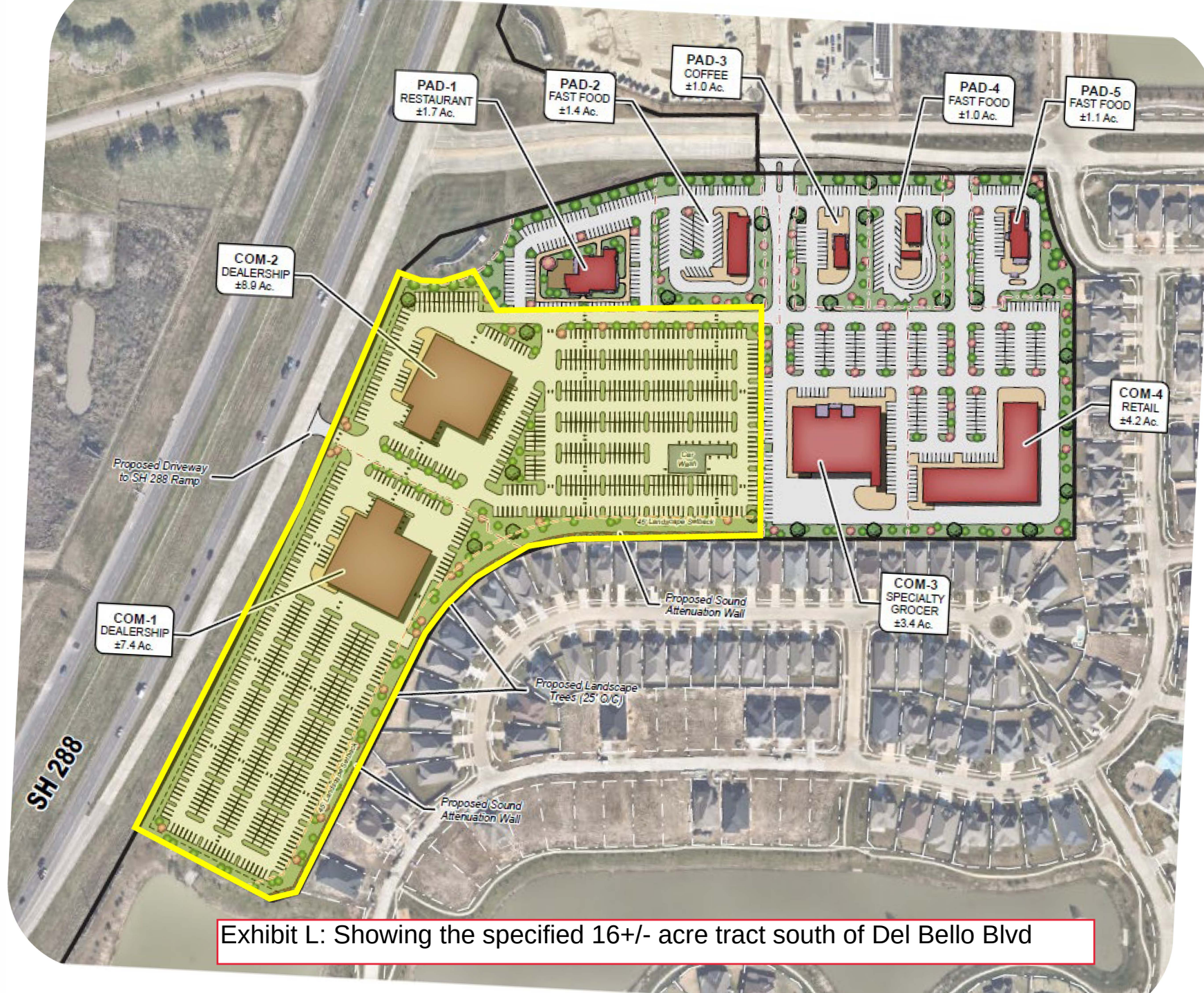


Exhibit L: Showing the specified 16+/- acre tract south of Del Bello Blvd

Memorandum

To: Robert Booth, PE
Senior Project Manager – Land Division
LJA Engineering, Inc.

From: Bob Bardin, PE, CFM
Group Lead, Hydrology and Hydraulics – Land Division
LJA Engineering, Inc.

Date: June 23, 2025

Re: Del Bello Expansion Feasibility Analysis
LJA Job No. 2660-2502

This memo is being submitted by LJA Engineering, Inc. to summarize the results of a preliminary detention analysis for the proposed 109-acre Del Bello Expansion (Tract) located in Brazoria County, Texas. The tract is located within the City of Manvel and Brazoria County Conservation and Reclamation District No. Three (C&R3), east of State Highway 288 and north of Del Bello Lane as shown on **Figure 1**.



Figure 1. Project Location

Existing land use is mostly undeveloped with some detention and large lot residential. The area is characterized by relatively flat terrain. In the existing conditions, the area drains southeast to Ditch C-12.

Two outfall locations were considered in this feasibility; Cooper ditch to the west of the project and Ditch C-2 to the south of the property at Del Bello Lane. Since Cooper Ditch provides significantly more outfall depth than the ditch south of the property at Del Bello Lane, both options are being considered.

This project lies within an existing drainage area draining to the C-12 ditch. To assess the effects of the proposed development, the drainage area was modified to reflect the total area draining to the outfall in order to determine the allowable discharge from the development and provide a direct comparison of pre project and post project discharge at the outfall. The pre project drainage area totaling 137 acres is shown in **Figure 2**, which includes two out-tracts totaling 28 acres that will drain through the proposed detention system. The out-tracts are assumed to remain unchanged. The proposed detention system will serve only the 109 acre development.



Figure 2. Proposed Drainage Areas

The preliminary development plan for the Del Bello Expansion is shown on **Figure 3**. The tract will be developed into single-family residential, with onsite detention. The development will be routed through a detention pond that will drain to west into Cooper Ditch and/or south into Ditch C-12. Both of these drainage scenarios are described below.



Figure 3. Proposed Drainage Plan

Runoff hydrographs from this area were calculated using the current Brazoria County Drainage Criteria. This criteria recommends the use of Rational Method to calculate peak discharges, and a velocity based Time of Concentration (T_c). To develop runoff hydrographs, Malcolm's Small Watershed Method used the drainage area, calculated percent impervious, excess rainfall volume, and calculated peak flow rate.

Peak runoff for both the existing conditions and proposed development was determined using rational method are summarized in **Table 1**.

Table 1 – Peak Runoff

Drainage Area	Area (Ac)	% Imp	C	T_c (hr)	I (in/hr)	Flow (cfs)
Existing	137	7.02	0.17	0.82	5.1	146
Proposed	137	39.34	0.46	0.42	7.0	548

Runoff hydrographs based on the Site Runoff Curves were generated using Malcolm's Small Watershed method as shown in **Figure 4**. This method generates synthetic flow hydrographs for existing and proposed conditions that are compared to estimate detention volume. The required detention rate needed to drain the site south to the ditch at Del Bello Lane is 0.97 acre-feet/acre.

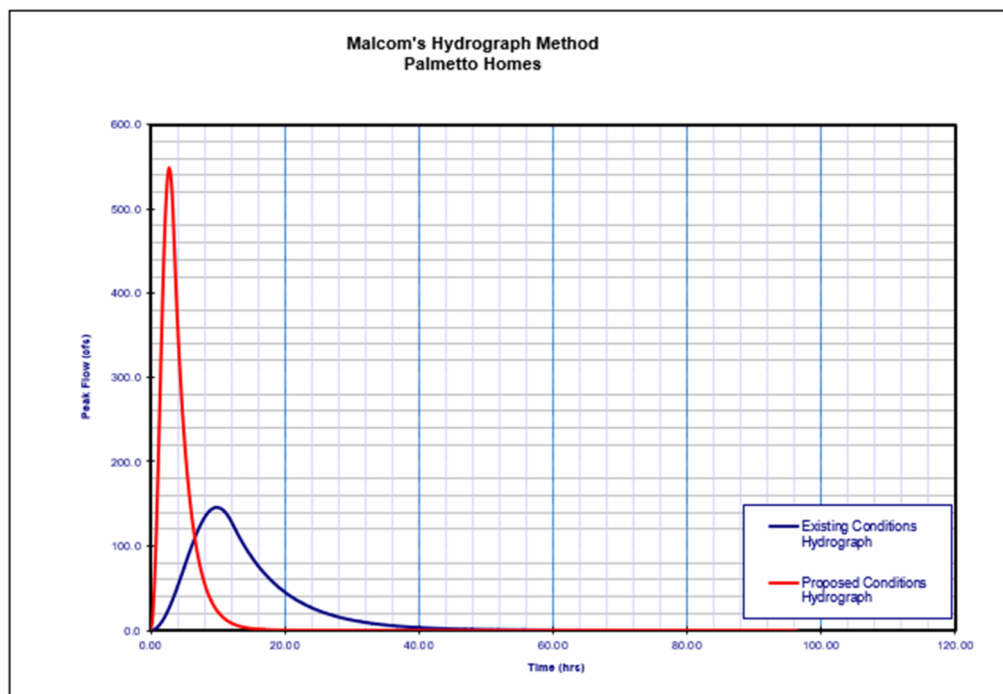
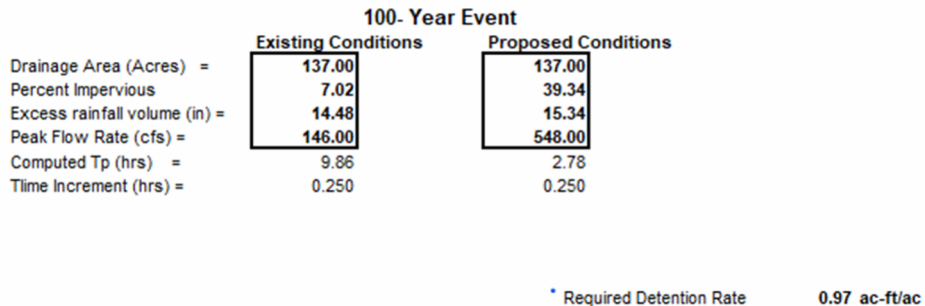


Figure 4. Proposed Drainage Plan

In existing conditions, all of the tract drains south to Ditch C-12. Therefore, in order to discharge into Cooper Ditch, full retention will be required. Based on the proposed conditions direct runoff in Figure 4, the required detention rate needed to drain the site west to Cooper Ditch is approximately 15.34 inches, or 1.3 ac-ft/ac. Although this is a larger detention requirement, the additional depth provided by Cooper Ditch may reduce the required detention footprint, thus making this a considerable option.

This analysis does not account for any additional parameters the Brazoria County Conservation and Reclamation District No. Three or The City of Manvel may require for approval and development. As such, this analysis is conceptual in nature and is based on assumed land uses

and other hydrologic characteristics. Therefore, a more detailed routing analysis may offer different results that could change the detention needs for the Del Bello Expansion.

DRAFT



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DEL BELLO LAKES DEVELOPMENT TRAFFIC IMPACT ANALYSIS

LJA Project No. 2660-2503

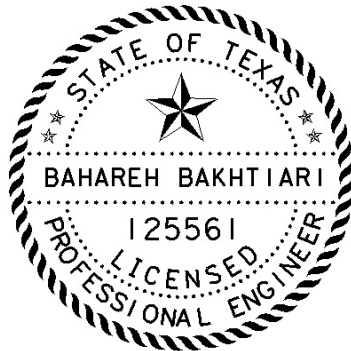
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July 2025

DEL BELLO LAKES DEVELOPMENT TRAFFIC IMPACT ANALYSIS



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July 12, 2025

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July 2023

Executive Summary

This report presents the summary of findings for the Traffic Impact Analysis (TIA) prepared by LJA Engineering, Inc. (LJA) for the proposed Del Bello Lakes Development in Manvel, Texas. This proposed development will consist of 315 single-family detached houses. The development site is located south of Croix Road, east of Manvel Parkway, and north of Del Bello Boulevard. Construction for this development is expected to be completed in 2027, therefore the study horizon for this TIA is year 2027. The objective of this study is to analyze the impacts of the traffic generated by the proposed development on the performance of the surrounding street network and to determine the required mitigation measures to address any resulting deficiencies.

Access to the development will be provided via two driveways. Driveway 1 is located along Manvel Parkway, approximately 1,600 feet north of Del Bello Boulevard. Driveway 2 is located along Croix Road, approximately 1,970 feet east of the point where Croix curves and transitions from an east–west to a north–south alignment. The study area for this TIA includes the street network located within half a mile from the proposed development’s access points.

Due to the nature of this development and the traffic conditions within the study area, only the weekday AM and the weekday PM peak hour periods were analyzed in this TIA. The overall proposed development is expected to generate 2,900 daily vehicle trips with 220 vehicle trips during the AM peak hour period and 296 vehicle trips during the PM peak hour period.

Given the current limitations in obtaining recent traffic counts—and considering that this area is rapidly developing with several approved or ongoing TIAs, along with major nearby intersections either under construction or having approved plans for future signals and improvements—existing conditions were not analyzed as part of this TIA. Instead, the focus of this study is on the No-Build Ultimate conditions, which reflects anticipated future development and infrastructure improvements in the area.

For the intersection of Del Bello Boulevard and SH 288 and Manvel Boulevard and Del Bello Boulevard, data provided by the Valencia Development TIA were utilized. At the intersection of Croix Road and SH 288, the most recent available counts were from 2014 and considered outdated. However, TCDS provided traffic volume data for all approaches at this intersection. To estimate current turning movement counts (TMCs), the 2014 turning movement distribution was applied to the TCDS volumes. The growth rate was then applied to the estimated 2022 volumes to project traffic conditions for 2027 without the proposed development (Future No Build Conditions). The traffic expected to be generated by the proposed development was subsequently added to the No Build Conditions to determine the Future Build Conditions.

Right Turn Lane Analyses was completed for the proposed driveway in accordance with the National Cooperative Highway Research Program (NCHRP) 475 requirements for right and left turn deceleration lanes. Based on the analysis, an exclusive right-turn lane on eastbound approach of Croix Road and Driveway 2 intersection is warranted at opening year 2027. Therefore, LJA recommend installing an eastbound right-turn lane with 100 feet storage length, 340 feet deceleration length and 100 feet taper at Croix Road and Driveway 2 intersection when constructing Access Roadway 1.

Intersection Capacity Analyses were completed for major intersections within the study area. Mitigation measures for this TIA require that when the LOS without development is LOS A, B, C or D, the minimum acceptable projected LOS shall be LOS D, and when the LOS without

development is LOS E or F, the minimum acceptable projected LOS shall be equal to the LOS without development.

The results of this analysis indicate that construction of an eastbound left-turn lane along Del Bello Boulevard at its intersection with Manvel Parkway will be necessary to accommodate traffic generated by the proposed Del Bello Lakes Development. It should be noted that this analysis also considered traffic from the SLP Tract Development, Bluewater Lakes Development, Del Bello Development, Manvel City Center Complex Planning-Level TIA, SH 288 and Rodeo Palms Parkway/Del Bello Boulevard improvements, and the Valencia Development. The need for the eastbound left-turn lane is therefore dependent not only on the Del Bello Lakes Development, but also on the cumulative impact of these other developments.

Recommendations

The improvement that will be required to successfully accommodate the traffic that will be generated by the proposed Del Bello Lakes Development is listed below:

- Construct an eastbound right turn lane along Croix Road at its intersection with Driveway 2. This right turn lane should include 140 feet storage length and 100 feet taper.
- Construct an eastbound left turn lane along Del Bello Blvd at its intersection with Manvel Pkwy. This left turn lane should include 315 feet storage length and 100 feet taper.

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Introduction

This report presents the summary of findings for the Traffic Impact Analysis (TIA) prepared by LJA Engineering, Inc. (LJA) for the proposed Del Bello Lakes Development in Manvel, Texas. This proposed development will consist of 315 single-family detached houses. The development site is located south of Croix Road, east of Manvel Parkway, and north of Del Bello Boulevard. Construction for this development is expected to be completed in 2027, therefore the study horizon for this TIA is year 2027. The objective of this study is to analyze the impacts of the traffic generated by the proposed development on the performance of the surrounding street network and to determine the required mitigation measures to address any resulting deficiencies. **Figure 1** shows the vicinity map and the existing street network within the study area. **Appendix A** provides a site plan of the proposed development.

Existing Area Conditions

The study area for this TIA includes the street network located within half a mile from the proposed development's access points. Major intersections within the study area include:

1. SH 288 NB Exit/Entrance Ramp and Del Bello Boulevard (Stop Controlled T-Intersection)
2. SH 288 and Rodeo Palms Pkwy (Stop Controlled T-Intersection)
3. Croix Road and SB/NB SH 288 Frontage Roads (The intersection is currently stop-controlled but is planned to be signalized.)
4. Manvel Parkway and Del Bello Boulevard (Stop Controlled)

The major roadways included in the study network are SH 288 Frontage Road, Manvel Parkway, and Croix Road. Within the study area, SH 288 is a four-lane divided highway that generally runs in the north–south direction, with a posted speed limit of 65 mph. The SH 288 Frontage Road is a one-way, two-lane roadway with a speed limit of 45 mph. Del Bello Boulevard is a four-lane divided roadway running east–west, with a posted speed limit of 30 mph. The speed limits along Croix Road and Manvel Parkway are 45 mph and 30 mph, respectively. Existing lane configurations and traffic control features at all study intersections are presented in **Figure 2**.

Given the current limitations in obtaining recent traffic counts—and considering that this area is rapidly developing with several approved or ongoing TIAs, along with major nearby intersections either under construction or having approved plans for future signals and improvements—existing conditions were not analyzed as part of this TIA. Instead, the focus of this study is on the No-Build - Ultimate conditions, which reflects anticipated future development and infrastructure improvements in the area. No Build - Ultimate lane configurations and traffic control features at all study intersections are presented in **Figure 3**.

Proposed Area Conditions

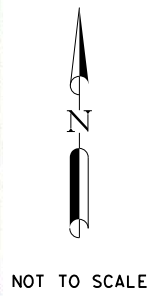
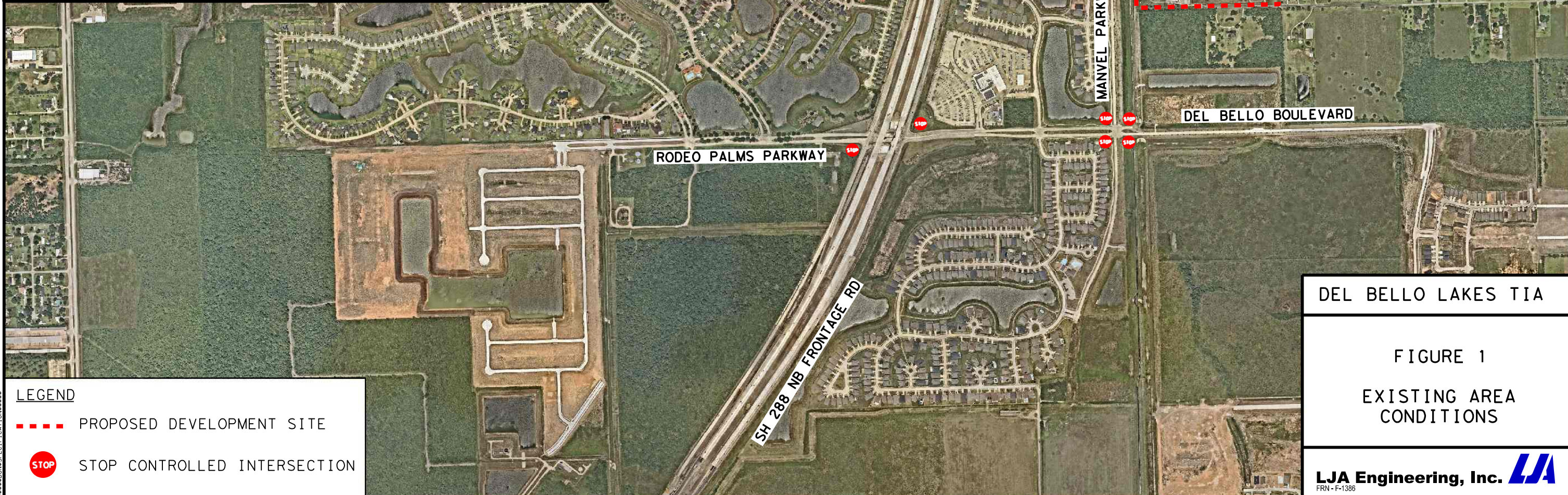
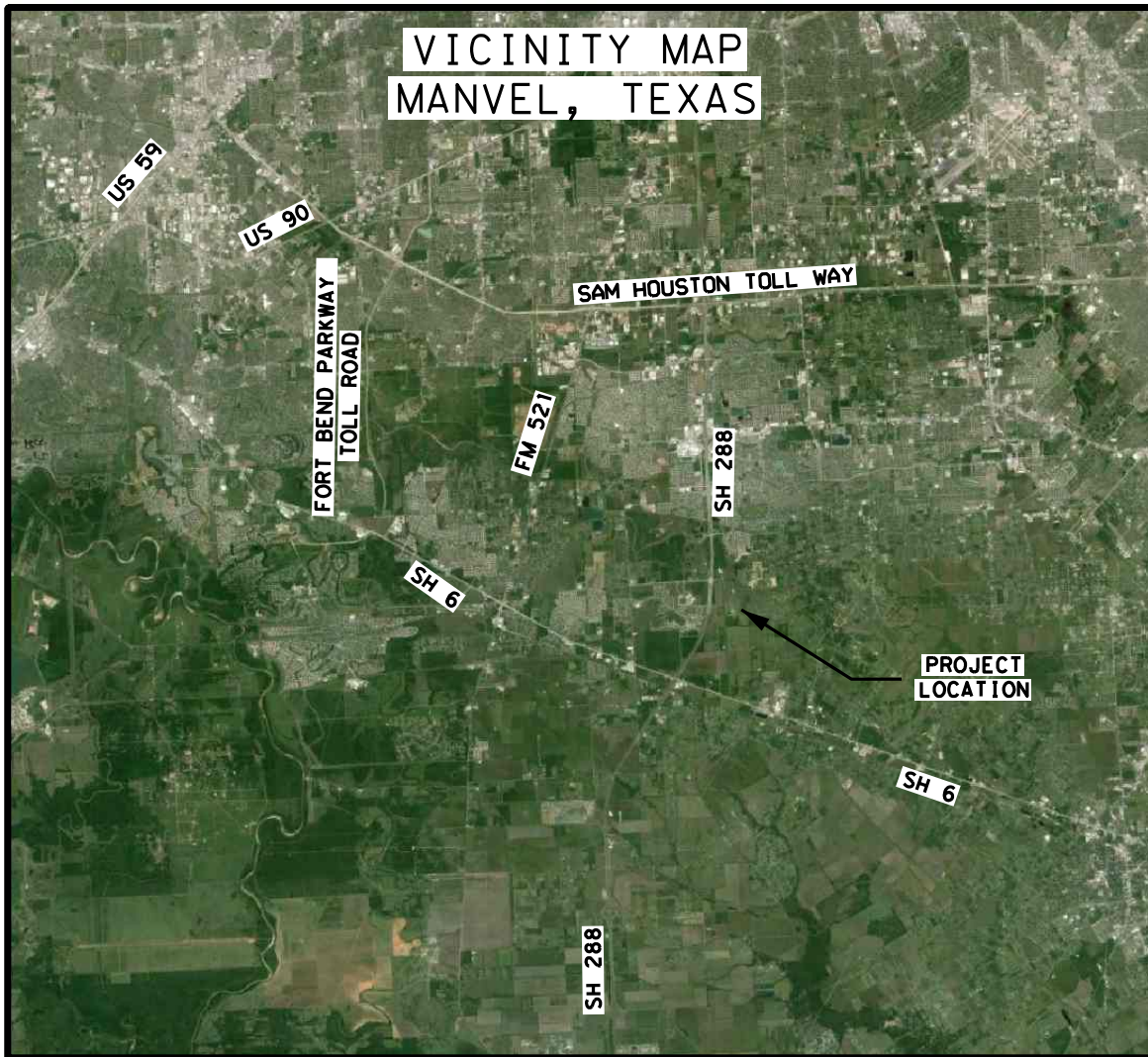
Access to the development will be provided via two driveways. Driveway 1 is located along Manvel Parkway, approximately 1,600 feet north of Del Bello Boulevard. Driveway 2 is located along Croix Road, approximately 1,970 feet east of the point where Croix curves and transitions from an east–west to a north–south alignment. The study area for this TIA includes the street network located within half a mile from the proposed development's access points.

To calculate the No-Build Ultimate traffic volumes along Del Bello Boulevard, we used data from the approved Valencia Development TIA. That TIA's Build condition already incorporated all of the following proposed developments within the study area:

- SLP Tract Development (Phases 1 and 2)
- Bluewater Lakes Development (Phases 1 and 2)
- Del Bello Development (Phases 1 and 2)
- Manvel City Center Complex – Planning Level Traffic Assessment (Phase 2)
- SH 288 and Rodeo Palms Pkwy / Del Bello Boulevard (CSJ 0598-02-111, Phases 1 and 2)
- Valencia Development

Exhibits from the approved Valencia Development TIA, which account for all of the above developments, are included in **Appendix C**.

For the intersection of Croix Road and SH 288, the most recent available counts dated back to 2014 and were considered outdated. However, TCDS provided more recent traffic volume data for all approaches. To estimate current turning movement counts (TMCs), we applied the 2014 turning movement distribution to the TCDS volumes. A growth rate was then applied to estimate 2022 volumes and to project conditions for 2025 and 2027 without the proposed development (Future No-Build -Ultimate Conditions). Traffic Counts Calculation at Croix and SH 288 are presented in **Appendix B**.

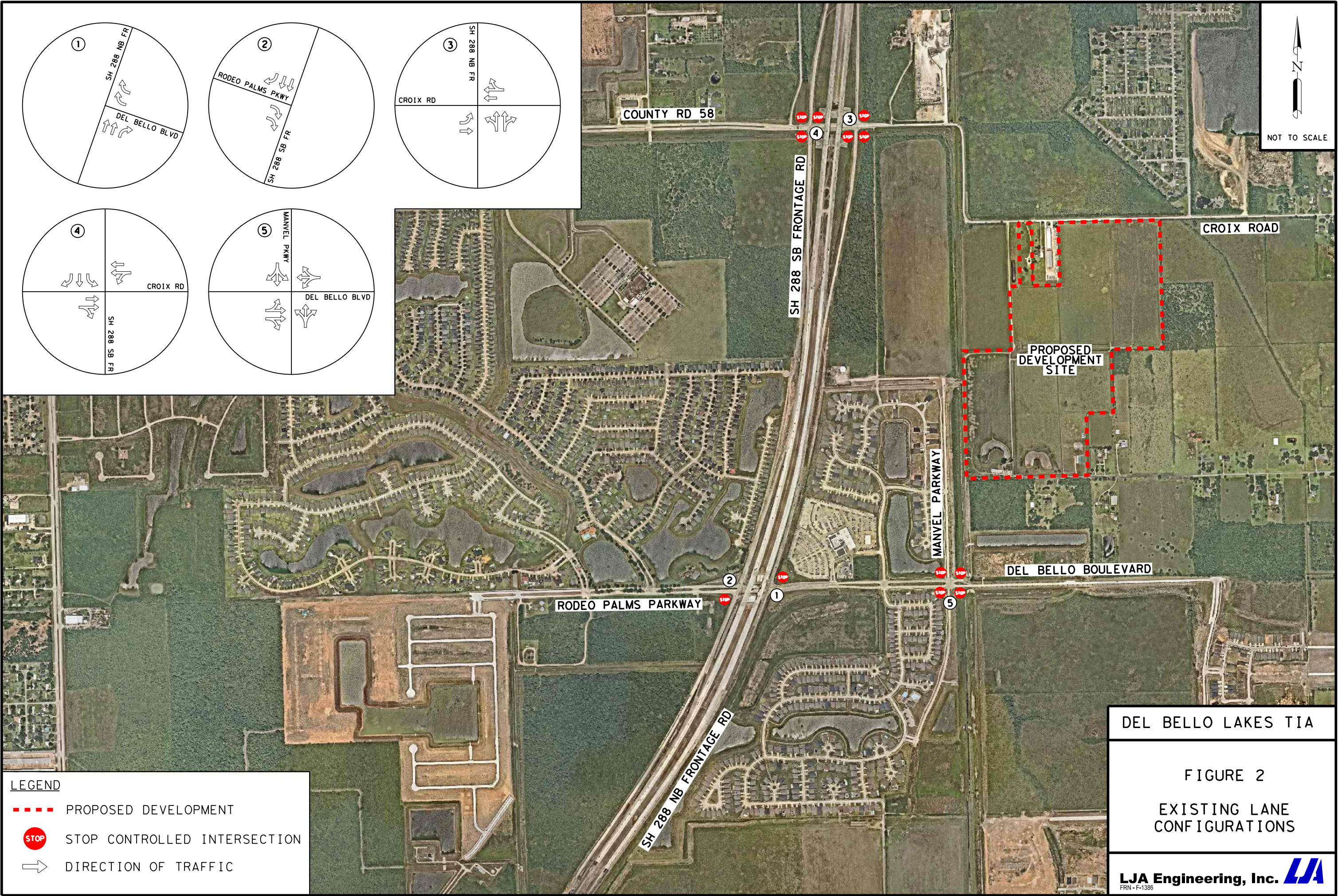


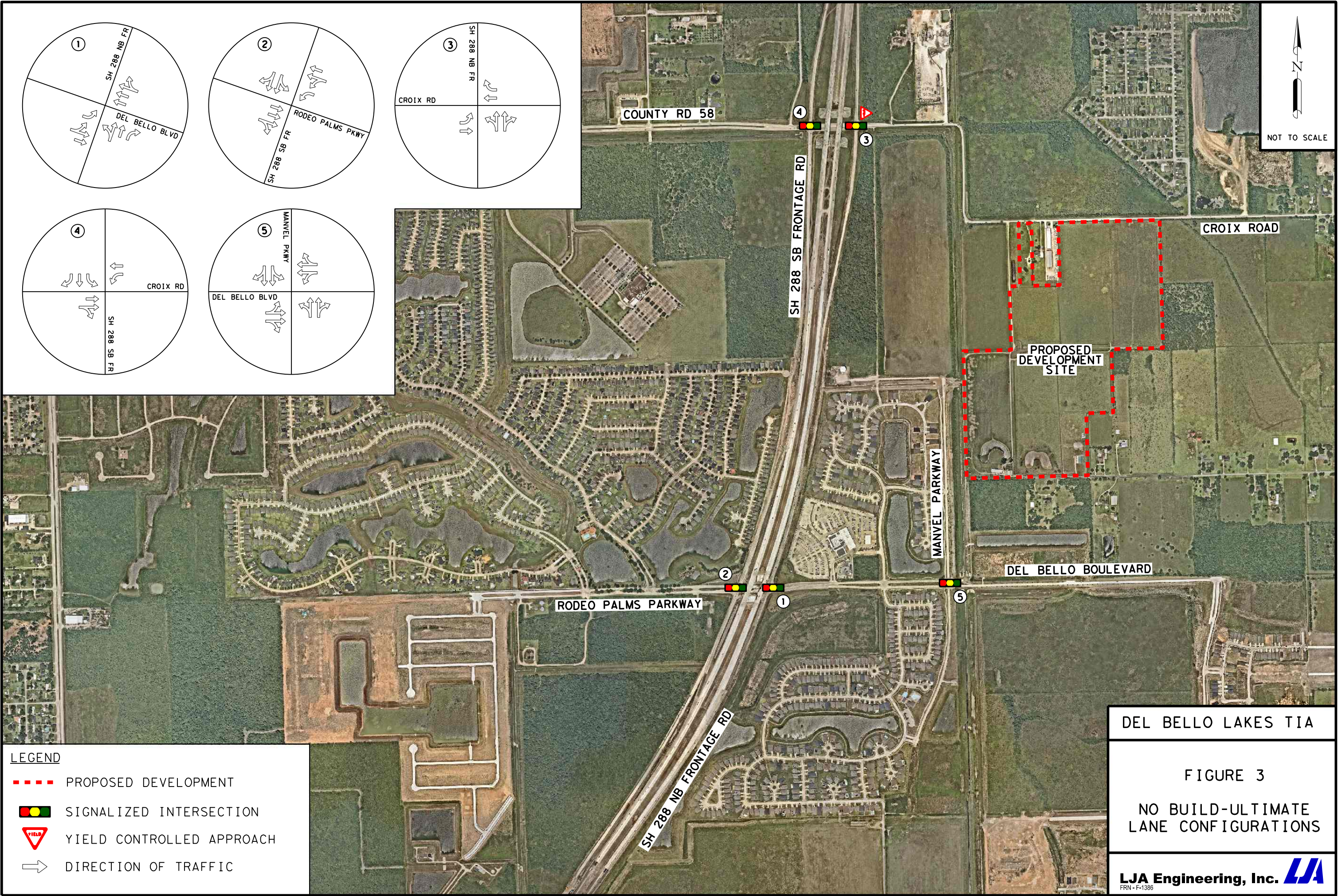
LEGEND

- PROPOSED DEVELOPMENT SITE
- STOP CONTROLLED INTERSECTION

DEL BELLO LAKES TIA

FIGURE 1
EXISTING AREA
CONDITIONS





Methodology

In order to evaluate the traffic impacts of the proposed development on the surrounding street network, future traffic conditions were analyzed without the development's generated traffic but with surrounding background traffic (No Build - Ultimate), and with the development's generated traffic (Build Ultimate). After the future Build Conditions were analyzed, mitigation measures were established in order to address any resulting deficiencies in the performance of the surrounding street network. The AM and PM peak hours were analyzed for each of the No Build -Ultimate, Build - Ultimate, and Mitigated scenarios. A total of six scenarios were analyzed in this TIA:

- 2027 No Build - Ultimate AM Condition
- 2027 No Build - Ultimate PM Condition
- 2027 Build - Ultimate AM Condition
- 2027 Build - Ultimate PM Condition
- 2027 Mitigated AM Condition
- 2027 Mitigated PM Condition

Traffic Growth

While we understand that the overall growth rate for the City of Manvel is approximately 7 percent, the 2 percent rate was applied based on the fact that the Valencia TIA already accounted for all proposed developments within the study area. This growth rate was applied to the calculated 2025 traffic volumes in order to determine the future traffic volumes without the proposed development generated traffic (Future No Build – Ultimate Conditions). It should be noted that the traffic generated by the SLP Tract Development, Bluewater Lake Development, Del Bello Development, Manvel City Center Complex Planning Level TIA and SH 288, Rodeo Palms Pkwy/ Del Bello Boulevard and Valencia Development were already considered in the No Build - Ultimate Condition. The traffic that would be generated by this proposed development was then added to the No Build - Ultimate Conditions to establish the future Build - Ultimate Conditions. **Figure 3 and 4** show the future No Build – Ultimate Lane Configuration and traffic volumes, respectively for year 2027.

Trip Generation

The amount of traffic a proposed development will generate depends on a number of factors including the nature, size, and location of the proposed development. The Trip Generation Manual, 11th Edition which is published by the Institute of Transportation Engineers (ITE) is a compilation of trip generation studies, which have been performed at various sites throughout the United States. Standard engineering practice dictates the use of this manual to determine the amount of entering and exiting traffic a proposed development will generate during the peak hours of traffic by using rates or equations provided in the manual for various types of developments. **Table 1** shows the amount of traffic which will be generated by this proposed development. Trip generation calculations are presented in **Appendix D**.

Table 1: Vehicle Trips Generated by the Proposed Development										
Land Use	ITE	Daily Trips (vpd)			AM Peak Trips (vph)			PM Peak Trips (vph)		
	Code	In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing	210	1,450	1,450	2,900	57	163	220	187	110	296
Totals		1,450	1,450	2,900	57	163	220	187	110	296

The overall proposed development is expected to generate 2,900 daily vehicle trips with 220 vehicle trips during the AM peak hour period and 296 vehicle trips during the PM peak hour period. These traffic volumes were distributed to the surrounding roadway network in accordance to the existing travel patterns within the study area (Refer to the Trip Distribution and Assignment section of this report for generated vehicle percentages and volumes).

Trip Distribution and Assignment

Peak hour trips generated by the proposed development were distributed to the entrances and exits of the surrounding roadway network based on the existing traffic patterns within the study area. Generated traffic volumes were assigned to the study street network according to the routes that provide the shortest travel distance to their corresponding origins/destinations. Vehicle distribution and assignment percentages are presented in **Figure 5**. Generated vehicle trips are presented in **Figure 6**. Generated vehicle trips were then added to the No Build- Ultimate traffic volumes in order to determine the future 2027 Build - Ultimate traffic volumes. **Figure 7** shows the total traffic volumes which are projected within the study area following the completion of this development.

Internal Capture

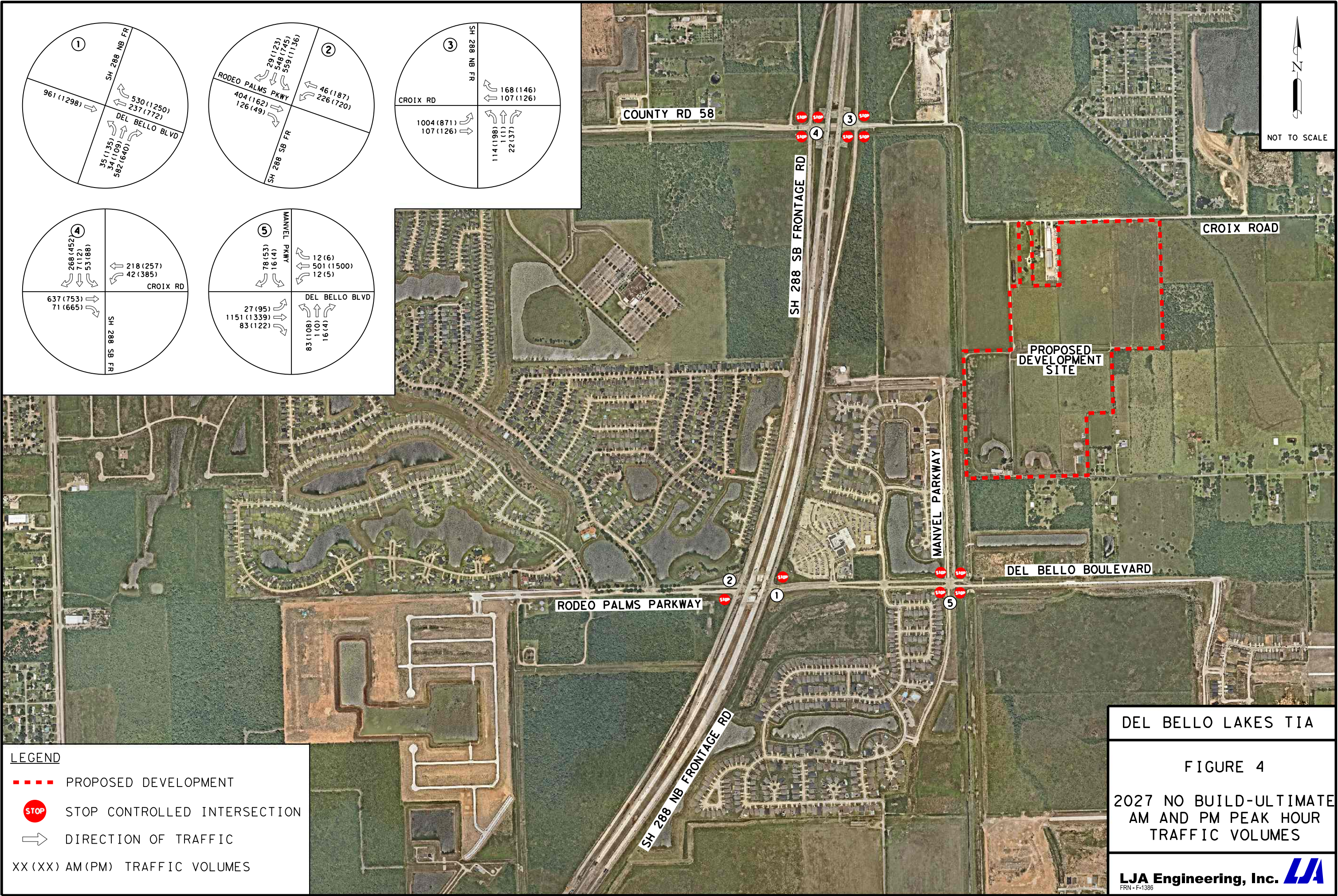
Internal Capture only applies to certain types of developments. These types of developments are presented in the Trip Generation Manual (Volume 1 of 3), 9th Edition which is published by the Institute of Transportation Engineers (ITE). Internal Capture does not apply to this type of development and was not considered in this analysis.

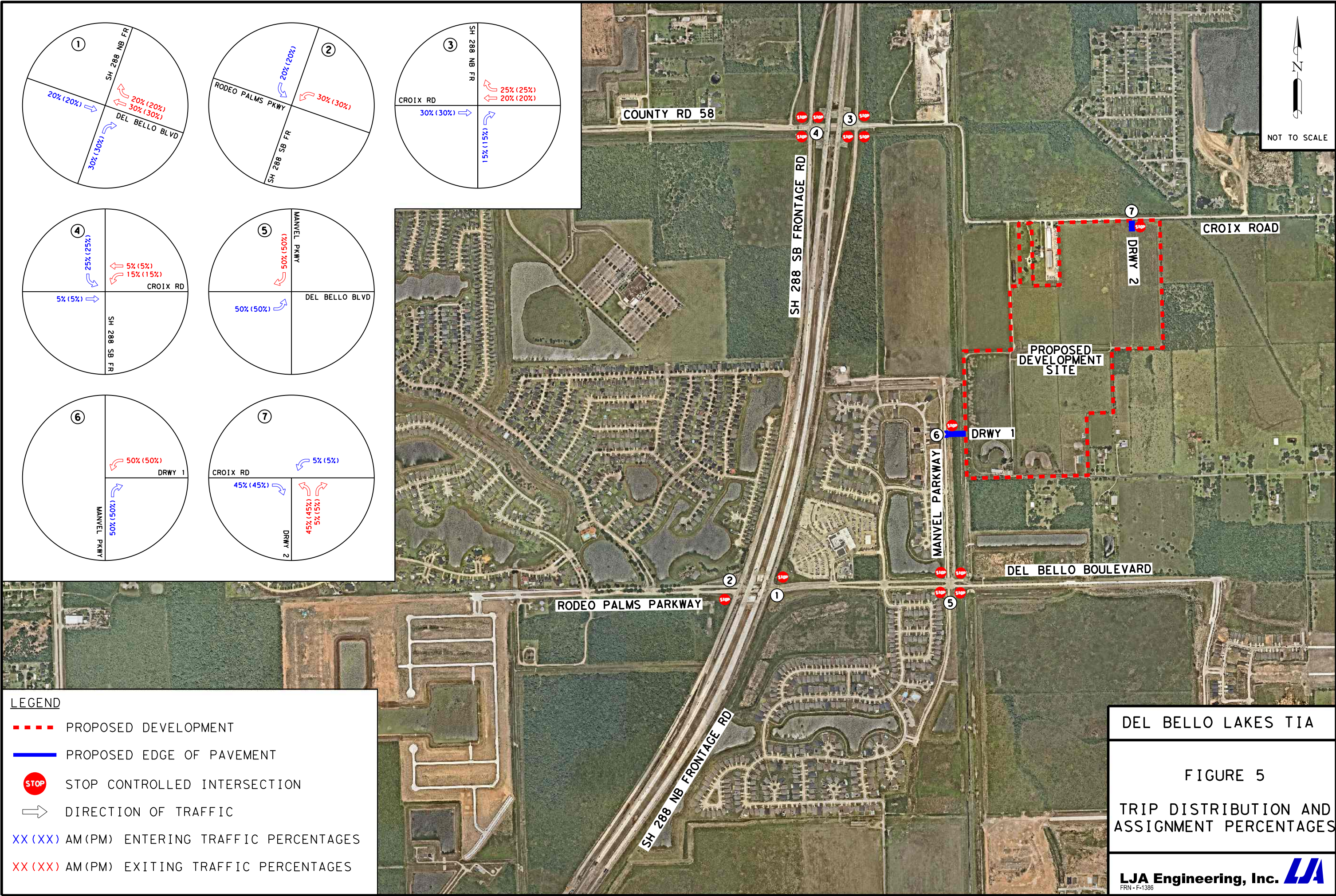
Pass-by Reduction

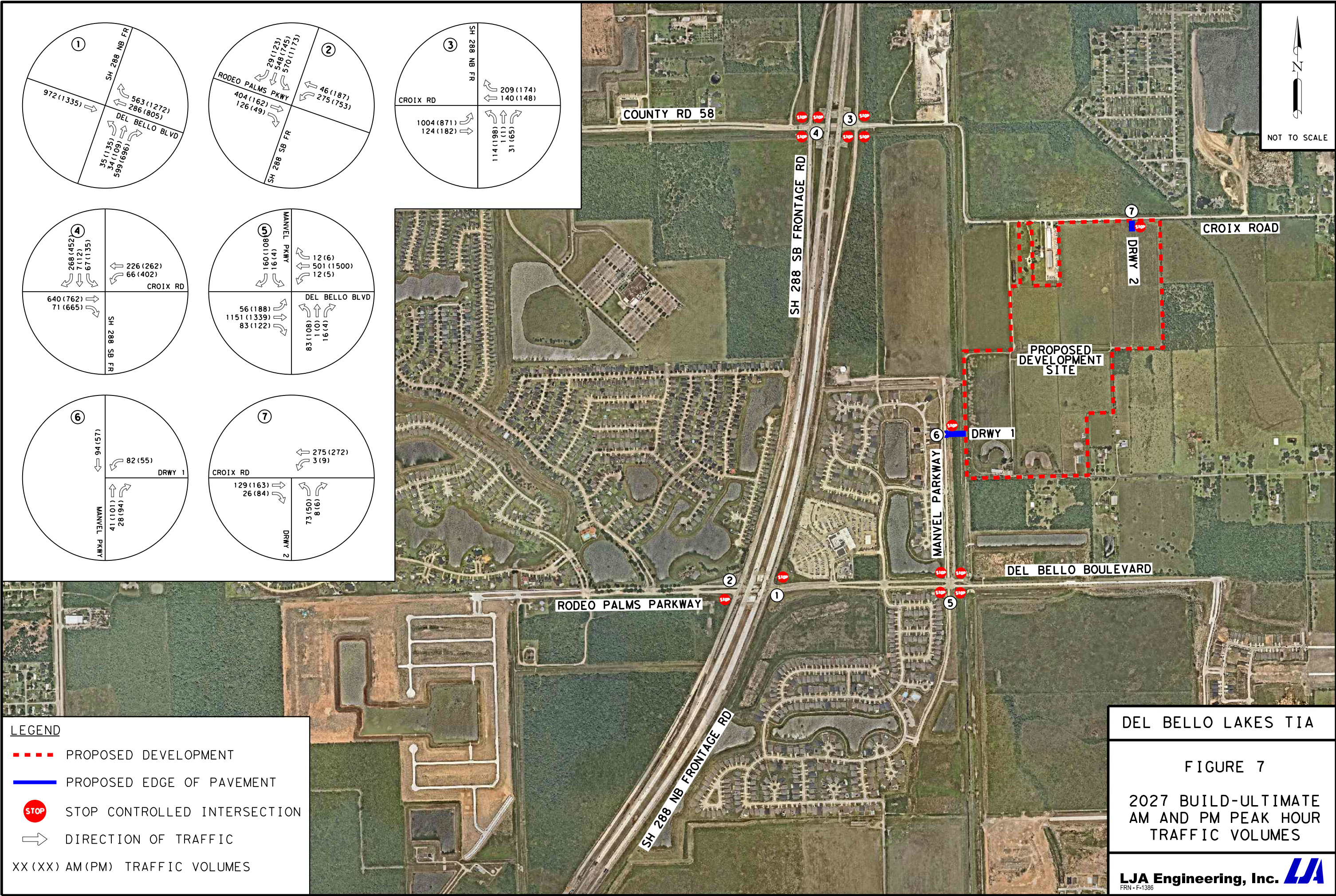
The total external trips of the generated traffic may be reduced by a Pass-By Reduction factor to account for the projected traffic that is already traveling along the roadways adjacent to the proposed development. Pass-by Reduction methodologies are established by the Institute of Transportation Engineers (ITE) and only apply to certain types of development. Pass-by Reduction does not apply to this type of development and was not considered in this analysis.

Modal Split

This study assumed that all existing private vehicular trips would continue to be made as private vehicular trips. In order to be conservative in the determination of the development impacts on the adjacent street network, no credit was taken for mass transit and carpooling.







Intersection Capacity Analysis

The Highway Capacity Manual, 7th Edition (HCM) provides procedures, which are used to evaluate the operations of all types of transportation facilities, including both signalized and unsignalized intersections. These procedures require the input of the intersection geometrics, operational characteristics, as well as the traffic volumes in order to determine the maximum capacity the intersection can handle and to calculate the amount of average delay a driver will experience as they travel through the intersection. Following these procedures, a Level of Service (LOS) is given to each of the controlled movements at an intersection, which is based on the average amount of control delay drivers experience traveling through the intersection. Control delay is the delay experienced by drivers due to the presence of a traffic control device (such as a stop sign, a yield sign, or a traffic signal) and includes the time associated with drivers slowing down as they approach the intersection, the delay associated in traveling through the intersection in the desired direction, as well as the time it takes drivers to accelerate back to their desired speed. There are six Levels of Service, which can be assigned to a controlled movement at an intersection (A through F). The level of service that is given to a lane group is solely based upon the average amount of control delay drivers experience while traveling through the intersection.

Generally, a LOS D or better is considered acceptable. LOS E represents a condition where the demand volume is approaching the maximum capacity for a particular movement or the intersection in general, and a LOS F represents a condition where the demand volume exceeds the capacity. For signalized intersections and all-way stop controlled intersections, a LOS is calculated for each of the lane groups at the intersection, and an overall LOS is calculated by aggregating the delays at the intersection weighted by the traffic volumes. For two-way stop controlled intersections, an overall LOS is not defined, and a LOS is only calculated for the movements, which are controlled with a stop sign, a yield sign, or left turning traffic, which must yield to the opposing conflicting traffic at the intersection. Capacity Analysis results are analyzed in the following sub-sections. **Table 2** shows the criteria for each of the levels of service as listed in the HCM for intersections and intersection lane groups for both unsignalized and signalized intersections.

Table 2: Level of Service Criteria for Intersections and Intersection Lane Groups		
Level of Service	Average Amount of Control Delay (sec/veh)	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	10 – 15	10 – 20
C	15 – 25	20 – 35
D	25 – 35	35 – 55
E	35 – 50	55 – 80
F	> 50	> 80

Capacity Analysis results are presented in the following sub-sections of the report. Complete Capacity Analyses output files are presented in **Appendix E**.

SH 288 NB Frontage Road and Del Bello Boulevard

The intersection of SH 288 NB Frontage Road and Del Bello Boulevard is a currently a stop controlled T-Intersection with a stop control along the westbound approach. The northbound approach consists of two through lanes and one right turn lane. The westbound approach consists of two right turn lanes. Plans for an underpass connection between Rodeo Palms Pkwy and Del Bello Boulevard is an upcoming construction, therefore these plans were considered for No Build - Ultimate and Build -Ultimate conditions. The southbound approach will consist of one shared left/through lane and one shared through/right lane. The eastbound approach consists of two through lanes and one shared through/right lane. The westbound approach consists of one through lane, one shared left/through lane and one left turn lane. The Valencia TIA assumed this intersection would be signalized, and accordingly, this study also assumes it will be signalized prior to the completion of the proposed development. **Table 3** provides the summary of MOEs at this intersection for the AM and PM peak hours.

Table 3: Summary of MOEs at SH 288 NB Frontage Rd and Del Bello Blvd/Rodeo Palms Dr - Delay(sec)/LOS				
Roadway	Del Bello Blvd/ Rodeo Palms Dr		SH 288 NB Frontage	Intersection
Lane Group	EB	WB	NB	
2027 No Ultimate Build AM	26.6/C	17.9/B	43.5/D	28.4/C
2027 No Ultimate Build PM	61.3/E	51.6/D	68.5/E	58.2/E
2027 Ultimate Build AM	27.8/C	18.2/B	44.9/D	29.1/C
2027 Ultimate Build PM	72.8/E	70.3/E	79.8/E	73.1/E

With the completion of all proposed developments included in the Valencia TIA and the installation of a traffic signal at this intersection, the PM peak level of service (LOS) is projected to operate at LOS E. The addition of traffic from the Del Bello Development does not further degrade the overall intersection LOS, which remains at E; therefore, no mitigation is required at this intersection.

SH 288 SB Frontage Rd and Rodeo Palms Pkwy

The intersection of SH 288 SB Frontage Rd and Rodeo Palms Pkwy is currently a one-way stop controlled T-intersection with the stop control along the eastbound approach. The eastbound approach consists of one right turn lane. The southbound approach consists of two through lanes and one right turn lane. Plans for an underpass connection between Rodeo Palms Pkwy and Del Bello Boulevard is an upcoming construction, therefore these plans were considered for No Build - Ultimate and Build conditions. The northbound approach consists of one shared left/through lane, one through lane, and one right turn lane. The eastbound approach consists of one left turn lane, one shared left/through lane, and one through lane. The westbound approach consists of one shared through/right lane, and two through lanes. The Valencia TIA assumed this intersection would be signalized, and accordingly, this study also assumes it will be signalized prior to the completion of the proposed development. **Table 4** provides the summary of MOEs at this intersection for the AM and PM peak hours.

Table 4: Summary of MOEs at SH 288 SB Frontage Rd and Del Bello Blvd/Rodeo Palms Dr - Delay(sec)/LOS				
Roadway	Del Bello Blvd/ Rodeo Palms Dr		SH 288 SB Frontage	Intersection
Lane Group	EB	WB	SB	
2027 No Ultimate Build AM	31.6/C	26.2/C	12.0/B	19.3/B
2027 No Ultimate Build PM	54.9/D	57.5/E	61.9/E	60.1/E
2027 Ultimate Build AM	31.3/C	23.4/C	14.0/B	20.1/C
2027 Ultimate Build PM	58.8/E	62.8/E	69.3/E	66.7/E

With the completion of all proposed developments included in the Valencia TIA and the installation of a traffic signal at this intersection, the PM peak level of service (LOS) is projected to operate at LOS E. The addition of traffic from the Del Bello Development does not further degrade the overall intersection LOS, which remains at E; therefore, no mitigation is required at this intersection.

SH 288 NB Frontage Road and Croix Road

The intersection of SH 288 Northbound Frontage Road and Del Bello Boulevard is currently an all-way stop-controlled intersection. The northbound approach consists of one through lane and one shared through/right-turn lane. The westbound approach includes one through lane and one shared through/right-turn lane, while the eastbound approach has an exclusive left-turn lane and one through lane. LJA is currently coordinating with TxDOT and a separate client to signalize this intersection. The traffic signal has already been approved under TR24020061, and it is assumed the signal will be in place by 2027. The approved signalization plans include the addition of a westbound right-turn lane to the existing configuration described above. Signal plans are presented in **Appendix G**. **Table 5** provides the summary of MOEs at this intersection for the AM and PM peak hours.

Table 5: Summary of MOEs at SH 288 NB Frontage Rd and Croix Rd - Delay(sec)/LOS				
Roadway	Croix Rd		SH 288 NB Frontage	Intersection
Lane Group	EB	WB	NB	
2027 No Ultimate Build AM	40.6/D	44.7/D	53.9/D	42.5/D
2027 No Ultimate Build PM	45.4/D	33.0/C	39.6/D	42.2/D
2027 Ultimate Build AM	40.2/D	45.8/D	45.8/D	53.9/D
2027 Ultimate Build PM	50.0/D	34.1/C	39.0/D	45.1/D

This intersection is expected to operate at an acceptable level with the proposed traffic signal, which is being constructed as part of a separate LJA project. Therefore, no additional mitigation is required. Approved Signal plans are presented in **Appendix G**.

SH 288 SB Frontage Road and Croix Road

The intersection of SH 288 Northbound Frontage Road and Del Bello Boulevard is currently an all-way stop-controlled intersection. The southbound approach consists of one through lane and one exclusive right and one exclusive left turn lanes. The eastbound approach has one through lane and one shared through/right turn lane. The westbound approach includes one through lane and one shared through/right turn lane and one exclusive left turn lane. LJA is currently coordinating with TxDOT and a separate client to signalize this intersection. The traffic signal has already been approved under TR24020061, and it is assumed the signal will be in place by 2027. Signal plans are presented in **Appendix G**. **Table 6** provides the summary of MOEs at this intersection for the AM and PM peak hours.

Table 6: Summary of MOEs at SH 288 SB Frontage Rd and Croix Rd - Delay(sec)/LOS				
Roadway	Croix Rd		SH 288 NB Frontage	Intersection
Lane Group	EB	WB	SB	
2027 No Ultimate Build AM	5.6/A	7.6/A	32.4/C	12.8/B
2027 No Ultimate Build PM	25.8/C	29.8/C	33.0/C	28.3/C
2027 Ultimate Build AM	6.1/A	6.9/A	32.9/C	13.1/B
2027 Ultimate Build PM	28.5/C	35.4/D	33.3/C	31.3/C

This intersection is expected to operate at an acceptable level with the proposed traffic signal, which is being constructed as part of a separate LJA project. Therefore, no additional mitigation is required. Approved Signal plans are presented in **Appendix G**.

Del Bello Blvd and Manvel Pkwy

The intersection of Del Bello Blvd and Manvel Pkwy currently is a all-way stop controlled intersection. The northbound and southbound approaches consist of one shared left/through/right lane. The eastbound and westbound approaches consist of one shared left/through lane and one shared through/right lane.

The Manvel City Center Complex Planning Level Traffic Assessment recommends that this intersection be signalized and a northbound and southbound left turn lane to be constructed when the Manvel City Center Complex development is completed. Therefore, these improvements were included as part of the 2027 No Build – Ultimate and 2027 Build -Ultimate conditions. **Table 7** provides the summary of the MOEs at this intersection for the AM and PM peak hours.

Table 7: Summary of MOEs at Manvel Pkwy and Del Bello Blvd - Delay(sec)/LOS					
Roadway	Del Bello Blvd		Manvel Pkwy		Intersection
Lane Group	EB	WB	NB	SB	
2027 No Ultimate Build AM	14.2/B	8.5/A	14.7/B	13.3/B	12.6/B
2027 No Ultimate Build PM	52.2/D	7.4/A	54.9/D	49.9/D	31.4/C
2027 Ultimate Build AM	14.9/B	8.3/A	17.4/B	15.8/B	13.5/B
2027 Ultimate Build PM	85.7/F	5.2/A	62.7/E	74.4/E	48.6/D
2027 Mitigation PM	40.6/D	12.0/B	53.6/D	49.7/D	28.5/C

With the completion of all proposed developments included in the Valencia TIA, the Del Bello Development, and the installation of a traffic signal at this intersection, the PM peak level of service (LOS) is projected to operate at LOS F on the eastbound approach and LOS E on the southbound approach. Adding an eastbound left-turn lane would improve operations, bringing all approaches—and the overall intersection—to acceptable LOS levels.

Manvel Pkwy and Driveway 1

The intersection of Manvel Pkwy and Driveway 1 would be a one way stop controlled T-intersection with stop control sign along the westbound approach. The northbound approach would consist of one shared through/right turn lane, the southbound approach would consist of one shared through/left turn lane and the westbound approach would consist of one shared right/left turn lane.

Table 8: Summary of MOEs at Manvel Pkwy and Driveway 1 - Delay(sec)/LOS	
Roadway	Driveway 1
Lane Group	WB
2027 Ultimate Build AM	9.9/A
2027 Ultimate Build PM	10.2/B

The intersection is expected to operate at an acceptable level of service (LOS) with the proposed development.

Croix Road and Driveway 2

The intersection of Croix Road and Driveway 2 would be a one way stop controlled T-intersection with stop control sign along the northbound approach. Eastbound approach would consist of one shared through/right turn lane, the westbound approach would consist of one shared through/left turn lane and the northbound approach would consist of one shared right/left turn lane **Table 9** provides the summary of MOEs at this intersection for the AM and PM peak hours.

Table 9: Summary of MOEs at Croix Rd and Driveway 2- Delay(sec)/LOS		
Roadway	Croix Rd	Driveway 2
Lane Group	WB	NB
2027 Ultimate Build AM	0.08/A	12.3/B
2027 Ultimate Build PM	0.25/A	12.8/B

The intersection is expected to operate at an acceptable level of service (LOS) with the proposed development.

Right Turn Lane Analysis

Right and Left Turn Lane Analyses were completed for the proposed and existing intersections in accordance with the National Cooperative Highway Research Program (NCHRP) 475 requirements for right turn deceleration lanes and for left turn deceleration lanes. **Appendix F** provides calculated traffic volumes and the right and left turn lanes criteria. This analysis determined that eastbound right turn lane warrants along Croix Road at Driveway 2. The following right and left turn lanes are recommended. **Table 10** summarizes the analysis results at two study intersections.

Table 10: Summary Turn Lane Analysis		
Intersections	Left Turn Lane Warranted	Right Turn Lane Warranted
Croix Road at Driveway 2	No	Yes
Manvel Parkway at Driveway 1	No	No

Conclusion

This report presents the summary of findings for the Traffic Impact Analysis (TIA) prepared by LJA Engineering, Inc. (LJA) for the proposed Del Bello Lakes Development in Manvel, Texas. This proposed development will consist of 315 single-family detached houses. The development site is located south of Croix Road, east of Manvel Parkway, and north of Del Bello Boulevard. Construction for this development is expected to be completed in 2027, therefore the study horizon for this TIA is year 2027. The objective of this study is to analyze the impacts of the traffic generated by the proposed development on the performance of the surrounding street network and to determine the required mitigation measures to address any resulting deficiencies.

Access to the development will be provided via two driveways. Driveway 1 is located along Manvel Parkway, approximately 1,600 feet north of Del Bello Boulevard. Driveway 2 is located along Croix Road, approximately 1,970 feet east of the point where Croix curves and transitions from an east–west to a north–south alignment. The study area for this TIA includes the street network located within half a mile from the proposed development’s access points.

Due to the nature of this development and the traffic conditions within the study area, only the weekday AM and the weekday PM peak hour periods were analyzed in this TIA. The overall proposed development is expected to generate 2,900 daily vehicle trips with 220 vehicle trips during the AM peak hour period and 296 vehicle trips during the PM peak hour period.

Given the current limitations in obtaining recent traffic counts—and considering that this area is rapidly developing with several approved or ongoing TIAs, along with major nearby intersections either under construction or having approved plans for future signals and improvements—existing conditions were not analyzed as part of this TIA. Instead, the focus of this study is on the No-Build Ultimate conditions, which reflects anticipated future development and infrastructure improvements in the area.

For the intersection of Del Bello Boulevard and SH 288 and Manvel Boulevard and Del Bello Boulevard, data provided by the Valencia Development TIA were utilized. At the intersection of Croix Road and SH 288, the most recent available counts were from 2014 and considered outdated. However, TCDS provided traffic volume data for all approaches at this intersection. To estimate current turning movement counts (TMCs), the 2014 turning movement distribution was applied to the TCDS volumes. The growth rate was then applied to the estimated 2022 volumes to project traffic conditions for 2027 without the proposed development (Future No Build

Conditions). The traffic expected to be generated by the proposed development was subsequently added to the No Build Conditions to determine the Future Build Conditions.

Right Turn Lane Analyses was completed for the proposed driveway in accordance with the National Cooperative Highway Research Program (NCHRP) 475 requirements for right and left turn deceleration lanes. Based on the analysis, an exclusive right-turn lane on eastbound approach of Croix Road and Driveway 2 intersection is warranted at opening year 2027. Therefore, LJA recommend installing an eastbound right-turn lane with 100 feet storage length, 340 feet deceleration length and 100 feet taper at Croix Road and Driveway 2 intersection when constructing Access Roadway 1.

Intersection Capacity Analyses were completed for major intersections within the study area. Mitigation measures for this TIA require that when the LOS without development is LOS A, B, C or D, the minimum acceptable projected LOS shall be LOS D, and when the LOS without development is LOS E or F, the minimum acceptable projected LOS shall be equal to the LOS without development.

The results of this analysis indicate that construction of an eastbound left-turn lane along Del Bello Boulevard at its intersection with Manvel Parkway will be necessary to accommodate traffic generated by the proposed Del Bello Lakes Development. It should be noted that this analysis also considered traffic from the SLP Tract Development, Bluewater Lakes Development, Del Bello Development, Manvel City Center Complex Planning-Level TIA, SH 288 and Rodeo Palms Parkway/Del Bello Boulevard improvements, and the Valencia Development. The need for the eastbound left-turn lane is therefore dependent not only on the Del Bello Lakes Development, but also on the cumulative impact of these other developments.

Recommendations

The improvement that will be required to successfully accommodate the traffic that will be generated by the proposed Del Bello Lakes Development is listed below:

- Construct an eastbound right turn lane along Croix Road at its intersection with Driveway 2. This right turn lane should include 140 feet storage length and 100 feet taper.
- Construct an eastbound left turn lane along Del Bello Blvd at its intersection with Manvel Pkwy. This left turn lane should include 315 feet storage length and 100 feet taper

References

1. Highway Capacity Manual 7th Edition, Transportation Research Board, National Research Council, Washington D.C., 2018.
2. TxDOT Access Management Manual, Texas Department of Transportation, July 2011
3. Trip Generation Manual, 2017 11th Edition, Institute of Transportation Engineers
4. A Policy on Geometric Design of Highways and Streets, 7th Edition, 2018, American Association of State Highway and Transportation Officials

Appendix A

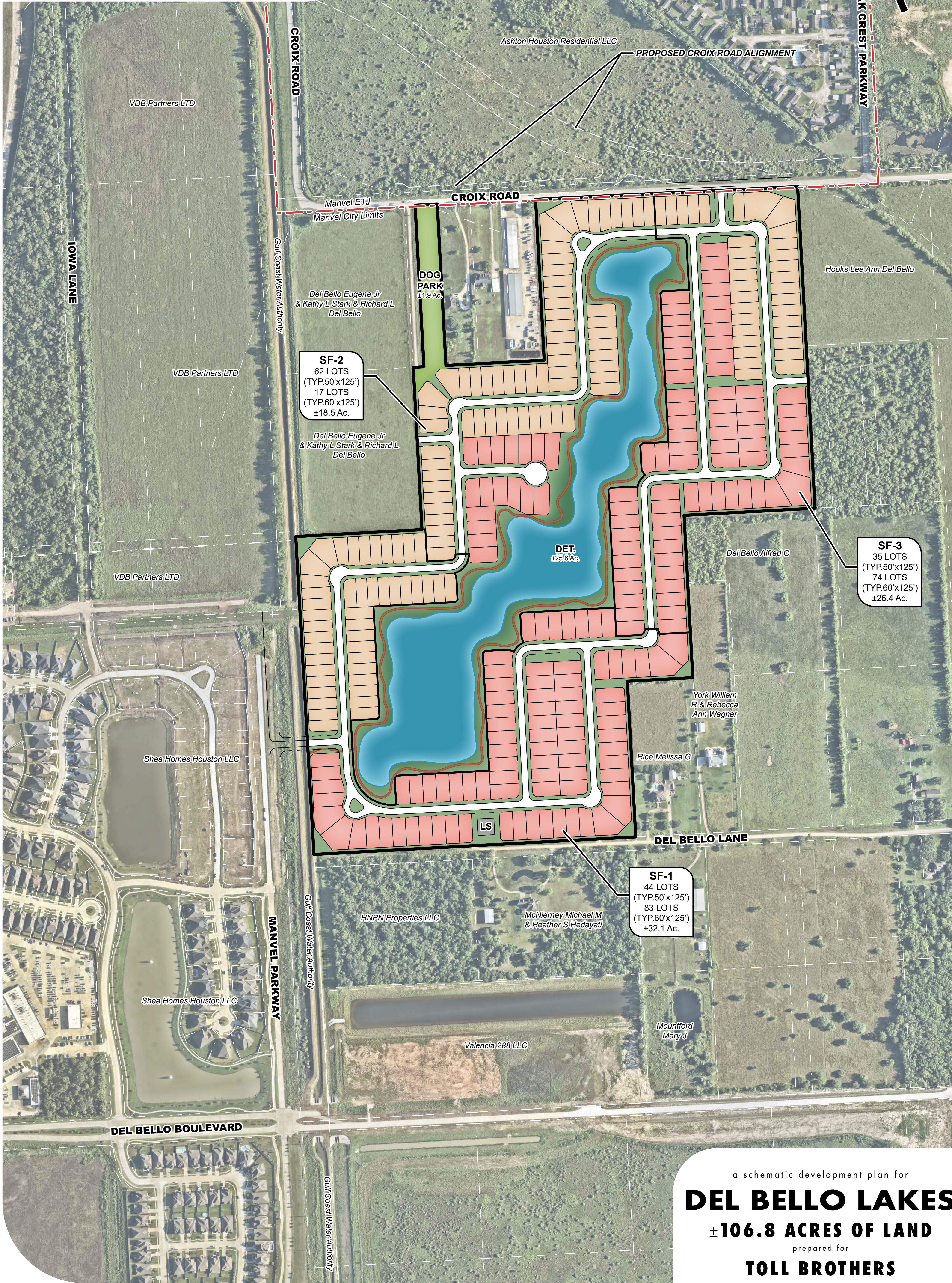
Proposed Site Plan

LOT SUMMARY

50'x125'	141 LOTS	45 %
60'x125'	174 LOTS	55 %

TOTAL 315 LOTS

*APPROXIMATELY 8,021 LF OF TRAILS



a schematic development plan for

DEL BELLO LAKES

±106.8 ACRES OF LAND

prepared for

TOLL BROTHERS

META
PLANNING + DESIGN

24285 Katy Freeway, Ste. 525
Katy, Texas 77494
Tel: 281-810-1422

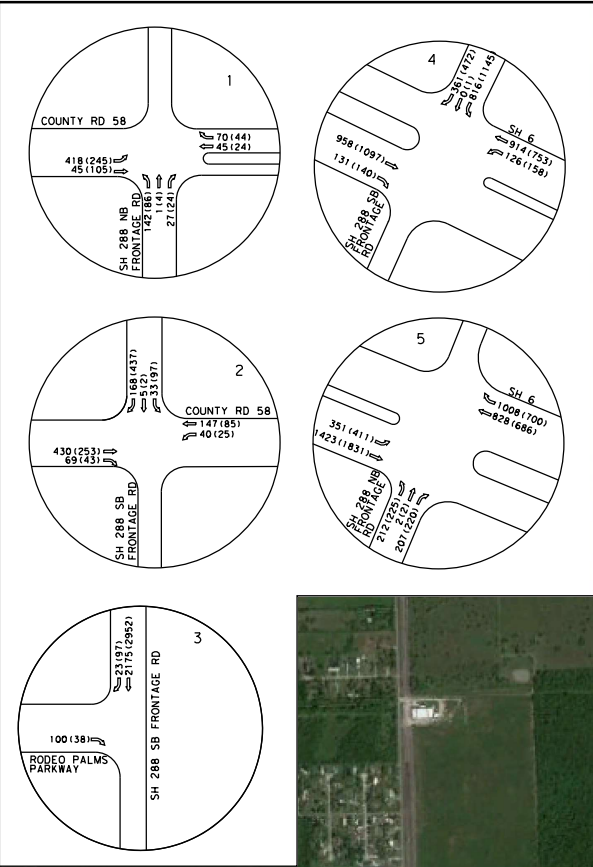
SCALE
0 100 200 400

MTA-09301F
FEBRUARY 26, 2025

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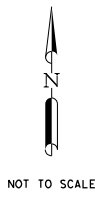
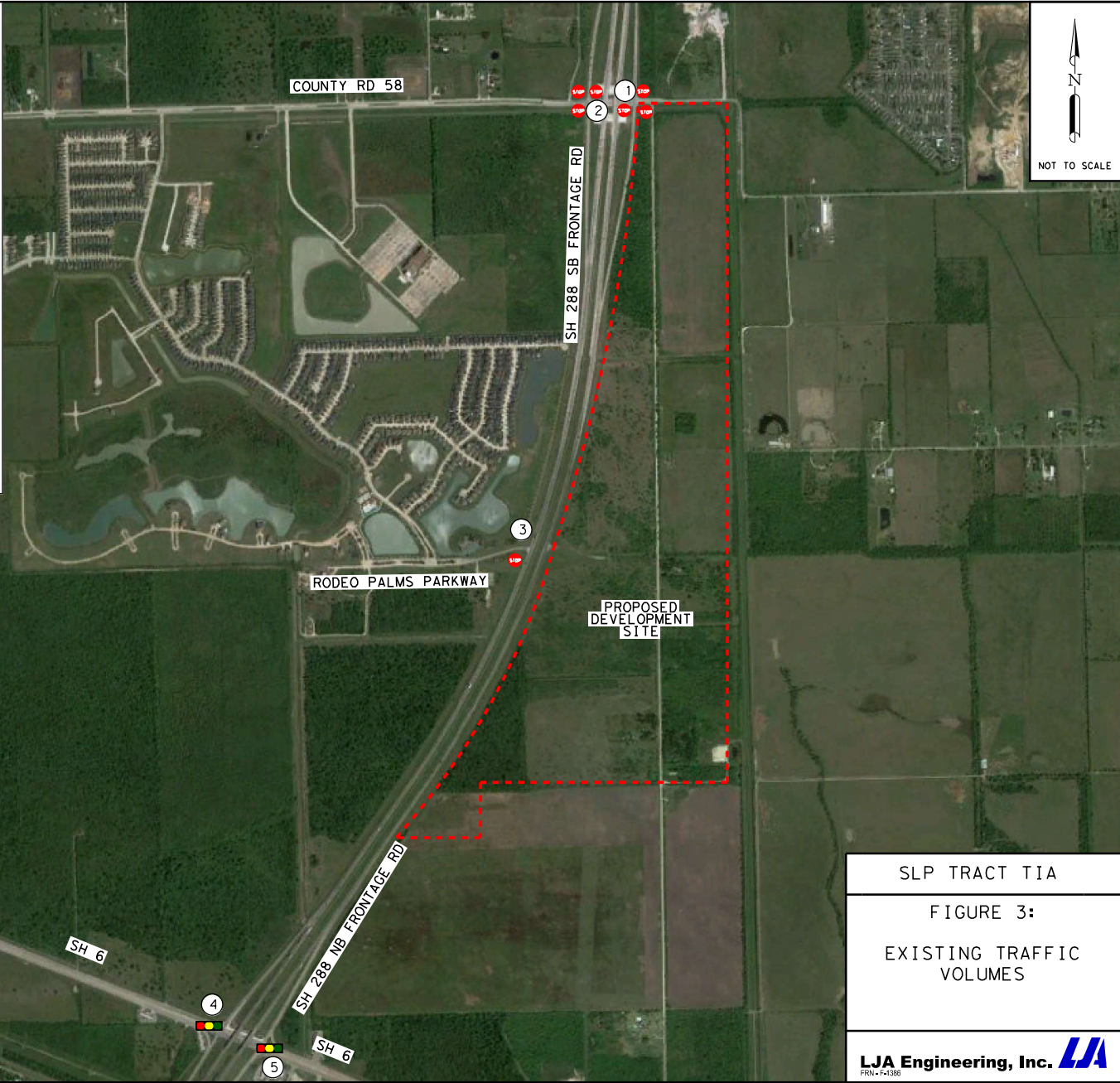
Appendix B

Traffic Counts Calculation at Croix and SH 288



LEGEND

- PROPOSED DEVELOPMENT SITE
- SIGNALIZED INTERSECTION
- STOP STOP CONTROLLED INTERSECTION
- ↑ DIRECTION OF TRAFFIC
- xxx (xxx) AM (PM) TRAFFIC VOLUMES



SLP TRACT TIA

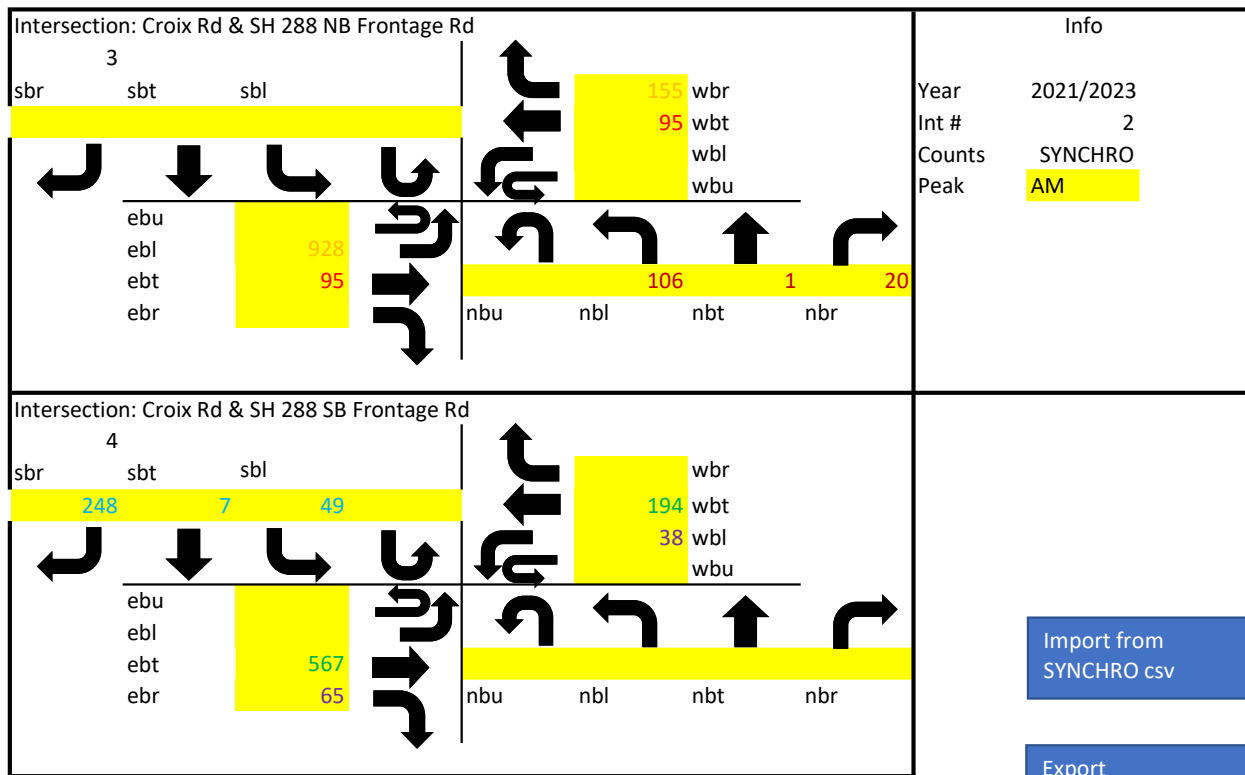
FIGURE 3:
EXISTING TRAFFIC VOLUMES

LJA Engineering, Inc.

PRN-141385

Intersection: Croix Rd & SH 288 NB Frontage Rd 3	Info Year 2014 Int # 2 Counts SYNCHRO Peak PM
Intersection: Croix Rd & SH 288 SB Frontage Rd 4	Copy Intersections Import from SYNCHRO csv Export

Next Sheet



Import from SYNCHRO csv

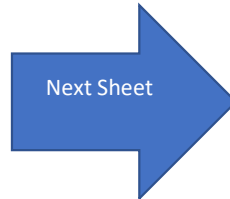
Export

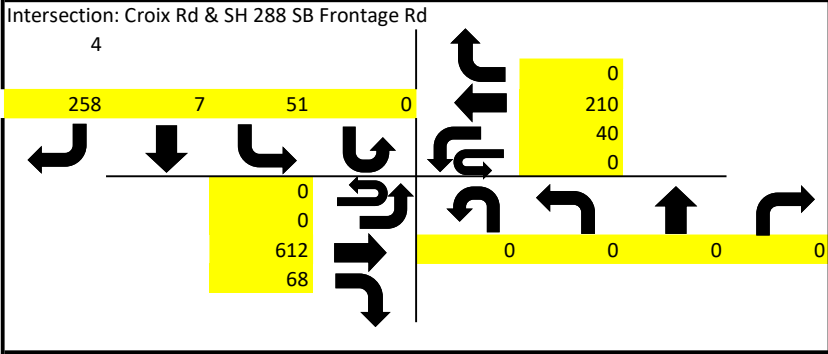
Intersection 3:

Location ID:	Relevant Movements:	Historical (2014) Volume Distribution:	TCDS Peak Hour Volume:
EB & WB: 2021	,WBT,WBR,EBT,NBR	187	393
NB1 : 8, 2023	,NBL,NBT,NBR	170	127
NB2 : 6, 2023	,EBL,WBR,NBT	489	1086

Intersection 4:

EB & WB: 2021	,EBT,EBR,WBT,SBR	814	1073
SB1 : 5, 2023	,SBL,SBT,SBR	206	304
SB2 : 7, 2023	,EBR,WBL,SBT	114	108





Next Sheet

Intersection: Croix Rd & SH 288 NB Frontage Rd

3

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08371210

014012100

0190136

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Info

Year2025

of Int2

Growth Rate2.0%

PeakPM

Extra Volumes From:Background PM

Intersection: Croix Rd & SH 288 SB Frontage Rd

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43412850

00724639

02473700

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↵

Copy Existing

No Build Vols - EXP

Add Extra/Backg round

Export

Next

Growth Rate: 2%

Volume Count Report

LOCATION INFO

Location ID	20UR25
Type	SPOT
Fract Class	5
Located On	CR0000
Loc On Alias	020AA058
Direction	2-WAY
County	Gracoria
Community	
MPO ID	15
HPMS ID	ASSIGNED
Agency	Texas DOT

INTERVAL-15 MIN

Time	15 min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	1	4	4	3	12
1:00-2:00	1	1	3	4	9
2:00-3:00	3	2	5	4	14
3:00-4:00	6	5	8	19	38
4:00-5:00	25	19	16	16	76
5:00-6:00	22	28	41	38	129
6:00-7:00	61	53	72	83	249
7:00-8:00	161	112	103	77	353
8:00-9:00	161	93	71	61	326
9:00-10:00	87	83	56	63	269
10:00-11:00	86	83	66	58	271
11:00-12:00	87	87	77	81	312
12:00-13:00	91	90	64	73	320
13:00-14:00	78	89	86	94	347
14:00-15:00	89	73	90	82	342
15:00-16:00	81	78	119	94	362
16:00-17:00	99	85	89	81	364
17:00-18:00	85	131	152	111	469
18:00-19:00	84	82	64	68	278
19:00-20:00	58	67	42	48	210
20:00-21:00	36	44	42	32	154
21:00-22:00	24	15	26	24	91
22:00-23:00	31	12	11	14	68
23:00-24:00	8	6	8	4	26
Total					5,174
AADT					4,944
AM Peak					07:00-08:00 353
PM Peak					17:00-18:00 469

Count Navigation: [\[<<\]](#) [\[<\]](#) [\[>\]](#) [\[>>\]](#) Count Type: VOLUME

Directions: 2-WAY

[View Calendar](#)

[View in Excel](#)

[Bar Graph](#)

[Line Graph](#)

[Weekly Report](#)

[Hourly Volume by Lane](#)

Google

Enter Address

Locate

Tools

South Fwy

286

South Fwy

286

Croix Rd

286

Croix Rd

286

Croix Rd

53

Croix Rd

53

4,944 (21)

Google

Keyboard shortcuts

Map data ©2025 Google

20 m

Terms

Report a map error

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Volume Count Report

LOCATION INFO

Location ID	20RP20018
Type	GPOT
Freight Class	7
Located On	SH8700
Loc On Alias	SH8700-K03
Direction	RAMP
County	Stratton
Community	Manvel
MPQ ID	15
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO

Count Status	Accepted
Holiday	No
Start Date	Mon 2/27/2023
End Date	Tue 2/28/2023
Start Time	12:30:00 PM
End Time	12:30:00 PM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	
Latitude/Longitude	29.512211, -95.386517

INTERVAL: 15 MIN

Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	2	1	0	1	4
1:00-2:00	2	0	0	1	3
2:00-3:00	0	1	0	0	1
3:00-4:00	1	0	2	1	4
4:00-5:00	0	2	2	3	7
5:00-6:00	2	4	6	8	20
6:00-7:00	10	15	18	23	66
7:00-8:00	29	37	40	21	127
8:00-9:00	28	37	26	26	111
9:00-10:00	21	25	19	21	86
10:00-11:00	30	17	23	25	95
11:00-12:00	24	20	27	23	94
12:00-13:00	24	29	25	28	106
13:00-14:00	24	21	19	21	85
14:00-15:00	17	23	21	24	85
15:00-16:00	22	26	30	32	110
16:00-17:00	40	31	42	24	147
17:00-18:00	38	31	28	30	127
18:00-19:00	27	25	23	18	93
19:00-20:00	20	19	17	13	69
20:00-21:00	15	11	10	9	45
21:00-22:00	7	4	3	7	21
22:00-23:00	8	5	4	6	23
23:00-24:00	5	4	3	3	15
Total					1,534
AADT					1,579
AM Peak					06:45-07:45 125
PM Peak					16:00-17:00 147

Count Navigations:

Loc

←

→

...

Count Type: VOLUME

Directions: RAMP

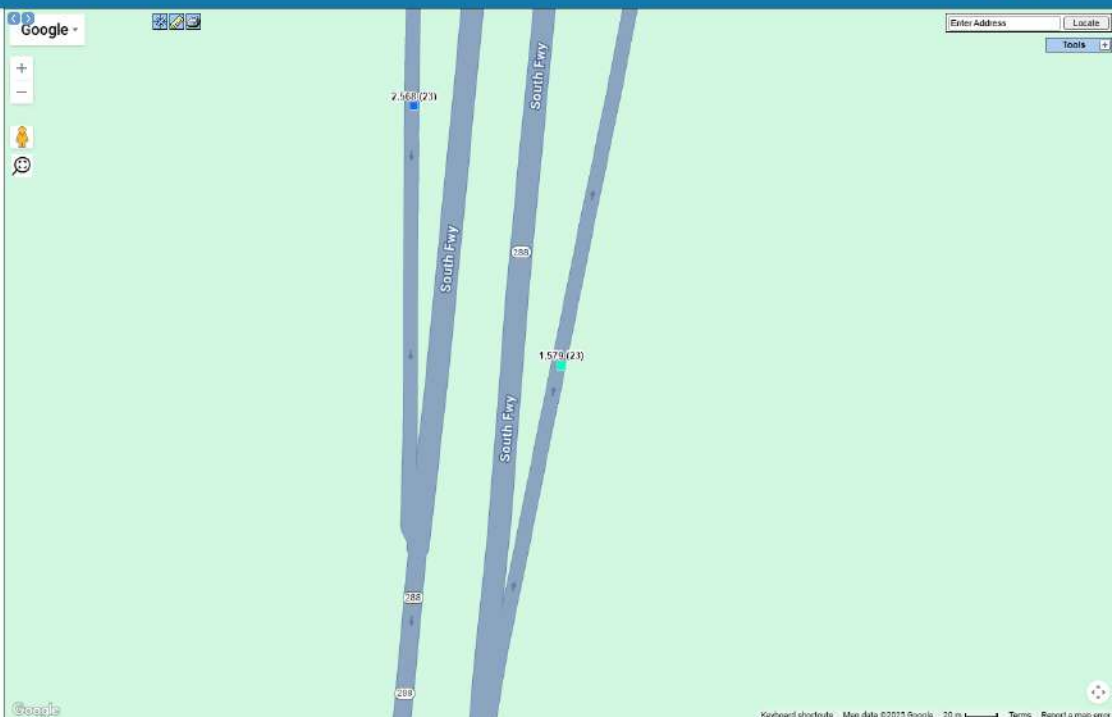
View Calendar

View in Excel

Bar Graph

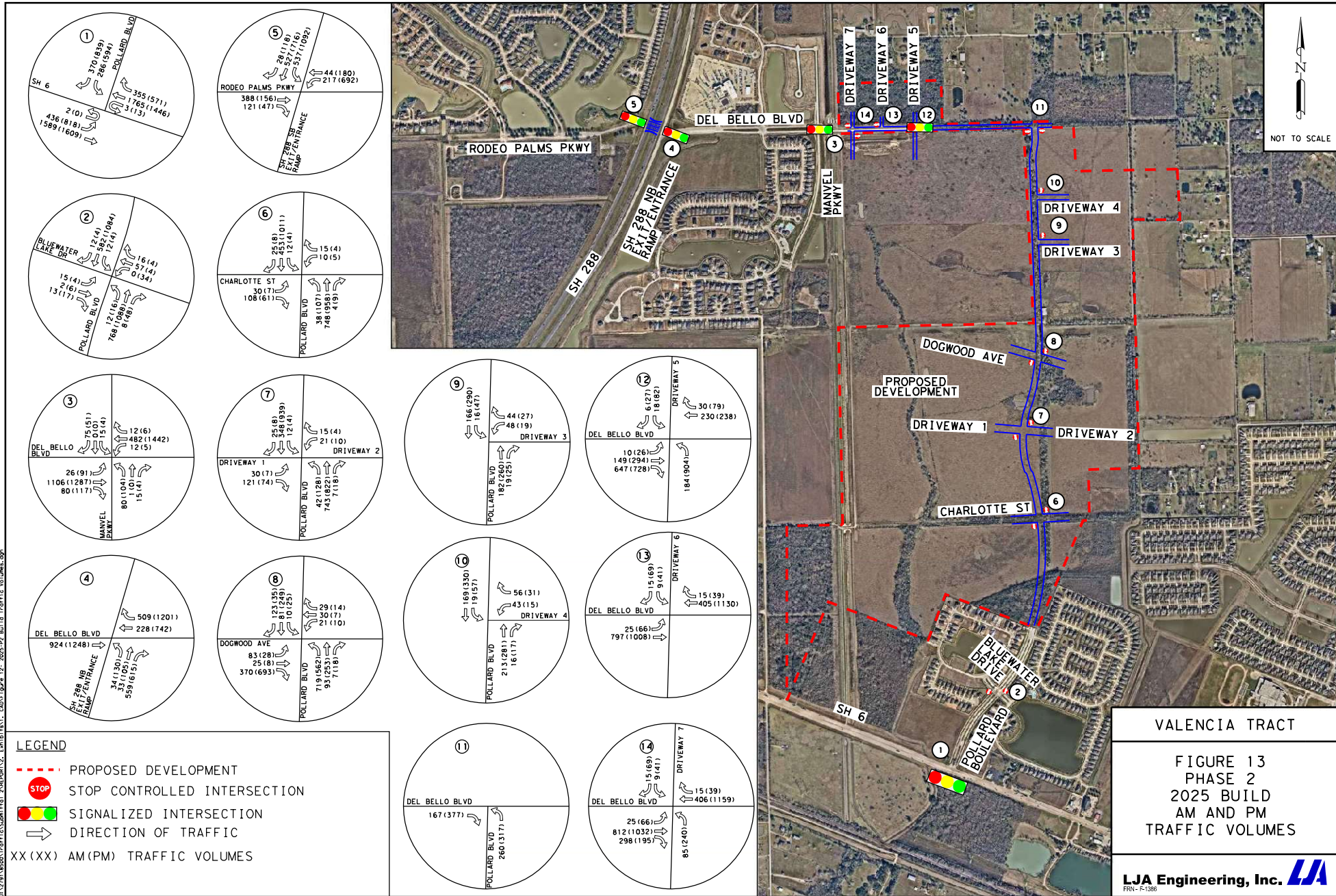
Line Graph

Weekly Report



Appendix C

Traffic Counts Calculation at Del Bello and SH-288



VALENCIA TRACT

FIGURE 13
PHASE 2
2025 BUILD
AM AND PM
TRAFFIC VOLUMES

Appendix D

Trip Generation

Trip Generation

Project: Del Bello
Job Number: 2660-2503
Phase I
Land Use: Single-Family Detached Housing
ITE Code: 210
Independent Variable: Dwelling Units
Variable Value: 315

Daily Traffic

Average Rate: 9.43
Linear Equation: $T = (X) +$
Exponential Equation: $\ln(T) = 0.92 \ln(X) + 2.68$
% Volume
Total Traffic 100% 2,900
In 50% 1,450
Out 50% 1,450

Type of Equation 3

- 1 Rate
- 2 Linear
- 3 Exponential

AM Peak Traffic

Average Rate: 0.7
Linear Equation: $T = (X) +$
Exponential Equation: $\ln(T) = 0.91 \ln(X) + 0.12$
% Volume
Total Traffic 100% 220
In 26% 57
Out 74% 163

Type of Equation 1

- 1 Rate
- 2 Linear
- 3 Exponential

PM Peak Traffic

Average Rate: 0.94
Linear Equation: $T = (X) +$
Exponential Equation: $\ln(T) = 0.94 \ln(X) + 0.27$
% Volume
Total Traffic 100% 297
In 63% 187
Out 37% 110

Type of Equation 1

- 1 Rate
- 2 Linear
- 3 Exponential

Appendix E

Intersection Capacity Analysis Reports

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate AM

1: SH 288 NB Frontage Rd & Del Bello Blvd/Rodeo Palms Dr/Del Bello Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	961	0	0	237	530	35	34	582	0	0	0
Future Volume (vph)	0	961	0	0	237	530	35	34	582	0	0	0
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			
Lane Util. Factor		0.91			0.91			0.95	1.00			
Frt		1.00			0.90			1.00	0.85			
Flt Protected		1.00			1.00			0.98	1.00			
Satd. Flow (prot)		3390			4558			3452	1583			
Flt Permitted		1.00			1.00			0.98	1.00			
Satd. Flow (perm)		3390			4558			3452	1583			
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)	0	1045	0	0	258	576	38	37	633	0	0	0
RTOR Reduction (vph)	0	0	0	0	353	0	0	0	346	0	0	0
Lane Group Flow (vph)	0	1045	0	0	481	0	0	75	287	0	0	0
Turn Type	Prot	NA			NA		Split	NA	Perm			
Protected Phases	5	6			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		32.3			32.3			18.4	18.4			
Effective Green, g (s)		32.3			32.3			18.4	18.4			
Actuated g/C Ratio		0.39			0.39			0.22	0.22			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1311			1763			760	348			
v/s Ratio Prot		c0.31			0.11			0.02				
v/s Ratio Perm									c0.18			
v/c Ratio		0.80			0.27			0.10	0.82			
Uniform Delay, d1		22.7			17.5			25.9	31.0			
Progression Factor		0.98			1.00			1.00	1.00			
Incremental Delay, d2		4.3			0.4			0.1	14.6			
Delay (s)		26.6			17.9			26.0	45.6			
Level of Service		C			B			C	D			
Approach Delay (s/veh)		26.6			17.9			43.5			0.0	
Approach LOS		C			B			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		28.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		83.5			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		99.5%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate AM

2: Rodeo Palms Dr/Del Bello Blvd/Rodeo Palms Dr & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑↑	
Traffic Volume (vph)	0	404	126	226	46	0	0	0	0	559	548	29
Future Volume (vph)	0	404	126	226	46	0	0	0	0	559	548	29
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	
Lane Util. Factor		0.91		0.91	0.91						0.95	
Frt		0.96		1.00	1.00						1.00	
Flt Protected		1.00		0.95	0.97						0.98	
Satd. Flow (prot)		4904		1610	3274						3441	
Flt Permitted		1.00		0.30	0.65						0.98	
Satd. Flow (perm)		4904		511	2199						3441	
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)	0	439	137	246	50	0	0	0	0	608	596	32
RTOR Reduction (vph)	0	65	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	511	0	123	173	0	0	0	0	0	1234	0
Turn Type		NA		pm+pt	NA					Split	NA	
Protected Phases		2		1	2					4	4	
Permitted Phases				2								
Actuated Green, G (s)		15.6		21.5	21.5						48.5	
Effective Green, g (s)		15.6		21.5	21.5						48.5	
Actuated g/C Ratio		0.19		0.26	0.26						0.58	
Clearance Time (s)		4.5		4.5	4.5						4.5	
Vehicle Extension (s)		3.0		3.0	3.0						3.0	
Lane Grp Cap (vph)		916		209	642						1998	
v/s Ratio Prot		0.10		c0.04	0.02						c0.36	
v/s Ratio Perm				c0.11	0.05							
v/c Ratio		0.56		0.59	0.27						0.62	
Uniform Delay, d1		30.8		31.1	24.7						11.4	
Progression Factor		1.00		0.89	0.90						1.00	
Incremental Delay, d2		0.7		4.0	0.2						0.6	
Delay (s)		31.6		31.5	22.4						12.0	
Level of Service		C		C	C						B	
Approach Delay (s/veh)		31.6			26.2			0.0			12.0	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			19.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			83.5			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			95.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: SH 288 NB Frontage Rd & Croix Rd

2027 No Build Ultimate AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1004	107	0	0	107	168	114	1	22	0	0	0
Future Volume (vph)	1004	107	0	0	107	168	114	1	22	0	0	0
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				
Lane Util. Factor	1.00	1.00			1.00	1.00		0.95				
Frt	1.00	1.00			1.00	0.85		0.98				
Flt Protected	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (prot)	1770	1863			1863	1583		3316				
Flt Permitted	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (perm)	1770	1863			1863	1583		3316				
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)	1091	116	0	0	116	183	124	1	24	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	153	0	13	0	0	0	0
Lane Group Flow (vph)	1091	116	0	0	116	30	0	136	0	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA				
Protected Phases	5	6			6		8	8				
Permitted Phases						6						
Actuated Green, G (s)	77.6	20.1			20.1	20.1		11.0				
Effective Green, g (s)	77.6	20.1			20.1	20.1		11.0				
Actuated g/C Ratio	0.64	0.16			0.16	0.16		0.09				
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)	1123	306			306	260		298				
v/s Ratio Prot	c0.62	c0.06			0.06			c0.04				
v/s Ratio Perm						0.02						
v/c Ratio	0.97	0.38			0.38	0.12		0.46				
Uniform Delay, d1	21.2	45.5			45.5	43.5		52.8				
Progression Factor	0.94	0.99			1.00	1.00		1.00				
Incremental Delay, d2	20.1	0.8			0.8	0.2		1.1				
Delay (s)	40.0	45.9			46.3	43.7		53.9				
Level of Service	D	D			D	D		D				
Approach Delay (s/veh)		40.6			44.7			53.9			0.0	
Approach LOS		D			D			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		42.5										
HCM 2000 Volume to Capacity ratio		0.81										
Actuated Cycle Length (s)		122.2										
Intersection Capacity Utilization		58.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate AM

4: Croix Rd & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑					↑	↑	↑
Traffic Volume (vph)	0	637	71	42	218	0	0	0	0	53	7	268
Future Volume (vph)	0	637	71	42	218	0	0	0	0	53	7	268
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
Lane Util. Factor		0.95		1.00	1.00					1.00	1.00	1.00
Frt		0.98		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3486		1770	1863					1770	1863	1583
Flt Permitted		1.00		0.34	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3486		635	1863					1770	1863	1583
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)	0	692	77	46	237	0	0	0	0	58	8	291
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	0	258
Lane Group Flow (vph)	0	762	0	46	237	0	0	0	0	58	8	33
Turn Type		NA		pm+pt	NA					Split	NA	Perm
Protected Phases		2		1	2					4	4	
Permitted Phases				2								4
Actuated Green, G (s)		53.9		56.8	53.9					9.1	9.1	9.1
Effective Green, g (s)		53.9		56.8	53.9					9.1	9.1	9.1
Actuated g/C Ratio		0.68		0.72	0.68					0.11	0.11	0.11
Clearance Time (s)		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
Lane Grp Cap (vph)		2366		495	1264					202	213	181
v/s Ratio Prot		c0.22		c0.00	0.13					c0.03	0.00	
v/s Ratio Perm				0.06								0.02
v/c Ratio		0.32		0.09	0.19					0.29	0.04	0.18
Uniform Delay, d1		5.2		3.4	4.7					32.2	31.3	31.8
Progression Factor		1.00		1.49	1.66					1.00	1.00	1.00
Incremental Delay, d2		0.4		0.1	0.3					0.8	0.1	0.5
Delay (s)		5.6		5.1	8.1					33.0	31.3	32.3
Level of Service		A		A	A					C	C	C
Approach Delay (s/veh)		5.6			7.6			0.0			32.4	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			79.4			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			58.1%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary

5: Manvel Pkwy & Del Bello Blvd

2027 No Build Ultimate AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1151	83	12	501	12	83	1	16	16	0	78
Future Volume (veh/h)	27	1151	83	12	501	12	83	1	16	16	0	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	1251	90	13	545	13	90	1	17	17	0	85
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	85	1601	114	80	1674	39	523	27	466	593	0	489
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.34	0.34	0.34	0.34	0.00	0.34
Sat Flow, veh/h	33	3229	230	22	3376	80	1152	81	1374	1361	0	1442
Grp Volume(v), veh/h	719	0	651	295	0	276	90	0	18	17	0	85
Grp Sat Flow(s),veh/h/ln	1831	0	1661	1790	0	1688	1152	0	1455	1361	0	1442
Q Serve(g_s), s	2.8	0.0	17.7	0.0	0.0	5.4	2.8	0.0	0.5	0.5	0.0	2.3
Cycle Q Clear(g_c), s	17.4	0.0	17.7	5.2	0.0	5.4	5.1	0.0	0.5	0.9	0.0	2.3
Prop In Lane	0.04		0.14	0.04		0.05	1.00		0.94	1.00		1.00
Lane Grp Cap(c), veh/h	976	0	823	957	0	837	523	0	493	593	0	489
V/C Ratio(X)	0.74	0.00	0.79	0.31	0.00	0.33	0.17	0.00	0.04	0.03	0.00	0.17
Avail Cap(c_a), veh/h	1155	0	989	1118	0	1006	523	0	493	593	0	489
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	0.00	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	11.3	0.0	11.4	8.2	0.0	8.3	14.4	0.0	12.1	12.4	0.0	12.7
Incr Delay (d2), s/veh	2.1	0.0	3.7	0.2	0.0	0.2	0.7	0.0	0.1	0.1	0.0	0.8
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	5.8	0.0	5.7	1.6	0.0	1.5	0.9	0.0	0.1	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.3	0.0	15.1	8.4	0.0	8.5	15.2	0.0	12.2	12.5	0.0	13.4
LnGrp LOS	B		B	A		A	B		B	B		B
Approach Vol, veh/h	1370			571			108			102		
Approach Delay, s/veh	14.2			8.5			14.7			13.3		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			31.5			23.0			31.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	7.1			19.7			4.3			7.4		
Green Ext Time (p_c), s	0.4			7.3			0.4			3.6		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.6											
HCM 7th LOS	B											

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate PM

1: SH 288 NB Frontage Rd & Del Bello Blvd/Rodeo Palms Dr/Del Bello Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1298	0	0	772	1250	135	109	640	0	0	0
Future Volume (vph)	0	1298	0	0	772	1250	135	109	640	0	0	0
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			
Lane Util. Factor		0.91			0.91			0.95	1.00			
Frt		1.00			0.91			1.00	0.85			
Flt Protected		1.00			1.00			0.97	1.00			
Satd. Flow (prot)		3390			4614			3444	1583			
Flt Permitted		1.00			1.00			0.97	1.00			
Satd. Flow (perm)		3390			4614			3444	1583			
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)	0	1411	0	0	839	1359	147	118	696	0	0	0
RTOR Reduction (vph)	0	0	0	0	209	0	0	0	193	0	0	0
Lane Group Flow (vph)	0	1411	0	0	1989	0	0	265	503	0	0	0
Turn Type	Prot	NA			NA		Split	NA	Perm			
Protected Phases	5	6			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		62.3			62.3			45.4	45.4			
Effective Green, g (s)		62.3			62.3			45.4	45.4			
Actuated g/C Ratio		0.45			0.45			0.32	0.32			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1508			2053			1116	513			
v/s Ratio Prot		0.42			c0.43			0.08				
v/s Ratio Perm									c0.32			
v/c Ratio		0.94			1.47dr			0.24	0.98			
Uniform Delay, d1		36.9			37.9			34.6	46.9			
Progression Factor		1.54			1.00			1.00	1.00			
Incremental Delay, d2		4.6			13.7			0.1	34.5			
Delay (s)		61.3			51.6			34.7	81.3			
Level of Service		E			D			C	F			
Approach Delay (s/veh)		61.3			51.6			68.5			0.0	
Approach LOS		E			D			E			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			58.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			148.5%			ICU Level of Service			H			
Analysis Period (min)			15									
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate PM

2: Rodeo Palms Dr/Del Bello Blvd/Rodeo Palms Dr & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	 						  	
Traffic Volume (vph)	0	162	49	720	187	0	0	0	0	1136	745	123
Future Volume (vph)	0	162	49	720	187	0	0	0	0	1136	745	123
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	
Lane Util. Factor		0.91		0.91	0.91						0.95	
Frt		0.97		1.00	1.00						0.99	
Flt Protected		1.00		0.95	0.97						0.97	
Satd. Flow (prot)		4909		1610	3282						3410	
Flt Permitted		1.00		0.56	0.66						0.97	
Satd. Flow (perm)		4909		944	2247						3410	
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)	0	176	53	783	203	0	0	0	0	1235	810	134
RTOR Reduction (vph)	0	39	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	190	0	391	595	0	0	0	0	0	2175	0
Turn Type		NA		pm+pt	NA					Split	NA	
Protected Phases		2		1	2					4	4	
Permitted Phases				2								
Actuated Green, G (s)		18.7		41.4	41.4						85.1	
Effective Green, g (s)		18.7		41.4	41.4						85.1	
Actuated g/C Ratio		0.13		0.30	0.30						0.61	
Clearance Time (s)		4.5		4.5	4.5						4.5	
Vehicle Extension (s)		3.0		3.0	3.0						3.0	
Lane Grp Cap (vph)		655		387	832						2072	
v/s Ratio Prot		0.04		c0.16	0.12						c0.64	
v/s Ratio Perm				c0.13	0.10							
v/c Ratio		0.29		1.01	0.97dl						1.14dl	
Uniform Delay, d1		54.7		47.8	44.0						27.5	
Progression Factor		1.00		0.94	0.95						1.00	
Incremental Delay, d2		0.2		34.2	1.4						34.4	
Delay (s)		54.9		79.2	43.3						61.9	
Level of Service		D		E	D						E	
Approach Delay (s/veh)		54.9			57.5			0.0			61.9	
Approach LOS		D			E			A			E	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			60.1			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			144.1%			ICU Level of Service			H			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: SH 288 NB Frontage Rd & Croix Rd

2027 No Build Ultimate PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	871	126	0	0	126	146	198	1	37	0	0	0
Future Volume (vph)	871	126	0	0	126	146	198	1	37	0	0	0
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				
Lane Util. Factor	1.00	1.00			1.00	1.00		0.95				
Frt	1.00	1.00			1.00	0.85		0.98				
Flt Protected	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (prot)	1770	1863			1863	1583		3317				
Flt Permitted	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (perm)	1770	1863			1863	1583		3317				
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)	947	137	0	0	137	159	215	1	40	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	129	0	16	0	0	0	0
Lane Group Flow (vph)	947	137	0	0	137	30	0	240	0	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA				
Protected Phases	5	6			6		8	8				
Permitted Phases						6						
Actuated Green, G (s)	50.6	17.6			17.6	17.6		12.5				
Effective Green, g (s)	50.6	17.6			17.6	17.6		12.5				
Actuated g/C Ratio	0.54	0.19			0.19	0.19		0.13				
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)	950	348			348	295		440				
v/s Ratio Prot	c0.54	c0.07			0.07			c0.07				
v/s Ratio Perm						0.02						
v/c Ratio	1.00	0.39			0.39	0.10		0.86dl				
Uniform Delay, d1	21.7	33.6			33.6	31.7		38.2				
Progression Factor	1.10	0.76			1.00	1.00		1.00				
Incremental Delay, d2	24.2	0.5			0.7	0.2		1.4				
Delay (s)	48.1	26.2			34.4	31.9		39.6				
Level of Service	D	C			C	C		D				
Approach Delay (s/veh)		45.4			33.0			39.6			0.0	
Approach LOS		D			C			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		42.2										
HCM 2000 Level of Service												
HCM 2000 Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		94.2										
Sum of lost time (s)												
Intersection Capacity Utilization		79.6%										
ICU Level of Service												
Analysis Period (min)		15										
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 No Build Ultimate PM

4: Croix Rd & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑					↑	↑	↑
Traffic Volume (vph)	0	753	665	385	257	0	0	0	0	88	12	452
Future Volume (vph)	0	753	665	385	257	0	0	0	0	88	12	452
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
Lane Util. Factor		0.95		1.00	1.00					1.00	1.00	1.00
Frt		0.93		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3290		1770	1863					1770	1863	1583
Flt Permitted		1.00		0.10	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3290		185	1863					1770	1863	1583
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)	0	818	723	418	279	0	0	0	0	96	13	491
RTOR Reduction (vph)	0	166	0	0	0	0	0	0	0	0	0	421
Lane Group Flow (vph)	0	1375	0	418	279	0	0	0	0	96	13	70
Turn Type		NA		pm+pt	NA					Split	NA	Perm
Protected Phases		2		1	2					4	4	
Permitted Phases				2								4
Actuated Green, G (s)		40.3		58.1	40.3					11.9	11.9	11.9
Effective Green, g (s)		40.3		58.1	40.3					11.9	11.9	11.9
Actuated g/C Ratio		0.48		0.70	0.48					0.14	0.14	0.14
Clearance Time (s)		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
Lane Grp Cap (vph)		1587		466	899					252	265	225
v/s Ratio Prot		0.42		c0.19	0.15					c0.05	0.01	
v/s Ratio Perm				c0.43								0.04
v/c Ratio		0.87		0.90	0.31					0.38	0.05	0.31
Uniform Delay, d1		19.2		23.7	13.1					32.5	30.9	32.1
Progression Factor		1.00		0.80	1.24					1.00	1.00	1.00
Incremental Delay, d2		6.6		19.4	0.9					1.0	0.1	0.8
Delay (s)		25.8		38.2	17.2					33.4	31.0	32.9
Level of Service		C		D	B					C	C	C
Approach Delay (s/veh)		25.8			29.8			0.0			33.0	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			28.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			83.5			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			79.6%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Manvel Pkwy & Del Bello Blvd

2027 No Build Ultimate PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	1339	122	5	1500	6	108	0	4	4	0	53
Future Volume (vph)	95	1339	122	5	1500	6	108	0	4	4	0	53
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	
Lane Util. Factor		0.95			0.95		0.95	0.95		1.00	1.00	
Frt		0.99			1.00		1.00	0.99		1.00	0.85	
Flt Protected		1.00			1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)		3487			3536		1681	1674		1770	1583	
Flt Permitted		0.59			0.95		0.72	0.71		0.72	1.00	
Satd. Flow (perm)		2076			3356		1273	1247		1333	1583	
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)	103	1455	133	5	1630	7	117	0	4	4	0	58
RTOR Reduction (vph)	0	5	0	0	0	0	0	10	0	0	49	0
Lane Group Flow (vph)	0	1687	0	0	1642	0	61	50	0	4	9	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		108.5			108.5		22.5	22.5		22.5	22.5	
Effective Green, g (s)		108.5			108.5		22.5	22.5		22.5	22.5	
Actuated g/C Ratio		0.78			0.78		0.16	0.16		0.16	0.16	
Clearance Time (s)		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	
Lane Grp Cap (vph)		1608			2600		204	200		214	254	
v/s Ratio Prot											0.01	
v/s Ratio Perm		c0.81			0.49		c0.05	0.04		0.00		
v/c Ratio		1.05			0.63		0.30	0.25		0.02	0.04	
Uniform Delay, d1		15.7			6.9		51.8	51.4		49.5	49.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.5			0.5		3.7	3.0		0.2	0.3	
Delay (s)		52.2			7.4		55.5	54.3		49.6	49.9	
Level of Service		D			A		E	D		D	D	
Approach Delay (s/veh)		52.2			7.4			54.9			49.9	
Approach LOS		D			A			D			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		31.4										
HCM 2000 Volume to Capacity ratio		0.92										
Actuated Cycle Length (s)		140.0										
Intersection Capacity Utilization		106.5%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 Build Ultimate AM

1: SH 288 NB Frontage Rd & Del Bello Blvd/Rodeo Palms Dr/Del Bello Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	972	0	0	286	563	35	34	599	0	0	0
Future Volume (vph)	0	972	0	0	286	563	35	34	599	0	0	0
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			
Lane Util. Factor		0.91			0.91			0.95	1.00			
Frt		1.00			0.90			1.00	0.85			
Flt Protected		1.00			1.00			0.98	1.00			
Satd. Flow (prot)		3390			4580			3452	1583			
Flt Permitted		1.00			1.00			0.98	1.00			
Satd. Flow (perm)		3390			4580			3452	1583			
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)	0	1057	0	0	311	612	38	37	651	0	0	0
RTOR Reduction (vph)	0	0	0	0	375	0	0	0	340	0	0	0
Lane Group Flow (vph)	0	1057	0	0	548	0	0	75	311	0	0	0
Turn Type	Prot	NA			NA		Split	NA	Perm			
Protected Phases	5	6			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		32.3			32.3			19.3	19.3			
Effective Green, g (s)		32.3			32.3			19.3	19.3			
Actuated g/C Ratio		0.39			0.39			0.23	0.23			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1314			1775			799	366			
v/s Ratio Prot		c0.31			0.12			0.02				
v/s Ratio Perm									c0.20			
v/c Ratio		0.80			0.31			0.09	0.85			
Uniform Delay, d1		22.7			17.7			25.1	30.6			
Progression Factor		1.03			1.00			1.00	1.00			
Incremental Delay, d2		4.4			0.5			0.1	16.5			
Delay (s)		27.8			18.2			25.2	47.1			
Level of Service		C			B			C	D			
Approach Delay (s/veh)		27.8			18.2			44.9			0.0	
Approach LOS		C			B			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		29.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		83.3			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		102.6%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 Build Ultimate AM

2: Rodeo Palms Dr/Del Bello Blvd/Rodeo Palms Dr & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑						↱	
Traffic Volume (vph)	0	404	126	275	46	0	0	0	0	570	548	29
Future Volume (vph)	0	404	126	275	46	0	0	0	0	570	548	29
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	
Lane Util. Factor		0.91		0.91	0.91						0.95	
Frt		0.96		1.00	1.00						1.00	
Flt Protected		1.00		0.95	0.96						0.98	
Satd. Flow (prot)		4904		1610	3268						3440	
Flt Permitted		1.00		0.30	0.65						0.98	
Satd. Flow (perm)		4904		515	2219						3440	
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)	0	439	137	299	50	0	0	0	0	620	596	32
RTOR Reduction (vph)	0	65	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	511	0	149	200	0	0	0	0	0	1246	0
Turn Type		NA		pm+pt	NA					Split	NA	
Protected Phases		2		1	2					4	4	
Permitted Phases				2								
Actuated Green, G (s)		15.7		23.9	23.9						45.9	
Effective Green, g (s)		15.7		23.9	23.9						45.9	
Actuated g/C Ratio		0.19		0.29	0.29						0.55	
Clearance Time (s)		4.5		4.5	4.5						4.5	
Vehicle Extension (s)		3.0		3.0	3.0						3.0	
Lane Grp Cap (vph)		924		255	739						1895	
v/s Ratio Prot		0.10		c0.06	0.03						c0.36	
v/s Ratio Perm				c0.11	0.05							
v/c Ratio		0.55		0.58	0.27						0.66	
Uniform Delay, d1		30.6		29.1	23.0						13.2	
Progression Factor		1.00		0.86	0.85						1.00	
Incremental Delay, d2		0.7		3.2	0.2						0.8	
Delay (s)		31.3		28.2	19.8						14.0	
Level of Service		C		C	B						B	
Approach Delay (s/veh)		31.3			23.4			0.0			14.0	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			20.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			83.3			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			98.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 3: SH 288 NB Frontage Rd & Croix Rd

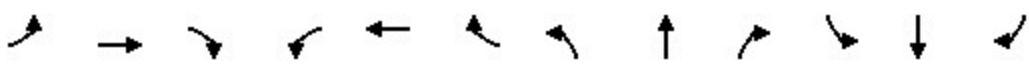
2027 Build Ultimate AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1004	124	0	0	140	209	114	1	31	0	0	0
Future Volume (vph)	1004	124	0	0	140	209	114	1	31	0	0	0
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				
Lane Util. Factor	1.00	1.00			1.00	1.00		0.95				
Frt	1.00	1.00			1.00	0.85		0.97				
Flt Protected	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (prot)	1770	1863			1863	1583		3297				
Flt Permitted	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (perm)	1770	1863			1863	1583		3297				
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)	1091	135	0	0	152	227	124	1	34	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	190	0	20	0	0	0	0
Lane Group Flow (vph)	1091	135	0	0	152	37	0	139	0	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA				
Protected Phases	5	6			6		8	8				
Permitted Phases						6						
Actuated Green, G (s)	77.9	19.8			19.8	19.8		11.2				
Effective Green, g (s)	77.9	19.8			19.8	19.8		11.2				
Actuated g/C Ratio	0.64	0.16			0.16	0.16		0.09				
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)	1126	301			301	256		301				
v/s Ratio Prot	c0.62	0.07			c0.08			c0.04				
v/s Ratio Perm						0.02						
v/c Ratio	0.97	0.45			0.50	0.14		0.46				
Uniform Delay, d1	21.1	46.4			46.8	44.0		52.7				
Progression Factor	0.94	1.00			1.00	1.00		1.00				
Incremental Delay, d2	19.4	1.1			1.3	0.3		1.1				
Delay (s)	39.3	47.6			48.2	44.3		53.9				
Level of Service	D	D			D	D		D				
Approach Delay (s/veh)		40.2			45.8			53.9			0.0	
Approach LOS		D			D			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		42.6			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.83										
Actuated Cycle Length (s)		122.4			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		60.7%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Croix Rd & SH 288 SB Frontage Rd

2027 Build Ultimate AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑					↑	↑	↑
Traffic Volume (vph)	0	640	71	66	226	0	0	0	0	67	7	268
Future Volume (vph)	0	640	71	66	226	0	0	0	0	67	7	268
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
Lane Util. Factor		0.95		1.00	1.00					1.00	1.00	1.00
Frt		0.99		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3486		1770	1863					1770	1863	1583
Flt Permitted		1.00		0.34	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3486		627	1863					1770	1863	1583
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)	0	696	77	72	246	0	0	0	0	73	8	291
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	0	0	0	257
Lane Group Flow (vph)	0	765	0	72	246	0	0	0	0	73	8	34
Turn Type		NA		pm+pt	NA					Split	NA	Perm
Protected Phases		2		1	2					4	4	
Permitted Phases				2								4
Actuated Green, G (s)		53.8		57.7	53.8					9.3	9.3	9.3
Effective Green, g (s)		53.8		57.7	53.8					9.3	9.3	9.3
Actuated g/C Ratio		0.67		0.72	0.67					0.12	0.12	0.12
Clearance Time (s)		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
Lane Grp Cap (vph)		2329		504	1245					204	215	182
v/s Ratio Prot		c0.22		c0.01	0.13					c0.04	0.00	
v/s Ratio Perm				0.10								0.02
v/c Ratio		0.33		0.14	0.20					0.36	0.04	0.18
Uniform Delay, d1		5.7		3.4	5.1					32.8	31.6	32.2
Progression Factor		1.00		1.34	1.40					1.00	1.00	1.00
Incremental Delay, d2		0.4		0.1	0.3					1.1	0.1	0.5
Delay (s)		6.1		4.7	7.5					33.9	31.7	32.7
Level of Service		A		A	A					C	C	C
Approach Delay (s/veh)		6.1			6.9			0.0			32.9	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			80.5			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			60.7%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary 5: Manvel Pkwy & Del Bello Blvd

2027 Build Ultimate AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	1151	83	12	501	12	83	1	16	16	0	160
Future Volume (veh/h)	56	1151	83	12	501	12	83	1	16	16	0	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1251	90	13	545	13	90	1	17	17	0	174
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	117	1568	112	79	1702	40	423	27	458	584	0	481
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.00	0.33
Sat Flow, veh/h	92	3110	221	22	3376	80	879	81	1374	1360	0	1442
Grp Volume(v), veh/h	726	0	676	295	0	276	90	0	18	17	0	174
Grp Sat Flow(s),veh/h/ln	1761	0	1662	1790	0	1688	879	0	1455	1360	0	1442
Q Serve(g_s), s	8.7	0.0	18.9	0.0	0.0	5.4	3.4	0.0	0.5	0.5	0.0	5.1
Cycle Q Clear(g_c), s	18.7	0.0	18.9	5.2	0.0	5.4	8.4	0.0	0.5	0.9	0.0	5.1
Prop In Lane	0.08		0.13	0.04		0.05	1.00		0.94	1.00		1.00
Lane Grp Cap(c), veh/h	958	0	838	970	0	851	423	0	485	584	0	481
V/C Ratio(X)	0.76	0.00	0.81	0.30	0.00	0.32	0.21	0.00	0.04	0.03	0.00	0.36
Avail Cap(c_a), veh/h	1097	0	974	1103	0	989	423	0	485	584	0	481
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	0.00	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	11.3	0.0	11.5	8.1	0.0	8.2	17.2	0.0	12.5	12.8	0.0	14.0
Incr Delay (d2), s/veh	2.7	0.0	4.5	0.2	0.0	0.2	1.1	0.0	0.1	0.1	0.0	2.1
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	6.1	0.0	6.2	1.6	0.0	1.5	1.0	0.0	0.2	0.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.0	0.0	15.9	8.3	0.0	8.4	18.3	0.0	12.6	12.9	0.0	16.1
LnGrp LOS	B		B	A		A	B		B	B		B
Approach Vol, veh/h	1402			571			108			191		
Approach Delay, s/veh	14.9			8.3			17.4			15.8		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			32.4			23.0			32.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	10.4			20.9			7.1			7.4		
Green Ext Time (p_c), s	0.3			7.1			0.8			3.6		
Intersection Summary												
HCM 7th Control Delay, s/veh	13.5											
HCM 7th LOS	B											

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	0	41	28	0	94
Future Vol, veh/h	82	0	41	28	0	94
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	89	0	45	30	0	102
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	162	38	0	0	75	0
Stage 1	60	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	821	1027	-	-	1523	-
Stage 1	956	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	821	1027	-	-	1523	-
Mov Cap-2 Maneuver	821	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v	9.92	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	821	1523	-	
HCM Lane V/C Ratio	-	-	0.109	-	-	
HCM Control Delay (s/veh)	-	-	9.9	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

Intersection						
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	26	3	275	73	8
Future Vol, veh/h	129	26	3	275	73	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	140	28	3	299	79	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	168	0	460	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1409	-	560	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1409	-	558	892
Mov Cap-2 Maneuver	-	-	-	-	558	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	745	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.08		12.32	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	579	-	-	19	-	
HCM Lane V/C Ratio	0.152	-	-	0.002	-	
HCM Control Delay (s/veh)	12.3	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.5	-	-	0	-	

HCM Signalized Intersection Capacity Analysis

2027 Build Ultimate PM

1: SH 288 NB Frontage Rd & Del Bello Blvd/Rodeo Palms Dr/Del Bello Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1335	0	0	805	1272	135	109	696	0	0	0
Future Volume (vph)	0	1335	0	0	805	1272	135	109	696	0	0	0
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			
Lane Util. Factor		0.91			0.91			0.95	1.00			
Frt		1.00			0.91			1.00	0.85			
Flt Protected		1.00			1.00			0.97	1.00			
Satd. Flow (prot)		3390			4618			3444	1583			
Flt Permitted		1.00			1.00			0.97	1.00			
Satd. Flow (perm)		3390			4618			3444	1583			
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)	0	1451	0	0	875	1383	147	118	757	0	0	0
RTOR Reduction (vph)	0	0	0	0	190	0	0	0	176	0	0	0
Lane Group Flow (vph)	0	1451	0	0	2068	0	0	265	581	0	0	0
Turn Type	Prot	NA			NA		Split	NA	Perm			
Protected Phases	5	6			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		65.3			65.3			53.2	53.2			
Effective Green, g (s)		65.3			65.3			53.2	53.2			
Actuated g/C Ratio		0.44			0.44			0.35	0.35			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1475			2010			1221	561			
v/s Ratio Prot		0.43			c0.45			0.08				
v/s Ratio Perm									c0.37			
v/c Ratio		0.98			1.55dr			0.22	1.04			
Uniform Delay, d1		41.8			42.4			33.8	48.4			
Progression Factor		1.52			1.00			1.00	1.00			
Incremental Delay, d2		9.0			27.9			0.1	47.4			
Delay (s)		72.8			70.3			33.9	95.8			
Level of Service		E			E			C	F			
Approach Delay (s/veh)		72.8			70.3			79.8			0.0	
Approach LOS		E			E			E			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		73.1			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		0.90										
Actuated Cycle Length (s)		150.0			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		154.1%			ICU Level of Service			H				
Analysis Period (min)		15										
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2027 Build Ultimate PM

2: Rodeo Palms Dr/Del Bello Blvd/Rodeo Palms Dr & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	 						  	
Traffic Volume (vph)	0	162	49	753	187	0	0	0	0	1173	745	123
Future Volume (vph)	0	162	49	753	187	0	0	0	0	1173	745	123
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	
Lane Util. Factor		0.91		0.91	0.91						0.95	
Frt		0.97		1.00	1.00						0.99	
Flt Protected		1.00		0.95	0.97						0.97	
Satd. Flow (prot)		4909		1610	3281						3409	
Flt Permitted		1.00		0.55	0.66						0.97	
Satd. Flow (perm)		4909		928	2222						3409	
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)	0	176	53	818	203	0	0	0	0	1275	810	134
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	193	0	409	612	0	0	0	0	0	2216	0
Turn Type		NA		pm+pt	NA					Split	NA	
Protected Phases		2		1	2					4	4	
Permitted Phases				2								
Actuated Green, G (s)		20.1		45.0	45.0						91.5	
Effective Green, g (s)		20.1		45.0	45.0						91.5	
Actuated g/C Ratio		0.13		0.30	0.30						0.61	
Clearance Time (s)		4.5		4.5	4.5						4.5	
Vehicle Extension (s)		3.0		3.0	3.0						3.0	
Lane Grp Cap (vph)		657		391	842						2079	
v/s Ratio Prot		0.04		c0.17	0.12						c0.65	
v/s Ratio Perm				c0.14	0.10							
v/c Ratio		0.29		1.05	1.00dl						1.18dl	
Uniform Delay, d1		58.5		51.0	47.0						29.3	
Progression Factor		1.00		0.93	0.94						1.00	
Incremental Delay, d2		0.2		41.5	1.3						40.0	
Delay (s)		58.8		89.0	45.3						69.3	
Level of Service		E		F	D						E	
Approach Delay (s/veh)		58.8			62.8			0.0			69.3	
Approach LOS		E			E			A			E	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			66.7			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			149.8%			ICU Level of Service				H		
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: SH 288 NB Frontage Rd & Croix Rd

2027 Build Ultimate PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	871	182	0	0	148	174	198	1	65	0	0	0
Future Volume (vph)	871	182	0	0	148	174	198	1	65	0	0	0
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				
Lane Util. Factor	1.00	1.00			1.00	1.00		0.95				
Frt	1.00	1.00			1.00	0.85		0.96				
Flt Protected	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (prot)	1770	1863			1863	1583		3285				
Flt Permitted	0.95	1.00			1.00	1.00		0.96				
Satd. Flow (perm)	1770	1863			1863	1583		3285				
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)	947	198	0	0	161	189	215	1	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	154	0	33	0	0	0	0
Lane Group Flow (vph)	947	198	0	0	161	35	0	254	0	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA				
Protected Phases	5	6			6		8	8				
Permitted Phases						6						
Actuated Green, G (s)	50.6	17.7			17.7	17.7		13.9				
Effective Green, g (s)	50.6	17.7			17.7	17.7		13.9				
Actuated g/C Ratio	0.53	0.18			0.18	0.18		0.15				
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)	935	344			344	292		477				
v/s Ratio Prot	c0.54	c0.11			0.09			c0.08				
v/s Ratio Perm						0.02						
v/c Ratio	1.01	0.58			0.47	0.12		0.53				
Uniform Delay, d1	22.6	35.6			34.8	32.5		37.9				
Progression Factor	1.16	0.81			1.00	1.00		1.00				
Incremental Delay, d2	28.0	1.7			1.0	0.2		1.1				
Delay (s)	54.1	30.6			35.8	32.7		39.0				
Level of Service	D	C			D	C		D				
Approach Delay (s/veh)		50.0			34.1			39.0			0.0	
Approach LOS		D			C			D			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		45.1			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.84										
Actuated Cycle Length (s)		95.7			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		83.4%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

4: Croix Rd & SH 288 SB Frontage Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	762	665	402	262	0	0	0	0	135	12	452
Future Volume (vph)	0	762	665	402	262	0	0	0	0	135	12	452
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
Lane Util. Factor		0.95		1.00	1.00					1.00	1.00	1.00
Frt		0.93		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3292		1770	1863					1770	1863	1583
Flt Permitted		1.00		0.10	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3292		185	1863					1770	1863	1583
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)	0	828	723	437	285	0	0	0	0	147	13	491
RTOR Reduction (vph)	0	167	0	0	0	0	0	0	0	0	0	415
Lane Group Flow (vph)	0	1384	0	437	285	0	0	0	0	147	13	76
Turn Type		NA		pm+pt	NA					Split	NA	Perm
Protected Phases		2		1	2					4	4	
Permitted Phases				2								4
Actuated Green, G (s)		40.3		58.6	40.3					13.2	13.2	13.2
Effective Green, g (s)		40.3		58.6	40.3					13.2	13.2	13.2
Actuated g/C Ratio		0.47		0.69	0.47					0.15	0.15	0.15
Clearance Time (s)		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
Lane Grp Cap (vph)		1555		467	880					273	288	244
v/s Ratio Prot		0.42		c0.20	0.15					c0.08	0.01	
v/s Ratio Perm				c0.44								0.05
v/c Ratio		0.89		0.94	0.32					0.54	0.05	0.31
Uniform Delay, d1		20.5		25.0	14.0					33.2	30.7	32.0
Progression Factor		1.00		0.84	1.19					1.00	1.00	1.00
Incremental Delay, d2		8.0		26.0	1.0					2.0	0.1	0.7
Delay (s)		28.5		47.0	17.7					35.3	30.8	32.7
Level of Service		C		D	B					D	C	C
Approach Delay (s/veh)		28.5			35.4			0.0			33.3	
Approach LOS		C			D			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			31.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			85.3			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			83.4%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM 7th Signalized Intersection Summary 5: Manvel Pkwy & Del Bello Blvd

2027 Build Ultimate PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔			↔	↔
Traffic Volume (veh/h)	188	1339	122	5	1500	6	108	1	4	4	1	108
Future Volume (veh/h)	188	1339	122	5	1500	6	108	1	4	4	1	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1455	133	5	1630	7	121	0	0	4	1	117
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	173	1555	170	26	2889	12	404	231	0	186	42	195
Arrive On Green	0.82	0.82	0.82	0.82	0.82	0.82	0.12	0.00	0.00	0.12	0.12	0.12
Sat Flow, veh/h	175	1904	208	3	3538	15	2548	1870	0	1159	340	1585
Grp Volume(v), veh/h	726	0	1066	858	0	784	121	0	0	5	0	117
Grp Sat Flow(s),veh/h/ln	622	0	1665	1857	0	1699	1274	1870	0	1500	0	1585
Q Serve(g_s), s	99.0	0.0	49.0	0.0	0.0	23.5	6.6	0.0	0.0	0.0	0.0	10.5
Cycle Q Clear(g_c), s	122.5	0.0	49.0	23.3	0.0	23.5	6.9	0.0	0.0	0.4	0.0	10.5
Prop In Lane	0.28		0.12	0.01		0.01	1.00		0.00	0.80		1.00
Lane Grp Cap(c), veh/h	538	0	1359	1541	0	1388	404	231	0	228	0	195
V/C Ratio(X)	1.35	0.00	0.78	0.56	0.00	0.56	0.30	0.00	0.00	0.02	0.00	0.60
Avail Cap(c_a), veh/h	538	0	1359	1541	0	1388	404	231	0	228	0	195
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	7.0	4.7	0.0	4.7	60.8	0.0	0.0	57.8	0.0	62.2
Incr Delay (d2), s/veh	168.6	0.0	3.1	0.4	0.0	0.5	1.9	0.0	0.0	0.2	0.0	12.8
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	45.0	0.0	14.6	7.4	0.0	6.8	2.2	0.0	0.0	0.2	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	196.8	0.0	10.1	5.1	0.0	5.2	62.7	0.0	0.0	58.0	0.0	75.1
LnGrp LOS	F		B	A		A	E			E		E
Approach Vol, veh/h		1792			1642			121			122	
Approach Delay, s/veh		85.7			5.2			62.7			74.4	
Approach LOS		F			A			E			E	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.0		127.0		23.0		127.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		122.5		18.5		122.5				
Max Q Clear Time (g_c+I1), s		8.9		124.5		12.5		25.5				
Green Ext Time (p_c), s		0.2		0.0		0.2		21.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			48.6									
HCM 7th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 7th TWSC
6: Manvel Pkwy & Proposed Driveway 1

2027 Build Ultimate PM

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	0	101	94	0	57
Future Vol, veh/h	55	0	101	94	0	57
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	60	0	110	102	0	62
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	223	106	0	0	212	0
Stage 1	161	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	755	928	-	-	1357	-
Stage 1	852	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	755	928	-	-	1357	-
Mov Cap-2 Maneuver	755	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v10.18		0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	755	1357	-	
HCM Lane V/C Ratio	-	-	0.079	-	-	
HCM Control Delay (s/veh)	-	-	10.2	0	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

HCM 7th TWSC
7: Proposed Driveway 2 & Croix Rd

2027 Build Ultimate PM

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	163	84	9	272	50	6
Future Vol, veh/h	163	84	9	272	50	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	177	91	10	296	54	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	268	0	538	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	315	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1295	-	504	817
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1295	-	500	817
Mov Cap-2 Maneuver	-	-	-	-	500	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	733	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.25		12.82	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	521	-	-	58	-	
HCM Lane V/C Ratio	0.117	-	-	0.008	-	
HCM Control Delay (s/veh)	12.8	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.4	-	-	0	-	

HCM Signalized Intersection Capacity Analysis

5: Manvel Pkwy & Del Bello Blvd

2027 Mitigation PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	1339	122	5	1500	6	108	0	4	4	0	108
Future Volume (vph)	188	1339	122	5	1500	6	108	0	4	4	0	108
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
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00			1.00	1.00
Frt	1.00	0.99			1.00		1.00	0.85			1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3495			3536		1770	1583			1770	1583
Flt Permitted	0.10	1.00			0.95		0.76	1.00			0.76	1.00
Satd. Flow (perm)	192	3495			3357		1407	1583			1407	1583
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)	204	1455	133	5	1630	7	117	0	4	4	0	117
RTOR Reduction (vph)	0	4	0	0	0	0	0	3	0	0	0	42
Lane Group Flow (vph)	204	1584	0	0	1642	0	117	1	0	0	4	75
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	108.5	108.5			108.5		32.5	32.5			32.5	32.5
Effective Green, g (s)	108.5	108.5			108.5		32.5	32.5			32.5	32.5
Actuated g/C Ratio	0.72	0.72			0.72		0.22	0.22			0.22	0.22
Clearance Time (s)	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
Lane Grp Cap (vph)	138	2528			2428		304	342			304	342
v/s Ratio Prot		0.45						0.00				
v/s Ratio Perm	c1.06				0.49		c0.08				0.00	0.05
v/c Ratio	1.48	0.63			0.68		0.38	0.00			0.01	0.22
Uniform Delay, d1	20.7	10.5			11.2		50.2	46.0			46.2	48.3
Progression Factor	1.00	1.00			1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	249.9	0.5			0.8		3.7	0.0			0.1	1.5
Delay (s)	270.7	11.0			12.0		53.9	46.1			46.2	49.8
Level of Service	F	B			B		D	D			D	D
Approach Delay (s/veh)		40.6			12.0			53.6			49.7	
Approach LOS		D			B			D			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)	28.5			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	1.22											
Actuated Cycle Length (s)	150.0			Sum of lost time (s)			9.0					
Intersection Capacity Utilization	106.6%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

Appendix F

Right and Left Turn Lanes Criteria

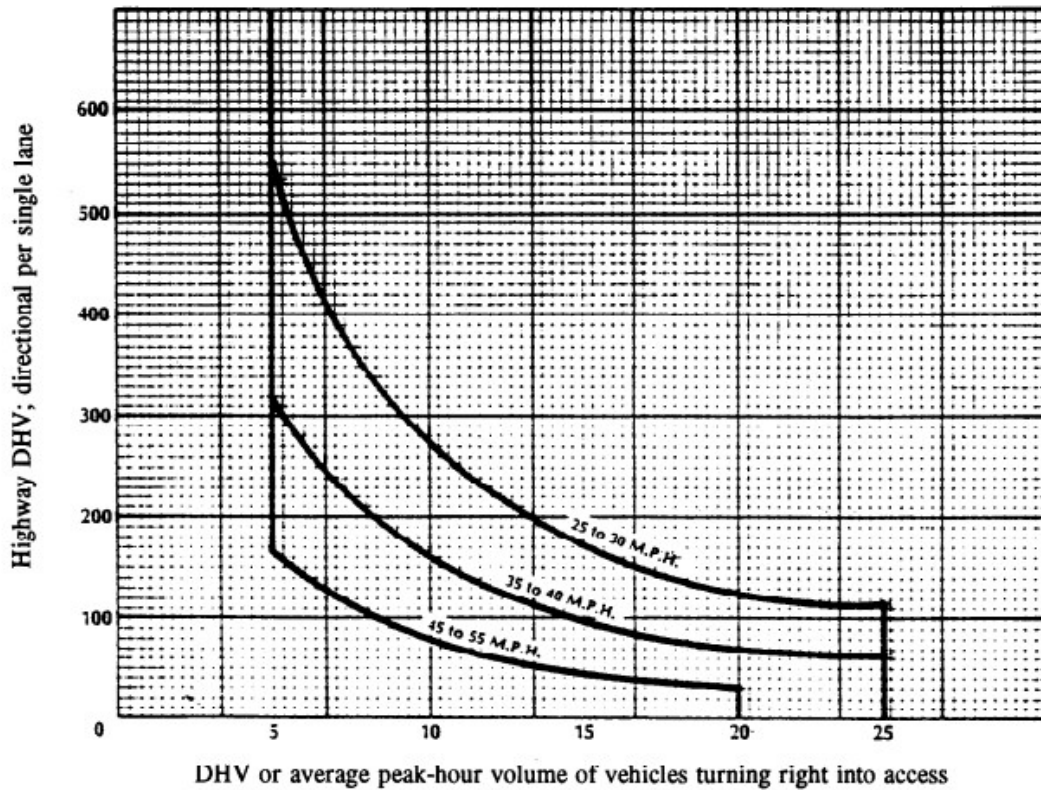
NCHRP 348 Right Turn Warrant Analysis for a Multi-Lane Road					
Intersection	Year 2029				
	Right Turn Volume	Adjacent Through Volume	Threshold	AM	PM
Manvel Parkway and Driveway 1 (NB Approach)	28(94)	41(101)	300	No	No

LEGEND:
 AM Volume (PM Volume)

NCHRP 348 Right Turn Warrant Analysis for a Single-Lane Road				
Intersection	Year 2029			
	Arterial DHV	Right Turn Volume	AM	PM
Croix Road and Driveway 2 (EB Approach)	155(247)	26(84)	Yes	Yes

LEGEND:

AM Volume (PM Volume)



NCHRP 457 Left Turn Warrant Analysis					
Intersection	Year 2027				
	Advancing Volume	Opposing Volume	Left Turn Volume	AM	PM
Manvel Parkway and Driveway 1 (SB Approach)	94(57)	69(195)	0(0)	No	No
Croix Road and Driveway 2 (WB Approach)	278(272)	155(247)	3(9)	No	No

LEGEND:

AM Volume (PM Volume)

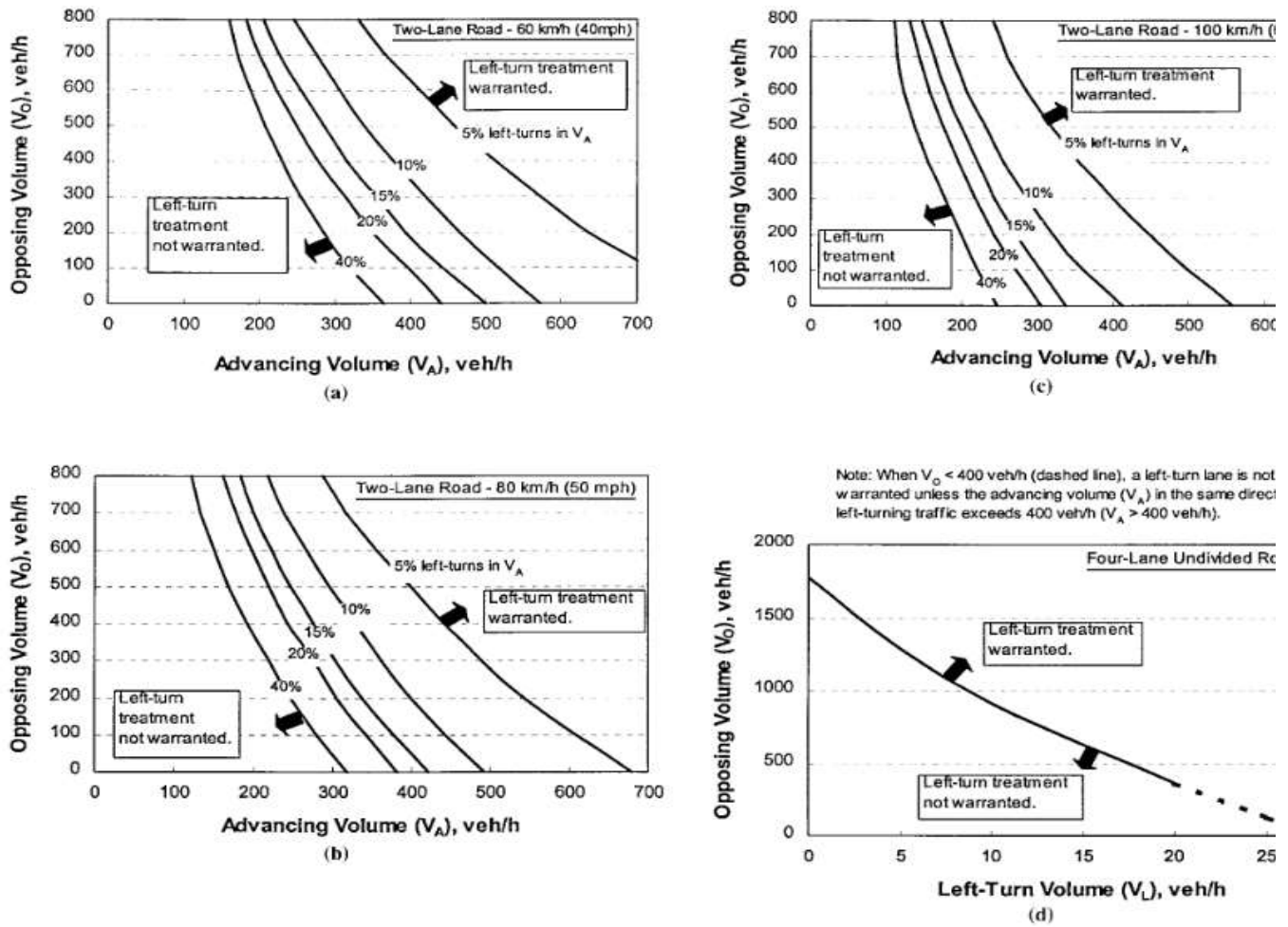


Figure 2-5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection

Appendix G

Approved Traffic Signal at Croix and SH 288

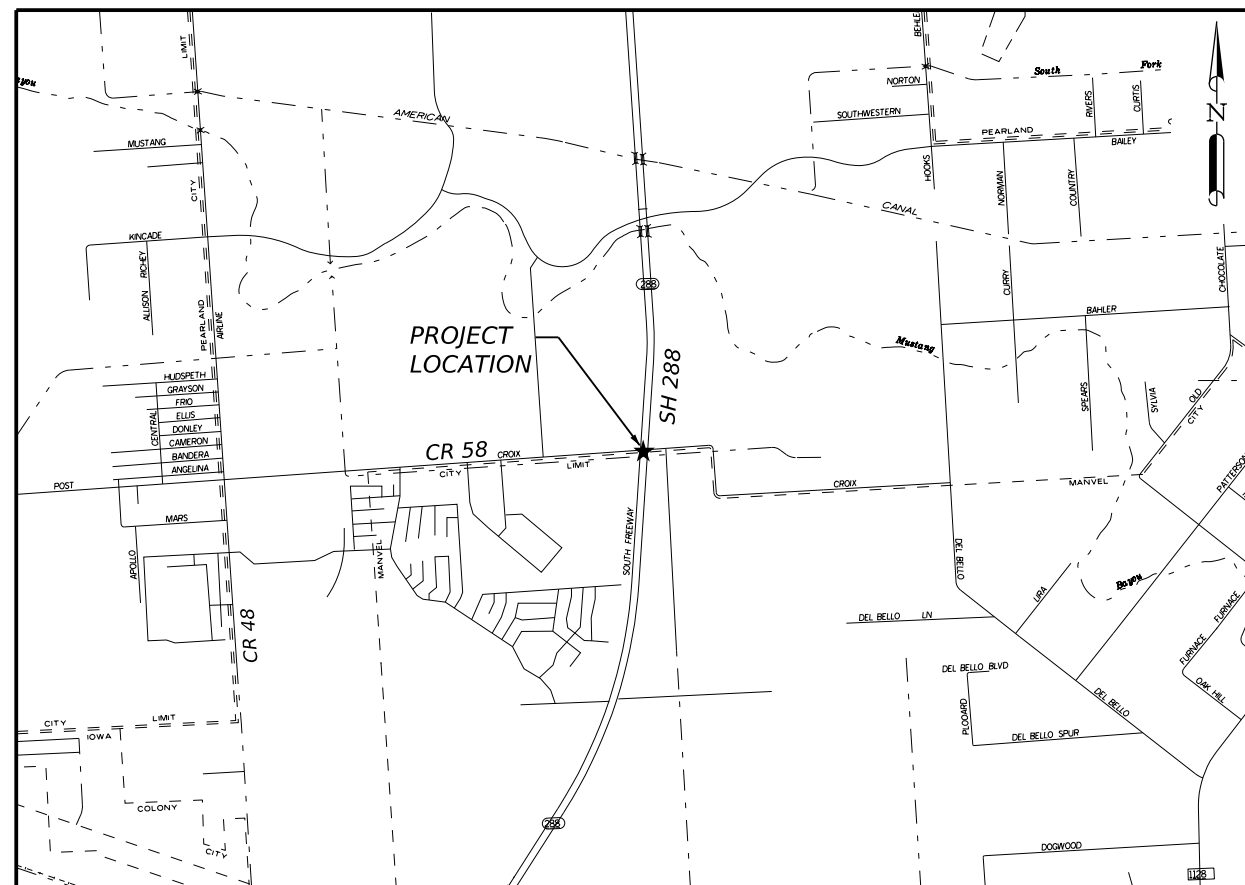
POSTED SPEED = 45 MPH CR 58
ADT = 14,234 (2021)

INDEX OF SHEETS

<i>SHEET</i>	<i>DESCRIPTION</i>
1	TITLE SHEET
2-8	GENERAL NOTES
9	TRAFFIC SIGNAL NOTES
10	SUMMARY OF QUANTITIES
11-12	EXISTING CONDITIONS
13-14	TRAFFIC SIGNAL LAYOUT
15-16	SIGNAL DETAIL
17-18	PAVEMENT MARKINGS AND CURB RAMPS LAYOUT
* 19-25	ED-14
* 26-30	LMA-12
* 31	LUM-A-12
* 32	MA-C-12
* 33	MA-D-12
* 34	MA-DPD-20
* 35	RID(1)-20
* 36	CFA-12
* 37	SD/SCFD
* 38	SDS BSM
* 39	OSNS/MD
* 40	TS-BP-20
* 41	CD/PM(APS)PS
* 42-43	WZ(BTS)-13
* 44-47	PM-22
* 48-51	PED-18

THE STANDARD DRAWINGS INCLUDED HEREIN HAVE BEEN
SELECTED BY ME AS BEING APPLICABLE TO THIS PROJECT.

1/28/2025
THIRULOKESH KRISHNAN, PE (12099) DATE



LOCATION MAP

SCALE: NTS

EQUATION: NONE

EXCEPTIONS: NONE

RAILROAD CROSSINGS: NONE

NOTES:

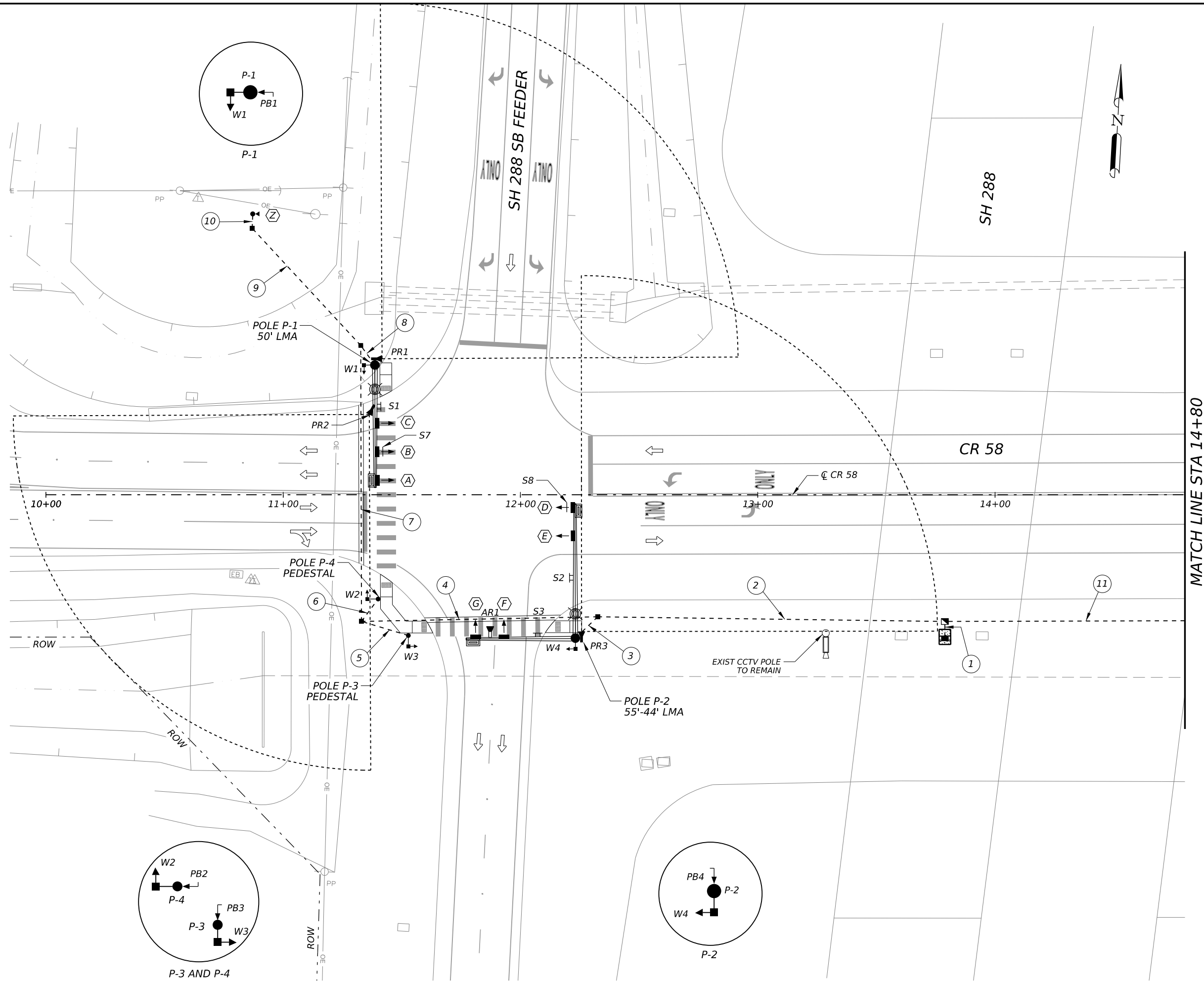
1. SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, SEPTEMBER 1, 2024, AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS. (FORM FHWA 1273, OCT 23, 2023)
2. FOR BARRICADES AND SIGNING AT INDIVIDUAL INTERSECTIONS UNDER SIGNAL CONSTRUCTION REFER TO STANDARD SHEETS, WZ(BTS-1)-13 & WZ(BTS-2)-13



1/28/2025

LJA Engineering, Inc. 
FRN - F-1386

DATE: 1/28/2025
FILE: \\jaeng.com\shares\Sectors\Transportation\3909\2301\400 Production\4 - Design\Plan Set\8 - Traffic\Signals\SH288_SC01.dgn



- LEGEND**
- SIGNAL POLE
 - MAST ARM
 - SIGNAL CONTROLLER W/ BBU SYSTEM
 - HORIZONTAL SIGNAL HEAD
 - PEDESTRIAN SIGNAL
 - PEDESTRIAN PUSHBUTTON
 - SIGN ON MAST ARM
 - GROUND BOX (TY D) W/APRON
 - GROUND BOX (TY 2) W/APRON
 - MAST ARM DAMPENER
 - SERVICE & METER DISCONNECT
 - LUMINAIRE & ARM
 - CONDUIT (TRENCH)
 - CONDUIT (BORE)
 - PRESENCE RADAR DETECTOR
 - ADVANCE RADAR DETECTOR
 - RADAR PRESENCE DETECTION ZONE
 - TRAFFIC DIRECTION



0' 20' 40'
SCALE: 1"=40'

LJA Engineering, Inc.
FRN - F-1386

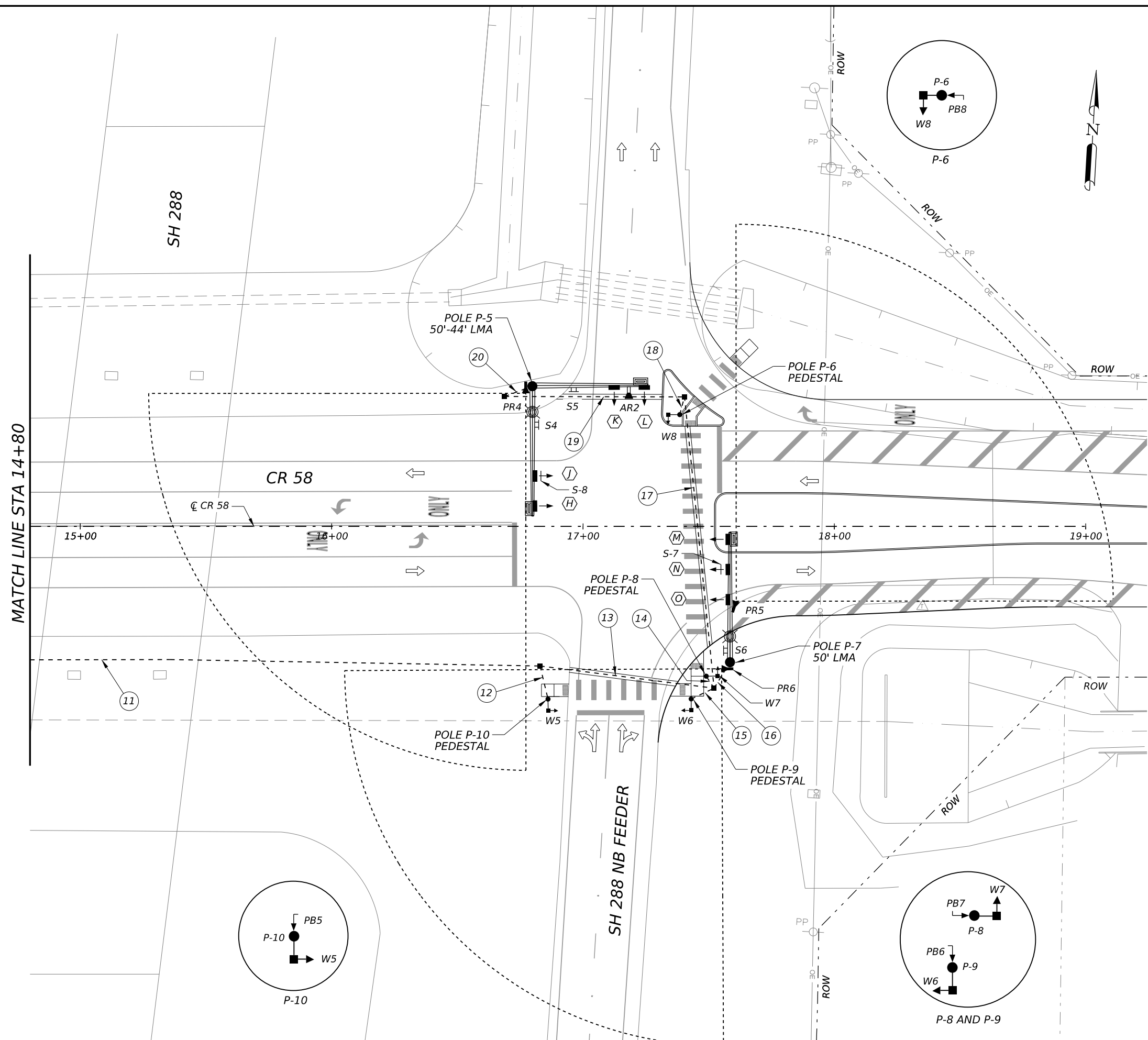
Texas Department of Transportation

SH 288 @ CR 58

TRAFFIC SIGNAL LAYOUT

SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
			SH 288
DIST	COUNTY	SHEET NO.	
HOU	BRAZORIA	13	



- ## LEGEND
-
- | | |
|---|------------------------------------|
|  | SIGNAL POLE |
|  | MAST ARM |
|  | SIGNAL CONTROLLER
W/ BBU SYSTEM |
|  | HORIZONTAL SIGNAL HEAD |
| W#  | PEDESTRIAN SIGNAL |
| PB#  | PEDESTRIAN PUSHBUTTON |
| S#  | SIGN ON MAST ARM |
|  | GROUND BOX (TY D) W/APRON |
|  | GROUND BOX (TY 2) W/APRON |
|  | MAST ARM DAMPENER |
|  | SERVICE & METER DISCONNECT |
|  | LUMINAIRE & ARM |
|  | CONDUIT (TRENCH) |
|  | CONDUIT (BORE) |
| PR#  | PRESENCE RADAR DETECTOR |
| AR#  | ADVANCE RADAR DETECTOR |
|  | RADAR PRESENCE DETECTION
ZONE |
|  | TRAFFIC DIRECTION |

NOTE:

1. CR 58 ROADWAY IMPROVEMENTS BETWEEN SH 288 AND CR 94 IS BY OTHERS.



LJA Engineering, Inc. 
FRN - F-1386



SH 288 @ CR 58

TRAFFIC SIGNAL LAYOUT

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
			SH 288
DIST	COUNTY		SHEET NO.
HOU	BRAZORIA		14

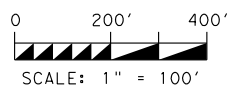
DATE: 1/28/2025
FILE: \\jaeng.com\shares\Sectors\Transportation\3909\23011400 Production\4 - Design\Plan Set\8_Traffic\Signals\SH288_SG02.dgn

Appendix H

SH 288 at Rodeo Palms Plans

USER: default

10/29/2020
c:\pw-af\pw-af-prod\lil.ghandour@aguirre-fields.com\dms07433\120332GPL01.dgn



RESPONSIBLE ENGINEER:
AGUIRRE & FIELDS
AARON DEBORD, P.E.
TEXAS REGISTRATION NO. 96578



AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBPB FIRM REGISTRATION #739

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Texas Department of Transportation

SH 288

PROJECT LAYOUT

FED RD DIST NO.	FEDERAL AID PROJECT		HIGHWAY
6			SH 288
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	BRAZORIA	4
CONTROL	SECTION	JOB	
0598	02	111	



Strategic Plan
Comprehensive Plan Update
Thoroughfare Plan Update

PDZ Workshop #4:
Future Manvel

August 11, 2025



GARY MITCHELL
President and
Project Manager



JENNIFER MAK
Architect and
Senior Urban Designer



HIGHLIGHTS TONIGHT

WE
ARE
HERE



**Latest changes to draft
Major Thoroughfare Plan map**



Draft Future Land Use and Character map

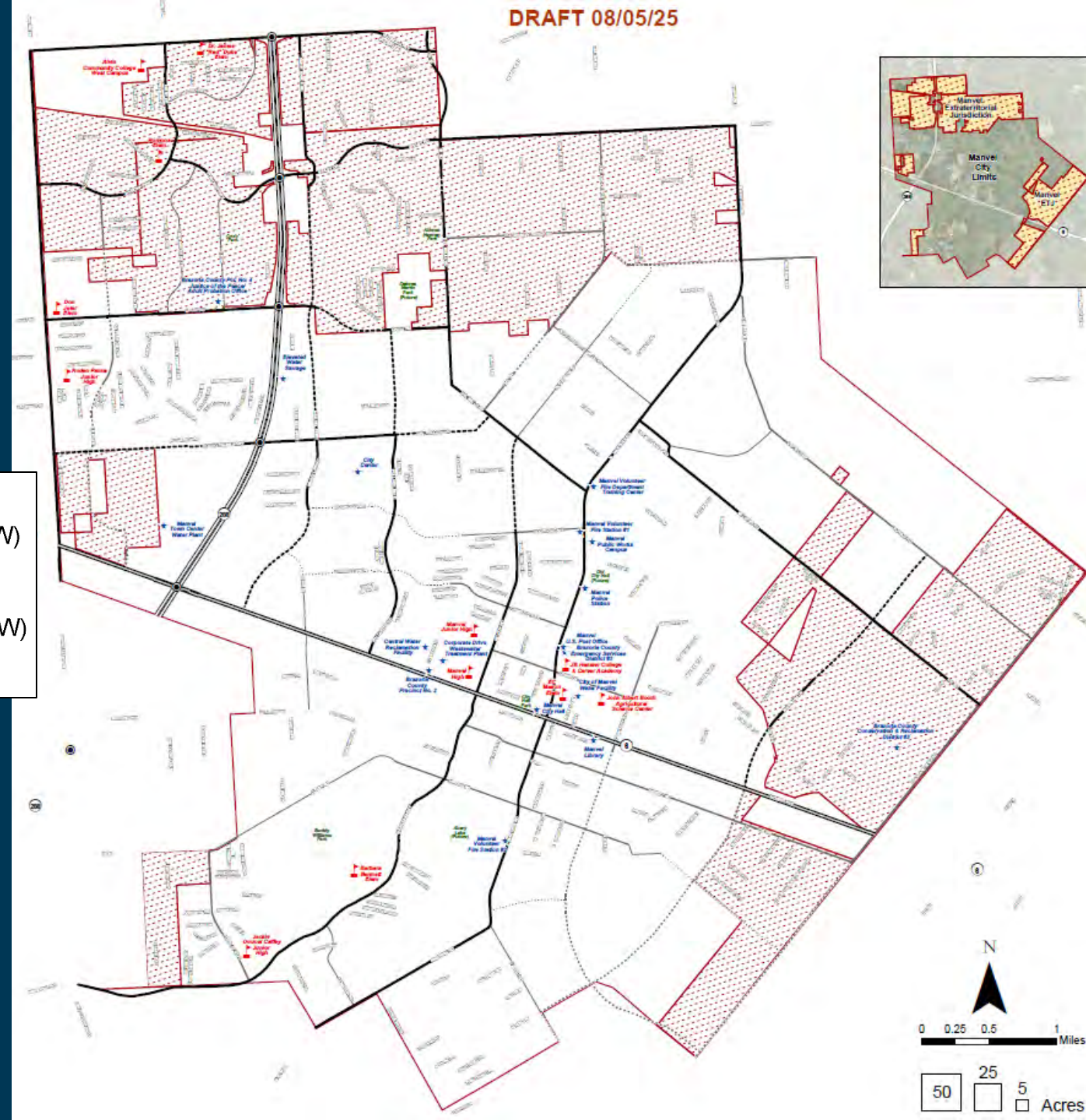


**Areas with Commercial /
Mixed Use Potential**



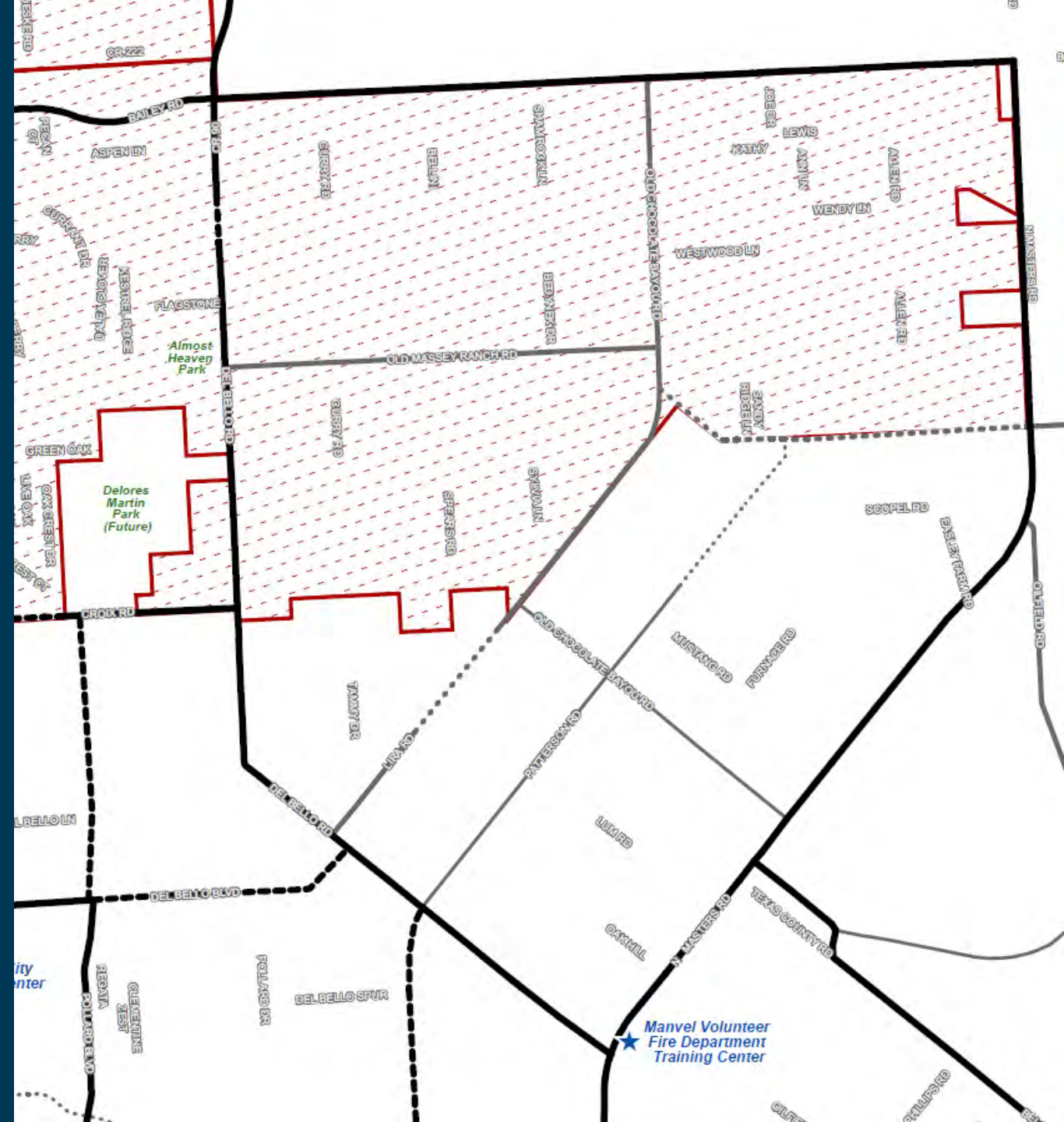
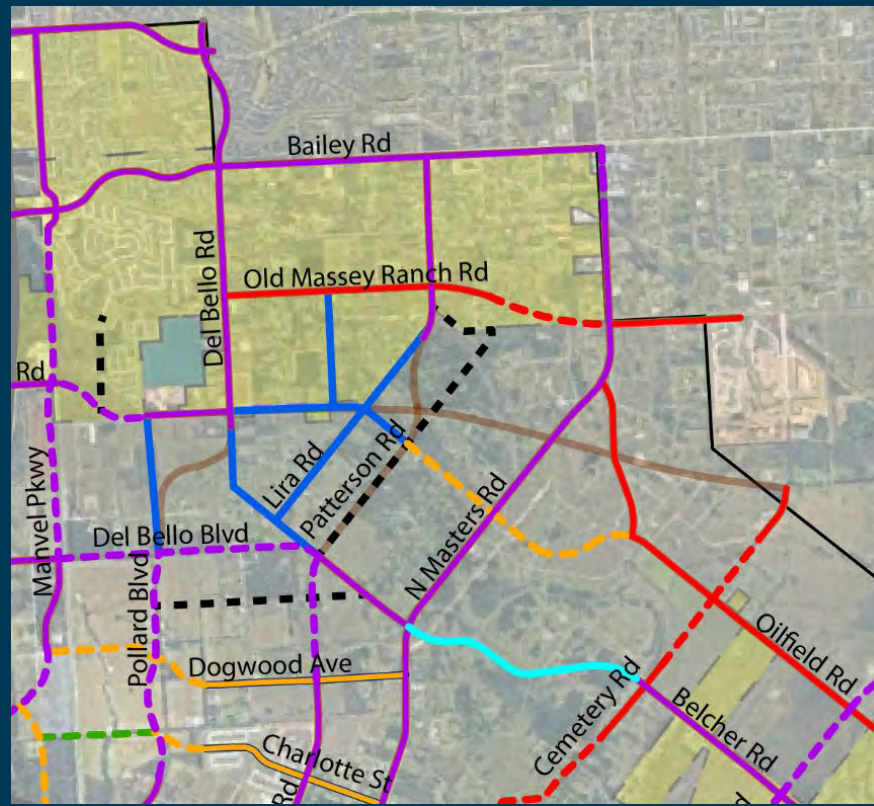
**Actions for Land Use and
Community Character**

DRAFT 08/05/25



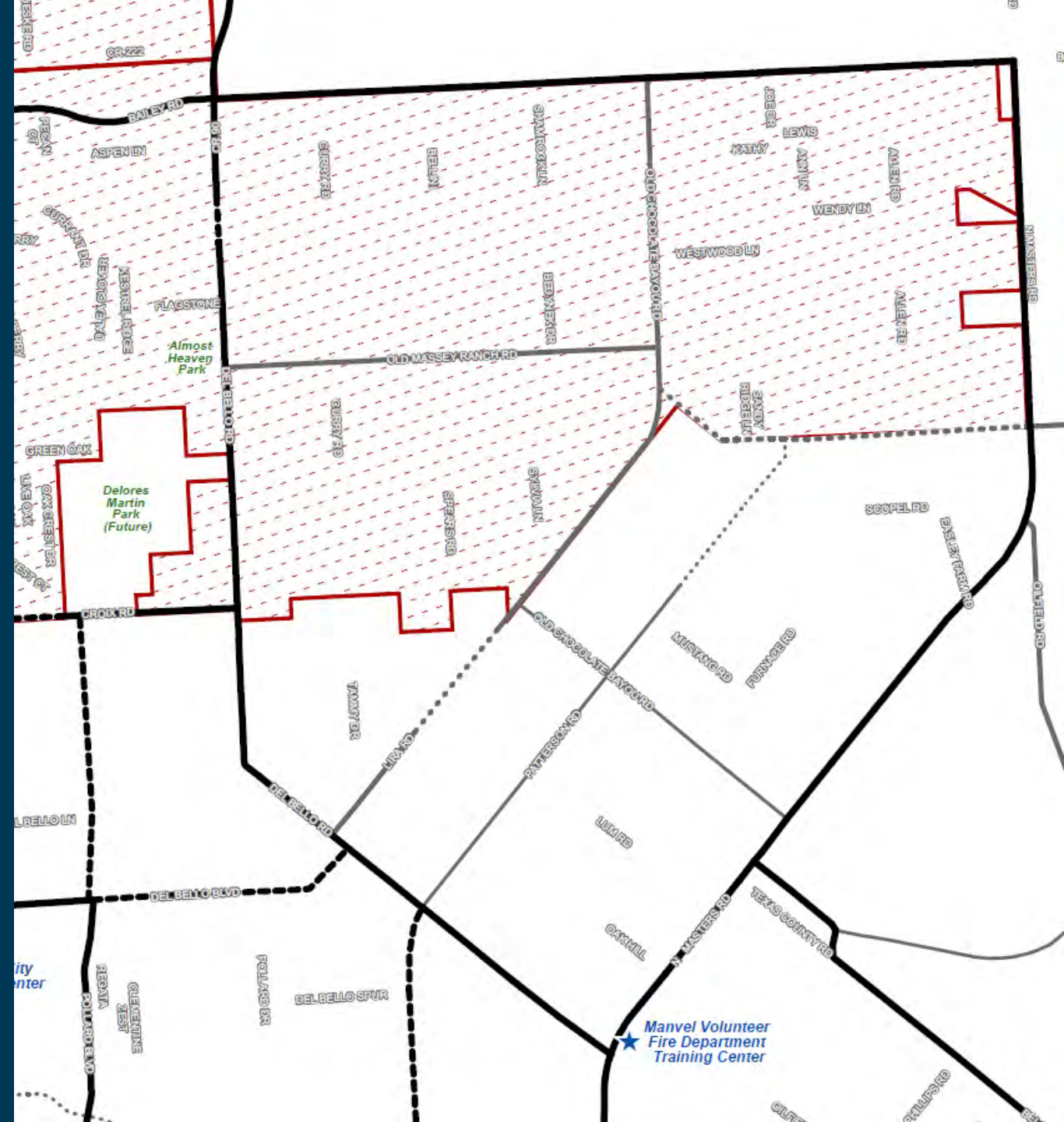
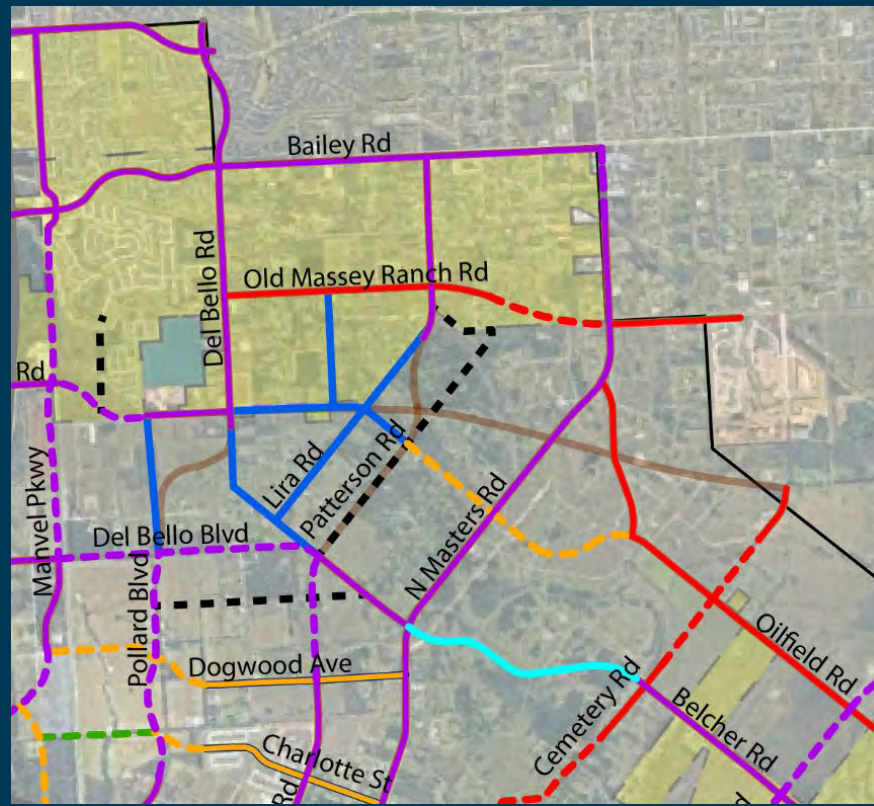
Latest Changes to Working DRAFT Map:

- **Changed Patterson Rd north of Del Bello Rd to Collector versus Parkway**
- **Kept Lira Rd/Old Chocolate Bayou Rd as an Arterial**



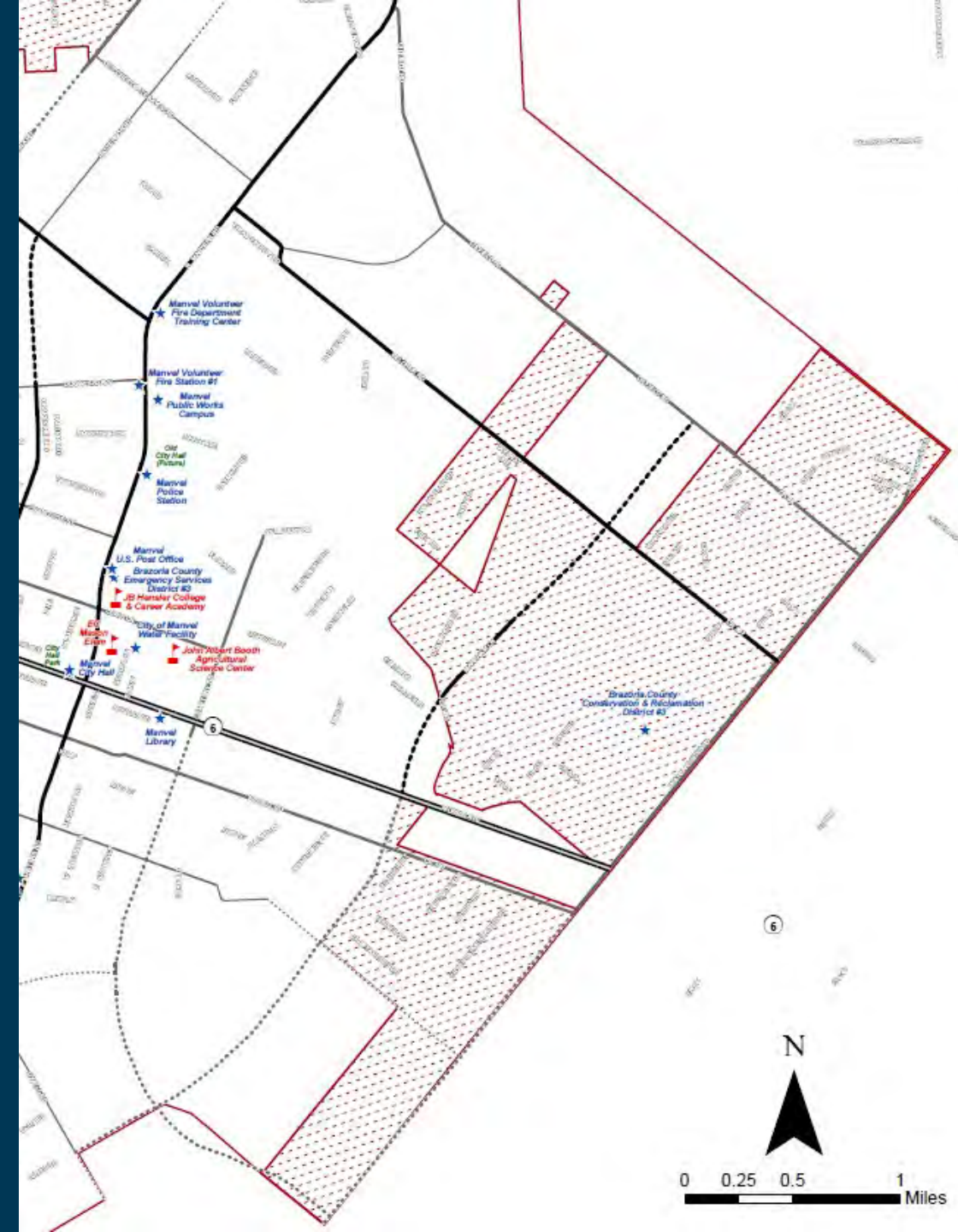
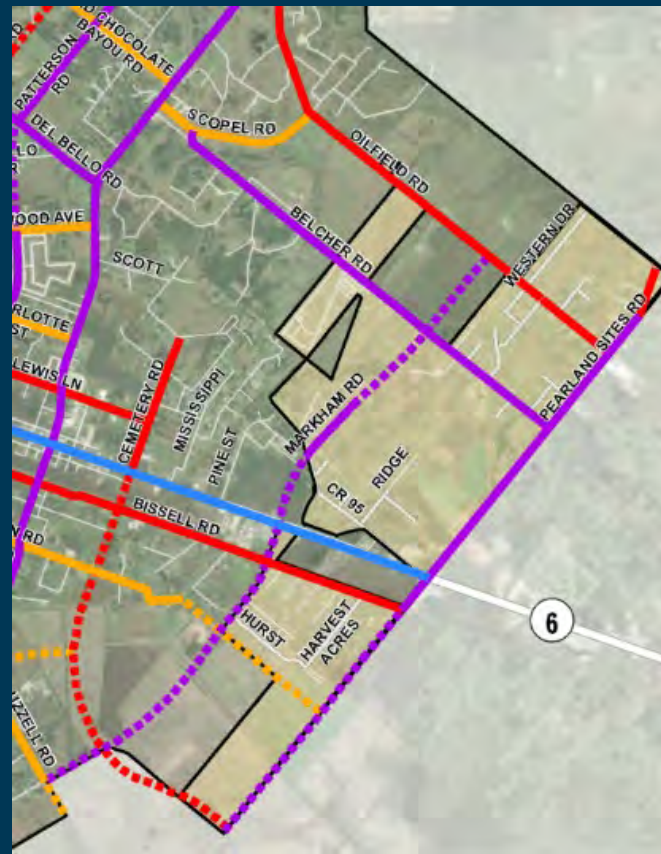
Latest Changes to Working DRAFT Map:

- Removed potential Croix Rd extension east of Del Bello Rd
- Also removed potential north-south connection from Croix Rd extension up to Old Massey Ranch Rd



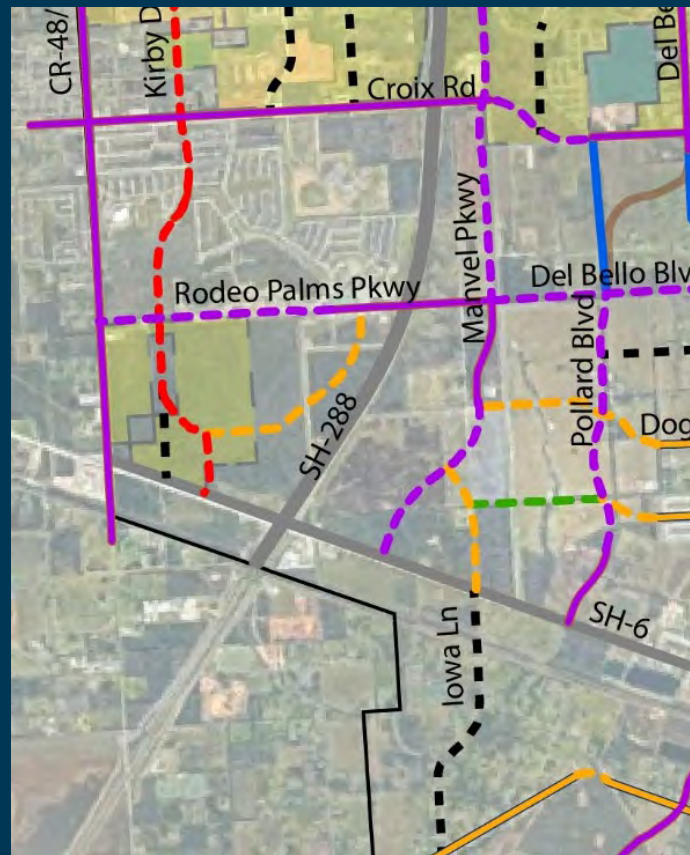
Latest Changes to Working DRAFT Map:

- Kept all of Belcher Rd as a Parkway given the development potential at Masters Rd
- Kept Markham Rd alignment as a Parkway north of SH 6, but reduced to Arterial south
- Changed Pearland Sites Rd to an Arterial versus mostly Parkway



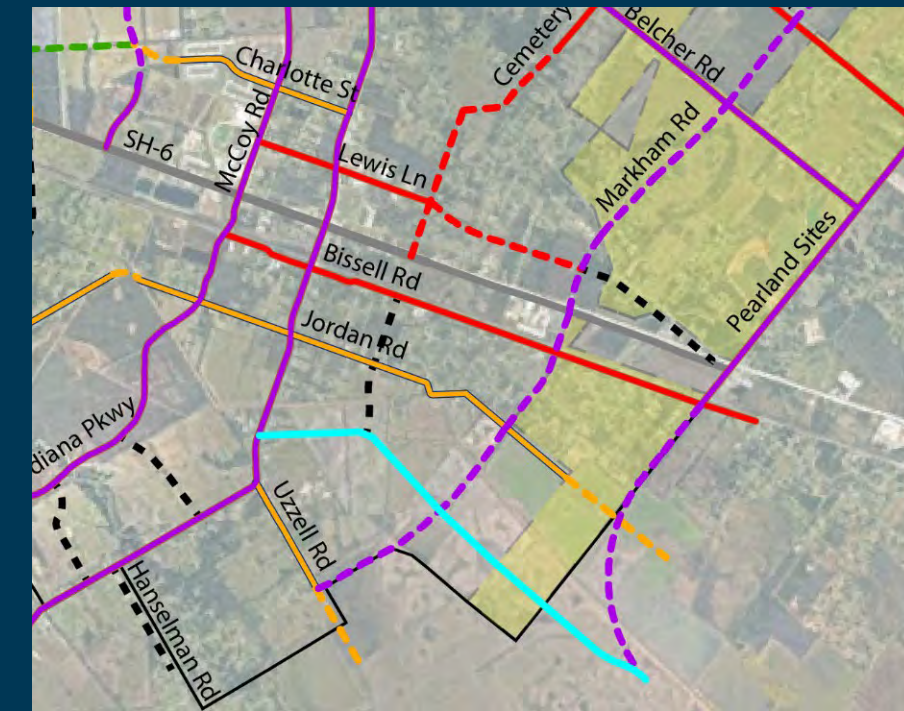
Latest Changes to Working DRAFT Map:

- Removed Collector from Kirby Dr to Rodeo Palms Pkwy
- Removed potential direct connection from Kirby Dr south to SH 6
- Ended Iowa Ln Collector south of SH 6 at Stevens versus Clark Rd



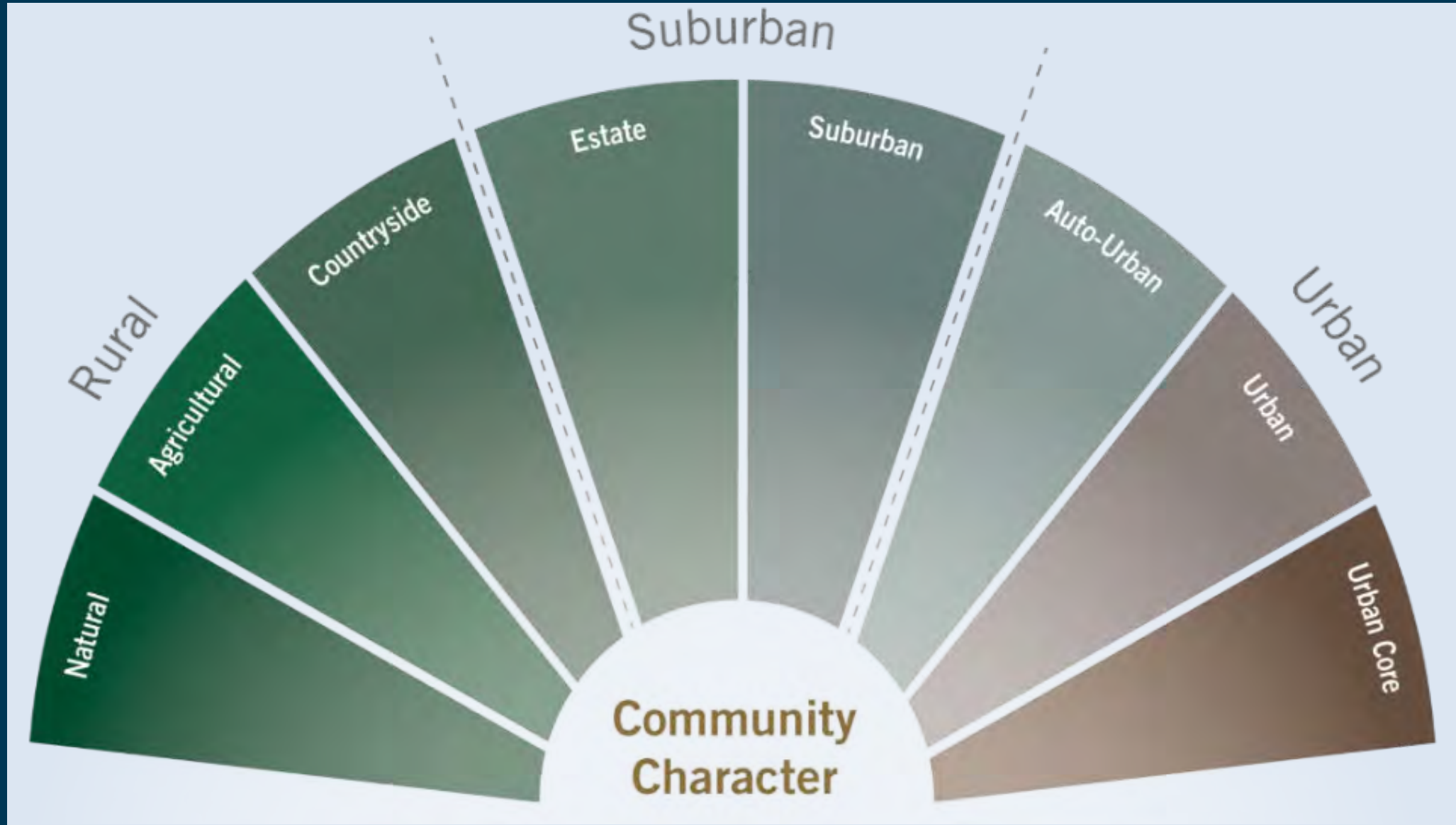
Latest Changes to Working DRAFT Map:

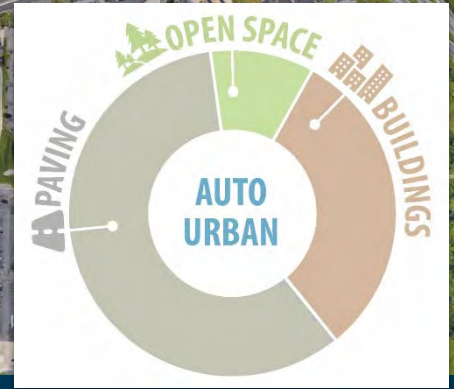
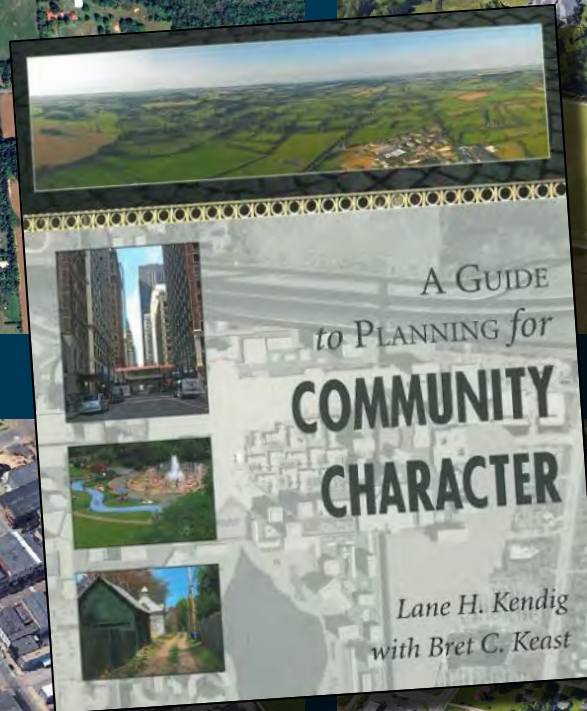
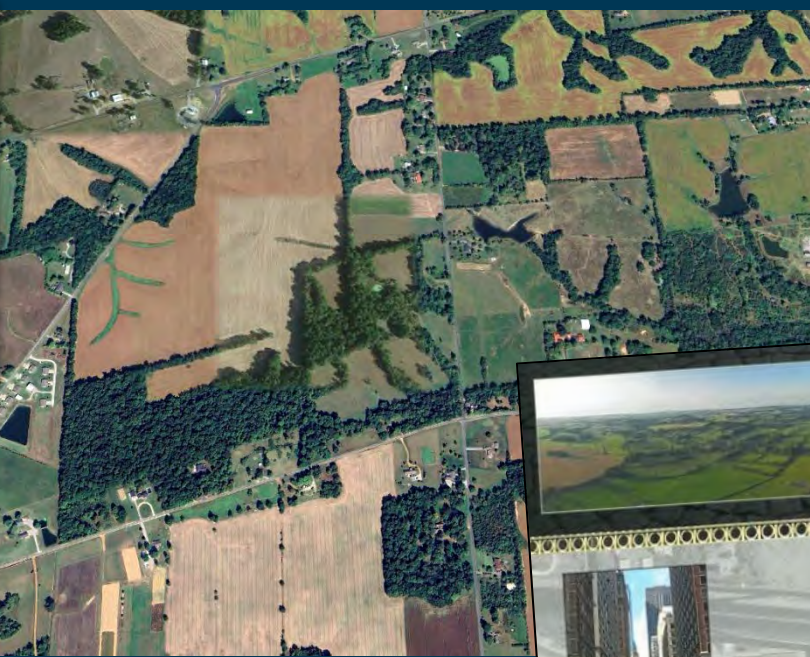
- South of SH 6, added Collector from Masters Rd to potential Cemetery Rd south extension, but removed segment that continued east to Pearland Sites Rd



LAND USE AND COMMUNITY CHARACTER

Looking beyond just types of use to “character”





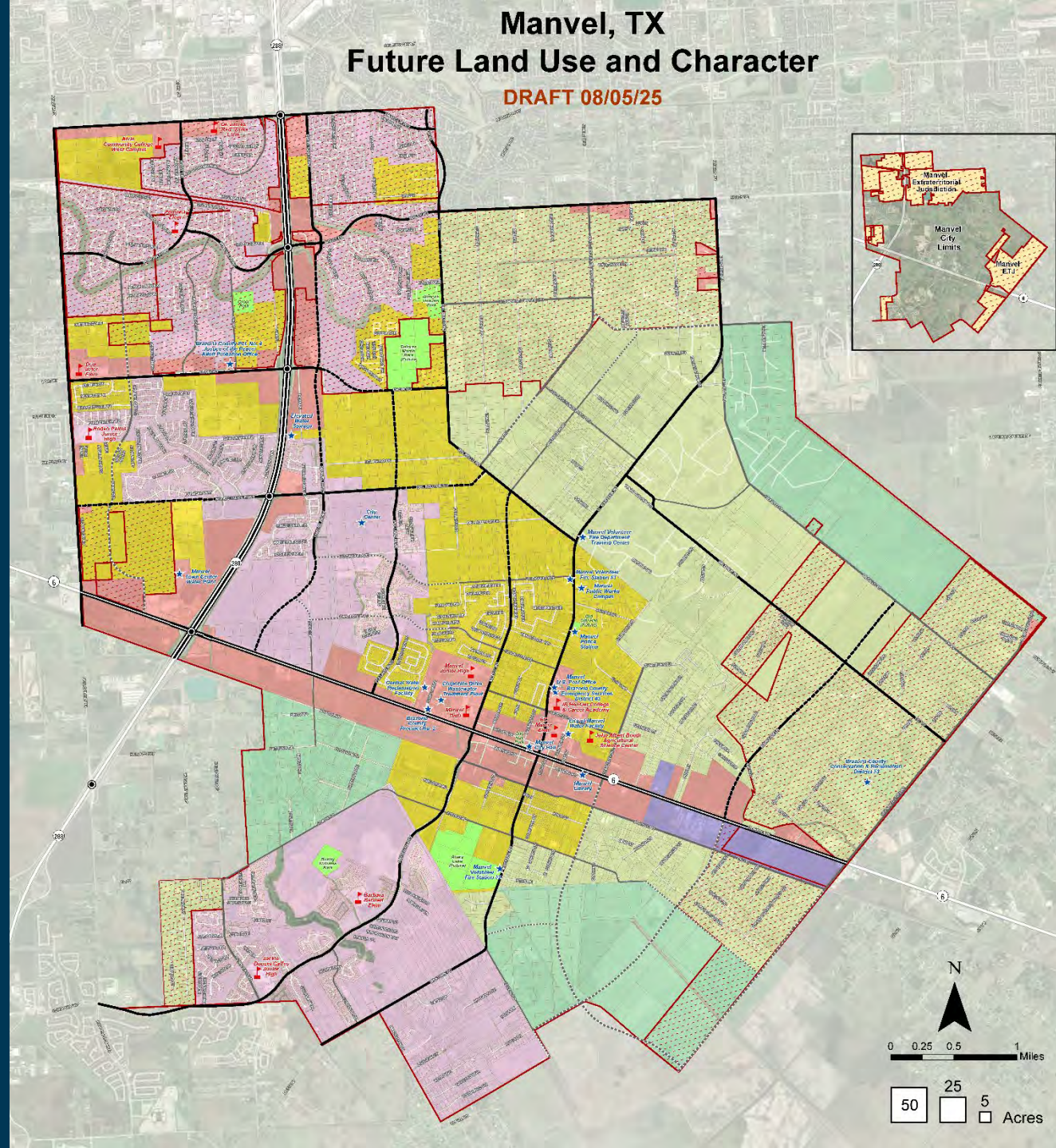
Future Land Use and Character

Future Land Use and Character



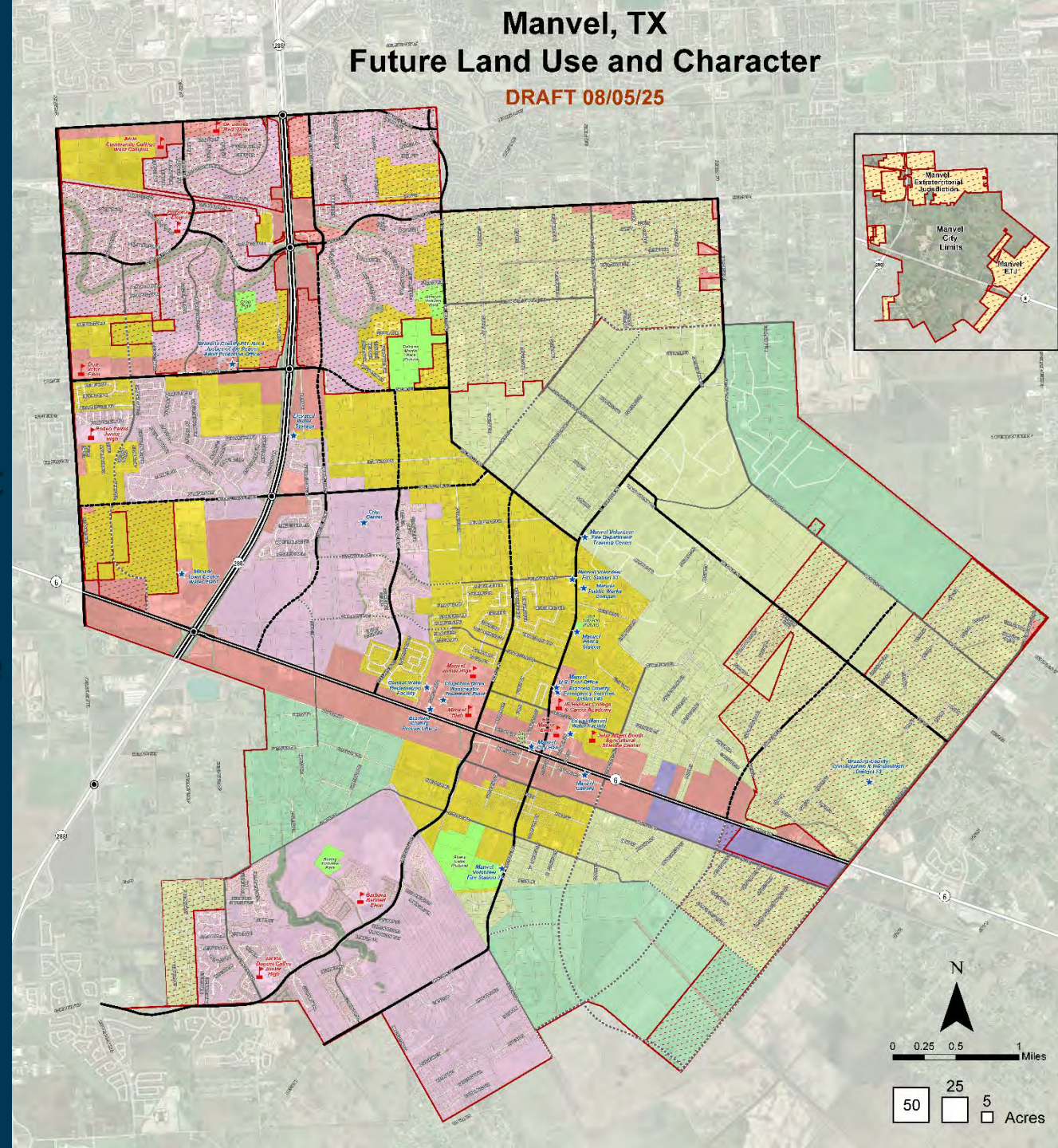
Category descriptions itemize:

- Character objectives
- Predominant land use
- Other potential land uses



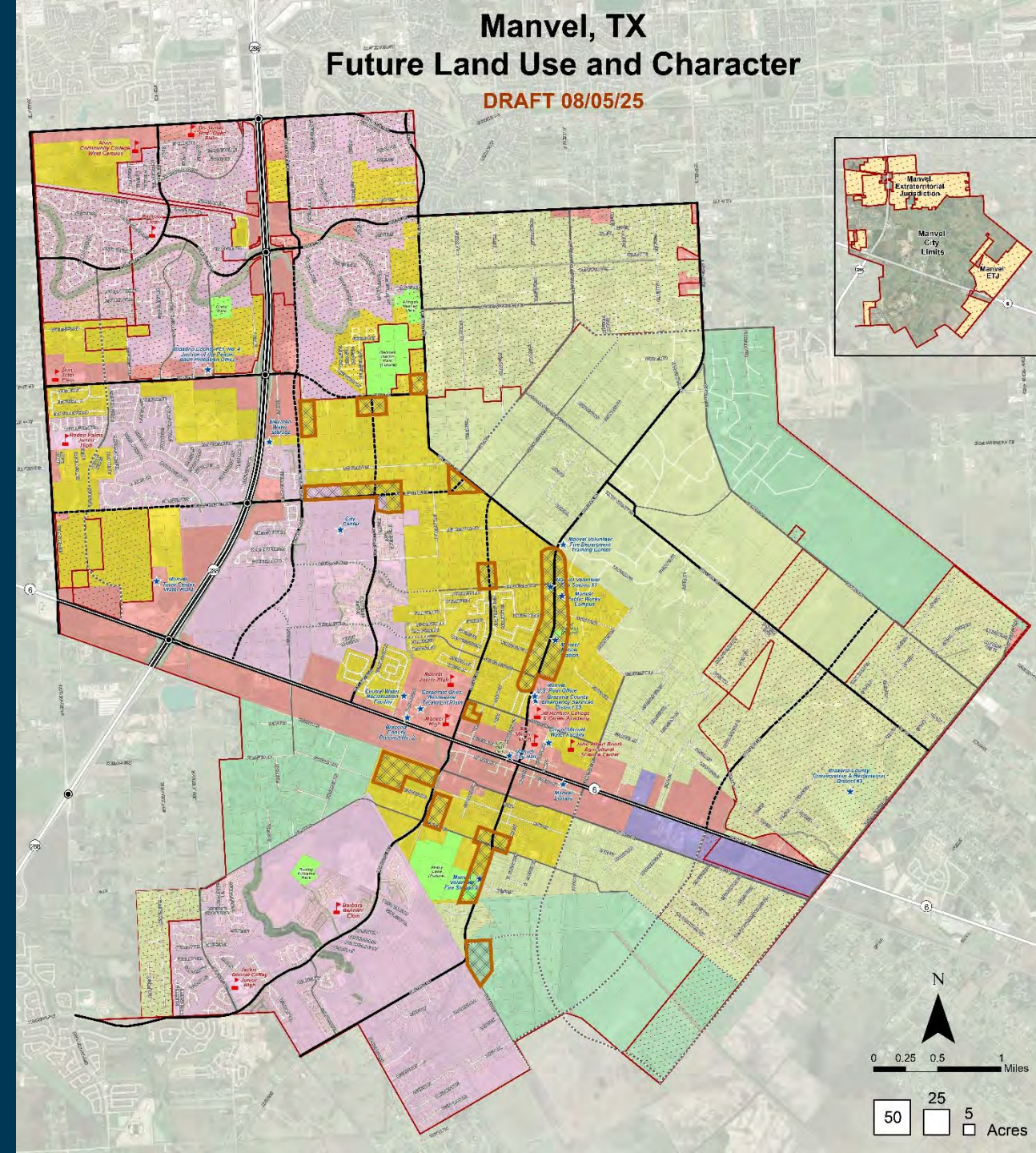
BIG PICTURE, the Map Shows ...

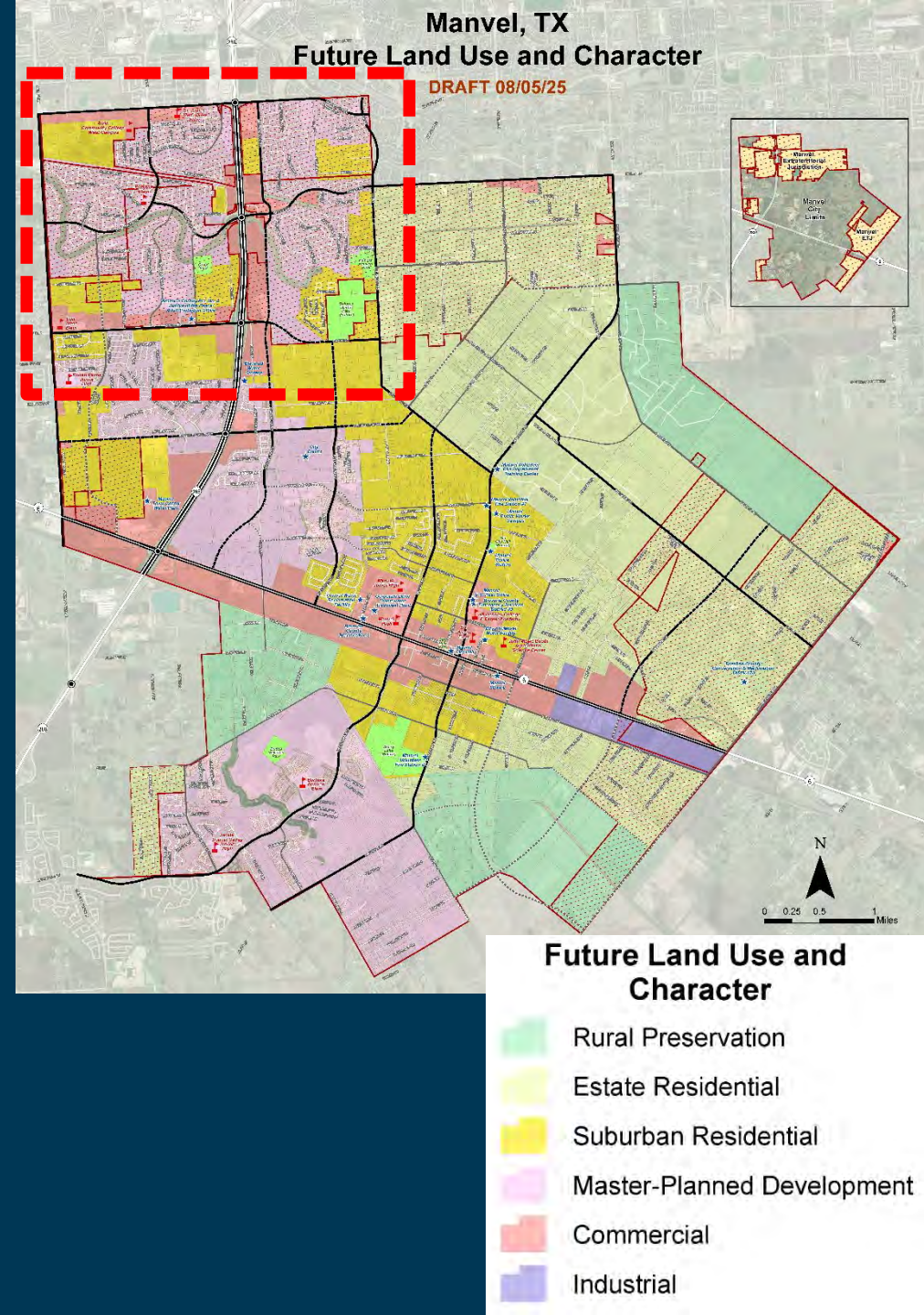
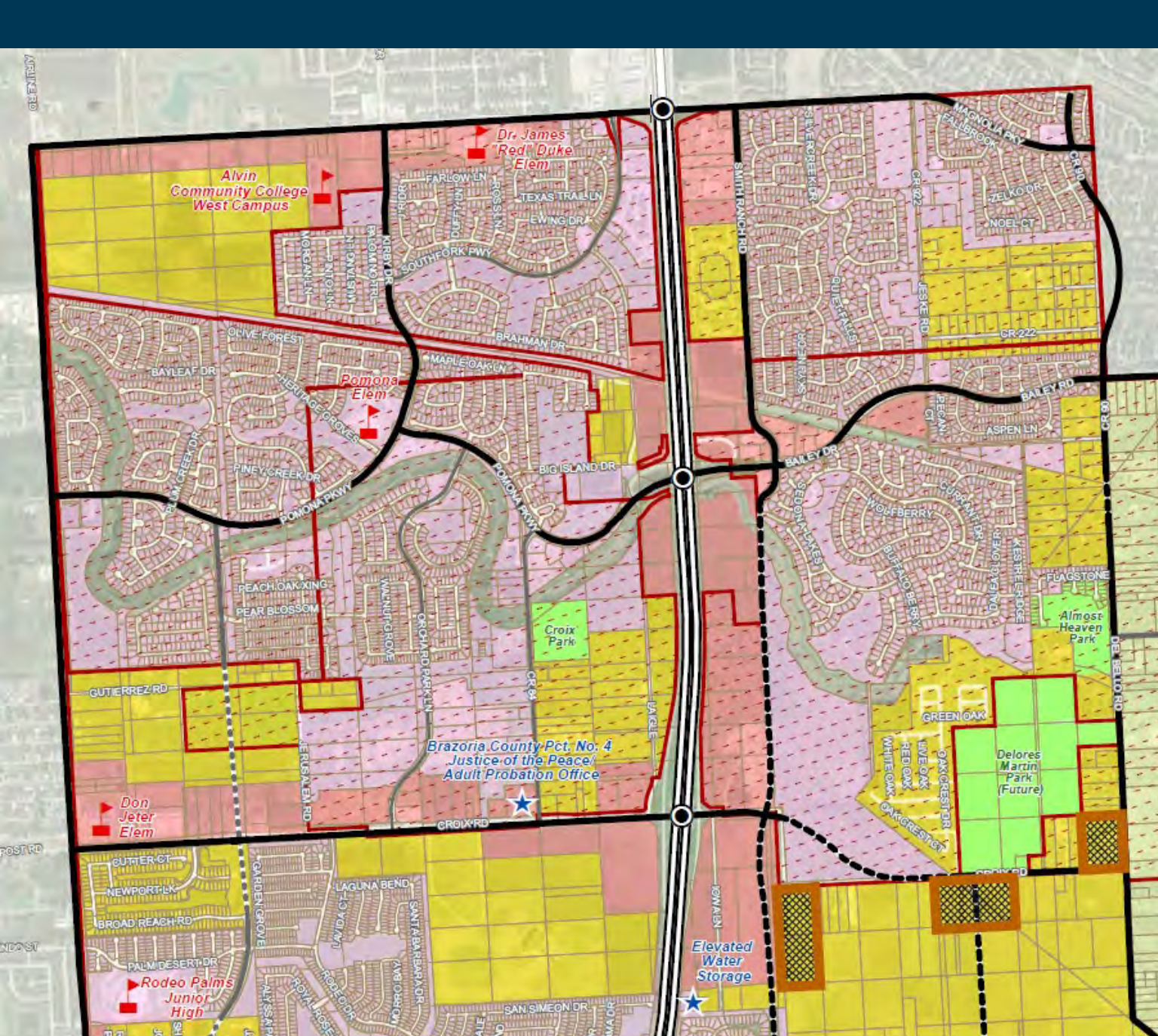
- Focusing the **most intensive development** toward SH 288 and SH 6 corridors
- **Master-Planned Development** where:
 - Mix of housing types and/or commercial
 - Open space set-asides
 - Internal amenities (e.g., recreation center)
 - Storm water detention designed into layout
- Extensive areas of **Estate Residential** (large lot equivalent to 1-acre O-SFR zoning) to maintain semi-rural atmosphere elsewhere
- A few **Rural Preservation** areas still with wide open spaces, floodplain constraints
- **Commercial** focused toward major roads
- Ongoing **Industrial** focus only in southeast city limits between SH 6 and railroad
- Locations of **public facilities** called out

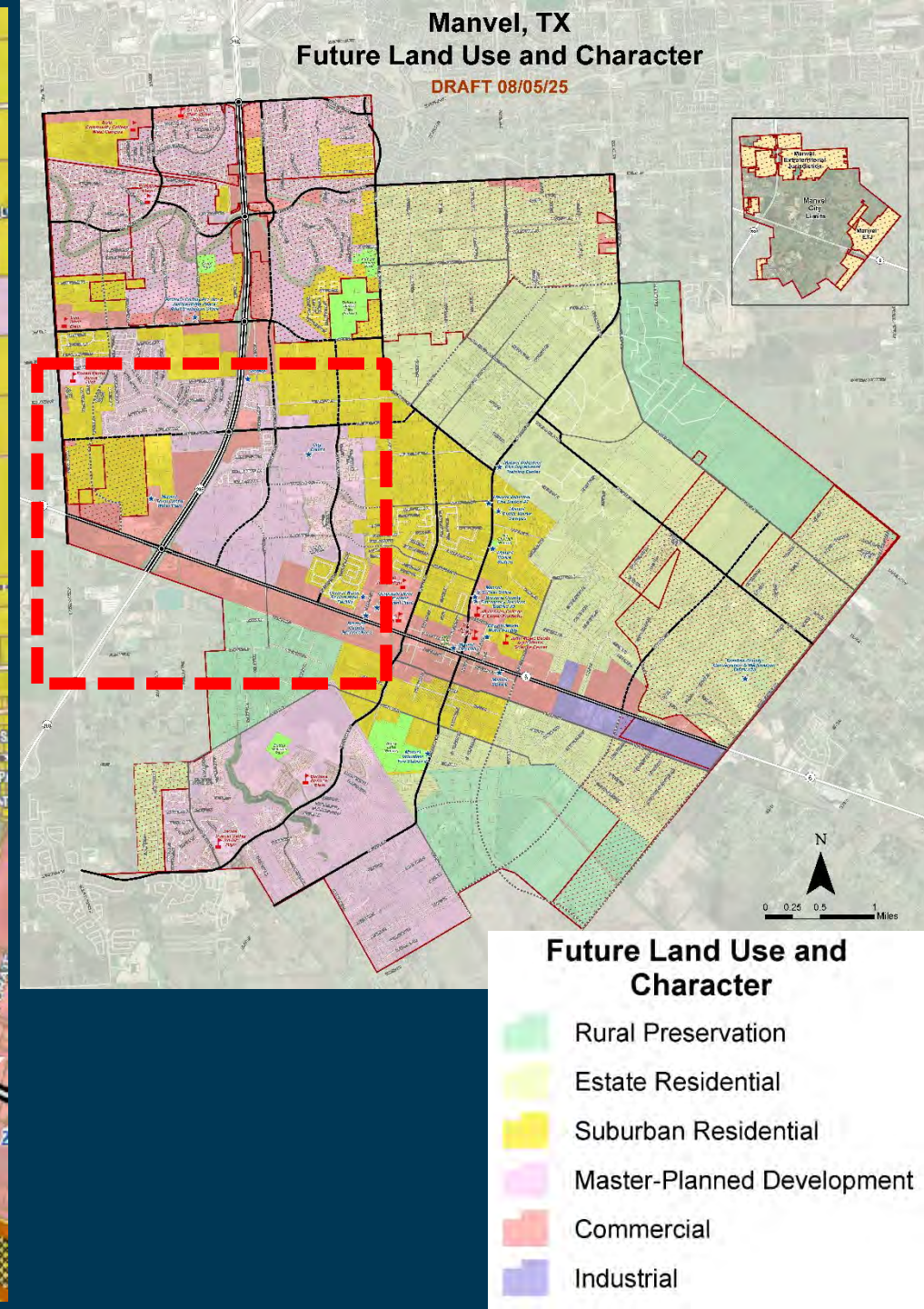
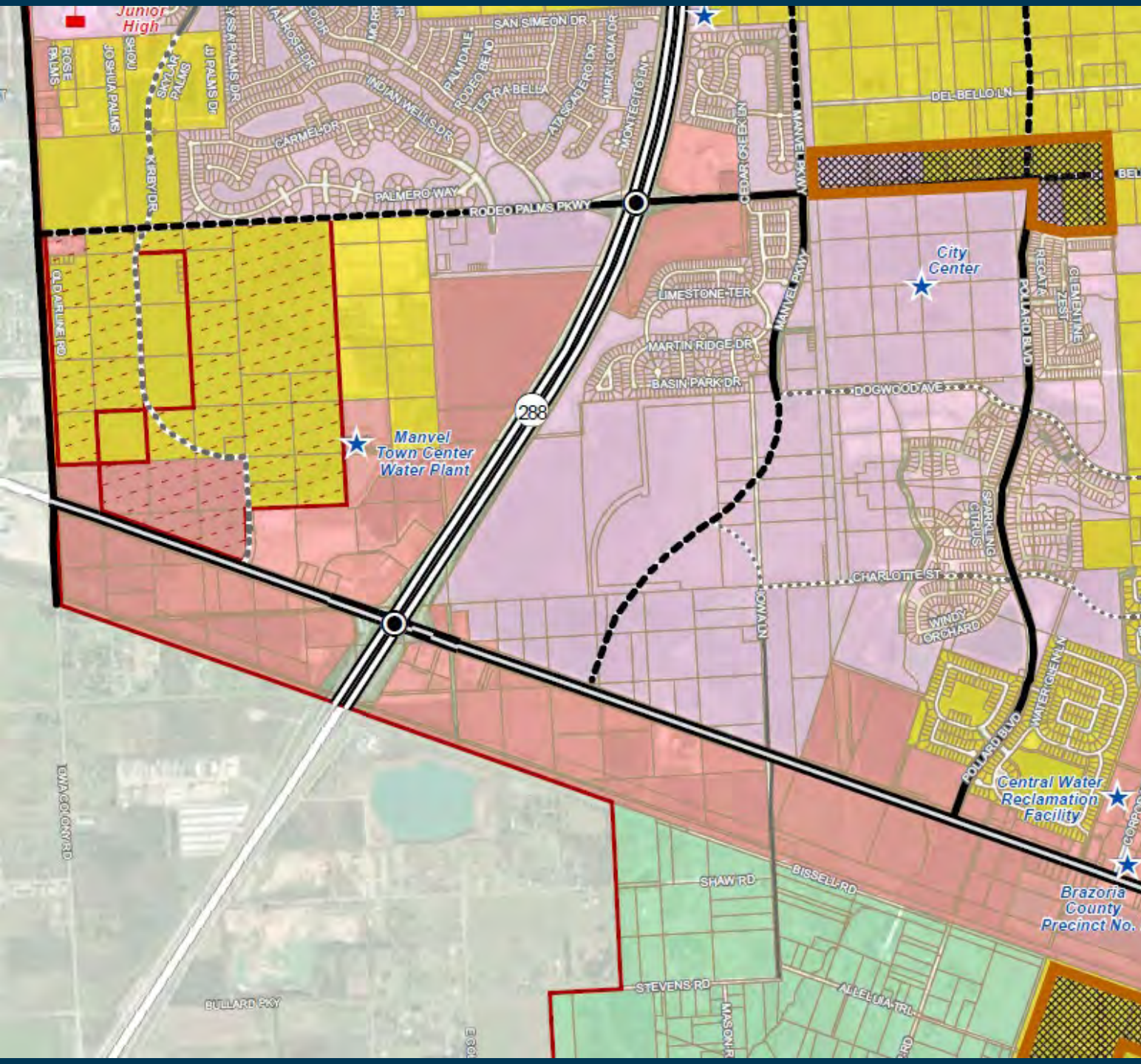


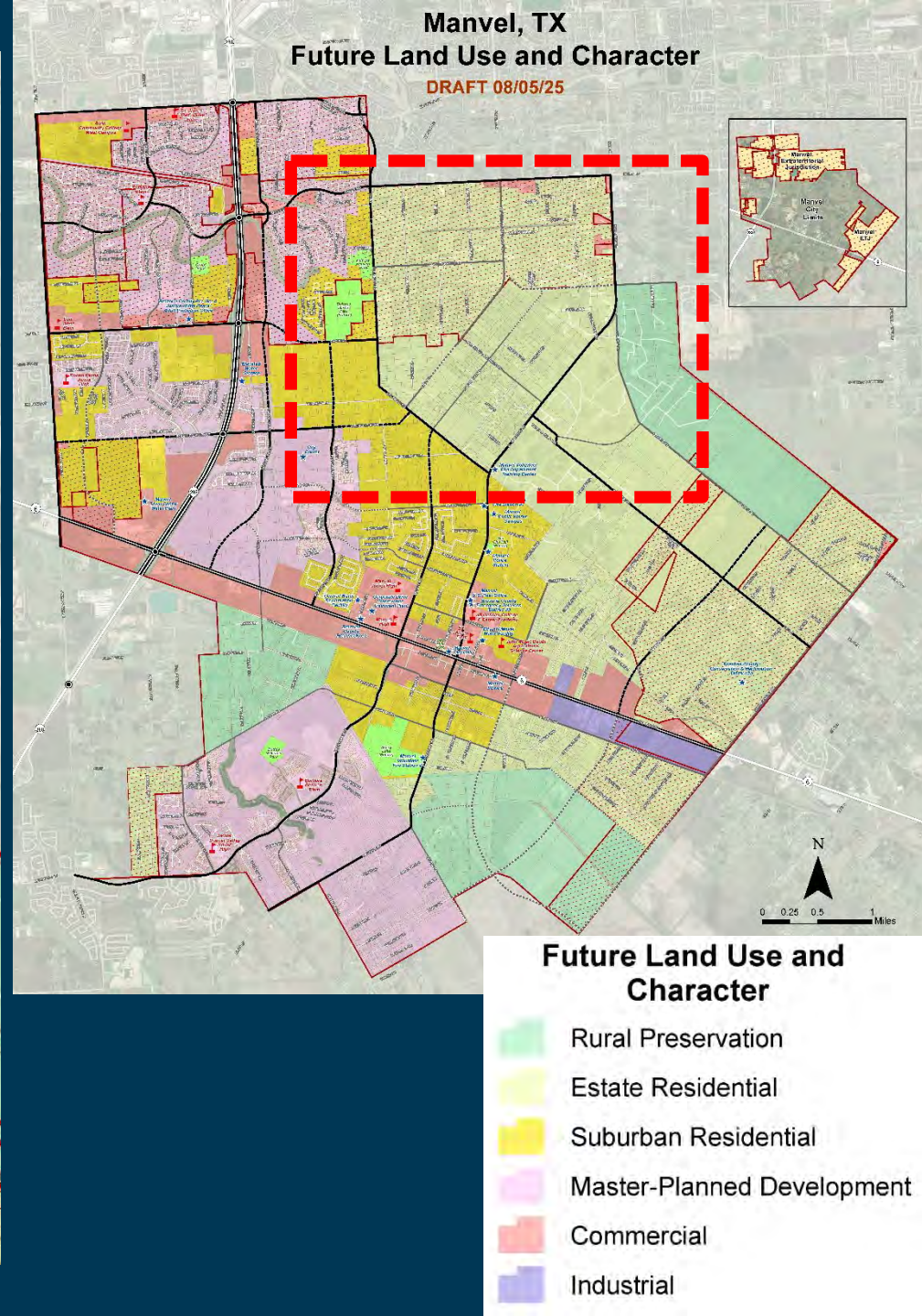
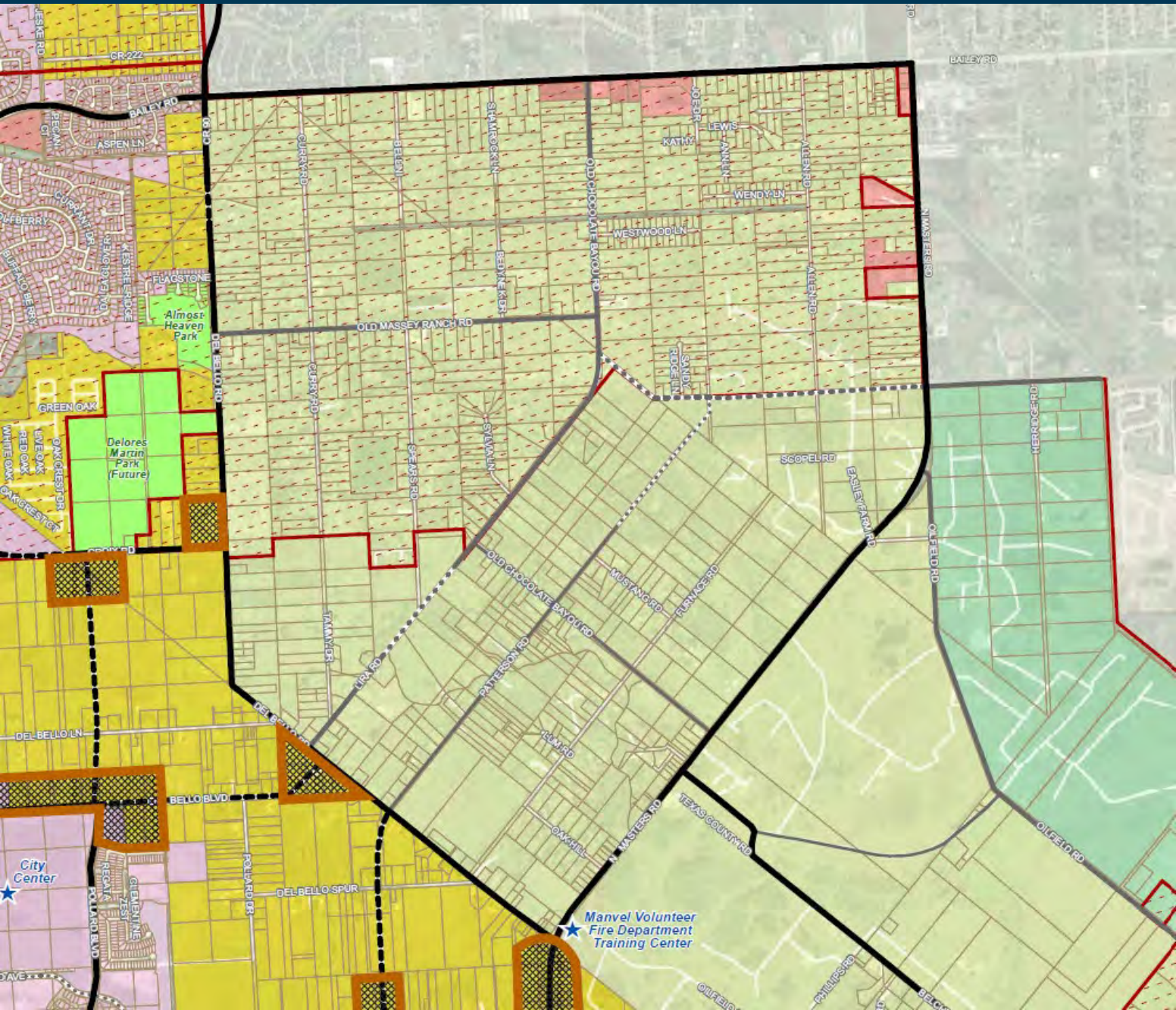
Areas with Commercial / Mixed-Use Potential

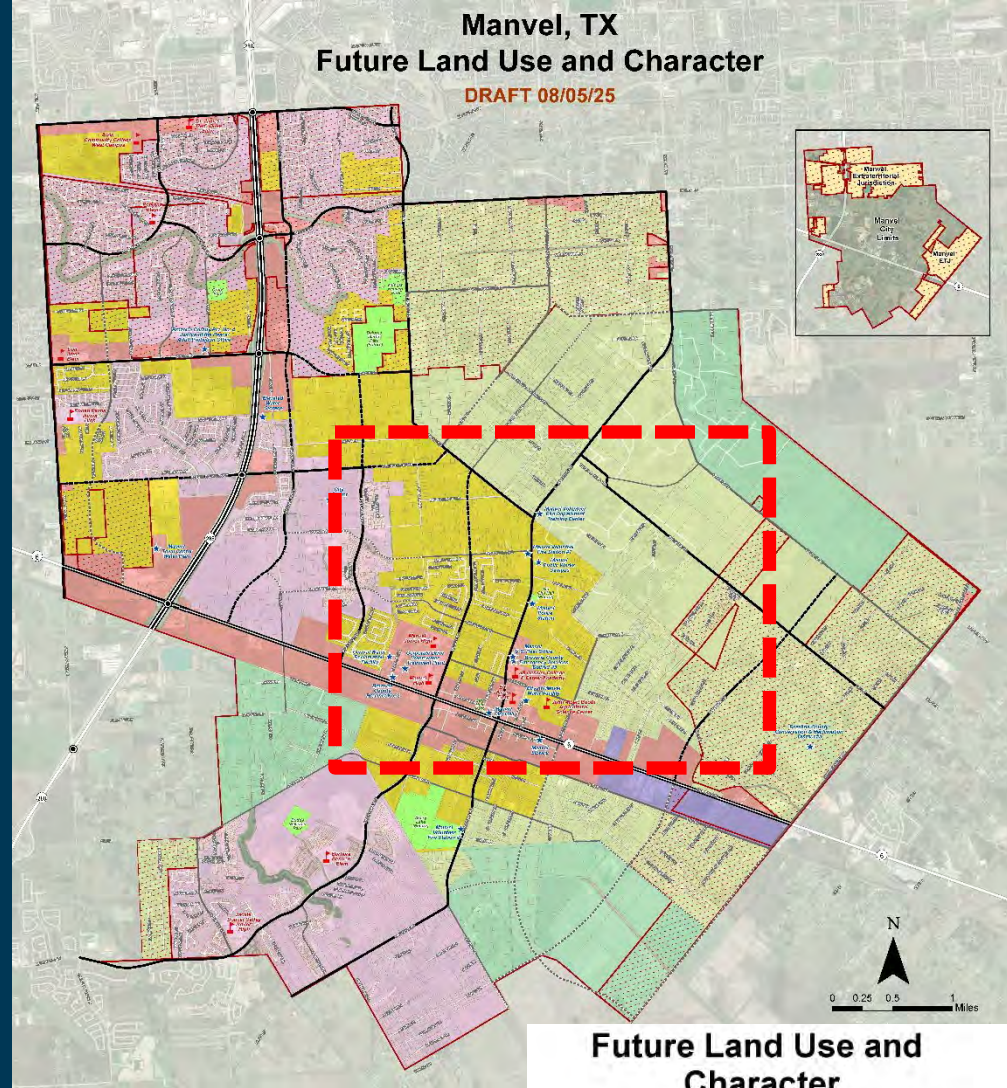
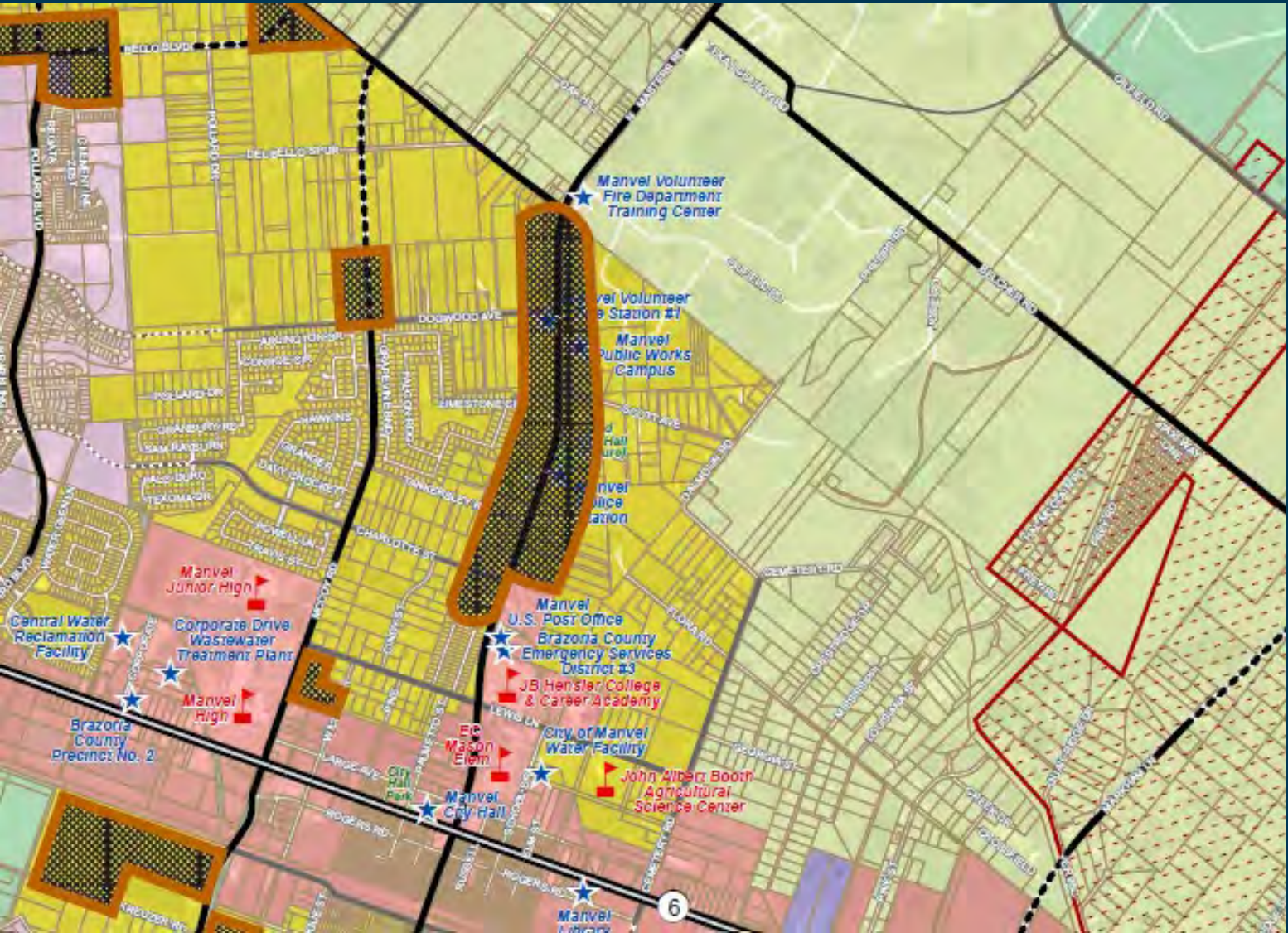
- **“Flex” approach** to show where map may shift – and zoning may eventually change – from residential, especially around edges of Commercial areas as land market matures
- At **key intersections** on Major Thoroughfare Plan map
- Along **roadway corridors** where commercial activity may “follow rooftops”
- Signaling on map that **clusters of commercial activity are preferred** to “strip development” spread out along corridors
- Also signaling that **neighborhood-serving retail and services** – relative to large-scale commercial (i.e., Manvel Town Center) – should be at locations more convenient to residents





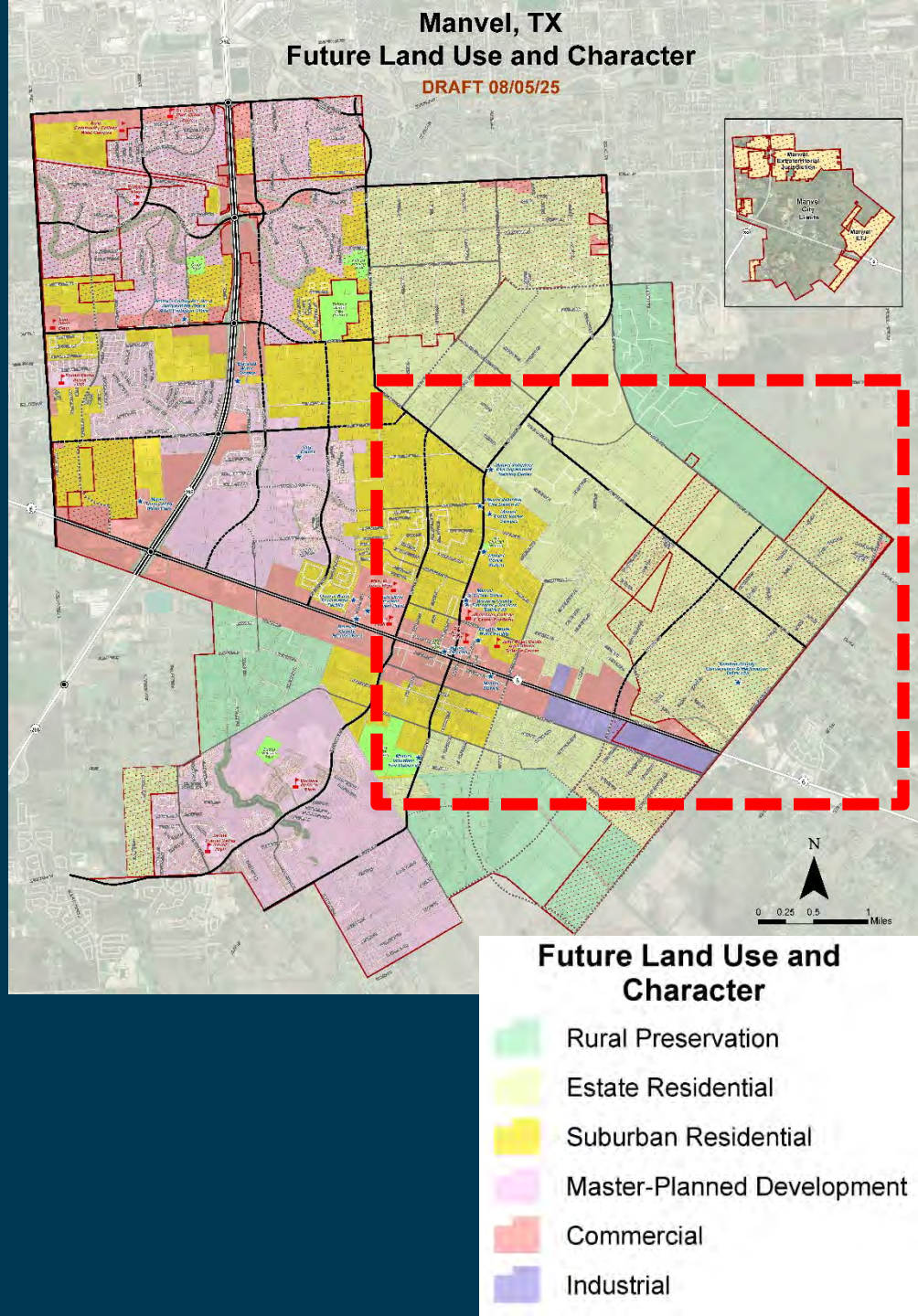
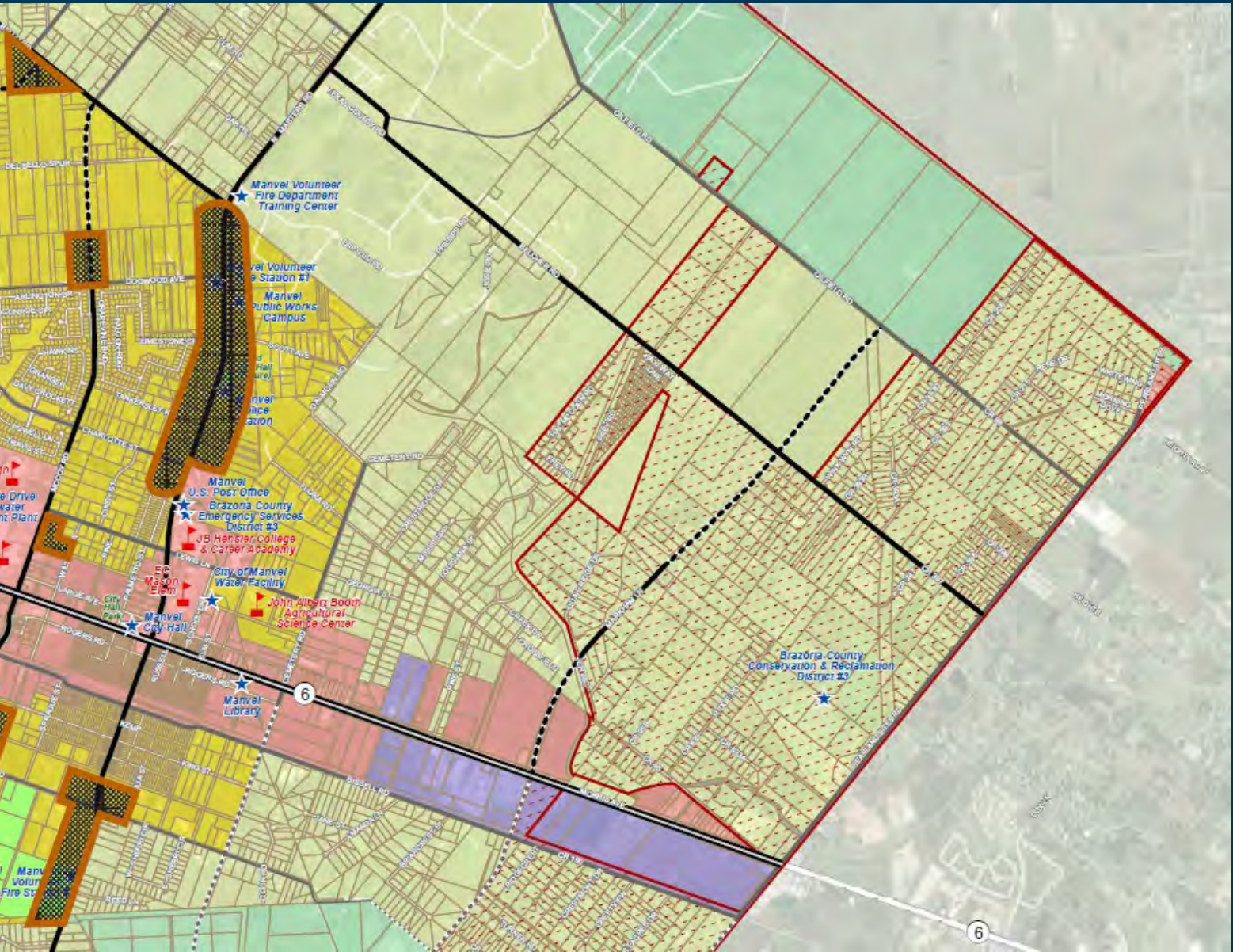


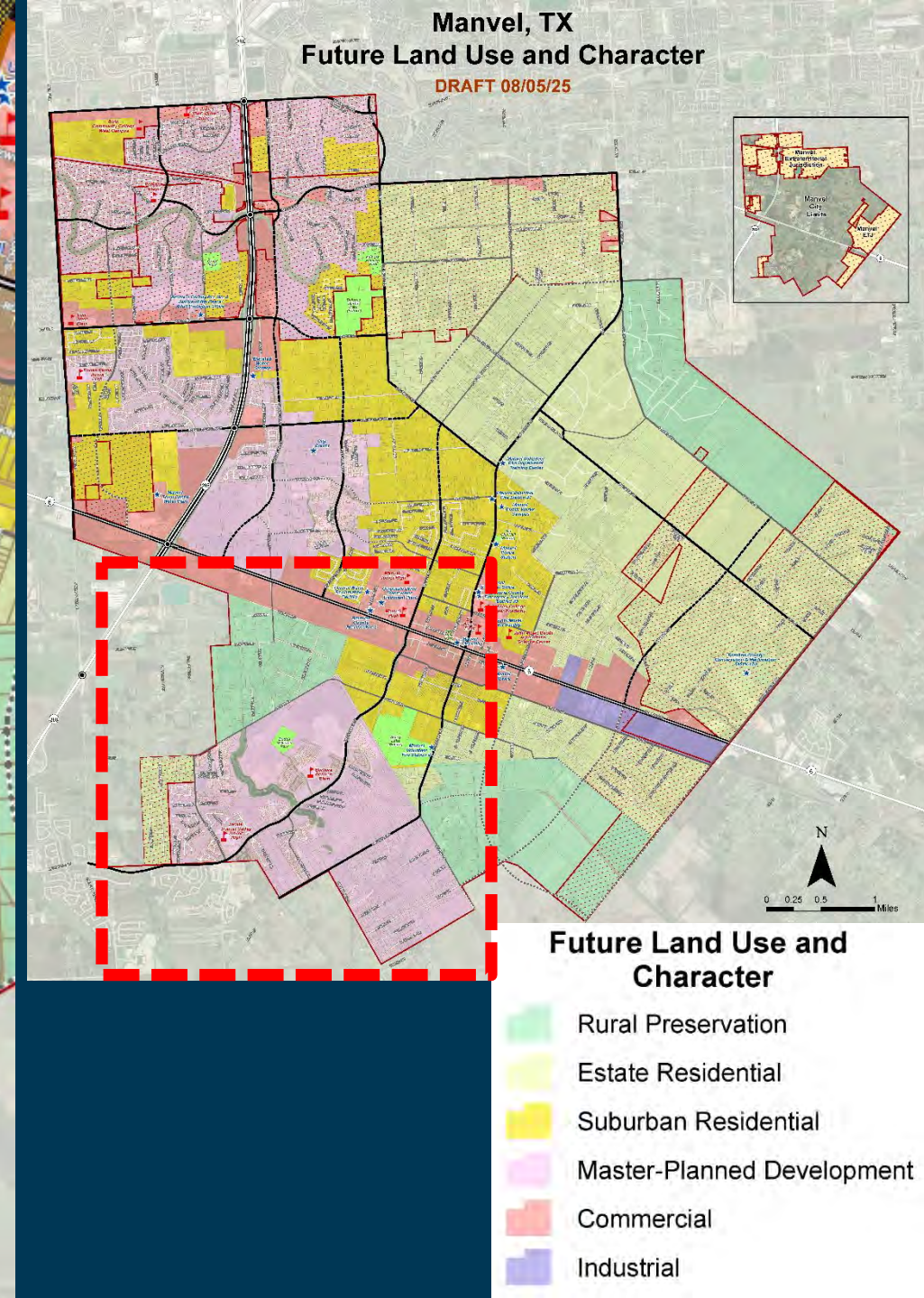
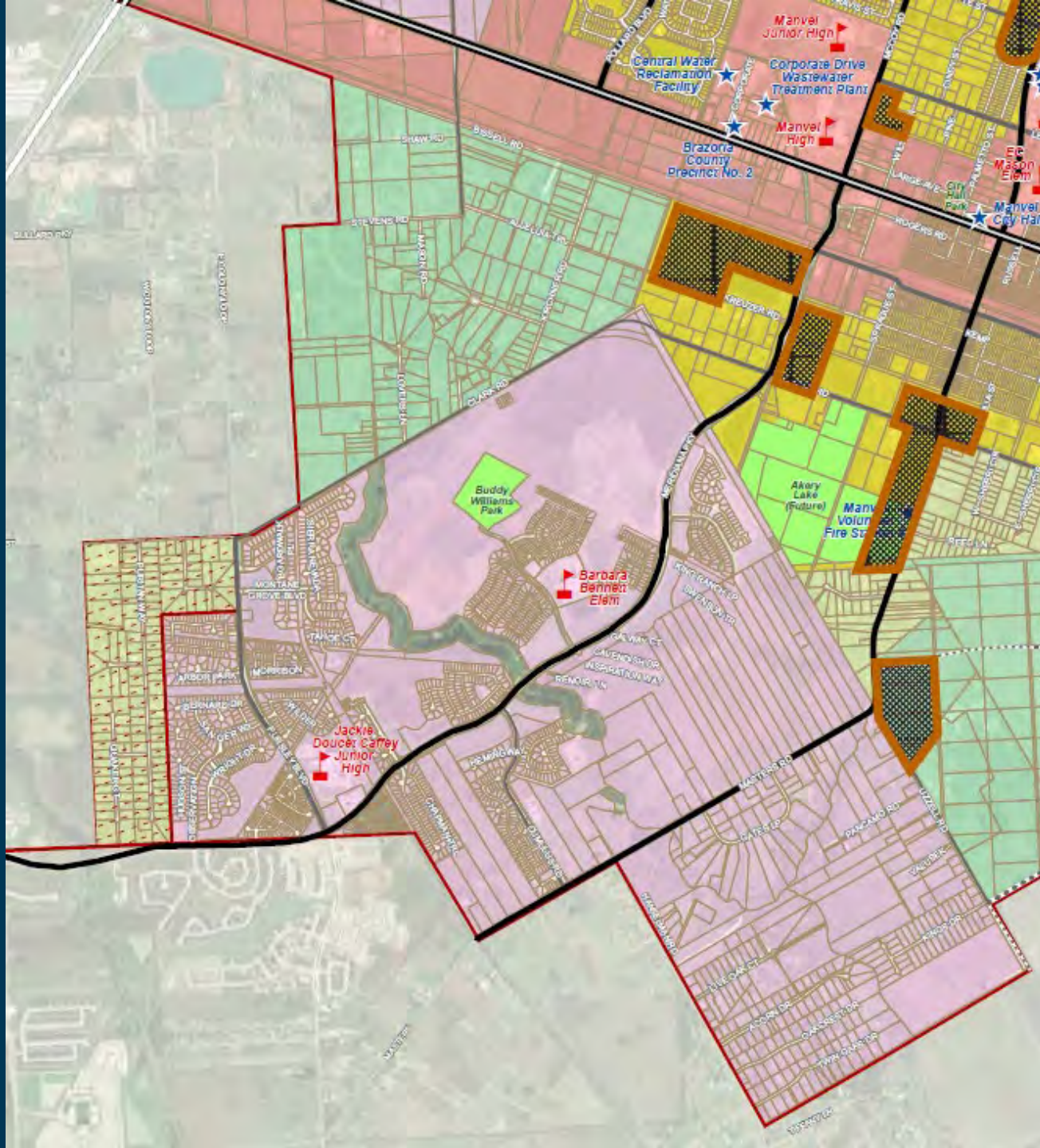


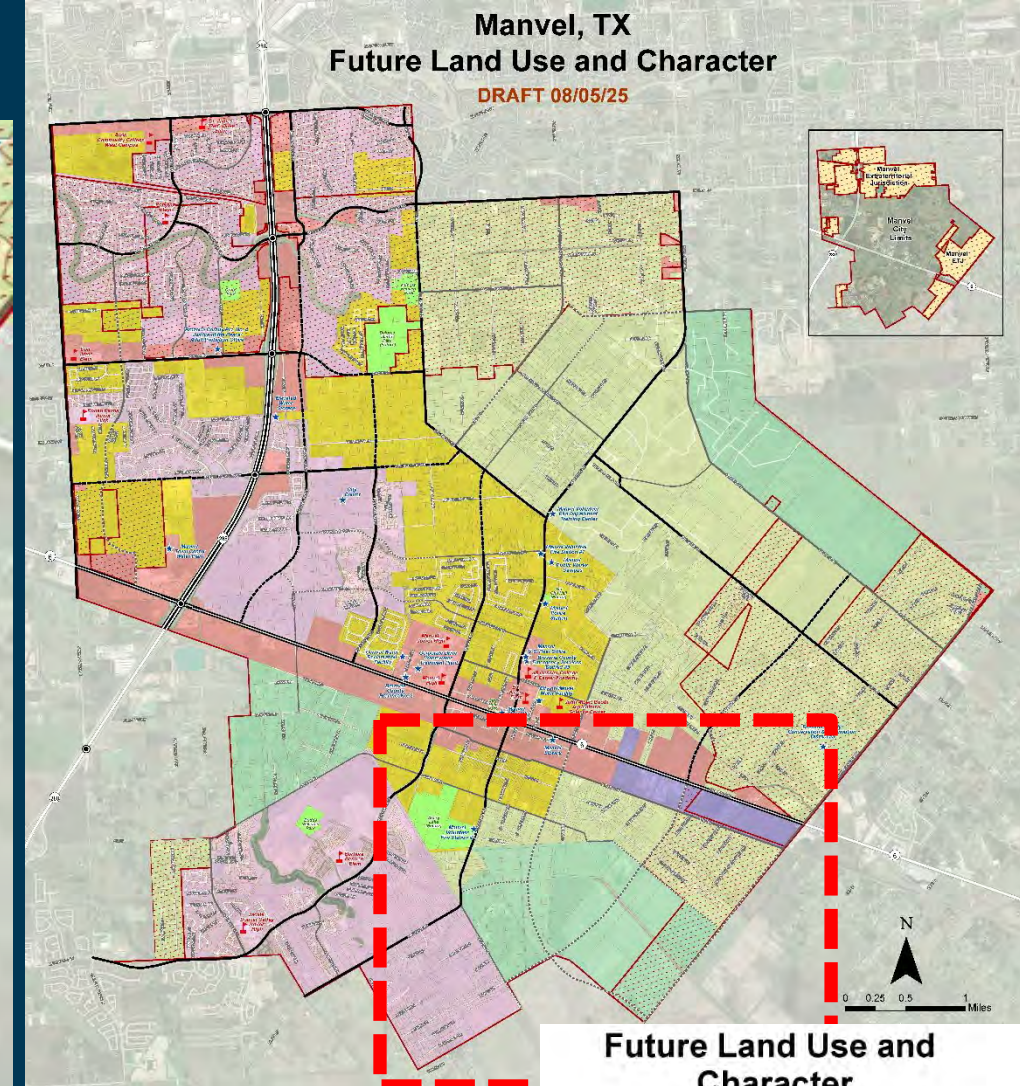
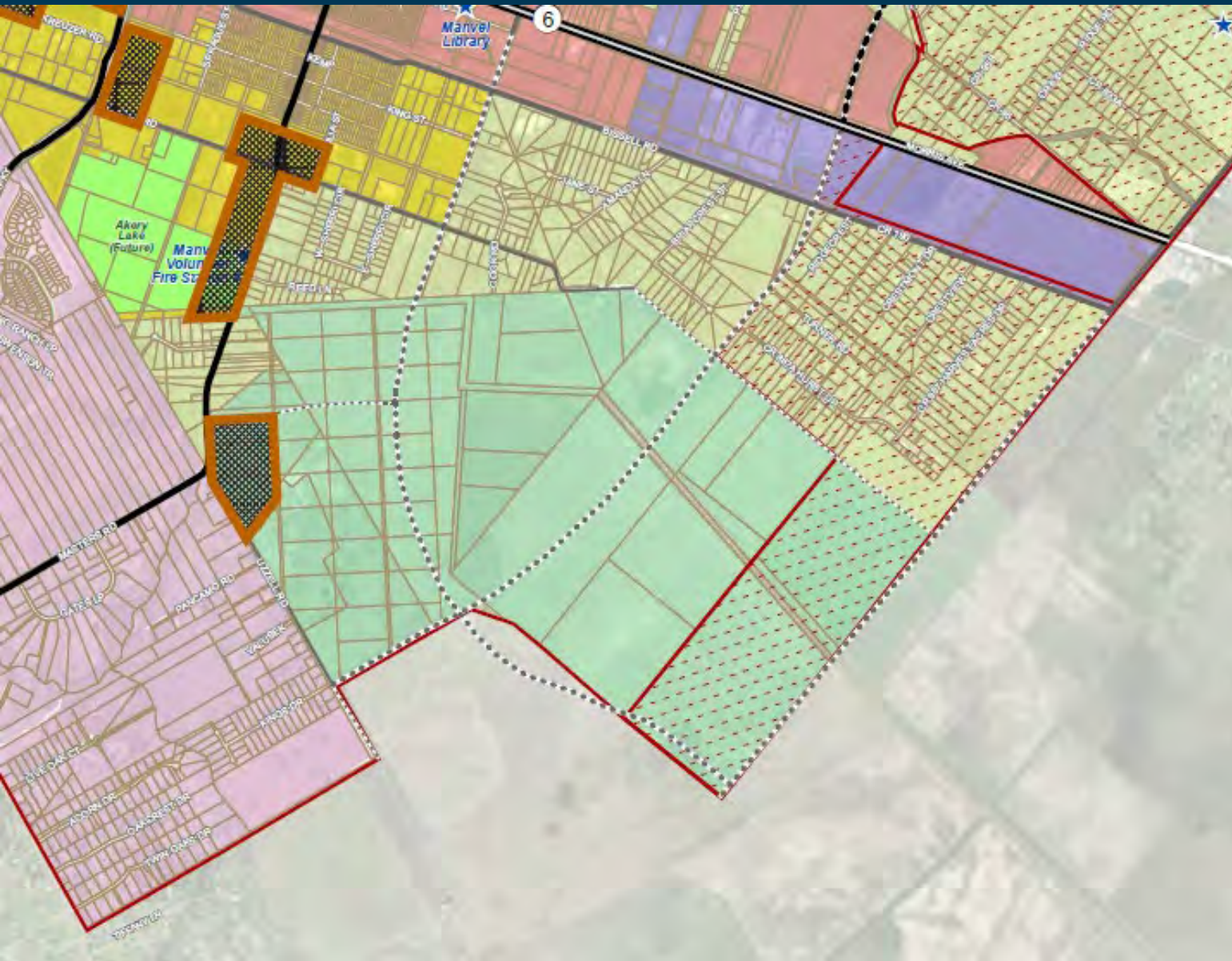


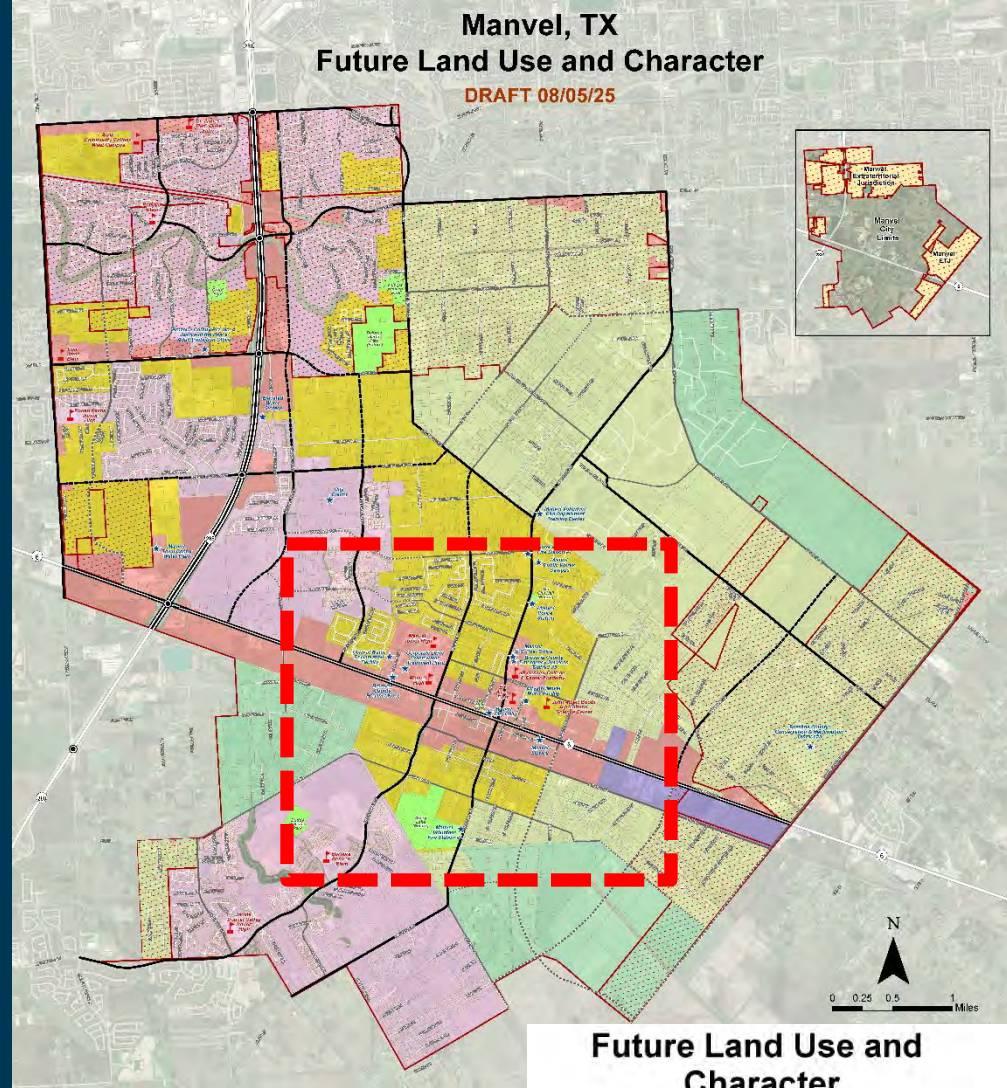
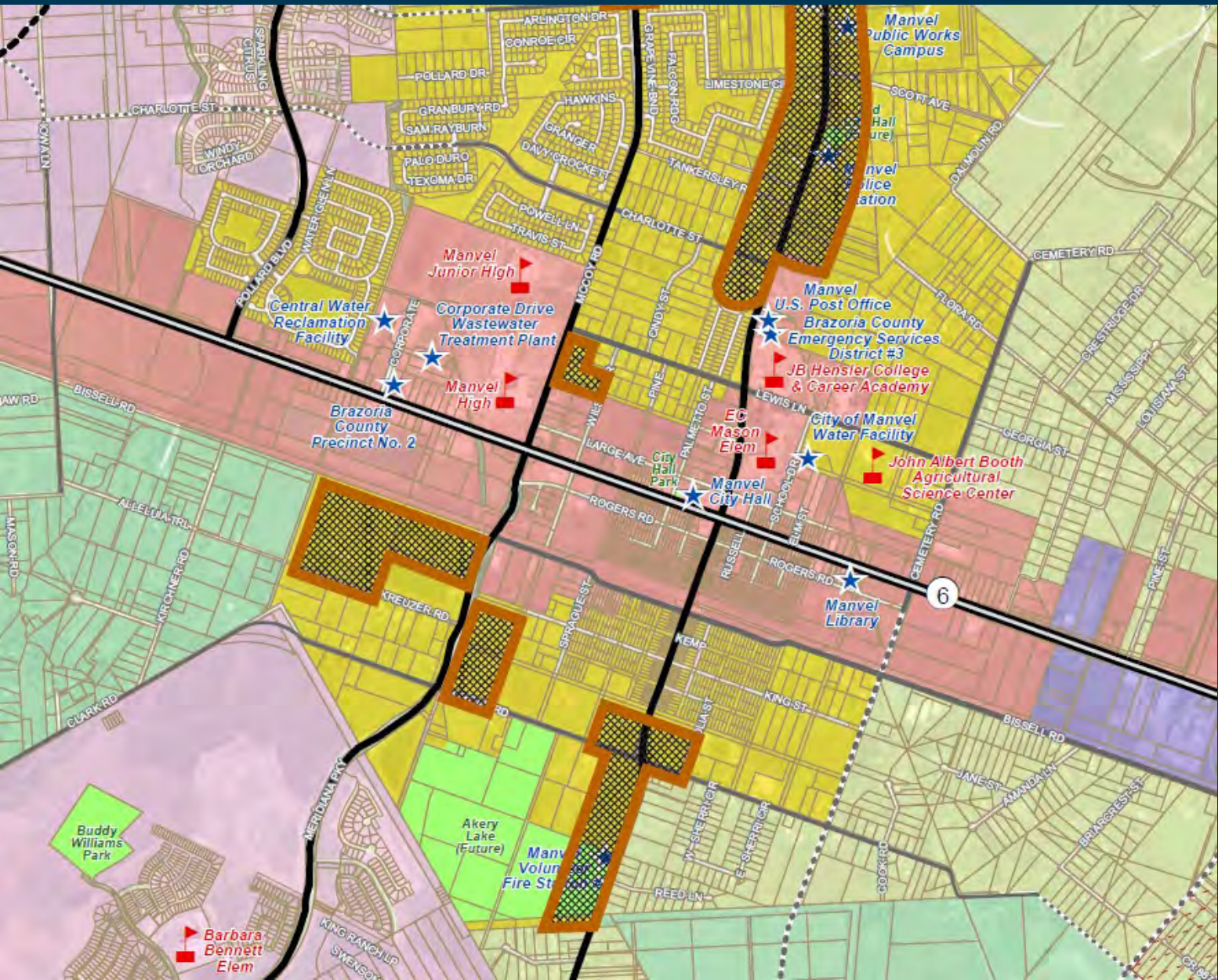
Future Land Use and Character

- Rural Preservation
- Estate Residential
- Suburban Residential
- Master-Planned Development
- Commercial
- Industrial







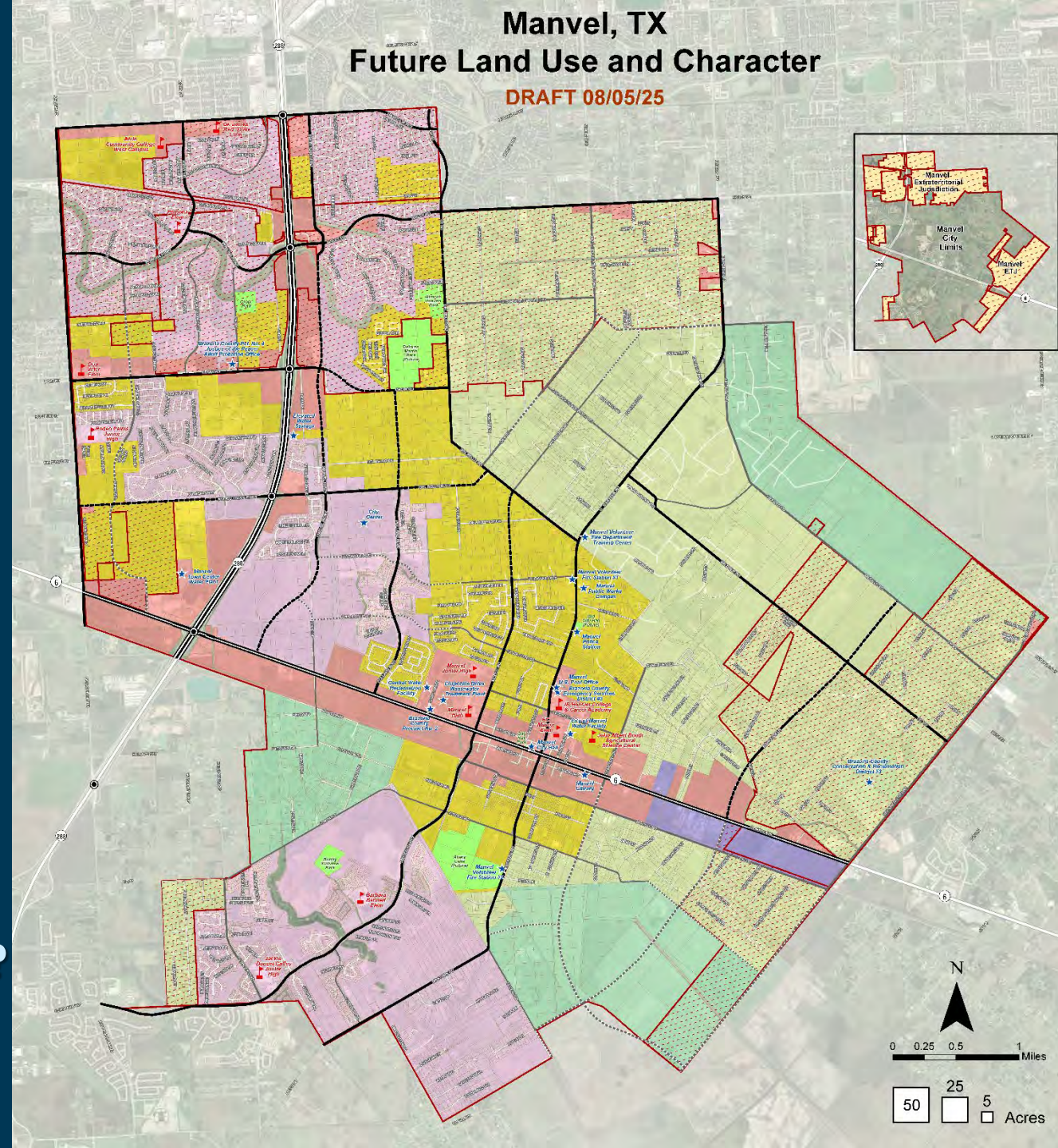


Future Land Use and Character

- Rural Preservation
- Estate Residential
- Suburban Residential
- Master-Planned Development
- Commercial
- Industrial

Key Take-Aways from Narrative

- **Map will change, not “set in concrete”**
 - Public planning expectations may shift as land owner/developer intentions revealed
- **Not the same as zoning map** – often serves as starting point for evaluating emerging trends and evolving land use allocation
- **Outlook for next 10+ years, not build-out**
 - Rural, Estate Residential show where growth not anticipated, desired in near term
- **So, also use as growth management tool:**
 - Extension from growth areas or isolated?
 - Utilities available, with adequate capacity?
 - Satisfactory storm water management?
 - Impact on streets, public services, schools?
 - Community benefits, not just compatibility?
- **Need to revisit map more often in rapidly-growing cities for “rolling updates”**



Cottage Court

Key Policy Question:

In the next 10+ years, will Manvel be more open to “missing” housing types short of “apartment complexes” – and possibly even those eventually?

Two-Family



SOURCE: thehousedesigners.com



Townhomes



SOURCE: rockwell-homes.com

Cottage Court

Possible Options:

- Limit only to Master-Planned Developments
- Require Specific Use Permit approval if allowed elsewhere, with locational criteria
- Set minimum distancing as for other uses

Two-Family



SOURCE: thehousedesigners.com



Townhomes



SOURCE: rockwell-homes.com

Goals

Land Use and Community Character

Increased emphasis on **character-based land use planning and development standards** to achieve a wider range of residential lot sizes and neighborhood designs, retain more open and green spaces within residential and other development, and ensure that semi-rural character remains a visible and valued part of Manvel's identity even as growth continues.



Goals

Land Use and Community Character

2

More choice in housing and commercial development locations and types to **serve different lifestyles — from rural and large-lot homesteads to suburban neighborhoods** — while managing growth to avoid congestion and overdevelopment.



Goals

Land Use and Community Character



More **home-grown and well-supported local businesses**, especially family-friendly sit-down restaurants, other retail and services, and leisure and recreation options, that create vibrant community hubs without overwhelming the area with high-intensity commercial sprawl.



Goals

Land Use and Community Character

4

Upgraded development ordinances and standards that **better position the City to manage growth, provide flexibility for innovative site design, and achieve desired outcomes and superior quality** across the community, along with an ongoing focus on the SH 6 corridor.

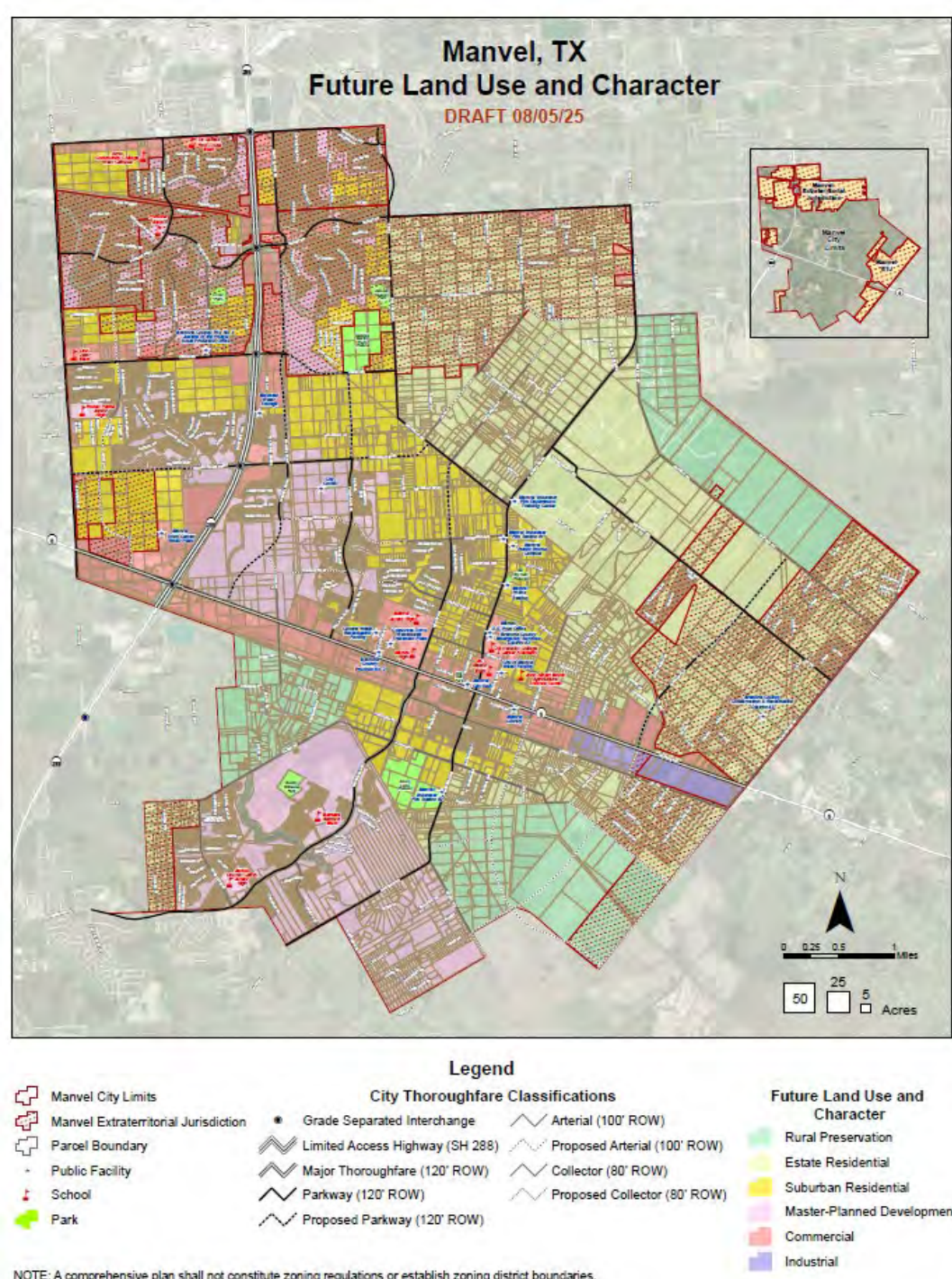


Land Use and Community Character Actions

Strategic Priority 1 – Transition to Unified Development Code

Big Takeaways

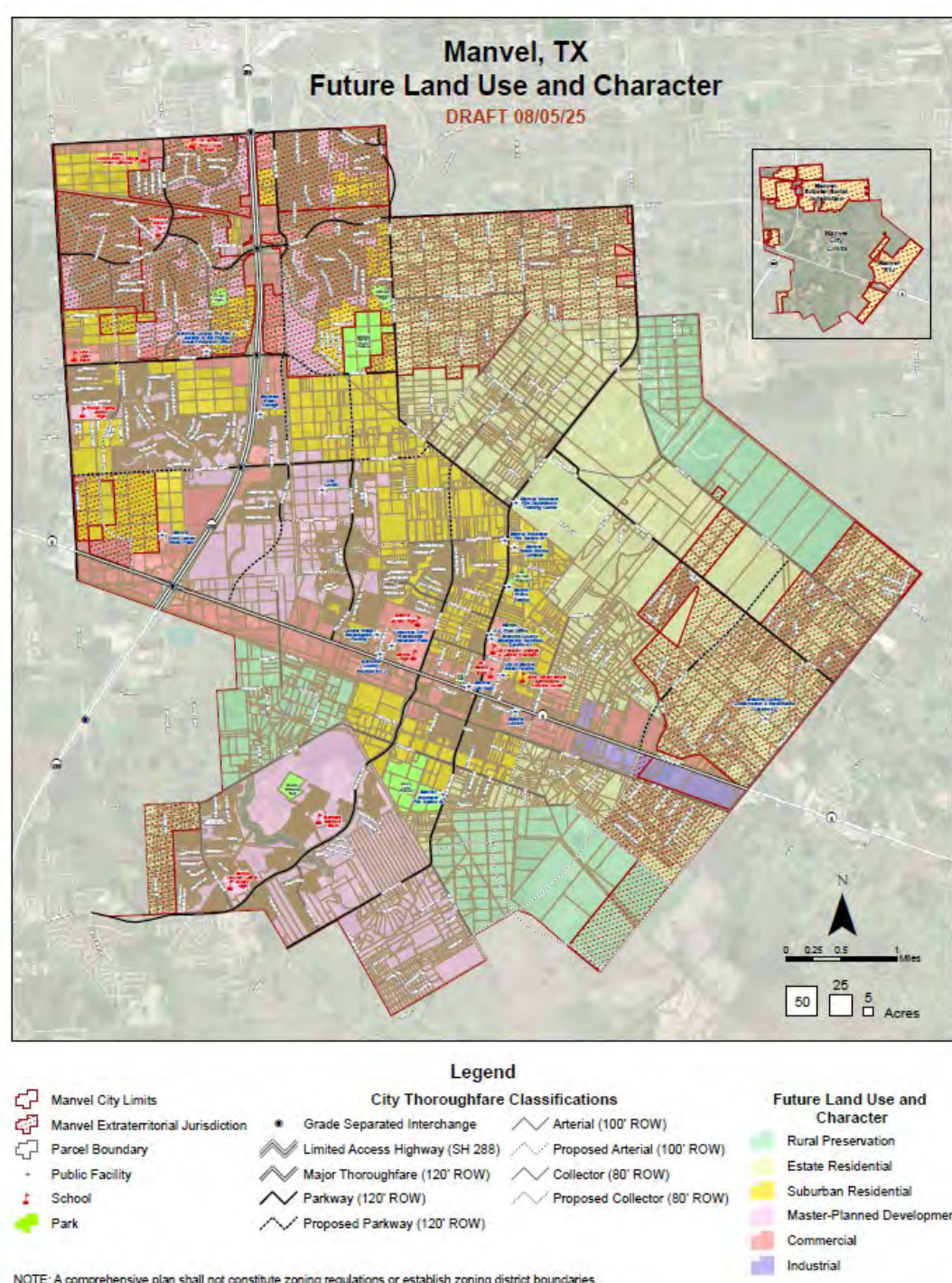
- As many local governments in Texas and U.S. have done in recent decades
- Consolidates all development-related regulations and procedures in one place
- Promotes more holistic consideration of proposed development, greater consistency
- Provides a more “user-friendly” framework for finding and applying City’s requirements
- Streamlines future amendments, updates



Land Use and Community Character Actions

Strategic Priority 2 – Make Targeted Updates to Zoning Ordinance Big Takeaways

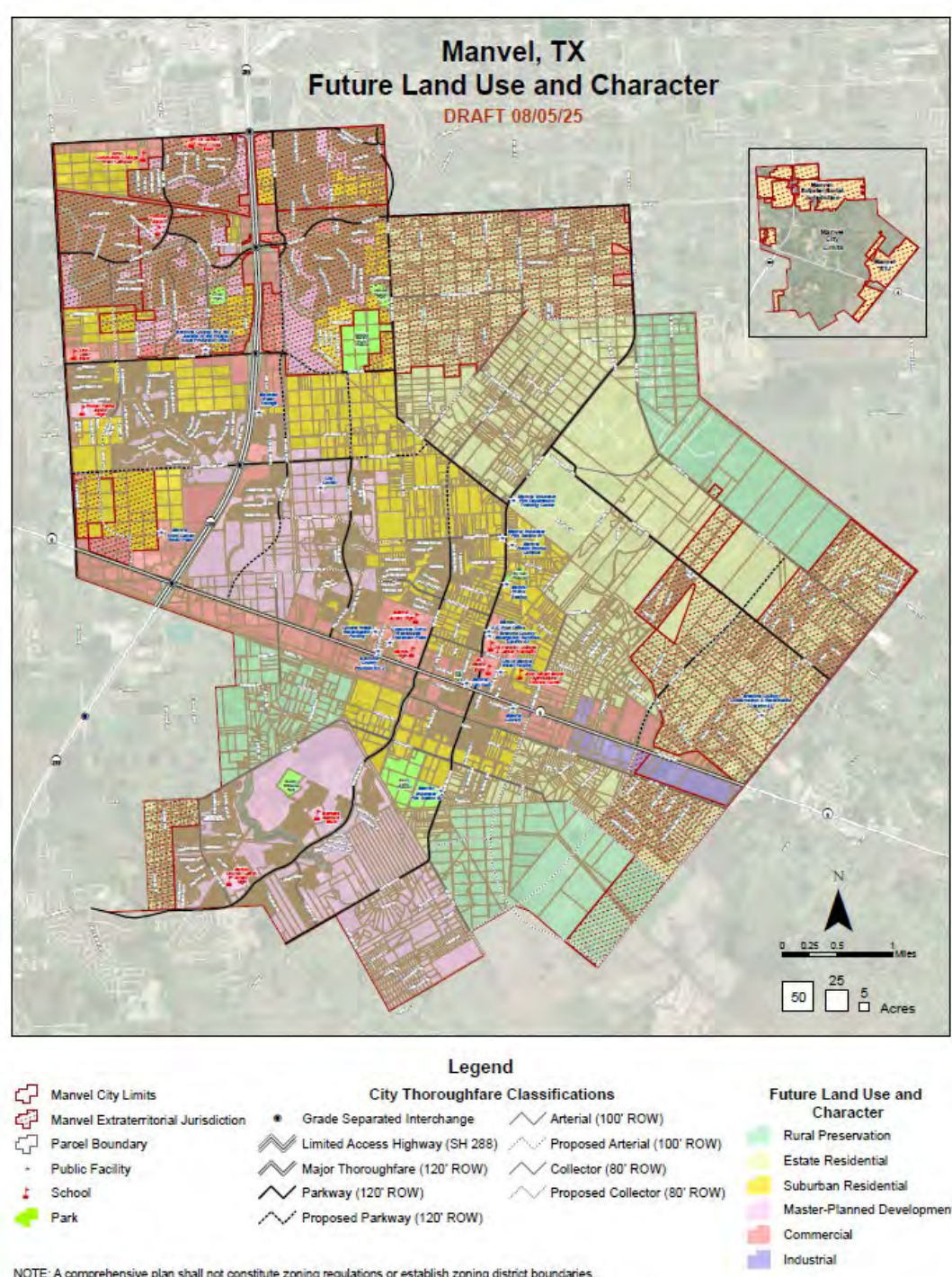
- Expand purpose statement to link to new Strategic Plan and Comprehensive Plan, and add district-specific purpose statements
- Rework some zoning districts to sync with new Future Land Use and Character map, including a new district for mid-size lots between 1 acre and 6,300 square feet
- Address the most intensive industrial and commercial uses more directly, currently included in districts with many other uses



Land Use and Community Character Actions

Strategic Priority 2 – Make Targeted Updates to Zoning Ordinance Big Takeaways

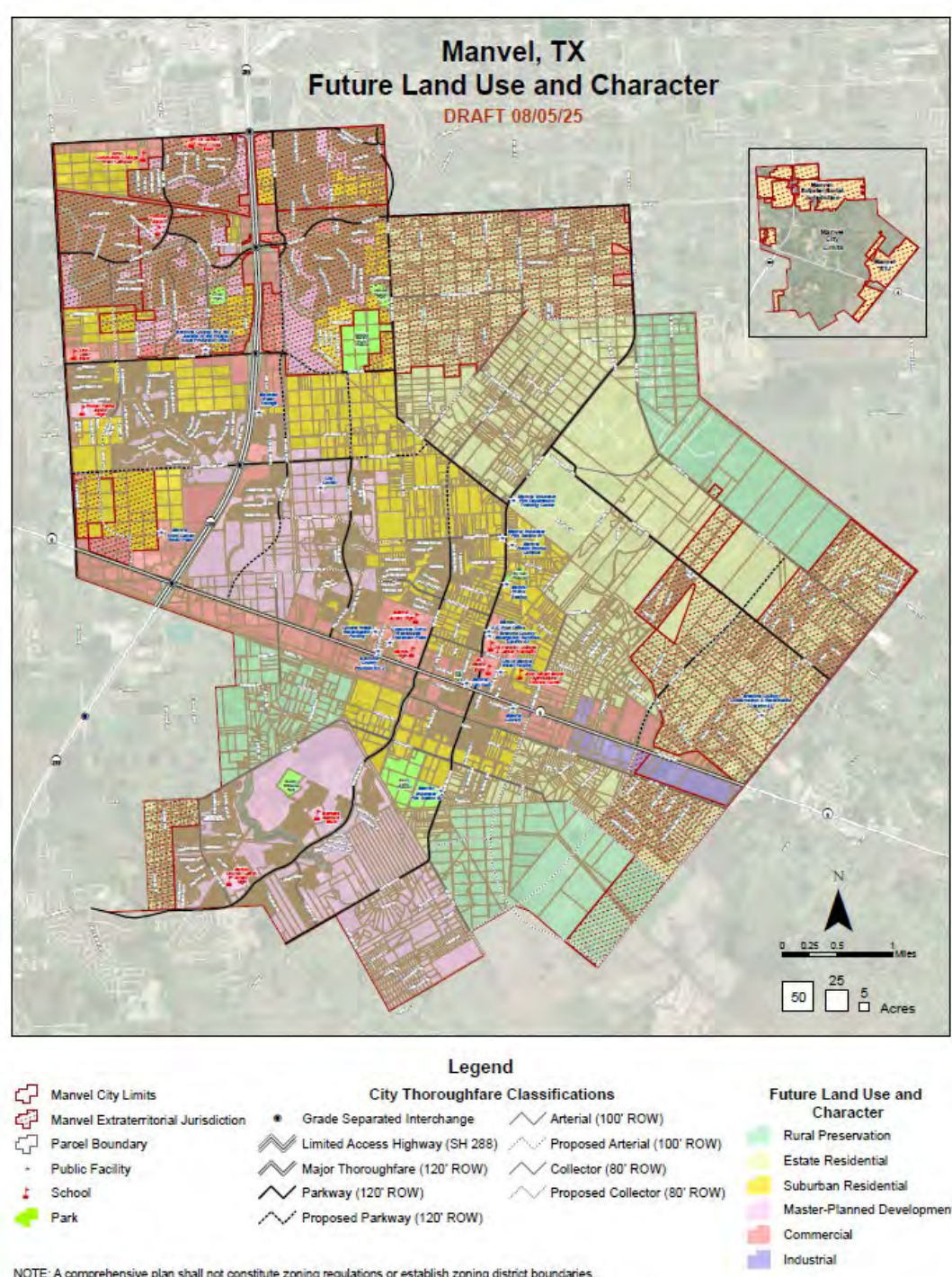
- Address maximum lot and site coverage to better manage site design and aesthetics
- Enhance development standards to make more outcomes permitted by right – and encouraged with incentives
- Extend higher expectations for development quality across the city and not just along SH 6 corridor



Land Use and Community Character Actions

Strategic Priority 3 – Address Manvel's Future Outlook for Housing Big Takeaways

- Consider where and how other housing types beyond single-family detached might be accommodated someday in Manvel if not yet ready for it today
- Tie this consideration to utility capacity, traffic impacts, public service and school implications – along with labor pool needs of local employers, downsizing options for Manvel residents, etc.





**Strategic Plan
Comprehensive Plan Update
Thoroughfare Plan Update**

**PDZ Workshop #4:
Future Manvel**

August 11, 2025



GARY MITCHELL
**President and
Project Manager**



JENNIFER MAK
**Architect and
Senior Urban Designer**



Land Use and Community Character Manvel Comprehensive Plan

Future Land Use and Character Map

The Future Land Use and Character map illustrates the general pattern of land uses anticipated and/or desired in the years ahead – with emphasis on general – and the intended character contexts in which uses occur. Specific standards for land development based on this long-range planning map are articulated through the City’s implementing regulations (zoning, subdivision, etc.) as they currently exist and may be further amended over time based on this planning guidance.

Land Use Planning versus Zoning

The side-by-side comparison below highlights the distinct purposes and uses of a future land use map relative to a zoning map. Local government development regulations are among the primary tools for implementing the Comprehensive Plan. The zoning and subdivision regulations, in particular, can play a significant role in establishing and protecting the physical character of the community. Zoning regulations delineate land use districts and the uses permitted within them, together with standards for buildings and site improvements. As a result, the zoning and subdivision regulations largely direct development outcomes. Although the Comprehensive Plan and future land use map provide only general planning guidance, they become the basis for updating the more specific zoning and subdivision regulations and the City’s official zoning map.

Aspect	Future Land Use Map	Zoning Map
Purpose	▪ Outlook for future use of land and character of particular areas of the community. ▪ Macro level, showing generalized development patterns.	▪ Basis for applying different land use regulations and development standards in different areas of the community (“zones”). ▪ Micro level, with an area- and site-specific focus.
Use	▪ Guidance for zoning map and related decisions (zone change requests, variance applications, etc.). ▪ Baseline for monitoring consistency of actions and decisions with the Comprehensive Plan.	▪ Regulating development as it is proposed or as sites are positioned for the future with appropriate zoning (by the property owner or the City).
Inputs and Considerations	▪ Existing land use in the community. ▪ The locational aspects of community planning priorities involving housing, economic development, infrastructure, parks and recreation, public facilities, etc.	▪ Comprehensive Plan and future land use map for general guidance. ▪ Zoning decisions that differ substantially from the general development pattern depicted on the future land use map will indicate the need for some map adjustments during the next periodic plan update.

The future land use map is accompanied by descriptions of the character types and broad land use categories displayed on the map:

Community Character Type*	Future Land Use and Character Designation	Most Closely Associated Current Manvel Zoning Districts for Areas within City Limits
Rural	Rural Preservation	Open-Single-Family Residential (with 1-acre minimum lot area)
Suburban	- Estate Residential - Suburban Residential - Master-Planned Development	- Open Single-Family Residential (with 1-acre minimum lot area) <i>None directly equivalent to Suburban Residential as Manvel's current zoning does not provide a typical zone with the minimum lot size often found in a Suburban character area (10,000 square feet or larger)</i> - Planned Unit Development - Single-Family Residential (with 6,300 square foot minimum lot area) - Highway Mixed Use - Multi-Family - HUD-Code Manufactured Home
Urban	<i>No designations with Urban character</i> <u>Auto Urban Character*</u> - Commercial - Industrial * See discussion below of Auto Urban character and all three Community Character types.	- Light Commercial - Heavy Commercial - Highway Mixed Use

The descriptions call out the **principal types of land use** that are expected to predominate in areas where land is currently undeveloped or, in previously developed areas, based on what is already on the ground and will likely remain or possibly evolve. Such transitions in use can occur through redevelopment of previously built sites, “infill” construction on a vacant parcel amid existing built sites, or repurposing of an existing structure for another use without significant site changes.

Along with the principal use types, **other complementary land uses** will also remain or may emerge in particular areas of the community. This can include:

- pre-existing housing in areas transitioning mostly to commercial use;
- small-scale, neighborhood-oriented retail and service uses at key intersections within largely residential areas; and
- commercial uses that front along main roadways with residential neighborhoods behind them.

Certain uses can be located amid other predominant use types, such as schools, other public facilities, places of worship and parks within predominantly residential areas – all of which should match the

character of their vicinity. Mixing uses on sites is common in downtowns (e.g., upper floor office or residential above ground-floor retail) and may occur elsewhere in a community as the market accommodates and zoning allows. Large master-planned developments are often intentionally designed to integrate and mix uses in certain areas while reserving other areas for one predominant use such as single-family detached housing or medical/offices.

Many of the complementary uses described above will not necessarily appear in a particular location on the future land use map. That is because various uses are highly market-driven, with their timing and particular location dictated by the extent and pace of other types of development. This includes the typical pattern of retail uses locating near new residential “rooftops” and often at key roadway intersections. The location and extent of various forms of residential development can also be difficult to predict amid broader housing market cycles and regional needs. Housing variety is also influenced by the experience and interest of area developers in bringing single-family homes, attached housing types such as townhomes or multi-family products to market.

Therefore, a future land use map should not be viewed as “set in concrete” and inflexible to adjustment over time. The map should be used as a *starting point* for considering and evaluating both:

- 1) Broad trends in an area’s real estate market and the evolving allocation of land to various uses.
- 2) Specific locations where proposed development may differ from earlier projections of land use as reflected on the future land use map.

In such cases of proposed development varying from the Comprehensive Plan map, which typically come to a decision point through consideration of a rezoning application and/or site development plan, the focus should be on:

- Compatibility with existing and anticipated land uses in the vicinity, including through any additional necessary measures applied during the development approval process (e.g., conditions applied through approval of a specific use permit);
- The practicality and sensibility of a proposed use at the particular location and within the area context; and
- The overall benefit to the community of a potential change in direction versus strict application of a future land use map adopted at a previous point in time (e.g., addressing area housing needs, supporting economic development objectives, accommodating desired retail or restaurant uses, etc.).

At the same time, the future land use map should not be changed piecemeal every week or month, to the point that there is really no consistent baseline for continuously monitoring and re-assessing the community’s general land use pattern and allocation. *See the discussion at the end of this section about Criteria for Amending the Future Land Use and Character Map.*

Many communities today prefer that their land use and zoning policies and related decision processes provide “a path to yes” when presented with desirable development proposals. But local governments must also exercise caution and turn to prudent safeguards when responding to proposals that are not in line with the community’s vision, goals and priorities – or its infrastructure and public services capacities – as captured in its Comprehensive Plan.

This is where the future land use map needs to be thought of – and applied – as a growth management tool and not just a map to back up a city’s zoning regulations. The Future Land Use and Character map in

this Comprehensive Plan illustrates the general outlook for local land use and development over the next 10+ years, not an ultimate build-out map for all acreage within the entire city limits and extraterritorial jurisdiction (ETJ). In this respect, categories like Rural Preservation and Estate Residential indicate where widespread growth is not anticipated or desired in the near term — and sometimes even in certain areas constrained by floodplain, challenges to extending utilities, or other factors.

Ideally, significant proposed development that was not anticipated even in recent months or years should be located where it would be a logical extension from the edges of existing developed or projected growth areas, not set apart and isolated in remote locations. These preferred areas would presumably be where public investments in utility infrastructure, new and improved streets, and other public services are already in place or planned. Then part of the evaluation should be the effect on:

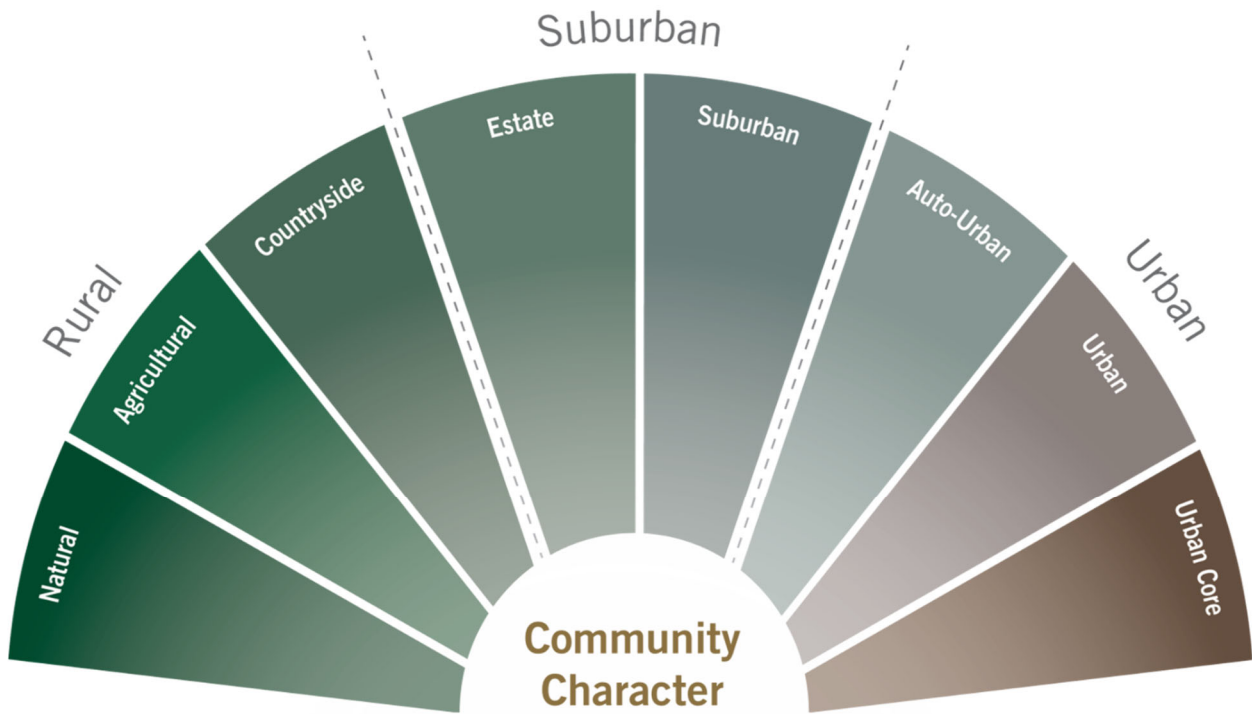
- Public safety service areas and response times;
- Added traffic and additional wear and tear on City-maintained streets in the area;
- Capacity of nearby schools; and
- Other public service considerations.

If the development ultimately proceeds after municipal and other approvals, then the Future Land Use and Character map can be updated to the appropriate category(ies) for the subject area. This may involve more specific categories like Suburban Residential or Commercial, or it could be a map change to Master-Planned Development where land has been assembled for another new large-scale, carefully-designed development.

In rapidly-growing cities like Manvel, the Future Land Use and Character map needs to be revisited even more often for periodic "rolling updates" to capture how land use is actually playing out on the ground and how the longer-term outlook has already evolved since the last map adoption point.

Community Character Framework for Land Use Planning

This Comprehensive Plan emphasizes an approach to land use planning that builds on the concept of **community character**. This approach looks beyond the basic use of land – residential, commercial, industrial, etc. – as only one factor that determines the ultimate compatibility and quality of land development within and near neighborhoods, in nonresidential areas and along roadway corridors.



The community character approach to evaluating and planning for land use emphasizes the variation in physical conditions experienced along a spectrum from natural and rural landscapes to a developed area's most urbanized environments, usually found in a core downtown area. **A character-based approach focuses on the intensity and design of land uses**, which encompasses:

- The density and layout of residential development;
- The scale and form of nonresidential development; and
- The coverage of land surfaces by buildings and paving relative to the extent of open space and natural vegetation or landscaping.

How the automobile is accommodated is a key factor in distinguishing character types, including how public roads and streets are designed, how parking is provided, and how buildings and paved areas are arranged on sites.

The **three major character classes – Rural, Suburban and Urban** – are described on the following pages, along with which class the various designations on the Future Land Use and Character map fall within. Not all areas of a community will be clearly distinguishable as one character type or another. Much past and contemporary development was designed and built without character in mind, which results in mixed character areas with features from the different character classes (e.g., mostly Rural areas with some auto-oriented subdivisions or retail sites, shopping centers in Suburban areas with large surface

parking areas but enhanced with landscaping, traditional Urban downtowns with demolished buildings replaced by surface parking, etc.).

Maintaining and enhancing desired character is a central aim – and challenge – of implementing community plans amid constant change. A community character approach allows the formulation of standards within the City’s development regulations to achieve the desired character in newly developing areas, and to protect and enhance it in redevelopment and infill areas. Character-focused categories on a municipality’s future land use map and character-oriented districts on its zoning map better portray the intended on-the-ground outcomes for land use and development. This offers assurance to neighboring property owners, a smoother path to approvals for development applicants, and more beneficial outcomes for the entire community.

Character Emphasis

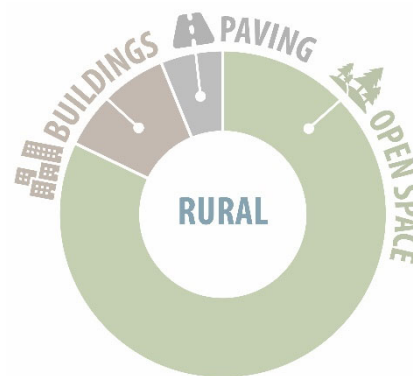
Community character accounts for the physical traits one can see in a neighborhood, on a busy roadway corridor, or along a recreational trail or country lane which contribute to its “look and feel” relative to areas of the community with much different character. **Nearly any land use can occur in a range of settings within a community**, from the most Rural and Suburban to the most Urban, provided the use is designed to match the character of its surrounding area. This applies regardless of whether a site is in private ownership or owned and developed by a government agency for public purposes.

Aesthetic enhancements such as architectural design, landscaping and screening, signage standards and site amenities also contribute to development appearance. But these factors can and should vary with the area character, which as defined here involves the interplay between buildings, paved surfaces and unbuilt areas. It is the combination of basic land use and the physical characteristics of such use that more accurately determine the real compatibility and quality of development, as opposed to just land use alone.

RURAL

Character

Sparsely developed areas with mainly very low-density residential and agricultural activity as the primary uses often due to a lack of public utilities, along with more natural and undeveloped areas. Such areas provide residents with the choice of relative seclusion within the countryside and away from more developed and populated settings. Many cities have limited Rural character areas within their incorporated limits, except in areas that were annexed for eventual development or that are not suitable for future development due to floodplains or other constraints. Some local governments intentionally preserve Rural character through the protections afforded by agricultural zoning.



Future Land Use and Character Map Designation

Rural Preservation



Example of Rural character in northeast Manvel, north and east of Oilfield Road, with few structures and wide open spaces relative to the large-lot Estate Residential character along County Road 206 in the center right of this view.

Character Objectives

- Maintain areas where undeveloped land and wide open spaces predominate, and where structures and paved surfaces occupy only a minimal portion of the landscape – or none at all in pristine or preserved natural areas.
- Preserve minimal sense of enclosure of roads or other spaces by buildings, with views to the horizon unbroken by buildings in most locations.
- If any significant residential subdivision activity is proposed, encourage conservation developments in which lots and buildings are concentrated on a relatively small portion of the overall property in a cluster design, leaving substantial open space to maintain Rural character and room for buffering from any nearby uses. Such scenarios are often necessary in rural areas

under development pressure, with rising land values and tax appraisals, to enable land owners to yield greater return and still maintain agricultural activity.

- Protecting Rural character also supports the desire expressed by some Manvel area residents to continue the presence and movement of wildlife in locations with widespread open land.

Predominant Land Uses

- Agriculture.
- Single-family detached residential.
 - Typically a diverse property pattern, with scattered homesteads on very large acreage properties in some areas but also locations with relatively smaller parcels in the one-acre range, which still provides a sense of openness and separation between individual homes relative to in-city residential densities. However, public health regulations typically limit the smallest lot sizes for individual homes (Brazoria County follows the typical statewide standard of one acre minimum for a private water well and septic system on the same property, or one-half acre if just a septic system).
- Occasional small-scale commercial uses (e.g., gas stations, convenience or specialty retail, agricultural supply, etc.), preferably at crossroads locations or elsewhere with adequate access and well away from any nearby residential use.

Other Potential Land Uses*

Rural areas often accommodate various types of isolated stand-alone uses, including:

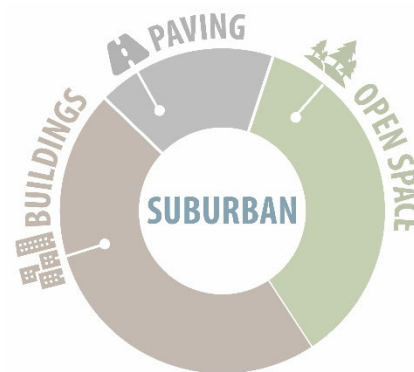
- Agritourism (e.g., hands-on planting/harvesting experiences, cooking demonstrations, winery/brewery tours and tasting rooms where permitted, overnight accommodations, etc.).
- Bed and breakfasts.
- Places of worship and other public assembly uses.
- Outdoor recreation/amusement uses.
- Resource extraction activities (e.g., oil and natural gas, sand and gravel, etc.).
- Industrial activities, especially for types that do not require significant public water supply or generate significant wastewater, or where able to obtain their own rural water supply. Even some large-scale industrial uses can take on a Rural character when located in relatively remote areas, especially when surrounded by extensive separation and buffering from any nearby uses. Low noise and lighting levels also maintain compatibility and rural dark skies.
- Public utilities or facilities, especially treatment plants and other types that have an industrial character or are otherwise best located away from residential areas and other development (e.g., police firing range, fire training).
- Cemeteries.
- Parks with limited improvements or that will remain in a more natural state, sometimes as a designated nature preserve.

* NOTE: Where concerns may arise about the potential proliferation of certain land uses beyond the community's desires or tolerance, provisions can be incorporated into zoning – for areas within the city limits (zoning not applicable in the ETJ) – to set locational criteria that limit where particular uses can occur. For more intensive uses, this may include locating along or near a higher-capacity roadway type for adequate traffic capacity (also invoking the City's adopted Major Thoroughfare Plan), only in areas with ready utility availability and adequate capacity, in areas away from the lowest-intensity single-family residential use, etc. Such uses can also require approval of a specific use permit to ensure a higher level of scrutiny relative to uses that are permitted by right under zoning. As Manvel has already done for a few land use types, some cities ultimately apply minimum distancing requirements to establish a definitive physical separation between any new instance of a use of particular concern relative to existing locations of that use. Over time, such locational restrictions may need to be eased as a local real estate market matures, the area gains more resident and daytime visitor population, and as certain retail and service uses are needed in more locations that are convenient to established and new residential areas.

SUBURBAN

Character

Suburban character areas involve people living in closer proximity than in Rural character areas, with a wider array of supportive uses also nearby (e.g., shopping and services, public facilities, parks, etc.). But Suburban character areas still have noticeably less intensive use of land than Urban character areas, with open and green spaces more in balance with the extent of land covered by structures and paved surfaces. Parks, cemeteries, and preserved greenways, creek corridors and other natural features also help maintain green and open spaces within a developing community.



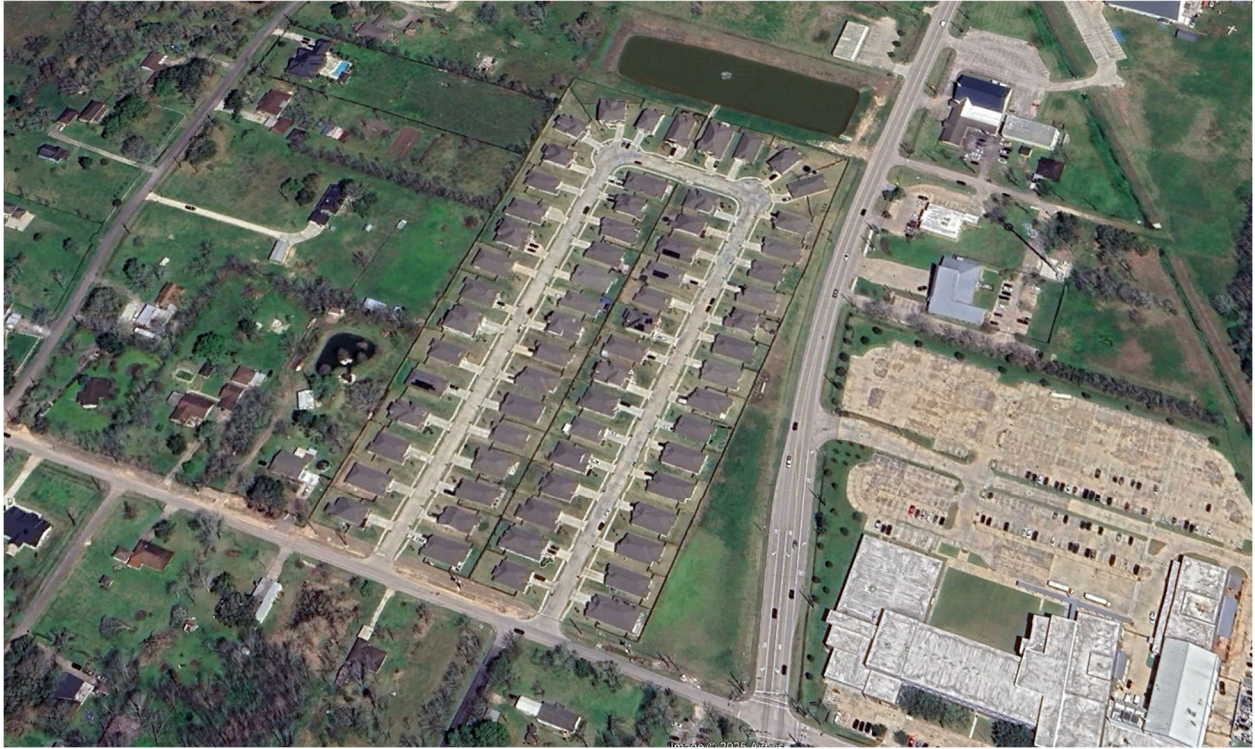
Future Land Use and Character Map Designations

Estate Residential



Example of Estate Residential character – within the broader Suburban character class but typically with one acre or larger lots that provide substantial separation between homes – in the area between Jordan Street and the Briscoe Canal and east of Masters Road in south Manvel.

Suburban Residential



Example of approximate Suburban Residential character – with higher density than Estate Residential, but with greater side separation between homes and more front yard area than in some contemporary residential development – in the Terra Lane/Drive subdivision near the intersection of Masters Road and Lewis Lane in central Manvel.

Master-Planned Development



Example of Suburban character within the Pomona master-planned community in Manvel's northwest extraterritorial jurisdiction around Pomona Parkway, with the relative density of residential blocks offset by areas of dedicated green space around main roadways and elsewhere, water features providing additional openness, and nonresidential sites for schools, recreation and other uses intermingled within the overall master-planned development design.

Character Objectives

- Establish or preserve a balance between buildings and other site improvements relative to the degree of open space, especially within residential neighborhoods.
- Especially maintain the Estate Residential character seen in many areas of Manvel that were platted and had homes built on one-acre or larger lots in an earlier era before the emergence of large master-planned developments and denser subdivisions. Estate Residential areas are within the Suburban character class as they often provide a transition between the Rural character at a community's edges and more urbanized development patterns and intensities.

Estate Residential areas offer a semi-rural atmosphere since open and green spaces still usually exceed the extent of land covered by structures and paved surfaces. This openness is beneficial for areas at risk of flooding and necessary where private water wells and/or on-site septic systems require larger lots. However, unlike a ... Estate lots are often arranged in a subdivision layout around shared public or private streets, more like in-city development relative to a Rural Countryside pattern where homes front along and have individual driveways from rural highways or roads.

- Design for less noticeable accommodation of the automobile in residential neighborhoods compared to more intensive auto-oriented residential design. The Suburban character emphasis especially stands out where driveways are on the side of homes rather than occupying a portion of the front yard, and where garages are situated to the side or rear of the dwelling (or oriented sideways relative to the street instead of a front-loading garage that faces the street).
 - Auto Urban character can encroach into areas intended for Suburban character in the form of developments with higher lot coverage by dwellings, driveways and other paved surfaces. This outcome is often due to relatively smaller and narrower lots, allowing for less openness and separation between dwellings – but also intended to achieve lower price points to expand homeownership opportunities. Auto Urban character especially prevails where driveways and front-loading garages dominate the front yards and front facades of homes.
 - The Auto Urban nature of residential areas can be offset somewhat by landscaping, “anti-monotony” architectural standards, and limitations on “cookie cutter” subdivision layouts characterized by straight streets and uniform lot sizes and arrangement.
- Achieve Suburban character in some commercial areas, whether at a neighborhood-focused or larger scale, through lesser coverage of sites with buildings and especially paved areas, which makes such areas stand apart from most auto-oriented contemporary development and blend better with adjacent Suburban residential character.
- Design public and institutional sites so they match the area's Suburban character, along with community-scale and neighborhood-oriented parks that should have abundant green and open space on the site.
- Encourage conservation developments that allow smaller lot sizes than typical for the area in exchange for greater open space set-aside on the overall development site to maintain Suburban character and room for buffering from nearby uses of differing intensity or character. This approach also enables some viable use of sites partially constrained by floodplain or other

factors. This is precisely the design approach seen in most master-planned communities, as well as in golf course subdivisions.

Predominant Land Uses

- Single-family detached residential.
 - Estate Residential lots are typically at least one acre. However, three-to five-acre lots may be needed to achieve and maintain true Estate character in more open areas with less vegetation and screening of homes from streets and adjacent dwellings. Where Estate lots are multiple acres in size, some accessory agricultural use or an equestrian element is sometimes seen.
 - For Suburban Residential, a larger baseline minimum lot size in a corresponding zoning district – typically 10,000 square feet or larger, yielding a gross density of 3-4 homes per acre – allows for deeper front yards and building setbacks and greater side separation between homes.
- The Master-Planned Development category involves primarily single-family detached dwellings or may involve development plans that mix in other housing types and/or nonresidential uses as focal points (e.g., schools, places of worship, retail nodes, recreation centers and other community gathering places, public facilities, etc.).
- Public/institutional uses, including schools and certain public assembly uses such as places of worship.
- Parks.

Other Potential Land Uses*

As noted in the introduction to this section, some land uses may be proposed and ultimately approved through rezoning decisions that might not have seemed possible based on strict application of the Future Land Use and Character map at the time. Whether a property is at an edge of a Suburban character area on the map or even somewhere within one, other uses besides the predominant uses listed above should be considered, provided that they will be designed to achieve and maintain compatible Suburban character. Examples include:

- Subdivisions in Estate Residential areas planned with an equestrian component (e.g., shared stable facilities, riding trails for residents).
- Within the Suburban Residential category, some attached residential types such as duplexes, patio homes, townhomes or even multi-family residential can be appropriate—where permitted by zoning – if the site and dwelling design, including building and garage placement and orientation, will be consistent with Suburban character. As with Master-Planned Developments, which sometimes integrate such residential variety, the higher density of these residential options should also be offset by green and open areas, including landscaping to screen any common parking areas. As needed, some of the planned open space and/or preserved vegetation should be along the site perimeter to provide buffering between other character types or land use intensities (e.g., adjacent single-family detached, commercial, etc.).

[PDZ Discussion Item: Should multi-family residential – and possibly other housing types beyond single-family detached – be limited only to the Master-Planned Development

category on the Future Land Use and Character map? That way, apartment construction could occur only when integrated into larger-scale developments designed to accommodate different housing types and/or mixing with nonresidential uses. Additionally, developments of that scale typically receive a higher level of review and public attention than more routine development. Another option would be for the Comprehensive Plan to recommend locational criteria for multi-family residential use as discussed in the note below.]

- Likewise, established ~~M~~manufactured home communities sometimes continue for some time, or new ones are proposed for development where permitted by zoning in designated Estate or Suburban Residential areas. This housing option is most compatible in such areas when treated like other detached housing, with especially where local development regulations requiring their placement on ~~larger~~ lots of a certain minimum size and with a design and lot coverage similar to Suburban character subdivisions for site-built single-family detached homes.
- In Suburban Residential and Master-Planned Developments more than Estate Residential, a variety of potential retail and service uses, but sometimes excluding auto-oriented uses that cannot practically achieve a Suburban character (e.g., gas stations, car washes or other uses that require extensive parking or other paved surfaces).
 - Neighborhood-oriented commercial uses may emerge over time and should be encouraged on corner sites or other locations at the edge of predominantly residential areas for convenience and to encourage more walking and biking for short trips from home.
 - Adjacent to Estate and Suburban Residential properties and areas, the permitted scale and intensity of nonresidential uses may be limited to ensure compatibility, along with adequate buffering/screening, criteria for placement and orientation of buildings and parking areas, height limits and residential-in-appearance architectural standards.
- Beyond entirely residential projects, the Master-Planned Development category may involve mixed-use developments, business parks and institutional uses (e.g., medical, large-scale places of worship, higher education, etc.) that incorporate abundant green space and landscaping and relatively low site coverage, sometimes in a campus-style layout with careful placement and screening of parking and loading areas. Development outcomes are often controlled by private covenants and restrictions that exceed local government ordinances and development standards.
- Cemeteries.

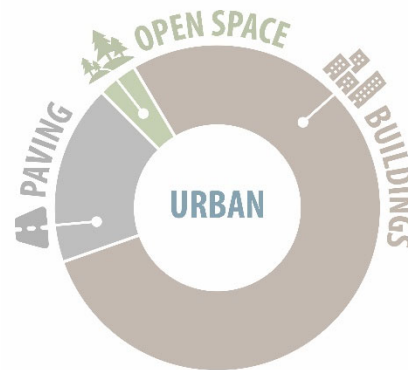
* NOTE: Where concerns may arise about the potential proliferation of certain land uses beyond the community's desires or tolerance, provisions can be incorporated into zoning – for areas within the city limits (zoning not applicable in the ETJ) – to set locational criteria that limit where particular uses can occur. For more intensive uses, this may include locating along or near a higher-capacity roadway type for adequate traffic capacity (also invoking the City's adopted Major Thoroughfare Plan), only in areas with ready utility availability and adequate capacity, in areas away from the lowest-intensity single-family residential use, etc. Such uses can also require approval of a specific use permit to ensure a higher level of scrutiny relative to uses that are permitted by right under zoning. As Manvel has already done for a few land use types, some cities ultimately apply minimum distancing requirements to establish a definitive physical separation between any new instance of a use of particular concern relative to existing

locations of that use. Over time, such locational restrictions may need to be eased as a local real estate market matures, the area gains more resident and daytime visitor population, and as certain retail and service uses are needed in more locations that are convenient to established and new residential areas.

Multi-family residential development is among the uses of concern in many suburban and rural communities, so the options discussed above are available to manage the location and extent of such use. Another criterion for multi-family residential might involve locating only at the edge of an area already developed with or zoned for commercial use, so that the multi-family serves as a transition to neighborhoods with less-intensive residential use. Even the measures described here to prevent unpredictable, scattered development may not provide enough comfort in an evolving community where many residents still value a semi-rural, “country living” character that cannot be disrupted by more intensive types of residential and/or nonresidential development. However, as with the eventual easing of locational restrictions discussed above, this scenario can change over time. Growing communities often come to appreciate the need for more residential options to house the workforce that local businesses, schools and other employers rely on, and as residents seek housing types that allow them to “downsize” within their own community rather than having to move away.

URBAN Character

Urban character areas usually involve the most intensively developed area of a community in terms of the greatest coverage of sites with buildings and the least amount of private development area devoted to off-street parking and landscaped yards or open space. Instead, most parking is accommodated on-street and/or within public parking areas. This enables streets and other public spaces to be framed by buildings that abut the public sidewalk with zero or minimal front setbacks, creating “architectural enclosure” versus the progressively more open feel in Auto Urban, Suburban and Rural character areas. These elements, along with a predominance of mixed uses, makes Urban character areas the most conducive for pedestrian activity and interaction.



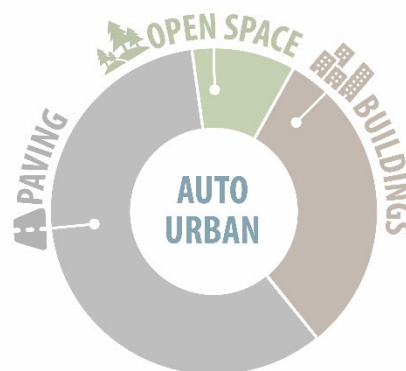
Future Land Use and Character Map Designation

None as Manvel does not have any existing areas developed to this intensity or with this design approach, and is not likely to have any for the foreseeable future.



Example of Urban character design intentions at the core of nearby Pearlman Town Center, with buildings framing streets and public gathering spaces, a range of uses integrated including higher-density residential, and most parking provided outside the core to promote a more pedestrian-oriented setting. However, the overall development still takes on an Auto Urban character given the extent of surface parking needed for such a regional-scale destination development.

Within the Urban character classification, the **Auto Urban** subcategory involves a particular – and widespread – community planning challenge as such areas are designed mainly to accommodate automobile circulation and parking. As a result, the combination of buildings and especially paved surfaces makes such areas nearly as intensive as Urban areas in terms of land cover. However, development is often more horizontal and spread out, introducing openness that is more characteristic of Suburban character areas. Bottom line, though, Auto Urban areas lack the greenness of Suburban character and the walkability of more compact and architecturally enclosed Urban character areas. Aside from changing the aesthetics of developing areas, the extent of paved surfaces can also contribute to increased volumes and rates of stormwater runoff and higher temperatures in relatively intensive urban environments.



Future Land Use and Character Map Designations

Commercial



Example of classic Auto Urban character with gas stations and associated commercial activity on all four corners of the State Highway 6/Masters Road intersection, showing the extent of site coverage with structures and especially paved surfaces that such uses require. The Manvel zoning ordinance (Section 77-50) already includes a provision requiring minimum two-mile separation of any new gas station from an existing gas station and convenience store.

Industrial



Example of Industrial and heavy commercial uses along State Highway 6 in southeast Manvel, with extensive land coverage by buildings, paved surfaces or other outdoor activity areas, contrasted with the relative openness of nearby Estate Residential use to the south and undeveloped land along the highway corridor.

Character Objectives

- Offset the inevitable design and appearance of Commercial sites and uses that are auto-oriented, or that must provide adequate parking for frequent and/or significant coming and going of vehicles, with techniques intended to soften Auto Urban character (e.g., generous landscaping and mature tree preservation, screening of parking areas, placement and orientation of buildings on sites relative to streets, quality building design, etc.).
- For Industrial areas and uses, this includes screening of truck parking and loading areas (and sometimes rail spur areas where industry is served by a nearby railroad), along with other unsightly outdoor activity and storage areas depending on their visibility from nearby roadways and areas of less intensive residential and commercial use.

Predominant Land Uses

- A variety of retail and service uses in Commercial areas, with the range of uses sometimes more limited by zoning in areas dedicated primarily to Industrial uses. Local development regulations can address various aspects of auto-oriented commercial design that often lead to compatibility issues with other nearby uses and/or diminish the aesthetic appeal of a community's highest-profile roadways such as State Highway 6 and the State Highway 288 corridor through Manvel:
 - Buildings are typically set back toward the rear of sites to accommodate expansive parking areas and smaller pad-site uses in front, often resulting in less emphasis on architectural design.

- This also places loading/delivery activity, trash collection and sometimes drive-through lanes and associated speakers near the rear property line, which is often shared with adjacent residential use.
- Such “strip” developments in highway-adjacent locations usually aim to maximize signage to capitalize on site visibility to passing traffic for “big-box” retailers, chain restaurants and other high-traffic businesses.

Especially at key community entries and along high-profile roadway corridors, development standards can set a higher bar to yield less intensive and more attractive development outcomes relative to most auto-oriented areas, including elevated standards for landscaping (along street frontages and within parking areas), signs and building design. The Manvel zoning ordinance already includes a State Highway 6 (SH-6) overlay district for similar purposes (within 700 feet of the highway), along with a Highway Mixed Use (HMU) base zoning district with some of these intentions along a segment of the Masters Road corridor.

- Heavy commercial and sometimes light industrial uses (e.g., warehouse/distribution, small-scale processing/assembly, equipment rental/sales, heavy vehicle repair, etc.) where ~~permitted by zoning and~~ appropriate in Commercial areas, with the most intensive and impactful industrial uses restricted to designated Industrial areas.
 - These uses typically have an Auto Urban character due to the extent of site coverage by buildings and paved areas, especially when they involve significant truck traffic and/or outdoor merchandise display or materials storage (e.g., home improvements store or building supply).
 - Along with their relative land cover, industrial uses vary in intensity from “light” to “heavy” depending on how their on-site activities may affect nearby properties (e.g., noise, vibration, light/glare, dust and particulate emissions, odors, hours of operation including in/out truck traffic, as well as the sheer scale of some heavy industrial uses that make them difficult to screen from nearby developed areas and public streets aside from fencing, landscaping and/or berms along site perimeters).
 - Certain intensive publicly-owned uses are best located within Industrial areas because of their similar character and operations (e.g., public works facilities, fleet maintenance, treatment plants, fire training, etc.).

Other Potential Land Uses*

- Office use accessory to a primary industrial use.
- Pre-existing residential use in areas where commercial and/or industrial activity has emerged over time and may have become the predominant use, leaving only scattered homes amid mostly nonresidential development. This often occurs along or near roadways that are more highly traveled than in the past, have been widened or upgraded to carry more traffic, and, therefore, are more conducive for commercial development that relies on high visibility to passerby traffic (i.e., the State Highway 6 corridor, aka “Morris Avenue”).
- ~~Potential for Multi-family residential where appropriate~~~~permitted by zoning~~ in or adjacent to Commercial areas, especially as a transition and buffer between commercial uses and neighborhoods with less-intensive residential use. Larger apartment developments often have

an auto-oriented character due to the extent of surface parking needed, which should be offset by parking area landscaping and screening as on nonresidential sites. Greater spacing between buildings can also allow for more integration of green space within the interior of the site.

- ~~Manufactured home communities where permitted by zoning in or adjacent to Commercial areas.~~
- The most intensive electric utility installations relative to smaller substations located near residential areas. These facilities are often screened for both security and aesthetic reasons.

* See the note above under Other Potential Land Uses for Suburban Character, which also applies here.

Criteria for Amending the Future Land Use and Character Map

Along with procedures for monitoring and periodically updating this Comprehensive Plan, another specific issue involves consideration of proposed amendments to the adopted Future Land Use and Character map. A first consideration is whether a map amendment is necessary immediately, such as in conjunction with a particular rezoning request? Or, can a potential map adjustment wait so that it may be examined more holistically, along with any other map changes under consideration, through the next interim review and update of the entire Comprehensive Plan?

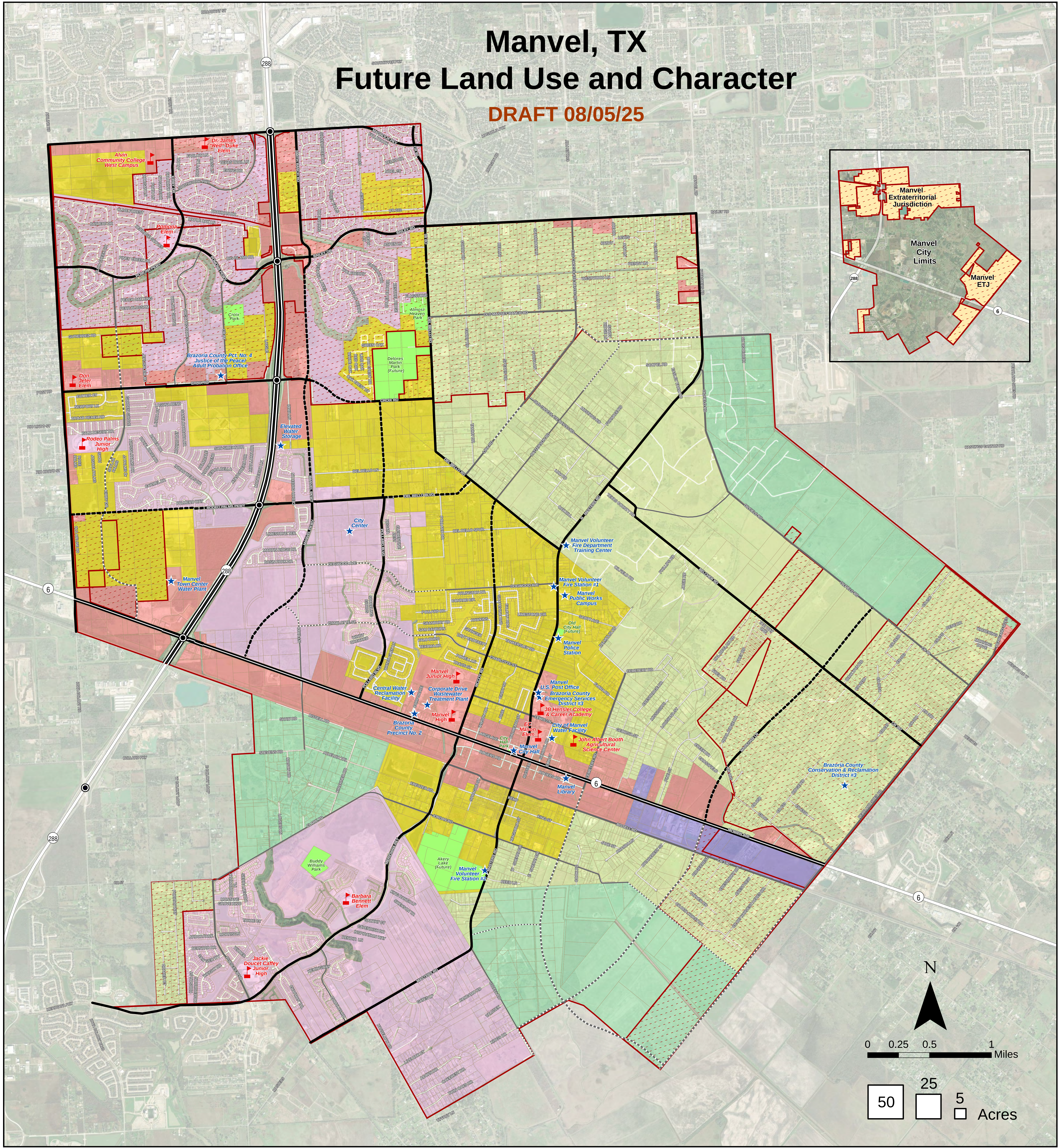
The following items should be reviewed and addressed, especially by the Planning, Development and Zoning Commission, when a Future Land Use and Character map adjustment is proposed:

- **Scope of Amendment:** Is the proposed map change limited to one or a few parcels or would it affect a much larger area?
- **Change in Circumstances:** What specific conditions have changed sufficiently to render the current map designation(s) inappropriate or out-of-date (e.g., area's population size and/or characteristics, area character and building form, property/structure conditions, infrastructure or public services, market factors including need for more land in a particular designation, etc.)?
- **Consistency with Other Plans:** In addition to the Comprehensive Plan, is the proposed map change consistent with the intent and policy direction of any other applicable plans (utility infrastructure or drainage plans, public safety plans, parks and recreation master plan, etc.)?
- **Adequate Information:** Do City staff, the Planning, Development and Zoning Commission, and/or the City Council have enough and appropriate information to move ahead with a decision (e.g., utility capacity, potential traffic impacts, other public service implications, resident/stakeholder concerns and input)?
- **Stakeholder Input:** What points, concerns and insights have been raised by area residents, property owners, business owners, partner agencies/organizations or others?

Manvel, TX

Future Land Use and Character

DRAFT 08/05/25



Manvel City Limits

Manvel Extraterritorial Jurisdiction

Parcel Boundary

Public Facility

School

Park

City Thoroughfare Classifications

Grade Separated Interchange

Limited Access Highway (SH 288)

Major Thoroughfare (120' ROW)

Parkway (120' ROW)

Proposed Parkway (120' ROW)

Arterial (100' ROW)

Proposed Arterial (100' ROW)

Collector (80' ROW)

Proposed Collector (80' ROW)

Future Land Use and Character

Rural Preservation

Estate Residential

Suburban Residential

Master-Planned Development

Commercial

Industrial

NOTE: A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Major Thoroughfare Functional Classifications

Symbol Key:

"M" Street = Major Thoroughfares

"A" Street = four lane divided roadways with a 14-foot median, parkways and 12-foot wide lanes.

"A1" Street = four lane undivided roadways with parkways and 12-foot wide lanes.

"A2" Street = four lane divided roadways with a 14-foot median a buffered bike lane, parkways and 12-foot wide lanes.

"A3" Street = three lane undivided roadways with a center turn lane. The roadway includes parkways, two 12-foot driving lanes and a 14-foot center turn lane.

"B" Street = four lane undivided roadways with parkways and 12-foot wide driving lanes.

"B1" Street = two lanes undivided roadways with parkways and 12-foot wide lanes.

"B2" Street = three lane roadways with parkways, buffered bike lanes, a 14-foot wide center turn lane and 12-foot wide lanes.

"P1" Street = Parkways with four lane divided roadways with 12-foot wide multi-purpose pathways within a 26-foot parkway, 12-foot wide travel lanes, and a 14-foot wide median.

"P2" Street = Parkways with four lane divided roadways with 18-foot wide parkways, 6-foot buffered bike lanes, 12-foot wide travel lanes, and a 14-foot wide median.

Functional Classification	Roadway	Segment	Current Classification	Revised Classification	ROW
Limited Access Hwy	SH 288	Magnolia Pkwy to South of SH 6/City Limits	--	--	--
Major Thoroughfare	SH 6	City Limits	M	M	120'
Parkway	Airline Rd/CR 48	Magnolia Pkwy to South of SH 6/City Limits	P1	P1	120'
	Bailey Rd	Pomona Pkwy to Masters Rd	P1	P1	120'
	Del Bello Blvd	SH 288 to Del Bello Rd/CR 90	P1	P1	120'
	Del Bello Rd/CR 90	North of Magnolia Pkwy to Masters Rd	P1	P1	120'
	Magnolia Pkwy	Airline Rd/CR 48 to CR 90	P1	P1	120'
	Manvel Pkwy	SH 6 to Magnolia Pkwy	P1	P1	120'
	Markham Rd	Oilfield Rd to SH 6	P1	P1	120'
	Masters Rd	Bailey Rd to North of Pursley Blvd/City Limits	P1	P1	120'
	McCoy Rd	SH 6 to Del Bello Rd/CR 90	P1	P1	120'
	Meridiana Pkwy	SH 6 to South of City Limits	P1	P1	120'

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Functional Classification	Roadway	Segment	Current Classification	Revised Classification	ROW
	Pollard Blvd	SH 6 to Croix Rd	P1	P1	120'
	Pomona Pkwy	Airline Rd/CR 48 to Magnolia Pkwy	P1	P2	120'
	Croix Rd	Airline Rd/CR 48 to Del Bello Rd/CR 90	P1	P2	120'
	Rodeo Palms Pkwy	Airline Rd/CR 48 to SH 288	P2	P2	120'
Arterial	Belcher Rd	Scopel Rd (merge) to Pearland Sites Rd	P1	A1	100'
	Bissell Rd	Meridiana Pkwy to Pearland Sites Rd	B	A1	100'
	Cemetery Rd	Scott Ave to Pearland Sites Rd	A1	A1	100'
	Kirby Dr	Pomona Pkwy to SH 6	P1	A	100'
	Lewis Ln	McCoy Rd to Cemetery Rd	A1	A1	100'
	Lira Rd/Old Chocolate Bayou Rd	Del Bello Rd/CR 90 to Bailey Rd	A1	A1	100'
	Markham Rd	SH 6 to Uzzell Rd	P1	A1	100'
	Oilfield Rd	Masters Rd to Pearland Sites Rd	A3	A1	100'
	Old Massey Ranch Rd	Del Bello Rd/CR 90 to Cullen Pkwy	A1	A1	100'

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Functional Classification	Roadway	Segment	Current Classification	Revised Classification	ROW
	Pearland Sites Rd	North of Oilfield Rd (City Limits) to City Limits	A3	A3	100'
	Pursley Blvd	Clark Rd to Meridiana Pkwy	A	A3	100'
Collector	Charlotte St	Manvel Pkwy to Masters Rd	B1	B1	80'
	Clark Rd	Pursley Blvd to Jordan Rd	B1	B1	80'
	Croix Parkway/CR 84	Bailey Rd to Croix Rd	--	B1	80'
	Cumulus Rd	Meridiana Pkwy to Masters Rd	--	B2	80'
	Dogwood Ave	Manvel Pkwy to Masters Rd	B1	B1	80'
	Iowa Ln	Charlotte St to Stevens Rd	--	B1	80'
	Jordan Rd	Clark Rd to Pearland Sites Rd	B2	B1	80'
	Old Chocolate Bayou Rd	Lira Rd/Old Chocolate Bayou Rd to Masters Rd	B1	B1	80'
	Orchard Park Ln	Bailey Rd to Croix Rd	--	B	80'
	Patterson Rd	Del Bello Rd/CR 90 to Old Massey Ranch Rd	B1	B1	80'



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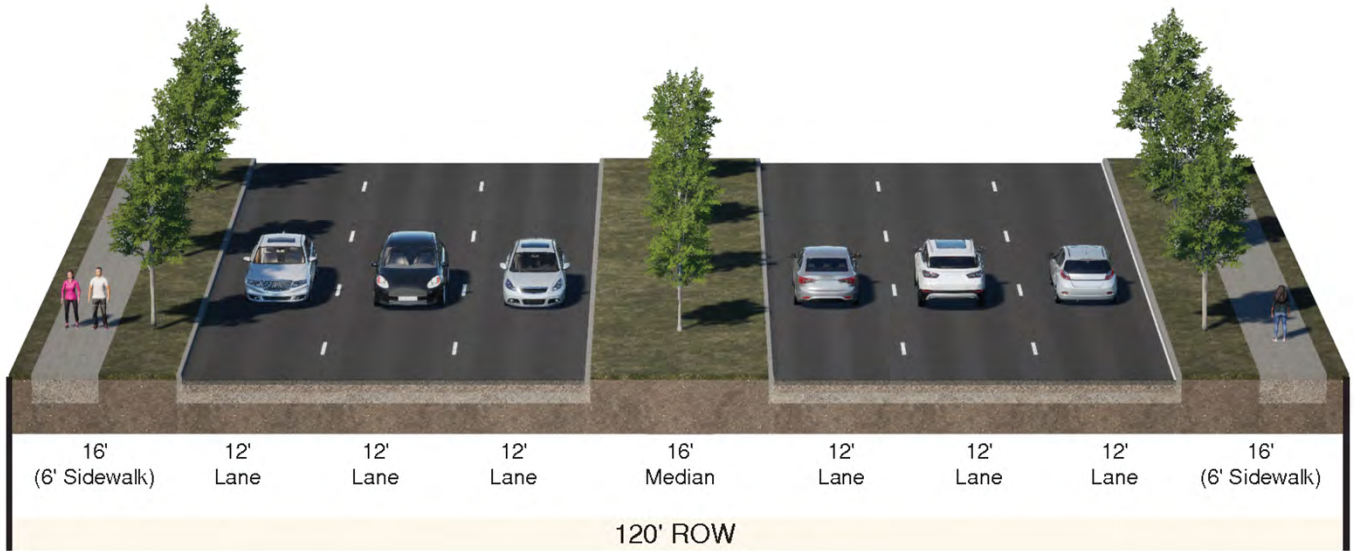
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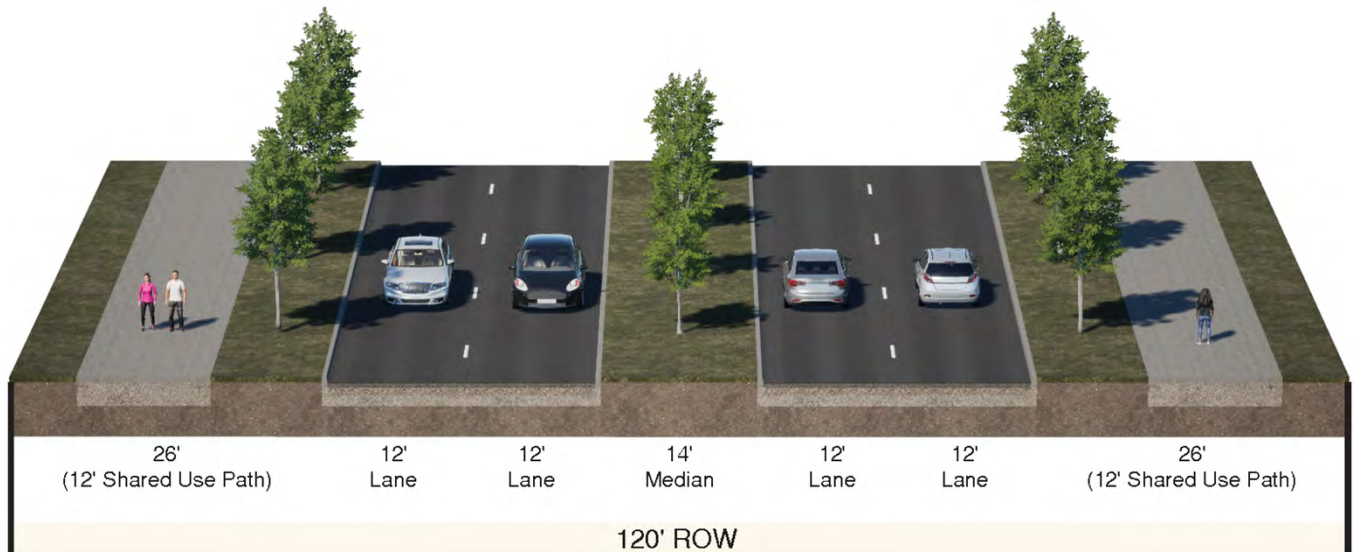
Functional Classification	Roadway	Segment	Current Classification	Revised Classification	ROW
	Scopel Rd	Belcher Rd to Oilfield Rd	A3	B1	80'
	Southfork Pkwy	Kirby Dr/Pomona Pkwy to Magnolia Pkwy	--	B or B2	80'
	Uzzell Rd	Masters Rd to East of City Limits	B1	B1	80'

Typical Street Sections

Type "M" Street

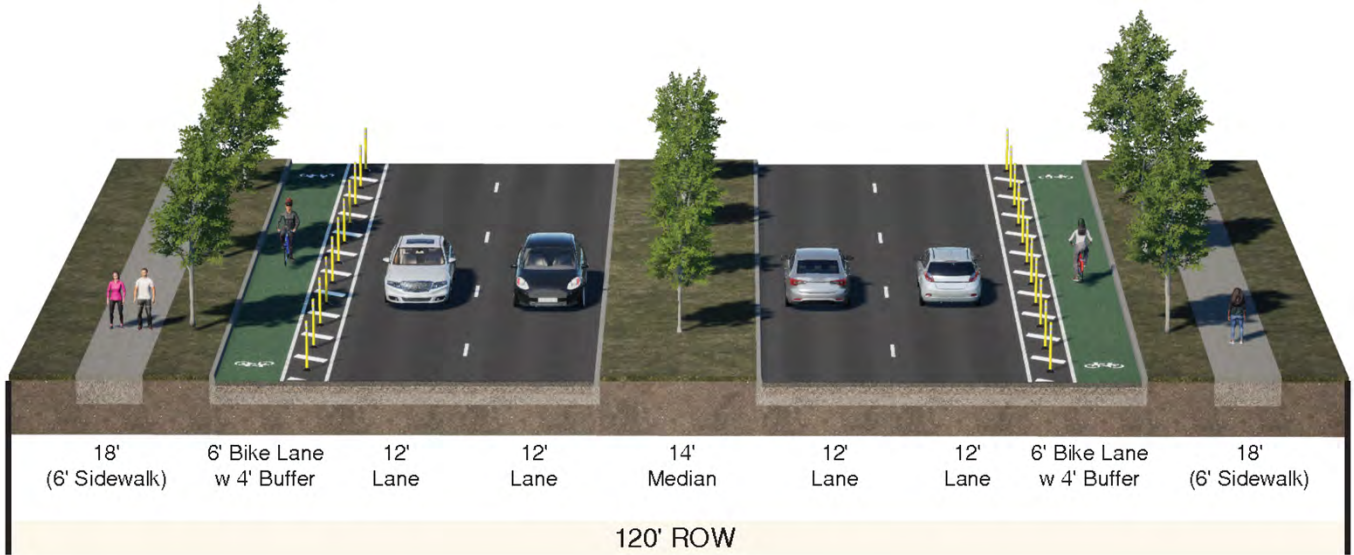


Type "P1" Street

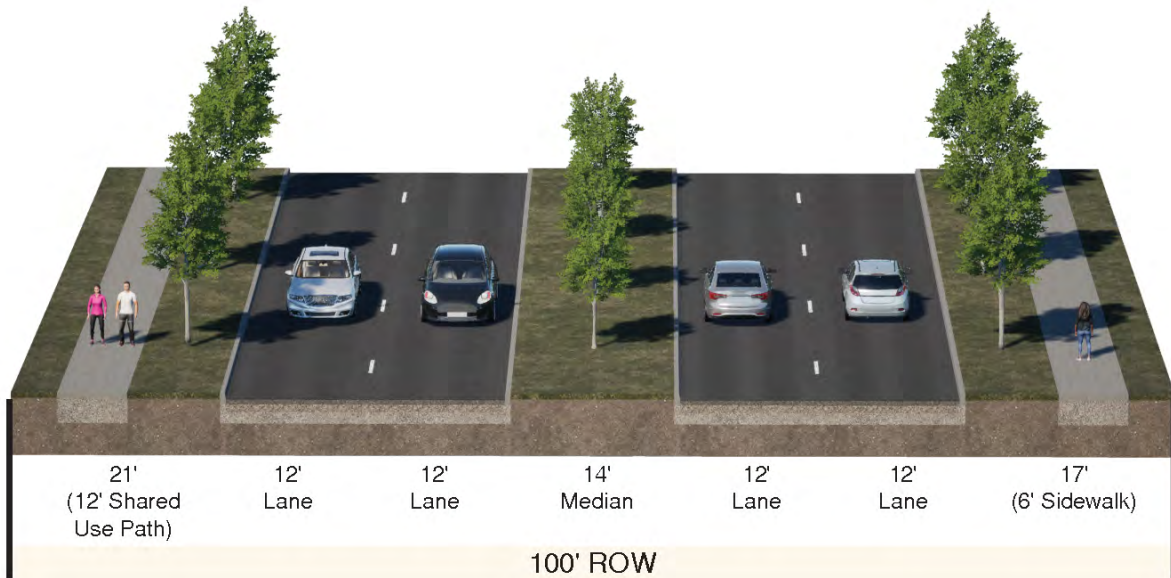


Typical Street Sections

Type "P2" Street

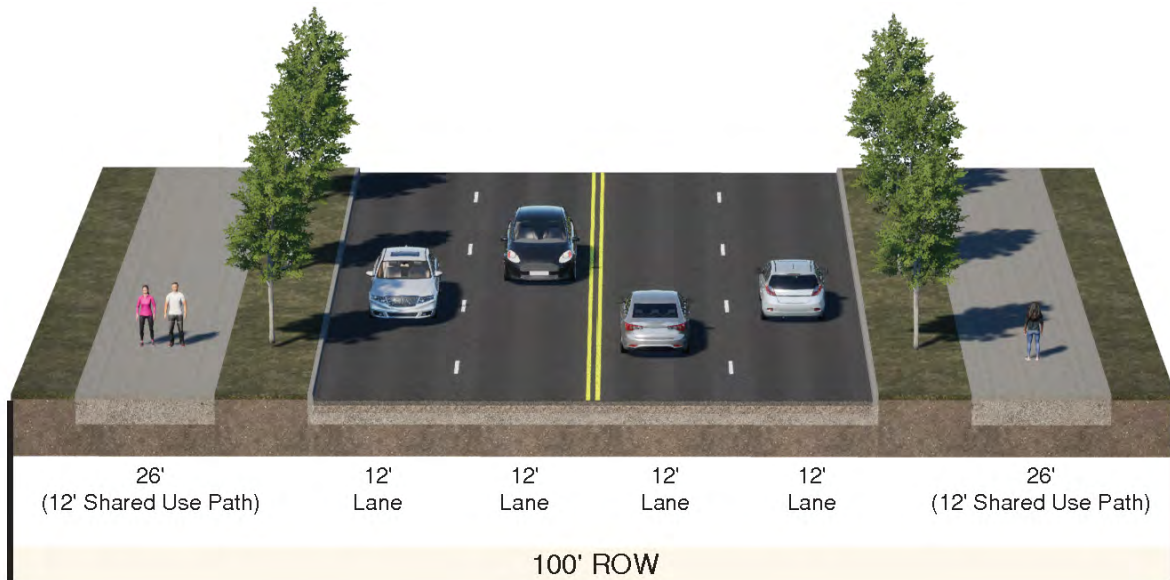


Type "A" Street

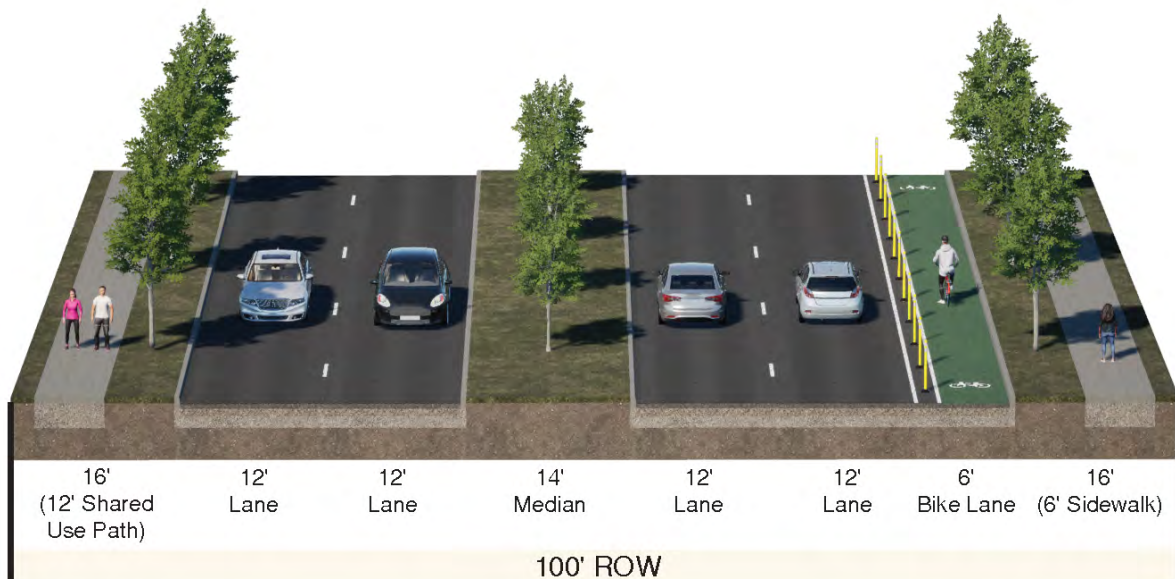


Typical Street Sections

Type "A1" Street

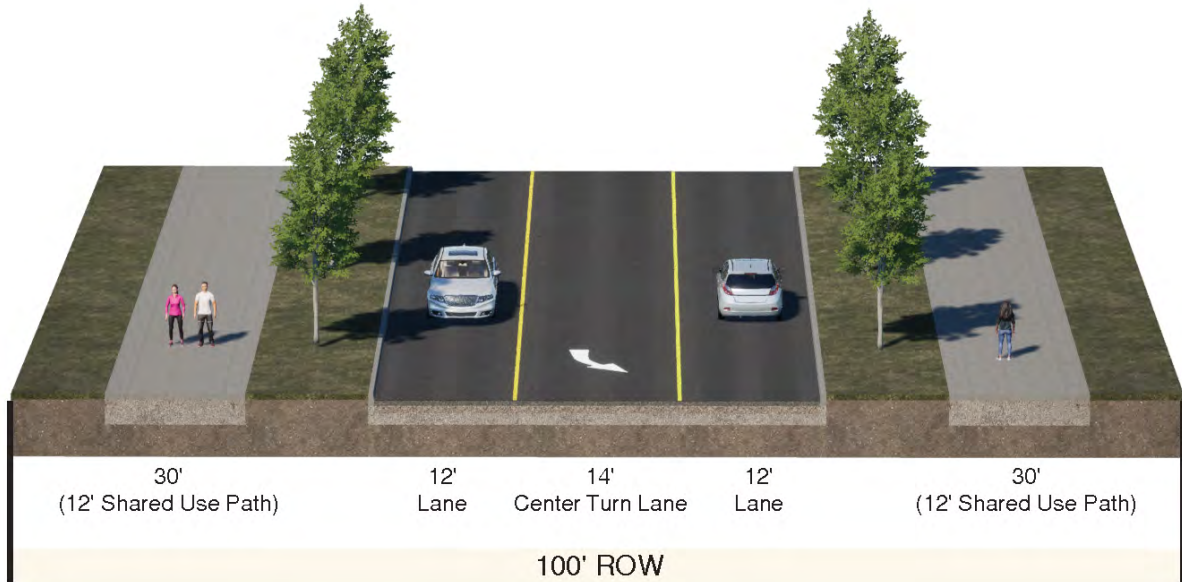


Type "A2" Street

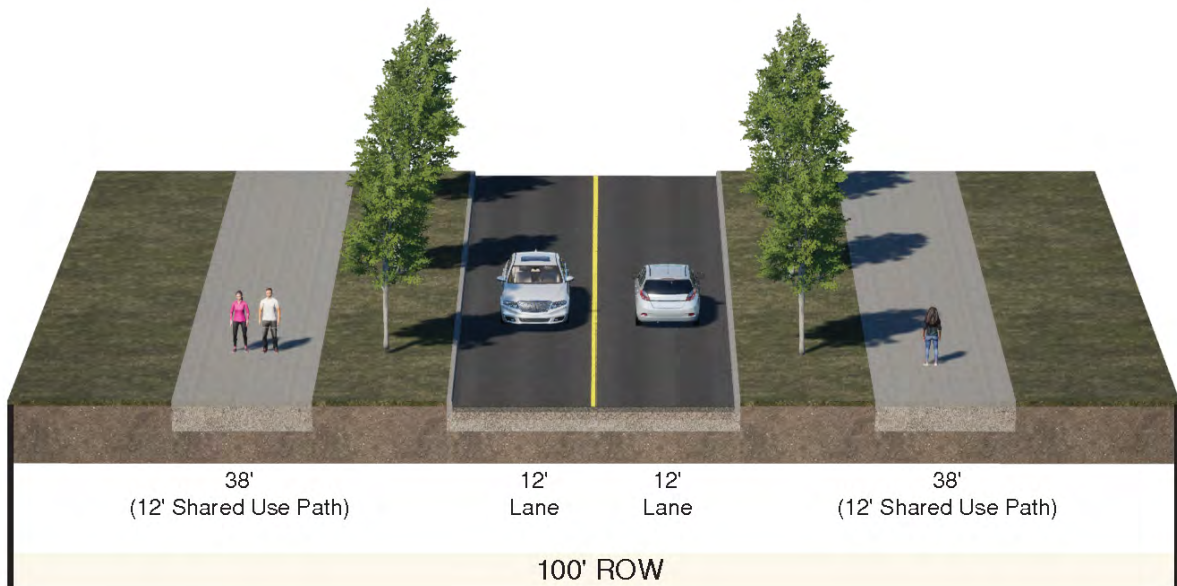


Typical Street Sections

Type "A3" Street

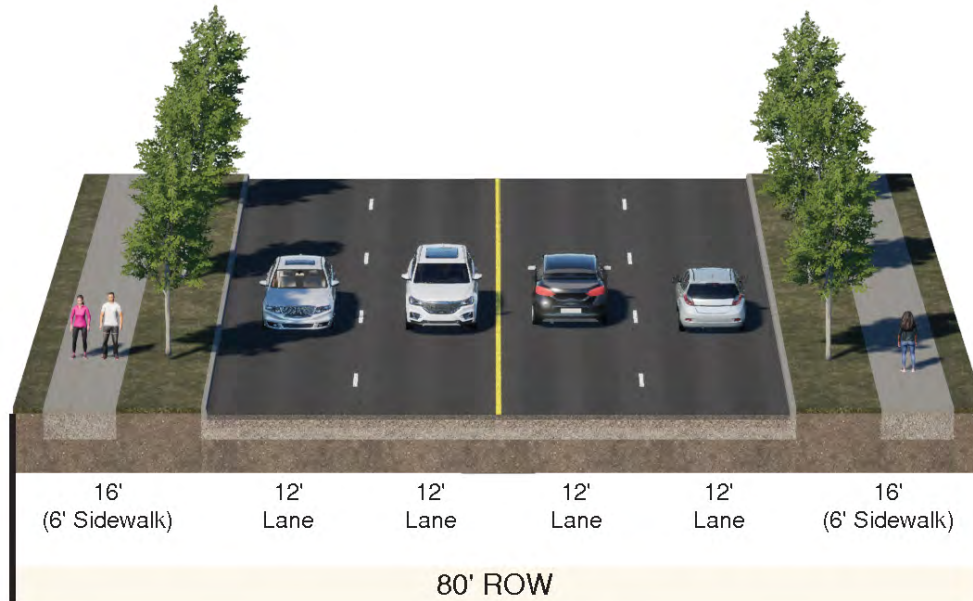


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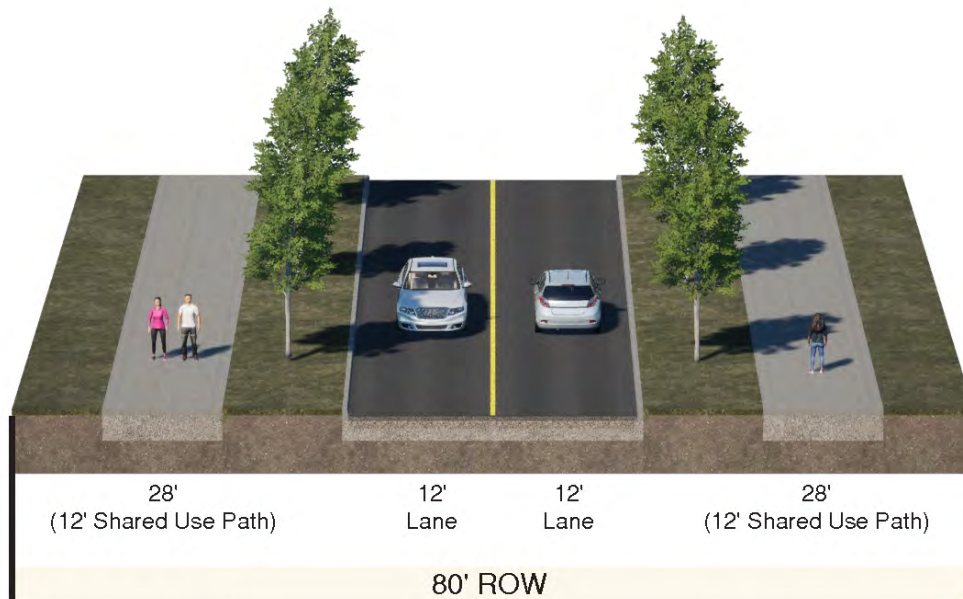


Typical Street Sections

Type "B" Street

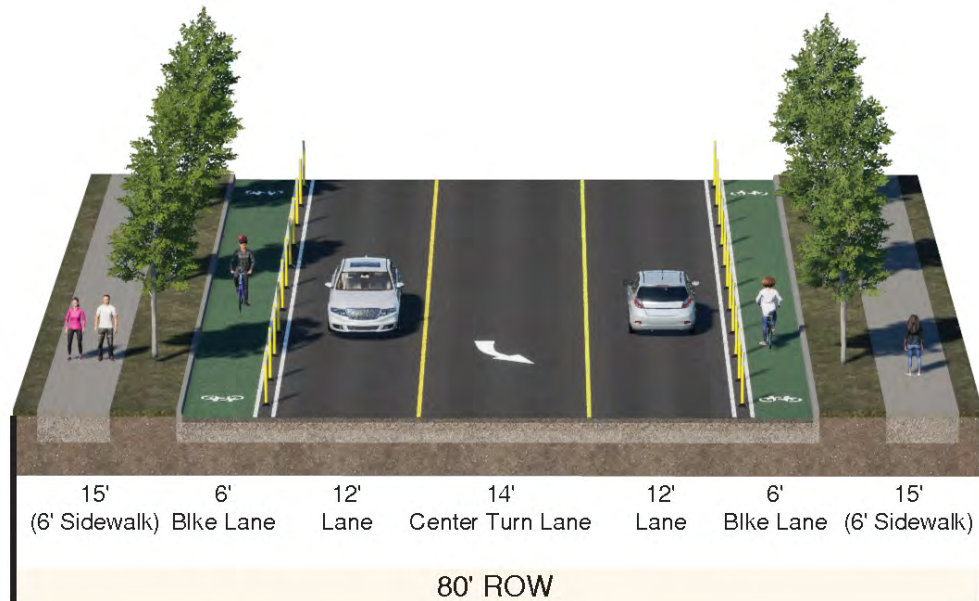


Type "B1" Street

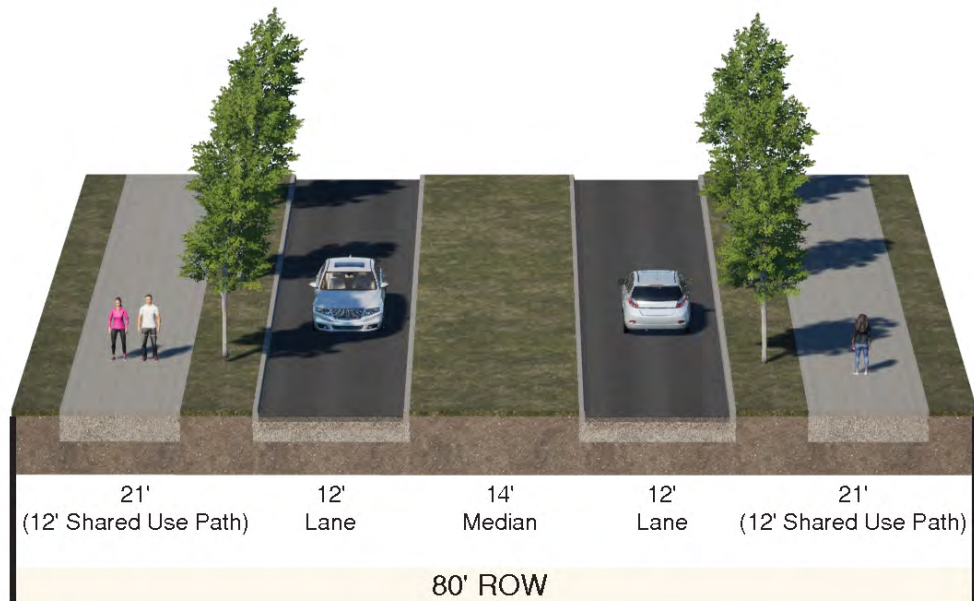


Typical Street Sections

Type "B2" Street

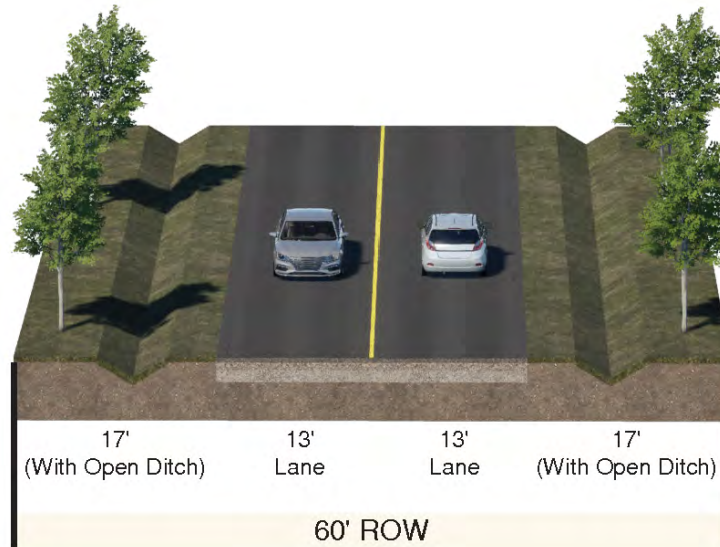


Type "B3" Street



Typical Street Sections

Local Street



Local Street

