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MEMORANDUM

From: Frederik Venter, P.E., Colin Ogilvie, Kimley-Horn and Associates

To: Robert Armijo, P.E., City of Tracy

Date: February 24, 2020

Re: **Tracy Hills KT Vesting Tentative Map Review**

1. Executive Summary

This memorandum evaluates the KT Vesting Tentative Map (the "Project") provided by RJA (dated November 5, 2019, revised February 4, 2020). KT proposes to construct 185 Medium Density Residential Dwelling Units and reserve space for 8.59 Acres of General Highway Commercial. This review evaluates the internal roadway network with full development of the Tracy Hills Specific Plan (THSP) area east of Corral Hollow Road in order to construct or reserve right of way for the internal roadways. This memorandum also reviews several intersections along Corral Hollow Road, from Interstate 580 to Linne Road, under Near-Term Plus KT Homes conditions.

A summary of analysis findings from the KT Vesting Tentative Map review include the following:

KT Homes Only plus background growth through 2025 plus Phase 1A.

a. *Corral Hollow Road & Tracy Hills Drive/Street D*:
   1. Southbound: One left turn, one right turn and one through lane
   2. Northbound: One left turn, one right turn and one through lane
   3. Westbound: One left turn, one shared through and right turn lane. However, this layout may result in interim curb, signal and pedestrian crossing, which will be funded by the project as interim improvements. The developer must provide intersection layouts indicting this geometry for review. The layouts must show the ultimate layout as well.
   4. Eastbound: Same as existing - One shared through and right turn lane, two left turn lanes
   5. Signal timing: Modified signal timing plans for AM and PM and school midday.
   6. Add signal poles and curb/sidewalk as required.

b. *Corral Hollow Road/Street A RIRO Driveway*:
   1. Northbound: One right turn lane in addition to the future two through lanes to separate through traffic from right turning vehicles.
   2. Provide a raised median on Corral Hollow Drive to prevent left turns in and out of the site.
   3. Westbound: one right turn lane exiting the development

c. *KT On-site:*
   1. Street D between Corral Hollow Road and Street C: 1 lane westbound and 1 lane eastbound. Geometric layout plans indicating proposed and ultimate layouts must be provided for review. Interim improvements that may have to be modified later will be funded by the developer.
   2. Modify the ROW at the intersection of Street D and the eastern KT retail driveway be a future single lane roundabout with an eastbound right turn slip lane.
   3. Intersection of Street D and Street C to be a mini roundabout or T-intersection with eastbound stop control.
   4. Add protected bicycle facilities on Street D. Eight-foot paved Class 1 facilities with 2-foot unpaved shoulders should be constructed on both sides of Street D.
   5. Provide adequate pedestrian crossings and connections to the parks and trails.

d. *Pay fair share towards Corral Hollow Road improvements south of I-580.*

e. *External Network review assumes the following Phase 1A improvements will already be implemented. KT homes has a proportionate share in these improvements and they will pay the City Traffic Impact Fees consistent with the findings of the approved Tracy Hills EIR:*
   1. Install a single lane roundabout with a northbound right turn bypass lane at the intersection of Corral Hollow Road and I-580 Eastbound Ramps – anticipated Caltrans requirement.
   2. Install a single lane roundabout with southbound right turn bypass lane at the intersection of Corral Hollow Road and I-580 Westbound Ramps - anticipated Caltrans requirement.
   3. Install a northbound right turn lane, a southbound left turn lane, and a westbound right turn pocket at the intersection of Corral Hollow Road and Linne Road.

KT Homes Plus KT Retail Only plus Background Growth through 2025 plus Phase 1A.

f. *Corral Hollow Road & Tracy Hills Drive/Street D*:
   1. Southbound: Two left turns, one right turn, and one through lane
   2. Northbound: Two left turns, one right turn, and one through lane
   3. Westbound: One through, one left, and one right turn lane
   4. Eastbound: Same as existing - One shared through and right turn lane, two left turn lanes
   5. Signal timing: Modified signal timing plans for AM and PM and school midday
   6. Add signal poles and curb/sidewalk as required.

g. *Street D & Commercial DWY 3 & 4 (Roundabout)*:
   1. Install single-lane roundabout with an Eastbound channelized right turn lane (drop lane)

h. KT On-site:

1. Street D between Corral Hollow Road and the Retail Roundabout: 3 lanes westbound and 2 lanes eastbound
2. Intersection of Street D and Street C to be a mini roundabout or T-intersection with eastbound stop control.
3. Add protected bicycle facilities on Street D. Eight-foot paved Class 1 facilities with 2-foot unpaved shoulders should be constructed on both sides of Street D.
4. Provide adequate pedestrian crossings and connections to the parks and trails.

i. Fair Share (Street D):

1. Street improvement plans shall be provided to indicate KT only, interim, and buildout geometry and ROW. All interim improvements will be funded by the developer. For the interim Corral Hollow Road and Street D intersection (layout shown on Sheet 11 of 14 in the Vesting Tentative Map), the fair share payment if only KT Homes and KT Retail are constructed is 17% KT Homes and 83% KT Retail.

KT Homes Plus KT Retail Plus South Retail plus Background Growth through 2025 plus Phase 1A.

j. *Corral Hollow Road & Tracy Hills Drive/Street D*:

1. Southbound: Two left turns, one right turn, and two through lanes.
2. Northbound: Two left turns, one right turn, and two through lanes.
3. Westbound: One through, one left and one shared through and right turn lane.
4. Eastbound: Same as existing - One shared through and right turn lane, two left turn lanes.
5. Signal timing: Modified signal timing plans for AM and PM and school midday.
6. Add signal poles and curb/sidewalk as required.

k. Street D & Commercial DWY 3 & 4 (Roundabout):

1. Install single-lane roundabout with an Eastbound channelized right turn lane (drop lane)

l. KT On-site

1. Between RIRO and Corral Hollow Drive: 3 lanes westbound and 2 lanes eastbound.
2. Between future roundabout and Road D: One lane in each direction.
3. Intersection of Street D and Street C to be a mini roundabout or T-intersection with eastbound stop control.
4. Add protected bicycle facilities on Street D. Eight-foot paved Class 1 facilities with 2-foot unpaved shoulders should be constructed on both sides of Street D.
5. Provide adequate pedestrian crossings and connections to the parks and trails.

m. External Network review assumes the following Phase 1A improvements will already be implemented. KT homes has a proportionate share in these improvements and they will pay the City Traffic Impact Fees consistent with the findings of the approved Tracy Hills EIR:

1. Install a single lane roundabout with a northbound right turn bypass lane at the intersection of Corral Hollow Road and I-580 Eastbound Ramps – anticipated Caltrans requirement.
2. Install a single lane roundabout with southbound right turn bypass lane at the intersection of Corral Hollow Road and I-580 Westbound Ramps - anticipated Caltrans requirement.
3. Install a northbound right turn lane, a southbound left turn lane, and a westbound right turn pocket at the intersection of Corral Hollow Road and Linne Road.

n. Fair Share (Street D Buildout):

1. For the ultimate Corral Hollow Road and Street D intersection (layout shown on Sheet 11 of 14 in the Vesting Tentative Map), the fair share payment shall be 7% KT Homes, 35% KT Retail and 58% South Retail.

2. Introduction

The Project consists of developing the KT Vesting Tentative Map within the Tracy Hills Specific Plan area. This is anticipated to be the second development constructed within the THSP area after Phase 1A. The Project is located east of Phase 1A and Corral Hollow Road, north of Interstate 580 (I-580) and south of the California Aqueduct. The Project proposes to construct 185 Medium Density Residential Dwelling Units and reserve space for 8.59 Acres of General Highway Commercial.

This review evaluates the internal roadway network with full development of the Tracy Hills Specific Plan (THSP) area east of Corral Hollow Road in order to construct or reserve right of way for the internal roadways. The parcels southwest of KT, APN 253-03-15 and 253-03-04 (also referred to as "South Retail") are zoned for General Highway Commercial and are located within the THSP. It is anticipated that this future development will send trips the KT retail site to access the intersection of Corral Hollow Road and Tracy Hills Drive/Street D, because there is not sufficient spacing for an additional full access intersection between the Corral Hollow Road and I-580 Westbound Ramps intersection and the Corral Hollow Road and Tracy Hills Drive/Street D intersection. No site plan has been submitted to the City, but trip generation for the South Retail is based on 23.6 acres of General Highway Commercial per the THSP. This development is anticipated to have one right in/ right out access along Corral Hollow Road.

This memorandum also reviews several intersections along Corral Hollow Road, from Interstate 580 to Linne Road, under Near-Term Plus KT Homes conditions.

This memorandum is divided into the following sections:

- Vesting Tentative Map Review
- External Network Review

The KT Tentative Map and study intersections are shown in **Figure 1**. Please refer to the KT Tentative Map document for street names.

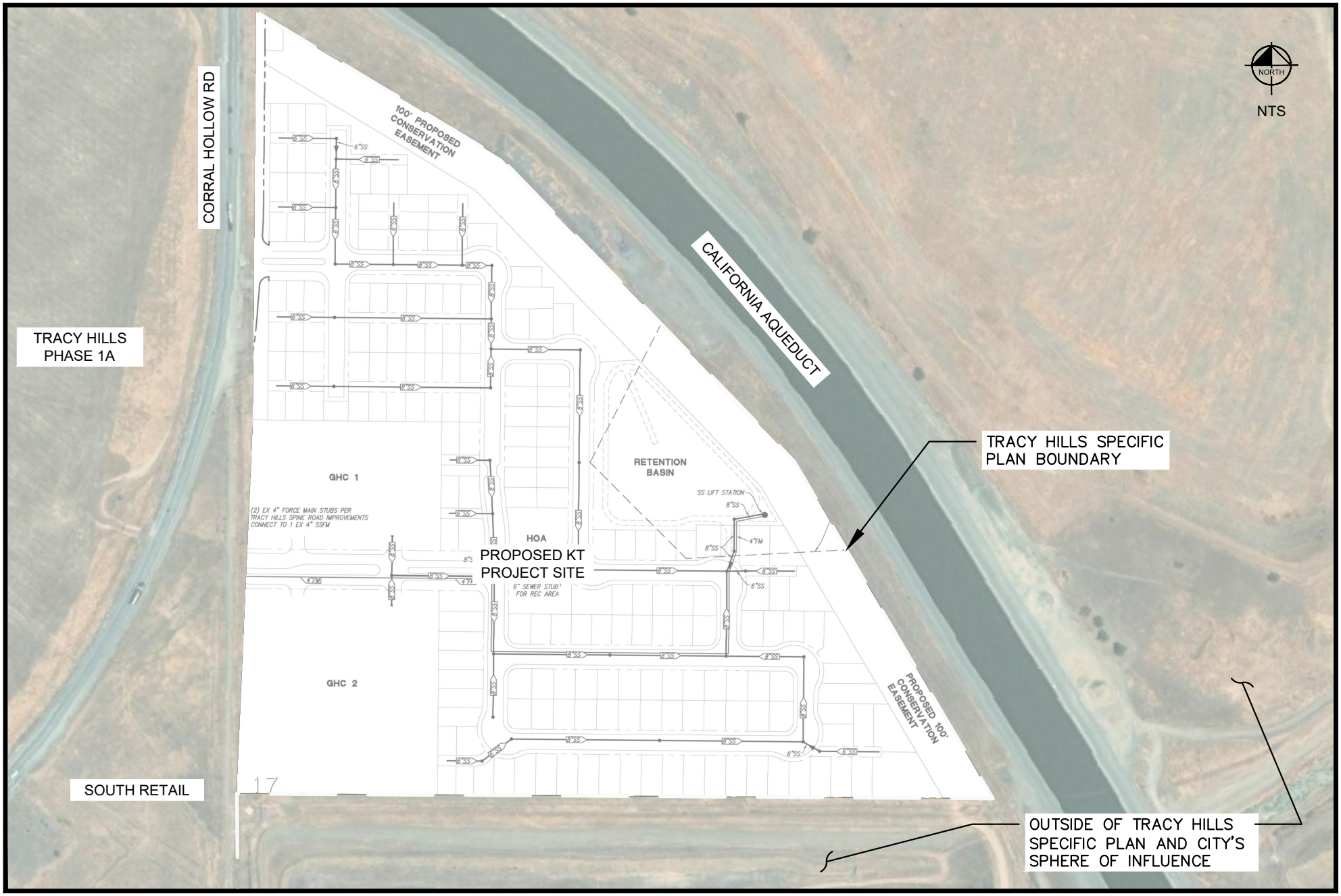

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Figure 1

KT Vesting Tentative Map

3. Study Methodology

Development Conditions

This traffic study is based upon the following development conditions for the following reviews:

- Vesting Tentative Map Review
  - Near-Term (2025) + Phase 1A + KT Homes & Retail + South Retail represents the following assumptions:
    - Near-Term - 2019 traffic counts grown to 2025 using the Tracy Transportation Management Plan (TMP) growth rates
    - Phase 1A - 1137 low/mid density residential dwelling units and no business park
    - KT Homes & Retail – 185 low/mid density residential dwelling units and 8.59 gross acres of retail
    - South Retail - 23.6 gross acres of retail
  - Near-Term (2025) + Phase 1A + KT Homes
    - Near-Term - 2019 traffic counts grown to 2025 using the Tracy Transportation Management Plan (TMP) growth rates
    - Phase 1A - 1137 low/mid density residential dwelling units and no business park
    - KT Homes – 185 low/mid density residential dwelling units
  - Near-Term (2025) + Phase 1A + KT Homes & Retail
    - Near-Term - 2019 traffic counts grown to 2025 using the Tracy Transportation Management Plan (TMP) growth rates
    - Phase 1A - 1137 low/mid density residential dwelling units and no business park
    - KT Homes & Retail – 185 low/mid density residential dwelling units and 8.59 gross acres of retail

- External Network Review
  - Existing (2019) + Phase 1A represents the baseline conditions for the existing network.
  - Near Term (2025) + Phase 1A + KT Homes represents the project conditions and includes the following assumptions:
    - Near-Term - 2019 traffic counts grown to 2025 using the Tracy Transportation Management Plan (TMP) growth rates
    - Phase 1A - 1137 low/mid density residential dwelling units and no business park
    - KT Homes - 185 low/mid density residential dwelling units

Operating Conditions and Criteria for Intersections

Analysis of potential environmental impacts at intersections is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual,* 6th Edition, (HCM 6) by using Synchro 10 traffic analysis software and Sidra Intersection 8 software.

The HCM 6 methodologies include procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), signalized and roundabout intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection.

Table 1 relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle-sec/veh)	Unsignalized (Avg. control delay per vehicle-sec/veh)	Roundabout (Avg. control delay per vehicle-sec/veh)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	< 10	≤ 10	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 – 20	> 10 – 15	> 10 – 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 – 35	> 15 – 25	> 15 – 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35 – 55	> 25 – 35	> 25 – 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 – 80	> 35 – 50	> 35 – 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80 or V/C > 1.0	> 50 or V/C > 1.0	> 50 or V/C > 0.85
Sources: Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Research Council				

Intersection Analysis

Project impacts are determined by comparing conditions without the proposed Project to those with the proposed Project. Significant impacts for intersections are created when vehicle trips from the proposed Project causes the LOS to fall below the Agency LOS threshold or increases delay to an already failing intersection greater than the Agency threshold.

City of Tracy Requirements

For the City of Tracy, the LOS threshold is LOS D. The delay threshold for an already failing intersection is five seconds of additional delay above baseline conditions.

California Department of Transportation (Caltrans) Requirements

Caltrans has jurisdiction over the following intersections:

- Corral Hollow Road and I-580 Eastbound Ramps
- Corral Hollow Road and I-580 Westbound Ramps

Caltrans LOS threshold is LOS C. Significant impacts occur when the intersection degrades from a LOS C or better to a LOS D or worse with the addition of the Project, or when the intersection is at an unacceptable LOS D or worse under baseline conditions and the addition of the Project causes any increase in delay. If an un-signalized intersection is LOS D or worse in baseline conditions and meets or exceeds the CAMUTCD peak hour signal warrant threshold, it is a significant impact.

Operating Conditions and Criteria for Segments

Analysis of roadway segments is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the THSP EIR Table 4.13-4.

Table 2: Roadway Segment Capacity

LOS	Directional Capacity (vph)
A	120
B	250
C	410
D	650
E	1060

Notes:
1. Taken from Table 4.13-4 of the THSP EIR

Roundabout Analysis – FHWA Requirements

Roundabouts: An Information Guide (June 2000) by the Federal Highway Administration (FHWA) was used for additional roundabout guidance. In this guide, the FHWA states that for acceptable roundabout operation, it is advised that the critical volume-to-capacity (V/C) ratio not exceed 0.85 on any leg of a roundabout. A V/C over 0.85 is considered overcapacity and a LOS F. Therefore, all roundabouts must operate at a volume to capacity ratio of 0.85 or better for any leg regardless of intersection LOS.

4. KT Vesting Tentative Map Review

4.1 Traffic Control and LOS Analysis

This section discusses the traffic analysis completed for the KT Vesting Tentative Map Review. For the external circulation review, refer to **Section 5** of this report.

The following development scenario was studied for the vesting tentative map review:

- Near-Term (2025) + Phase 1A + KT Homes & Retail + South Retail

This analysis identifies internal roadway network deficiencies within the KT site. This study evaluates the proposed KT Vesting Tentative Map roadways by determining trip generation estimates, estimating the trip distribution, and analyzing AM and PM peak hour LOS for the following future intersections:

1. Corral Hollow Road and South Retail Driveway (Right In / Right Out)
2. Corral Hollow Road and Tracy Hills Drive/Street D
3. Street D and KT Commercial Driveways 1 & 2 (Right In / Right Out)
4. Street D and KT Commercial Driveways 3 & 4 (Full Access)
5. Street D and Street C
6. Corral Hollow Road and Street A (Right In / Right Out)
7. Street B and Street A

See **Figure 2** for study intersection map of this scenario.

4.1.1 KT Vesting Tentative Map Review Trip Generation

Trip generation was prepared using rates from the Tracy Hills Specific Plan Recirculated Draft Subsequent EIR. **Table 3** provides the estimated trip generation used for this analysis. Internal capture, pass-by trips and diverted trips were taken into consideration for trip generation purposes.

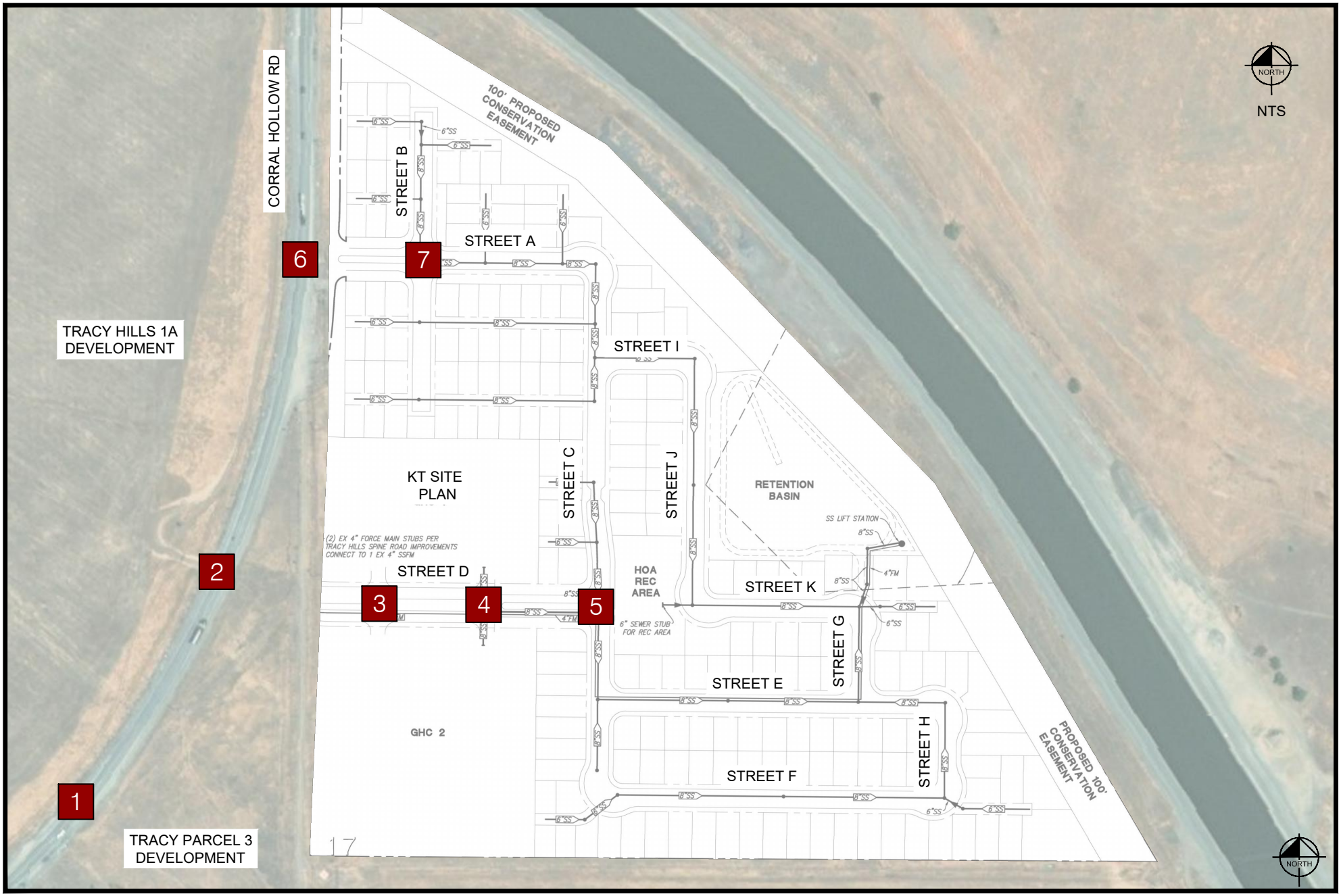

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Figure 2

Vesting Tentative Map Study Intersections

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Table 3 – Project Trip Generation

Trip Generation Rates[1]	ITE Land Use Code/Reference	Units	Weekday AM				Weekday PM			
			Rate	IN	/	OUT	Rate	IN	/	OUT
Low/Mid Density Residential & Residential Estate	Tracy Model	DU	0.55	25%	/	75%	1.05	63%	/	37%
Retail	Tracy Model	Employees	1.90	62%	/	38%	3.46	48%	/	52%
Trip Generation Rates	Units		Weekday AM				Weekday PM			
			Total	IN	/	OUT	Total	IN	/	OUT
Gross Trips										
KT										
Low/Mid Density Residential & Residential Estate	185	DU	102	26	/	76	194	122	/	72
Retail[2]	173	Employees	328	203	/	125	597	287	/	310
Gross KT Trips			**430**	**229**	**/**	**201**	**791**	**409**	**/**	**382**
South Retail										
Retail[2]	474	Employees	901	559	/	342	1,641	788	/	853
Gross South Retail Trips			**901**	**559**	**/**	**342**	**1,641**	**788**	**/**	**853**
Internal Capture Trips[3]										
KT										
Low/Mid Density Residential & Residential Estate			(2)	(1)	/	(1)	(86)	(56)	/	(30)
Retail[2]			(2)	(1)	/	(1)	(86)	(30)	/	(56)
Total KT Internal Capture Trips			**(4)**	**(2)**	**/**	**(2)**	**(172)**	**(86)**	**/**	**(86)**
External Trips										
KT										
Total External KT Trips			**426**	**227**	**/**	**199**	**619**	**323**	**/**	**296**
South Retail										
Total External South Retail Trips			**901**	**559**	**/**	**342**	**1,641**	**788**	**/**	**853**
Pass-by Trips[4,5]										
Total KT Pass-by Trips			**0**	**0**	**/**	**0**	**(204)**	**(102)**	**/**	**(102)**
Total South Retail Pass-by Trips			**0**	**0**	**/**	**0**	**(564)**	**(282)**	**/**	**(282)**
Diverted Trips (KT Retail Only)[4,5]										
Total KT Diverted Trips			**0**	**0**	**/**	**0**	**(280)**	**(140)**	**/**	**(140)**
Total South Retail Diverted Trips			**0**	**0**	**/**	**0**	**(766)**	**(383)**	**/**	**(383)**
Primary Trips										
KT										
Low/Mid Density Residential & Residential Estate			**100**	**25**	**/**	**75**	**108**	**66**	**/**	**42**
Retail[2]			**326**	**202**	**/**	**124**	**27**	**15**	**/**	**12**
Total KT Primary Trips			**426**	**227**	**/**	**199**	**135**	**81**	**/**	**54**
South Retail										
Total South Retail Primary Trips			**901**	**559**	**/**	**342**	**311**	**123**	**/**	**188**

Notes

1. Rates from Tracy Hills Specific Plan Recirculated Draft Subsequent EIR (October, 2015)
2. Retail trip generation represents parcels zoned as General Highway Commercial (GHC).
3. Internal capture rates from the National Cooperative Highway Research Program (NCHRP) 684 Internal Trip Capture Estimation
4. Pass-by and Diverted Trips from the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition (2017)
5. Total pass-by and diverted trips were distributed using the following assumption:
   - 27% use the KT Commercial
   - 73% use the South Retail

4.1.2 KT Tentative Map Review Trip Distribution

For this scenario, the trip distributions were based on the Phase 1A distributions provided by Figure 4.13-20 of the Tracy Hills EIR (October 2015) with a few minor changes. Distribution was added to and from south Corral Hollow Road (Tesla Road) to reflect current travel patterns. The following illustrates the distribution for the Project:

- Corral Hollow Road North of Linne Road
  - AM – 45.1% IN / 22.3% OUT
  - PM – 36.1% IN / 50.7% OUT
- Linne Road East of Corral Hollow Road
  - AM – 36.9% IN / 27.4% OUT
  - PM – 32.4% IN / 31.8% OUT
- I-580 West of Corral Hollow Road
  - AM – 13.1% IN / 35.3% OUT
  - PM – 17.8% IN / 13.2% OUT
- I-580 East of Corral Hollow Road
  - AM – 4.8% IN / 7.6% OUT
  - PM – 5.9% IN / 4.4% OUT
- Corral Hollow Road South of I-580
  - AM – 0% IN / 7.7% OUT
  - PM – 7.2% IN / 0% OUT

Refer to **Figure 3** and **Figure 4** for the trip distribution and primary project trip assignment, respectively. In addition, pass-by and diverted volumes are shown in **Figure 5** and **Figure 6**, respectively.

Assignment was completed under the assumption that U-turns would not be allowed on either Street D or Corral Hollow Road.

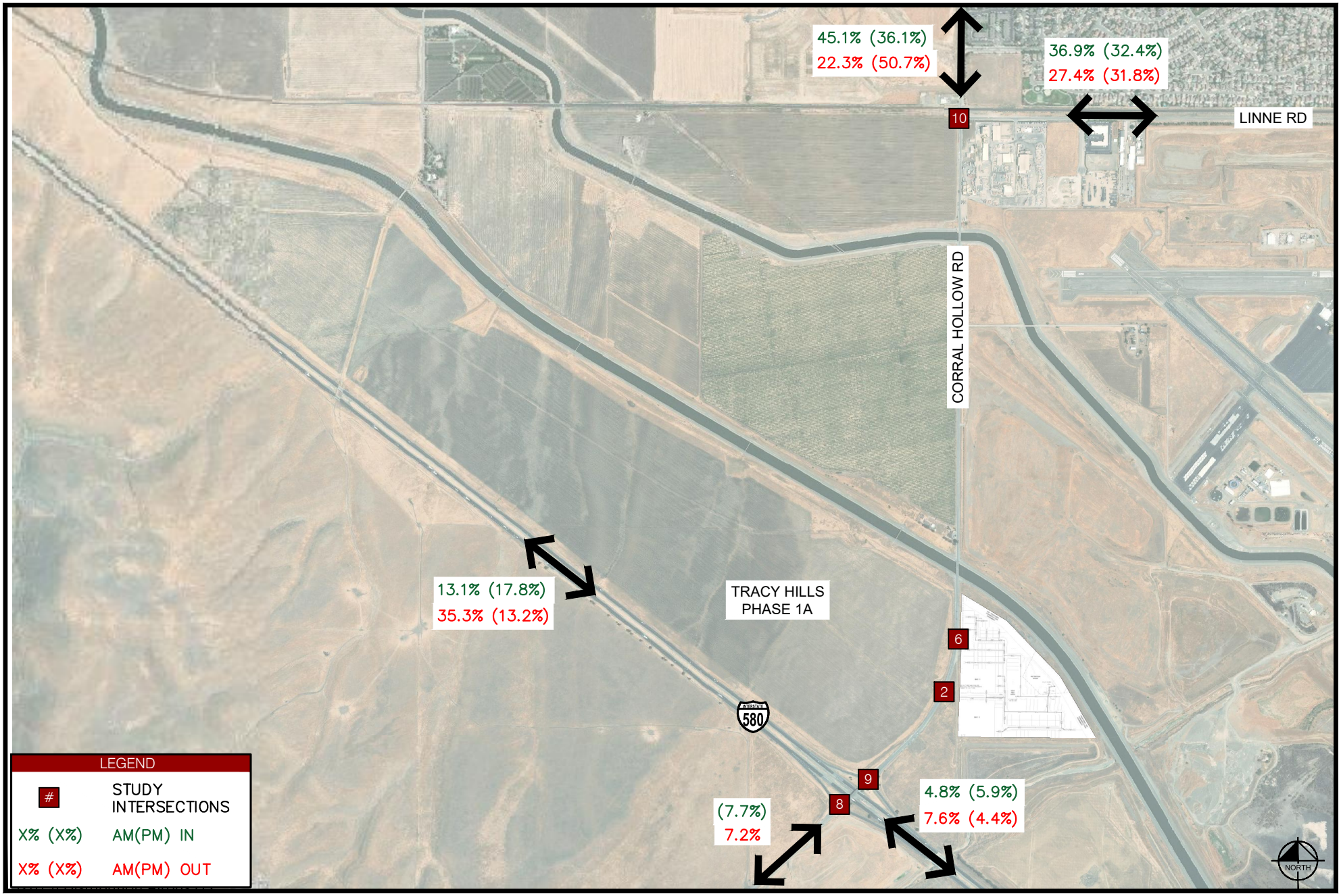

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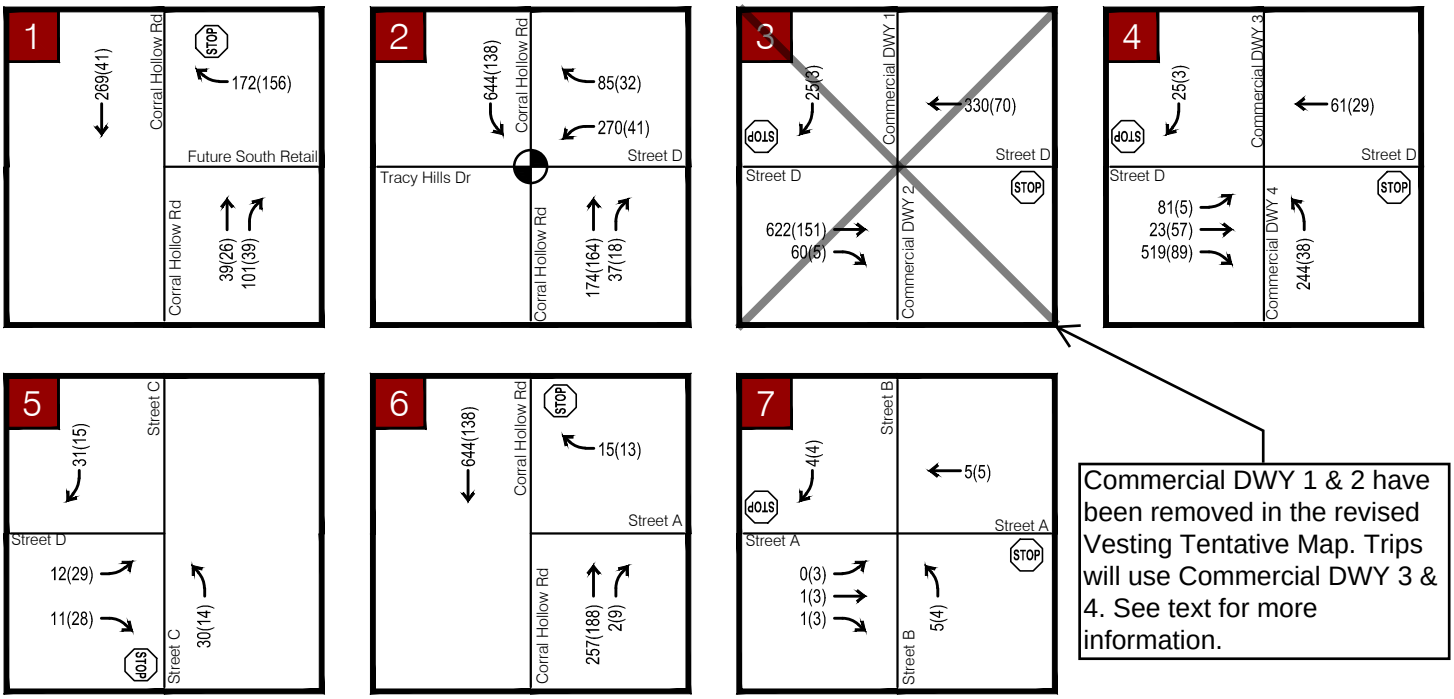
Figure 3
Project Trip Distribution



GENERAL NOTES:

- ASSIGNMENT ASSUMES NO U-TURNS ARE ALLOWED ON STREET D OR CORRAL HOLLOW.

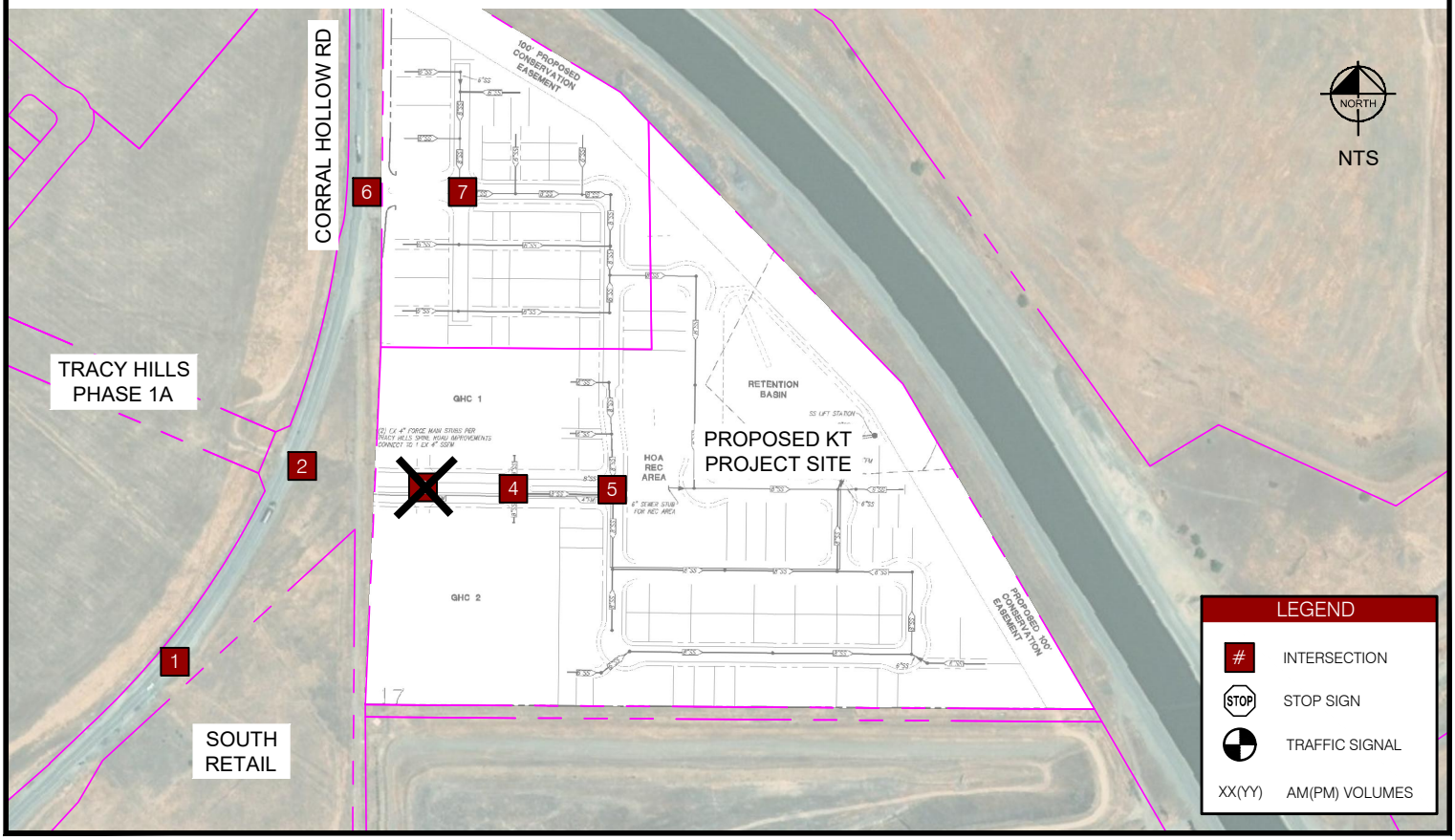
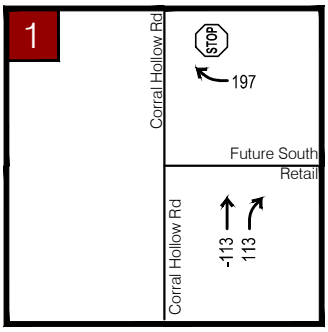
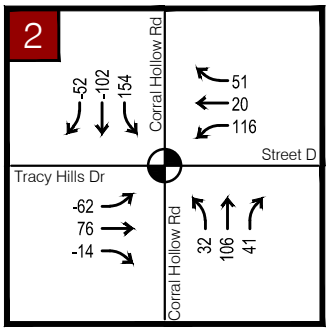
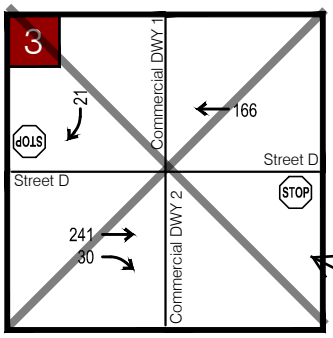


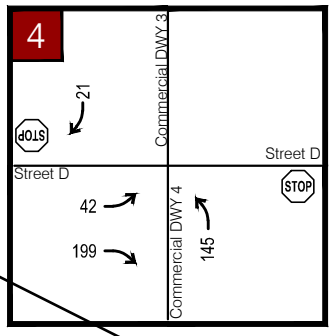
Figure 4

Primary Project Trip Assignment









5

NO PASS-BY TRIPS

6

NO PASS-BY TRIPS

7

NO PASS-BY TRIPS

Commercial DWY 1 & 2 have been removed in the revised Vesting Tentative Map. Trips will use Commercial DWY 3 & 4. See text for more information.

GENERAL NOTES:

- ASSIGNMENT ASSUMES NO U-TURNS ARE ALLOWED ON STREET D OR CORRAL HOLLOW.
- TRIPS SHOWN ARE ONLY FOR PM PEAK PERIOD.

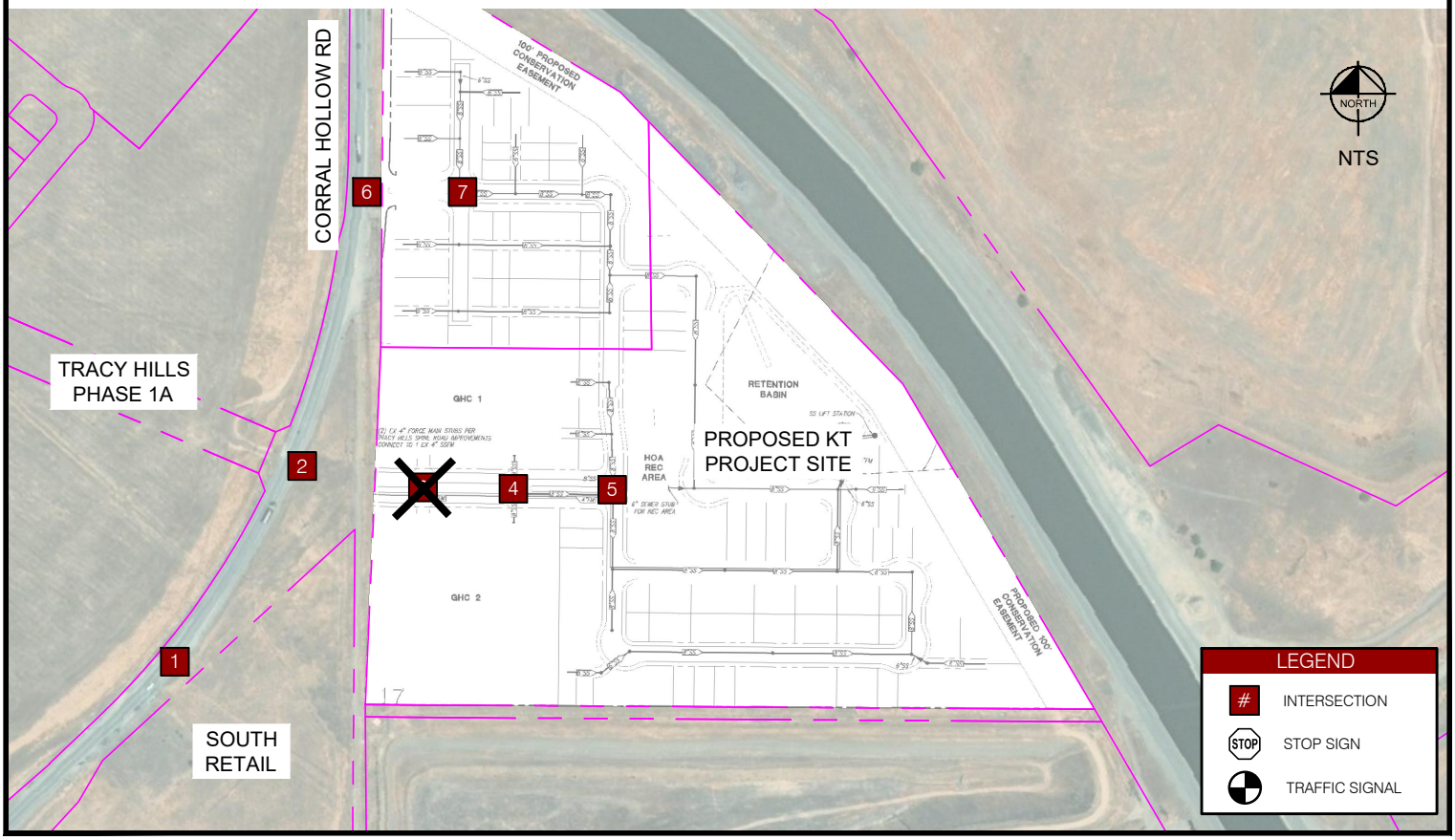
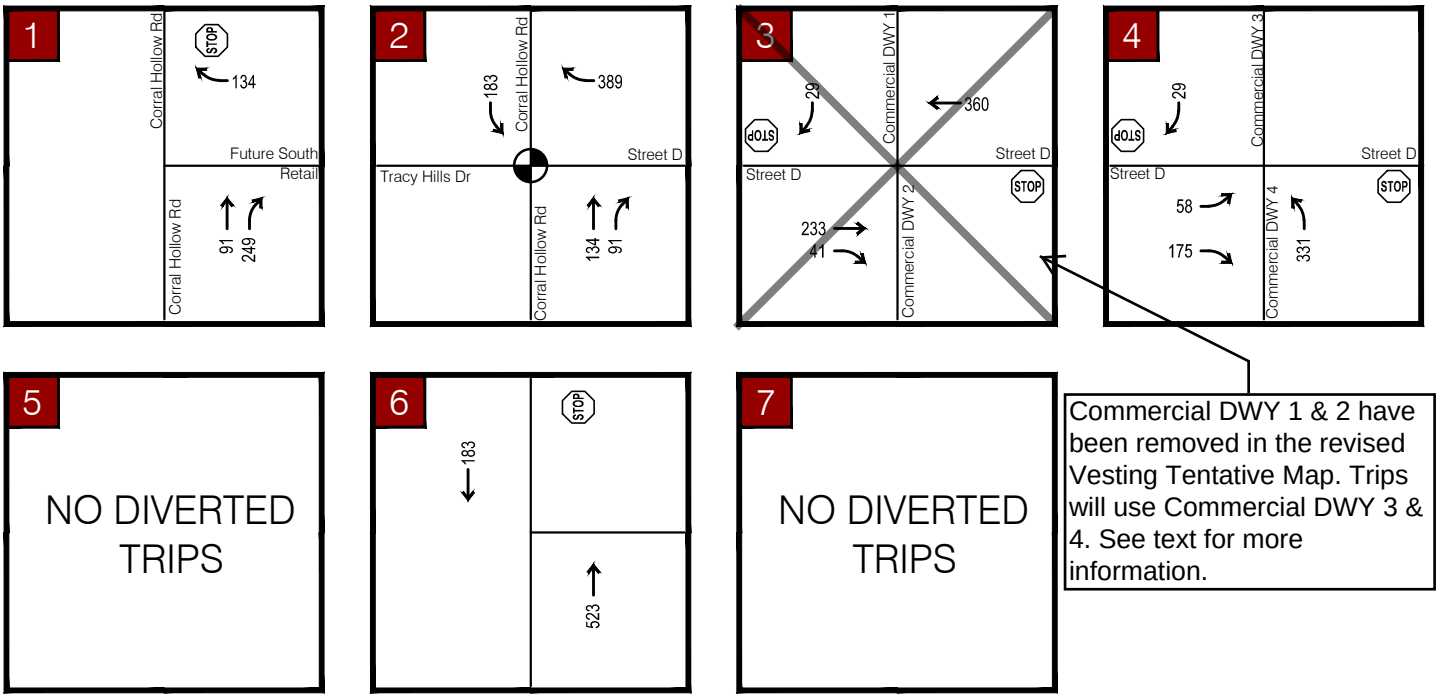


Figure 5

Pass-By Trips



GENERAL NOTES:

- ASSIGNMENT ASSUMES NO U-TURNS ARE ALLOWED ON STREET D OR CORRAL HOLLOW.
- TRIPS SHOWN ARE ONLY FOR PM PEAK PERIOD.

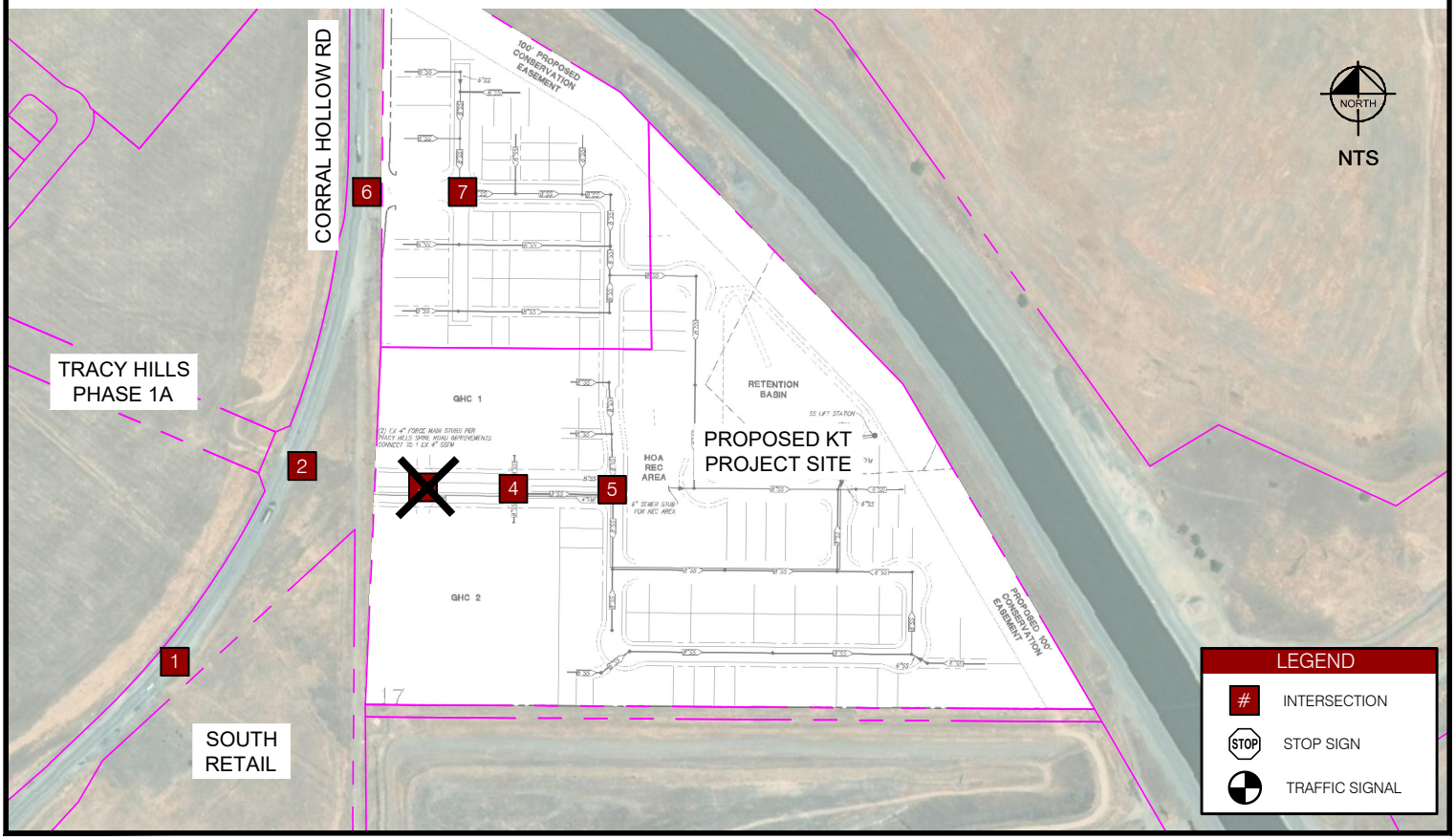


Figure 6

Diverted Trips

4.1.3 Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail LOS Results

To determine potential deficiencies on the Project site, Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail conditions were analyzed. This scenario was used to determine if the current KT site plan provides adequate roadway capacity to accommodate future Project traffic to/from the Project site.

Roadway geometry and traffic control were assumed from the KT Vesting Tentative Map (dated November 5, 2019, revised as of February 4, 2020). Based on the KT Vesting Tentative Map (dated February 4, 2020), the following intersection was removed:

3. Street D & KT Commercial DWYs 1 & 2

Volumes from these driveways will now use the following intersection:

4. Street D & KT Commercial DWYs 3 & 4

The volumes using these driveways are minimal and are not anticipated to substantially change the findings presented for Intersection 4; therefore, the analysis remains unchanged.

The tentative map does not indicate traffic control; therefore, all internal intersections were assumed to be side street stop control. LOS analysis of the right in / right out driveways was not completed for this scenario; however, these intersections are provided to show trip assignments.

The Project roadway geometry and Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail volumes are shown in **Figure 7** and **Figure 8**.

LOS Results

For Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail Conditions, it was determined that the following intersections would not meet LOS standards:

- Intersection 2 – Corral Hollow Road and Tracy Hills Drive/Street D
- Intersection 4 – Street D and Commercial Driveways 3 and 4

Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail LOS results are shown in **Table 4.**

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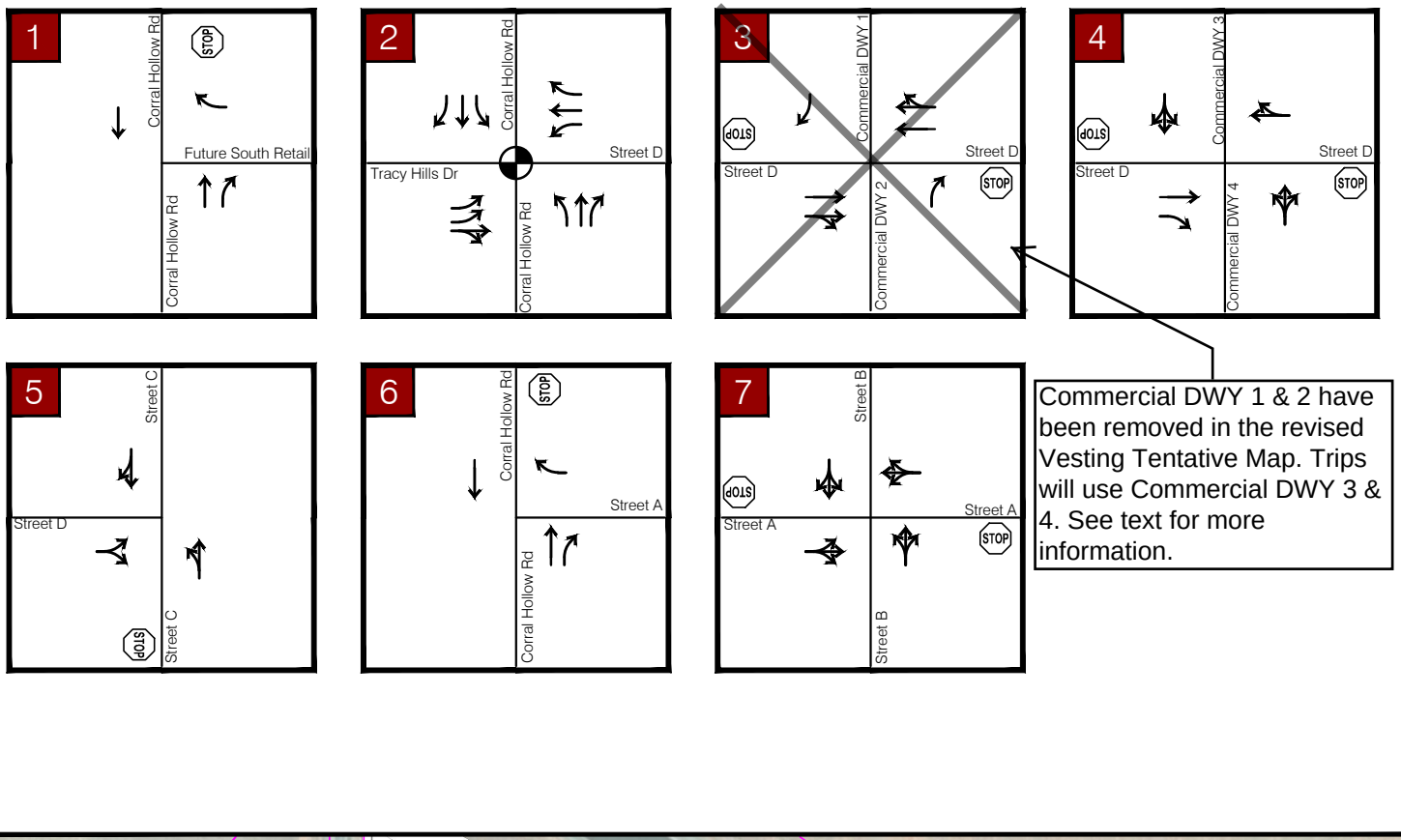
Table 4 – Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail LOS Results

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A + KT Homes & Retail + South Retail					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay[5]	LOS	Movement	Delay[5]	LOS
1	Corral Hollow & South Retail DWY	Not Analyzed for LOS (Right In / Right Out Driveway)							
2	Corral Hollow & Tracy Hills Drive/Street D	D	Signal	**-**	**92.3**	**F**	**-**	**301.4**	**F**
3	**Street D & KT Commercial DWYs 1 & 2**	**Driveways have been removed**							
4	Street D & KT Commercial DWYs 3 & 4	D	SSSC	-	-	-	-	-	-
	Worst Approach			*NB*	*14.3*	*B*	***NB***	***133.9***	***F***
5	Street D & Street C	D	SSSC	-	-	-	-	-	-
	Worst Approach			*EB*	*8.8*	*A*	*EB*	*9.6*	*A*
6	Corral Hollow Road & Street A	Not Analyzed for LOS (Right In / Right Out Driveways)							
7	Street A & Street B	D	SSSC	-	-	-	-	-	-
	Worst Approach			*NB*	*8.6*	*A*	*NB*	*8.6*	*A*

Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D.
4. SSSC – Side Street Stop Control Intersection
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standard are shown in **bold.**



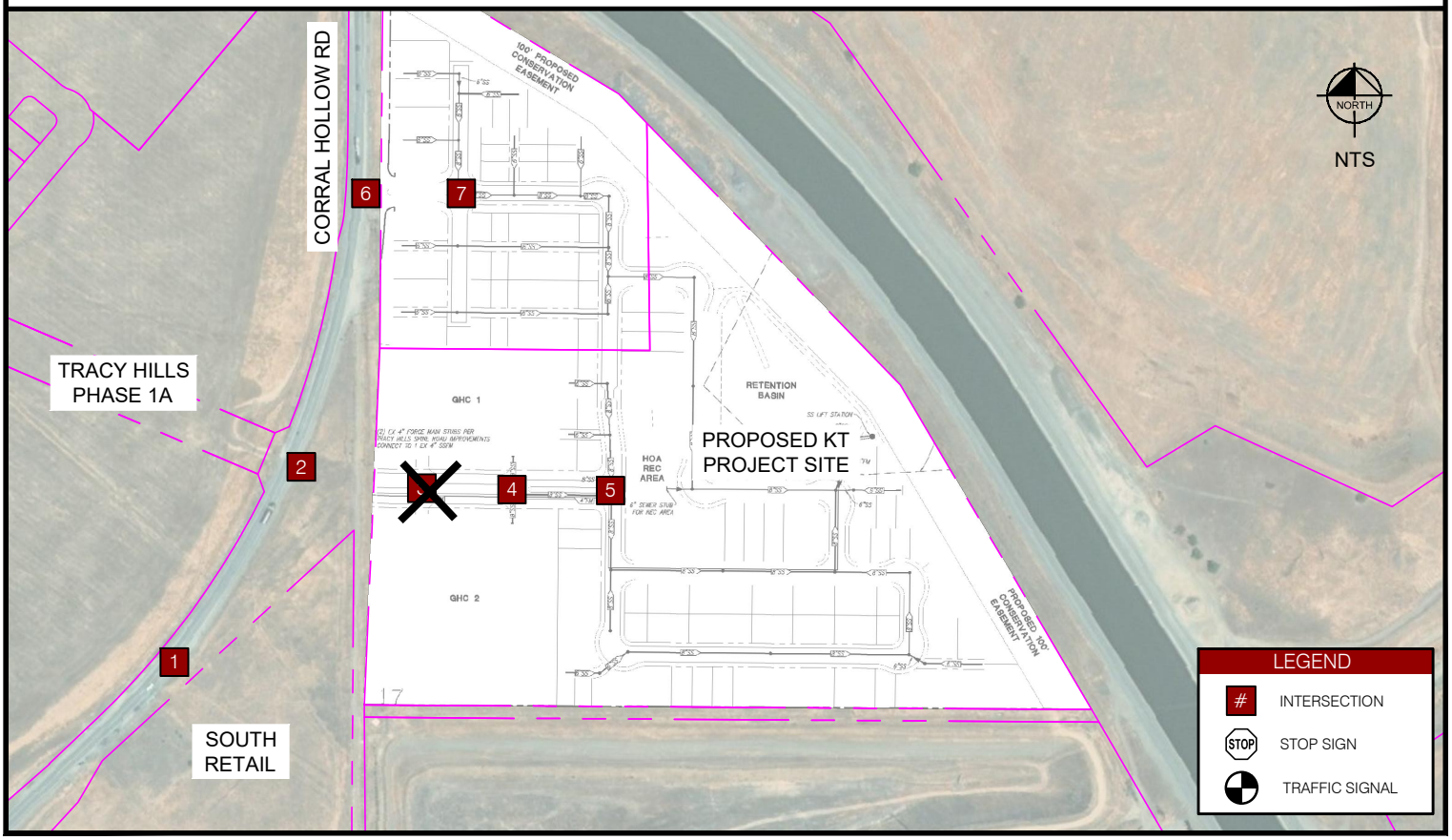
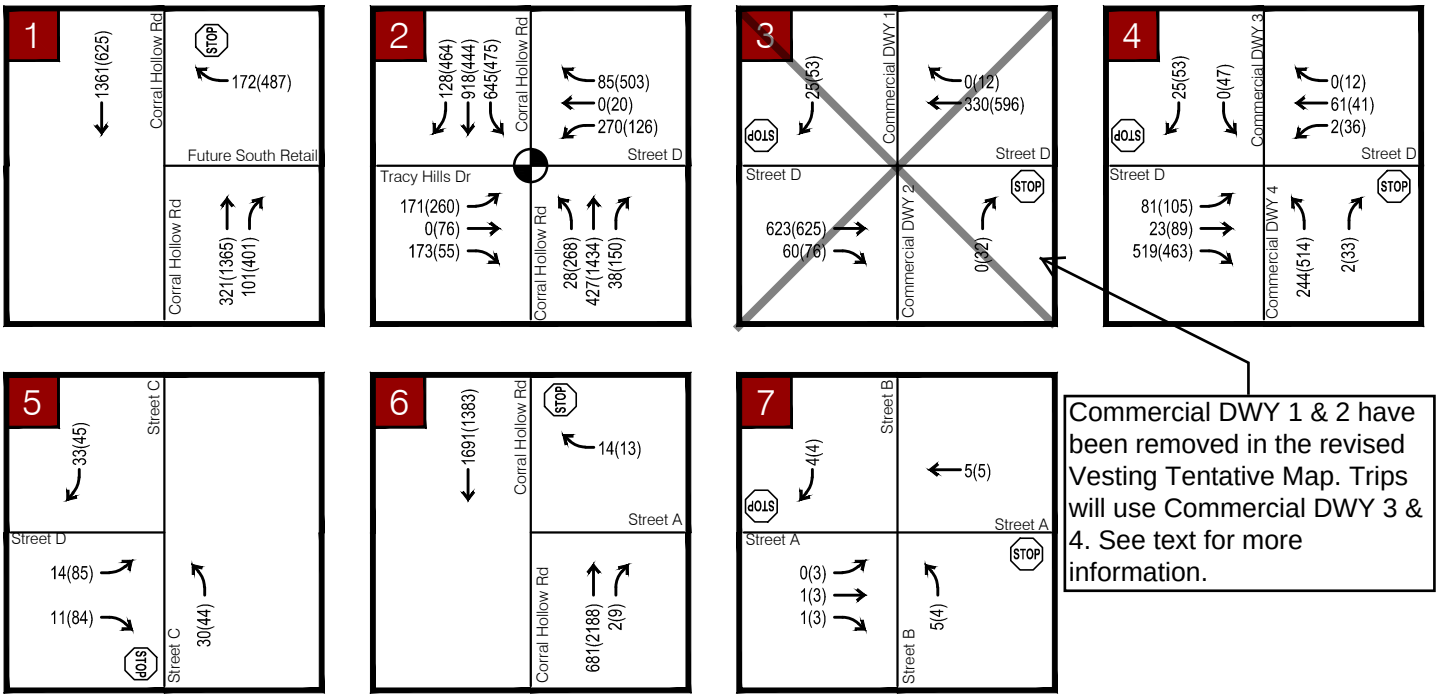


Figure 7
NT (2025) + Phase 1A + KT Homes & Retail + South Retail
Geometry and Traffic Control



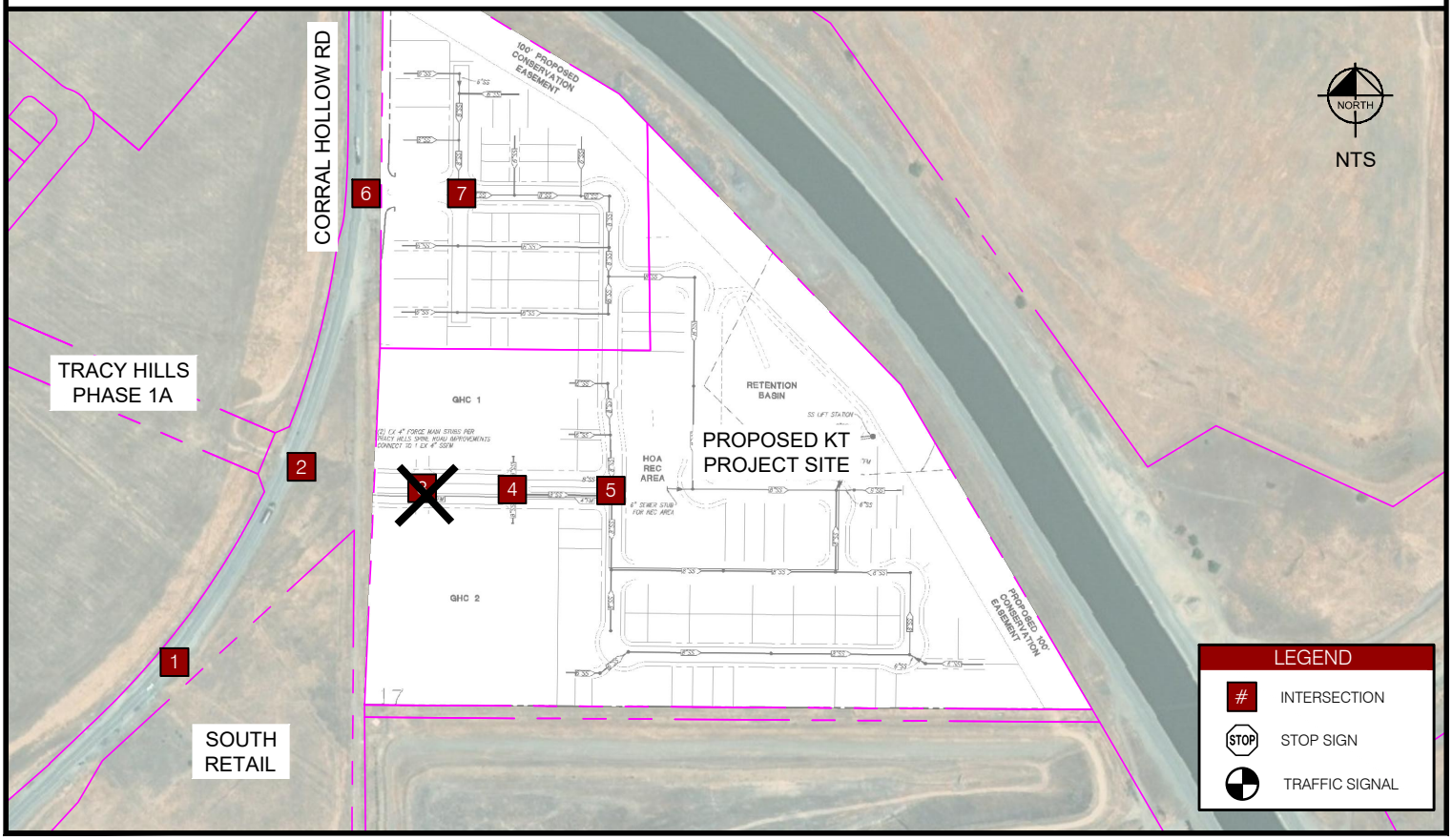


Figure 8
NT (2025) + Phase 1A + KT Homes & Retail + South Retail Traffic Volumes

4.1.4 Mitigations & Recommendations

Based on the results provided in **Table 4**, the following mitigations were implemented:

1. Intersection 2 – Corral Hollow Road and Tracy Hills Drive/Street D
    1. Provide two northbound and southbound through lanes on Corral Hollow Road
    2. Provide two northbound and southbound left turn lanes on Corral Hollow Road
    3. Provide northbound and southbound right turn overlap signal phasing
    4. Provide one left turn lane, one shared through/right turn lane and one right turn lane for the westbound approach

2. Intersection 4 – Street D and Commercial Driveways 3 and 4
    5. Provide a roundabout with the following attributes:
        - Single lane
        - 120-foot inscribed circle diameter
        - Right turn drop/bypass lane for the eastbound approach

Refer to **Figure 9** for the recommended traffic control for the KT site.

LOS Results

Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail (Mitigations) LOS results are shown in **Table 5**. All mitigations improve intersection operations to an acceptable LOS.

Table 5 – Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail Plus South Retail (With Mitigations)

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + 1A (No BP) + Full KT + South Retail			
				PM Peak Hour			
				Movement	Max V/C	Delay[5]	LOS
1	Corral Hollow & South Retail DWY	Not Analyzed for LOS (Right In / Right Out Driveway)					
2	Corral Hollow & Tracy Hills Drive/Street D	D	Signal	-	-	51.6	D
3	**Street D & KT Commercial DWYs 1 & 2**	**Driveways have been removed**					
4	Street D & KT Commercial DWYs 3 & 4	D	RAB	-	0.572	7.8	A
5	Street D & Street C	D	SSSC	-	-	-	-
6	Corral Hollow Road & Street A	Not Analyzed for LOS (Right In / Right Out Driveway)					
7	Street A & Street B	D	SSSC	-	-	-	-

Notes:

1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D
4. SSSC – Side Street Stop Control Intersection
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below City standard are shown in **bold.**

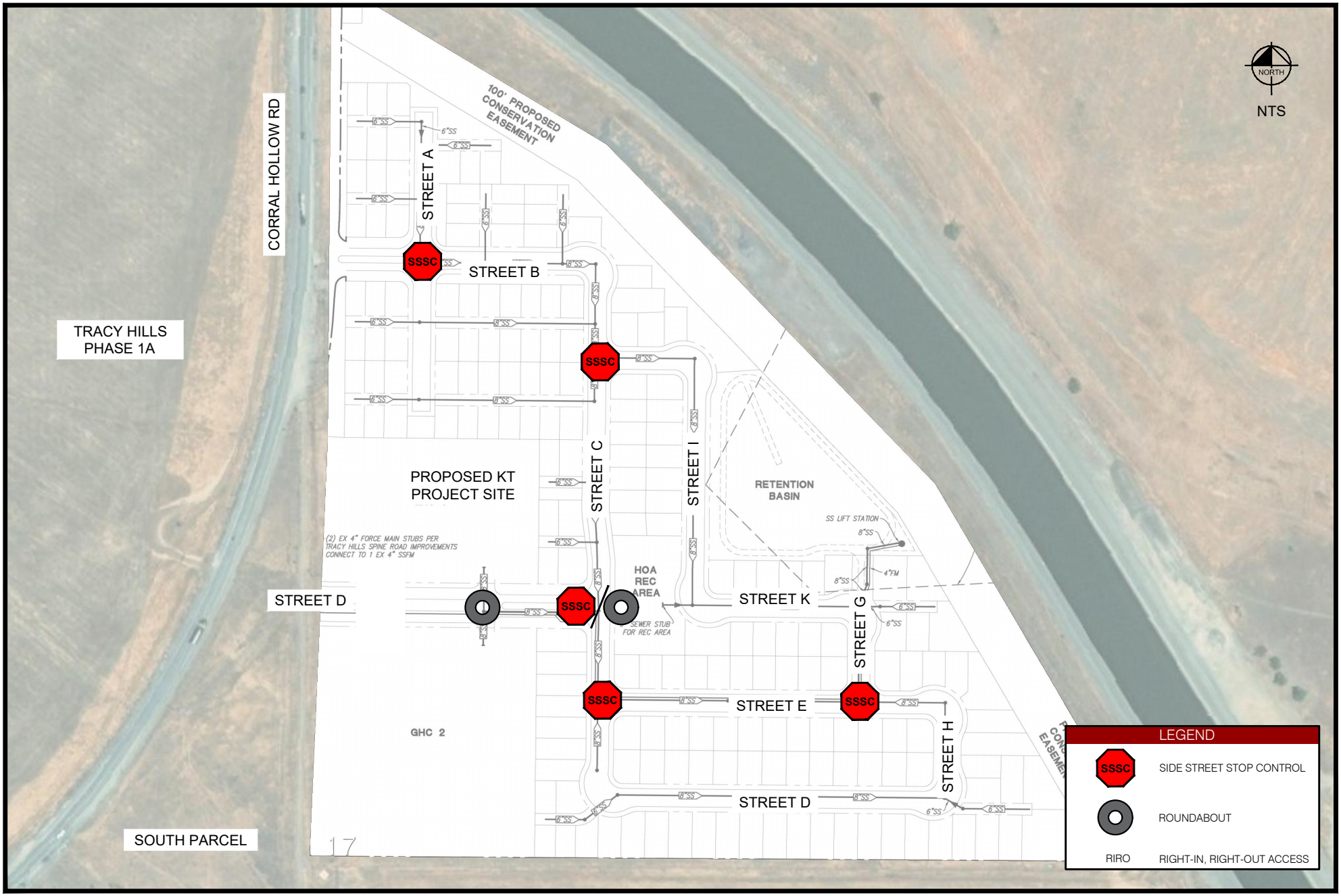


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Figure 9

Internal Intersection Traffic Control And Access

4.1.5 Fair Share Calculation (KT Homes, KT Retail, and South Retail)

Fair share was calculated based on the percentage of trips each project produces. For this calculation, Phase 1A was not included.

Table 6 provides the fair share calculation for KT homes, KT retail, and South Retail.

Table 6 – Fair Share Calculation for Street D (KT Homes, KT Retail, and South Retail)

Project	Project Volumes	Faire Share %
KT Homes	170	7%
KT Retail	836	35%
South Retail	1,381	58%
Total	**2,387**	**100%**

4.1.6 KT Homes Only Alternative LOS Results

At the request of the Applicant, the following intersection will operate at an acceptable level of service with the following minimal roadway geometry:

2. Corral Hollow Road & Tracy Hills Drive / Street D
   a. Southbound: One left turn, one right turn and one through lane
   b. Northbound: One left turn, one right turn and one through lane
   c. Westbound: One left turn, one shared through and right turn lane
   d. Eastbound: Same as existing - One shared through and right turn lane, two left turn lanes
   e. Signal timing: Modified signal timing plans for AM and PM and school midday
   f. Add signal poles and curb/sidewalk as required.
   g. Pay fair share towards Corral Hollow Road improvements south of I-580.

Table 7 provides the LOS results for this development condition.

Table 7 – Near-Term (2025) Plus Phase 1A Plus KT Homes

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A + KT Homes					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay[5]	LOS	Movement	Delay[5]	LOS
2	Corral Hollow Rd & Tracy Hills Drive/Street D	D	Signal	-	29.0	C	-	44.9	D

Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D.
4. SSSC – Side Street Stop Control Intersection
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standard are shown in **bold.**

4.1.7 KT Homes and Retail Alternative LOS Results

At the request of the Applicant, the following intersection will operate at acceptable level of service with the following minimal roadway geometry:

2. Corral Hollow Road & Tracy Hills Drive / Street D
   a. Southbound: Two left turns, one right turn and one through lane
   b. Northbound: Two left turns, one right turn and one through lane
   c. Westbound: One through, one left turn lane and one right turn lane.
   d. Eastbound: Same as existing - One shared through and right turn lane, two left turn lanes
   e. Signal timing: Modified signal timing plans for AM and PM and school midday.
   f. Add signal poles and curb/sidewalk as required.

4. Corral Hollow Road & Street D / Commercial DWYs 3 and 4
   a. Install single-lane roundabout with an Eastbound channelized right turn lane (drop lane)

Table 8 provides the LOS results for this development condition.

Table 8 – Near-Term (2025) Plus Phase 1A Plus KT Homes & Retail

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A + KT Homes & Retail					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay[5]	LOS	Movement	Delay[5]	LOS
2	Corral Hollow Rd & Tracy Hills Drive/Street D	D	Signal	-	37.1	D	-	30.4	C

Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D.
4. SSSC – Side Street Stop Control Intersection
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standard are shown in **bold.**

4.1.8 Fair Share Calculation (KT Homes and KT Retail)

Fair share was calculated based on the percentage of trips that only the KT project produces. For this calculation, Phase 1A and the South Retail was not included.
Table 9 provides the fair share calculation for KT Homes and Retail.

Table 9 – Fair Share Calculation for Street D (KT Homes and Retail)

Project	Project Volumes	Faire Share %
KT Homes	170	17%
KT Retail	836	83%
Total	**1,006**	**100%**

4.2 Internal Roadway Network Review

Redlines for the KT Vesting Tentative Map provided by RJA (dated February 4, 2020) and the roundabout concepts have been provided in the Appendix (**A.12**) of this report.

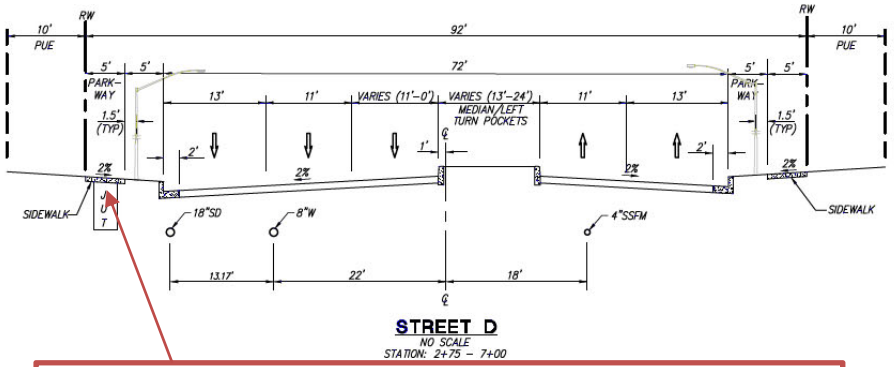
4.2.1 Cross Sections

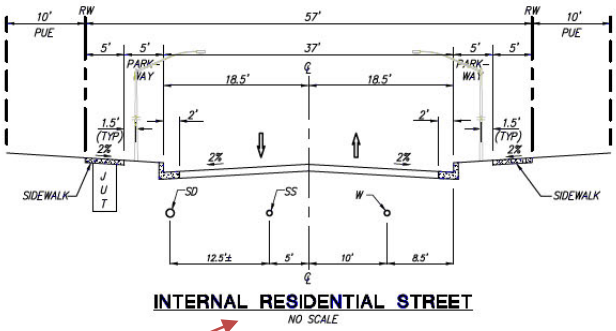
The Vesting Tentative Map provides four cross sections that are used without the proposed development:

- Street D – five lanes
- Street D – two lanes
- Internal Residential Street
- Motorcourt (Alley)

These cross sections were reviewed for conformance with the THSP. **Figure 10** shows the four cross sections and provides comments.

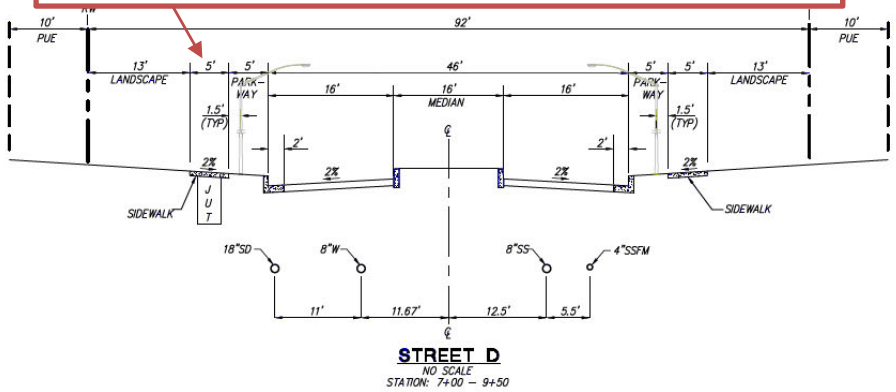
Figure 10 - Cross Sections

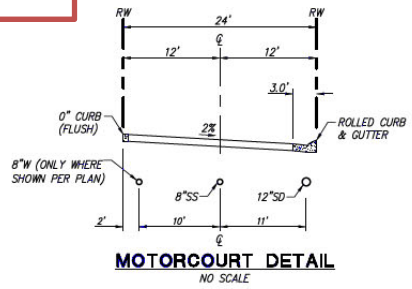




This is an arterial: Provide Class I bikeway on north and south sides of Street D, also provide Class 1 to the South Retail area

Provide cross section with traffic calming choker as seen on Street C.

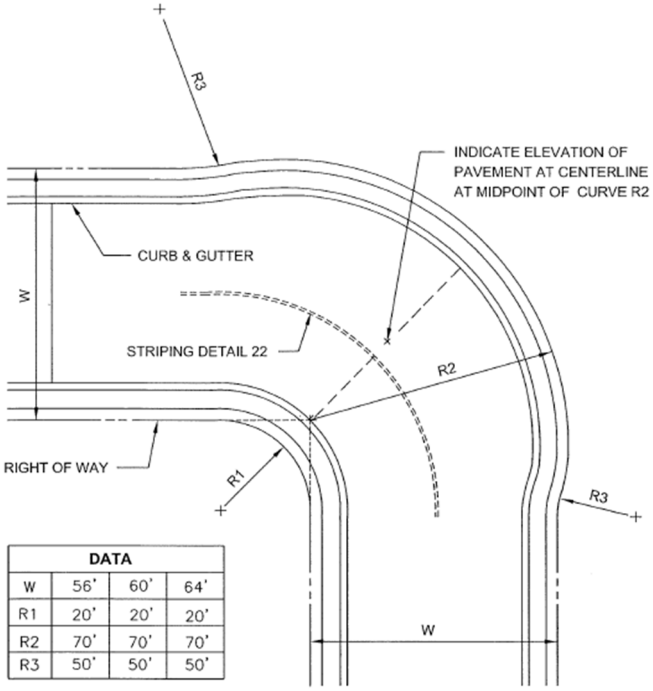




4.2.2 Street Knuckle

The street knuckles were reviewed using Standard Plan No. 107 from the City of Tracy Standard Plans (Streets and Utilities) (December 2008). The standard has been provided below as **Figure 11.**

Figure 11 – Street Knuckle Detail (Standard Plan No. 107)



The following recommendations for the Knuckle Detail are listed below:

- Provide dimension for R3.
- Provide Striping Detail 22.

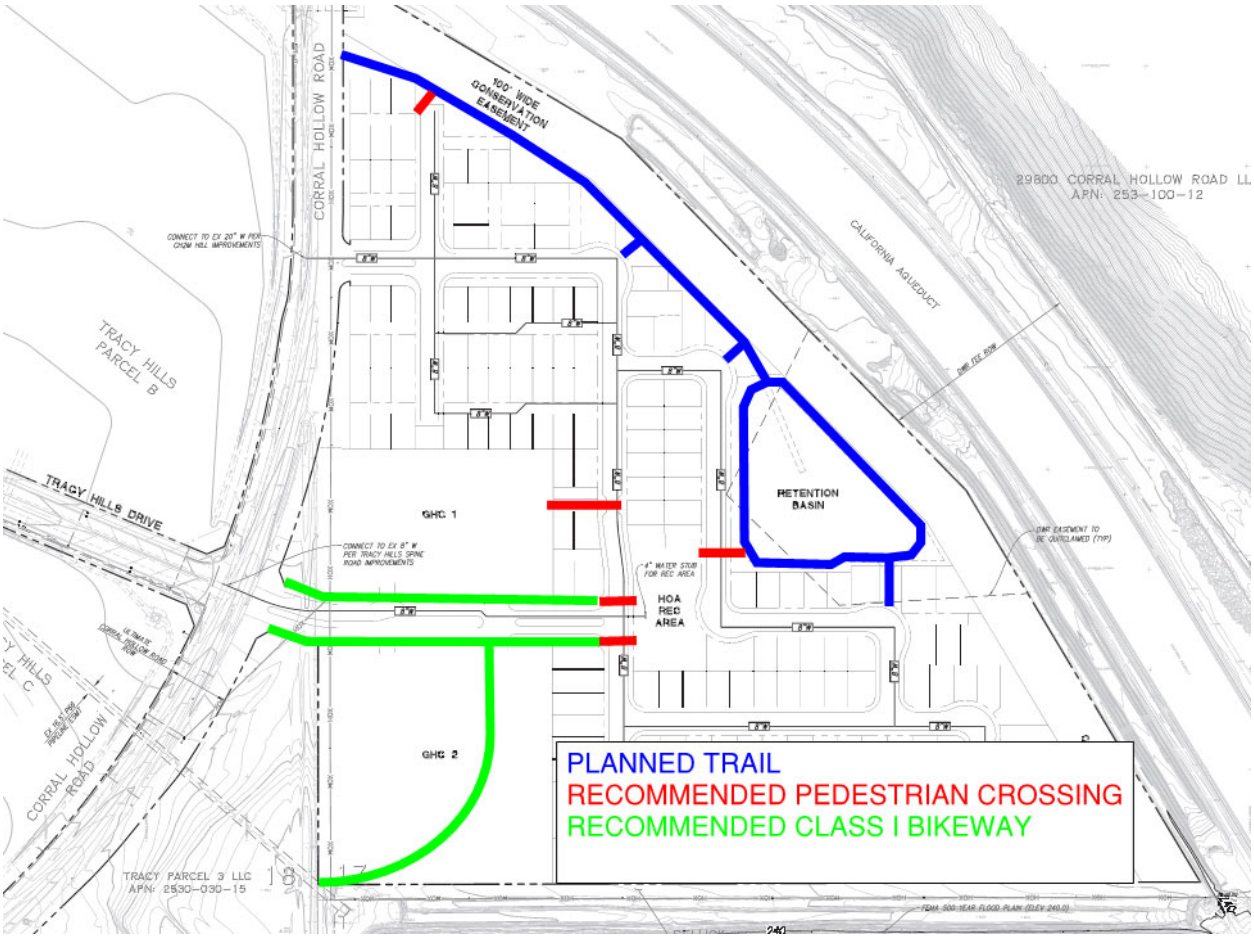
4.2.3 Bicycle and Pedestrian Network

The Project proposes to construct sidewalk on both sides of all streets, alleys excluded, and proposes an 8-foot trail on the north side of the Project along the conservation easement from Corral Hollow Road to the retention basin. A 12-foot access road and trail is proposed around the retention basin. No on-street bicycle facilities are shown on the plans, but it is assumed that the trails will be multi-use, pedestrians and bicyclists.

The following are recommendations for the pedestrian and bicycle network (also see Figure 12):

- Provide a Class I bikeway along the north side and south side of Street D.
- Widen the 8-foot trail to 10 feet to match cross sections in the THSP.
- Add trail connection to/from Street B.
- Provide pedestrian crossings to/from park areas.
- Provide pedestrian crossings across all stop-controlled legs.

Figure 12: Bicycle and Pedestrian Network



4.2.4 Roundabout Concepts

Based on the LOS results presented in **Table 5**, it is recommended to construct a roundabout at the intersection of Street D and KT Commercial Driveways 3 and 4. Based on the Sidra analysis (provided in the **Appendix**), it was determined that the roundabout should have the following attributes:

- Single Lane
- 120-foot inscribed circle diameter (ICD)
- A drop/bypass lane for the eastbound right turn lane

In addition, an up to 100-foot ICD mini roundabout with pedestrian crossing capability was provided at the intersection of Street D and Street C. The intersection operates at an acceptable LOS as a side street stop control and a roundabout is not required.

Refer to **Figure 13** for the roundabout concepts.

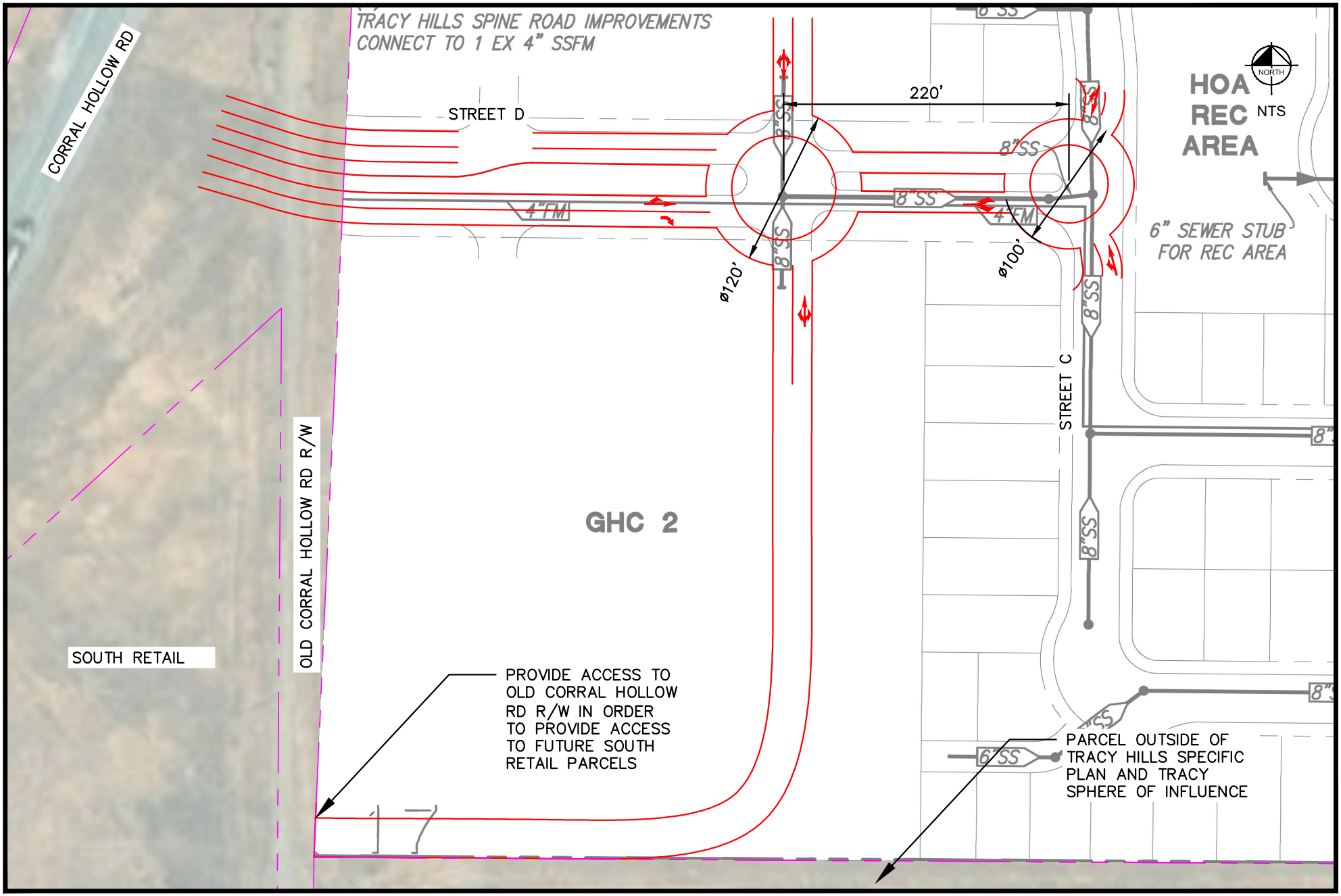


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Figure 13
Roundabout Concepts

4.2.5 Turning Templates

To determine if design vehicles can perform movements within the KT project site, AutoTURN turning templates were completed on the following:

- Typical Alley (Motorcourt) – Refer to the KT Tentative Map provided RJA (dated November 5, 2019)
- Areas of Concern – These are areas where it may be difficult for the design vehicles to operate

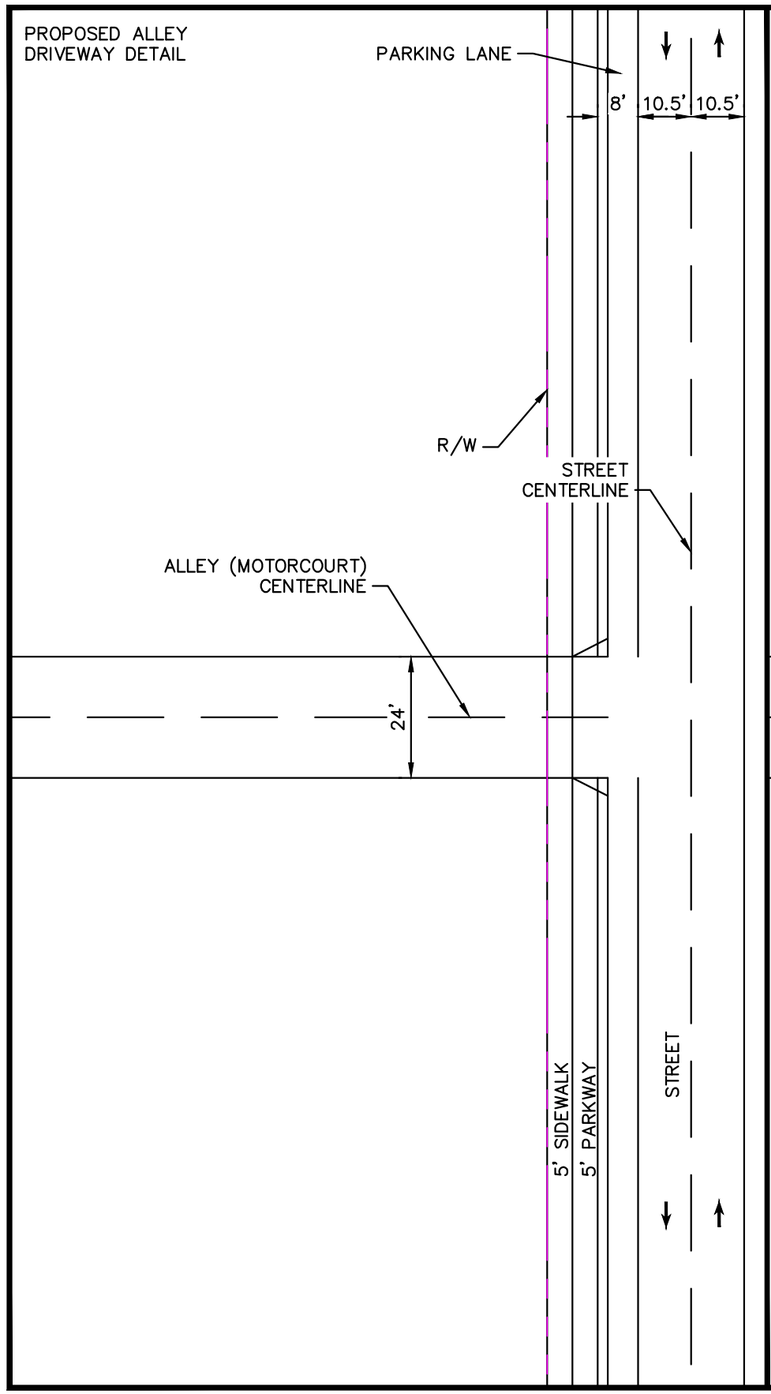
The following design vehicles were utilized for this analysis:

- Passenger Cars (specifications from American Association of State Highway and Transportation Officials (AASHTO))
- Mack LR side loading garbage truck (specifications from Tracy Delta Solid Waste Management)
- Pierce Fire Pumper truck (specifications from the City of Tracy)

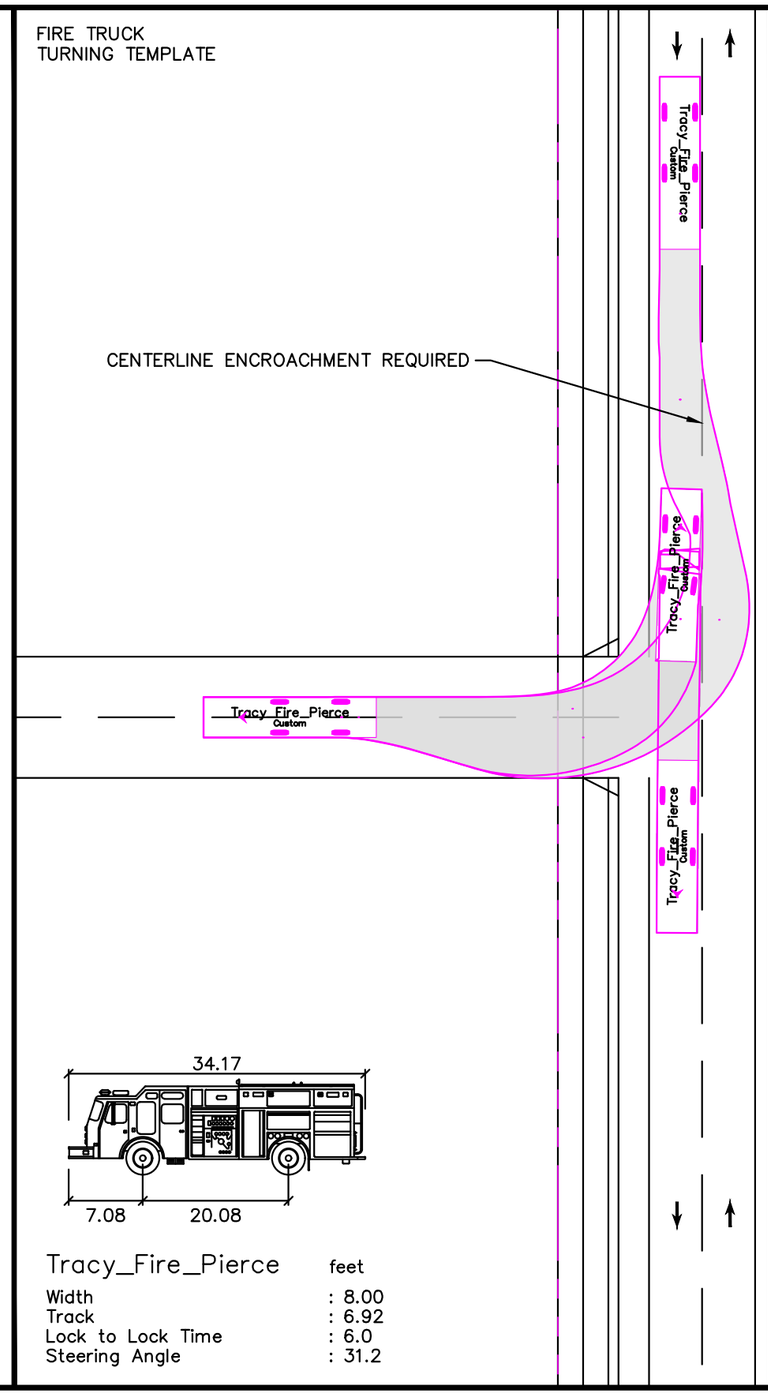
Refer to **Figure 14** for the typical alleyway turning templates and **Figure 15** for turning templates at areas of concern.

The design vehicles can complete movements within the KT site at most locations. One concern is with the proposed choker along Street C. Passenger cars may have difficulties maneuvering to and from the alley near the choker, and it is recommended to relocate or redesign either the alley or choker.

PROPOSED ALLEY
DRIVEWAY DETAIL



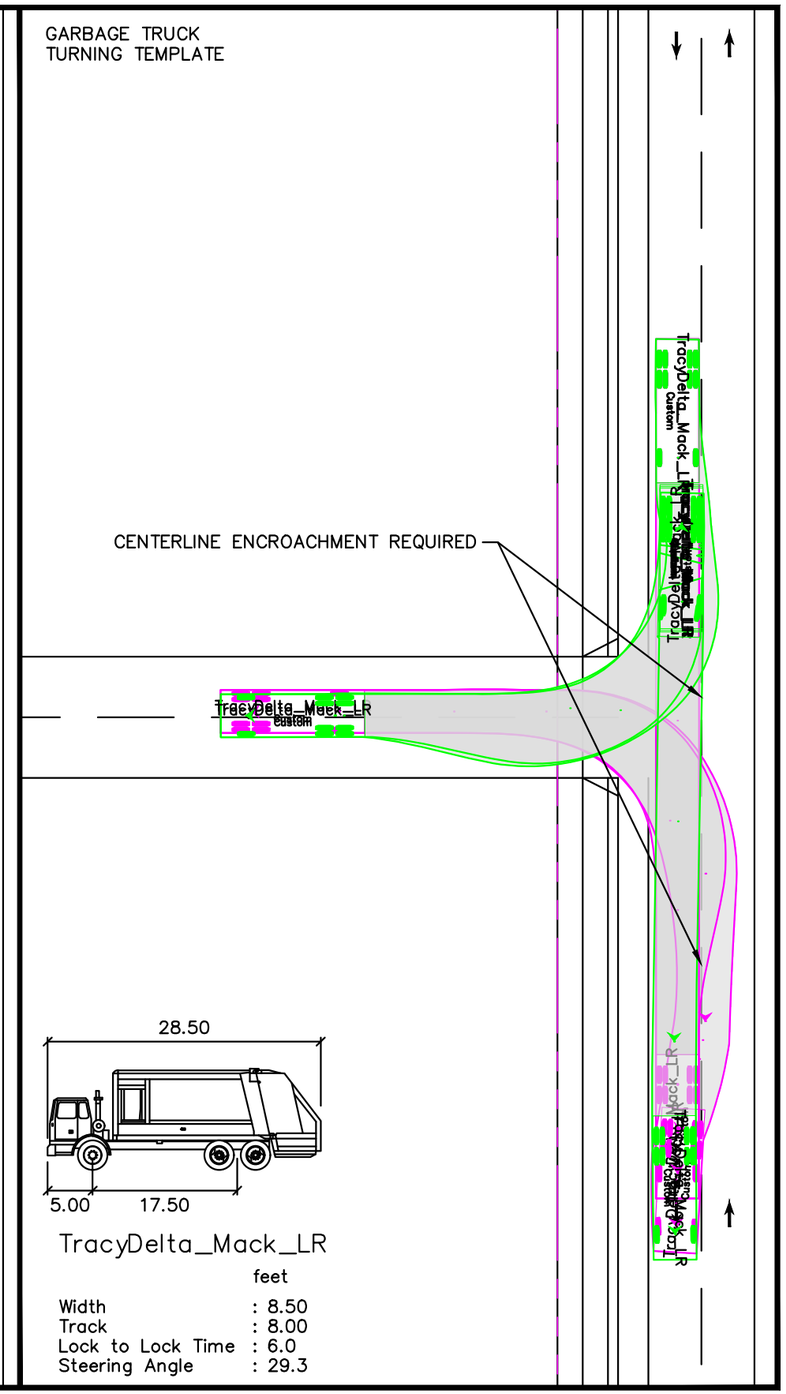
FIRE TRUCK
TURNING TEMPLATE



Tracy_Fire_Pierce feet

Width	: 8.00
Track	: 6.92
Lock to Lock Time	: 6.0
Steering Angle	: 31.2

GARBAGE TRUCK
TURNING TEMPLATE

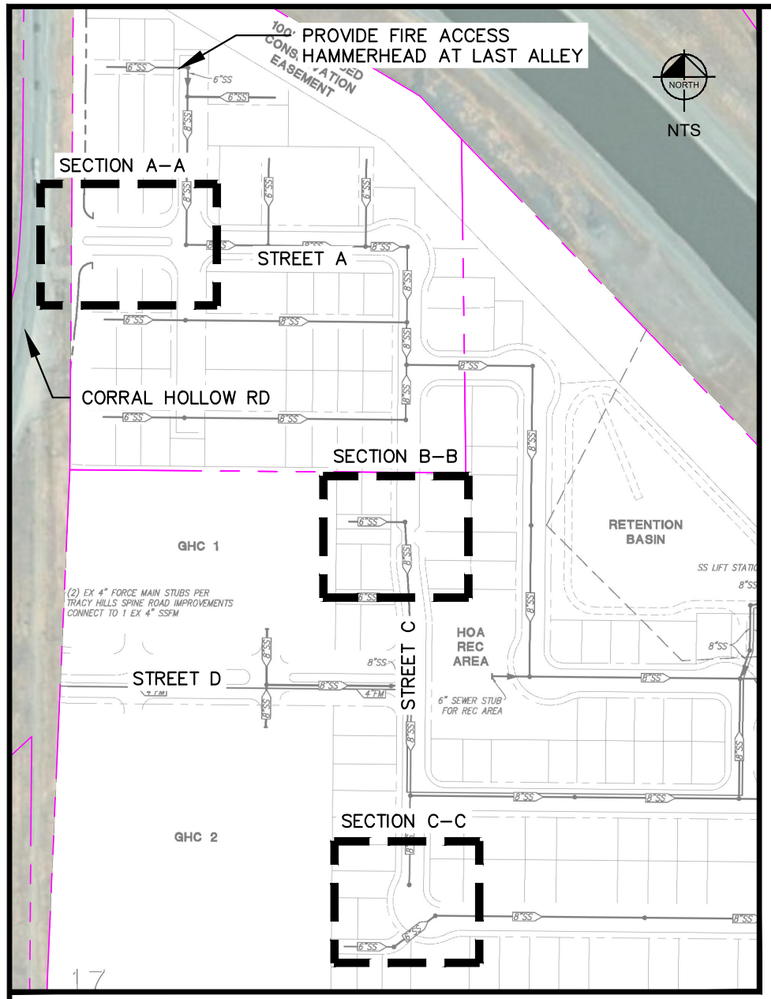


TracyDelta_Mack_LR feet

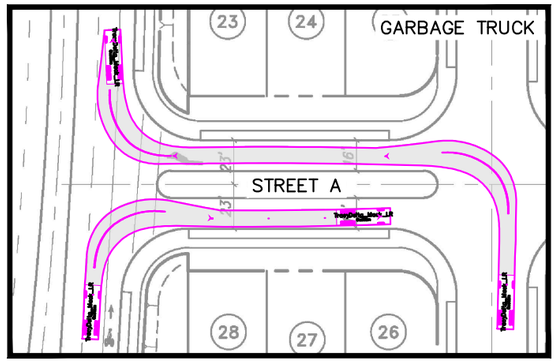
Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 29.3

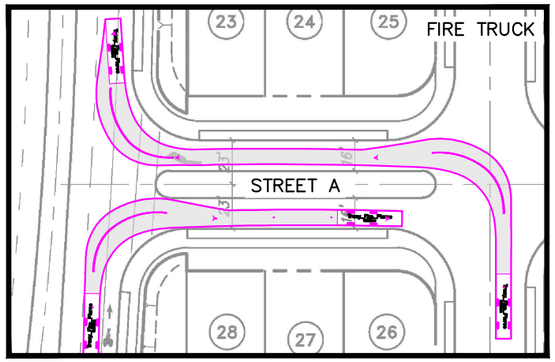
GRAPHIC SCALE IN FEET
0 15 30 60

Figure 14
Alley Turning Template Typical Detail

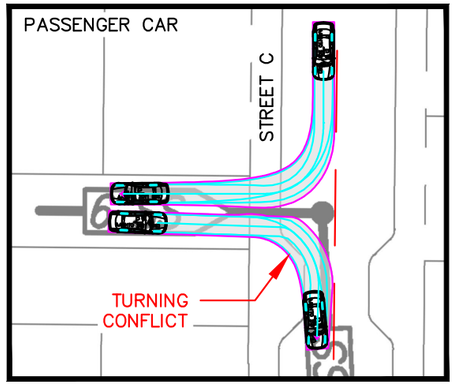


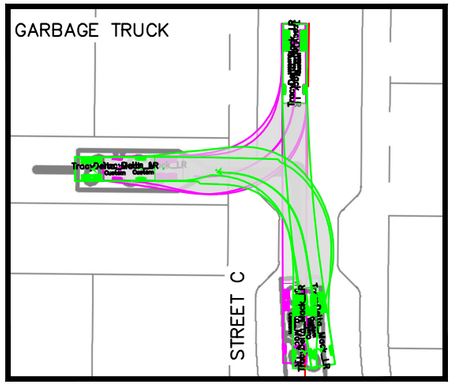
SECTION A–A TURNING TEMPLATES (NTS)

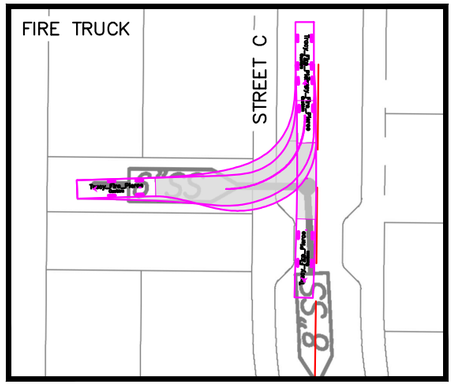




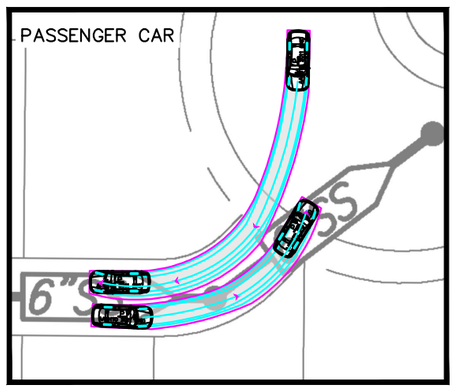
SECTION B–B TURNING TEMPLATES (NTS)

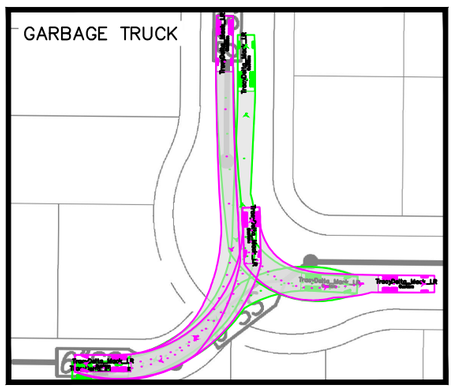


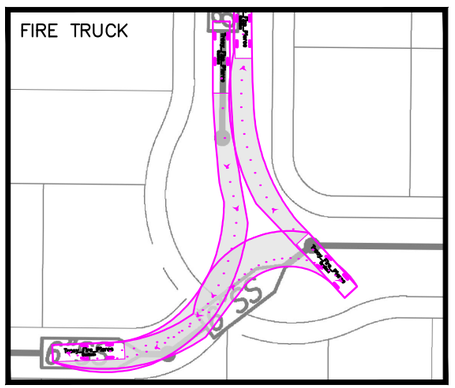




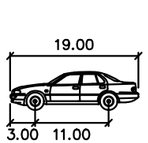
SECTION C–C TURNING TEMPLATES





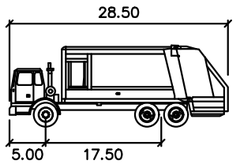


VEHICLE PROFILES



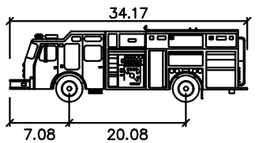
P

	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6



TracyDelta_Mack_LR

	feet
Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 29.3



Tracy_Fire_Pierce

	feet
Width	: 8.00
Track	: 6.92
Lock to Lock Time	: 6.0
Steering Angle	: 31.2

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Figure 15
Turning Templates At Areas of Concern

4.2.6 Summary of Internal Roadway Review

Table 10 summarizes the results provided in **Section 4.2 Internal Roadway Network Review**.

Table 10 – Summary of Internal Roadway Review

Review Items		Recommendations
Roadway Cross Sections (Section 4.2.1)	Street D	• Add Class I bikeway
	Residential	• Add cross section at traffic calming choker
Street Knuckle Detail (Section 4.2.2)		• Provide dimension for R3 • Provide Striping Detail 22
Bicycle and Pedestrian Network (Section 4.2.3)		• Provide a Class I bikeway along the north side of Street D. • Widen the 8-foot trail to 10 feet to match cross sections in the THSP. • Add trail connection to/from Street B. • Provide pedestrian crossings to/from park areas. • Provide pedestrian crossings across all stop-controlled legs.
Roundabout (Section 4.2.4)		• Provide 120' ICD single lane roundabout with EBR bypass
Turning Templates (Section 4.2.5)	Passenger Car	• Passenger cars are unable to complete turning movement at choker located along C Street

5. KT External Network Review

The following scenarios were studied for the external network review:

- Near-Term (2025) Plus Phase 1A Conditions
- Near-Term (2025) Plus Phase 1A Mitigated Conditions
- Near-Term (2025) Plus Phase 1A Mitigated Plus KT Homes Conditions

The study intersections were the following:

2. Corral Hollow Road and Tracy Hills Drive/Street D
6. Corral Hollow Road and Street A (Right In / Right Out)
8. Corral Hollow Road and I-580 Eastbound Ramps
9. Corral Hollow Road and I-580 Westbound Ramps
10. Corral Hollow Road and Linne Road

The Project site and external study intersections are shown in **Figure 16**.

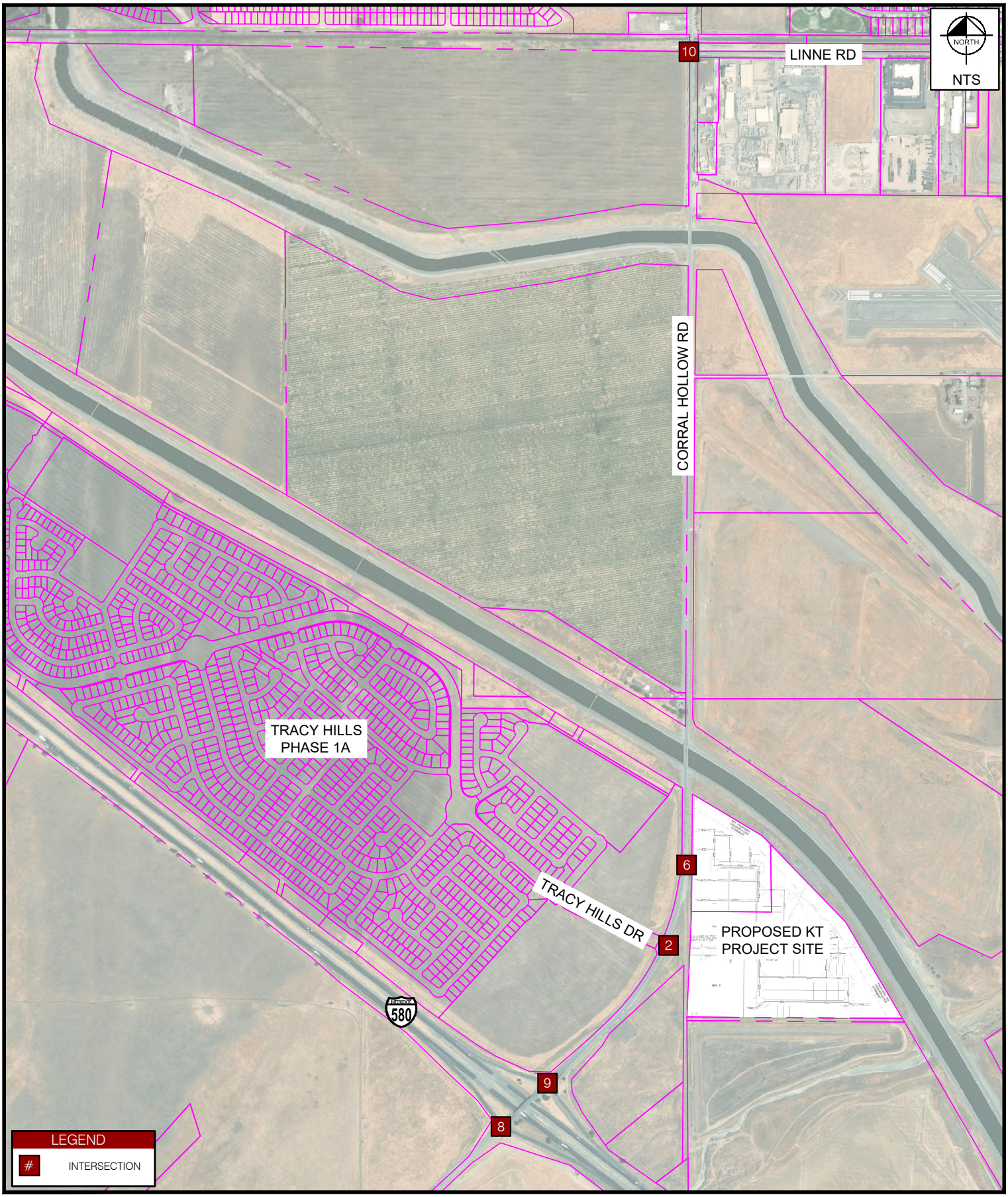

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Figure 16

External Study Intersections

January 2020

KT VESTING TENTATIVE MAP REVIEW

5.1 Near-Term (2025) Plus Phase 1A Conditions

To determine potential significant impacts related to the proposed Project, Near-Term (2025) Plus Phase 1A Conditions were analyzed as the base condition. For this scenario, it was assumed that Tracy Hills Phase 1A would be completed and traffic from the development would be added to Tracy Hills Drive and the existing roadway network.

Roadway geometry and traffic control for the Phase 1A development were determined by the Tracy Hills Tentative Map Review and the Tracy Hills EIR. Mitigations and roadway improvements identified in the EIR (October 2015) were incorporated into the Near-Term (2025) Plus Phase 1A traffic control and roadway geometry and forms the baseline conditions for this analysis. For the Phase 1A trip generation, refer to the **Appendix**.

The roadway geometry and Near-Term (2025) Plus Phase 1A volumes are shown in **Figure 17** and **Figure 18**, respectively.

5.1.1 LOS Results

For Near-Term (2025) Plus Phase 1A Conditions, it was determined that the following intersections would not meet LOS standards:

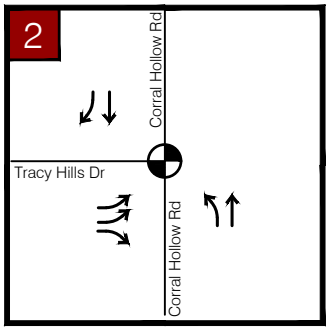
- Intersection 8: Corral Hollow Road and I-580 Eastbound Ramps – PM peak hour
- Intersection 9: Corral Hollow Road and I-580 Westbound Ramps – AM peak hour
- Intersection 10: Corral Hollow Road and Linne Road – PM peak hour

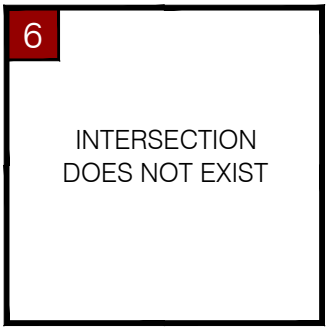
Near-Term (2025) Plus Phase 1A LOS results are shown in **Table 11**.

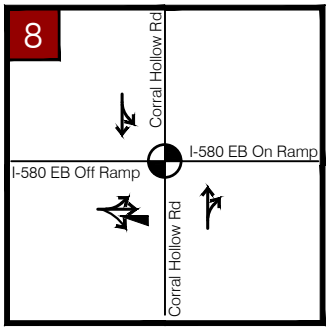
Table 11 – Near Term (2025) Plus 1A Conditions LOS Results

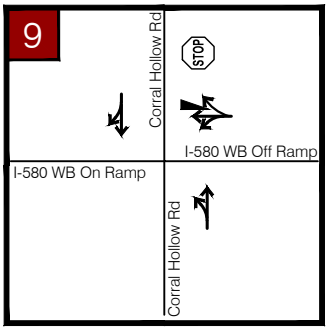
#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A Conditions					
				AM Peak Hour			PM Peak Hour		
				MVMT	Delay	LOS	MVMT	Delay	LOS
2	Corral Hollow Rd & Tracy Hills Dr/Street D	D	Signal	-	19.5	B	-	18.9	B
6	Corral Hollow Rd & Street A	INTERSECTION DOES NOT EXIST							
8	Corral Hollow Rd & I-580 EB Ramps	C/D	Signal	-	19.6	B	-	**45.0**	**D**
9	Corral Hollow Rd & I-580 WB Ramps	C/D	SSSC	-	-	-	-	-	-
			Worst Approach	***WB***	***30.0***	***D***	*WB*	*16.7*	*C*
10	Corral Hollow Rd & Linne Rd	D	Signal	-	33.3	C	-	**71.2**	**E**

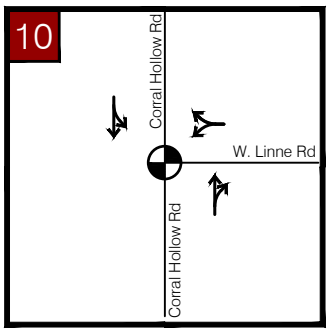
Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D
4. SSSC – Side Street Stop Control Intersection, Signal – Signal Control Intersection
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standards are shown in **bold.**











GENERAL NOTES:

- INTERSECTIONS 1, 3, 4, 5, & 7 NOT APPLICABLE TO THIS ANALYSIS

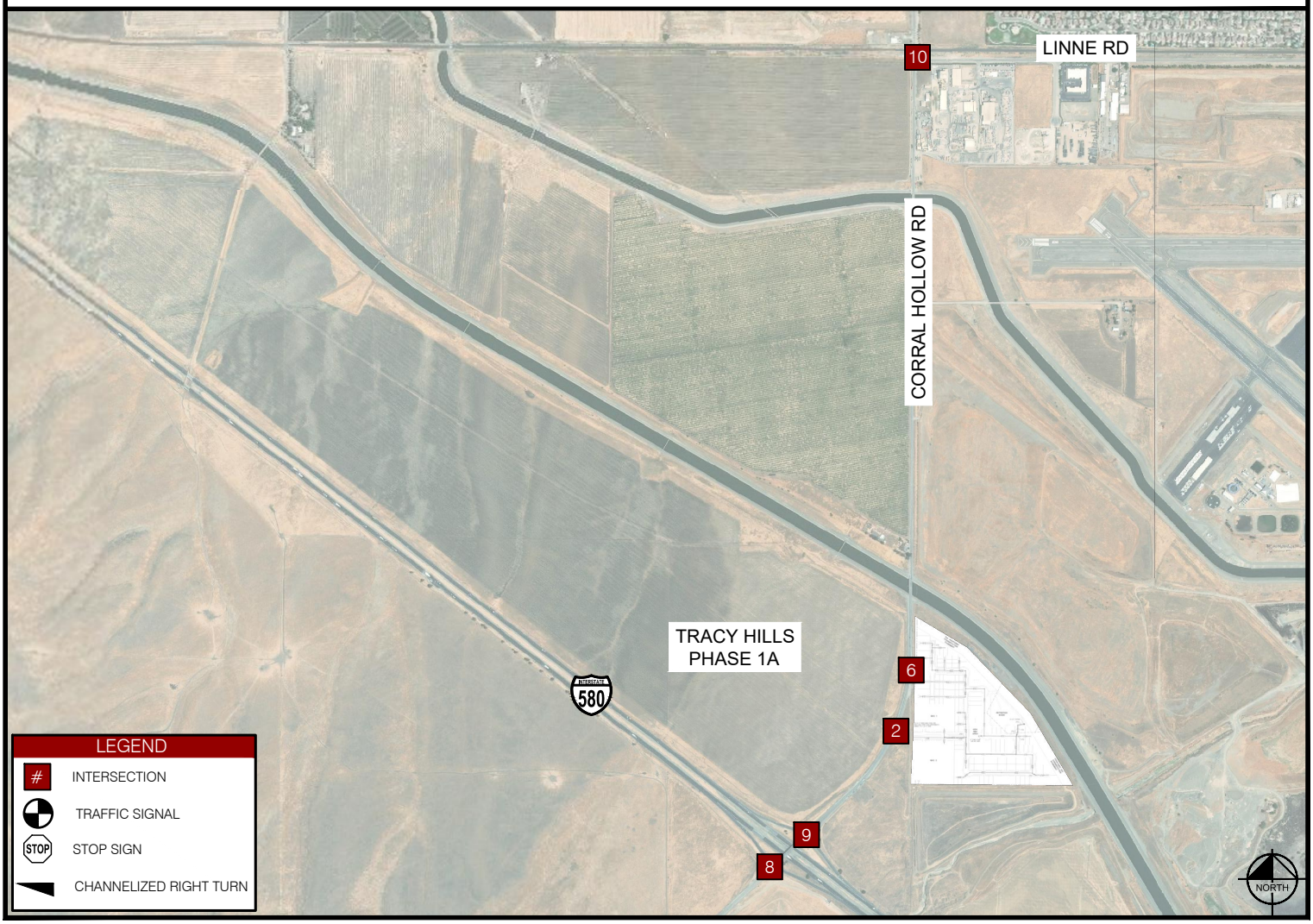


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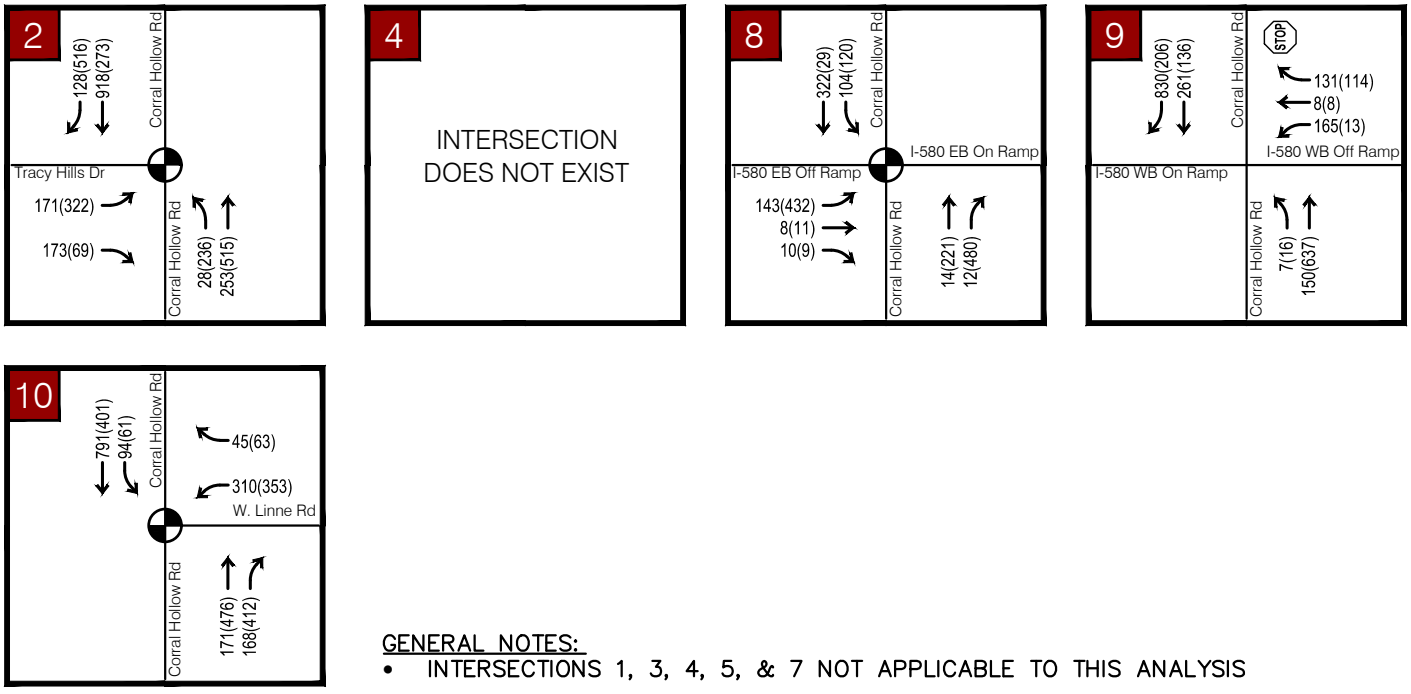
Figure 17
NT (2025) + Phase 1A
Geometry and Traffic Control

KT VESTING TENTATIVE MAP REVIEW



GENERAL NOTES:

- INTERSECTIONS 1, 3, 4, 5, & 7 NOT APPLICABLE TO THIS ANALYSIS

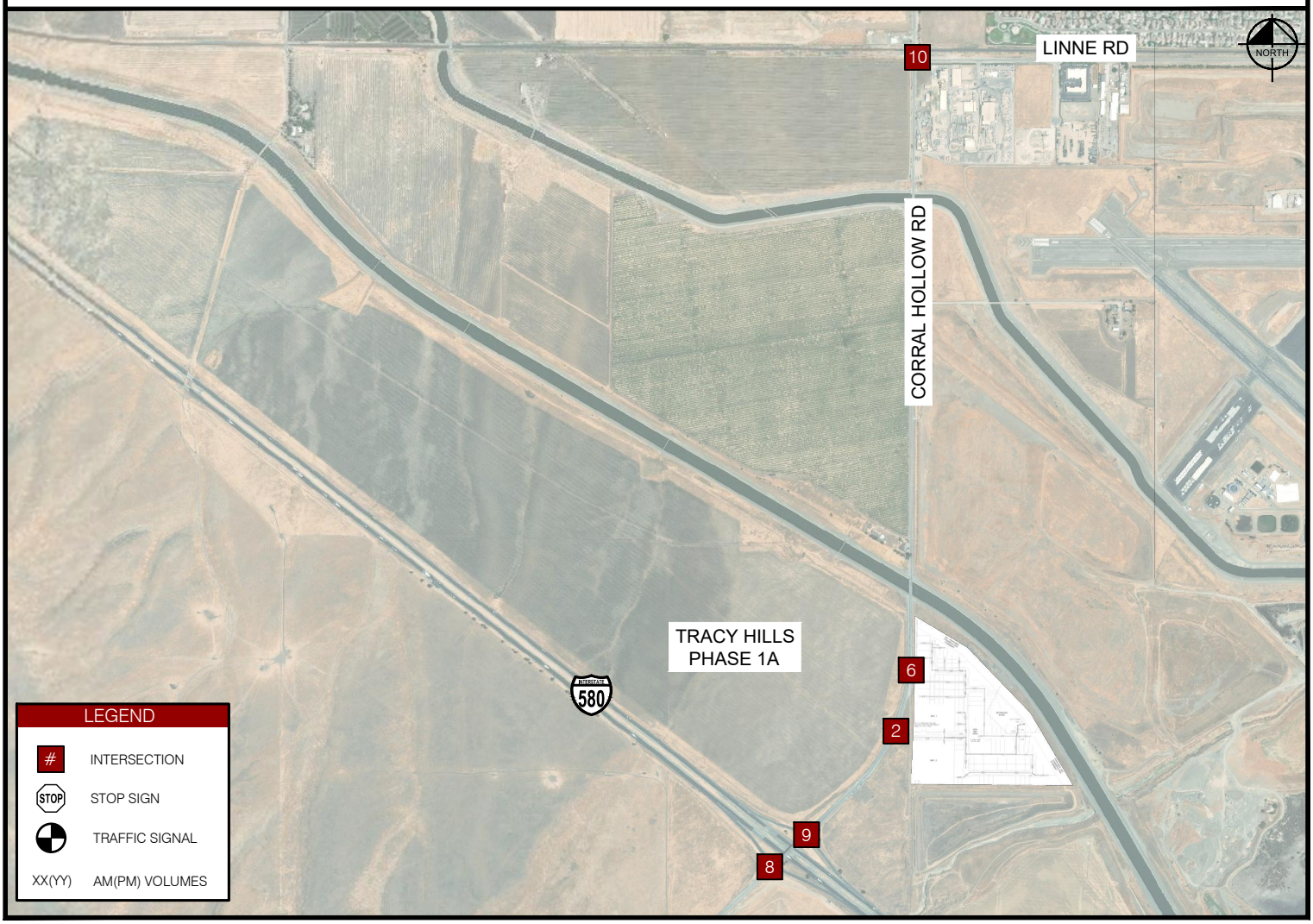


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Figure 18
NT (2025) + Phase 1A
Traffic Volumes

5.1.2 Mitigations

As has been discussed in the *Tracy Hills 1A/B/C Plus KT Network Analysis* (dated December 23, 2019), the EIR mitigations for the study intersections identified below do not provide adequate LOS for this study condition. Further mitigations were analyzed for the Near-Term (2025) Plus Phase 1A Conditions and the following recommendations are proposed:

1. Intersection 8: Corral Hollow Road and I-580 Eastbound Ramps
    - Install a single lane roundabout with northbound right turn bypass lane.
2. Intersection 9: Corral Hollow Road and I-580 Westbound Ramps
    - Install a single lane roundabout with southbound right turn bypass lane.
3. Intersection 10: Corral Hollow Road and Linne Road
    - Install a northbound right turn lane, a southbound left turn lane, and provide a westbound right turn pocket.

The KT Project has a proportionate share in these improvements and will pay the City Traffic Impact Fees consistent with the findings of the approved Tracy Hills EIR.

Table 12 provides the LOS results for the proposed mitigations. All mitigations improve intersection operations to an acceptable LOS.

Table 12 – Near-Term (2025) Plus Phase 1A Conditions Mitigated LOS Results

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A (MIT) Conditions					
				AM Peak Hour			PM Peak Hour		
				Delay	V/C	LOS	Delay	V/C	LOS
2	Corral Hollow Rd & Tracy Hills Dr/Street D	D	Signal	-	-	-	-	-	-
6	Corral Hollow Rd & Street A	INTERSECTION DOES NOT EXIST							
8	Corral Hollow Rd & I-580 EB Ramps	C/D	RAB	7.4	0.400	A	6.9	0.423	A
9	Corral Hollow Rd & I-580 WB Ramps	C/D	RAB	9.4	0.703	A	7	0.524	A
10	Corral Hollow Rd & Linne Rd	D	Signal	-	-	-	12.5	-	B

Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D
4. Signal – Signal Control Intersection, RAB - roundabout
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standards are shown in **bold**.

5.2 Project Trip Generation, Distribution and Assignment

5.2.1 Project Trip Generation

Trip generation was prepared using rates from the Tracy Hills Specific Plan Recirculated Draft Subsequent EIR. **Table 13** provides the estimated trip generation used for this analysis.

Table 13 – KT Homes Only Trip Generation

Trip Generation Rates[1]	ITE Land Use Code/Reference	Units	Weekday AM			Weekday PM		
			Rate	IN /	OUT	Rate	IN /	OUT
Low/Mid Density Residential & Residential Estate	Tracy Model	DU	0.55	25% /	75%	1.05	63% /	37%
Trip Generation Rates	Units		Weekday AM			Weekday PM		
			Total	IN /	OUT	Total	IN /	OUT
Gross Trips								
KT Homes (Project)								
Low/Mid Density Residential & Residential Estate	185	DU	102	26 /	76	194	122 /	72
		Gross KT Trips	**102**	**26 /**	**76**	**194**	**122 /**	**72**

Notes

1. Rates from Tracy Hills Specific Plan Recirculated Draft Subsequent EIR (October, 2015)

5.2.2 Project Trip Distribution and Assignment

For this scenario, the trip distributions were based on the Phase 1A distributions provided by Figure 4.13-20 of the Tracy Hills EIR (October 2015) with a few minor changes. Distribution was added to and from south Corral Hollow Road (Tesla Road) to reflect current travel patterns. The following illustrates the distribution for the Project:

- Corral Hollow Road North of Linne Road
  - AM – 45.1% IN / 22.3% OUT
  - PM – 36.1% IN / 50.7% OUT
- Linne Road East of Corral Hollow Road
  - AM – 36.9% IN / 27.4% OUT
  - PM – 32.4% IN / 31.8% OUT
- I-580 West of Corral Hollow Road
  - AM – 13.1% IN / 35.3% OUT
  - PM – 17.8% IN / 13.2% OUT
- I-580 East of Corral Hollow Road
  - AM – 4.8% IN / 7.6% OUT
  - PM – 5.9% IN / 4.4% OUT
- Corral Hollow Road South of I-580
  - AM – 0% IN / 7.7% OUT
  - PM – 7.2% IN / 0% OUT

Refer to **Figure 19** and **Figure 20** for the trip distribution and trip assignment, respectively.

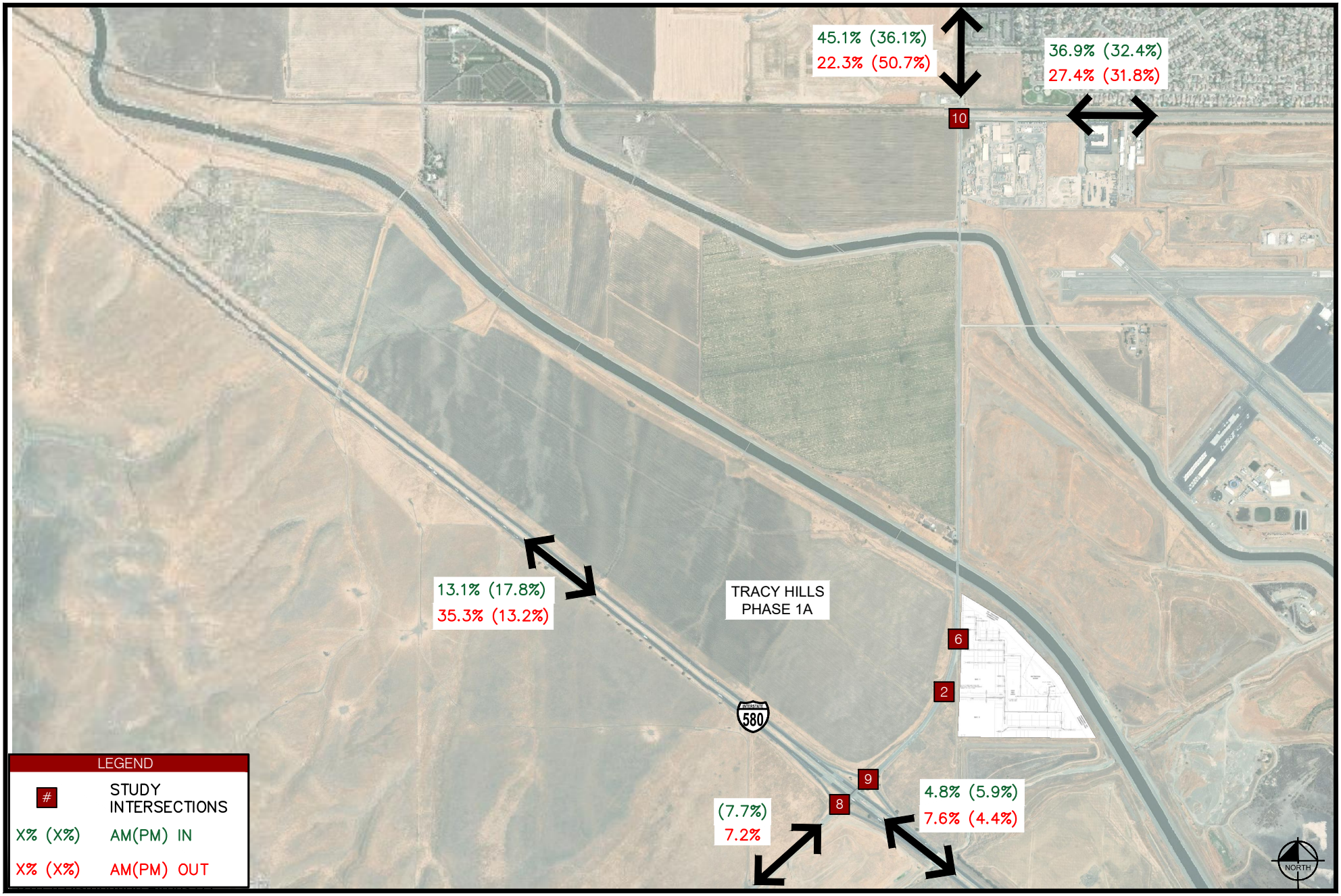

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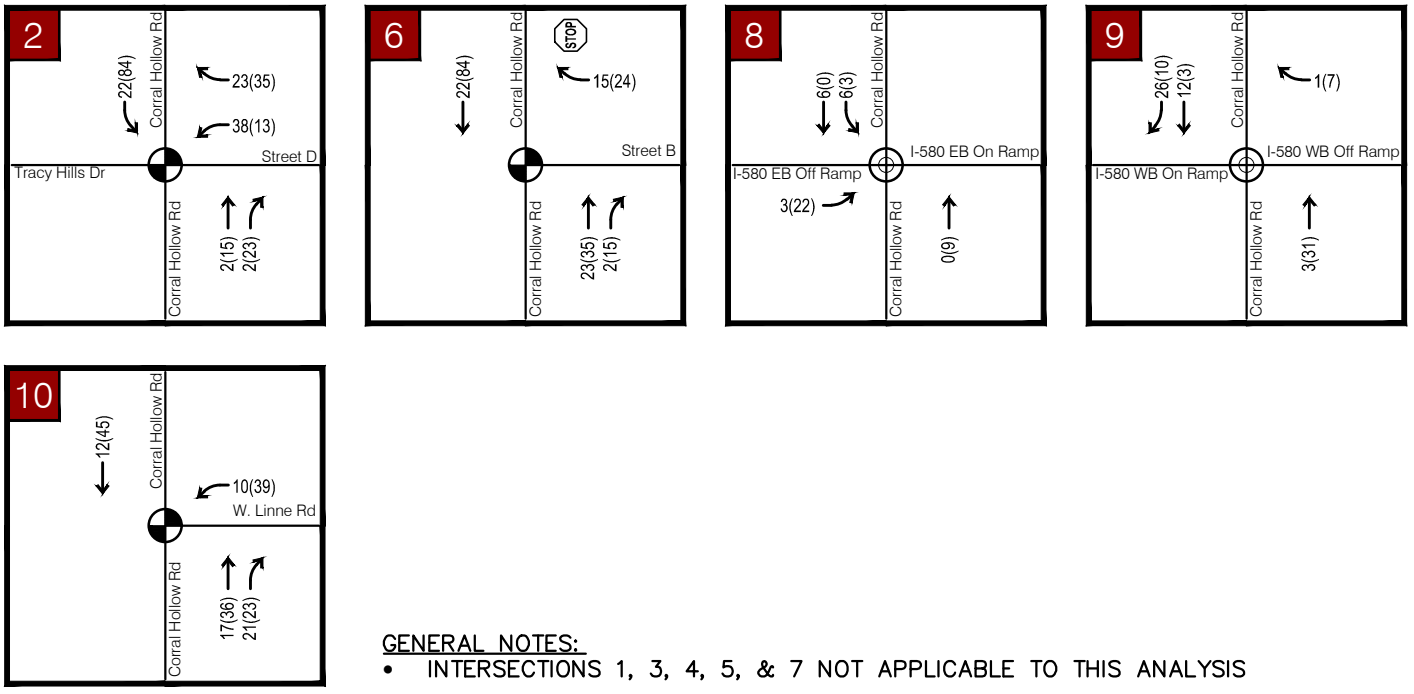
Figure 19
Project Trip Distribution



GENERAL NOTES:

- INTERSECTIONS 1, 3, 4, 5, & 7 NOT APPLICABLE TO THIS ANALYSIS

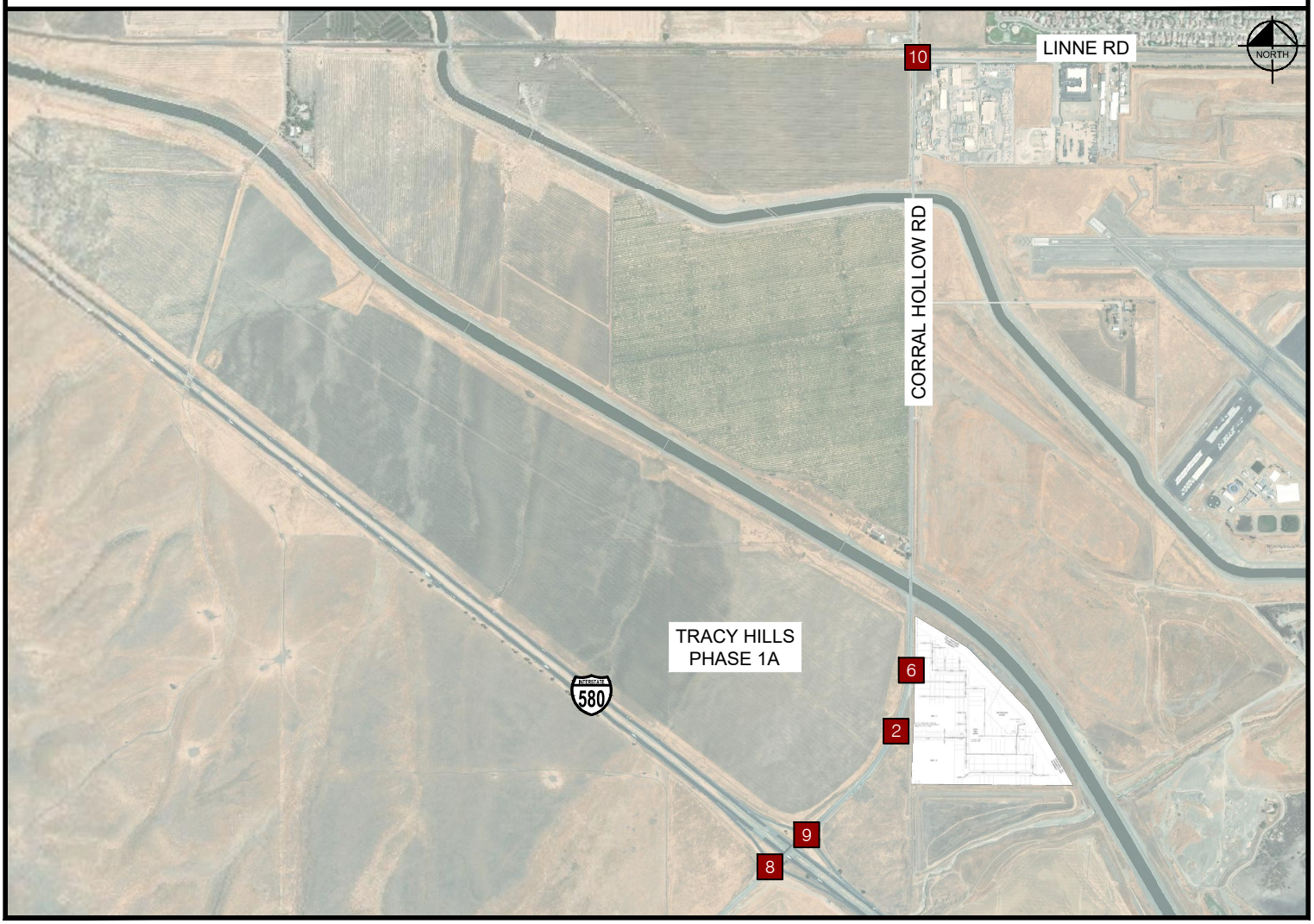


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Figure 20
Project Trip Assignment

5.4 Near-Term (2025) Plus Phase 1A Plus KT Homes Conditions

To determine potential significant impacts related to the proposed Project, Near-Term (2025) Plus Phase 1A Plus KT Homes Conditions were analyzed.

It was assumed that all the KT homes would be constructed with the Project and the proposed commercial would be constructed at a later time. In addition, it was assumed that all the mitigations identified in the previous baseline analysis would be implemented to determine if the KT project would require additional mitigations.

The roadway geometry and Near-Term (2025) Plus Phase 1A Plus KT Homes volumes are shown in **Figure 21** and **Figure 22,** respectively.

5.4.1 LOS Results for Intersections and Segments

For Near-Term (2025) Plus Phase 1A Plus KT Homes Conditions, it was determined that all intersections will operate at an acceptable LOS.

Near-Term (2025) Plus Phase 1A Plus KT Homes intersection LOS results are shown in **Table 14**.

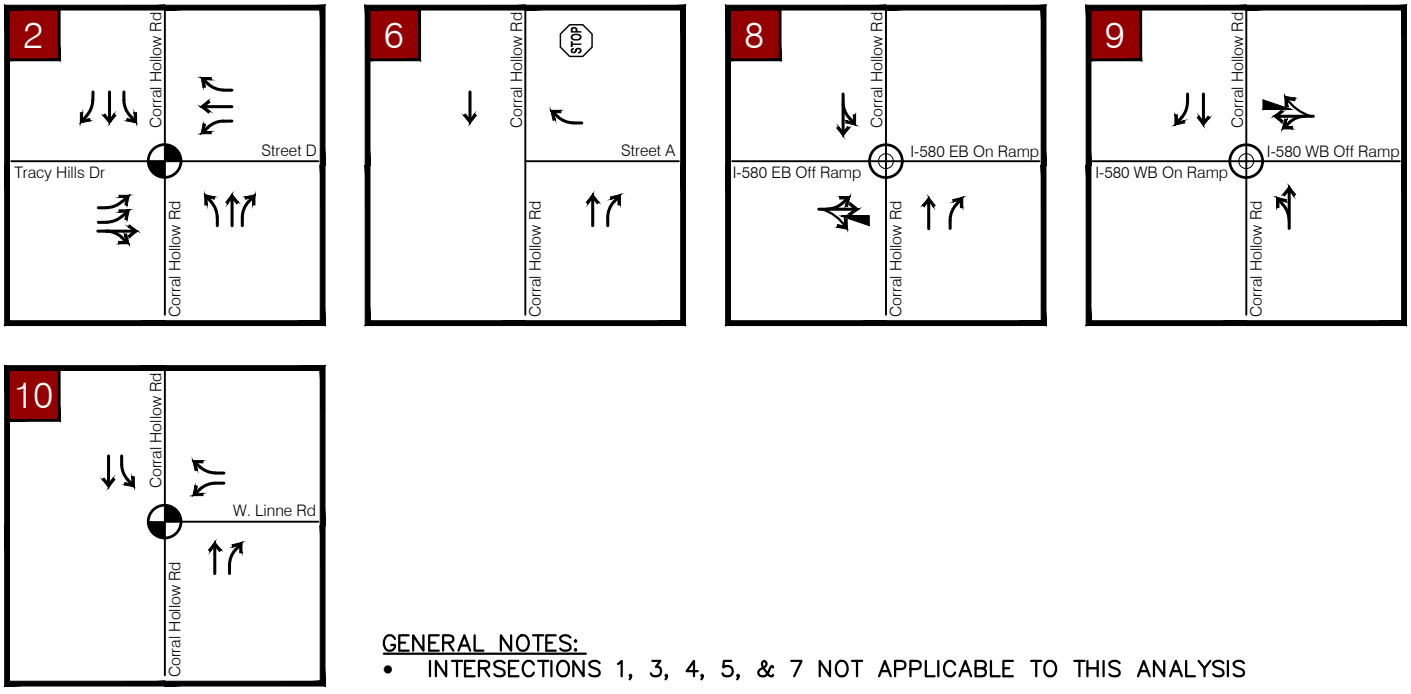
Table 14 – Near-Term (2025) Plus Phase 1A Plus KT Homes Conditions LOS Results

#	Intersection[1]	LOS Standard[2,3]	Control Type[4]	NT (2025) + Phase 1A + KT Homes Conditions					
				AM Peak Hour			PM Peak Hour		
				V/C	Delay	LOS	V/C	Delay	LOS
2	Corral Hollow Rd & Tracy Hills Dr/Street D	D	Signal	-	29.0	C	-	44.9	D
6	Corral Hollow Rd & Street A	INTERSECTION NOT ANALYZED FOR LOS							
8	Corral Hollow Rd & I-580 EB Ramps	C/D	RAB	0.407	7.5	A	0.452	7.2	A
9	Corral Hollow Rd & I-580 WB Ramps	C/D	RAB	0.730	10.0	A	0.548	7.3	A
10	Corral Hollow Rd & Linne Rd	D	Signal	-	19.2	B	-	15.0	B

Notes:
1. Analysis performed using HCM 6 methodologies.
2. Overall level of service (LOS) standard for the City is D.
3. Overall level of service (LOS) standard for Caltrans is C/D
4. Signal – Signal Control Intersection, RAB - roundabout
5. Delay indicated in seconds/vehicle.
6. Intersections that fall below LOS standard are shown in **bold.**
7. This condition assumes mitigations identified in **Section 5.1** are implemented
8. Volumes at study Intersections 8 and 9 in Figure 20 are slightly different from what is analyzed in Table 14. The LOS results in Table 14 will, however, remain consistent with the small volumes changes.

5.5 Roadway Segment LOS Results

Segment analysis for Corral Hollow Road north and south of Tracy Hills Drive shows that the roadway segments operate unacceptably for Near-Term (2025) Plus Phase 1A Plus KT Homes Conditions. **Table 15** shows the peak directional volumes for AM and PM peak hours. This analysis is however very conservative, and it is not recommended to widen Corral Hollow Road to four lanes until four lanes are required at study intersections.



GENERAL NOTES:

- INTERSECTIONS 1, 3, 4, 5, & 7 NOT APPLICABLE TO THIS ANALYSIS

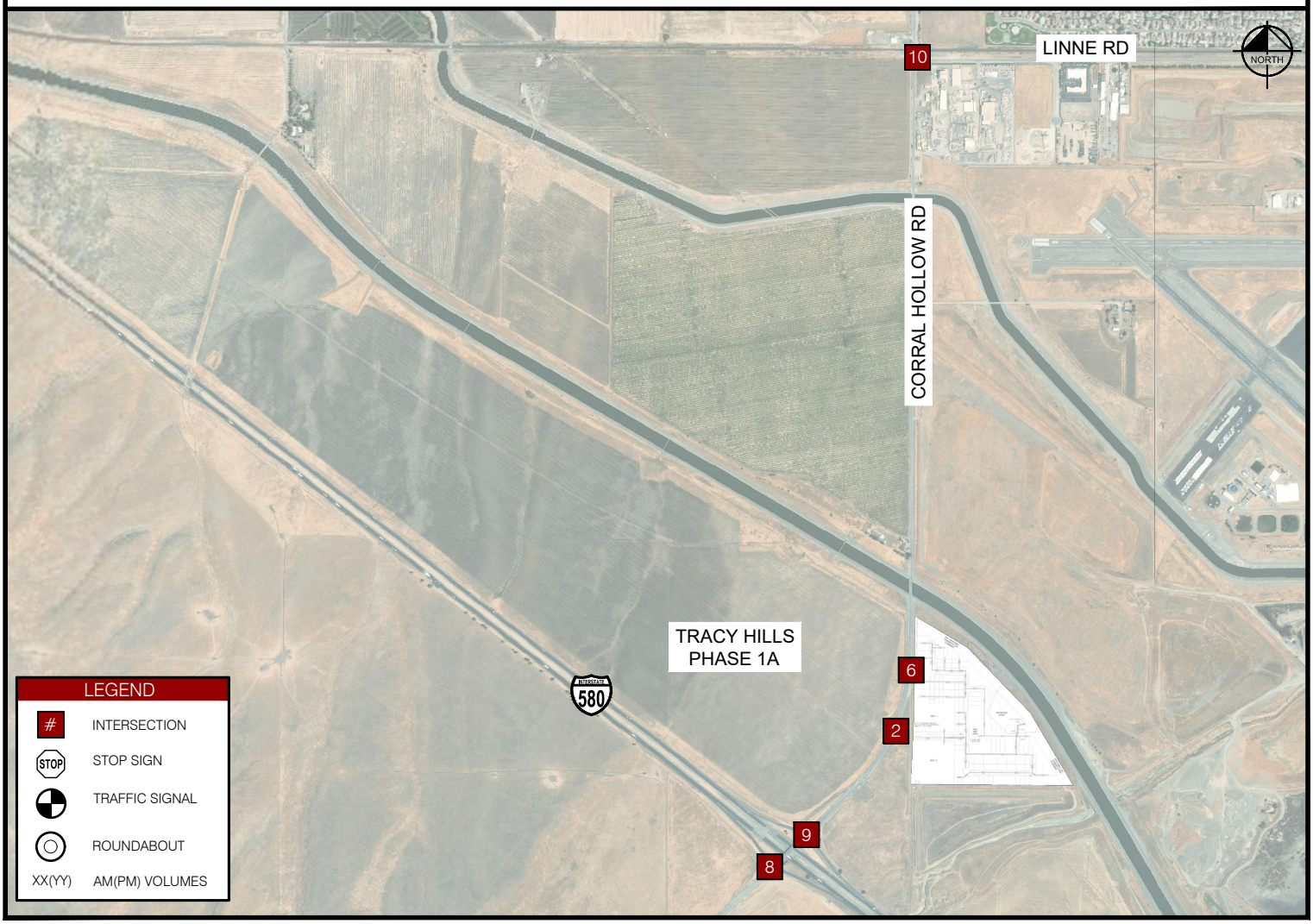


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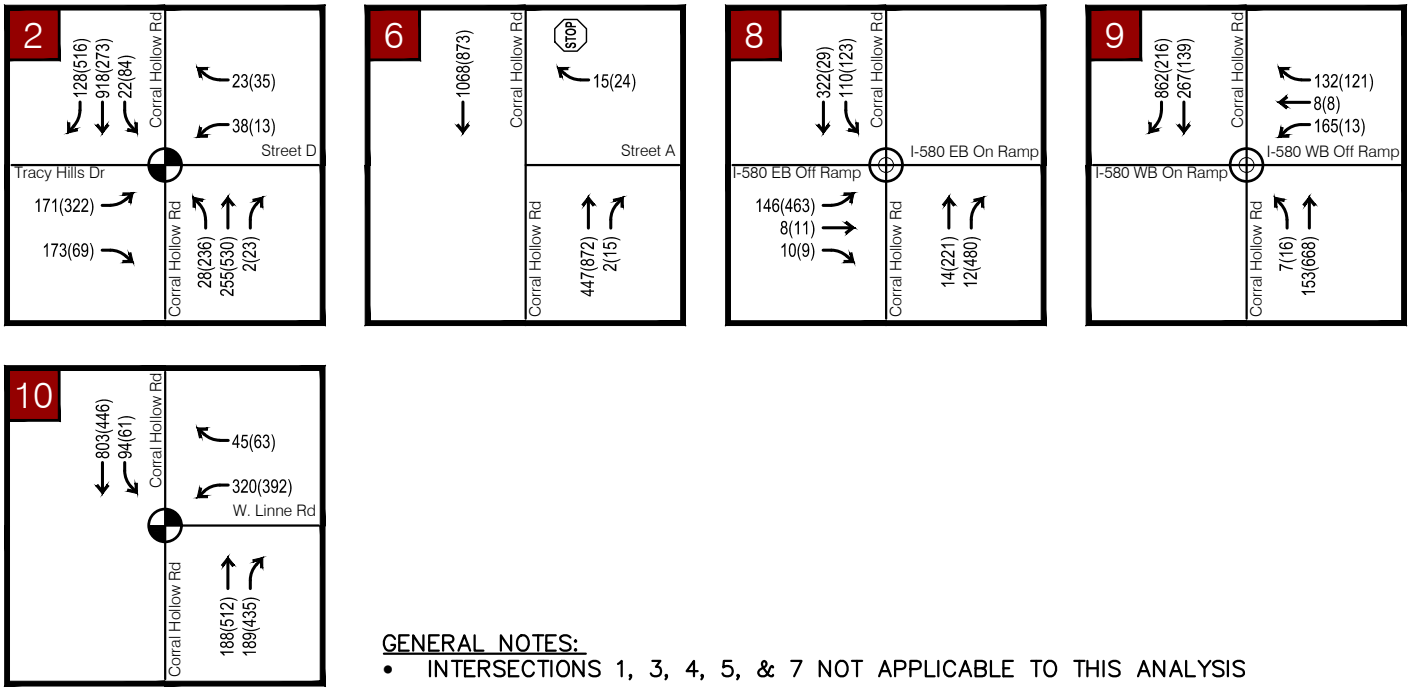
Figure 21
NT (2025)+ Phase 1A + KT Homes
Geometry and Traffic Control

KT VESTING TENTATIVE MAP REVIEW



GENERAL NOTES:

- INTERSECTIONS 1, 3, 4, 5, & 7 NOT APPLICABLE TO THIS ANALYSIS

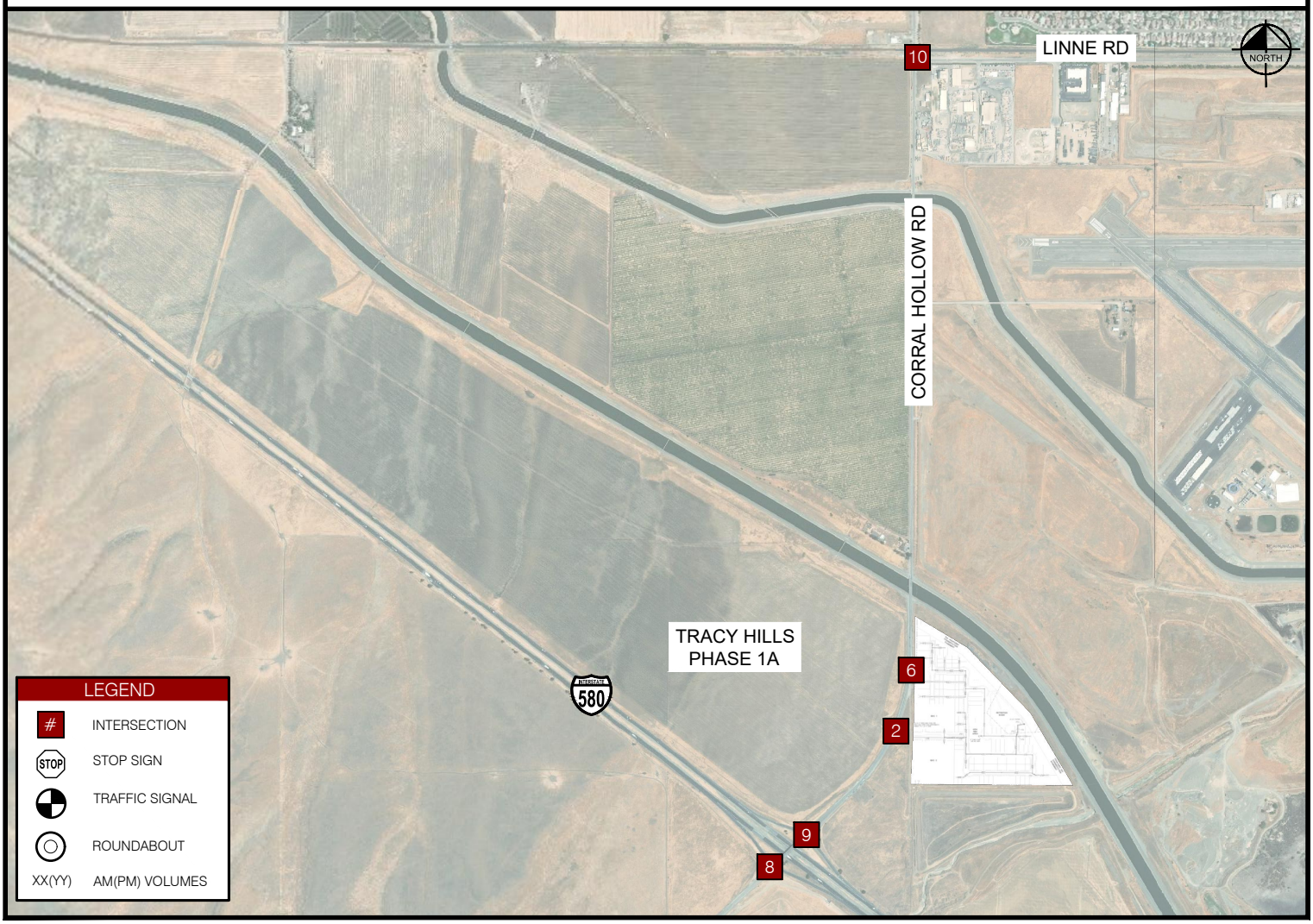


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Figure 22

NT (2025)+ Phase 1A + KT Homes
Traffic Volumes

KT VESTING TENTATIVE MAP REVIEW

Table 15: Roadway Segment LOS Analysis

Location		AM Volumes	PM Volumes	Maximum Peak Hour Directional Volume (vph)	LOS[1]
North of Tracy Hills Drive	Northbound	462	896	1068	F
	Southbound	1068	873		
South of Tracy Hills Drive	Northbound	285	789	1129	F
	Southbound	1129	355		

Notes:

1. Analysis performed using level of service criteria for two-lane highways in the THSP EIR Table 4.13-4.

5.6 Corral Hollow Road South of I-580 Fair Share

Project distributions for this analysis have been modified from those used during the THSP EIR study to reflect current travel patterns. As the I-580 Altamont Pass between Livermore and Tracy becomes more congested, an increasing number of commuters are using alternate routes such as Corral Hollow Road (Tesla Road). Existing volumes are nearing Horizon Year (2035) projections in the AM peak hour and have exceeded projections in the PM peak hour. A review of the existing counts on Corral Hollow Road show that 17% of AM trips southbound and 30% of PM trips northbound have their origin or destination within Tracy.

In order to fund improvements to Corral Hollow Road south of I-580, from the interchange to the city limits, a fair share analysis was conducted for the KT Homes scenario. The background projects of The Avenues, Tracy Hills Phase 1B and Tracy Hills Phase 1C are included in the analysis. See **Table 16** for the fair share results. The Project is anticipated to pay its fair share.

Table 16: South Corral Hollow Road Fair Share

	Original Trips using I-580		Redirected Trips now using Tesla Rd	
Project	AM	PM	AM	PM
The Avenues	18	35	3	11
Tracy Hills KT Homes	32	31	6	9
Tracy Hills Phase 1B	45	122	8	37
Tracy Hills Phase 1C	34	90	6	27