

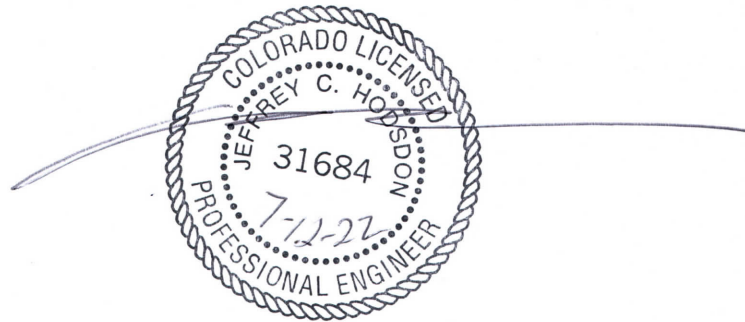


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Koinonia Ranch Minor Subdivision  
Transportation Memorandum  
PCD File No.: SP-21-004  
(LSC #S204710)  
July 12, 2022

**Traffic Engineer's Statement**

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



**Developer's Statement**

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

\_\_\_\_\_

\_\_\_\_\_

Date

# Koinonia Ranch Minor Subdivision

## Transportation Memorandum

Prepared for:  
Sally Bartels  
3647 Tuscanna Grove  
Colorado Springs, CO 80920-2820

JULY 12, 2022

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LSC Transportation Consultants  
Prepared by: Jeffrey C. Hodsdon, P.E.

PCD File No. SP-21-004  
LSC #204710



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Level of Service Reports

The Wolf Ranch Master Plan



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July 12, 2022

Sally Bartels  
3647 Tuscanna Grove  
Colorado Springs, CO 80920-2820

RE: Koinonia Ranch Minor Subdivision  
Transportation Memorandum  
El Paso County, CO  
PCD File No. SP-21-004  
LSC #204710

Dear Ms. Bartels,

LSC Transportation Consultants, Inc. has prepared this transportation memorandum for the proposed Koinonia Ranch residential development located in El Paso County, Colorado. The proposed development will be located on El Paso County parcel 5219000059. The site is north of Old Ranch Road approximately 3,500 feet west of the intersection with Black Forest Road.

The parcel is proposed to be subdivided into six single-family lots. The existing home on the site will remain on one of the subdivision lots. This report presents the estimated vehicle-trip generation and roadway impacts of the proposed development. This report has been prepared for submittal to El Paso County.

## REPORT CONTENTS

The preparation of this report included the following:

- Inventory of the existing adjacent and nearby roadway system. This includes functional classifications, roadway width and surface condition, posted speed limit, intersection/access spacing, intersection sight distance, etc.;
- A review of the proposed site land use and access location;
- Crash history at the intersection of Black Forest Road/Old Ranch Road;
- Estimates of current traffic volumes on Old Ranch Road adjacent to the site;
- Estimates of the net new and total daily and peak-hour trip generation for the proposed subdivision;
- The estimated directional distribution of site-generated vehicle trips;
- Projections of additional daily trips on Old Ranch Road in the vicinity of the site;

- Projections of peak-hour site-generated turning-movement traffic volumes at the site-access intersection;
- Evaluation of the post-development traffic volumes on Old Ranch Road in the vicinity of the site and at the site-access intersection; and
- Findings and recommendations.

## RECENT TRAFFIC REPORTS

LSC is not aware of any traffic studies completed within the study area in the last five years.

## PROPOSED LAND USE/SITE ACCESS

Figure 1 shows the site location relative to the adjacent and nearby roadways. The site is located north of Old Ranch Road approximately 3,500 feet west of the intersection with Black Forest Road. There is currently an existing driveway to the existing single-family home on the parcel located 3,575 feet west of Black Forest Road (centerline-to-centerline).

Figure 2 shows the site plan and proposed access point. As shown, the proposed subdivision road to serve the development is planned to be located approximately 190 feet west of the existing driveway. The proposed subdivision road will replace the existing residential driveway, which will be closed. This subdivision access/proposed road intersection with Old Ranch Road is proposed to be full-movement.

## ROAD AND TRAFFIC CONDITIONS

Streets adjacent to the site are identified below, followed by a brief description of each:

**Old Ranch Road** is a gravel road with a Rural Major Collector classification in the vicinity of the site. The roadway extends approximately 5,700 feet to the west from Black Forest Road where it ends at the intersection with Forest Drive. Approximately one mile west of the end of Old Ranch Road, there is another segment of Old Ranch Road that extends from Milam Road to west of Voyager Parkway. This western segment of Old Ranch Road is paved. It is anticipated that the two segments of Old Ranch Road may be connected in the future, although it is not shown in any long-term plans.

**Black Forest Road** is a two-lane minor arterial. The roadway extends from just south of Woodmen Road north to the county line. The intersection with Old Ranch Road is stop-controlled. The roadway is planned for improvements between Hodgen Road and Stapleton Drive per the 2016 *Major Transportation Corridors Plan (MTCP)*. The posted speed limit is 55 miles per hour (mph) approaching Old Ranch Road in the northbound direction and drops to 40 mph immediately prior to the intersection. In the southbound direction the speed limit is 40 mph.

### *Existing Traffic Volumes*

Figure 3 shows the estimated existing traffic volumes on Old Ranch Road adjacent to the site and at the existing property access driveway.

### *Crash History*

Three years of crash history were analyzed at the intersection of Old Ranch Road/Black Forest Road. Only one crash was recorded during the study period, which was a rear-end crash that did not result in any injuries.

### **SITE ACCESS**

Per the El Paso County *Engineering Criteria Manual*, intersections on a collector are required to have a minimum spacing of ¼ mile. The proposed access location will meet this minimum in both directions.

The intersection will have a required sight distance of 335 feet assuming a posted speed limit of 25 mph. The proposed subdivision road/access intersection with Old Ranch Road is anticipated to meet the required minimum sight distance in both directions. The required intersection line-of-sight “triangles” should be maintained and free of site improvements (that would limit the line of sight needed to maintain prescribed sight distance). Examples of site improvements include site grading, structures, landscaping, monument signs, parking areas, berms, etc.

### **OLD RANCH ROAD CONNECTION SCENARIO**

As mentioned previously, there is a potential for the two segments of Old Ranch Road to be connected in the future. An analysis was completed to determine the long-term impacts of the proposed development, should such a connection occur in the future. To forecast the volume of traffic traveling on Old Ranch Road, the Pikes Peak Area Council of Government (PPACG) travel demand model was modified (by LSC) with the connection. Based on LSC model projections, it is estimated that Old Ranch Road will carry 4,500 vehicles per day. Historical count data on the west segment of Old Ranch Road was used to estimate the peak-hour directional traffic.

### **TRIP GENERATION ESTIMATE**

Estimates of the vehicle trips projected to be generated by the proposed site have been made using the nationally-published average trip-generation rates in *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). The land use code 210 Single-Family Housing was used to calculate site-generated traffic.

Table 1 below presents a summary of the estimated site trip generation for the proposed development. A detailed trip-generation estimate for the site, including ITE rates, is presented in Table 4 (attached).

**Table 1: Estimated Site Vehicle-Trip Generation**

| Analysis Period                             | Weekday |     |       |
|---|---------|-----|-------|
|   | In      | Out | Total |
| Morning peak hour (vehicle trips/hour)      | 2       | 5   | 7     |
| Evening peak hour (vehicle trips/hour)      | 5       | 3   | 8     |
| Weekday – 24-hour total (vehicle trips/day) | 39      | 39  | 78    |

Based on the ITE estimate for the proposed development, the site would generate approximately 78 vehicle trips on the average weekday, with half entering and half exiting the site. Approximately 2 entering vehicles and 5 exiting vehicles are projected for the weekday morning peak hour and 5 entering vehicles and 3 exiting vehicles are projected for the weekday evening peak hour.

### **TRIP DIRECTIONAL DISTRIBUTION & SITE-GENERATED TRAFFIC**

#### *Site-Generated Traffic Volumes Prior to the Potential Future Old Ranch Connection*

Figure 4 shows the directional-distribution estimate for the proposed development. This assumes almost all trips oriented to/from the east.

Site-generated traffic volumes at the access intersection have been calculated by applying the directional-distribution percentages estimated by LSC to the trip-generation estimates (from Table 4). Figure 4 also shows estimates of the site-generated traffic.

#### *Site-Generated Traffic Volumes with Potential Future Old Ranch Connection*

Appendix Figure 1 shows (for reference) the projected directional-distribution estimate and the site-generated traffic volumes at the access intersection if and when Old Ranch is extended west to Milam Road. Trip-distribution estimates for this scenario have been based on the following factors: the area roadway system and the *Pikes Peak Area Council of Governments* (PPACG) travel demand model. As shown, it has been assumed that 66 percent of site-generated traffic would travel to/from the west via Old Ranch Road.

#### *Post-Development Projected Total Volumes*

Figure 5 shows the projected post-development (“build”) traffic volumes adjacent to the site and at the proposed site-access intersection. These are the sum of estimated existing volumes plus the site-generated traffic volumes. These volumes assume Old Ranch Road prior to a possible future extension to Milam Road.

Appendix Figure 2 shows the projected long term total volumes at the site access if and when Old Ranch is extended west to Milam Road.

**INTERSECTION LEVEL OF SERVICE ANALYSIS**

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 3 shows the level of service delay ranges for signalized and unsignalized intersections.

**Table 3: Intersection Levels of Service Delay Ranges**

| Level of Service | Signalized Intersections                    | Unsignalized Intersections                                 |
|------------------|---|--|
|                  | Average Control Delay (seconds per vehicle) | Average Control Delay (seconds per vehicle) <sup>(1)</sup> |
| A                | 10.0 sec or less                            | 10.0 sec or less   |
| B                | 10.1-20.0 sec                               | 10.1-15.0 sec  |
| C                | 20.1-35.0 sec                               | 15.1-25.0 sec  |
| D                | 35.1-55.0 sec                               | 25.1-35.0 sec  |
| E                | 55.1-80.0 sec                               | 35.1-50.0 sec  |
| F                | 80.1 sec or more                            | 50.1 sec or more   |

(1) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average control delay per vehicle.

*Old Ranch Road/Site Access*

The site access intersection has been analyzed to determine the projected control delay and corresponding levels of service for turning movements. Figure 5 provides the levels of service for the projected post-development (“build”) traffic scenario. The level of service would be “A.”

As shown in Appendix Figure 2, all yielding turning movements at the site access are projected to operate at LOS B or better during both peak hours in the long term, assuming the future Old Ranch Road connection.

**OLD RANCH ROAD LINK LOS**

As mentioned previously, there is not a current project planned to connect the two segments of Old Ranch Road. Prior to this connection, all site-generated traffic, as well as all traffic generated by parcels accessing Old Ranch Road, will use the Old Ranch Road/Black Forest intersection. Note: The Wolf Ranch Master Plan (copy attached for reference) shows an Old Ranch Road realignment just west of Black Forest Road. This would be completed by the Wolf Ranch development.

A trip-generation estimate was prepared for the total number of parcels that would access Old Ranch Road with the addition of this development. Table 1 below presents a summary of the



estimated total traffic that will access Black Forest Road via Old Ranch Road. A detailed trip-generation estimate is presented in Table 5 (attached).

**Table 2: Estimated Site Vehicle-Trip Generation**

| Analysis Period                             | Weekday |     |       |
|---|---------|-----|-------|
|   | In      | Out | Total |
| Morning peak hour (vehicle trips/hour)      | 7       | 21  | 28    |
| Evening peak hour (vehicle trips/hour)      | 23      | 13  | 36    |
| Weekday – 24-hour total (vehicle trips/day) | 177     | 177 | 354   |

As shown, all parcels with access to Old Ranch Road, including the proposed development, are projected to generate less than 25 vehicles inbound or outbound during the peak hours. This indicates that with the current configuration of Old Ranch Road, no thresholds for auxiliary lanes would be met at the intersection of Old Ranch Road/Black Forest Road, with or without the proposed development. As indicated above, three years of crash history were analyzed at the intersection of Old Ranch Road/Black Forest Road. Only one crash was recorded during the study period, which was a rear-end crash that did not result in any injuries.

The projected total ADT adjacent to and just east of the site is not anticipated to exceed the design ADT of a Rural Gravel Roadway. Based on estimated ADT (based on ITE rates) just west of Black Forest Road (but east of the easternmost residential driveway), both the existing (estimated) and post-development (build) ADT would be over 200 vpd, but less than 300 vpd. This is based on ITE trip generation for ten single-family homes to the east with access to Old Ranch between the site and Black Forest Road (about 100 background trips generated).

#### **AUXILIARY TURN LANES**

No additional auxiliary lanes are necessary with this proposed development.

#### **MTCP ROADWAY IMPROVEMENTS**

The 2016 El Paso County Major Transportation Corridor Plan (MTCP) shows that Black Forest Road between Hodgen Road and Stapleton Drive is identified for “rural road upgrade” – MTCP project ID U11.

#### **PEDESTRIAN AND BICYCLE ACCOMMODATION**

There are currently no sidewalks, bike lanes, or trails in the vicinity of the site. The subdivision road will be a rural gravel road and sidewalks are not required.

## **COUNTY ROAD IMPROVEMENT FEE PROGRAM**

Road impact fees will be applicable for this development at the latest land use approval.

### *Reimbursable MTCP Improvements*

A potentially reimbursable road improvement in the vicinity is the Black Forest Road rural upgrade – MTCP project ID U11. Old Ranch Road is shown as a “Collector” on the MTCP and could potentially be added to the MTCP reimbursable project list in the future.

## **DEVIATIONS**

A deviation for length of cul-de-sac has been prepared as part of this application. Please refer to the separate deviation request form document.

## **FINDINGS AND CONCLUSIONS**

### *Trip Generation*

- The development is expected to generate approximately 78 vehicle trips on the average weekday, with approximately 7 trips occurring during the morning peak hour and 8 trips during the evening peak hour.

### *Recommendations*

- No additional auxiliary lanes or other improvements are required for the proposed development.

\* \* \* \* \*

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Please contact me if you have any questions.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By Jeffrey C. Hodsdon, P.E.  
Principal

JCH:jas

Enclosures: Tables 4-5  
*Figures 1-4*  
*Appendix Figures 1-2*  
*Level of Service Reports*  
*The Wolf Ranch Master Plan*

References:

*Trip Generation, 10<sup>th</sup> Edition, 2017, Institute of Transportation Engineers*  
*El Paso County Major Transportation Corridors Plan, 2016*  
*Engineering Criteria Manual, 2016, El Paso County*

# Tables

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**Table 4: Detailed Trip Generation Estimate – Koinonia Ranch Minor Subdivision**

| Land Use Code | Land Use Description  | Trip Generation Units <sup>(2)</sup> | Trip Generation Rates <sup>(1)</sup> |                   |      |                     |      | Total Trips Generated   |                   |     |                     |     |
|---------------|-----------------------|--------------------------------------|--------------------------------------|-------------------|------|---------------------|------|-------------------------|-------------------|-----|---------------------|-----|
|               |                       |                                      | Average Weekday Traffic              | Morning Peak Hour |      | Afternoon Peak Hour |      | Average Weekday Traffic | Morning Peak Hour |     | Afternoon Peak Hour |     |
|               |                       |                                      |                                      | In                | Out  | In                  | Out  |                         | In                | Out | In                  | Out |
| 210           | Single Family Housing | 6 DU                                 | 13.02                                | 0.27              | 0.77 | 0.81                | 0.45 | 78                      | 2                 | 5   | 5                   | 3   |

Notes:  
 (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)  
 (2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

**Table 5: Detailed Trip Generation – Total Traffic Accessing Old Ranch Road**

| Land Use Code  | Land Use Description  | Trip Generation Units <sup>(2)</sup> | Trip Generation Rates <sup>(1)</sup> |                   |      |                     |      | Total Trips Generated   |                   |     |                     |    |
|--|-----------------------|--------------------------------------|--------------------------------------|-------------------|------|---------------------|------|-------------------------|-------------------|-----|---------------------|----|
|  |                       |                                      | Average Weekday Traffic              | Morning Peak Hour |      | Afternoon Peak Hour |      | Average Weekday Traffic | Morning Peak Hour |     | Afternoon Peak Hour |    |
|  |                       |                                      |                                      | In                | Out  | In                  | Out  |                         | In                | Out |                     |    |
| 210  | Single Family Housing | 31 DU                                | 11.42                                | 0.23              | 0.66 | 0.73                | 0.41 | 354                     | 7                 | 21  | 23                  | 13 |
| Notes:<br>(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)<br>(2) DU = dwelling unit<br>Source: LSC Transportation Consultants, Inc. |                       |                                      |                                      |                   |      |                     |      |                         |                   |     |                     |    |

# Figures

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Figure 1

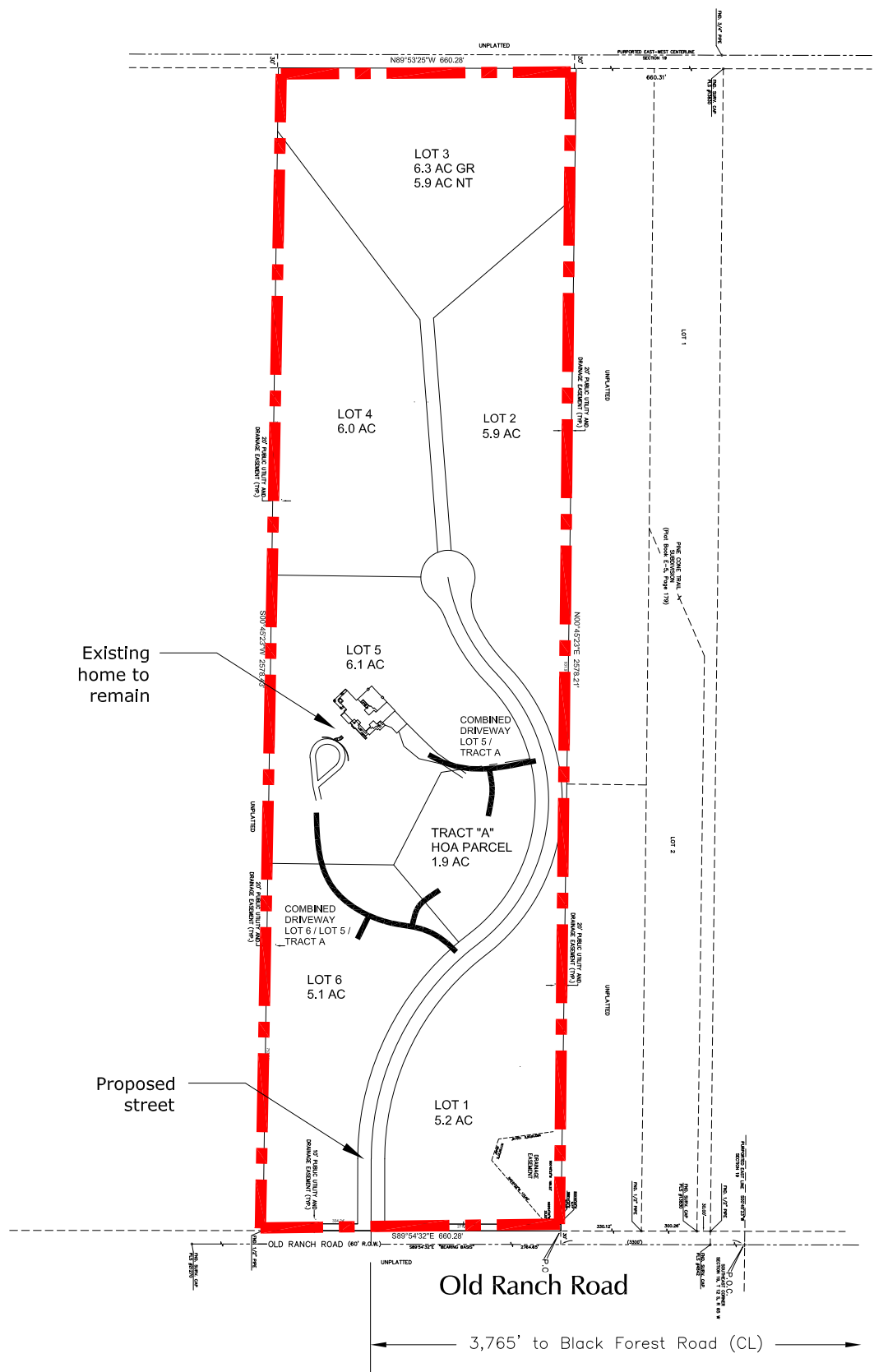
# Vicinity Map

Koinonia Ranch Minor Subdivision (LSC# 204710)





Approximate  
Scale:  
1" = 350'



Old Ranch Road

3,765' to Black Forest Road (CL)

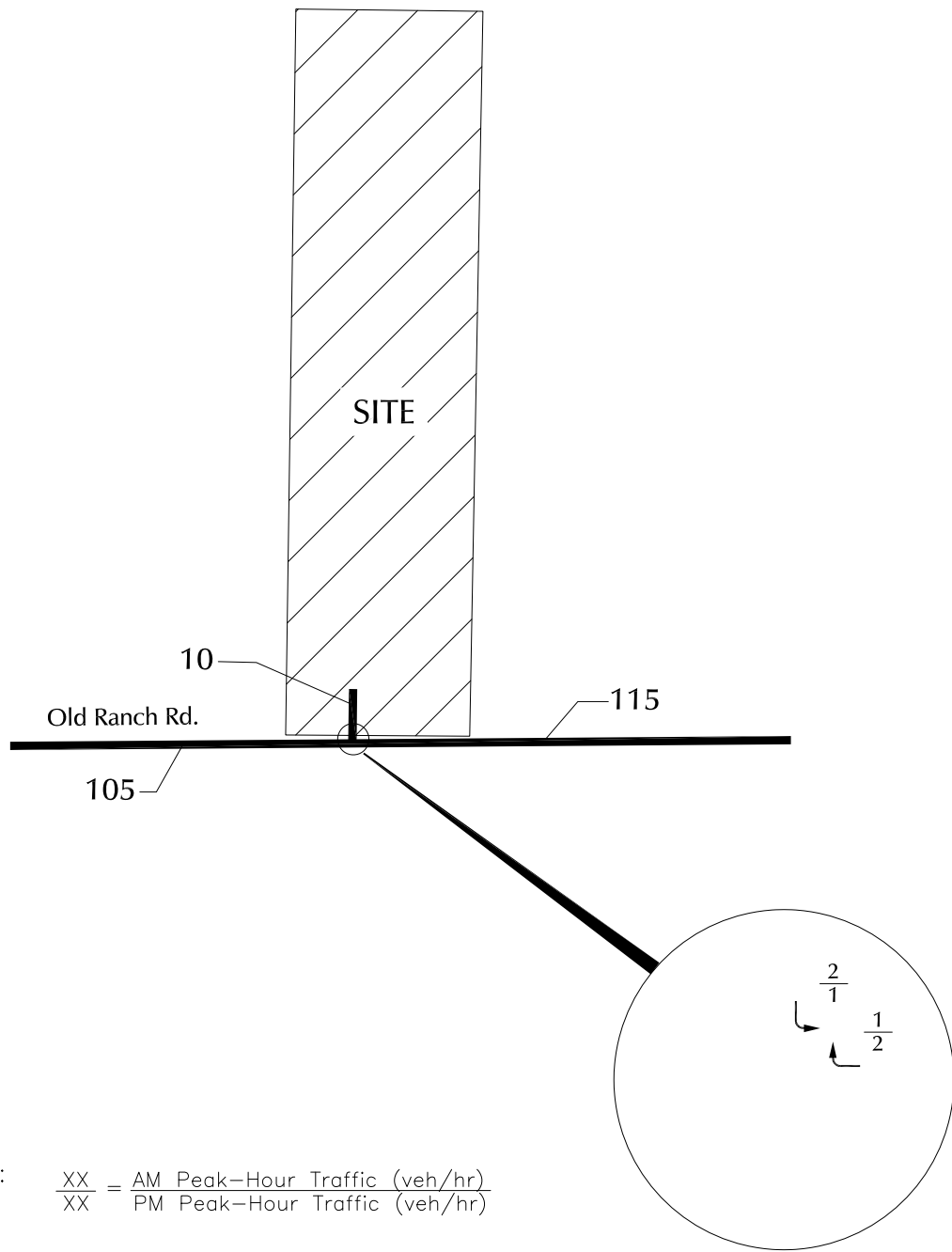
Figure 2  
Site Plan

Koinonia Ranch Minor Subdivision (LSC# 204710)





Approximate  
Scale:  
NTS



LEGEND:  $\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
           $\frac{XX}{XX}$  = PM Peak-Hour Traffic (veh/hr)

**XXX** = Average Weekday Traffic (vehicles per day)

\*Estimated by LSC



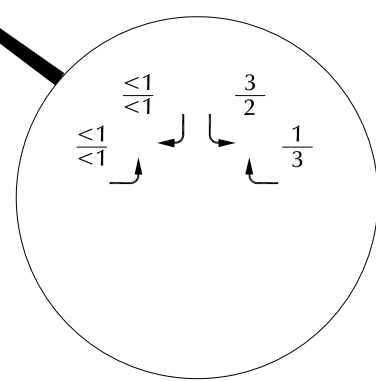
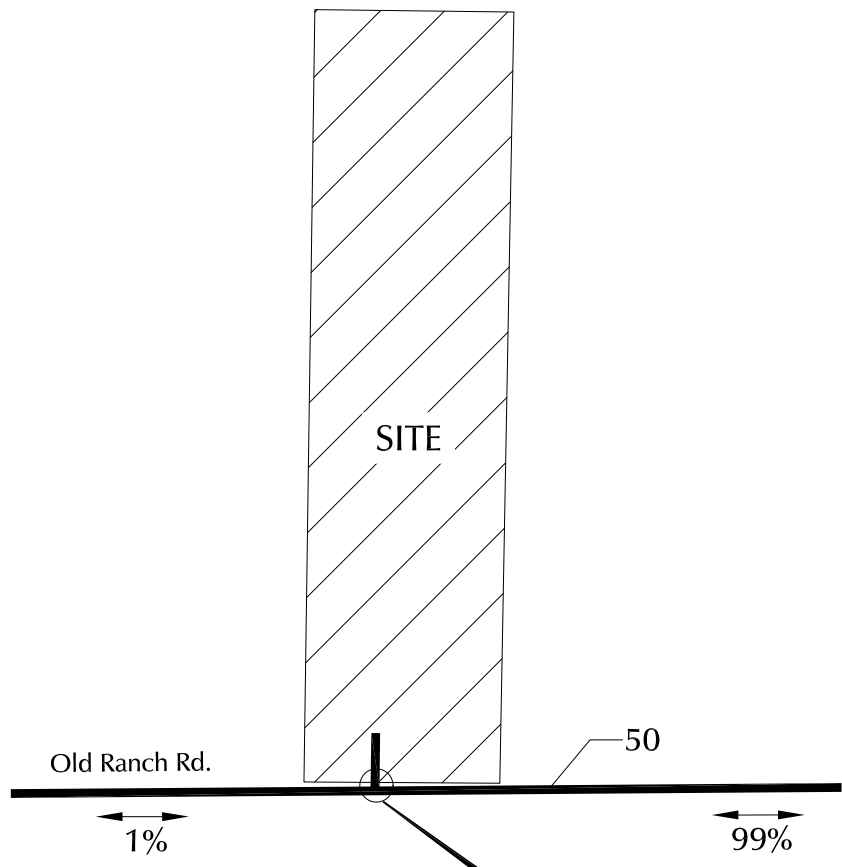
Figure 3

# Existing Traffic\*

Koinonia Ranch Minor Subdivision (LSC# 204710)



Approximate  
Scale:  
NTS



LEGEND:  $\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
                  PM Peak-Hour Traffic (veh/hr)

$\longleftrightarrow$  35% = Percent Directional Distribution

XXX = Average Weekday Traffic (vehicles per day)

\*New trips added by net  
new 5 additional lots

Figure 4

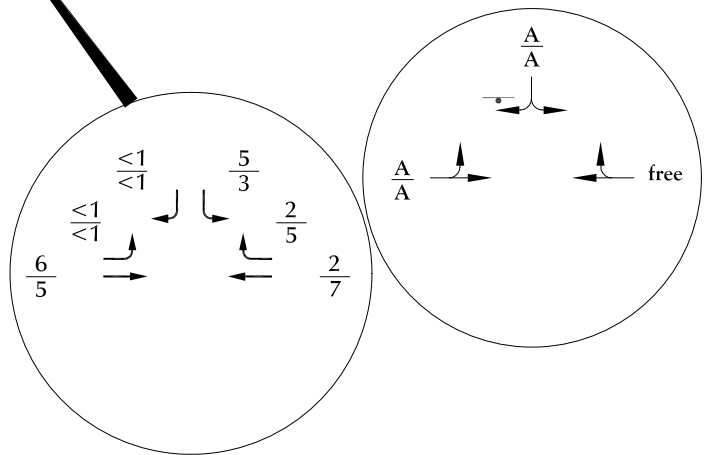
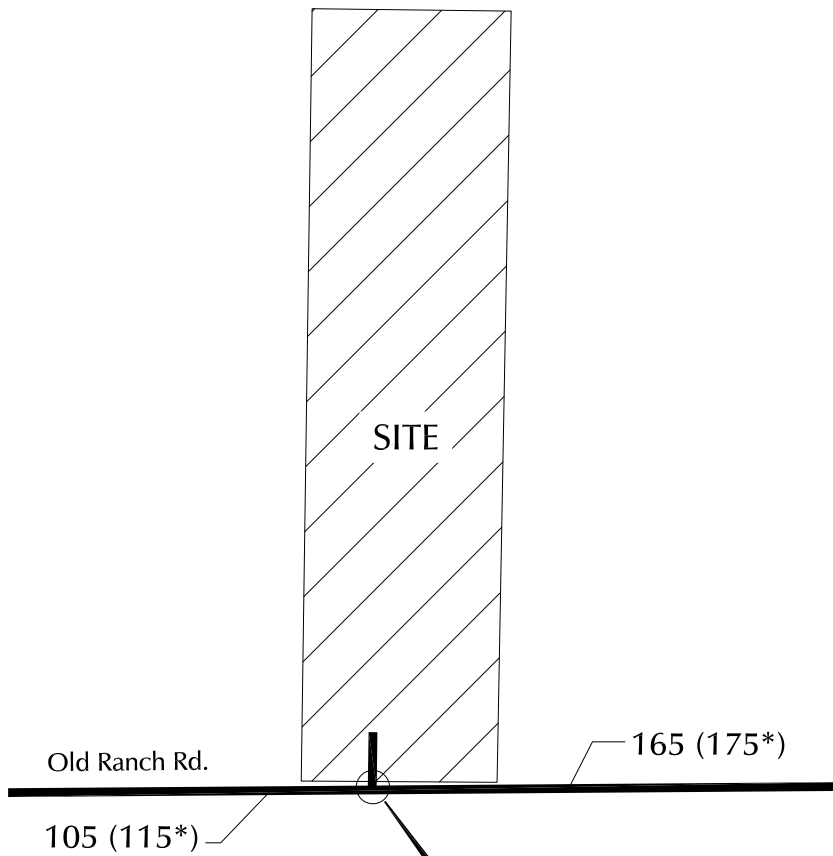
# Trip Distribution & New\* Site Generated Traffic

Koinonia Ranch Minor Subdivision (LSC# 204710)





Approximate  
Scale:  
NTS



LEGEND:

$\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
 $\frac{XX}{XX}$  = PM Peak-Hour Traffic (veh/hr)

$\frac{A}{B}$  =  $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

⊥ = Stop Sign

XXX = Average Weekday Traffic (vehicles per day)



\*ADT assuming future development of currently vacant lot just west of the site.

# Figure 5 Total Traffic Conditions

Koinonia Ranch Minor Subdivision (LSC# 204710)

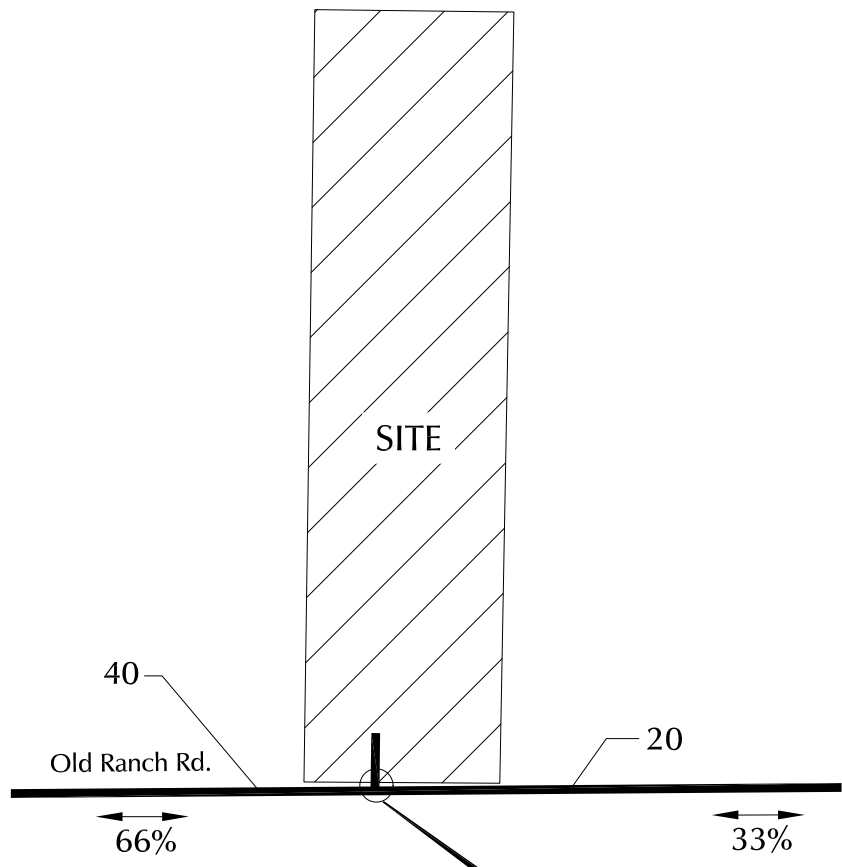
# Appendix Figures 1-2

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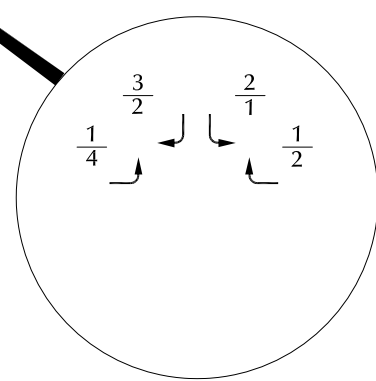
Approximate  
Scale:  
NTS



LEGEND:  $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

$\longleftrightarrow$  35% = Percent Directional Distribution

XXX = Average Weekday Traffic (vehicles per day)



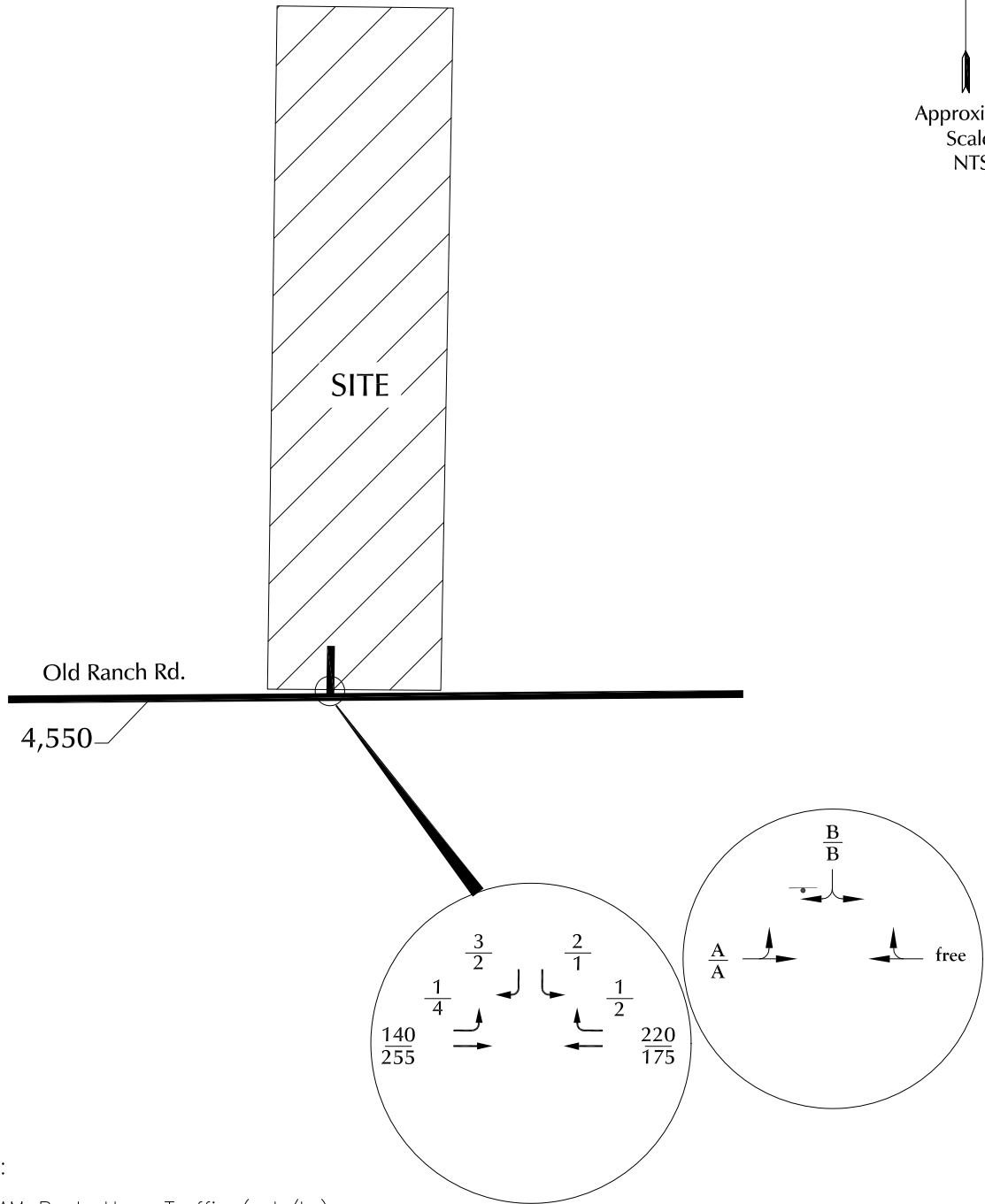
Appendix Figure 1

# Long-Term Trip Distribution & Site Generated Traffic (with all 6 lots) with Potential Future Old Ranch Road Connection





Approximate  
Scale:  
NTS



LEGEND:

$\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
 $\frac{XX}{XX}$  = PM Peak-Hour Traffic (veh/hr)

$\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service  
 $\frac{A}{B}$  = PM Individual Movement Peak-Hour Level of Service

† = Stop Sign

XXX = Average Weekday Traffic (vehicles per day)

Appendix Figure 2

# Long-Term Total Traffic Conditions with Old Ranch Road Connection

Koinonia Ranch Minor Subdivision (LSC# 204710)



# Levels of Service

---





HCM 6th TWSC  
4: Old Ranch Road & Access

Total  
AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.9  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      | ↕    | ↕    |      | ↕    |      |
| Traffic Vol, veh/h       | 0    | 6    | 2    | 2    | 5    | 0    |
| Future Vol, veh/h        | 0    | 6    | 2    | 2    | 5    | 0    |
| 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                | 0    | 7    | 2    | 2    | 5    | 0    |

| Major/Minor          | Major1 | Major2 | Minor2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 4      | 0      | -      | 0 | 10    |
| Stage 1              | -      | -      | -      | - | 3     |
| Stage 2              | -      | -      | -      | - | 7     |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 |
| Pot Cap-1 Maneuver   | 1618   | -      | -      | - | 1010  |
| Stage 1              | -      | -      | -      | - | 1020  |
| Stage 2              | -      | -      | -      | - | 1016  |
| Platoon blocked, %   |        | -      | -      | - |       |
| Mov Cap-1 Maneuver   | 1618   | -      | -      | - | 1010  |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 1010  |
| Stage 1              | -      | -      | -      | - | 1020  |
| Stage 2              | -      | -      | -      | - | 1016  |

| Approach             | EB | WB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0  | 0  | 8.6 |
| HCM LOS              |    |    | A   |

| Minor Lane/Major Mvmt | EBL  | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1618 | -   | -   | -   | 1010  |
| HCM Lane V/C Ratio    | -    | -   | -   | -   | 0.005 |
| HCM Control Delay (s) | 0    | -   | -   | -   | 8.6   |
| HCM Lane LOS          | A    | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0    | -   | -   | -   | 0     |

HCM 6th TWSC  
4: Old Ranch Road & Access

Total  
PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.3  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      | ↶    | ↷    |      | ↶    |      |
| Traffic Vol, veh/h       | 0    | 5    | 7    | 5    | 3    | 0    |
| Future Vol, veh/h        | 0    | 5    | 7    | 5    | 3    | 0    |
| 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                | 0    | 5    | 8    | 5    | 3    | 0    |

| Major/Minor          | Major1 | Major2 | Minor2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 13     | 0      | -      | 0 | 16    |
| Stage 1              | -      | -      | -      | - | 11    |
| Stage 2              | -      | -      | -      | - | 5     |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 |
| Pot Cap-1 Maneuver   | 1606   | -      | -      | - | 1002  |
| Stage 1              | -      | -      | -      | - | 1012  |
| Stage 2              | -      | -      | -      | - | 1018  |
| Platoon blocked, %   |        | -      | -      | - |       |
| Mov Cap-1 Maneuver   | 1606   | -      | -      | - | 1002  |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 1002  |
| Stage 1              | -      | -      | -      | - | 1012  |
| Stage 2              | -      | -      | -      | - | 1018  |

| Approach             | EB | WB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0  | 0  | 8.6 |
| HCM LOS              |    |    | A   |

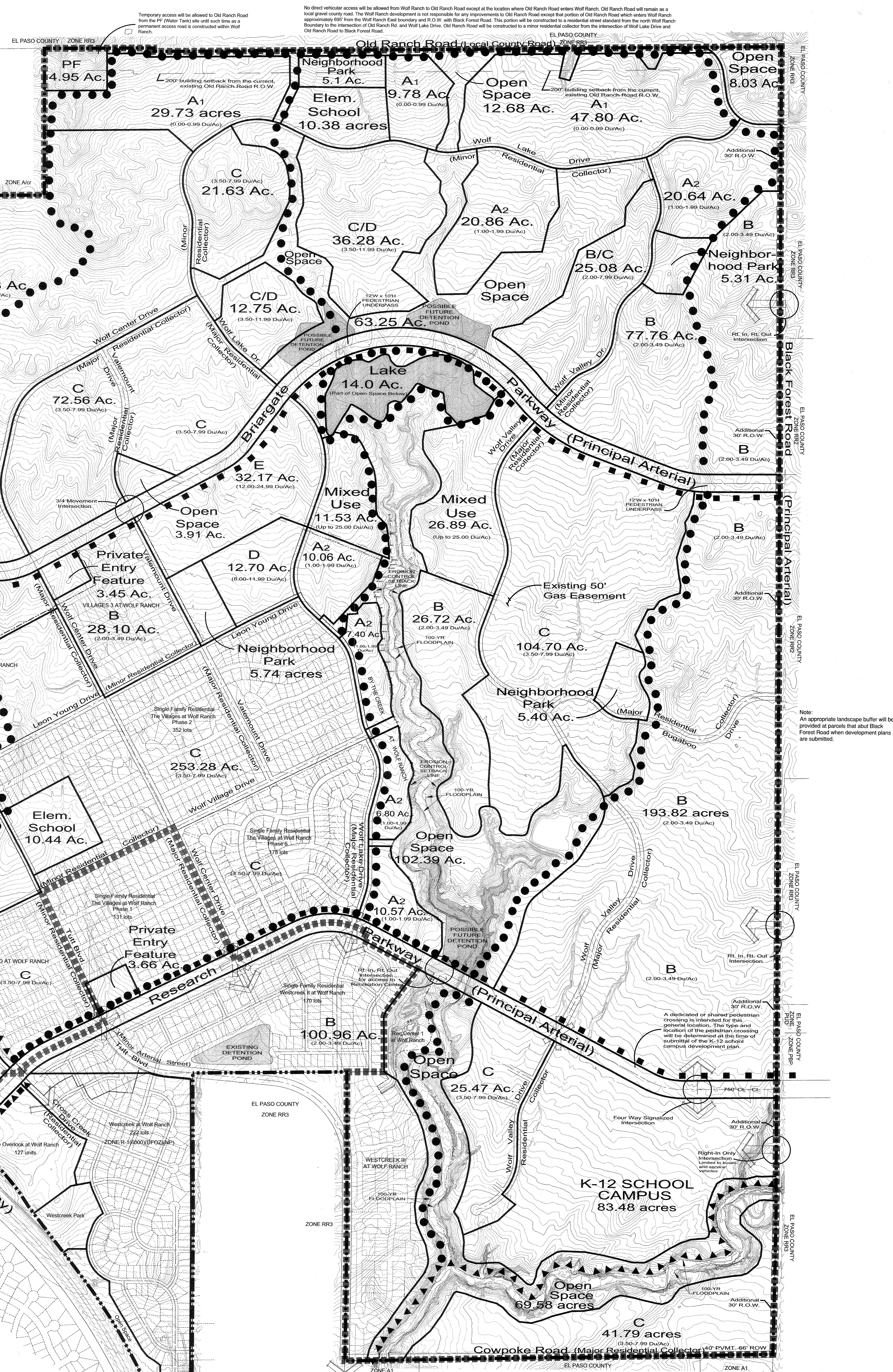
| Minor Lane/Major Mvmt | EBL  | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1606 | -   | -   | -   | 1002  |
| HCM Lane V/C Ratio    | -    | -   | -   | -   | 0.003 |
| HCM Control Delay (s) | 0    | -   | -   | -   | 8.6   |
| HCM Lane LOS          | A    | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0    | -   | -   | -   | 0     |

# The Wolf Ranch Master Plan

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| File Number            | Approval Date     | Revision Description  |
|------------------------|-------------------|---|
| CPC MP 05-83           | November 8, 2001  | Original Wolf Ranch MP Approval - previously a portion of the Briargate Master Plan   |
| CPC MP 04-00048        | February 22, 2005 | Original Wolf Ranch PUD Plan Approval   |
| CPC MP 04-00043        | January 6, 2005   | Revisions to add additional residential plan. Addition of 200 ac to plan. Combined previous C1S 4.99 Du/Ac and D5S 7.99 Du/Ac planning areas into a new C1S 7.99 Du/Ac planning area with average density capped at 7.99 Du/Ac for the new C category. Minor adjustments to correct roadway alignments with adjacent master plans. Revisions to show detention ponds as a result of Master Plan Update. Minor plan updates.   |
| CPC MP 05-80           | April 4, 2006     | Revision of school sites to add K-12 campus, eliminate two elementary school sites, and one junior high school site for net increase in school land of 42.7 acres. Revision to central doglegway open space to be reduced by 65.4 acres and re-categorized as A2 area. Old Junior High School Site replaced with Community Park. Area along east boundary and south of Briargate Parkway re-categorized as A area. One neighborhood park site north of Briargate Parkway relocated to area south of Briargate Parkway adjacent to multi-family sites. Portion of B area located south of Briargate Parkway and Wolf Valley Drive re-categorized as A area. Development footprint of residential buildings at Wolf Ranch Master Plan added right-of-way access to Black Forest Road south of Research Parkway for buses and service vehicles only, to access the K-12 school campus from Black Forest Rd. Minor revisions to coverage of B area and K-12 campus area due to slight realignment of intersection of Black Forest Rd, Research Parkway to align with Research extending east of the revised plan. Revisions to "pull out" and pedestrian crossing across Research Parkway, from E-12 campus. Minor Amendment to master plan and PUD plan to add 28-acre quarter movement access from Research Parkway to the Commercial site located just north and east of Powers Blvd. and Research Pkwy. |
| CPC MP 05-00008        | January 15, 2009  |   |
| CPC MP 05-00008 A20011 | Pending           |   |



No direct vehicular access will be allowed from Wolf Ranch to Old Ranch Road except at the location where Old Ranch Road enters Wolf Ranch. Old Ranch Road will remain as a local gravel county road. The Wolf Ranch development is not responsible for any improvements to Old Ranch Road which enters Wolf Ranch approximately 695' from the Wolf Ranch East boundary and R.O.W. with Black Forest Road. This portion will be constructed to a residential street standard from the north Wolf Ranch boundary to the intersection of Old Ranch Rd. and Wolf Lake Drive. Old Ranch Road will be constructed to a minor residential collector from the intersection of Wolf Lake Drive and Old Ranch Road to Black Forest Road.

Temporary access will be allowed to Old Ranch Road from the PF (Water Tanks) site until such time as a permanent access road is constructed within Wolf Ranch.

**Master Plan Boundary**

**PUD Plan Boundary**

**Multi-Use Trail**

**Community Trail System**

**Off Street Bike Path**

**Roundsabout Location**

**Revision Cloud**

**Existing Land Use Summary**

| CATEGORY                | AREA        | Max. DU/AC                   | TOTAL UNITS |
|-------------------------|-------------|------------------------------|-------------|
| RESIDENTIAL A1          | 97.31 Ac.   | 0.99                         | 96          |
| RESIDENTIAL A2          | 76.33 Ac.   | 1.99                         | 152         |
| RESIDENTIAL B           | 575.14 Ac.  | 3.49                         | 2,007       |
| RESIDENTIAL B/C         | 25.08 Ac.   | 4.07                         | 102         |
| RESIDENTIAL C           | 519.43 Ac.  | 7.99                         | 2,987*      |
| RESIDENTIAL C/D         | 49.03 Ac.   | 6.51                         | 319         |
| RESIDENTIAL D           | 32.59 Ac.   | 11.99                        | 391         |
| RESIDENTIAL E           | 39.17 Ac.   | 24.99                        | 984         |
| MIXED USE               | 38.42 Ac.   | 25.00                        | 960         |
| NEIGHBORHOOD COMMERCIAL | 27.52 Ac.   |                              |             |
| NEIGHBORHOOD PARK       | 21.57 Ac.   |                              |             |
| COMMUNITY PARK          | 26.31 Ac.   |                              |             |
| PRIVATE ENTRY FEATURES  | 7.11 Ac.    | 5.75 DU/AC FOR RESIDENTIAL C |             |
| OPEN SPACE              | 299.84 Ac.  |                              |             |
| ELEMENTARY SCHOOL       | 20.82 Ac.   |                              |             |
| K-12 SCHOOL CAMPUS      | 83.48 Ac.   |                              |             |
| PUBLIC FACILITY (PF)    | 4.95 Ac.    |                              |             |
| DETENTION POND          | 6.76 Ac.    |                              |             |
| SUBTOTAL                | 1,893.8 Ac. |                              | 7,808       |

**LAND USES PREVIOUSLY INCLUDED IN THE BRIARGATE MASTER PLAN:**

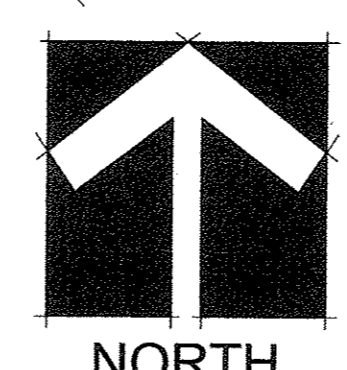
|                            |             |       |
|----------------------------|-------------|-------|
| WESTCREEK AT WOLF RANCH    | 37.94 Ac.   | 122   |
| THE OVERLOOK AT WOLF RANCH | 17.65 Ac.   | 227   |
| OPEN SPACE                 | 7.29 Ac.    |       |
| PARK                       | 5.40 Ac.    |       |
| TOTAL                      | 1,982.0 Ac. | 8,157 |

Note: An appropriate landscape buffer will be provided at parcels that abut Black Forest Road when development plans are submitted.

A dedicated or shared pedestrian crossing is intended for this general location. The type and location of the pedestrian crossing will be determined at the time of submittal of the K-12 school campus development plan.

Right-In Only Intersection Limited to buses and school vehicles

40' PVMT - 66' ROW



NORTH

SCALE: 1" = 300'



# Master Plan WOLF RANCH

Colorado Springs, CO

A Master Planned Community by Norwood Development Group

111 South Tejon Suite 222 Colorado Springs, CO 80903

APPROVED CITY OF COLORADO SPRINGS

JUL 15 2011

BY CITY PLANNING

DATE: 09/12/2001

Revised: 01/24/02, 12/01/04, 11/09/05, 1-23-06, 8-12-08, 2-10-09, 9-14-11

City File No.: CPC MP 05-00008-A20011

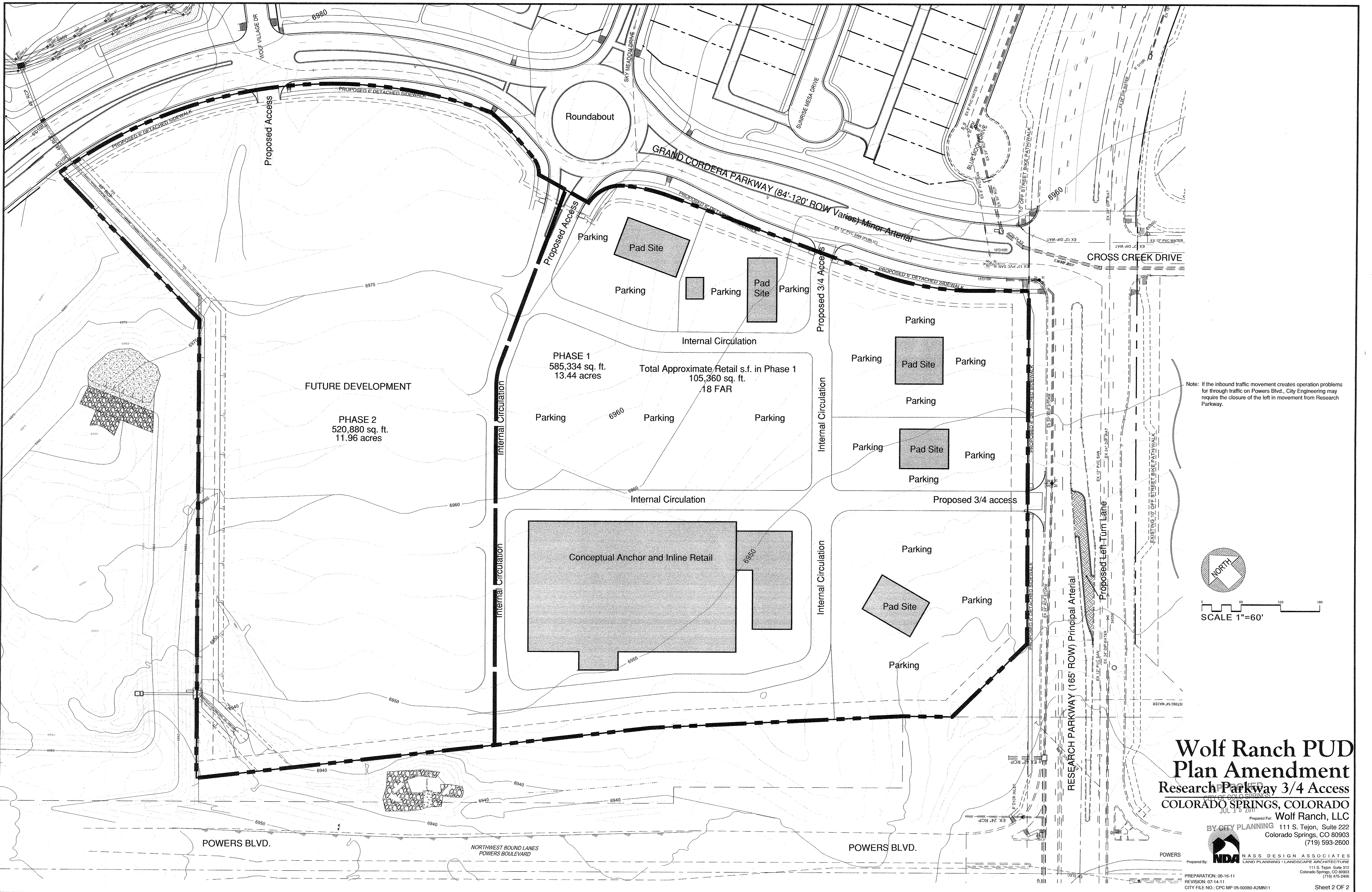


BASS DESIGN ASSOCIATES, INC.

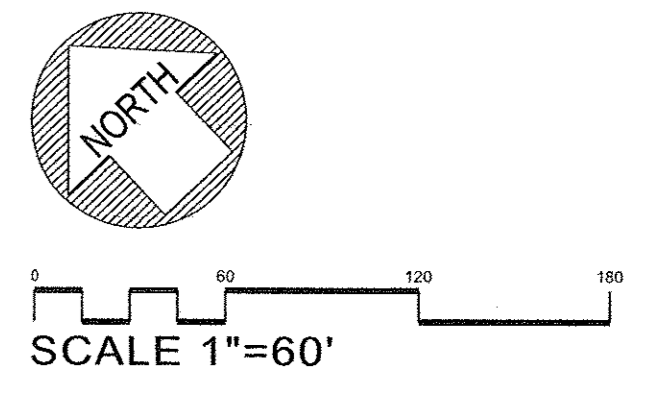
111 S. Tejon, Suite 212

Colorado Springs, CO 80903

(719) 475-2406



Note: If the inbound traffic movement creates operation problems for through traffic on Powers Blvd., City Engineering may require the closure of the left in movement from Research Parkway.



# Wolf Ranch PUD Plan Amendment Research Parkway 3/4 Access COLORADO SPRINGS, COLORADO

Prepared For: **Wolf Ranch, LLC**  
 111 S. Tejon, Suite 222  
 Colorado Springs, CO 80903  
 (719) 593-2600

BY CITY PLANNING

Prepared By: **NDA** NASS DESIGN ASSOCIATES  
 LAND PLANNING • LANDSCAPE ARCHITECTURE

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REVISION: 07-14-11  
 CITY FILE NO.: CPC MP 05-00080-A2M111  
 Sheet 2 OF 2