DEVELOPMENT APPLICATION

ACTION REQUESTED:

____Administrative Review
____Administrative Review MME
____Annexation
____Conditional Use Permit
____Development Agreement
____Comprehensive Plan Amendment
____Major Deviation
____Minor Deviation
__✓__Planned Development

___Rezoning
___Tentative Subdivision Map
___Variance

CASE NUMBER: _____ FEE: $_____

Noticing Fee _____ $_____

TOTAL FEE: $_____

Rec'd by:_____ Date: _____

(For Planning Division Use Only)

DATE: 01/21/2026

PROJECT NAME: Wingfield Springs Handbook Amendment

PROJECT DESCRIPTION: A Request to Amend the Wingfield Springs Development Agreement Handbook

(Mark one box to indicate responsible party and mailing address)

☑ PROPERTY OWNER*

Name: Red Hawk Land Company, LLC, a Nevada limited liability Company

Address: 4021 Port Chicago Hwy

City Concord State CA Zip Code 94520

Phone:_____ Fax: _____

Contact Person: Blake Peters

E-mail Address: bpeters@seenohomes.com

☐ APPLICANT*

Name: Same as Owner

Address: _____

City_____ State_____ Zip Code_____

Phone:_____ Fax: _____

Contact Person: _____

E-mail Address: _____

☑ PERSON / FIRM PREPARING PLANS

Name: Wood Rodgers, Inc.

Address: 1361 Corporate Drive

City Reno State NV Zip Code 89502

Phone: (775) 823-4068 Fax: _____

Contact Person: _____

E-mail Address: RenoPlanningSubmittalGroup@woodrodgers.com

PROJECT ADDRESS: 6600 N. Wingfield Parkway

PARCEL NO. (APN): 522-010-82, 522-010-44, 522-793-04, 522-061-24, 522-030-16, 522-110-12, & 522-010-80

PROPERTY SIZE: 1,645 acres

EXISTING ZONING: NUD

PROPOSED ZONING: No Change

MASTER PLANNED LAND USE: LDR, LLR, OS, MF14, MF24, CF & C

EXISTING USE: Master Planned Development

SURROUNDING USES:

North Residential

East Residential, Commercial

South Residential, Open Space

West Residential

- *If a corporation, please attach a list of corporate officers.*
- *If a partnership, please list all general partners.*

NOTE: Affidavits must be signed by both the property owner and the developer/lessee and notarized before the application is submitted.

Revised 01.29.2025

DEAR APPLICANT:

THE CITY OF SPARKS APPLICATION PROCESS REQUIRES THAT THE PROPERTY OWNER AUTHORIZE THE APPLICANT TO REQUEST DEVELOPMENT RELATED APPLICATIONS. DEVELOPMENT APPROVALS REMAIN WITH THE LAND; THEREFORE, THE PROPERTY OWNER IS ALWAYS RESPONSIBLE FOR ANY ACTIVITY ON THE PROPERTY.

OWNER AFFIDAVIT

STATE OF NEVADA
SS
COUNTY OF WASHOE

say that I am an owner of property /
authorized agent in this that I
request development related applications property. I also ve permission for site by the Planning Commission,
City Council and City staff.

Title

Subscribed and sworn before me thi ay

Notary Public in County and State

My expires

See attached Acknowledgment

STATE OF NEVADA)
) SS
OF WASHOE)

nvolved in
this petition and that foregoing statement: l are in all
respects complete, true and correct to the best c e Planning
Commission, City Council and City staff.

Subscribed and sworn before me

Notary Public in said County and State

My expires

See attached Acknowledgment

C F - S C G

(Civ Code §1189)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) **ss.**
COUNTY OF CONTRA COSTA)

On January 13, 2026, before me, A. PEREZ, a Notary Public, personally appeared **ALBERT D. SEENO, JR.**, who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

A. PEREZ
COMM # 244927
CONTRA COSTA County
lifornia Notary Pub
Comm Exp June 6, 2027

WITNESS my hand and official seal

SIGNATURE OF

C L S C G

(C vi Code §1189)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss
COUNTY OF CONTRA COSTA)

On January 13, 2026, before me, A. PEREZ, a Notary Public, personally appeared **BLAKE PETERS**, who proved to me on the basis of satisfactory evidence to be the person~~(s)~~ whose name~~(s)~~ is~~/are~~ subscribed to the within instrument and acknowledged to me that he~~/she/they~~ executed the same in his~~/her/their~~ authorized capacity~~(ies)~~, and that by his~~/her/their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

A. PEREZ
COMM # 244927
CONTRA COSTA County
alifornia Notary Pub
Comm Exp June 6, 20

SIGNATURE OF

EXHIBIT A
LEGAL DESCRIPTION FOR
WINGFIELD SPRINGS HANDBOOK AMENDMENT

All that certain real property lying within a portion of Section Twelve (12) and a portion of the South One-Half (S 1/2) of Section One (1), Township Twenty (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Sparks, County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING at the Northeast corner of said Section 12;
THENCE along the East line of said Section 12 South 00°35'01" East a distance of 2660.17 feet to the East One-Quarter corner of said Section 12;
THENCE continuing along said East line South 01°34'14" West a distance of 2150.14 feet to the beginning of a non-tangent curve to the left, also being a point on the Northerly right-of-way of Vista Boulevard;
THENCE along said Northerly right-of-way the following twelve (12) arcs, courses, and distances:

(1) from a radial line which bears South 21°34'12" East, 321.16 feet along the arc of an 887.00 foot radius curve through a central angle of 20°44'43";
(2) South 47°41'05" West a distance of 62.83 feet to the beginning of a tangent curve to the right;
(3) 548.67 feet along the arc of an 813.00 foot radius curve through a central angle of 38°40'01" to the beginning of a compound curve;
(4) 51.89 feet along the arc of an 813.00 foot radius curve through a central angle of 03°39'26";
(5) North 89°59'28" West a distance of 956.16 feet to the beginning of a tangent curve to the left;
(6) 52.60 feet along the arc of a 4044.00 foot radius curve through a central angle of 00°44'43";
(7) South 89°15'49" West a distance of 255.43 feet to the beginning of a tangent curve to the right;
(8) 51.64 feet along the arc of a 3970.00 foot radius curve through a central angle of 00°44'43";
(9) North 89°59'28" West a distance of 101.77 feet;
(10) North 00°00'32" East a distance of 36.03 feet;
(11) North 90°00'00" West a distance of 227.63 feet;
(12) North 89°59'28" West a distance of 2501.73 feet to a point on the West Section line of said Section 12;

THENCE departing said Northerly right-of-way, along said West line North 01°51'41" East a distance of 5251.37 feet to the Northwest corner of said Section 12;
THENCE departing said West section line North 89°25'43" West a distance of 15.79 feet to a point on the Westerly boundary of Parcel A3-1 as shown on Parcel Map No. 4989, recorded April 29, 2009 as File No. 3754444 in the Official Records of Washoe County, Nevada;
THENCE along said Westerly boundary North 01°01'47" East a distance of 1329.08 feet to the Northerly boundary of said Parcel A3-1;
THENCE along the Northerly boundary of said Parcel A3-1 and Parcel A3-4 South 89°23'44" East a distance of 1218.70 feet to the Northwest corner of the Common Area as shown on Subdivision Tract Map 3272, recorded June 28, 1996, as File No. 2007994 in the Official Records of Washoe County, Nevada;
THENCE along the Northerly boundary of said Common Area South 89°23''44" a distance of 1174.56 feet to the Southwesterly right-of-way of Wingfield Springs Road;
THENCE South 89°23'44" East a distance of 69.40 feet to the Northwest corner of Parcel 1 as shown on Parcel Map No. 3482, recorded March 4, 1999 as File No. 2313606 in the Official Records of Washoe County, Nevada, also being a point on the Northeasterly right-of-way of Wingfield Springs Road;
THENCE along the Northerly boundary of said Parcel 1 South 89°23'44" East a distance of 701.13 feet;
THENCE departing said Northerly boundary South 00°36'16" East a distance of 25.01 feet;

THENCE South 01°47'37" West a distance of 104.65 feet to the beginning of a non-tangent curve to the right, also being a point on the Northerly right-of-way of South Florentine Drive;
THENCE along said Northerly right-of-way, the following six (6) arcs, courses, and distances:

(1) from a radial line which bears South 01°47'37" West, 30.64 feet along the arc of a 179.00 foot radius curve through a central angle of 09°48'22" to the beginning of a compound curve;
(2) 360.19 feet along the arc of a 429.00 foot radius curve through a central angle of 48°06'19" to the beginning of a reverse curve;
(3) 29.23 feet along the arc of a 20.00 foot radius curve through a central angle of 83°44'05";
(4) North 65°58'13' West a distance of 11.18 feet to the beginning of a tangent curve to the right;
(5) 127.63 feet along the arc of a 229.00 foot radius curve through a central angle of 31°55'59";
(6) South 82°05'48" East a distance of 22.17 feet;

THENCE departing said Northerly right-of-way South 00°19'07" East a distance of 1006.47 feet to a point on the North line of said Section 12;
THENCE along said North line South 89°25'51" East a distance of 1202.58 feet to the **POINT OF BEGINNING.**
Containing 702.79 acres of land, more or less.

Together with the following area more particularly described as follows:

All that certain real property lying within a portion of the East One-Half (E 1/2) of Section Fourteen (14), a portion of the West One-Half (W 1/2) of Section Thirteen (13) and a portion of the Southeast One-Quarter (SE 1/4) of Section Twelve (12), Township Twenty (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Sparks, County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING at the Southeast corner of said Section 14;
THENCE along the South Section line of said Section 14 North 89°16'42" West a distance of 2539.50 feet;
THENCE departing said South line, along the North-South centerline of the South One-Half of said Section 14 North 00°33'22" East a distance of 2645.52 feet;
THENCE departing said North-South line, along the East-West centerline of said Section 14 South 89°24'07" East a distance of 138.47 feet;
THENCE departing said East-West line, along the North-South centerline of the North One-Half of said Section 14 North 01°18'37" East a distance of 1987.27 feet to the Southerly right-of-way of Vista Boulevard;
THENCE along said right-of-way the following Eleven (11) arcs, courses, and distances;

(1) North 45°00'00" East a distance of 132.14 feet to the beginning of a tangent curve to the right;
(2) 1117.33 feet along the arc of a 1431.00 foot radius curve through a central angle of 44°44'13";
(3) North 89°44'13" East a distance of 1558.62 feet;
(4) South 89°59'28" East a distance of 2711.41 feet;
(5) North 00°00'32" East a distance of 13.02 feet to the beginning of a non-tangent curve to the left;
(6) from a radial line which bears North 00°07'29" West, 268.41 feet along the arc of a 4030.00 foot radius curve through a central angle of 03°48'58" to the beginning of a reverse curve;
(7) 273.67 feet along the arc of a 3970.00 foot radius curve through a central angle of 03°56'59";
(8) South 89°59'28" East a distance of 894.79 feet to the beginning of a tangent curve to the left;
(9) 655.22 feet along the arc of a 887.00 foot radius curve through a central angle of 42°19'27";
(10) North 47°41'05" East a distance of 62.83 feet to the beginning of a tangent curve to the right;
(11) 261.80 feet along the arc of a 813.00 foot radius curve through a central angle of 18°27'01" to the East line of Section 12;

THENCE departing said Southerly right-of-way, along said East line South 01°29'24" West a distance of 427.22 feet to the Northeast corner of said Section 13;
THENCE along the East line of said Section 13 South 00°25'02" West a distance of 5259.04 feet to the Southeast corner of said Section 13;
THENCE along the South line of said Section 13 North 89°23'26" West a distance of 2637.06 feet to the South One-Quarter corner of said Section 13;
THENCE continuing along said South line North 89°23'06" West a distance of 2651.43 feet to the **POINT OF BEGINNING.**
Containing 924.41 acres of land, more or less.

Together with the following area more particularly described as follows

All that certain real property lying within a portion of the Northeast One-Quarter (NE1/4) of Section Fourteen (14), Township Twenty (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Sparks, County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING at the North One-Quarter corner of said Section 14;
THENCE along the North line of said Section 14 North 89°44'13" East a distance of 754.76 feet to the beginning of a non-tangent curve to the left, also being a point on the Northerly right-of-way of Vista Boulevard;
THENCE along said right-of-way from a radial line which bears South 12°23'16" East, 880.79 feet along the arc of a 1569.00 foot radius curve through a central angle of 32°09'51" to the North-South centerline of the North One-Half of said Section 14;
THENCE departing said right-of-way of Vista Boulevard, along said North-South line of said North One-Half of said Section 14
North 01°18'37" East a distance of 411.02 feet to the **POINT OF BEGINNING.**

Containing 2.74 acres of land, more or less

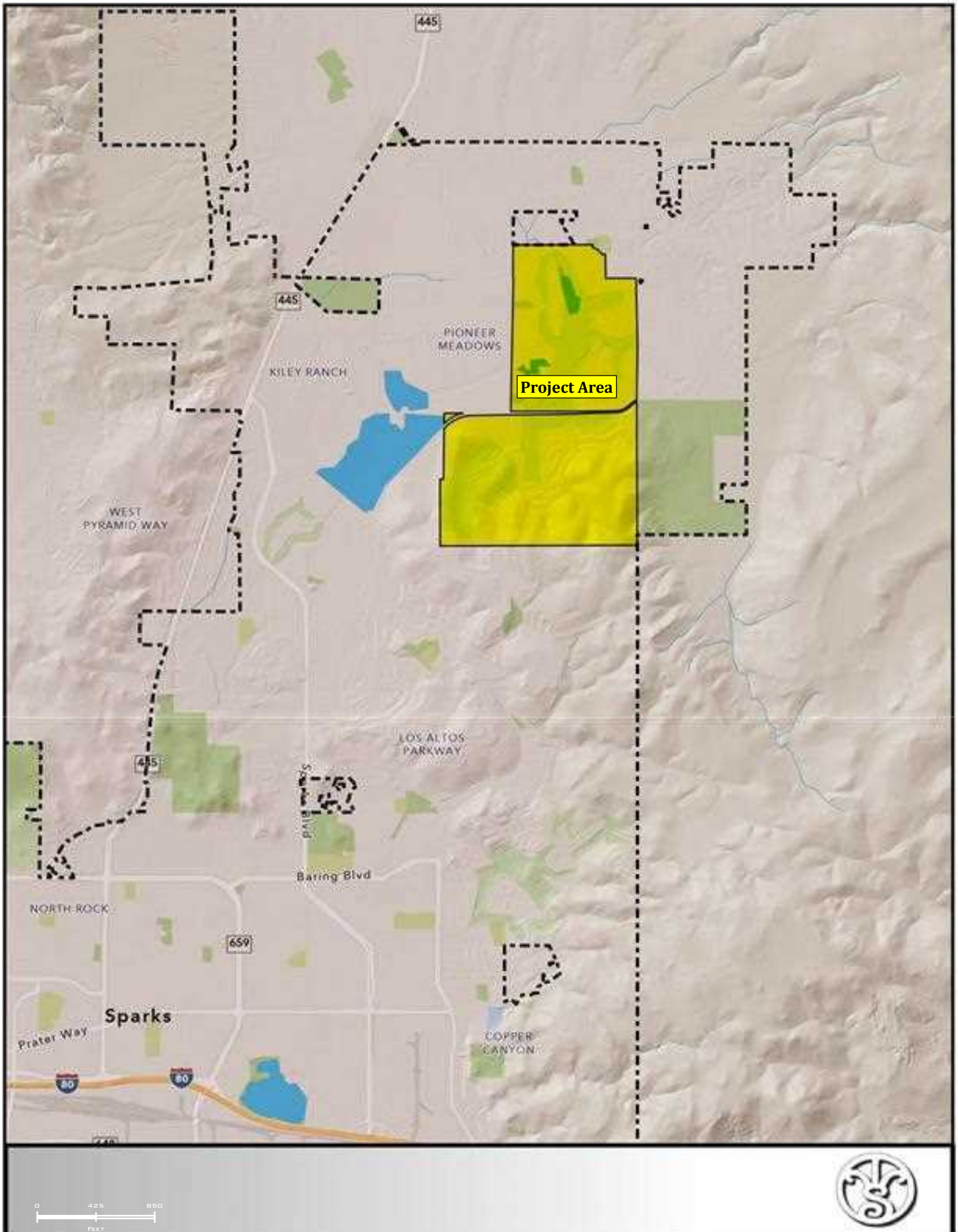
The Basis of Bearings for this description is identical to that shown on Parcel Map No. 4989, recorded April 29, 2009 as File No. 3754444 in the Official Records of Washoe County, Nevada.

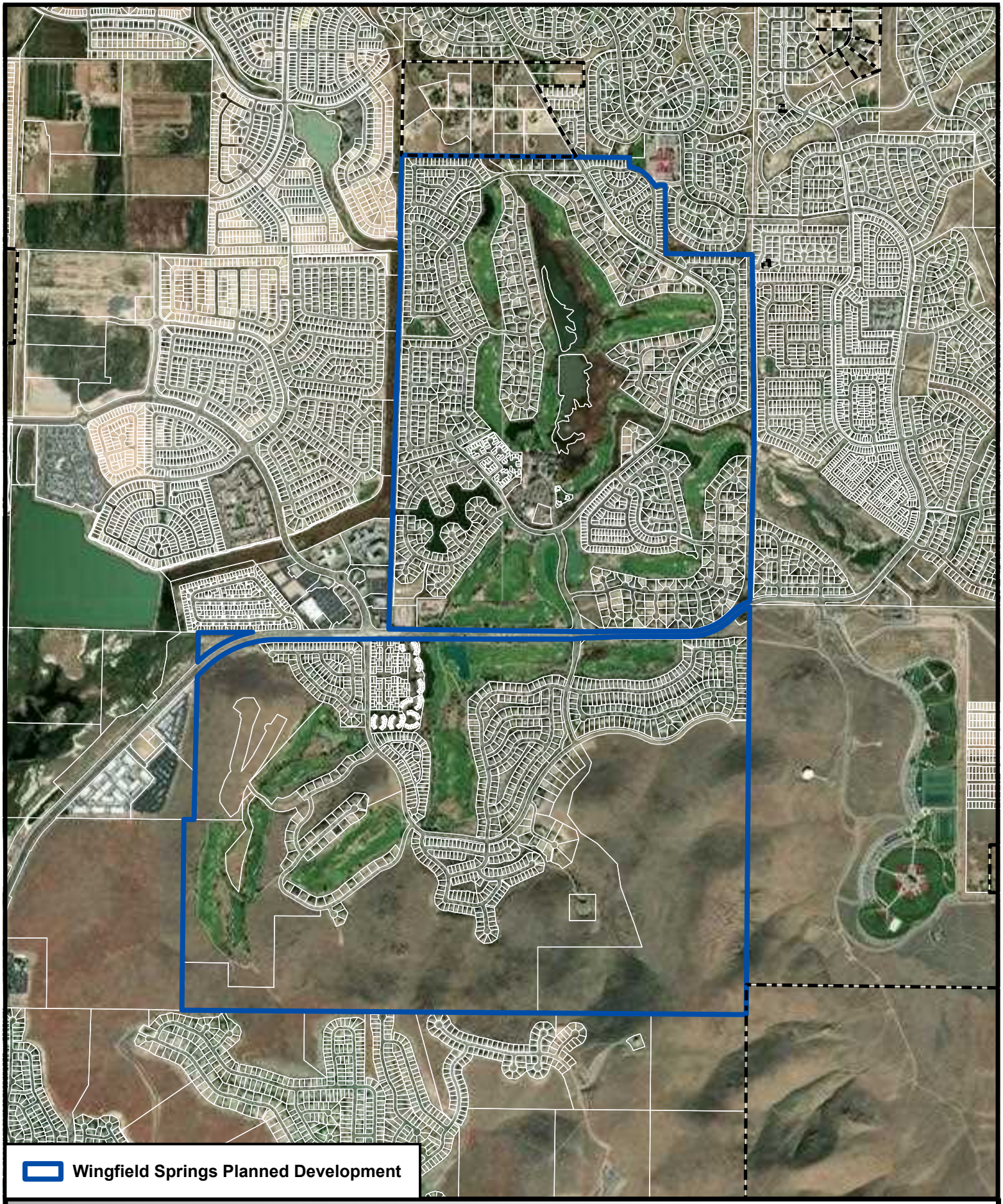
Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd
Reno, NV 89502

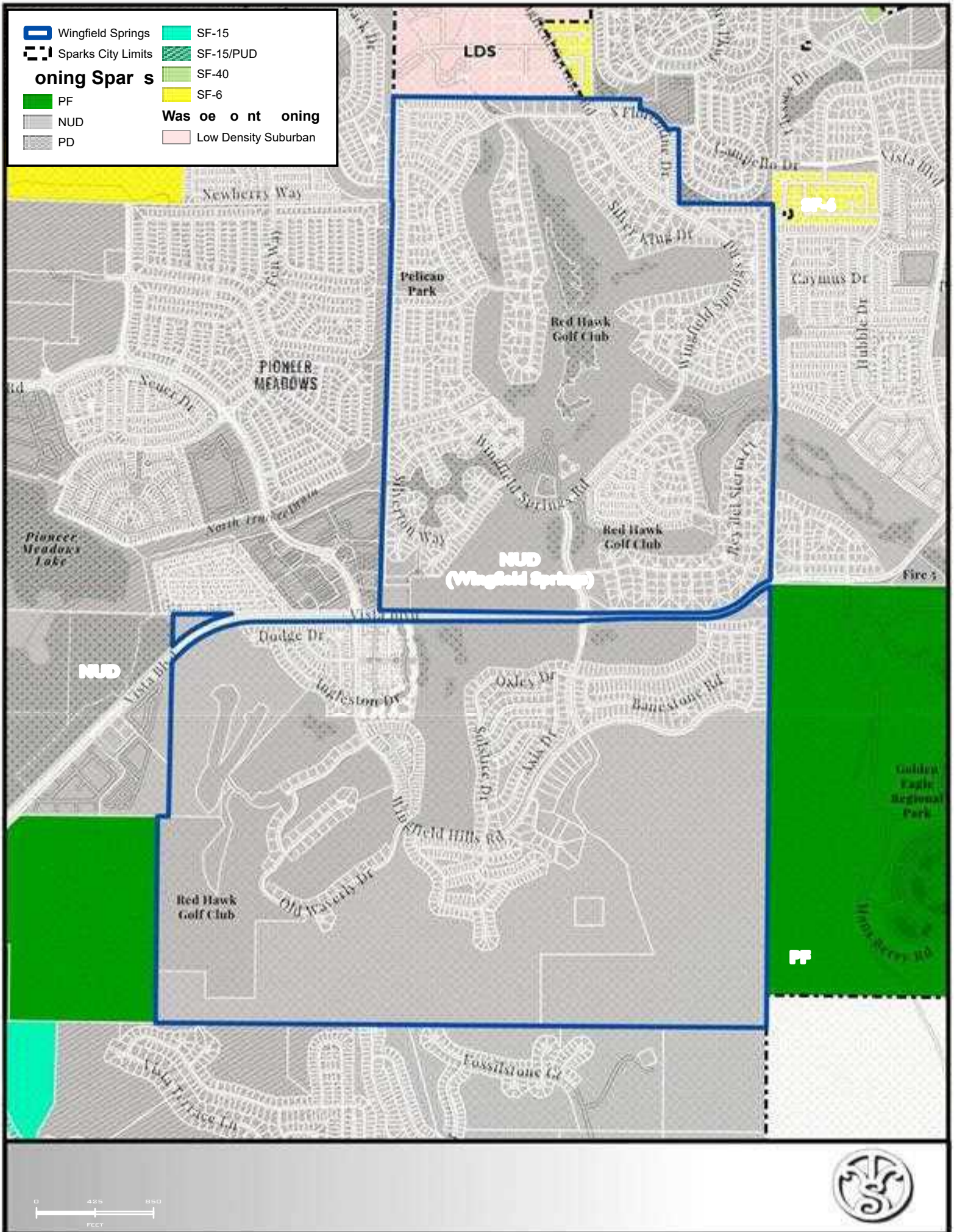
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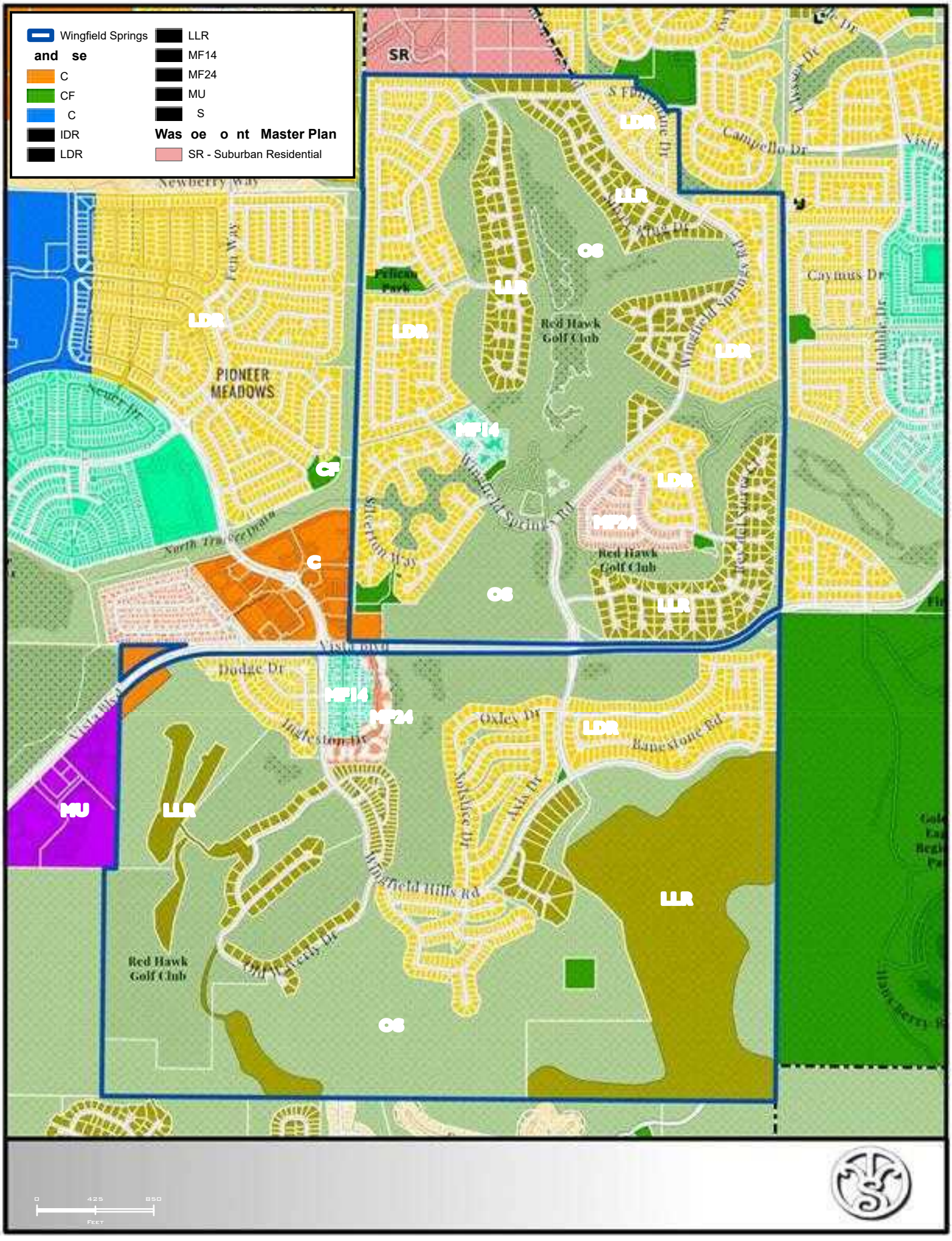
1/19/26

Eric C. Sage, P.L.S.
Nevada Certificate No. 23301


445
445
PIONEER MEADOWS
KILEY RANCH
Project Area
WEST PYRAMID WAY
LOS ALTOS PARKWAY
445
Baring Blvd
NORTH ROCK
659
Sparks
Prater Way
COPPER CANYON
80
80
0
425
850
Feet


Wingfield Springs Planned Development
0
500
1,000
Feet


Wingfield Springs
Sparks City Limits
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NUD
PD
SF-15
SF-15/PUD
SF-40
SF-6
Was oe o nt oning
Low Density Suburban
LDS
Newberry Way
Pelican Park
Red Hawk Golf Club
PIONEER MEADOWS
Pioneer Meadows Lake
Wingfield Springs Rd
Silverton Way
NUD
(Wingfield Springs)
Dodge Dr
Oxley Dr
Bamestone Rd
Solstice Dr
Wingfield Hills Rd
Old Waterfall Dr
Red Hawk Golf Club
Caymus Dr
Bubble Dr
Golden Eagle Regional Park
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MF24
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PIONEER MEADOWS
Red Hawk Golf Club
Pelican Park
Newberry Way
Fen Way
Sewer Dr
Campello Dr
Cayman Dr
Bubbles Dr
Wingfield Springs Rd
Silverton Way
North Treasure Drain
Vista Blvd
Dodge Dr
Oxley Dr
Bayestone Rd
Solstice Dr
Axis Dr
Wingfield Hills Rd
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Pelican Park
Red Hawk Golf Club
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Solstice Dr
Axis Dr
Campello Dr
Cayman Dr
Wingfield Springs Rd
Newberry Way
Fen Way
Ingleston Dr
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425
850
Feet

Project Description

Executive Summary

Ward #:	4
Applicant:	Red Hawk Land Company, LLC
APN Numbers:	APN's 522-010-44, 522-010-80, 522-010-82, 522-030-16, 522-061-24, 522-110-12, & 522-793-04
Request:	This is a request for a Handbook Amendment to update the Wingfield Springs Development Agreement Handbook to reflect the following changes: 1) Update the reference of a 36-hole golf course to an 18-hole golf course. 2) Update the Wingfield Springs land use designations on the northern parcel to include ±160.30 acres of Estate Lots, ±20.7 acres of Golf Facility; and ±37.0 acres of Other Open Space. 3) Increase the total number of residential units from 2,459 units to 3,074 units. 4) Incorporate development standards for the Estate Lots land use designation.
Location:	The project area is located in northwest Sparks, NV, on the north side of Vista Boulevard approximately 1.5 miles (mi) south of La Posada Dr, 2.8 mi east of Pyramid Highway, and 0.4 mi west of Spark's eastern boundary, within the planned development *Foothills at Wingfield Springs*.

Background

The Wingfield Springs development outlined in the Wingfield Springs Development Agreement Handbook (Handbook) was last updated in April 2015 and originally approved in 1994. The Handbook features a golf resort with two 18-hole golf courses, the Hills Course and the Lakes Course. Located generally north of Vista Boulevard, the Lakes course is privately owned but open to the public with user fees. The Lakes course is surrounded by drainage facilities, wetlands, existing residential and commercial development. The Hills course is a private golf course located south of Vista Blvd and is surrounded by open space and residential development. In the original Handbook the site was generally bisected into two portions, the *northern parcel,* which includes the area within Wingfield Springs north of Vista Boulevard and the *southern parcel* includes the development south of Vista Blvd in the Wingfield Springs PD.

It should be noted that separate applications requesting a Comprehensive Plan Amendment for the areas in the Wingfield Springs Handbook and Foothills at Wingfield Springs Handbook and a related Comprehensive Plan Amendment have also been submitted with this request. Although these are separate applications, it is anticipated that they will be processed concurrently.

Project Request

This is a request for a Handbook Amendment to update the Wingfield Springs Development Agreement Handbook to reflect the following changes:

1) Update the reference of a 36-hole golf course to an 18-hole golf course in the *Goals and Policies* section of the Handbook.

2) Update the Wingfield Springs Master Plan designations on the northern parcel to include ±160.30 acres of Estate Lots, ±20.7 acres of Golf Facility; and ±37.0 acres of Other Open Space in the *Master Plan* and *Infrastructure and Public Services* section of the Handbook.
3) Increase the total number of residential units from 2,459 units to 3,074 units in the *Flexibility* subsection of the Handbook.
4) Incorporate development standards for the Estate Lots land use designation in the *Development Standards* section of the Handbook.

Amendment Overview

The original Handbook was approved in 1994 and proposed two 18-hole golf courses, the Lakes course and the Hills course surrounded by various residential and commercial developments. As the region has grown, so have the costs of operating and maintaining the golf courses and the Applicant has looked at various ways to help offset the costs to continue to operate both golf courses. However, without other viable options and considering the need for housing within the area, the applicant is proposing to modify the Handbook that addresses the financial burden of operating all 36-holes by reducing it to a more manageable 18-hole course, while providing the City of Sparks with land suitable to help meet the housing needs of the region.

Since the 2008 great recession, the United States has seen nearly 1,600 golf courses close. This is due to several factors including a diminishing interest in golf, rising costs for maintenance and the need for suitable land for development. Locally, the Reno/Sparks region has also seen the closure of several golf courses in the region including Northgate Golf Course and Rosewood Lakes Golf Course in Reno and a partial reduction in golf holes at the Wildcreek Golf Course and D'Andrea Golf Course in Sparks. Furthermore, the Lakeridge Golf Course in Reno recently applied for an entitlement to allow a hotel and other amenities to the golf course to supplement the costs associated with maintaining a public golf course.

It is the goal of this request to continue to uphold the original goals and policies outlined in the Handbook, while adapting to the ever-evolving needs of the community and region. As part of this request, the Red Hawk Golf and Resort and supporting golf amenities, including the restaurant, will remain to serve the remaining Hills Course. The identified wetlands and open space will remain and some drainageway facilities may be redesigned to accommodate regional flow and protect a majority of the open space which was originally approved in the Handbook.

Goals and Policies of the Handbook

The Handbook states an overall goal for the Wingfield Springs development supported by sixteen policies. The goals and policies were developed with the original approval for the development in 1994. While a majority of the policies are still relevant, they were developed to meet the needs of the community nearly three decades ago. It is reasonable to re-evaluate the policies at this time to reflect the changes listed above. Therefore, this request will amend a portion of one of the policies to reduce the number of golf holes from 36-holes to 18-holes while still maintaining the supporting amenities that include, a driving range, the Red Hawk Golf and Resort, golf maintenance facility, restaurant, and swim and fitness center. These facilities will support the continued operation of the Hills course, and the amenities stated in the other policies will still be required to continue to support the overall project goals:

To provide the City of Sparks with an exciting, environmentally sensitive planned community featuring a mix of quality residential, commercial, open space and recreational uses within the unique setting of lakes, wetlands and hills.

The request will maintain the majority of the open space including the drainageways, wetlands, and trail network that was originally identified in the Handbook, while providing the City with suitable land to meet the housing needs. The change from 36-holes to 18-holes in the Goals and Policies section of the Handbook is not anticipated to impact the overall goals and policies of the Wingfield Springs PD.

The Wingfield Springs Land Use

The overall Master Plan section of the Handbook illustrates the land use and acreages of the proposed lots and villages throughout the Wingfield Springs development. As part of this amendment, this has been updated to show the proposed land use designations for each area identified in the plan and the number of proposed lots/units. In addition, the villages that have been developed since the adoption of the Handbook have been updated to record the actual number of recorded parcels associated with residential units according the Washoe County Assessors data. The overall size of each village (acres) and densities (dwelling units per acre) have also been updated to reflect a more accurate representation of the development and to provide a more accurate overall unit count. The acreages associated with the villages include the right-of-way, common areas, and residential lots. Any undeveloped portions of the villages not included have been incorporated into the Other Open Space land use designation.

Changes to land use in the built villages have not been proposed and reflect the original land use designations of the Handbook. The amendment includes changes to the north parcel on the ±164.1 acres of *Golf Course* land use. The existing Golf Course land use designation in the north parcel consists of the existing 18-hole Lakes course (±161.5 acres), as well as the golf maintenance facility (±2.6 acres). The golf maintenance facility will be re-designated as the Golf Facility land use and will remain to serve the Hills course. The remaining ±161.5 acres of Golf Course land use will include a redesignation of ±160.30 acres to the Estate Lots, which will be spread over eight distinct villages (villages 32-39). The remaining ±1.2 acres of golf course will be re-designated as Golf Facility for a new driving range in the north parcel. An additional ±8.2 acres of Golf Facility land use designation will be added to reflect the existing golf amenities north of the clubhouse that will remain.

Village 40 proposed on APN 522-010-80 (±1.3 acres) will be re-designated from the current land use designation of Golf Facility to Golf Cottages to allow for the future development of single-family attached homes. All the proposed amendments will result in a total net decrease of ±5.0 acres of Open Space land use designation for the entire Wingfield Springs Development, (see Figures 7a and 7b Land Use Designation Plan in the Amended Handbook).

It should be noted that the current Handbook omits *Village 27 Phase 3 in Figure 7b.* This has been included to reflect the existing underlying land use designation of Large Lot Residential (LLR) as identified in the City of Sparks Comprehensive Plan. It is assumed that this omission was a clerical error and never updated with past entitlements. The amended Figure 7b shows this area in the southern parcel and is reflected in the overall unit count in the Land Use Summary Table which is described below.

Total Unit Count

The Flexibility Section of the current Handbook identifies that the overall number of units may be transferred to other villages throughout the development of the Wingfield Springs PD if the total residential units do not exceed 2,564. As described above, the existing villages have been re-evaluated as part of this amendment process. The number of mapped residential lots associated with the villages were compared to the total number of approved units for the villages in the Land Use Summary Table in the current Handbook. As part of this amendment, the Land Use Summary Table has been updated to reflect the number of units/lots mapped and the number of

units/lots remaining for each village. This will ensure that the villages that have been constructed will not be able to add additional density and give a better representation of the total number of lots/units remaining for the unbuilt villages in the Handbook.

The new villages identified in the Estate Lots land use designation propose an additional 592 units. However, the amendment is only requesting an increase of 510 units as a total of 82 units will be moved from the unbuilt units for each village in the current handbook. Therefore, as part of this request, the amendment is requesting to increase the total number of units to 3,074 in the Flexibility section of the Handbook.

Other amendments to the Land Use Summary table include the removal of columns *Sparks LUM Designation* and *Sparks LUM Units.* These have been replaced by *Mapped Lots* and *Remaining Lots* columns. The addition of these columns will help to ensure that the built villages will not add any additional lots and give the city and the community a better understanding of where the additional lots will go. The table indicates that at the time of this request, there have been a total of 2,243 residential lots/units built, and a remaining 828 lots/units could be added with the approval of the requested increase.

Infrastructure and Public Services

Traffic and Circulation:

The amendment to include the Estate Lots (Villages 32-39) is anticipated to add an additional 592 units to the total unit count for the Wingfield Springs PD. The villages are anticipated to include new local roads which will connect to the Parkway and Collector Streets that currently exist in the north parcel of the Wingfield Springs development including Vista Boulevard, North Wingfield Springs Parkway, Wingfield Springs Parkway, and General Thatcher Drive. Figure 10a and Figure 10b have been amended to reflect the updated vehicular circulation plan. The new villages will utilize local streets standards as identified in the Handbook. Further, as part of this request, a Traffic Impact Study (TIS) has been prepared to determine the impacts to the proposed road network and surrounding area.

Pedestrian Circulation:

The new villages will ensure that the pedestrian circulation system will continue to provide pedestrian connectivity throughout the development. The Estate Lots were proposed on the Lakes golf course, which is a privately owned golf course and not included in the pedestrian circulation plan. However, the new villages will ensure that the multiuse trail system connections in the open spaces are incorporated into the design of the new development where applicable and the same standards found throughout the Wingfield Springs development will be utilized in new development. Figures 15a and 15b of the handbook have been updated to reflect these changes. This will ensure that the existing and future residents still have access to the open space, parks and trial networks that are vital to the Wingfield Springs goals and policies. Future entitlements will take these connections into account and incorporate them into the design of each new village .

Water Service:

In terms of sewer service, the development area is surrounded by existing infrastructure built as part of the Wingfield Springs community. It includes residential lots and public streets with public sewer mains. The sewer mains run through the area serving the existing villages. The subdivision mains converge in N. Wingfield Parkway and along the western boundary flowing south within Vista Boulevard before flowing south.

The sewer study anticipates an additional 606 units (597 single family units and 9 townhomes), peak sewer flows are anticipated to be 633,150 gpd (0.633 MGD), using a generally accepted peak flow of 350 gpd per unit.

Development of the new project area will include construction of a new public sanitary sewer network to serve the new villages. The sewer network will extend from an existing public sewer main on the west into the new subdivision streets (see the *Sanitary Sewer Study* included with this application).

Storm drain:
The Wingfield Springs development incorporates a series of storm drains and lakes that serve the existing development. Some lakes located within the Lakes golf course are for the purposes of storing water for irrigation of the golf course while some are incorporated into the drainage system. The lakes that are proposed to be removed are generally for irrigation purposes. Areas where drainage facilities will be required have been analyzed in the *Preliminary Technical Drainage Report* that was prepared for this application. These areas will be redesigned to accommodate the existing storm drain needs for the existing development while incorporating the increase in flows associated with the development of the proposed villages.

The report concludes that the proposed redevelopment of the impacted drainageways has been designed at a preliminary level to perpetuate off-site generated flows that drain through the project. Preliminary analysis indicates that proposed detention strategies can be implemented to mitigate increased runoff while maintaining downstream hydraulic performance consistent with existing conditions. Storm water quality measures will be installed during construction to reduce probability of sediment being carried off-site by storm runoff. Currently, no negative impacts are anticipated from the development. All drainageways will need to conform with the *Development Standards* and *Design Guidelines* sections for storm drain outlined in the Handbook.

<u>Development Standards</u>
As part of this amendment the development standards have been updated to include the Estate Lots for villages 32-39. This will allow for minimum lots size of 6,000 square feet and are reflective of the development standards identified in the SF6 zoning designation in the City of Sparks Municipal Code. The densities and minimum setbacks will provide the community with a range of housing types and options and be compatible with the adjacent villages. Where appropriate, open space for drainage facilities will be incorporated into the design and the houses will be oriented to fit with the existing topography and incorporate open space and other amenities.

The Estate Lots will need to comply with all the design guidelines including architecture, signage, lighting, fencing, and landscape outlined in the current Handbook and will be required to be reviewed by the design review committee (DRC) to seamlessly blend with the other villages found throughout the Wingfield Springs PD.

Findings for Modification of Final Approved Plan (Planned Development Amendment)
Below is a summary of the required findings that the Planning Commission and City Council must consider when reviewing a proposed modification of a final approved Planned Development (SDC §20.02.012[G][6]).

A. Is consistent with the City's Comprehensive Plan and Truckee Meadows Regional Plan and otherwise consistent with Nevada and federal law;

Response: The requested Handbook Amendment is being submitted in tandem and processed concurrently with a Comprehensive Plan Amendment (CPA) to change the land use designation for the portions of the golf course parcels within the Wingfield Springs PD from OS to LDR and village 40 from OS to MF14. The intent is for the Handbook Amendment of the subject application to work in concert with the proposed CPA under a separate application to facilitate the prosed residential development on site. Detailed analysis was conducted and submitted with the concurrent CPA application in regard to the objectives, goals, and policies of both the Truckee Meadows Regional Plan and the Sparks Comprehensive Plan. There are no policies of either the TMRP or the Comprehensive Plan which conflict with the proposed Handbook Amendment. Additionally, the amendment and the development it facilitates is either consistent with or actively furthers numerous TMRP or Comprehensive Plan Policies. Please refer to Findings CP1 and CP2 of the associated CPA application for Wingfield Springs for analysis.

B. Is consistent with the surrounding land uses;

Response: Although the proposed Handbook amendment includes some small language clean up throughout the document, the main bulk of the handbook amendment is solely focused on the change of land use designation for the land use designation of Golf Course in the north parcel and the increase in total units to 3,074 for the Wingfield Development. The increase in units will be spread over 160.3 acres with proposed densities compatible with the adjacent villages.

When considering these adjacent Wingfield Springs land use designations and development densities, the villages reflect a range of suburban development with densities ranging from 2.2 du/ac to 7.4 du/ac in the Wingfield Springs PD. The Estate Lots land use designation in Villages 32-39 are proposing single-family detached developments with densities that are compatible with the existing adjacent villages. The range of densities for the new villages range from 1.1 du/ac to 4.8 du/ac. The new villages in the Estate Lots will need to comply with all the design guidelines including architecture, signage, lighting, fencing, and landscape outlined in the current Handbook and will be required to be reviewed by the design review committee (DRC) to seamlessly blend with the other villages found throughout the Wingfield Springs PD.

Further, the proposed design retains 453.5 acres of open space. With significant open space remaining on-site, combined with over 50 acres of open space and parkland directly east and Eagle Canyon Park to the south, the impact of converting this parcel from Golf Course to the Estate Lots is minimal. The overall character of the area will remain consistent with its current mix of residential and open space uses and remain consistent with the Wingfield Springs Handbook.

The site's proximity to parks, schools, and services, along with existing roadway and utility infrastructure, further supports the appropriateness of the proposed amendments. This amendment will activate an underutilized parcel, provide needed housing opportunities, and maintain compatibility with surrounding land uses.

C. Will be fiscally positive to the City for a period of at least 20 years if the site affected by the modification, removal or release is 20 or more acres and the modification, removal or release involves permitted uses, residential density or nonresidential intensity;

Response: A fiscal impact report to support the proposed changes at the Wingfield Springs PD was prepared by Ekay Economic Consultants. Based on the analysis, the residential units resulting from the amendment are estimated to have a cumulative positive impact (revenue surplus) on the City of Sparks General and Road Funds of $18.5 million over a 20-year period. A copy of the complete fiscal impact report is included in the application for reference.

D. Furthers the mutual interest of the residents and owners of the planned unit development and of the public in the preservation of the integrity of the plan as finally approved;

Response: It is also worth noting that because the infrastructure, including roads, sewer, storm drainage, and other improvements have been fully constructed based on the original approval, and the size, shape or location of areas of Wingfield Springs will not change.

The original Handbook was approved in 1994 and proposed two 18-hole golf courses, the Lakes course and the Hills course surrounded by various residential and commercial developments. As the region has grown, so have the costs of operating and maintaining the golf courses and the Applicant has looked at various ways to help offset the costs to continue to operate both golf courses. However, without other viable options and considering the need for housing within the area, the applicant is proposing to modify the Handbook that addresses the financial burden of operating all 36-holes by reducing it to a more manageable 18-hole course, while providing the community with land suitable to help meet the housing needs of the region.

It is the goal of this request to continue to uphold the original goals and policies outlined in the Handbook, while adapting to the ever-evolving needs of the community and region. As part of this request, the Red Hawk Golf and Resort and supporting golf amenities, including the restaurant, will remain to serve the Hills Course. The identified wetlands and open space will remain and some drainageway facilities may be redesigned to accommodate regional flow and protect a majority of the open space which was originally approved in the Handbook. The proposed amendments to the handbook will not negatively impact the residents of Wingfield Springs.

E. Will not impair the reasonable reliance of the residents and owners upon the provisions of the plan;

Response: The proposed amendments to the Handbook will not impair the reliance of the residents or owners within Wingfield Springs on the approved plan. Although the overall density of the entire PD is altered, the density or intensity of all villages proposed under the original approval remains unchanged; the gross density and intensity of each village is unaffected. The size or boundaries of the Wingfield Springs PD are unaffected by the proposed amendments. Although some open space is being converted, the majority of the OS is being retained with a reduction in overall open space only equating to ±5.0 acres (0.3%) throughout the Wingfield Springs PD. The amendment will retain the Hills golf course, including all of the supporting amenities including the driving range, the Red Hawk Golf and Resort, golf maintenance facility, restaurant, and swim and fitness center. This amendment is critical to keep the economic viability of the Hills Course and supporting amenities operating and will ensure a positive long-term economic outcome for the overall Wingfield Springs community. Furthermore, there is no change to building design standards or guidelines including the setbacks or allowable building heights, and there is no change to the

existing roadways, public infrastructure, or services envisioned in the plan. With all these considerations, it can be found the provisions of the existing approved plan can be reasonably relied on following approval of the proposed amendments.

F. Will not result in changes that would adversely affect the public interest;

Response: The proposed amendments will not adversely affect the public interest in Wingfield Springs. Specifically, the amendments to the policy to allow 18-holes of golf and establish Villages 32 through 39 Estate Lots are a response to the current economic conditions and will ensure a positive long-term economic outcome for the overall Wingfield Springs community.

G. Is consistent with the efficient development and preservation of the entire planned unit development;

Response: The proposed amendments are consistent with the efficient development and preservation of the overall planned development. The amendments propose densities that are compatible with the original villages and land use categories previously approved and provide additional opportunities for residential development that are compatible with the overall Wingfield Springs community.

H. Does not adversely affect either the enjoyment of land abutting upon or across a street from the planned unit development or the public interest;

Response: The proposed handbook amendment will not negatively impact the public's ability to enjoy the land abutting or across the street from Wingfield Springs. Rather the proposed amendment increases the viability of the Hills Course and facilities to ensure long-term economic viability for the development.

I. Is not granted solely to confer a private benefit upon any person; and

Response: The proposed Handbook amendment does not benefit any one person(s). The proposed changes will continue to allow any interested party to pursue development within the Wingfield Springs PD. Specifically, villages 32 through 40 and the other undeveloped villages, in accordance with, and as permitted, by the Handbook.

J. Public notice was given and a public hearing held as required by the Sparks Municipal Code and Nevada Revised Statutes.

Response: The Applicant understands that public notice will be given and that a public hearing will be held in accordance with the Sparks Municipal Code and Nevada Revised Statutes.

THE ESTATES AT WINGFIELD-WINGFIELD SPRINGS

Fiscal Impact Analysis

JANUARY 2026

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EXECUTIVE SUMMARY

Ekay Economic Consultants, Inc. (EEC) of Reno, Nevada was retained to conduct a fiscal impact analysis of a proposed residential development, The Estates at Wingfield, for the City of Sparks. Project buildout information and fiscal impact findings for the General and Road Funds are summarized below:

- The project proposes to add a total of 764 detached residential units within the existing Wingfield Springs development.
- This report considers impacts of 606 residential units proposed for Villages A-H and J (Wingfield Springs) of the project only.
    - These units are expected to be constructed between 2028 and 2039.
- The fiscal impact of the remaining 158 residential units in Village I (Foothills) is considered in a separate report.

General Fund Impacts (20-Year Total)

- Project-related revenue is estimated at $22.8 million.
- Project-related expenditures are estimated at $4.3 million.
- The project is expected to generate a revenue surplus of $18.5 million.

Road Fund Impacts (20-Year Total)

- Project-related revenue is estimated at $0.6 million.
- Project-related expenditures are estimated at $13.8 million.
- The project is expected to generate a revenue deficit of $13.3 million.

The analysis finds the proposed development will have a **positive** fiscal impact on the City of Sparks, resulting in a total net surplus for the City of Sparks General and Road Funds of $5.2 million over the 20-year analysis period.

INTRODUCTION

Ekay Economic Consultants, Inc. (EEC) of Reno, Nevada was retained to conduct a fiscal impact analysis of a proposed The Estates at Wingfield development for the City of Sparks. The fiscal impact analysis is based on the City of Sparks Fiscal Impact Analysis Guidelines adopted by the City in 2019. The project proposes to add a total of 764 detached residential units within the existing Wingfield Springs development. This report considers impacts of 606 residential units proposed for Villages A-H and J (Wingfield Springs) of the project only. These units are expected to be constructed between 2028 and 2039. The fiscal impact of the 158 residential units in Village I (Foothills) is considered in a separate report.

The "Long-Term Fiscal Health Analysis" report prepared for the City of Sparks by Economic & Planning Systems, Inc. (EPS) in July 2019 provided an estimate of the demand for residential units for the City of Sparks between 2017 and 2038. It should be noted this report is now over six years old and does not consider the significant increase in residential and industrial demand experienced in the region.

The report estimated a housing demand of 581 units per year for the City between 2017 and 2038. This included demand for 273 low to moderate density single family units per year, 145 high density single/low density multi family, and 162 units of moderate to high density multi-family per year. This overall project is expected to add an average of 50 residential units over its buildout period, significantly lower than the 581 units contemplated in the EPS report.

Appendix 1 provides a summary of the project's buildout, including number of residential units and non-residential square feet constructed each year, estimated taxable value of project's land and improvements, and project residents and employees. The remainder of the analysis is based on this information.

The fiscal impact analysis is based on the November 2019 City of Sparks Fiscal Impact Analysis Guidelines adopted by the City of Sparks, along with project-related information

provided by project developers and existing market data. Revenues and costs included in this fiscal impact analysis are estimated for the 20-year analysis period as recommended in the Fiscal Impact Analysis Guidelines ("Guidelines") for the City of Sparks. Property tax revenue is estimated using taxable value data for similar existing uses surrounding the project.

Appendices at the end of this report present revenue and cost projections on an annual basis over the analysis period. Assumptions used in developing these estimates are presented at the end of each appendix. Those appendices are:

- Appendix 1: Buildout Assumptions
- Appendix 2: City of Sparks Estimated Real Property Tax Revenue
- Appendix 3: City of Sparks Estimated General and Road Fund Revenues
- Appendix 4: City of Sparks Estimated General and Road Fund Expenditures
- Appendix 5: City of Sparks Comparison of Estimated General and Road Fund Revenues and Expenditures

FINDINGS

Findings of the fiscal impact analysis are presented below for each fund. Table 1 summarizes the impact of the project on the City of Sparks General Fund over the 20-year analysis period.

Table 1. Summary of Estimated City of Sparks General Fund Impacts, 20-Year Total

Estimated Revenue		
Property Tax	$	20,979,948
Consolidated Tax		1,010,918
Business/Liquor Licenses		965
Fees, Permits, Charges		816,926
TOTAL	**$**	**22,808,756**
Estimated Costs		
General Government	$	1,464,590
Police		1,499,670
Fire		1,324,270
TOTAL	**$**	**4,288,530**
Revenue Surplus/(Deficit)		
Estimated Surplus/(Deficit)	**$**	**18,520,226**

Table 2 shows the estimated impact of the project on the City of Sparks General Fund, by year.

Table 2. Summary of Estimated City of Sparks General Fund Impacts, by Year

Year	Project Revenue	Project Costs	Annual Surplus	Cumul. Surplus
2028	$ 115,399	$ 24,450	$ 90,949	$ 90,949
2029	233,423	48,900	184,523	275,472
2030	361,304	74,817	286,487	561,960
2031	482,339	98,778	383,561	945,521
2032	613,555	124,206	489,349	1,434,870
2033	732,577	146,700	585,877	2,020,747
2034	869,716	172,128	697,588	2,718,334
2035	1,004,704	196,578	808,126	3,526,461
2036	1,148,064	222,006	926,058	4,452,519
2037	1,272,905	243,522	1,029,383	5,481,902
2038	1,425,441	269,439	1,156,002	6,637,904
2039	1,587,035	296,334	1,290,701	7,928,605
2040	1,594,339	296,334	1,298,005	9,226,610
2041	1,601,678	296,334	1,305,344	10,531,954
2042	1,609,055	296,334	1,312,721	11,844,675
2043	1,616,468	296,334	1,320,134	13,164,810
2044	1,623,919	296,334	1,327,585	14,492,394
2045	1,631,407	296,334	1,335,073	15,827,467
2046	1,638,932	296,334	1,342,598	17,170,065
2047	1,646,495	296,334	1,350,161	18,520,226
Total	**$22,808,756**	**$4,288,530**	**$18,520,226**	

Both tables show the project is estimated to result in a revenue surplus for the City of Sparks General Fund in the amount of $18.5 million over the 20-year analysis period.

Table 3 shows the 20-year estimated impact of the project on the Road Fund. Table 4 shows this information by year. The project is located between North of Los Altos Parkway, in Road Fund Area #3, and is expected to add 1.5 million square feet of roads to the City of Sparks inventory. This is incorporated into the analysis.

The tables show the project is estimated to generate a revenue deficit for the City of Sparks Road Fund in the amount of $13.3 million over the 20-year analysis period.

Table 3. Summary of Estimated City of Sparks Road Fund Impacts, 20-Year Total

Estimated Revenue	
Fees & Licenses	$ 581,539
Total Revenue	**$ 581,539**
Estimated Costs	
Road Maintenance	$ 13,849,613
Total Costs	**$ 13,849,613**
Revenue Surplus/(Deficit)	
Estimated Surplus/(Deficit)	**$ (13,268,074)**

Table 4. Summary of Estimated City of Sparks Road Fund Impacts, by Year

Year	Project Revenue	Project Costs	Annual Surplus	Cumul. Surplus
2028	$ 3,316	$ 82,077	$ (78,761)	$ (78,761)
2029	6,631	174,449	(167,818)	(246,579)
2030	10,145	261,286	(251,141)	(497,720)
2031	13,395	341,959	(328,564)	(826,284)
2032	16,843	414,299	(397,456)	(1,223,740)
2033	19,893	484,257	(464,364)	(1,688,105)
2034	23,341	544,137	(520,796)	(2,208,901)
2035	26,657	635,260	(608,603)	(2,817,504)
2036	30,105	720,777	(690,673)	(3,508,177)
2037	33,022	789,214	(756,192)	(4,264,368)
2038	36,537	856,674	(820,137)	(5,084,505)
2039	40,184	949,469	(909,285)	(5,993,791)
2040	40,184	949,469	(909,285)	(6,903,076)
2041	40,184	949,469	(909,285)	(7,812,362)
2042	40,184	949,469	(909,285)	(8,721,647)
2043	40,184	949,469	(909,285)	(9,630,933)
2044	40,184	949,469	(909,285)	(10,540,218)
2045	40,184	949,469	(909,285)	(11,449,503)
2046	40,184	949,469	(909,285)	(12,358,789)
2047	40,184	949,469	(909,285)	(13,268,074)
Total	**$ 581,539**	**$13,849,613**	**$(13,268,074)**	

The analysis finds the proposed development will have a **positive** fiscal impact on the City of Sparks with a total net surplus for the City of Sparks General and Road Funds estimated at $5.2 million over the 20-year analysis period.

LIMITING CONDITIONS & DISCLOSURES

In the preparation of this report, EEC asserts:

- The report is to be used in its entirety, and no part is to be used without the whole.
- In preparing this report, EEC relied on information provided by other individuals or found in previously existing records and/or documents. This information is assumed to be reliable. However, no warranty, either expressed or implied, is given by EEC for the accuracy of such information and EEC assumes no responsibility for information relied upon later found to have been inaccurate.
- EEC may amend this report in the event additional documents and/or other material discovered subsequent to the submission of this report and pertinent to the report and/or the conclusions contained herein are made available.
- EEC assumes no responsibility for economic, physical, or demographic factors, which may affect or alter the opinions of this report if said economic, physical or demographic factors were not present or known as of the date of this report.
- Possession of this report, or a copy of this report, does not carry with it the right of publication. Without the consent of EEC, this report may not be used for any purpose by any person other than the party for whom this report was prepared.

APPENDICES

APPENDIX 1
BUILDOUT ASSUMPTIONS

YEAR	USE TYPE	# OF RESIDENTIAL UNITS BUILT	ADDED LAND VALUE	ADDED IMPROVEMENT VALUE	ESTIMATED PROJECT RESIDENTS
2028	SF Detached	50	$ 6,793,812	$ 24,454,602	125
2029	SF Detached	50	6,929,688	24,943,694	125
2030	SF Detached	53	7,492,379	26,969,122	133
2031	SF Detached	49	7,065,455	25,432,391	123
2032	SF Detached	52	7,647,994	27,529,266	130
2033	SF Detached	46	6,900,844	24,839,868	115
2034	SF Detached	52	7,956,973	28,641,448	130
2035	SF Detached	50	7,803,954	28,090,651	125
2036	SF Detached	52	8,278,435	29,798,562	130
2037	SF Detached	44	7,144,926	25,718,452	110
2038	SF Detached	53	8,778,516	31,598,625	133
2039	SF Detached	55	9,291,976	33,446,846	138
TOTAL		**606**	**$ 92,084,953**	**$ 331,463,526**	**1,515**

APPENDIX 1, ASSUMPTIONS:

1. The following buildout information represents the Developer's best estimate and market data in 2025-26.

Land Use	# of Units	Land Value/Unit	Improv. Value/Unit
SF Detached	606	$ 130,600	$ 470,100

Source: Number of units to be constructed from Developer. Land and improvement values from similar land uses surrounding the development. Source: Washoe County Assessor's Office, taxable values for FY 2025-26. Taxable values are inflated by 2% per year to arrive at the value in the year of construction.

2. Project-related residents are estimated at **2.50** residents per unit, using City of Sparks Fiscal Impact Analysis Guidelines, November 2019.

APPENDIX 2
CITY OF SPARKS
ESTIMATED REAL PROPERTY TAX REVENUE

YEAR	USE TYPE	TAXABLE LAND VALUE	TAXABLE IMPROVE. VALUE	CUMULATIVE ASSESSED LAND VALUE	CUMULATIVE ASSESSED IMPROVE. VALUE	REVENUE-GENERAL FUND
2028	SF Detached	$ 6,793,812	$ 24,454,602	$ 2,377,834	$ 8,559,111	$ 104,973
2029	SF Detached	6,929,688	24,943,694	4,815,114	17,332,199	212,570
2030	SF Detached	7,492,379	26,969,122	7,461,522	26,858,053	329,399
2031	SF Detached	7,065,455	25,432,391	9,971,739	35,893,680	440,216
2032	SF Detached	7,647,994	27,529,266	12,698,396	45,708,391	560,588
2033	SF Detached	6,900,844	24,839,868	15,177,183	54,630,887	670,018
2034	SF Detached	7,956,973	28,641,448	18,038,010	64,928,548	796,313
2035	SF Detached	7,803,954	28,090,651	20,859,584	75,084,919	920,875
2036	SF Detached	8,278,435	29,798,562	23,861,334	85,889,840	1,053,392
2037	SF Detached	7,144,926	25,718,452	26,481,365	95,320,747	1,169,057
2038	SF Detached	8,778,516	31,598,625	29,686,252	106,856,870	1,310,541
2039	SF Detached	9,291,976	33,446,846	33,086,875	119,097,550	1,460,666
2040	SF Detached	-	-	33,252,310	119,693,038	1,467,969
2041	SF Detached	-	-	33,418,571	120,291,503	1,475,309
2042	SF Detached	-	-	33,585,664	120,892,961	1,482,686
2043	SF Detached	-	-	33,753,592	121,497,426	1,490,099
2044	SF Detached	-	-	33,922,360	122,104,913	1,497,550
2045	SF Detached	-	-	34,091,972	122,715,437	1,505,038
2046	SF Detached	-	-	34,262,432	123,329,015	1,512,563
2047	SF Detached	-	-	34,433,744	123,945,660	1,520,126
TOTAL		**$ 92,084,953**	**$ 331,463,526**			**$ 20,979,948**

APPENDIX 2, ASSUMPTIONS:

1. Project taxable values are estimated in Appendix 1.
2. Assessed land and improvement values are estimated by adjusting taxable values to 35%.
3. Cumulative assessed values are increased by **0.5%** per year. Source: City of Sparks Fiscal Impact Analysis Guidelines, November 2019.
4. Operating tax rate is assumed to remain constant at FY 2019-20 amount per City of Sparks Fiscal Impact Analysis Guidelines, November 2019 of **$ 0.9598** per $100 of assessed value.

APPENDIX 3
CITY OF SPARKS
ESTIMATED GENERAL AND ROAD FUND REVENUES

		GENERAL FUND					ROAD FUND
YEAR	USE TYPE	PROPERTY TAX	CTAX	LICENSES	FEES & PERMITS	TOTAL	FEES & PERMITS
2028	SF Detached	$ 104,973	$ 5,764	$ 6	$ 4,658	$ 115,399	$ 3,316
2029	SF Detached	212,570	11,527	11	9,315	233,423	6,631
2030	SF Detached	329,399	17,636	17	14,252	361,304	10,145
2031	SF Detached	440,216	23,285	22	18,816	482,339	13,395
2032	SF Detached	560,588	29,279	28	23,660	613,555	16,843
2033	SF Detached	670,018	34,581	33	27,945	732,577	19,893
2034	SF Detached	796,313	40,575	39	32,789	869,716	23,341
2035	SF Detached	920,875	46,339	44	37,446	1,004,704	26,657
2036	SF Detached	1,053,392	52,333	50	42,290	1,148,064	30,105
2037	SF Detached	1,169,057	57,404	55	46,389	1,272,905	33,022
2038	SF Detached	1,310,541	63,514	61	51,326	1,425,441	36,537
2039	SF Detached	1,460,666	69,854	67	56,449	1,587,035	40,184
2040	SF Detached	1,467,969	69,854	67	56,449	1,594,339	40,184
2041	SF Detached	1,475,309	69,854	67	56,449	1,601,678	40,184
2042	SF Detached	1,482,686	69,854	67	56,449	1,609,055	40,184
2043	SF Detached	1,490,099	69,854	67	56,449	1,616,468	40,184
2044	SF Detached	1,497,550	69,854	67	56,449	1,623,919	40,184
2045	SF Detached	1,505,038	69,854	67	56,449	1,631,407	40,184
2046	SF Detached	1,512,563	69,854	67	56,449	1,638,932	40,184
2047	SF Detached	1,520,126	69,854	67	56,449	1,646,495	40,184
TOTAL		**$ 20,979,948**	**$ 1,010,918**	**$ 965**	**$ 816,926**	**$ 22,808,756**	**$ 581,539**

APPENDIX 3, ASSUMPTIONS:

1. For property tax revenue see Appendix 2.
2. Other General and Road Fund revenues are estimated using the following factors applied to the project's buildout measurements shown in Appendix 1. Source: City of Sparks Fiscal Impact Analysis Guidelines, November 2019.

General Fund			Road Fund		
Consolidated Tax (Ctax)	$ 115.27	per unit	Fees, Licenses, Permits	$ 66.31	per unit
Business/Liquor Licenses	0.11	per unit			
Fees, Permits, Charges	93.15	per unit			

APPENDIX 4
CITY OF SPARKS
ESTIMATED GENERAL AND ROAD FUND EXPENDITURES

		GENERAL FUND				ROAD FUND	
YEAR	USE TYPE	GENERAL GOVERNMENT	POLICE	FIRE	TOTAL	SQUARE FEET ADDED	MAINTENANCE COST
2028	SF Detached	$ 8,350	$ 8,550	$ 7,550	$ 24,450	131,956	$ 82,077
2029	SF Detached	16,700	17,100	15,100	48,900	148,509	174,449
2030	SF Detached	25,551	26,163	23,103	74,817	139,609	261,286
2031	SF Detached	33,734	34,542	30,502	98,778	129,699	341,959
2032	SF Detached	42,418	43,434	38,354	124,206	116,302	414,299
2033	SF Detached	50,100	51,300	45,300	146,700	112,474	484,257
2034	SF Detached	58,784	60,192	53,152	172,128	96,270	544,137
2035	SF Detached	67,134	68,742	60,702	196,578	146,499	635,260
2036	SF Detached	75,818	77,634	68,554	222,006	137,488	720,777
2037	SF Detached	83,166	85,158	75,198	243,522	110,027	789,214
2038	SF Detached	92,017	94,221	83,201	269,439	108,456	856,674
2039	SF Detached	101,202	103,626	91,506	296,334	149,189	949,469
2040	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2041	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2042	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2043	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2044	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2045	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2046	SF Detached	101,202	103,626	91,506	296,334	-	949,469
2047	SF Detached	101,202	103,626	91,506	296,334	-	949,469
TOTAL		**$ 1,464,590**	**$ 1,499,670**	**$ 1,324,270**	**$ 4,288,530**	**1,526,478**	**$ 13,849,613**

APPENDIX 4, ASSUMPTIONS:

1. General Fund expenditures are estimated using the following factors applied to the project's buildout measurements shown in Appendix 1.

General Fund		
General Government	$ 167.00	per unit
Police	171.00	per unit
Fire (Citywide)	151.00	per unit

2. Square feet of streets from Developer. Maintenance costs are estimated at **$ 0.6220** per year, per square foot, for Area 3, North of Los Altos Parkway. Source: City of Sparks Fiscal Impact Analysis Guidelines, November 2019.

APPENDIX 5
CITY OF SPARKS
COMPARISON OF ESTIMATED GENERAL AND ROAD FUND REVENUES AND EXPENDITURES

		GENERAL FUND			ROAD FUND		
YEAR	USE TYPE	EST. REVENUE	EST. COSTS	SURPLUS/ (DEFICIT)	EST. REVENUE	EST. COSTS	SURPLUS/ (DEFICIT)
2028	SF Detached	$ 115,399	$ 24,450	$ 90,949	$ 3,316	$ 82,077	$ (78,761)
2029	SF Detached	233,423	48,900	184,523	6,631	174,449	(167,818)
2030	SF Detached	361,304	74,817	286,487	10,145	261,286	(251,141)
2031	SF Detached	482,339	98,778	383,561	13,395	341,959	(328,564)
2032	SF Detached	613,555	124,206	489,349	16,843	414,299	(397,456)
2033	SF Detached	732,577	146,700	585,877	19,893	484,257	(464,364)
2034	SF Detached	869,716	172,128	697,588	23,341	544,137	(520,796)
2035	SF Detached	1,004,704	196,578	808,126	26,657	635,260	(608,603)
2036	SF Detached	1,148,064	222,006	926,058	30,105	720,777	(690,673)
2037	SF Detached	1,272,905	243,522	1,029,383	33,022	789,214	(756,192)
2038	SF Detached	1,425,441	269,439	1,156,002	36,537	856,674	(820,137)
2039	SF Detached	1,587,035	296,334	1,290,701	40,184	949,469	(909,285)
2040	SF Detached	1,594,339	296,334	1,298,005	40,184	949,469	(909,285)
2041	SF Detached	1,601,678	296,334	1,305,344	40,184	949,469	(909,285)
2042	SF Detached	1,609,055	296,334	1,312,721	40,184	949,469	(909,285)
2043	SF Detached	1,616,468	296,334	1,320,134	40,184	949,469	(909,285)
2044	SF Detached	1,623,919	296,334	1,327,585	40,184	949,469	(909,285)
2045	SF Detached	1,631,407	296,334	1,335,073	40,184	949,469	(909,285)
2046	SF Detached	1,638,932	296,334	1,342,598	40,184	949,469	(909,285)
2047	SF Detached	1,646,495	296,334	1,350,161	40,184	949,469	(909,285)
TOTAL		**$ 22,808,756**	**$ 4,288,530**	**$ 18,520,226**	**$ 581,539**	**$ 13,849,613**	**$ (13,268,074)**

APPENDIX 5, ASSUMPTIONS:

1. See Appendices 2 and 3 for estimated revenues and Appendix 4 for estimated costs.

PRELIMINARY SANITARY SEWER REPORT

FOR

WINGFIELD SPRINGS
DEVELOPMENT AGREEMENT HANDBOOK AMENDMENT

Prepared for:
Red Hawk Land Company, LLC
4021 Port Chicago Hwy
Concord, CA 94520

January 12, 2026

Prepared by:
Wood Rodgers Inc.
1361 Corporate Boulevard
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(775) 823-4068



1/12/26
Megan Overton, P.E.
Principal Engineer

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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VICINITY MAP
PRELIMINARY SEWER SHED MAP

INTRODUCTION

This study serves as the preliminary sewer report for the Wingfield Springs Development Agreement Handbook Amendment. The purpose of this report is to address sewerage issues at a high level that result from development of the proposed project area in accordance with the City of Sparks' development code and sound design and engineering practices. This report describes the proposed future improvements and quantifies the estimated sanitary sewer flows to be generated from the new development area.

PROJECT LOCATION/DESCRIPTION

The project is situated within Sections 01 and 12 of Township 20 North, Range 20 East, Mount Diablo Meridian (T20N, R20E, MDM), in Washoe County, Nevada. It is proposed as an expansion to the existing Wingfield Springs community. The new development area is approximately 150 acres and falls within Assessor Parcel Numbers (APN) 522-010-44, 80, 82, 522-030-16, 522-061-24, 522-110-12, and 522-793-01, 04. The extent of new development spans across the current golf course on the north side of Vista Boulevard. A vicinity map showing the new development area is included in the appendix.

The project proposes 597 single-family detached residential lots and 9 townhouse lots across 9 villages (Villages A through H and J). A layout of the proposed villages can be seen on the Preliminary Sewer Shed Map in the appendix.

EXISTING CONDITION

The development area is surrounded by existing infrastructure built as part of the Wingfield Springs community. It includes residential lots and public streets. Public sewer mains are located within the existing streets serving the existing residences. The public sewer mains converge flowing downstream toward the west within Vista Boulevard.

A map of the existing infrastructure can be seen on the Preliminary Sewer Shed Map located in the appendix.

PROPOSED CONDITION

Development of the new project area will include construction of new public sanitary sewer networks to serve each of the nine villages. The sewer networks will extend from existing public sewer mains into the new subdivision streets. The Preliminary Sewer Shed Map shows potential sewer main locations and routing directions as well as the proposed connection points to existing infrastructure.

CONTRIBUTIONS AND HYDRAULIC ANALYSIS

The peak daily flow for the project was preliminarily calculated using a standard sewage contribution for residential lots of 350 gpd/capita with single-family detached lots having 3 capita and townhomes having 2 capita. Based on 597 single-family detached lots and 9 townhomes, the resulting total peak sewer flow

rate is anticipated to be approximately 633,150 gallons per day (0.633 MGD). Reference the Preliminary Sewer Shed Map in the appendix for detailed peak sewer flows per village at each proposed connection to the existing infrastructure.

The proposed sewer network is anticipated to be built using public mains with private laterals to each lot. Final design will include analysis of peak flow velocity and flow depth with respect to pipe slopes and sizes.

CONCLUSION

The proposed preliminary sanitary sewer system discussed in this report will be designed to sufficiently serve the proposed Wingfield Springs new project area. All proposed sanitary sewer mains shall be dedicated to the City of Sparks for ownership and maintenance. This report is preliminary in nature and a final technical sewer study will be completed with development of each new village to support final design.

APPENDIX

WOOD RODGERS



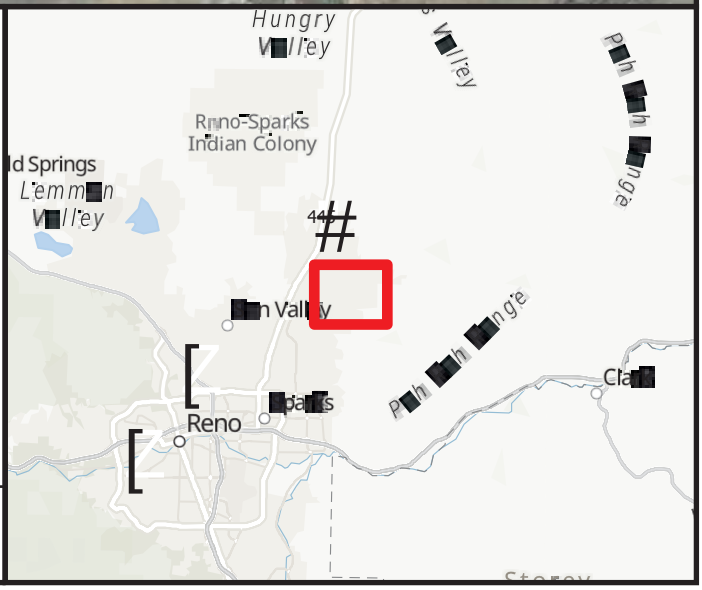
Fig. 1

icinity Map

Wingfield Springs and Foothills

Sparks, Nevada

January, 2026



Prepared By: MWO

Wingfield Villages			
Sewer Connection	Total Peak Sewer Flow (gpd)	Village Name	Lots
1	2,100	Village A	2
2	202,650	Village A	193
3	23,100	Village B	22
4	55,650	Village B	53
5	78,750	Village C	75
6	18,900	Village D	18
7	27,300	Village E	26
8	44,100	Village E	15
8		Village F	27
9	36,750	Village F	35
10	17,850	Village G	17
11	119,700	Village G	20
11		Village H	94
13	6,300	Village J	9 (Townhomes)
		Subtotal	**606**
Foothills Villages			
12	165,900	Village I	158
		Subtotal	**158**
		Total Lots	**764**

PRELIMINARY SEWER SHED MAP

WINGFIELD SPRINGS AND FOOTHILLS AT WINGFIELD SPRINGS

SPARKS, NV

JANUARY 2026

NOTES: Sewer flow based on 350 gpd / capita, 3 capita / unit for SFR, and 2 capita / unit for townhomes

WOOD RODGERS

PRELIMINARY DRAINAGE MASTER PLAN

FOR

WINGFIELD SPRINGS

Prepared for:

Red Hawk Land Company, LLC,
A Nevada Limited Liability Company
4021 Port Chicago Hwy
Concord, California 94520

January 20, 2026

Prepared by:
Wood Rodgers Inc.
1361 Corporate Boulevard
Reno, Nevada 89502
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James Springgate, PE



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

EXECUTIVE SUMMARY

Wingfield Springs is located in Sparks, Nevada. A redevelopment of the existing Red Hawk "Lakes" Golf Course into single-family residential communities with associated roadway and drainage infrastructure is proposed. This Preliminary Drainage Master Plan evaluates existing drainage conditions and presents planning-level concepts to manage runoff, mitigate flood risk, and maintain downstream hydraulic performance.

The project area receives substantial off-site runoff from multiple sources, including the Orr Ditch, municipal storm drain systems, the adjacent Foothills development, and drainage areas associated with the Red Hawk Golf Course. Under existing conditions, runoff is conveyed through a network of ponds, channels, culverts, and weirs before discharging to Reach 9 and the downstream regional drainage system. Portions of the site are located within mapped FEMA Special Flood Hazard Areas (Zones A, AE, and AH).

Hydrologic and hydraulic analyses were completed using hydrographs from the Pioneer Meadows Phase II LOMR HEC-1 model and a new unsteady-flow HEC-RAS (Version 6.5) model developed for this study. Model results were compared to effective FEMA Flood Insurance Rate Maps and Base Flood Elevations and refined to achieve planning-level consistency. Field reconnaissance was conducted to verify existing drainage infrastructure and inform modeling assumptions.

Proposed development was evaluated by subdividing the site into villages and updating land cover and runoff characteristics to reflect increased impervious surfaces. The minimum detention requirement for the Wingfield Springs development is approximately 294,300 cubic feet for the 100-year storm event. Detention is proposed through modification and expansion of an existing private pond, including reconfiguration of the outlet weir to a notched design that allows lower flows to pass while temporarily storing peak flows. The proposed pond expansion provides approximately 590,000 cubic feet of storage, exceeding the required volume and providing flexibility for future design refinement. Preliminary modeling indicates the proposed approach can be implemented without increasing downstream flood impacts and while maintaining required freeboard.

This report represents a planning-level evaluation intended to guide future design. Additional analysis, refinement of grading and infrastructure layouts, and coordination with the City of Sparks, FEMA, and the U.S. Army Corps of Engineers will be required as the project advances, and a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) may be necessary.

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Pond and Channel Sizing Table
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1 INTRODUCTION

Wingfield Springs is located in Sparks, Nevada. Red Hawk Land Company, LLC seeks to redevelop the to-be-closed "Lakes" Golf Course into single-family residential development separated into multiple Villages. The project as planned consists of new paved roadways, new drainage culverts, drainage channels, detention ponds, and other associated infrastructure. The storm drain system culverts have been preliminarily designed to the standards of the *Truckee Meadows Regional Drainage Manual (TMRDM)* and City of Sparks.

This report analyzes existing drainage conditions and provides alternatives for detention and flood mitigation for the proposed development. Large culverts and channels have been analyzed with this report. Storm drain internal to the proposed villages, however, will be designed and analyzed with final technical drainage reports that accompany those developments individually.

1.1 PROJECT LOCATION

According to the Public Land Survey System, the Project site is situated within Sections 1 and 12, Township 20 North, Range 20 East, Mount Diablo Meridian (MDM), in Washoe County, Nevada. The parcels comprising the Project are owned by Red Hawk Land Company and have designated Assessor Parcel Numbers (APNs) 522-010-44, 522-010-82, 522-020-01, 522-020-02, 522-030-16, 522-110-12, and 522-793-04. The Wingfield Springs parcels encompass approximately 250 acres; however, only about 157 acres are currently anticipated for development under this preliminary design. Please see **Appendix A** for the Parcels Exhibit showing the labeled boundaries of the above properties.

1.2 PROJECT DESCRIPTION

Wingfield Springs (Project) consists of generally uniform existing terrain, with most of the parcels occupied by a relatively flat and established golf course. The course contains multiple privately owned ponds that provide detention and, together with other landscape features, influence surface water routing patterns. Surrounding land uses consist predominantly of previously constructed single-family residential neighborhoods. The site receives off-site runoff from several sources, including flows from the north conveyed by the Orr Ditch, the northeast from existing municipal storm-drain systems, the east from the adjacent Foothills project, and the south from drainage areas associated with the Red Hawk Golf Course. Reference **Appendix A** for the Overall Watershed Map, which includes the drainage area that encompasses the Project.

1.3 REGULATORY PERSPECTIVE

The project site is located entirely on privately owned land. Drainage infrastructure is expected to be owned and maintained privately at this time, while other utilities and streets are expected to be owned publicly.

2 PREVIOUS STUDIES

Previous studies reviewed include the Pioneer Meadows Phase II LOMR (2010, by Wood Rodgers Inc.) and the Reach 9 Modeling Letter Report (2018, by House Moran Consultants), which provided supporting hydrologic and hydraulic context for the preliminary report. An Area Reduction Factor (ARF) of 96 percent was selected and utilized for this analysis, consistent with

the City of Sparks instruction in the Reach 9 Modeling Letter Report. The legacy HEC-1 rainfall runoff model utilized in the 2010 study employed Muskingum-Cunge routing methodology to transform and route watershed hydrographs, and the current HEC-RAS model incorporated these previously developed hydrographs at mapped inflow locations. The FEMA flood-zone mapping contained in the applicable FIRM panels was referenced to support planning-level calibration and reasonableness checks of modeled water-surface elevations and base-flood elevation accuracy. Because the present design represents a preliminary stage of development and the underlying HEC-1 model is a legacy tool, all results herein are considered subject to future refinement as the project advances.

Additional previous studies for the area include:

- Pioneer Meadows Reach 9 HEC-RAS analysis (2018, Wood Rodgers Inc.)
- Technical Drainage Report for Foothills at Wingfield Springs Vista Blvd Phase II (2005, Wood Rodgers Inc.)
- Storm Drainage Master Plan for The Foothills at Wingfield Springs (2004, Wood Rodgers Inc.)
- Hydrology and Hydraulics Report, Cimarron East Secondary Access Road (2004, Wood Rodgers Inc.)
- Flood Control Master Plan for Foothills at Wingfield Springs (2003, Nimbus Engineers)
- Letter of Map Revision for Wingfield Springs Development (1999, Stantec)

These previous studies add background information for the hydrologic and hydraulic analysis of this report but were not a basis of design for the Project.

3 METHODS

Past studies were first reviewed to identify the most applicable reference for establishing hydrologic and hydraulic conditions for the project area. The Pioneer Meadows Phase II LOMR (2010, Wood Rodgers, Inc.) was determined to be the most compatible study available for this preliminary evaluation. The HEC-1 file that was used to support the Pioneer Meadows Phase II LOMR was then obtained and reviewed.

Next, inflow locations applicable to the project site were identified. The City of Sparks Civil Utilities feature layer was incorporated into ArcGIS to help confirm drainage pathways, identify existing storm drain features, and evaluate where off-site runoff enters and exits the site. After establishing the major contributing inflow locations, the Pioneer Meadows HEC-1 model was reviewed to determine which junctions corresponded to each required inflow point. Hydrographs were then computed from the selected junctions using HEC-1, with attention to maintaining consistent storm timing such that peak flows and hydrograph shapes remained synchronized between inflow locations.

A new unsteady-flow HEC-RAS model was developed for the preliminary study using HEC-RAS Version 6.5 software. Initial HEC-RAS results were compared to the effective FEMA flood maps, and the model was iteratively refined to better align with mapped floodplain extents and

published flood elevations. Initially, an Area Reduction Factor (ARF) of 96 percent was applied during hydrograph computations, consistent with the value directed by the City of Sparks for use by House Moran Consultants in the Reach 9 Modeling Letter Report (2018). However, comparison of the resulting water surface elevations with FEMA Base Flood Elevations (BFEs) indicated that some hydrographs did not align with the effective FEMA model, requiring additional refinement. Model refinements included adjustments to 2D breaklines, updates to Manning's *n* roughness values, and evaluation of hydrograph reduction factors. These refinements were applied iteratively until close agreement with the FEMA effective model was achieved. The inflow location at the culvert conveying flow northward under Vista Boulevard's hydrograph was reduced by a reduction factor of 35% and the Reach-6 hydrograph was reduced by a reduction factor of 85%. These reduction factors were selected through iterative comparison of modeled water surface elevations against effective FEMA BFEs.

To further improve model accuracy, a field visit was completed to verify on-site conditions. Existing culverts were measured and evaluated in the field, and the observed culvert sizes and characteristics were incorporated into the HEC-RAS model. Land cover roughness was estimated and delineated in ArcGIS, and Manning's n values were assigned using guidance from the HEC-RAS 2D manual and reference tables correlating Manning's n to NLCD land cover categories (see **Appendix B**).

Required detention volumes for the proposed villages were estimated by delineating drainage areas, flow paths, and land cover in ArcGIS. Soil information from the Soil Survey Geographic (SSURGO) Database was used to define hydrologic soil groups and are presented in the Soils Exhibit in **Appendix A**. Peak flows for existing and proposed conditions utilizing the 100-year storm event were then calculated using the NRCS runoff methodology, with Curve Numbers, lag times, and peak flows summarized in **Appendix C**. These peak flows served as inputs to the Triangular method used to estimate detention volume, as discussed in Section 5.5.

3.1 HYDROLOGIC AND HYDRAULIC ANALYSIS

The hydrologic and hydraulic analysis consists of peak-flow computations and floodplain evaluation for the preliminary proposed buildout. Basin areas, slopes, infiltration parameters, and routing characteristics were defined within the HEC-1 framework to generate developed-condition hydrographs. These hydrographs were incorporated into an unsteady-flow HEC-RAS model to simulate time-varying water-surface elevations and channel response through the project area.

Hydraulic results produced in RAS Mapper were cross verified against the effective FEMA Flood Insurance Rate Maps (FIRMs) to confirm consistency with mapped floodplain extents and published Base Flood Elevations. This comparison was performed as a planning-level reasonableness check to ensure that the modeled water surface elevation aligns with established FEMA mapping. Because the project design remains preliminary and relies in part on legacy modeling tools, all results are subject to refinement as additional survey data, grading plans, and final drainage improvements are developed.

3.2 LAG TIME

The time of concentration (t_c) is defined as the time required for water to flow from the hydraulically most distant part of the drainage area to the point of consideration. Usually, the point of consideration is the discharge point of the basin or sub-basin. Time of concentration is used in the Rational Method to determine the corresponding rainfall intensity used to calculate the peak runoff rate of a given storm event for the basin or sub-basin. For basins less than one square mile in total area and slope less than 10 percent, the following equations shall be used in determining time of concentration.

$$t_c = t_i + t_t$$

Where:

t_c = time of concentration (minutes)
t_i = initial, overland flow time (minutes)
t_t = travel time in ditch, channel, gutter, pipe etc. (minutes)

$$t_i = \frac{1.8(1.1 - R)L_o^{1/2}}{S^{1/3}}$$

Where:

t_i = initial overland flow time (minutes)
R = flow runoff coefficient (for Rational Method equal to C_5 from table 701 of TMRDM)
L_o = length of overland flow (feet, 500 feet max.)
S = average overland basin slope (percent)

$$t_t = \frac{L}{V * 60}$$

Where:

t_t = travel time
L = length of water course
V = average water velocity

URBANIZED BASIN CHECK AND tc MINIMUM

The final time of concentration shall be the lesser of tc calculated above and the following subject to a minimum of 5 minutes for paved areas and 10 minutes for landscaped areas.

$$t_c = \frac{L}{180} + 10$$

Where L = watershed length (feet)

LAG TIME

Lag time (T_{lag}) for SCS calculations is defined as:

$$T_{\text{lag}} = t_c * 0.6$$

Tables detailing the T_{lag} values for the analyzed basins for existing and proposed conditions are included in **Appendix C**.

FOR BASINS GREATER THAN ONE SQUARE MILE IN TOTAL AREA OR SLOPE GREATER THAN 10 PERCENT

Lag time (T_{lag}) for SCS calculations is defined as:

$$T_{\text{lag}} = 22.1K_n(L * \frac{L_c}{S^{0.5}})^{0.33}$$

Where:

K_n = Roughness Factor

L = Length of longest water course (miles)

L_c = Length along longest watercourse measured upstream to basin centroid (miles)

S = Representative slope along watercourse (feet/mile)

3.2.1 Design Rainfall Depths

Precipitation depth estimates were taken from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 1, Version 5, which provides rainfall information for latitude and longitude. The site's approximate coordinates are 39.6163° N and 119.6849° W, representing the centroid of the project. Appropriate rainfall intensities were applied for the 100-year storm events taken from these coordinates. Precipitation depth numbers are included in **Appendix B** of this report.

3.2.2 NRCS Runoff Curve Numbers

To characterize runoff behavior, runoff curve numbers (CNs) were assigned to each existing and proposed basin based on land cover and soil type. Curve number categories were selected to best represent existing and proposed site conditions, using classifications from Table 2-2 of *Urban Hydrology for Small Watersheds TR-55 (*USDA, 1986). The identified land covers for existing conditions include Brush (Fair), Pavement, and Meadow, with soil covers A and C present. The identified land covers for proposed conditions include Residential 1/8 Acre and Pavement, with soil covers A, C, and D. Please reference **Appendix A** for existing and proposed land cover maps, and **Appendix B** for Table 702.

3.2.3 HEC-HMS Flow Computations

HEC-HMS version 4.2.1 was used to estimate peak flows for existing and proposed on-site conditions using NRCS infiltration parameters. The HEC-HMS analysis focused solely on changes in on-site land cover and did not include off-site contributing flows. Off-site flows were evaluated separately using HEC-RAS. The HEC-HMS results were used to compare peak discharges between existing and proposed development conditions.

Rainfall depth (P) was obtained from NOAA Atlas 14, infiltration rate (f) was computed using the SCS Method, and basin area (A) was delineated using ArcGIS. The runoff flow rate was then calculated using the following equation, where 1.008 is a unit conversion factor from in/hr·ac to cfs:

$$Q = (P - f) \times A \times 1.008$$

Where:

- Q= runoff flow rate (cfs)
- P= accumulated rainfall (in/hr)
- f= infiltration rate (in/hr)
- A= drainage area (acres)

HEC-HMS applies the computed peak flow and modifies its duration and timing based on the basin's lag time.

3.3 HYDRAULIC COMPUTATIONS

Hydraulic calculations for the proposed storm drain system were completed using Bentley CulvertMaster, CONNECT Edition, Version 3.3. The analysis incorporated estimated best-fit upstream and downstream invert elevations, and culvert lengths, both based on topographic data, existing slopes, preliminary roadway grading, and aerial imagery. Entrance coefficients were selected based on commonly utilized inlet designs. Maximum allowable headwater depths were determined from the roadway grading plans, topographic data, and invert elevations. Tailwater elevations were estimated to be 3 feet at all culverts to maintain inlet control, as all culverts are expected to operate under inlet-controlled conditions in preliminary design. The computed 100-year design flow and computed headwater for each culvert was also included in the analysis. These parameters were used to determine appropriate culvert sizes.

4 HISTORIC DRAINAGE SYSTEM

The Project area is primarily located within the existing Red Hawk "Lakes" Golf Course. The Project is characterized by low-slope terrain and receives substantial off-site inflows from surrounding areas.

The Project currently functions as a golf course and includes multiple irrigated water features. Surface runoff within this area is conveyed primarily through overland flow until intercepted by the nearest pond or channel. In addition to on-site runoff, storm drain systems from surrounding developments discharge into the Wingfield Springs project area.

Wingfield Springs receives inflows from the Foothills area, the Vista Culvert, the Orr Ditch, and a northeast inflow location. All contributing flows ultimately converge at a private pond located near Silverton Way before being released to Reach 9 through an outlet weir, as shown in the accompanying photographs. The existing weir is observed to be in good condition. Reach 9 functions as the primary downstream conveyance for both project areas and ultimately conveys

flows to the Truckee River via the North Truckee Drain. Inflow locations are shown on the Storm Drain Exhibit provided in **Appendix A**.

According to the National Wetlands Inventory, the Project contains mapped wetlands. There have been previous Army Corps of Engineers wetland determinations and at least one permit involving modification of the existing pond system (permit 199400795).

Overall, existing drainage conditions are influenced by significant off-site contributions, low channel slopes, and interconnected conveyance paths that direct runoff toward Reach 9 and the downstream regional drainage system. Full hydrographs generated using the HEC-1 model were applied as inflow boundary conditions in HEC-RAS, with the peak flows below extracted from those hydrographs.

Table 1: Existing Peak Flows at Inflow Locations

Inflow	100-Year Peak Flow (cfs)	Time to Peak
Reach 6	859	13:25
Reach 7	610	12:30
Vista Culvert	337	13:00
Northeast Discharge	577	12:45
Reach 9	743	14:20
Orr Ditch	65	Steady State

4.1 Existing Culverts and Drainage Infrastructure

A field visit was performed on 12/18/2025 to identify and measure existing culverts and weirs that affect the Project site. The photographs below were taken on that date:



Vista Culverts, 3 cell 12'x4'



30" dia Pipe Culvert near Cetus Drive



12'x4' RCB culvert near Cetus Drive



30" dia Pipe Culvert near Cetus Drive



3 cell 9'x3' RCB culverts under Silverton Way



2 cell 20' diameter Arch Culverts, North Truckee Drain under Wingfield Springs Road/Silverton Way



12'x4' Box Culvert under Wingfield Springs Rd near Poco Bueno Dr



Wingfield Springs pond weir near Silverton Way



RCB culvert near Little Easy Street and Decoy Dr.



8'x4' RCB Culvert under General Thatcher Dr.



2 cell 20' dia Arch Culverts under Wingfield Springs Rd near Cinnamon Dr.

5 PROPOSED DRAINAGE SYSTEM

Under proposed conditions, the project area has been subdivided into individual development villages to better represent changes in land cover and drainage characteristics. Villages A through H, along with Village J, are located within the Project area. Within each village, land cover was updated from existing to proposed conditions to reflect planned development. As a result of

increased impervious surface area, peak runoff rates increase under proposed conditions. To mitigate these increases in runoff, detention facilities are proposed within the Project. Detention calculations are provided in **Appendix C**. Detention volumes were estimated using the Truckee Meadows Regional Drainage Manual (TMRDM) triangulation method based on differences between existing and proposed peak discharges. Table 2 summarizes the existing and proposed peak runoff flows for the developed areas at their discharge points.

Table 2: Existing and Proposed 100-Year Peak Flows at Wingfield Springs

Existing, 100 Year			Proposed, 100 Year		
Village Name	**Area (ac)**	**Peak Flow**	**Village Name**	**Area (ac)**	**Peak Flow**
Village A	49.9	18.5	Village A	49.9	59.7
Village B	20.9	8.3	Village B	20.9	27.0
Village C	22.5	27.1	Village C	22.5	41.1
Village D	16.3	2.4	Village D	16.3	28.6
Village E	10.3	9.5	Village E	10.3	19.2
Village F	15.7	13.8	Village F	15.7	27.5
Village G	10.4	10.2	Village G	10.4	25.4
Village H	19.3	16.6	Village H	19.3	31.5
Village J	1.3	5.9	Village J	1.3	1.8

5.1 PROPOSED CULVERTS

A total of four culvert locations were identified, Culverts A, D, G, and H. The culvert system consists of reinforced concrete box (RCB) and reinforced concrete pipe (RCP) structures. Each culvert was analyzed and sized using an iterative process in Bentley CulvertMaster, Version 3.3, to ensure adequate capacity and hydraulic performance under the specific conditions at each crossing. Outlet protection is recommended at all culvert discharge points to mitigate potential erosion, as elevated velocities are anticipated during major storm events. In accordance with the *Truckee Meadows Regional Drainage Manual (TMRDM)*, culverts with outlet velocities equal to or exceeding 15 feet per second during the 100-year storm event will require enhanced energy dissipation measures, while outlets with velocities below 15 feet per second may be protected using a standard riprap apron. The hydraulic design was developed on a preliminary level to minimize the potential for overloading at any culvert. A culvert layout map is provided in **Appendix A**, along with detailed culvert calculation reports supporting the design within **Appendix C,** and Table 3 below summarizing the selected preliminary design for each culvert location**.**

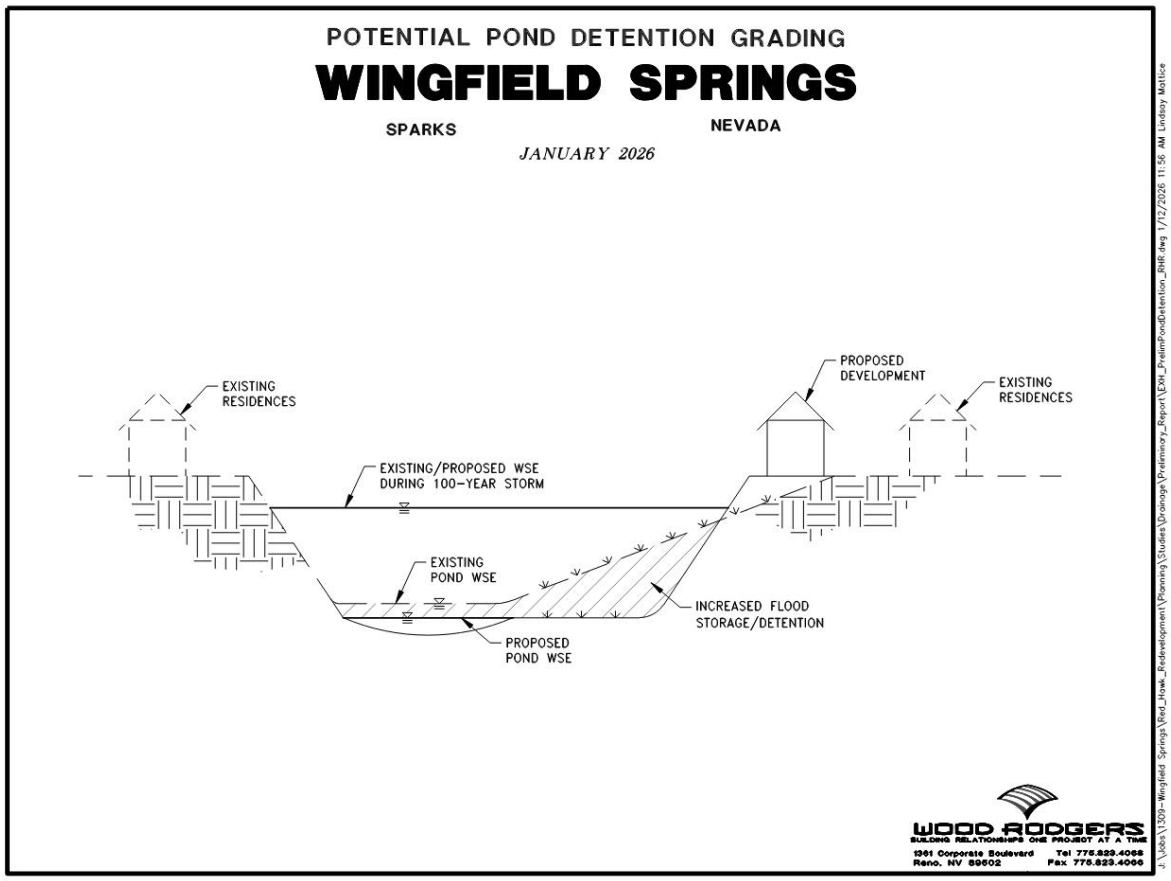
Table 3: Preliminary Culvert Sizing at Wingfield Springs					
Culvert Name	**Peak Flow (cfs)**	**Source of Peak Flow**	**No. Barrels**	**Shape**	**Preliminary Size**
Culvert A	318	HEC-RAS Profile Line 'A'	2	Reinforced Concrete Pipe	72"
Culvert D	83	HEC-RAS Profile Line 'D'	1	Reinforced Concrete Pipe	36"
Culvert G	16	HEC-RAS Profile Line 'G'	1	Reinforced Concrete Pipe	21"
Culvert H	494	HEC-RAS Profile Line 'H'	1	Reinforced Concrete Box	12' x 6'

5.2 DETENTION REQUIREMENTS

Detention requirements for the Project were evaluated using a HEC-HMS hydrologic model comparing existing and proposed conditions for the 100-year storm event. While the detention basins remain the same physical size under proposed conditions, modifications to site grading altered basin flow paths and Curve Numbers, resulting in changes to basin lag times and infiltration rates, which generally increased under proposed conditions with the exception of Village J. Peak discharges under proposed conditions increased relative to existing conditions at all basin locations except Village J. Detention volumes were therefore calculated to limit post-development peak discharges to existing (allowable) flow rates using the Triangular Method in accordance with the Truckee Meadows Regional Drainage Manual (TMRDM). Based on this analysis, approximately 294,300 cubic feet (10,900 cubic yards) of detention volume is required across Villages A through I to offset increased peak flows during the 100-year storm event. This volume represents the minimum detention required for the proposed Wingfield Springs and Foothills projects, assuming that no existing detention ponds or channels are disturbed. If any existing detention features are impacted, an equivalent volume of detention will need to be provided elsewhere on-site to ensure that post-development conditions do not result in increased downstream impacts compared to existing conditions. Village J does not require additional detention, as proposed peak flows are lower than existing conditions.

Detention for the Project is anticipated to be provided through modification of the existing Wingfield Springs pond. As part of the preliminary design, an expansion of the current pond system is proposed and was incorporated into the HEC-RAS model for evaluation, as can be seen in **Appendix A**. The proposed expansion utilizes the existing pond footprint and adds approximately 590,000 cubic feet of storage, which is more than twice the calculated required detention volume. This volume was calculated using GIS tools by comparing the existing and proposed digital elevation models (DEMs). The additional volume was intentionally included to reflect the preliminary nature of the design and to account for potential changes as the project advances. This conservative approach also demonstrates that the project area has sufficient space to accommodate additional detention if needed. The final detention configuration would require approval from both FEMA and the Army Corps of Engineers prior to construction.

The figure below depicts one alternative section through the existing pond showing a potential configuration to provide more detention in the existing system:



Adjacent areas between the pond and development would be re-graded to provide flood storage and detention, as well as wetland habitat. As shown in the figure, the proposed pond has a lower typical water surface elevation than the existing pond configuration, providing increased flood storage capacity.

Under proposed conditions, the existing pond outlet weir that discharges into Reach 9 would be replaced with a notched weir design. The notched weir would allow lower flows to pass through Pond 5, reducing the normal operating water surface elevation and creating additional detention storage, while still allowing peak flows to be conveyed during larger storm events. The intent of this design is to provide detention while maintaining adequate conveyance of peak runoff. The proposed outlet weir matches the dimensions of the existing outlet weir, with the addition of a 6-foot-wide notch. This notch is intended to convey lower, more frequent flows while allowing additional storage within the pond during peak flow events, thereby providing increased detention capacity.

Preliminary modeling indicates that this alternative can be implemented without increasing downstream impacts, and that the minimum required freeboard can be maintained under both alternatives.

It should be noted that the proposed detention concept represents a preliminary design concept. Implementation of this approach would require additional hydraulic analysis to confirm available freeboard, evaluate potential impacts to adjacent infrastructure and properties, and verify compliance with applicable FEMA, local, and state regulatory requirements. Further refinement of the outlet geometry and operational characteristics would be required during final design to balance detention performance with long-term maintenance and operational considerations.

In either alternative, the final detention configuration would require approval from both FEMA and the Army Corps of Engineers prior to construction.

5.3 Water Quality Controls

The proposed Project has been designed with consideration for both construction-phase and long-term water-quality protection. The project will comply with applicable Washoe County, NDEP, and Truckee Meadows Regional Drainage Manual (TMRDM) requirements to minimize sedimentation, erosion, and pollutant transport to downstream waterways. Temporary best management practices (BMPs) such as wind, erosion, and sediment controls will be implemented during construction to limit off-site impacts, with permanent measures incorporated in later phases once final grading and drainage alignments are established.

At this stage, no significant water-quality concerns or environmentally sensitive areas have been identified within the project limits. Although, it should be noted that the majority of the project ultimately drains to the Truckee River, which should be carefully considered in future design phases to ensure protection of downstream water quality. The final design will incorporate appropriate storm water treatment measures, such as stabilized outfalls, armored channels, and other best management practices, to maintain natural drainage functions and protect receiving waters. Additional water quality controls will also be implemented during construction in accordance with the site Erosion Control Plan.

6 SPECIAL FLOOD HAZARDS

The Project is located within FEMA FIRM Panels 32031C3052G and 32031C3056G. FEMA Panel 32031C3056G identifies Special Flood Hazard Areas (SFHAs) designated as Zone A, Zone AE, and Zone AH. The mapped Zone AE represents the 1-percent annual chance (100-year) floodplain with established Base Flood Elevations (BFEs) associated with the on-site drainage feature known as the Golden Eagle Regional Park (GERP) Channel, which traverses the project site. This panel also depicts Zone A areas, which are portions of the SFHA identified using approximate methods where no BFE is provided, indicating known flood risk but without detailed water-surface elevations. In addition, the panel contains Zone AH areas, defined as locations subject to shallow ponding, with a published BFE and very low flow velocities. FEMA Panel 32031C3052G identifies SFHAs classified as Zone A and Zone AE.

6.1 Impacts of Proposed Development on Flood Hazard Area

Portions of the proposed development are located within mapped FEMA Special Flood Hazard Areas (SFHAs), and early site planning indicates that some existing floodplain areas may be affected by the proposed improvements. These changes may involve grading within the

floodplain, shifting areas that currently provide flood storage, and developing areas identified as SFHAs on the effective FEMA Flood Insurance Rate Maps. Depending on how the final design progresses, coordination with the local floodplain administrator and FEMA may be needed, and future floodplain mapping actions, such as a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR), may be required.

6.2 FLOODPROOFING MEASURES

Storm drainage culverts have been designed to convey the 100-year flow conditions without overland release of runoff.

6.3 FEMA AND LOCAL CODE COMPLIANCE

Any future development in Wingfield Springs will be compliant with all federal and local code requirements.

7 CONCLUSION

The proposed Wingfield Springs redevelopment has been designed at a preliminary level to perpetuate off-site generated flows that drain through the project. Preliminary analysis indicates that proposed detention strategies can be implemented to mitigate increased runoff while maintaining downstream hydraulic performance consistent with existing conditions. Storm water quality measures will be installed during construction to reduce probability of sediment being carried off-site by storm runoff. This analysis is based on available topographic data and legacy modeling information; results may change as final grading, survey, and infrastructure layouts are refined. No negative hydrologic or hydraulic impacts are anticipated from the Wingfield Springs development.

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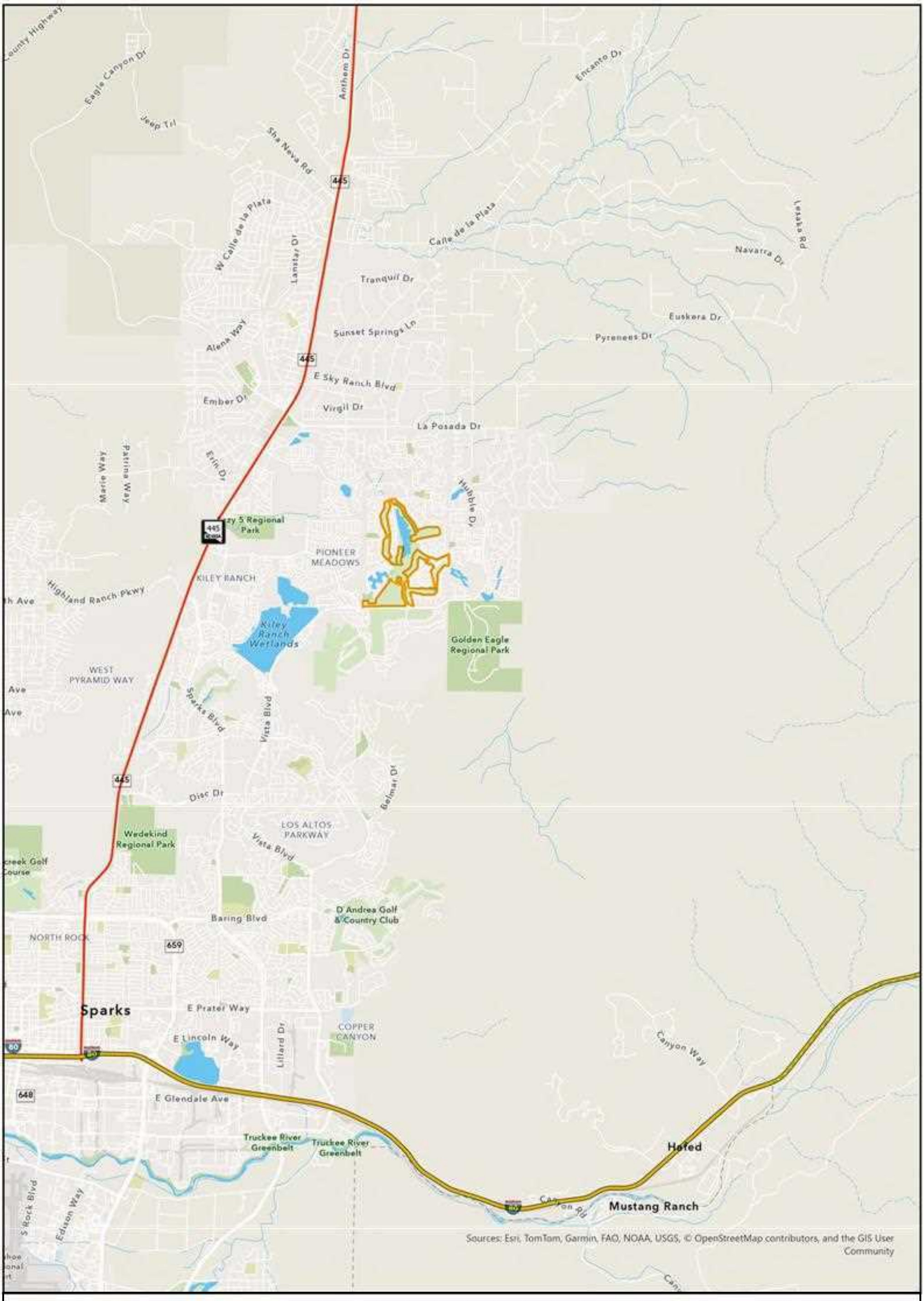
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APPENDIX A

VICINITY MAP AND EXHIBITS



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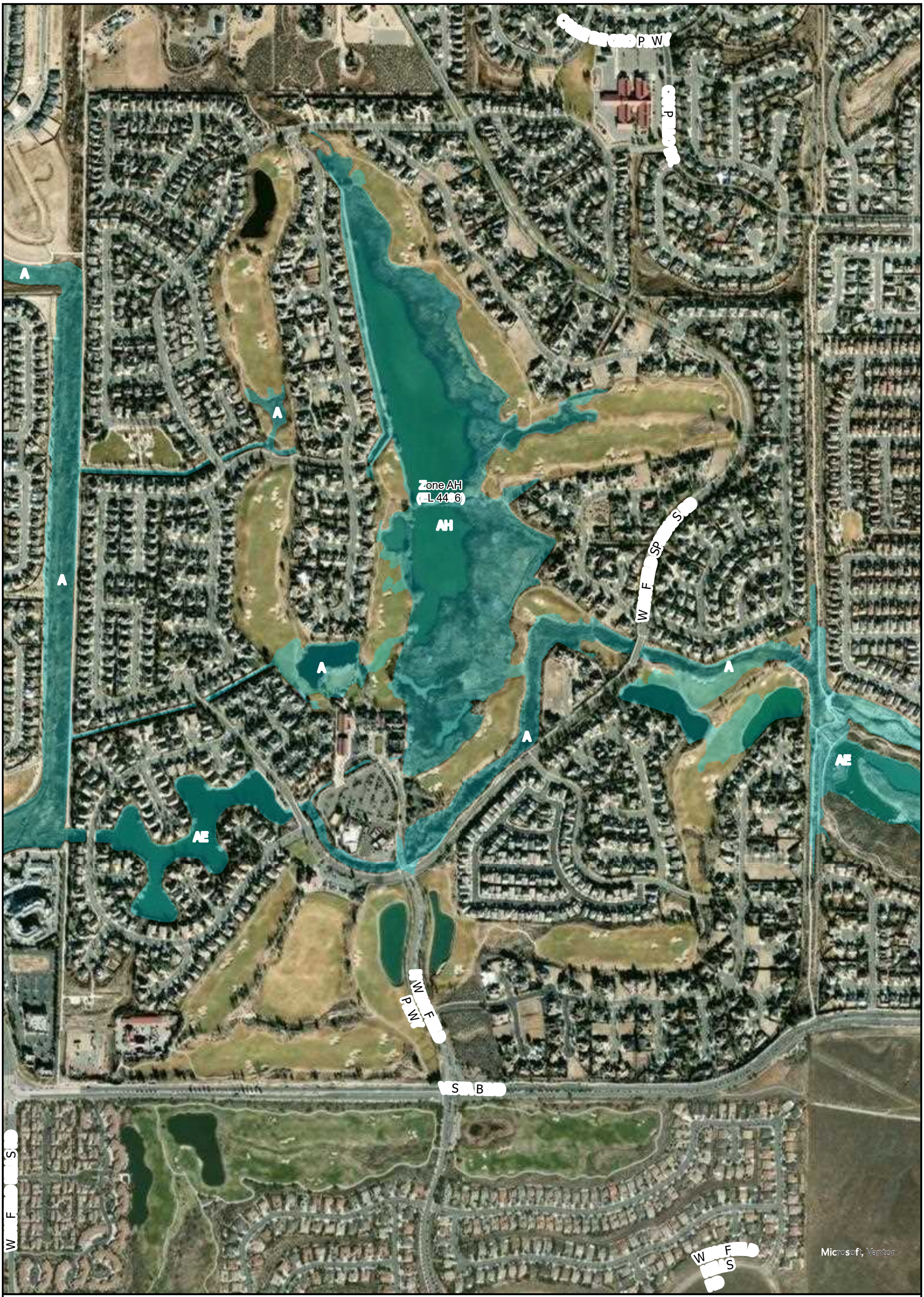
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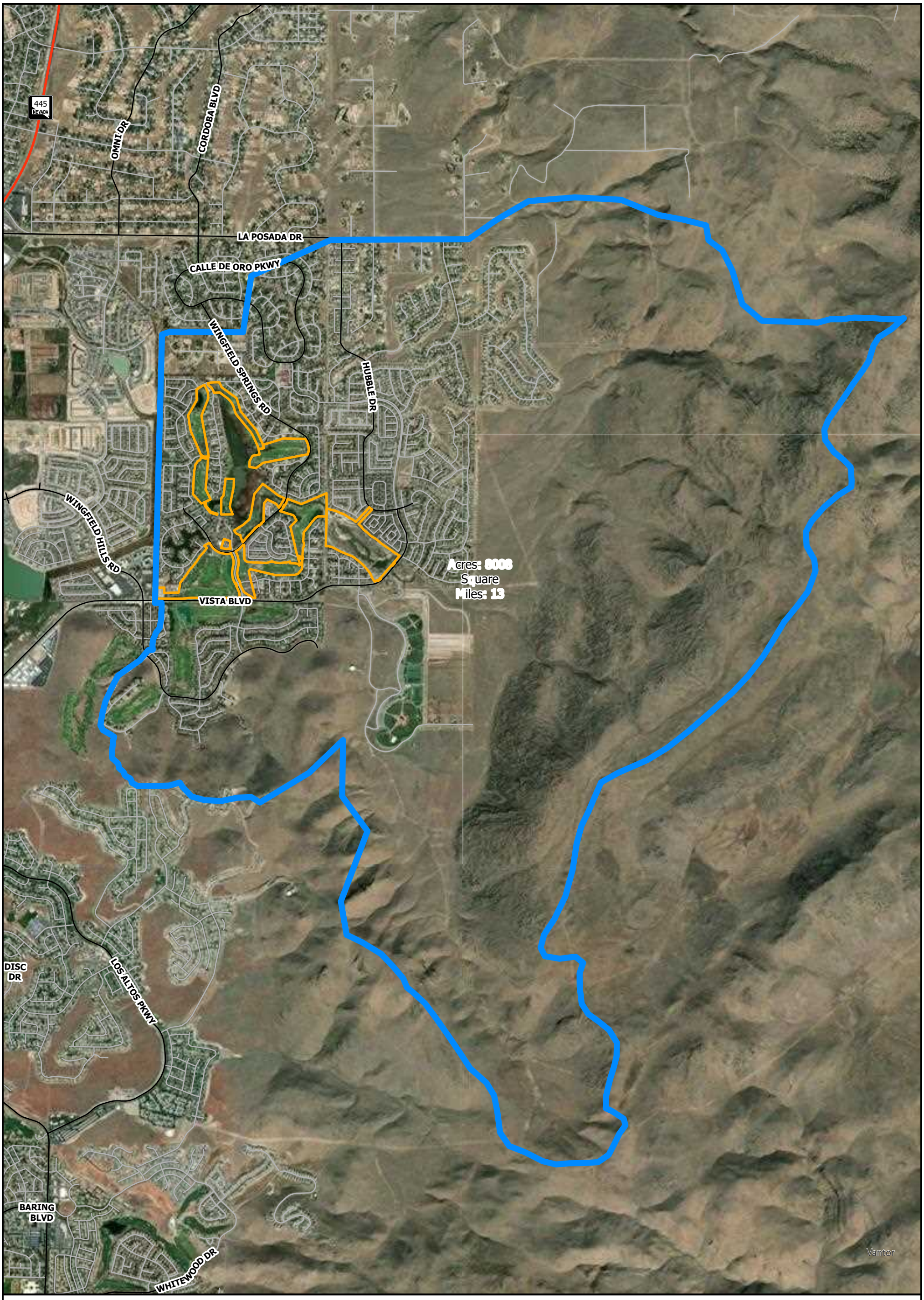


January 12, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



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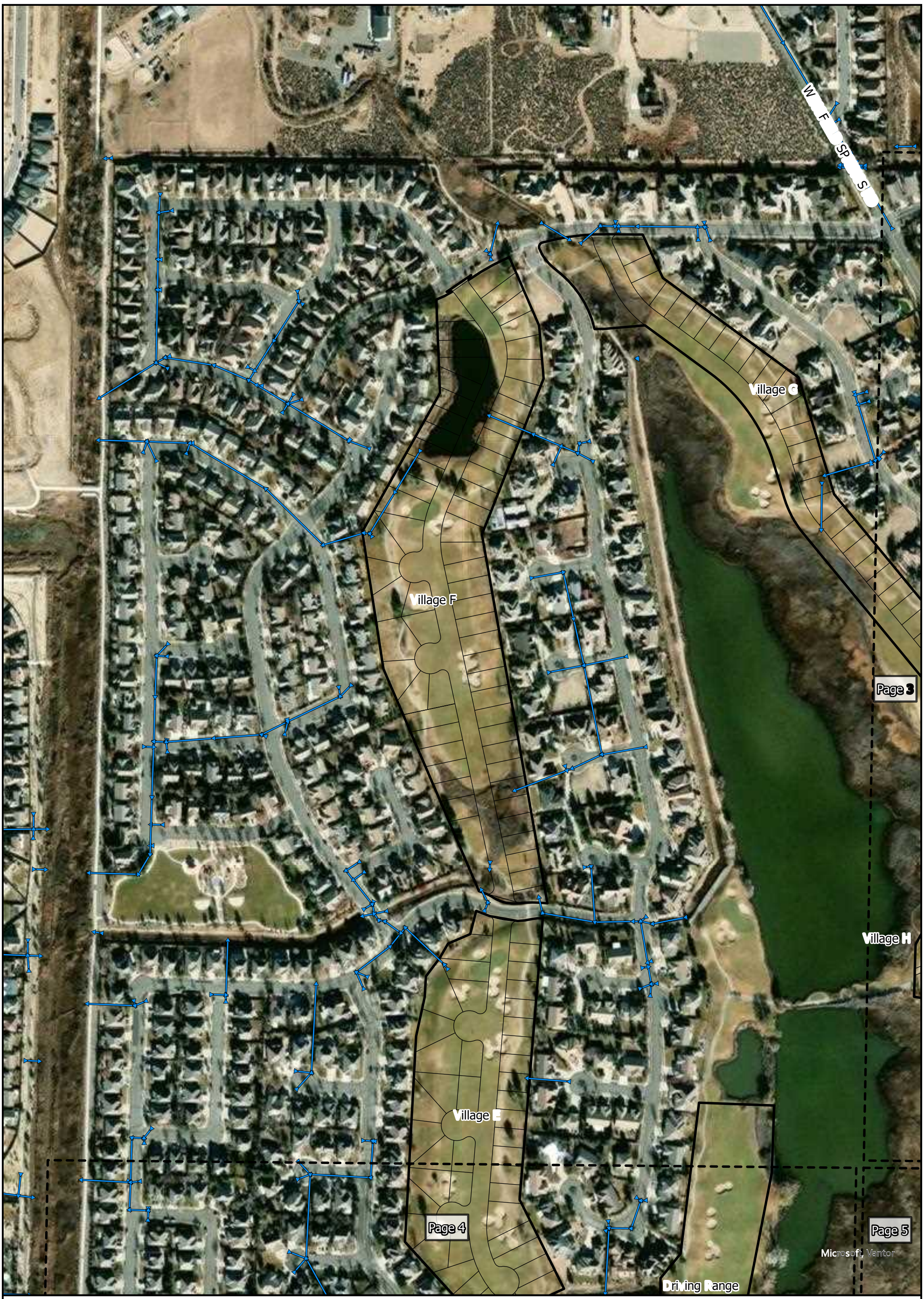
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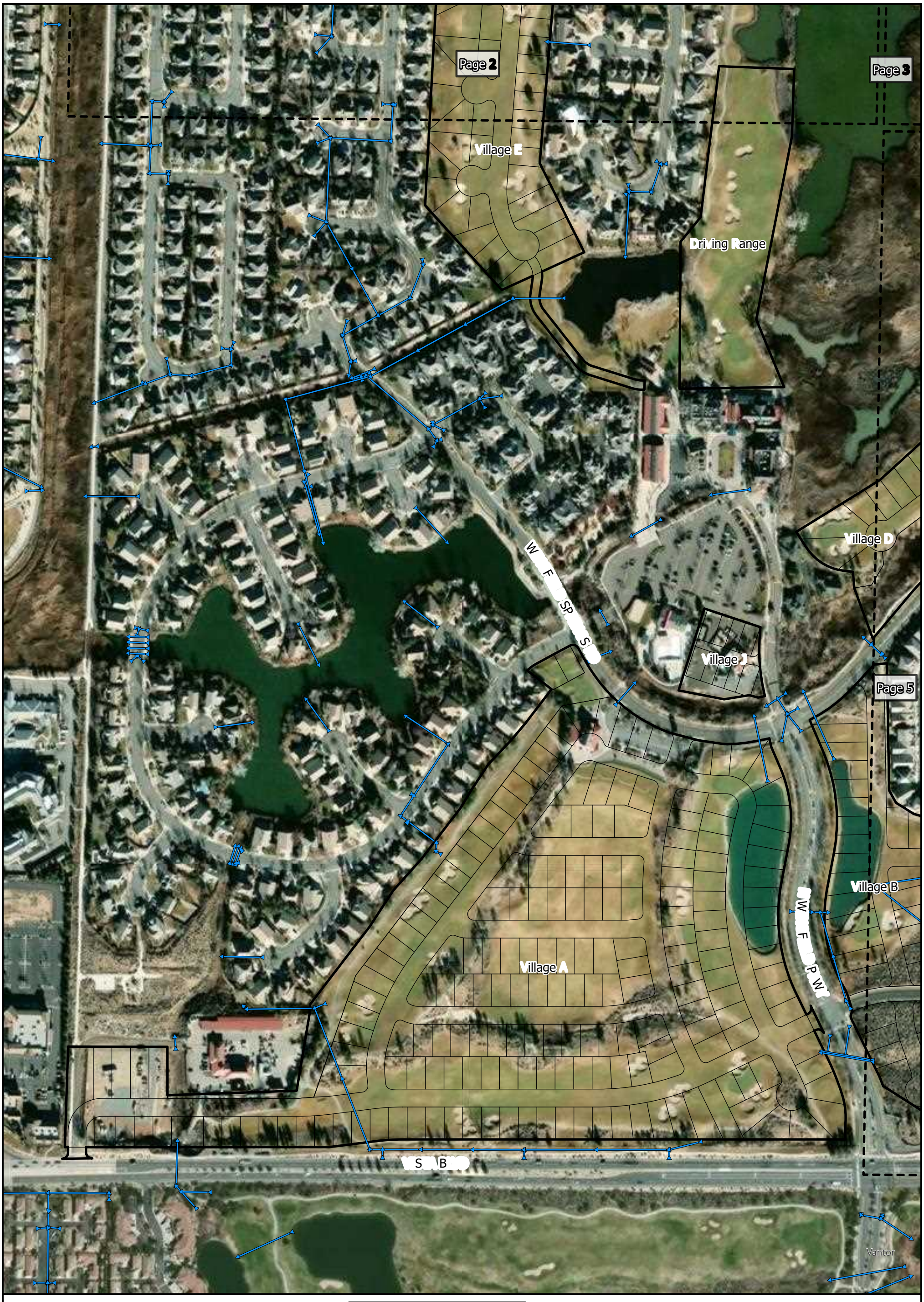
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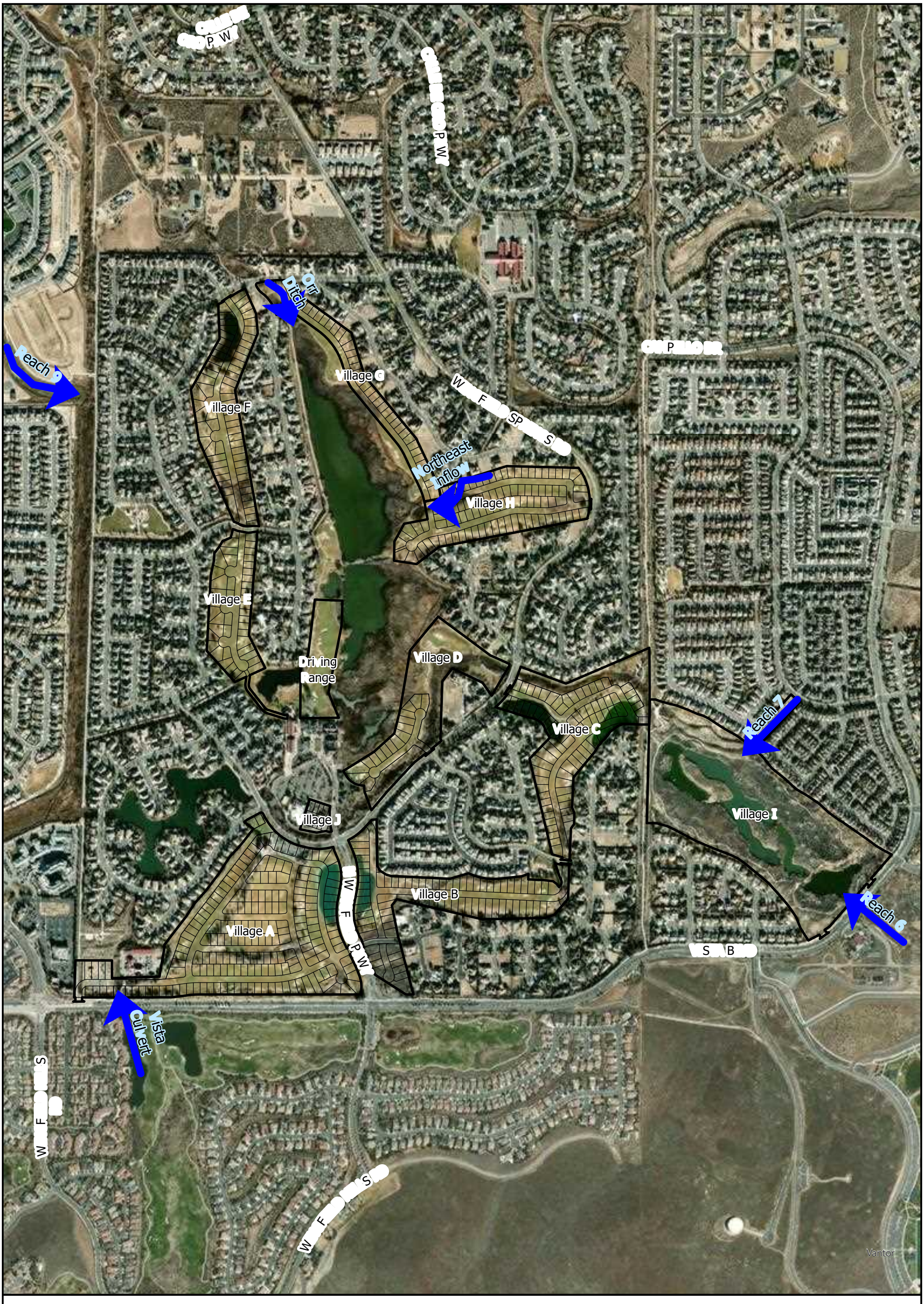
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PROPOSED FLOOD EXTENT (HEC-RAS MODEL)

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Pond 4 Existing Volume (cubic ft)	2752425
Pond 4 Proposed Volume (cubic ft)	3342584
Pond 4 Change Volume (cubic ft)	590159
Percent Change	21.44%



PROPOSED ADDITIONAL DETENTION STORAGE
WINGFIELD SPRINGS
SPARKS, NV
JANUARY 2026

Existing Pond
Change Area
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APPENDIX B

SOURCED TABLES

NOAA Atlas 14, Volume 1, Version 5
Location name: Sparks, Nevada, USA*
Latitude: 39.6163°, Longitude: -119.6849°
Elevation: 4485 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.098 (0.082-0.113)	0.122 (0.102-0.143)	0.164 (0.138-0.193)	0.204 (0.170-0.242)	0.270 (0.221-0.325)	0.333 (0.264-0.405)	0.407 (0.314-0.504)	0.497 (0.369-0.630)	0.645 (0.452-0.846)	0.782 (0.524-1.05)
10-min	0.149 (0.124-0.172)	0.185 (0.155-0.217)	0.249 (0.210-0.294)	0.310 (0.259-0.368)	0.411 (0.337-0.495)	0.506 (0.403-0.617)	0.619 (0.478-0.767)	0.757 (0.562-0.958)	0.982 (0.688-1.29)	1.19 (0.798-1.60)
15-min	0.184 (0.154-0.213)	0.230 (0.193-0.269)	0.309 (0.260-0.365)	0.384 (0.322-0.456)	0.510 (0.418-0.614)	0.627 (0.499-0.765)	0.767 (0.592-0.950)	0.938 (0.696-1.19)	1.22 (0.853-1.60)	1.48 (0.989-1.98)
30-min	0.248 (0.207-0.286)	0.310 (0.259-0.363)	0.416 (0.350-0.491)	0.517 (0.433-0.614)	0.686 (0.563-0.826)	0.844 (0.672-1.03)	1.03 (0.797-1.28)	1.26 (0.938-1.60)	1.64 (1.15-2.15)	1.99 (1.33-2.67)
60-min	0.307 (0.257-0.355)	0.383 (0.321-0.449)	0.515 (0.433-0.608)	0.640 (0.536-0.760)	0.849 (0.696-1.02)	1.04 (0.832-1.28)	1.28 (0.987-1.58)	1.56 (1.16-1.98)	2.03 (1.42-2.66)	2.46 (1.65-3.30)
2-hr	0.406 (0.356-0.472)	0.505 (0.445-0.588)	0.652 (0.567-0.759)	0.778 (0.668-0.905)	0.974 (0.814-1.14)	1.15 (0.939-1.36)	1.36 (1.08-1.63)	1.63 (1.25-1.99)	2.10 (1.55-2.69)	2.55 (1.82-3.33)
3-hr	0.486 (0.431-0.556)	0.606 (0.542-0.696)	0.762 (0.675-0.873)	0.889 (0.780-1.02)	1.07 (0.923-1.24)	1.23 (1.04-1.43)	1.42 (1.18-1.68)	1.69 (1.37-2.03)	2.15 (1.70-2.71)	2.59 (1.99-3.37)
6-hr	0.683 (0.609-0.773)	0.855 (0.761-0.972)	1.06 (0.941-1.21)	1.22 (1.08-1.39)	1.43 (1.24-1.64)	1.59 (1.36-1.83)	1.75 (1.48-2.04)	1.96 (1.63-2.31)	2.34 (1.90-2.80)	2.72 (2.18-3.40)
12-hr	0.901 (0.803-1.01)	1.13 (1.01-1.28)	1.43 (1.27-1.61)	1.66 (1.47-1.88)	1.97 (1.72-2.24)	2.21 (1.90-2.53)	2.45 (2.08-2.85)	2.70 (2.25-3.16)	3.02 (2.45-3.62)	3.31 (2.63-4.02)
24-hr	1.11 (0.998-1.25)	1.40 (1.26-1.58)	1.80 (1.61-2.02)	2.11 (1.88-2.37)	2.56 (2.26-2.88)	2.91 (2.56-3.29)	3.29 (2.86-3.74)	3.68 (3.16-4.21)	4.22 (3.56-4.88)	4.66 (3.86-5.43)
2-day	1.32 (1.18-1.50)	1.68 (1.49-1.90)	2.17 (1.92-2.46)	2.57 (2.26-2.91)	3.14 (2.73-3.57)	3.60 (3.11-4.11)	4.08 (3.48-4.70)	4.59 (3.87-5.33)	5.32 (4.39-6.26)	5.90 (4.78-7.04)
3-day	1.44 (1.28-1.64)	1.83 (1.63-2.08)	2.39 (2.12-2.71)	2.85 (2.51-3.23)	3.51 (3.06-3.99)	4.04 (3.49-4.61)	4.61 (3.93-5.30)	5.21 (4.39-6.04)	6.08 (5.00-7.14)	6.78 (5.48-8.07)
4-day	1.56 (1.39-1.78)	1.99 (1.77-2.26)	2.62 (2.32-2.97)	3.13 (2.76-3.56)	3.88 (3.39-4.41)	4.48 (3.87-5.12)	5.14 (4.38-5.90)	5.83 (4.91-6.75)	6.84 (5.62-8.03)	7.66 (6.19-9.10)
7-day	1.84 (1.61-2.11)	2.35 (2.06-2.70)	3.11 (2.72-3.58)	3.73 (3.25-4.30)	4.62 (3.99-5.34)	5.35 (4.57-6.20)	6.13 (5.18-7.15)	6.96 (5.81-8.18)	8.15 (6.66-9.71)	9.13 (7.34-11.0)
10-day	2.06 (1.81-2.37)	2.65 (2.32-3.04)	3.52 (3.07-4.05)	4.21 (3.66-4.85)	5.19 (4.47-5.99)	5.97 (5.10-6.91)	6.80 (5.75-7.91)	7.67 (6.41-9.00)	8.89 (7.29-10.6)	9.87 (7.97-11.8)
20-day	2.53 (2.23-2.90)	3.25 (2.86-3.72)	4.29 (3.77-4.91)	5.10 (4.46-5.84)	6.20 (5.38-7.11)	7.05 (6.08-8.11)	7.94 (6.78-9.19)	8.86 (7.49-10.3)	10.1 (8.42-12.0)	11.1 (9.13-13.3)
30-day	2.93 (2.58-3.37)	3.77 (3.32-4.32)	4.97 (4.36-5.71)	5.90 (5.15-6.76)	7.15 (6.21-8.21)	8.12 (7.00-9.36)	9.13 (7.80-10.6)	10.2 (8.60-11.8)	11.6 (9.66-13.6)	12.7 (10.5-15.1)
45-day	3.50 (3.08-3.96)	4.50 (3.96-5.09)	5.92 (5.19-6.69)	6.99 (6.11-7.90)	8.41 (7.32-9.53)	9.49 (8.22-10.8)	10.6 (9.10-12.1)	11.7 (9.96-13.5)	13.2 (11.1-15.4)	14.4 (12.0-16.9)
60-day	4.01 (3.52-4.54)	5.18 (4.55-5.86)	6.81 (5.96-7.71)	7.98 (6.97-9.02)	9.48 (8.24-10.7)	10.6 (9.15-12.0)	11.7 (10.0-13.3)	12.7 (10.8-14.6)	14.1 (11.9-16.3)	15.2 (12.7-17.6)

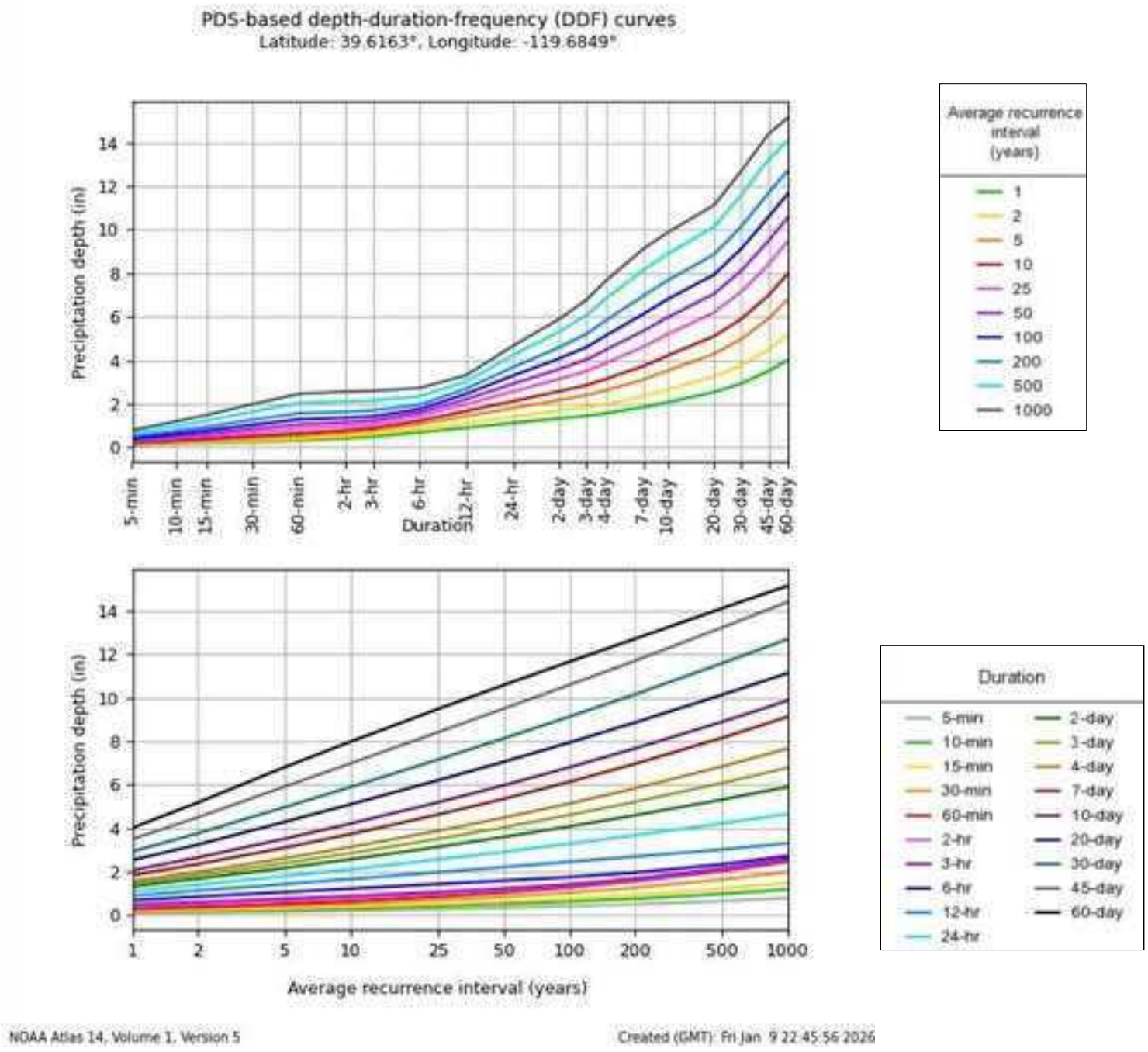
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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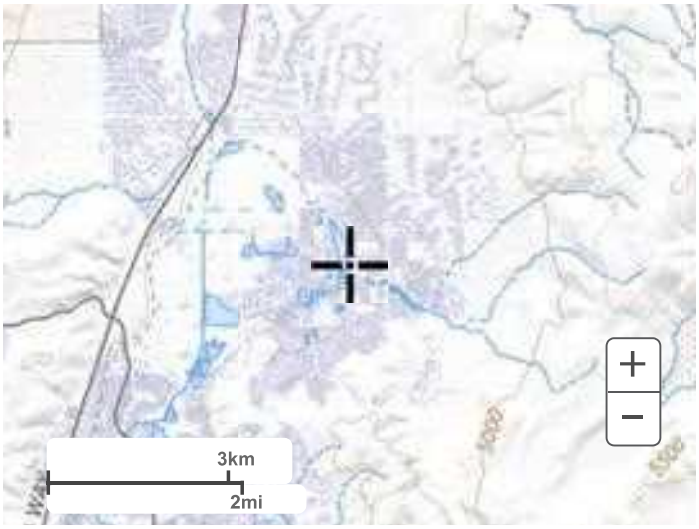
PF graphical



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Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



Back to Top

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Disclaimer

RUNOFF CURVE NUMBERS FOR URBAN AREAS[1]

Cover Type and Hydrologic Condition	Aver. % Impervious Area[2]	Runoff Curve Numbers Soil Comp A	Soil Comp B	Soil Comp C	Soil Comp D
Fully developed urban area (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.)[3]					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50 to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only)[4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious only, no vegetation)[5]		77	86	91	94
Idle lands (CNs are determined using cover types similar to those Table 702 - 3 of 4)					

[1]Average runoff condition, and $I_a = 0.2S$

[2]The average percent impervious area shown was used to develop the composite CNs. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CNs for other combinations of conditions may be computed using figure 2-3 or 2-4 in TR-55 (SCS, 1986).

[3]CNs shown are equivalent to those of pasture. Composite CNs may be computed for other combinations of open space cover type.

[4]Composite CNs for natural desert landscaping should be computed using figure 2-3 or 2-4 in TR-55 (SCS, 1986) based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CNs are assumed equivalent to desert shrub in poor hydrologic condition.

[5]Composite CNs to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 in TR-55 (SCS, 1986) based on the degree of development (impervious area percentage) and the CNs for the newly graded pervious areas.

RUNOFF CURVE NUMBERS FOR CULTIVATED AGRICULTURAL LANDS[1]

Cover type	Treatment[2]	Hydrologic condition[3]	Runoff Curve Numbers Soil Comp A	Soil Comp B	Soil Comp C	Soil Comp D
Fallow	Bare soil	-	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T + CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T + CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

[1]Average runoff condition, and $I_a = 0.2S$

[2]*Crop residue cover* applies only if residue is on at least 5% of the surface throughout the year.

[3]Hydrologic condition is based on combination of factors that affect infiltration and runoff, including: (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes in rotations, (d) percent of residue cover on the land surface (good ≥ 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.
Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

RUNOFF CURVE NUMBERS FOR OTHER AGRICULTURAL LANDS[1]

Cover Type	Hydrologic Condition	Runoff Curve Numbers: Soil Comp A	Soil Comp B	Soil Comp C	Soil Comp D
Pasture, grassland, or range – continuous forage for grazing[2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow – continuous grass, protected from grazing and generally mowed for hay	-	30	58	71	78
Brush – brush-weed-grass mixture with brush the major element[3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30[4]	48	65	73
Woods – grass combination (orchard or tree farm)[5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods[6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30[4]	55	70	77
Farmsteads – buildings, lanes, driveways, and surrounding lots	-	59	74	82	86

[1]Average runoff condition, and $I_a = 0.2S$

[2]*Poor*: < 50% ground cover or heavily grazed with no mulch
Fair: 50 to 75% ground cover and not heavily grazed
Good: > 75% ground cover and lightly or only occasionally grazed

[3]*Poor*: < 50% ground cover
Fair: 50 to 75% ground cover
Good: >75% ground cover

[4]Actual curve number is less than 30; use CN = 30 for runoff computations.

[5]CNs shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CNs for woods and pasture.

[6]*Poor*: Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

RUNOFF CURVE NUMBERS FOR ARID AND SEMIARID RANGELANDS[1]

Cover Description	Hydrologic Condition[2]	Runoff Curve Numbers Soil Comp A[3]	Soil Comp B	Soil Comp C	Soil Comp D
Herbaceous – mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen – mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper – pinyon, juniper, or both; grass understory	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub – major plants include saltbrush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

[1]Average runoff condition, and $I_a = 0.2S$. For range in humid regions, use Table 702 - 3 of 4.

[2]*Poor*: < 30% ground cover (litter, grass, and brush overstory)
Fair: 30 to 70% ground cover
Good: > 70% ground cover

[3]Curve numbers for group A have been developed only for desert shrub.

NLCD Land Cover Types - Obtained from HEC-RAS 2D User's Manual		
NLCD Value	**n Value Range**	**Description**
11	0.025 - 0.05	**Open Water**- areas of open water, generally with less than 25% cover of vegetation or soil. This is for natural streams on mild to moderate slopes.
12	n/a	**Perennial Ice/Snow**- areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.
21	0.03 - 0.05	**Developed, Open Space**- areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.
22	0.06 - 0.12	**Developed, Low Intensity**- areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.
23	0.08 - 0.16	**Developed, Medium Intensity** -areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.
24	0.12 - 0.20	**Developed High Intensity**-highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.
31	0.023 - 0.030	**Barren Land (Rock/Sand/Clay)** - areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.
41	0.10 - 0.20	**Deciduous Forest**- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.
42	0.08 - 0.16	**Evergreen Forest**- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.
43	0.08 - 0.20	**Mixed Forest**- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.
51	0.025 - 0.05	**Dwarf Scrub**- Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.
52	0.07 - 0.16	**Shrub/Scrub**- areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.
71	0.025 - 0.05	**Grassland/Herbaceous**- areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.
72	0.025 - 0.05	**Sedge/Herbaceous**- Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.
73	n/a	**Lichens**- Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.
74	n/a	**Moss**- Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.
81	0.025 - 0.05	**Pasture/Hay**-areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.
82	0.020 - 0.05	**Cultivated Crops** -areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.
90	0.045 - 0.15	**Woody Wetlands**- areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
95	0.05 - 0.085	**Emergent Herbaceous Wetlands**- Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.

APPENDIX C

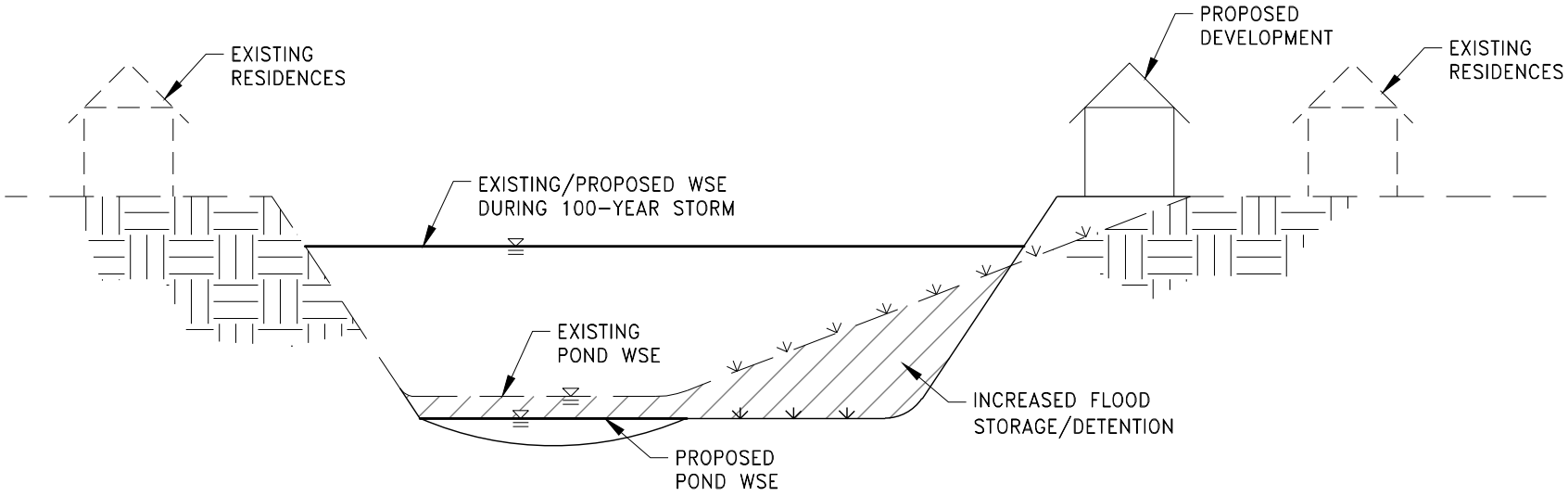
DRAWINGS, CALCULATIONS, AND RESULTS

POTENTIAL POND DETENTION GRADING

WINGFIELD SPRINGS

SPARKS **NEVADA**

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Project: Wingfield Springs
Project Location: Sparks, NV

Existing Curve Numbers

Watershed Village A			
Land Use	Soil Group	Area (ac.)	Curve Number
Gravel	C	2.96	89
Brush, Fair	A	2.55	35
Brush, Fair	C	4.09	70
Brush, Fair	D	0.09	77
Pavement	A	0.63	98
Pavement	C	1.33	98
Open Space, Good	A	11.62	39
Open Space, Good	C	24.83	74
Open Space, Good	D	1.77	80
Total Area (ac.)		49.87	
Final Curve Number		65.6	

Watershed Village B			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	A	5.04	39
Open Space, Good	C	4.83	74
Open Space, Good	D	2.72	80
Brush, Fair	A	1.07	35
Brush, Fair	C	5.79	70
Brush, Fair	D	0.27	77
Pavement	A	0.98	98
Pavement	C	0.24	98
Total Area (ac.)		20.94	
Final Curve Number		64.7	

Watershed Village C			
Land Use	Soil Group	Area (ac.)	Curve Number
Meadow	C	2.64	71
Pavement	C	3.78	98
Total Area (ac.)		22.52	
Final Curve Number		77.7	

Watershed Village D			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	A	3.97	39
Open Space, Good	C	5.94	74
Open Space, Good	D	0.27	80
Meadow	A	2.73	30
Meadow	C	3.42	71
Total Area (ac.)		16.33	
Final Curve Number		57.6	

Watershed Village E			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	A	0.06	39
Open Space, Good	C	10.28	74
Total Area (ac.)		10.34	
Final Curve Number		73.8	

Watershed Village F			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	C	14.13	74
Meadow	C	1.54	71
Total Area (ac.)		15.67	
Final Curve Number		73.7	

Watershed Village G			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	C	9.39	74
Open Space, Good	D	0.08	80
Meadow	C	0.92	71
Total Area (ac.)		10.39	
Final Curve Number		73.8	

Watershed Village H			
Land Use	Soil Group	Area (ac.)	Curve Number
Open Space, Good	C	17.4	74
Open Space, Good	D	0.43	80
Meadow	C	1.52	71
Total Area (ac.)		19.35	
Final Curve Number		73.9	

Watershed Village J			
Land Use	Soil Group	Area (ac.)	Curve Number
Pavement	A	0.87	98
Pavement	C	0.3	98
Pavement	D	0.14	98
Total Area (ac.)		1.31	
Final Curve Number		98	

Time of Concentration
Proposed Onsite Basins

Project: Wingfield Springs
Project Location: Sparks, NV

Existing Curve Numbers

Watershed Village A			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	A	14.81	77
Residential 1/8 Acre	C	33.2	90
Residential 1/8 Acre	D	1.86	92
Total Area (ac.)	49.87		
Final Curve Number	86.2		

Watershed Village B			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	A	7.09	77
Residential 1/8 Acre	C	10.87	90
Residential 1/8 Acre	D	2.99	92
Total Area (ac.)	20.95		
Final Curve Number	85.9		

Watershed Village C			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	C	18.67	90
Pavement	C	3.85	98
Total Area (ac.)	22.52		
Final Curve Number	91.4		

Watershed Village D			
Land Use	Soil Group	Area (ac.)	Curve Number
Pavement	A	2.68	98
Pavement	C	6.6	98
Residential 1/8 Acre	A	4.02	77
Residential 1/8 Acre	C	1.31	90
Residential 1/8 Acre	D	0.15	92
Open Space, Good	C	1.45	74
Open Space, Good	D	0.12	80
Total Area (ac.)	16.33		
Final Curve Number	89.9		

Watershed Village E			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	A	0.06	77
Residential 1/8 Acre	C	10.28	90
Total Area (ac.)	10.34		
Final Curve Number	89.9		

Watershed Village F			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	C	15.67	90
Total Area (ac.)	15.67		
Final Curve Number	90		

Watershed Village G			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	C	10.31	90
Residential 1/8 Acre	D	0.08	92
Total Area (ac.)	10.39		
Final Curve Number	90		

Watershed Village H			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	C	18.92	90
Residential 1/8 Acre	D	0.43	92
Total Area (ac.)	19.35		
Final Curve Number	90		

Watershed Village J			
Land Use	Soil Group	Area (ac.)	Curve Number
Residential 1/8 Acre	A	0.87	77
Residential 1/8 Acre	C	0.3	90
Residential 1/8 Acre	D	0.14	92
Total Area (ac.)	1.31		
Final Curve Number	81.6		

Project: Wingfield Springs

Project Location: Sparks, NV

Existing Time of Concentration Table

Drainage Basin	Drainage Area (AC)	CN/c	Initial Flow Time, T_i				Travel Time, T_t				Total (T_i+T_t)	Urbanized Basins Check	Final	
			Overland Flow				Channelized Flow							
			L_i (ft)	S (ft/ft)	R	T_i (min)	L_t (ft)	S (ft/ft)	V (ft/s)	T_{t2} (min)	T_c (min)	T_c*(min)	T_c (min)	TLAG
Village A	49.87	66	321	0.031	0.48	13.8	3054	0.005	1.1	45.0	63.3	35.0	**35.0**	21.0
Village B	20.95	65	458	0.017	0.46	20.4	1454	0.011	1.7	14.3	39.1	26.9	**26.9**	16.1
Village C	22.52	78	306	0.039	0.64	9.3	779	0.013	1.8	7.1	20.9	22.3	**20.9**	12.5
Village D	16.33	58	241	0.025	0.37	15.1	1837	0.005	1.1	27.1	46.6	27.8	**27.8**	16.7
Village E	10.34	74	343	0.009	0.58	18.0	741	0.011	1.7	7.4	29.8	22.3	**22.3**	13.4
Village F	15.67	74	266	0.008	0.58	16.7	1125	0.007	1.4	13.8	34.9	24.1	**24.1**	14.4
Village G	10.39	74	356	0.014	0.58	15.7	261	0.019	2.2	1.9	22.1	19.8	**19.8**	11.9
Village H	19.34	74	350	0.011	0.59	16.6	1312	0.008	1.5	14.8	35.9	25.6	**25.6**	15.4
Village J	1.31	98	258	0.027	0.90	4.1	0	0.000	0.0	0.0	4.1	17.9	**4.1**	2.4

Project: Wingfield Springs

Project Location: Sparks, NV

Proposed Time of Concentration Table

Drainage Basin	Drainage Area (AC)		Initial Flow Time, T_i				Travel Time, T_t				Total (T_i+T_t)	Urbanized Basins Check	Final	
		CN/c	Overland Flow				Gutter Flow							
			L_i (ft)	S (ft/ft)	R	T_i (min)	L_s(ft)	S (ft/ft)	V(ft/s)	T_{t1} (min)	T_c (min)	T_c*(min)	T_c (min)	TLAG
Village A	49.87	86	191	0.010	0.75	8.6	1594	0.008	1.8	14.5	70.6	41.8	**41.8**	25.1
Village B	20.95	86	206	0.015	0.74	8.1	2209	0.009	1.9	19.5	44.5	36.4	**36.4**	21.9
Village C	22.52	91	202	0.010	0.82	7.3	1509	0.007	1.7	15.2	32.1	28.8	**28.8**	17.3
Village D	16.33	90	119	0.017	0.80	5.0	442	0.009	1.9	3.8	38.4	28.3	**28.3**	17.0
Village E	10.34	90	106	0.009	0.80	5.7	1094	0.005	1.5	12.1	27.7	25.7	**25.7**	15.4
Village F	15.67	90	142	0.014	0.80	5.8	1178	0.008	1.9	10.5	32.5	28.6	**28.6**	17.1
Village G	10.39	90	88	0.023	0.80	3.9	885	0.011	2.2	6.8	15.1	21.8	**15.1**	9.1
Village H	19.34	90	73	0.014	0.80	4.2	1726	0.006	1.5	18.6	40.1	32.3	**32.3**	19.4
Village J	1.31	82	83	0.017	0.69	5.6	169	0.010	2.0	1.4	23.8	24.4	**23.8**	14.3

Time of Concentration
Proposed Onsite Basins

Project: Wingfield Springs

Project Location: Sparks, NV

Existing vs Proposed Flows, 100 Year

Existing, 100 Year					Proposed, 100 Year				
Village Name	Area (mi)	Peak Flow	Time of Peak	Precip (in)	Village Name	Area (mi)	Peak Flow	Time of Peak	Precip (in)
Village A	0.0779223	18.5	01Jan2026, 12:26	0.66	Village A	0.077922	59.7	01Jan2026, 12:28	1.9
Village B	0.0327286	8.3	01Jan2026, 12:21	0.62	Village B	0.032729	27	01Jan2026, 12:24	1.88
Village C	0.035195	27.1	01Jan2026, 12:15	1.31	Village C	0.035195	41.1	01Jan2026, 12:19	2.36
Village D	0.0255222	2.4	01Jan2026, 12:26	0.35	Village D	0.025522	28.6	01Jan2026, 12:19	2.22
Village E	0.0161601	9.5	01Jan2026, 12:16	1.07	Village E	0.01616	19.2	01Jan2026, 12:17	2.23
Village F	0.0244808	13.8	01Jan2026, 12:17	1.07	Village F	0.024481	27.5	01Jan2026, 12:19	2.23
Village G	0.0162339	10.2	01Jan2026, 12:14	1.07	Village G	0.016234	25.4	01Jan2026, 12:10	2.24
Village H	0.0302235	16.6	01Jan2026, 12:18	1.08	Village H	0.030224	31.5	01Jan2026, 12:21	2.23
Village J	0.0020423	5.9	01Jan2026, 12:04	3.05	Village J	0.002042	1.8	01Jan2026, 12:16	1.57

WOOD RODGERS

CALCULATIONS

Date:	1/15/2026	**Made by:**	RDR
Project No.:	1309	**Checked by:**	JRS
Subject:	Detention Basin Volume Calulation	**Reviewed by:**	JRS
Project Title:	Wingfield Springs		

1.0 Estimate of Detention Basin Volume per TMRDM Triangulation Method

$$\text{Detention Volume} = 60 * tc * (QP - QE)$$

Total Detention Needed:
294,300 CF
10900 CY

Village A		
Proposed 100-year t_c	41.8	min
Proposed 100-year Flow (Q_P)	59.70	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	18.50	cfs
Minimum Detention Volume	103,400	cf

Village B		
Proposed 100-year t_c	36.4	min
Proposed 100-year Flow (Q_P)	27.00	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	8.30	cfs
Minimum Detention Volume	40,900	cf

Village C		
Proposed 100-year t_c	28.8	min
Proposed 100-year Flow (Q_P)	41.10	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	27.10	cfs
Minimum Detention Volume	24,200	cf

Village D		
Proposed 100-year t_c	28.3	min
Proposed 100-year Flow (Q_P)	28.60	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	2.40	cfs
Minimum Detention Volume	44,500	cf

Village E		
Proposed 100-year t_c	25.7	min
Proposed 100-year Flow (Q_P)	19.20	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	9.50	cfs
Minimum Detention Volume	15,000	cf

Village F		
Proposed 100-year t_c	28.6	min
Proposed 100-year Flow (Q_P)	27.50	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	13.80	cfs
Minimum Detention Volume	23,500	cf

Village G		
Proposed 100-year t_c	15.1	min
Proposed 100-year Flow (Q_P)	25.40	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	10.20	cfs
Minimum Detention Volume	13,900	cf

Village H		
Proposed 100-year t_c	32.3	min
Proposed 100-year Flow (Q_P)	31.50	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	16.60	cfs
Minimum Detention Volume	28,900	cf

Village J		
Proposed 100-year t_c	23.8	min
Proposed 100-year Flow (Q_P)	1.80	cfs
Maximum Allowable Release (Existing Flow) (Q_E)	5.90	cfs
Minimum Detention Volume	-5,900	cf

Culvert Calculator Report
Culvert A

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	4,490.00	ft	Headwater Depth/Height	0.92	
Computed Headwater Elevation	4,489.54	ft	Discharge	317.50	cfs
Inlet Control HW Elev.	4,489.05	ft	Tailwater Elevation	2.00	ft
Outlet Control HW Elev.	4,489.54	ft	Control Type	Entrance Control	

Grades					
Upstream Invert	4,484.00	ft	Downstream Invert	4,480.00	ft
Length	125.00	ft	Constructed Slope	0.032000	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	2.10	ft
Slope Type	Steep		Normal Depth	1.86	ft
Flow Regime	Supercritical		Critical Depth	3.43	ft
Velocity Downstream	17.99	ft/s	Critical Slope	0.003628	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	6.00	ft
Section Size	72 inch		Rise	6.00	ft
Number Sections	2				

Outlet Control Properties					
Outlet Control HW Elev.	4,489.54	ft	Upstream Velocity Head	1.41	ft
Ke	0.50		Entrance Loss	0.70	ft

Inlet Control Properties					
Inlet Control HW Elev.	4,489.05	ft	Flow Control	N/A	
Inlet Type	Square edge w/headwall		Area Full	56.5	ft²
K	0.00980		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	1	
C	0.03980		Equation Form	1	
Y	0.67000				

Culvert Calculator Report
Culvert D

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	4,490.00	ft	Headwater Depth/Height	2.51	
Computed Headwater Elevation	4,488.53	ft	Discharge	83.36	cfs
Inlet Control HW Elev.	4,488.53	ft	Tailwater Elevation	2.00	ft
Outlet Control HW Elev.	4,488.11	ft	Control Type	Inlet Control	

Grades					
Upstream Invert	4,481.00	ft	Downstream Invert	4,480.00	ft
Length	125.00	ft	Constructed Slope	0.008000	ft/ft

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	2.80	ft
Slope Type	Mild		Normal Depth	N/A	ft
Flow Regime	Subcritical		Critical Depth	2.80	ft
Velocity Downstream	12.14	ft/s	Critical Slope	0.013505	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	3.00	ft
Section Size	36 inch		Rise	3.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	4,488.11	ft	Upstream Velocity Head	2.16	ft
Ke	0.50		Entrance Loss	1.08	ft

Inlet Control Properties					
Inlet Control HW Elev.	4,488.53	ft	Flow Control	N/A	
Inlet Type	Square edge w/headwall		Area Full	7.1	ft²
K	0.00980		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	1	
C	0.03980		Equation Form	1	
Y	0.67000				

Culvert Calculator Report
Culvert G

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	4,490.00	ft	Headwater Depth/Height	1.67	
Computed Headwater Elevation	4,487.92	ft	Discharge	15.99	cfs
Inlet Control HW Elev.	4,487.92	ft	Tailwater Elevation	2.00	ft
Outlet Control HW Elev.	4,487.83	ft	Control Type	Inlet Control	

Grades					
Upstream Invert	4,485.00	ft	Downstream Invert	4,484.00	ft
Length	125.00	ft	Constructed Slope	0.008000	ft/ft

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	1.47	ft
Slope Type	Mild		Normal Depth	N/A	ft
Flow Regime	Subcritical		Critical Depth	1.47	ft
Velocity Downstream	7.39	ft/s	Critical Slope	0.009715	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	1.75	ft
Section Size	21 inch		Rise	1.75	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	4,487.83	ft	Upstream Velocity Head	0.69	ft
Ke	0.50		Entrance Loss	0.34	ft

Inlet Control Properties					
Inlet Control HW Elev.	4,487.92	ft	Flow Control	N/A	
Inlet Type	Square edge w/headwall		Area Full	2.4	ft²
K	0.00980		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	1	
C	0.03980		Equation Form	1	
Y	0.67000				

Culvert Calculator Report
Culvert H

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	4,492.00	ft	Headwater Depth/Height	1.00	
Computed Headwater Elevation	4,492.00	ft	Discharge	494.31	cfs
Inlet Control HW Elev.	4,491.91	ft	Tailwater Elevation	2.00	ft
Outlet Control HW Elev.	4,492.00	ft	Control Type	Entrance Control	

Grades					
Upstream Invert	4,486.00	ft	Downstream Invert	4,484.00	ft
Length	200.00	ft	Constructed Slope	0.010000	ft/ft

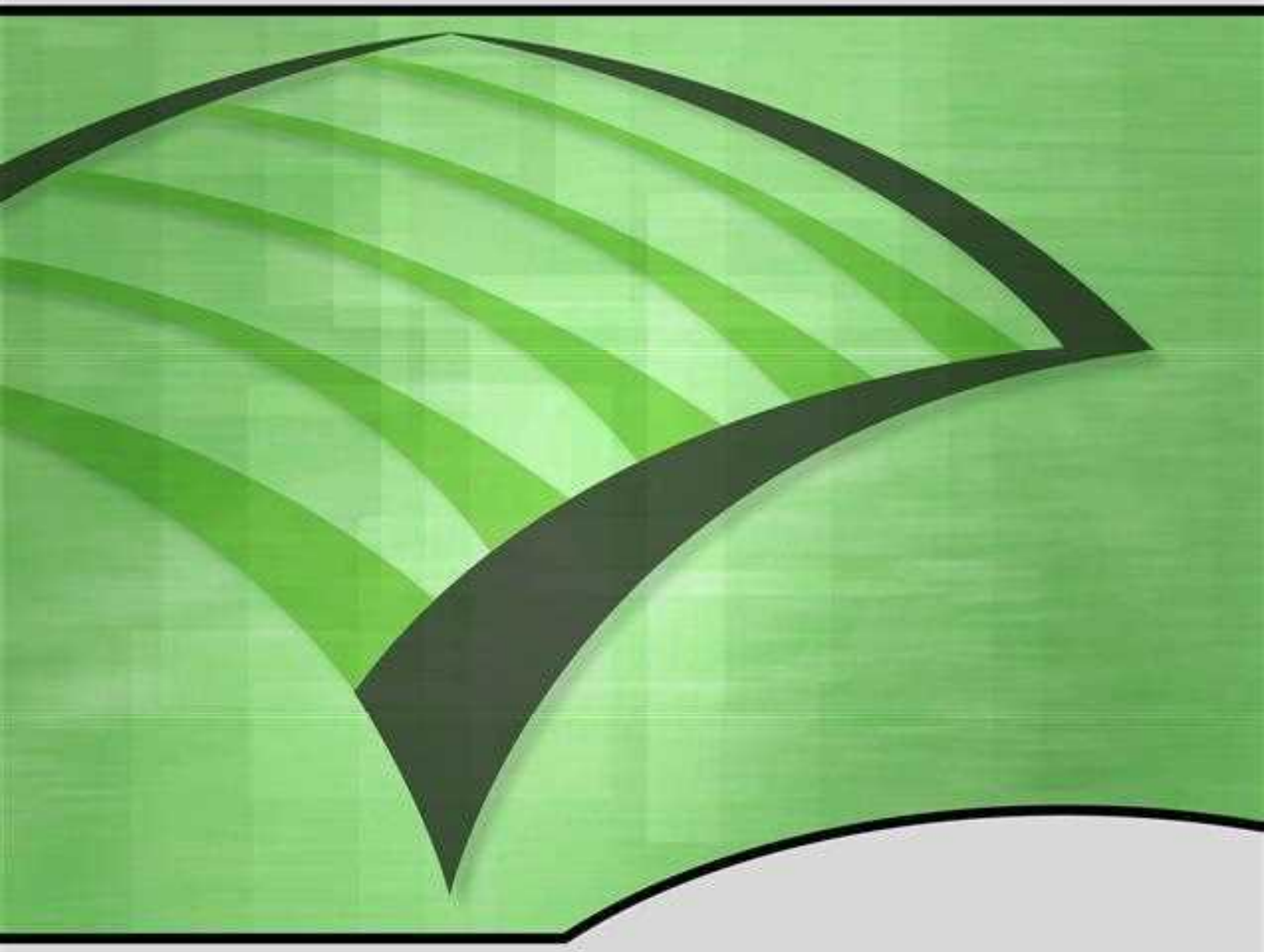
Hydraulic Profile					
Profile	S2		Depth, Downstream	2.67	ft
Slope Type	Steep		Normal Depth	2.48	ft
Flow Regime	Supercritical		Critical Depth	3.75	ft
Velocity Downstream	15.40	ft/s	Critical Slope	0.003028	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	12.00	ft
Section Size	12 x 6 ft		Rise	6.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	4,492.00	ft	Upstream Velocity Head	1.88	ft
Ke	0.20		Entrance Loss	0.38	ft

Inlet Control Properties					
Inlet Control HW Elev.	4,491.91	ft	Flow Control	N/A	
Inlet Type	90° headwall w 45° bevels		Area Full	72.0	ft²
K	0.49500		HDS 5 Chart	10	
M	0.66700		HDS 5 Scale	2	
C	0.03140		Equation Form	2	
Y	0.82000				

Estates at Wingfield and Foothill PUDs
Traffic Impact Study



PREPARED FOR

Red Hawk Land Company, LLC

January 19, 2026

Prepared By

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

Sparks, NV

Estates at Wingfield and Foothill PUD Traffic Impact Study

REPORT

Prepared For:
Red Hawk Land Company, LLC

Prepared By

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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01/19/2026

January 2026

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EXECUTIVE SUMMARY

PURPOSE

This report has been prepared to present the results of a Transportation Impact Study (TIS) for the proposed Estates at Wingfield and Foothill Planned Unit Development (PUD) Project (Project) located on the to-be-closed Lakes Golf Course north of Vista Boulevard within the City of Sparks, Nevada (City). This TIS has been prepared in accordance with the Regional Transportation Commission (RTC) of Washoe County guidelines.

PROJECT DESCRIPTION

The proposed Project consists of 764 residential units. The Project would include 10 Villages and a total of 755 single family detached housing units and 9 townhomes within 182.85 acres, located north of Vista Boulevard. The existing building that includes administrative offices, golf areas, private club facilities, dining, and event space is anticipated to remain. Project access connects via Wingfield Parkway and Wingfield Springs Road.

PROJECT GENERATED TRIPS

The Project generates a total of 6,946 daily trips, 535 AM peak hour trips (132 Inbound, 403 Outbound) and 707 PM peak hour trips (438 Inbound, 269 Outbound) under typical weekday traffic conditions.

TRAFFIC IMPACTS

The Wingfield Parkway & Vista Boulevard intersection is expected to operate at unacceptable LOS under Existing Plus Project and Cumulative Plus Project AM peak hour conditions. The Wingfield Springs Road & Eagle Wing Circle (South)/Cinnamon Drive (South) intersection is expected to operate at unacceptable LOS under Existing Plus Project and Cumulative Plus Project PM peak hour conditions. The Wingfield Parkway & Village A Access/Rey Del Sierra Drive intersection is expected to operate at unacceptable LOS under Cumulative Plus Project PM peak hour conditions. All other study intersections are projected to operate at acceptable LOS under all study scenarios.

The following queues are projected to exceed storage:

- **Wingfield Hills Road & Vista Boulevard**:
    - Southbound left PM peak hour conditions during Cumulative and Cumulative Plus Project scenarios
    - Southbound through AM peak hour conditions during Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios and PM peak hour conditions during Cumulative Plus Project scenarios
    - Southbound right AM peak hour conditions during Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios and PM peak hour conditions during Cumulative Plus Project scenarios
    - Westbound right AM peak hour and PM peak hour conditions during Cumulative and Cumulative Plus Project scenarios
- **Wingfield Parkway & Vista Boulevard:**
    - Southbound through AM peak hour conditions during Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios
    - Southbound right PM peak hour conditions during Existing, Existing Plus Project, and Cumulative scenarios, and AM and PM peak hour conditions during Cumulative Plus Project scenario

All other queues are projected to fit within available storage.

Recommended Improvements

All study intersections operate at acceptable LOS under Cumulative Plus Project traffic conditions with the exception of the following:

1. Wingfield Parkway & Vista Boulevard (#3)
2. Wingfield Parkway & Village A Access/Rey Del Sierra Drive (#4)
3. Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) (#8)

The following improvements are recommended to bring the intersection operations to acceptable LOS:

1. Wingfield Parkway & Vista Boulevard (#3)
    a. Widen Vista Boulevard to 6 lanes (this improvement is included in the RTC Regional Transportation Plan (RTP) as a planned improvement)
    b. Restripe the southbound approach to provide one left turn lane, one shared through-right turn lane, and one right turn lane
2. Wingfield Parkway & Village A Access/Rey Del Sierra Drive (#4)
    a. Change the two-way stop-control to a roundabout (RAB)
3. Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) (#8)
    a. Add west leg to provide access to Village A
    b. Change the one-way stop-control to a roundabout (RAB)

Site Access

The Project is made up of two subdivisions, Estates at Wingfield and Foothill. Project access to Estates at Wingfield connects to the main roadway via Wingfield Springs Road and Wingfield Parkway, while Project access to Foothill connects directly from two Village I accesses to Vista Boulevard.

Safety

A total of 58 collisions occurred at the study facilities over the last five years. The severity of most collisions involved was property damage only (PDO) (42 collisions), followed by injuries (15 collisions). The most common collision types were rear end collisions, followed by angle collisions. The most common primary collision factors were other unknown factors, followed by following too closely.

The Project is projected to operate similarly to the existing land uses and driveways in the area. Crash data did not display any areas of concern in the vicinity of the Project that are likely associated with the site. It is unlikely that the addition of Project traffic would result in a significant change in crash rates at the study facilities.

1 INTRODUCTION

This report has been prepared to present the results of the Transportation Impact Study (TIS) performed by Wood Rodgers, Inc. for the proposed Estates at Wingfield and Foothill Planned Unit Development (PUD) Project (Project) located in Sparks, Nevada (City). This analysis has been performed to update the previously prepared TIS to analyze the impacts of replacing the existing golf course and driving range with new housing and to determine any impacts the proposed Project may have on surrounding intersections, as well as identify recommended improvement measures that could be implemented to address any significant impacts.

This analysis focuses on typical weekday operating conditions in and around the Project site. The Project location is shown in **Figure 1** on the following pages. The purpose of this TIS is to address the Project's impacts under the Regional Transportation Commission (RTC) of Washoe County requirements and evaluate the Project's potential off-site and on-site traffic operations. A local traffic operations analysis was conducted to evaluate the Project's potential traffic operational deficiencies and identify improvements as needed.

1.1 PROJECT DESCRIPTION

The Project is located north of Vista Boulevard and will be developed on the to-be-closed Lakes Golf Course owned by Red Hawk Land Company, LLC, approximately 189.25 acres. The Project is separated into two subdivisions, Estates at Wingfield and Foothill, which consist of 764 total residential units. The Project would include 10 Villages and a total of 755 single family detached housing units and 9 townhomes. The existing building that includes administrative offices, golf areas, private club facilities, dining, and event space is anticipated to remain. Project access is via Wingfield Parkway and Wingfield Springs Road.

The current Project Site Plan is illustrated in **Figure 2** on the following pages.

1.2 STUDY AREA

Study facilities include the intersections and roadway segments described below.

1.2.1 Intersections and Roadway Segments

Study intersections and roadway segments were selected based on the Project trip generation estimate and distribution. The following 22 study intersections were analyzed in this TIS:

1. Wingfield Hills Road & Vista Boulevard
2. Village A Access & Vista Boulevard
3. Wingfield Parkway & Vista Boulevard
4. Wingfield Parkway & Rey Del Sierra Drive
5. Wingfield Parkway & Wingfield Springs Road
6. Wingfield Springs Road & Poco Rey Drive
7. Wingfield Springs Road & Diamond Wing Circle
8. Wingfield Springs Road & Eagle Wing Circle (South)/Cinnamon Drive (South)
9. Wingfield Springs Road & Eagle Wing Circle (North)
10. Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)
11. Wingfield Springs Road & General Thatcher Drive/Florentine Drive
12. Silver King Drive & General Thatcher Drive
13. Island Queen Drive & General Thatcher Drive
14. Arrow Smith Drive & General Thatcher Drive
15. Island Queen Drive & Decoy Drive
16. Little Easy Street & Decoy Drive
17. Wingfield Springs Road & Poco Bueno Circle
18. Scorpius Drive/Homerun Drive & Vista Boulevard
19. Fire Station 5 Driveway & Vista Boulevard
20. Vista Boulevard & Black Hills Drive
21. Village I Access (South) & Vista Boulevard (proposed)

22. Vista Boulevard & Village I Access (North) (proposed)

The locations of the above study intersections are shown in **Figure 1** on the following page.

ANALYSIS SCENARIOS

The study facilities were evaluated under weekday AM and PM peak hour conditions for the following scenarios:

- **Existing Conditions:** Existing traffic volumes from collected traffic counts.
- **Existing Plus Project Conditions:** Existing traffic volumes plus traffic projected to be generated by the proposed Project.
- **Cumulative Conditions:** 2050 Cumulative conditions volumes based on RTC Washoe Traffic Demand Model.
- **Cumulative Plus Project Conditions:** Cumulative traffic volumes plus traffic projected to be generated by the proposed Project.

Figure 1. Project Location and Study Vicinity

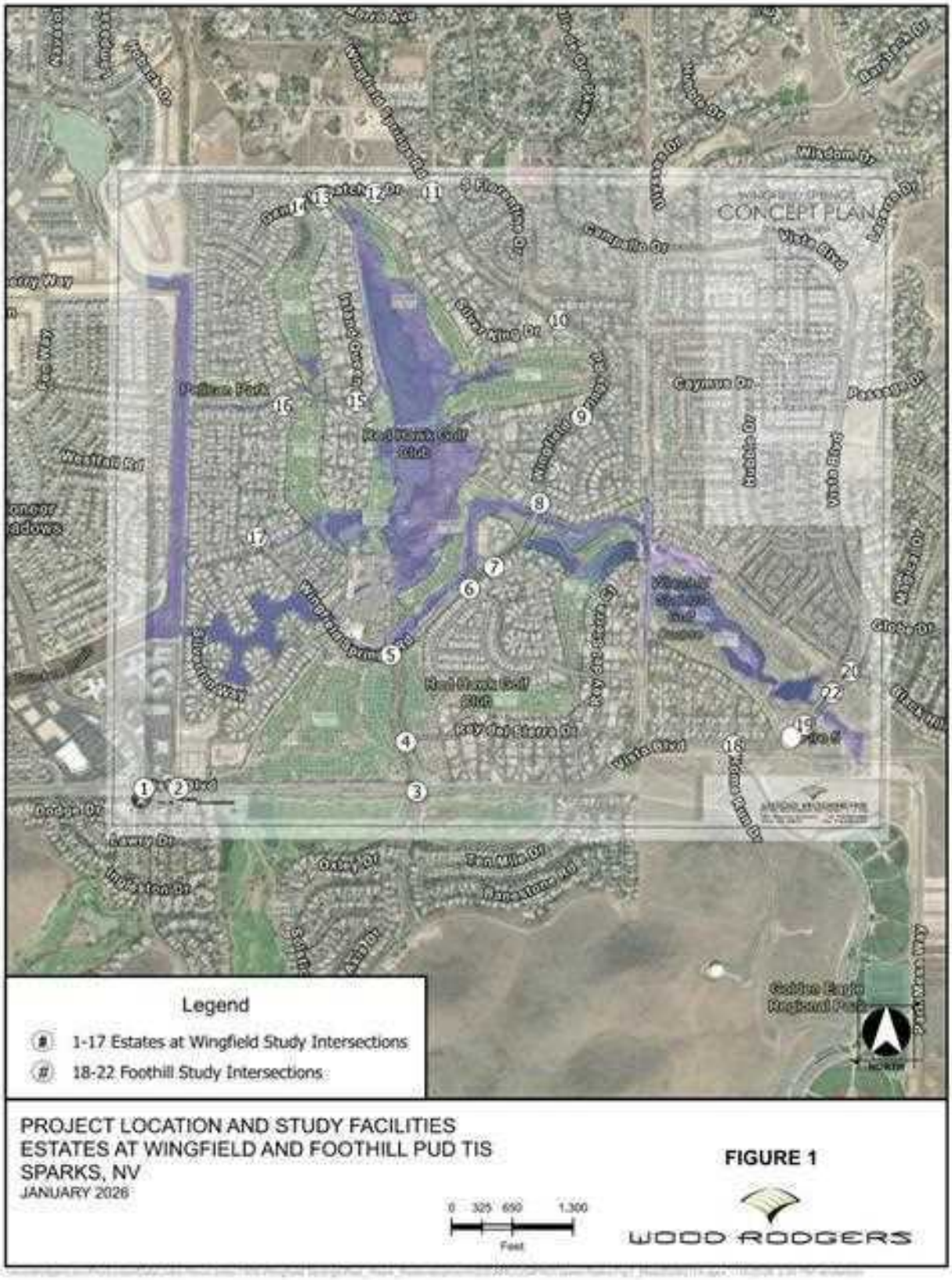


Figure 2. Project Land Use Plan



1.3 ANALYSIS METHODS

Traffic operations in this TIS have been quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. LOS "A" represents free-flow conditions with little to no delays, while LOS "F" represents jammed or grid-lock conditions.

1.3.1 Intersections

Synchro 12 software and Highway Capacity Manual, 7th Edition (HCM 7th Edition) methodology were used to determine intersection delay and Level of Service (LOS) for all stop-controlled and signalized study intersections. For signalized and all-way stop-controlled (AWSC) intersections, the intersection delays and LOS reported are the average values for the whole intersection. For two-way stop-controlled (TWSC) and one-way stop-controlled (OWSC) intersections, the worst approach/movement delay and LOS is reported. The delay-based HCM 7th Edition LOS criteria for different types of intersection controls are outlined in **Table 1.**

Table 1. HCM 7th Edition Based Intersection LOS Thresholds

Level of Service	Description	Intersection Control Delay (seconds/vehicle)	
		Unsignalized	Signalized
A	Free-flow conditions with negligible to minimal delays.	delay ≤ 10.0	delay ≤ 10.0
B	Good progression with slight delays.	10.0 < delay ≤ 15.0	10.0 < delay ≤ 20.0
C	Relatively higher delays.	15.0 < delay ≤ 25.0	20.0 < delay ≤ 35.0
D	Somewhat congested conditions with longer but tolerable delays.	25.0 < delay ≤ 35.0	35.0 < delay ≤ 55.0
E	Congested conditions with significant delays.	35.0 < delay ≤ 50.0	55.0 < delay ≤ 80.0
F	Jammed or grid-lock type operating conditions.	delay > 50.0	delay > 80.0
Source: HCM 7th Edition Exhibit 19-8 and 20-2.			

Due to the proximity of the study locations, the *Synchro* model was utilized to run microsimulation models of the study network using *SimTraffic 12*. Ten (10) 1-hour model runs (with a 10-minute warm-up period) were run and averaged to obtain 95th percentile queueing results at all study intersections.

1.3.2 Signal Warrants

The Manual on Uniform Traffic Control Devices (MUTCD) Peak Hour Signal Warrant #3 was used to evaluate the potential need for the installation of a traffic signal at unsignalized study intersections.

1.4 LEVEL OF SERVICE STANDARDS

The Project is located within the City of Sparks, which uses the RTC's 2050 Regional Transportation Plan (RTP) to determine the LOS standards. **Table E-4** of Appendix E in the RTP indicates that the need for street improvements at a planning level is LOS D for all regional roadway facilities projected to carry less than 27,000 in Average Daily Traffic (ADT) and LOS E for all regional roadway facilities projected to carry more than 27,000 ADT. Vista Boulevard, Wingfield Hills Road, and Wingfield Springs Road are classified as regional roadways in the 2050 Regional Transportation Plan. RTC's traffic forecasting model indicates that Vista Boulevard, Wingfield Hills Road, and Wingfield Springs Road will carry less than 27,000 ADT and therefore LOS D is the standard for study intersections along these roadways. Per Washoe County's Master Plan, LOS C is the LOS standard for the intersections along Wingfield Parkway, General Thatcher Drive, and Decoy Drive since they are not considered regional roadways.

1.5 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

- **Chapter 2: Existing Conditions** – Describes existing conditions and operations of the study area intersections, transit system, pedestrian facilities, and bicycle facilities.
- **Chapter 3: Existing Plus Project Conditions** – Describes the methods used to estimate and distribute Project generated traffic and the resulting study area operations under Existing Plus Project conditions.
- **Chapter 4: Cumulative Conditions** – Describes projected conditions and operations of study area facilities under 2050 Cumulative future conditions.
- **Chapter 5: Cumulative Plus Project Conditions** – Describes projected conditions and operations of study area facilities under Cumulative Plus Project conditions.
- **Chapter 6**: **Project-Related Deficiencies and Recommended Improvements** – Describes the projected operational deficiencies at study area facilities and presents potential improvements.
- **Chapter 7: Project Site Access and Internal Circulation** – Describes site access and on-site circulation for the Project site for all modes of travel.
- **Chapter 8**: **Transit, Pedestrian, and Bicycle Operations and Impacts**– Describes the Project impacts on alternative transportation facilities (transit/shuttles, bicycles, pedestrians).
- **Chapter 9**: **Safety Impacts**– Describes the potential safety concerns of the Project.

2 EXISTING CONDITIONS

This chapter describes the Existing roadway network, transit services, pedestrian facilities, and bicycle facilities within the study area. It also presents Existing traffic volumes at study intersections and traffic operations under Existing weekday AM and PM peak hour conditions.

2.1 EXISTING ROADWAY NETWORK

This section provides descriptions of the study area roadways.

Vista Boulevard is an east-west roadway that provides connectivity to Interstate 80, approximately 7.25 miles south of the Project, and Hubble Drive approximately 2 miles north of the Project. Within the Project area, Vista Boulevard is currently classified as a 4-lane Minor Arterial roadway west of Wingfield Parkway and 4-lane Minor Collector roadway east of Wingfield Parkway by the NDOT Roadway Functional Classification (2016) and a Regional roadway by the RTC 2050 Regional Transportation Plan. The posted speed limit is 40 mph west of Wingfield Parkway and 35 mph east of Wingfield Parkway.

Wingfield Hills Road is a north-south roadway that provides connectivity to Pyramid Way, approximately 2 miles north of the Project, and Telehurst Drive, approximately 1.5 miles south of the Project. Within the Project area, Wingfield Hills Road is currently classified as a 4-lane Minor Arterial roadway north of Vista Boulevard and a 2-lane local roadway south of Vista Boulevard by the NDOT Roadway Functional Classification (2016) and a Regional roadway by the RTC 2050 Regional Transportation Plan. The posted speed limit is 35 mph.

Wingfield Parkway is a north-south roadway with a southern limit at Wingfield Hills Road approximately 0.25 miles south of the Project and a northern limit at Wingfield Springs Road within the Project. The roadway is classified as a 4-lane Minor Collector by the NDOT Roadway Functional Classification (2016). The posted speed limit is 25 mph.

Wingfield Springs Road is a north-south roadway with a northern limit at Calle De Oro Parkway approximately 0.5 miles north of the Project and a southern limit at Wingfield Parkway within the Project. The roadway is classified as a 2-lane local roadway by the NDOT Roadway Functional Classification (2016) and a Regional roadway by the RTC 2050 Regional Transportation Plan. The posted speed limit is 25 mph.

General Thatcher Drive is an east-west roadway with an eastern limit at Wingfield Springs Road within the Project and a western limit at Chaucer Street approximately 0.1 miles west of the Project. The roadway is classified as a 2-lane Minor Collector by the NDOT Roadway Functional Classification (2016). The posted speed limit is 25 mph.

2.2 EXISTING PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

There are currently pedestrian sidewalks along the north side of Vista Boulevard and both sides of Wingfield Hills Road within the Project vicinity. Pedestrian sidewalks exist along the west side of Wingfield Parkway and the north side of Wingfield Springs Road within the Project vicinity, and along both sides of General Thatcher Drive.

Bicycle facilities currently include Shared Lanes within the Project vicinity.

There are currently no public bus routes located within the Project vicinity.

2.3 BICYCLE FACILITIES

The RTC Bicycle & Pedestrian Master Plan (June 2017), classifies bikeway facilities as follows:

- Shared-Use Path – Shared use paths are facilities separated from the roadway, for the exclusive use of bicyclists and pedestrians, with minimal cross flow by motor vehicles.
- Bicycle Lane – A bicycle lane is within the paved street and are identified with striping, stencils, and signs for semi-exclusive use by bicyclists. Vehicle cross flow is generally permitted at intersections and driveways.

- Buffered Bike Lane – A buffered bike lane can be provided on roadways with sufficient width providing cyclists with a greater sense of security as they can travel farther away from vehicle traffic.
- Shared Lanes – Shared roadways provide right-of-way for bicycles in the vehicle travel lane with signs and pavement markings designating the shared travel way. A Shared Lane Marking (or "sharrow") can be marked in the outside lane of a shared roadway to show the suggested path of travel for bicyclists.
- Cycle Track – A cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic distinct from the sidewalk.

Study area bicycle facilities have been identified using information from the latest aerial images and field visits. There are currently Bicycle facilities including Shared Lanes along the Project vicinity.

2.4 EXISTING INTERSECTION OPERATIONS

2.4.1 Existing Traffic Counts

Intersection traffic operations were evaluated for the weekday AM and PM peak hours. The AM peak hour is defined as the highest one hour of traffic flow counted between 7:00 AM and 9:00 AM on a typical weekday. The PM peak hour was based on the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday. Wood Rodgers obtained AM and PM peak hour vehicular traffic counts at the 20 existing study intersections on Wednesday, November 19th, 2025. Traffic count data is provided in **Appendix A**. Estates at Wingfield study intersections are labeled as 1-17 (17 existing study intersections) and Foothill study intersections are labeled 18-22 (three (3) existing study intersections and two (2) proposed Project access intersections)

Figure 3 on the following pages illustrates Existing intersection lane geometrics and control for the study area intersections. **Figure 4** on the following pages depicts Existing conditions turning movements volumes for AM and PM weekday peak hours.

2.4.2 Existing Conditions Intersection Level of Service

Table 2 presents Existing study intersection traffic operations under Existing intersection lane geometrics and control (illustrated in **Figure 3**) and Existing traffic volumes (illustrated in **Figure 4).** Study intersections were calculated using HCM 7th edition in Synchro 12 software.

Table 2. Existing Intersection Operations

Subdivision	#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions		
						Delay (S/V)[1]	LOS	Wrnt Met?[2]
Estates at Wingfield	1	Wingfield Hills Road & Vista Boulevard	Signal	D	AM	22.7	C	-
					PM	22.5	C	-
	2	Village A Access & Vista Boulevard	OWSC[1]	D	AM	17.3	C	No
					PM	11.5	B	No
	3	Wingfield Parkway & Vista Boulevard	Signal	D	AM	35.8	D	-
					PM	16.6	B	-
	4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	TWSC[2]	D	AM	13.7	B	-
					PM	15.1	C	-
	5	Wingfield Parkway & Wingfield Springs Road	AWSC[3]	D	AM	12.9	B	-
					PM	10.8	B	-

	6	Wingfield Springs Road & Poco Rey Drive	OWSC[1]	D	AM	13.3	B	No
					PM	12.5	B	No
	7	Wingfield Springs Road & Diamond Wing Court	OWSC[1]	D	AM	14.2	B	No
					PM	10.7	B	No
	8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	TWSC[2]	D	AM	14.1	B	No
					PM	23.1	C	No
	9	Wingfield Springs Road & Eagle Wing Circle (North)	OWSC[1]	D	AM	11.4	B	No
					PM	11.4	B	No
	10	Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	TWSC[2]	D	AM	11.1	B	No
					PM	12.0	B	No
	11	Wingfield Springs Road & General Thatcher Drive	TWSC[2]	D	AM	11.1	B	No
					PM	10.9	B	No
	12	Silver King Drive & General Thatcher Drive	OWSC[1]	C	AM	8.6	A	No
					PM	8.6	A	No
	13	Island Queen Drive & General Thatcher Drive	OWSC[1]	C	AM	8.5	A	No
					PM	8.5	A	No
	14	Arrow Smith Drive & General Thatcher Drive	TWSC[2]	C	AM	8.7	A	No
					PM	9.0	A	No
	15	Island Queen Drive & Decoy Drive	OWSC[1]	C	AM	8.8	A	No
					PM	8.7	A	No
	16	Little Easy Street & Decoy Drive	OWSC[1]	C	AM	8.6	A	No
					PM	8.4	A	No
	17	Wingfield Springs Road & Poco Bueno Circle	TWSC[2]	C	AM	7.4	A	No
					PM	7.3	A	No
Foothill	18	Scorpius Drive/Homerun Drive & Vista Boulevard	Signal	D	AM	10.8	B	No
					PM	11.4	B	No
	19	Fire Station 5 Driveway & Vista Boulevard	Signal	D	AM	1.1	A	No
					PM	1.2	A	No
	20	Vista Boulevard & Black Hills Drive	OWSC[1]	D	AM	14.6	B	No
					PM	18.6	C	No
	21	Village I Access (South) & Vista Boulevard[6]	OWSC[1]	D	AM	0.0	A	No
					PM	0.0	A	No
	22	Vista Boulevard & Village I Access (North)[6]	OWSC[1]	D	AM	0.0	A	No
					PM	0.0	A	No

Notes: ***Bold*** *values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled (i.e., minor street stop-controlled)
[2] TWSC = Two-Way Stop-Controlled
[3] AWSC = All-Way Stop-Controlled
[4] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For Signalized and AWSC intersections, average intersection delay is reported.
[5] Wrnt Met? = Peak Hour Signal Warrant #3
[6] Proposed Village I access

As shown in **Table 2**, all study intersections currently operate at acceptable LOS conditions. Synchro software intersection LOS output reports are included in **Appendix B**. MUTCD Peak Hour Signal Warrant #3 is currently unmet at the unsignalized intersection during both peak hours. Signal warrant worksheets are provided in **Appendix C**.

Figure 3. Existing Conditions Lane Geometrics and Control

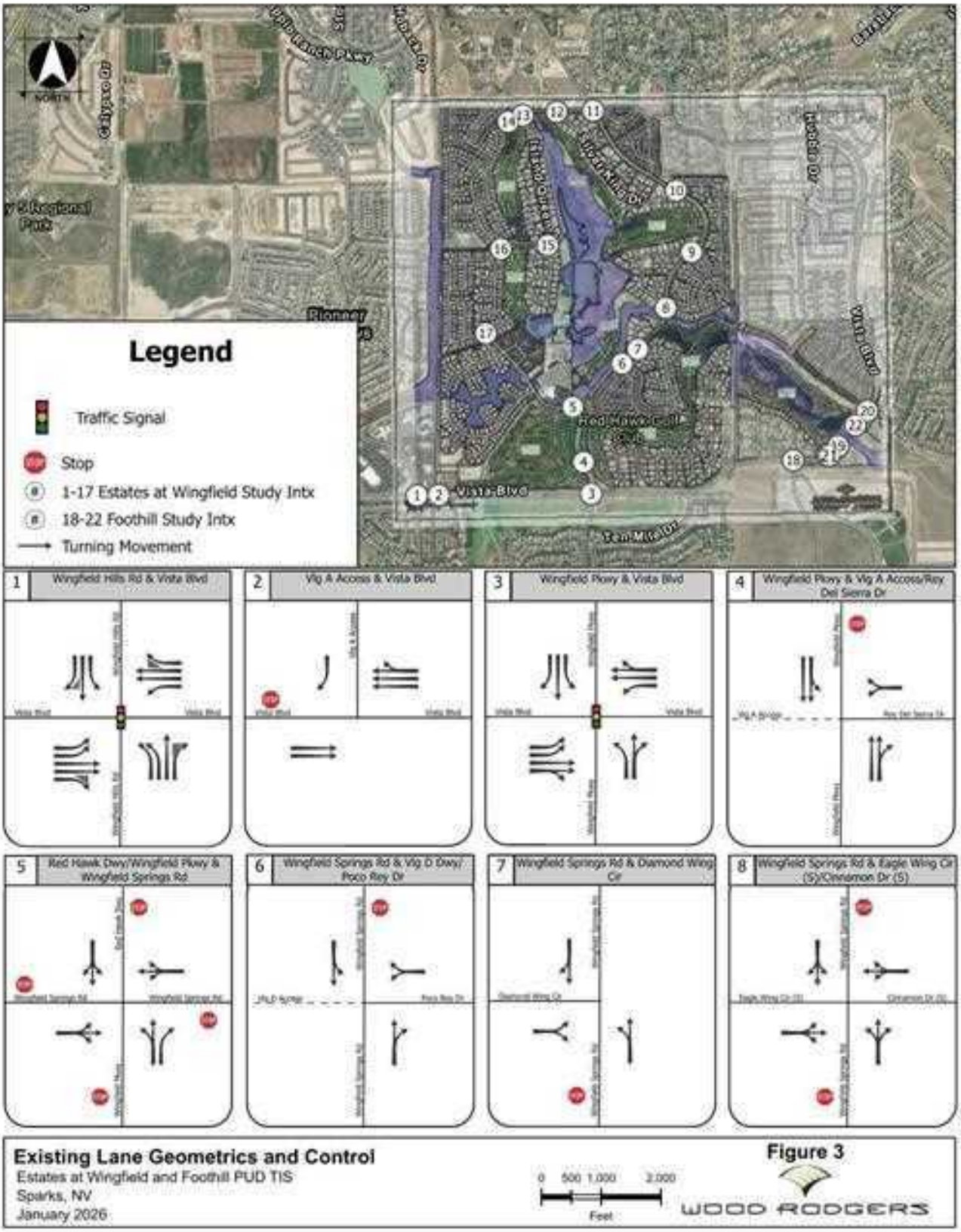


Figure 3. Existing Conditions Lane Geometrics and Control

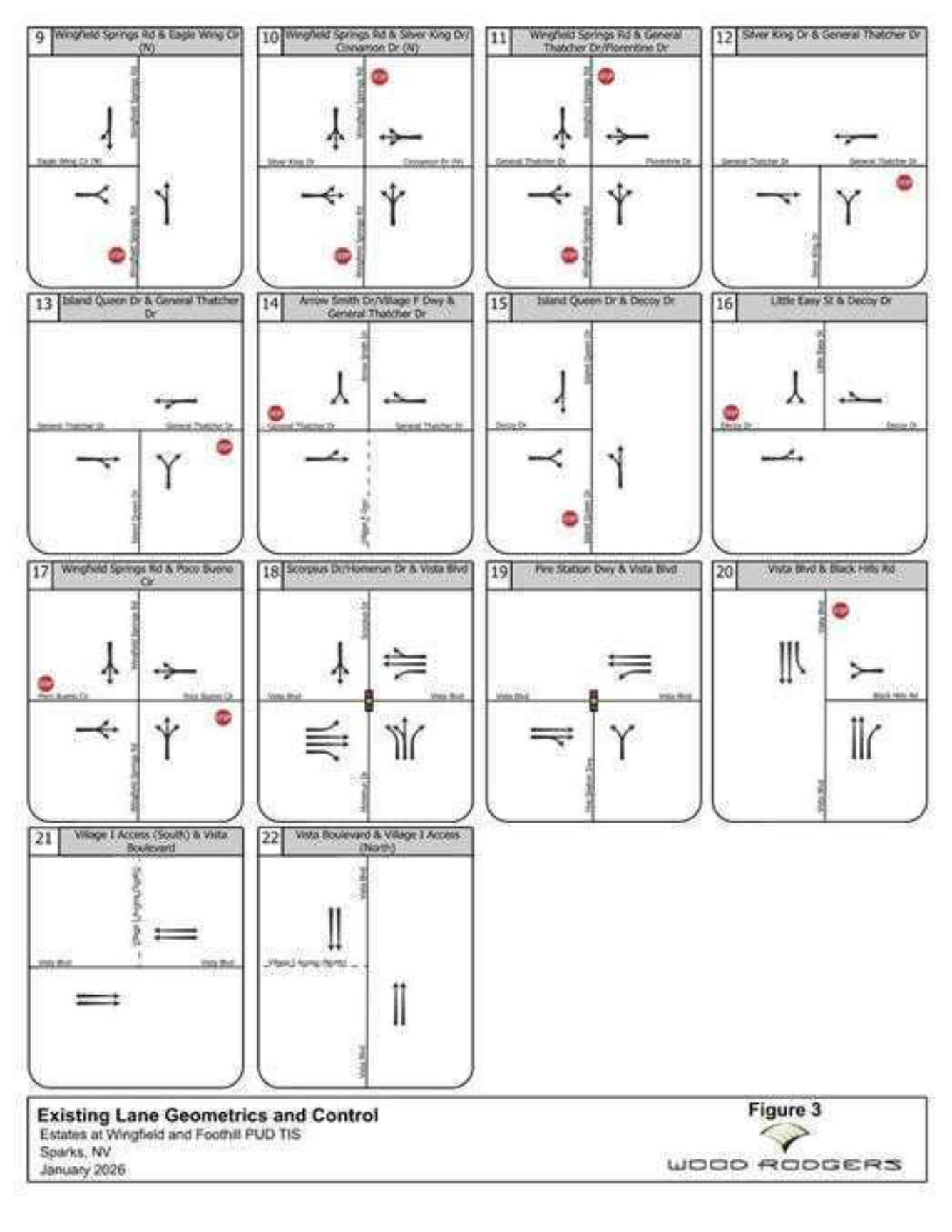


Figure 4. Existing Conditions Traffic Volumes

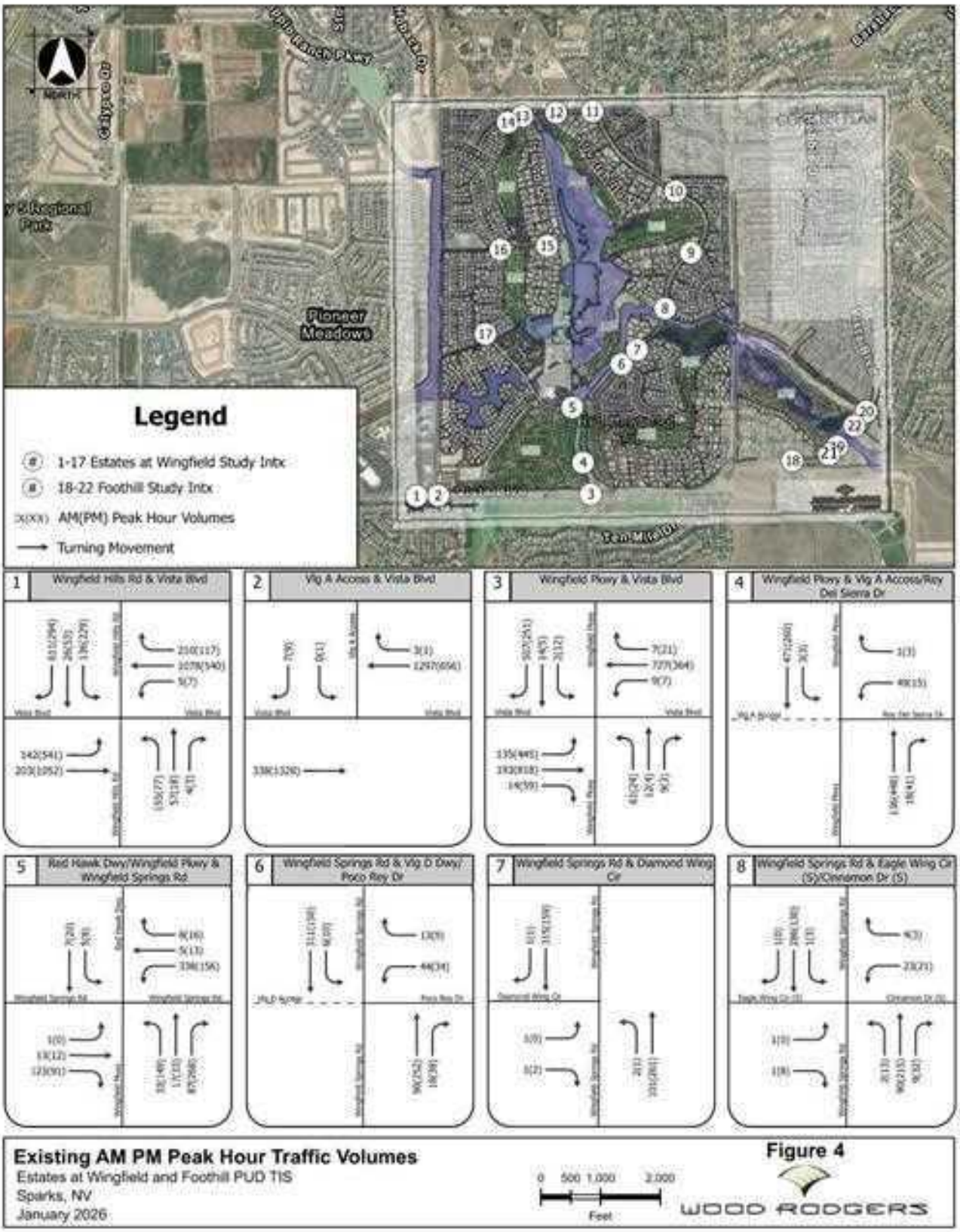
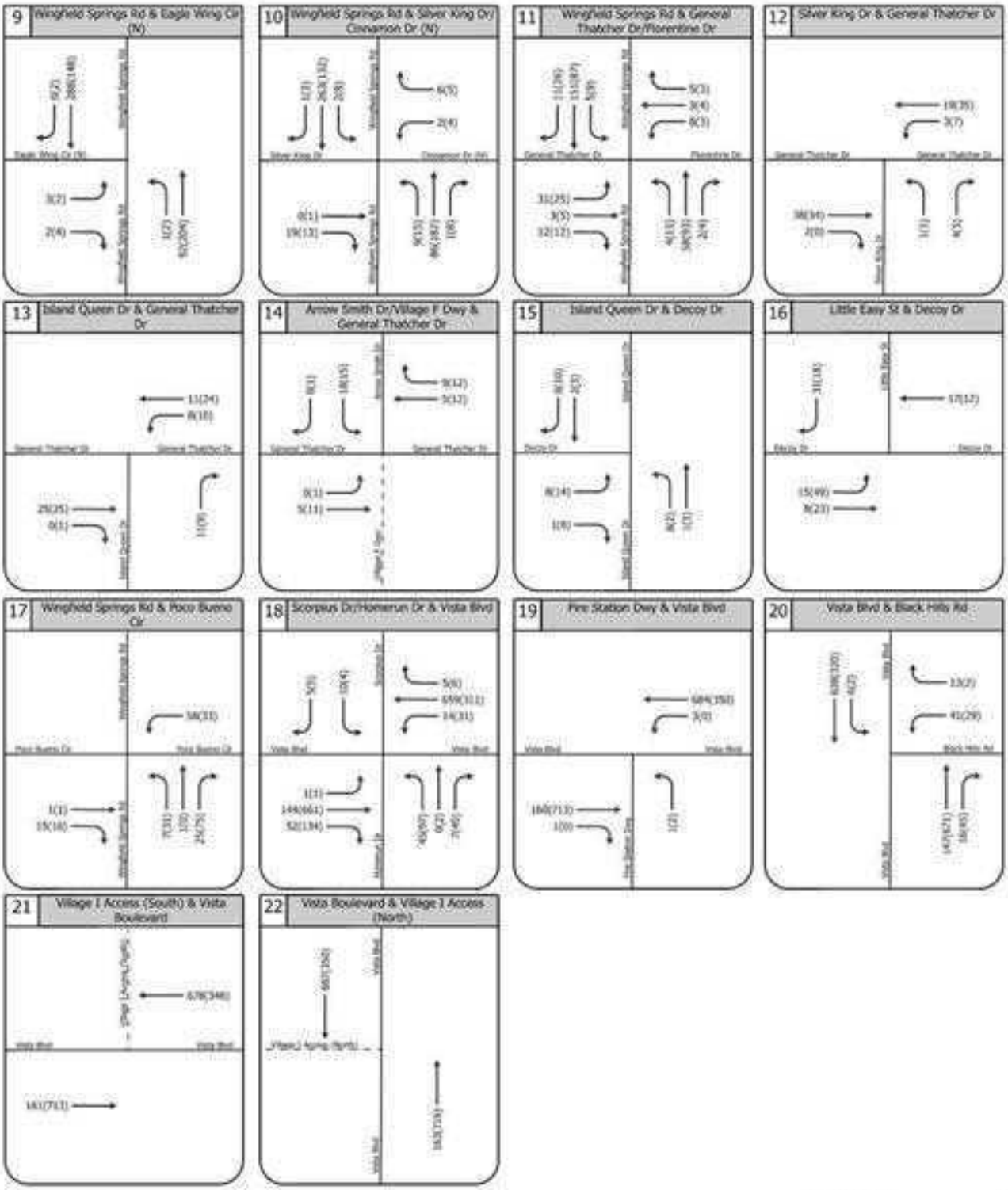


Figure 4. Existing Conditions Traffic Volumes



3 EXISTING PLUS PROJECT CONDITIONS

This chapter provides a description of the proposed Project, a discussion of the trip generation and distribution/assignment methods used to assign Project trips to study intersections, and an analysis of projected traffic operations and deficiencies under Existing Plus Project conditions.

3.1 PROJECT SITE

3.1.1 Project Site Access

The Project is made up of two subdivisions, Estates at Wingfield and Foothill. Project access to Estates at Wingfield connects via Wingfield Springs Road and Wingfield Parkway, while Project access to Foothill connects directly from two Village I accesses to Vista Boulevard. The current Project site plans are included in **Figure 2**.

3.2 PROJECT GENERATED TRIPS

3.2.1 Trip Generation

The trip generation data contained in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition,* was used to approximate the number of trips generated by the Project. **Table 3** shows the Project trip generation rates.

The Single Family Detached Housing ITE land use category (ITE Code 210) and Single Family Attached Housing ITE land use category (ITE Code 215) were used to represent the project.

Table 3. Project Trip Generation Rates

Land Use	Source	ITE Code	Units	Weekly Daily Trip Rate/ Unit[1]	Weekday AM Peak Hour Rate/Unit			Weekday PM Peak Hour Rate/Unit[2]		
					Total	In	Out	Total	In	Out
Single Family Detached Housing	ITE	210	DU[2]	9.09	0.70	25%	75%	0.93	62%	38%
Single Family Attached Housing	ITE	215	DU[2]	6.57	0.47	25%	75%	0.51	57%	43%

Notes:
[1] The daily trip rate and peak hour trip rates are based on the average rates for the proposed land use consistent with information contained in the ITE Trip Generation Manual, 12th Edition

The Project is split into two (2) subdivisions, Estates at Wingfield and Foothill, made up of 10 Villages (Village A-J). **Table 4** shows the Project rates for each village and subdivision.

Table 4. Project Trip Generation Volumes

Subdivision	Village	Land Use	Quantity	Units	Daily	AM Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out
Estates at Wingfield	Village A	SFD[2]	195	DU[3]	1773	137	34	103	181	112	69
	Village B	SFD[2]	75	DU[3]	682	53	13	40	70	43	27
	Village C	SFD[2]	75	DU[3]	682	53	13	40	70	43	27
	Village D	SFD[2]	18	DU[3]	164	13	3	10	17	11	6
	Village E	SFD[2]	41	DU[3]	373	29	7	22	38	24	14
	Village F	SFD[2]	62	DU[3]	564	43	11	32	58	36	22
	Village G	SFD[2]	37	DU[3]	336	26	6	20	34	21	13
	Village H	SFD[2]	94	DU[3]	854	66	16	50	87	54	33
	Village J	SFA	9	DU[3]	82	4	1	3	5	3	2
Total Wingfield SFD			597		5,428	420	103	317	555	344	211
Total Wingfield SFA			9		82	4	1	3	5	3	2
Foothill	Village I	SFD[2]	158	DU[3]	1436	111	28	83	147	91	56
Total Foothill SFD			158		1436	111	28	83	147	91	56
Total Project SFD					6,864	531	131	400	702	435	267
Total Project SFA					82	4	1	3	5	3	2
Total Project Net Trips					6,946	535	132	403	707	438	269

As shown in **Table 4**, the Estates at Wingfield portion of the Project is estimated to generate a total of 5,510 Daily trips, 424 AM peak hour trips (104 Inbound, 320 Outbound), and 560 PM peak hour trips (347 Inbound, 213 Outbound) under typical weekday traffic demand conditions, and the Foothill portion of the Project is estimated to generate 1,436 Daily trips, 111 AM peak hour trips (28 Inbound, 83 Outbound), and 147 PM peak hour trips (91 Inbound, 56 Outbound) under typical weekday traffic demand conditions.

The total Project estimated trips are 6,946 Daily trips, 535 AM peak hour trips (132 Inbound, 403 Outbound), and 707 PM peak hour trips (438 Inbound, 269 Outbound) under typical weekday traffic demand conditions.

Trip Distribution and Assignment

The Project trip distribution was determined based on existing traffic counts and travel patterns, knowledge of the area, and engineering judgement. Project trip distribution and assignment is shown in **Figure 5.1** and **Figure 5.2**.

Figure 5.1. Estates at Wingfield Study Intersections Project-Only Trips and Distribution

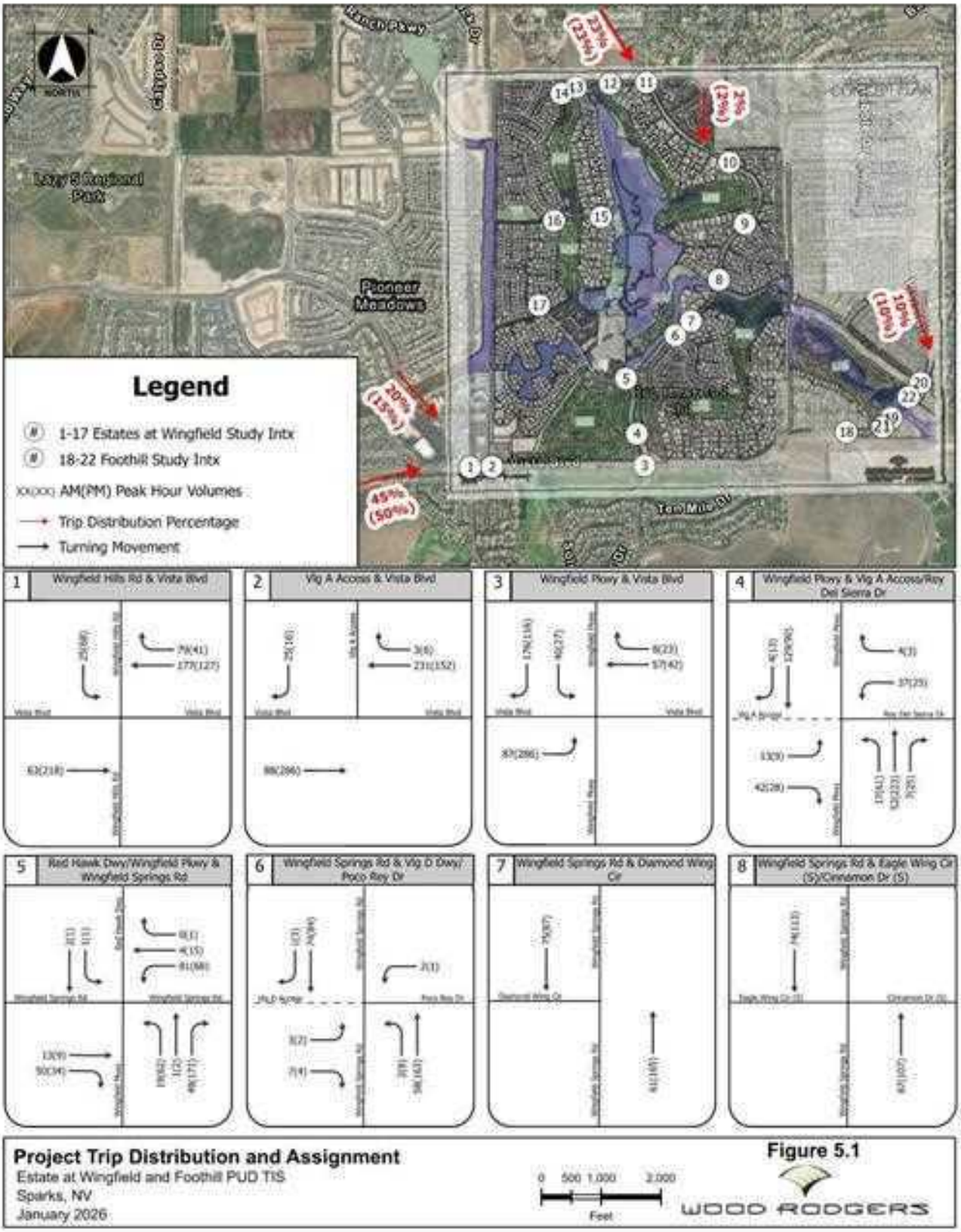
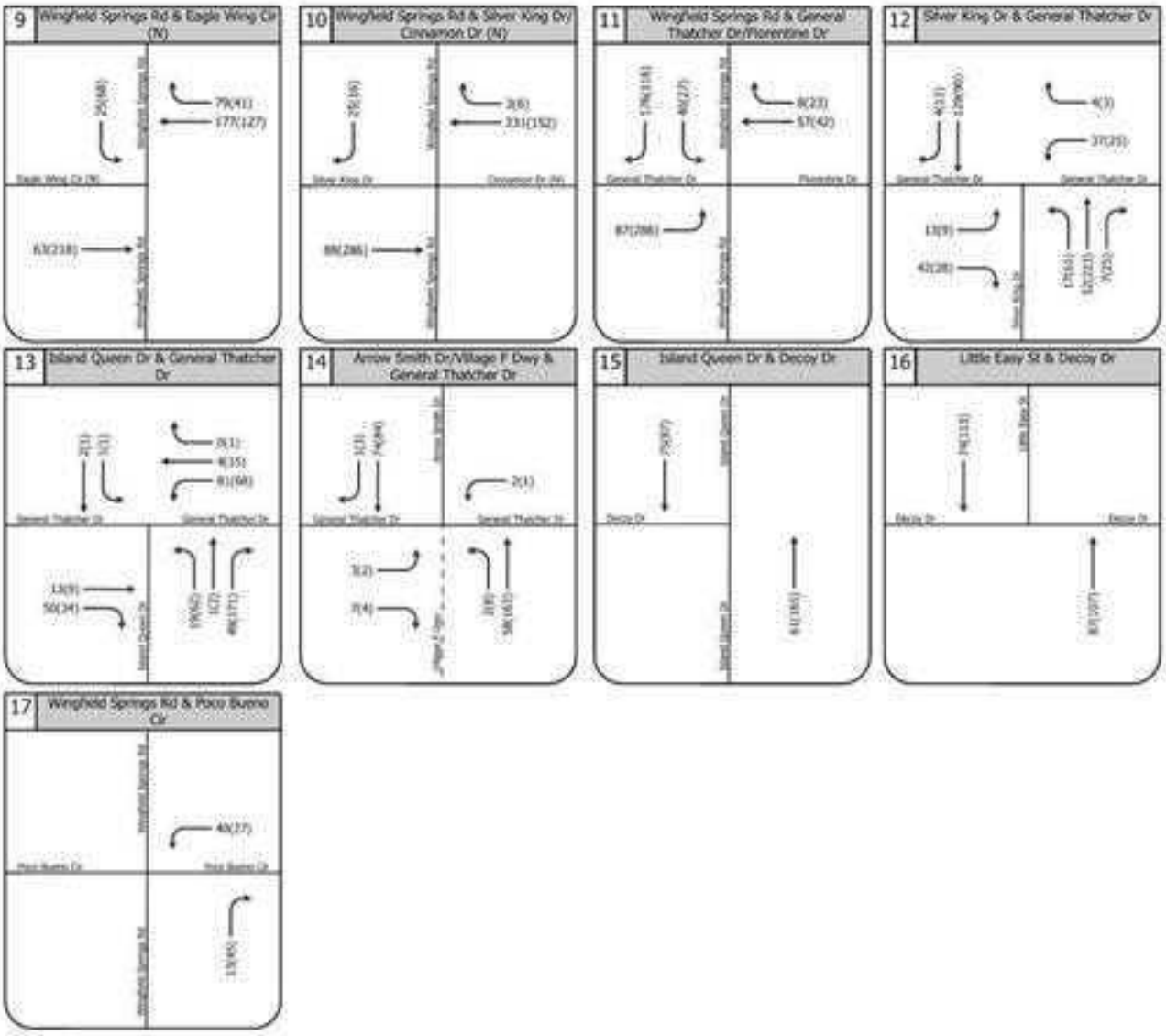


Figure 5.1. Estates at Wingfield Study Intersections Project-Only Trips and Distribution

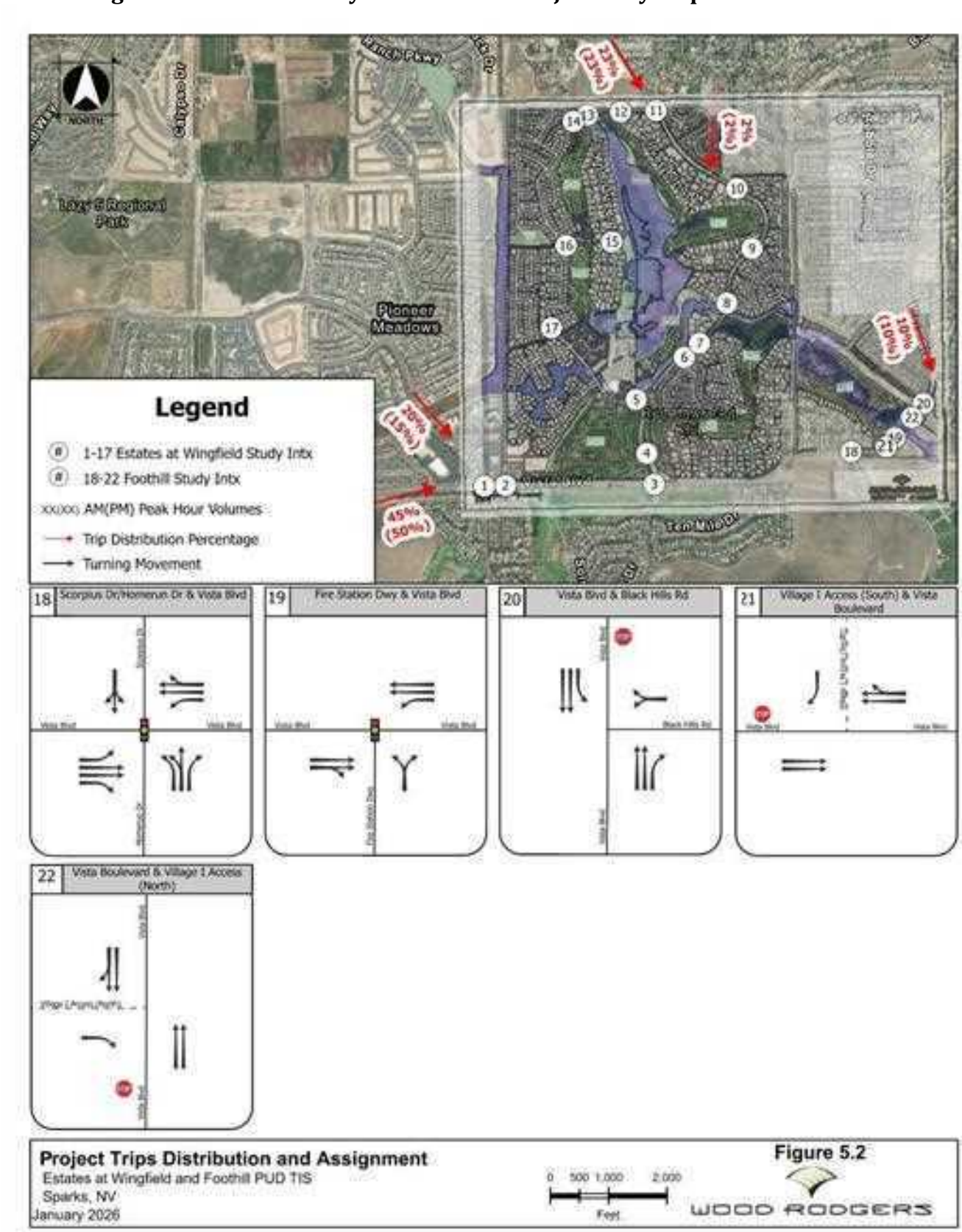


Project Trip Distribution and Assignment
Estates at Wingfield and Foothill PUD TIS
Sparks, NV
January 2026

Figure 5.1

WOOD RODGERS

Figure 5.2. Foothill Study Intersections Project-Only Trips and Distribution



3.2.2 Existing Plus Project Conditions Intersection Level of Service

Project trips were added to Existing conditions traffic volumes to obtain Existing Plus Project conditions traffic volumes, shown in **Figure 7. Table 5** presents Existing Plus Project study intersection traffic operations under Existing Plus Project lane geometrics and control (illustrated in **Figure 6**). **Table 5** also shows operations under Existing conditions for comparison purposes. Study intersections traffic operations were calculated with HCM 7th edition using Synchro 12 software.

Table 5. Existing Plus Project Intersection Operations

Subdivision	#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions			Existing Plus Project Conditions		
						Delay (S/V)[1]	LOS	Wrnt Met?[2]	Delay (S/V)[1]	LOS	Wrnt Met?[2]
Estates at Wingfield	1	Wingfield Hills Road & Vista Boulevard	Signal	D	AM	22.7	C	-	26.8	C	-
					PM	22.5	C	-	28.8	C	-
	2	Village A Access & Vista Boulevard	OWSC[1]	D	AM	17.3	C	No	22.3	C	No
					PM	11.5	B	No	12.6	B	No
	3	Wingfield Parkway & Vista Boulevard	Signal	D	AM	35.8	D	-	**62.3**	**E**	-
					PM	16.6	B	-	20.8	C	-
	4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	TWSC[2]	D	AM	13.7	B	-	22.5	C	-
					PM	15.1	C	-	32.2	D	-
	5	Wingfield Parkway & Wingfield Springs Road	AWSC[3]	D	AM	12.9	B	-	21.7	C	-
					PM	10.8	B	-	15.4	C	-
	6	Wingfield Springs Road & Poco Rey Drive	OWSC[1]	D	AM	13.3	B	No	17.3	C	No
					PM	12.5	B	No	15.8	C	No
	7	Wingfield Springs Road & Diamond Wing Court	OWSC[1]	D	AM	14.2	B	No	17.4	C	No
					PM	10.7	B	No	12.5	B	No
	8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	TWSC[2]	D	AM	14.1	B	No	19.1	C	No
					PM	23.1	C	No	**65.5**	**F**	No
	9	Wingfield Springs Road & Eagle Wing Circle (North)	OWSC[1]	D	AM	11.4	B	No	13.1	B	No
					PM	11.4	B	No	15.2	C	No
	10	Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	TWSC[2]	D	AM	11.1	B	No	11.6	B	No
					PM	12.0	B	No	14.2	B	No
	11	Wingfield Springs Road & General Thatcher Drive	TWSC[2]	D	AM	11.1	B	No	13.4	B	No
					PM	10.9	B	No	13.7	B	No
	12	Silver King Drive & General Thatcher Drive	OWSC[1]	C	AM	8.6	A	No	8.8	A	No
					PM	8.6	A	No	8.8	A	No
	13	Island Queen Drive & General Thatcher Drive	OWSC[1]	C	AM	8.5	A	No	8.6	A	No
					PM	8.5	A	No	8.5	A	No
	14	Arrow Smith Drive & General Thatcher Drive	TWSC[2]	C	AM	8.7	A	No	8.8	A	No
					PM	9.0	A	No	9.4	A	No
	15	Island Queen Drive & Decoy Drive	OWSC[1]	C	AM	8.8	A	No	8.9	A	No
					PM	8.7	A	No	8.7	A	No

	16	Little Easy Street & Decoy Drive	OWSC[1]	C	AM	8.6	A	No	9.0	A	No
					PM	8.4	A	No	8.6	A	No
	17	Wingfield Springs Road & Poco Bueno Circle	TWSC[2]	C	AM	7.4	A	No	7.5	A	No
					PM	7.3	A	No	7.4	A	No
Foothill	18	Scorpius Drive/Homerun Drive & Vista Boulevard	Signal	D	AM	10.8	B	No	10.7	B	No
					PM	11.4	B	No	11.4	B	No
	19	Fire Station 5 Driveway & Vista Boulevard	Signal	D	AM	1.1	A	No	1.1	A	No
					PM	1.2	A	No	1.2	A	No
	20	Vista Boulevard & Black Hills Drive	OWSC[1]	D	AM	14.6	B	No	15.8	C	No
					PM	18.6	C	No	19.8	C	No
	21	Village I Access (South) & Vista Boulevard[6]	OWSC[1]	D	AM	0.0	A	No	11.2	B	No
					PM	0.0	A	No	9.7	A	No
	22	Vista Boulevard & Village I Access (North)[6]	OWSC[1]	D	AM	0.0	A	No	11.1	B	No
					PM	0.0	A	No	9.7	A	No

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled (i.e., minor street stop-controlled)
[2] TWSC = Two-Way Stop-Controlled
[3] AWSC = All-Way Stop-Controlled
[4] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For Signalized and AWSC intersections, average intersection delay is reported.
[5] Wrnt Met? = Peak Hour Signal Warrant #3
[6] Proposed Village I access

As shown in **Table 5**, the Wingfield Parkway and Vista Boulevard intersection is expected to operate at an unacceptable LOS under AM peak hour conditions during Existing Plus Project conditions, and Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) intersection are expected to operate at an unacceptable LOS under PM peak hour conditions during Existing Plus Project conditions. All other study intersections are projected to operate at acceptable LOS conditions under Existing and Existing Plus Project conditions. Synchro software intersection LOS output reports are included in **Appendix B**. MUTCD Peak Hour Signal Warrant is not projected to be met at the unsignalized study intersections. Signal warrant worksheets are provided in **Appendix C.**

Figure 6. Existing Plus Project Lane Geometrics and Control

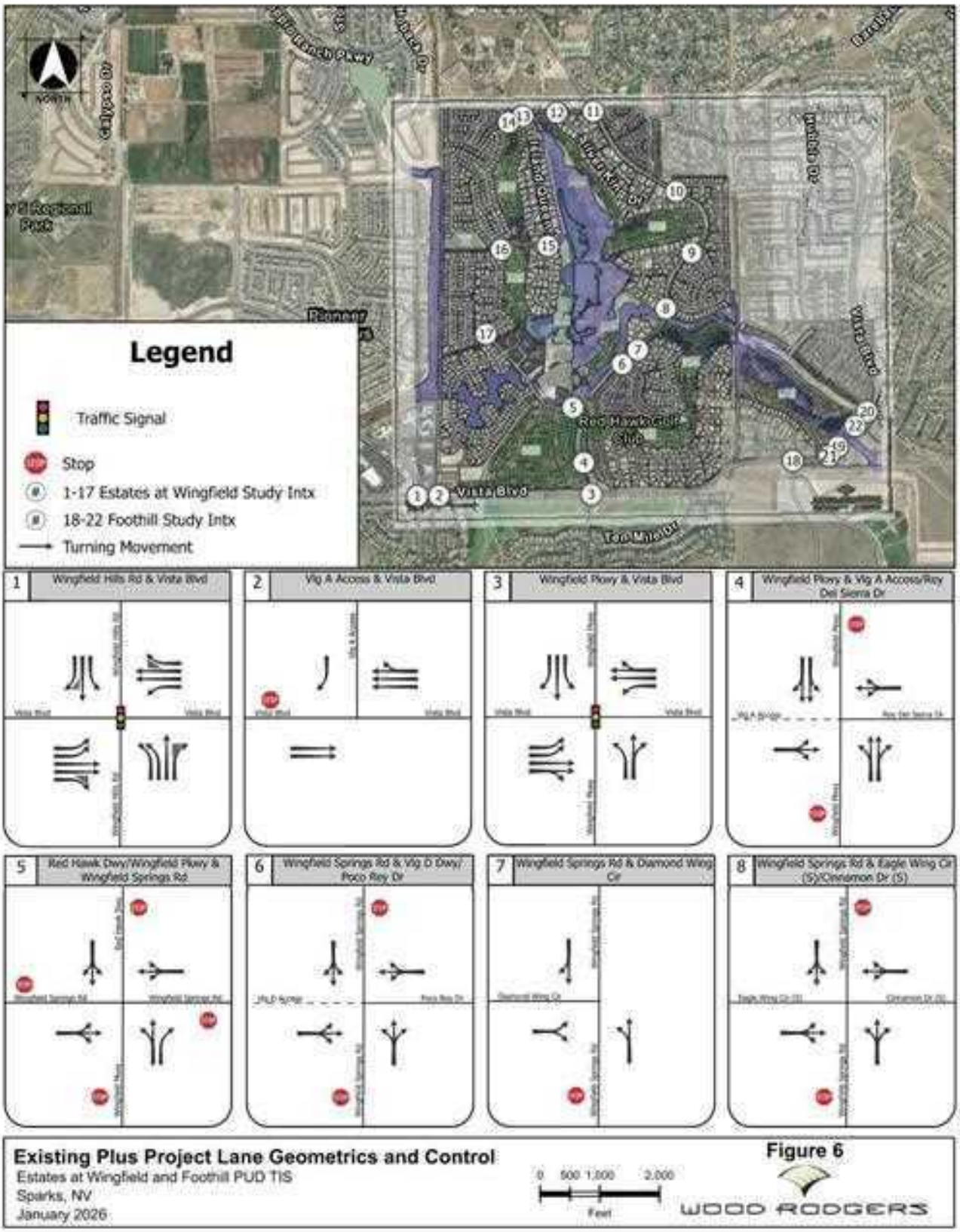


Figure 6. Existing Plus Project Lane Geometrics and Control

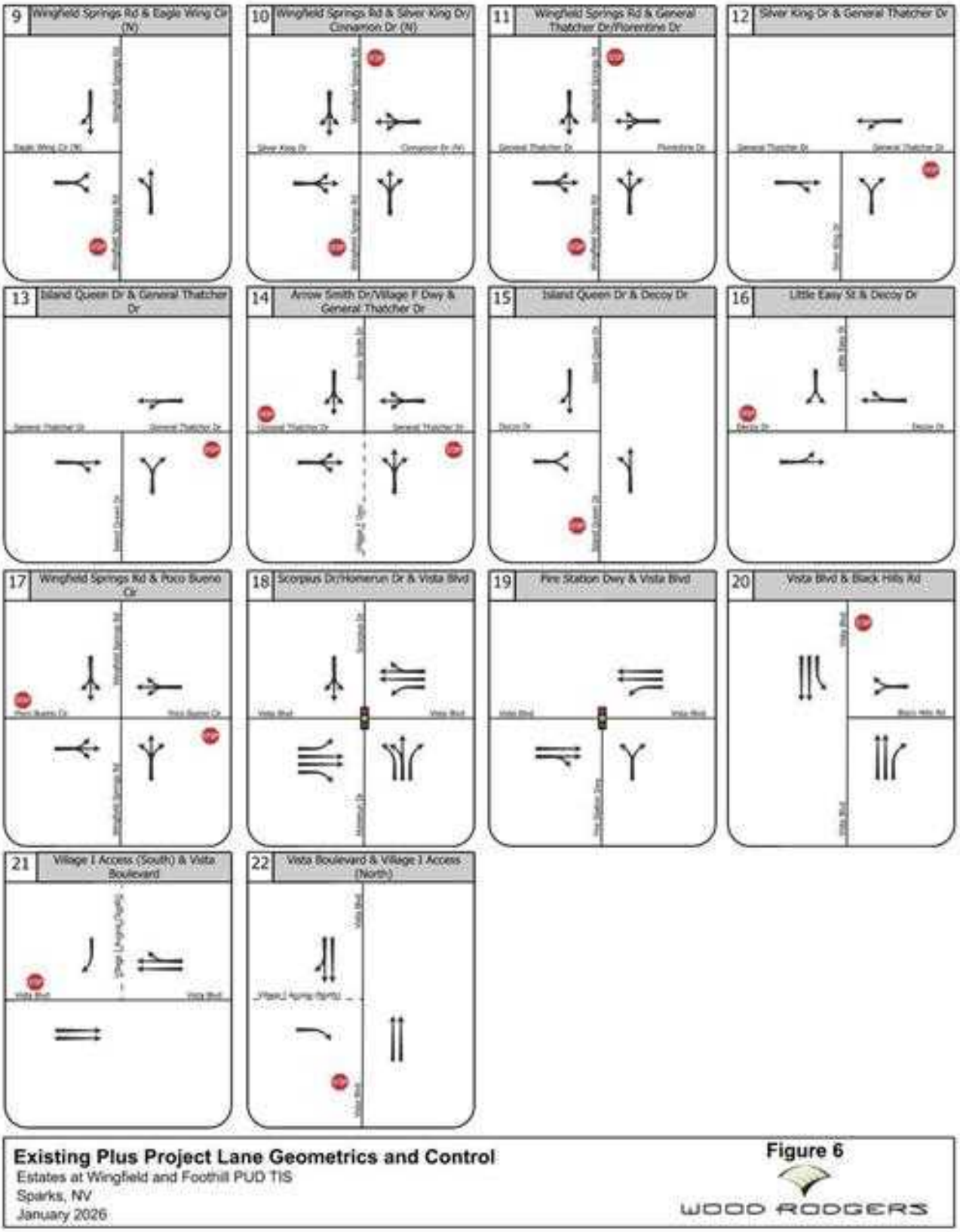


Figure 7. Existing Plus Project Traffic Volumes

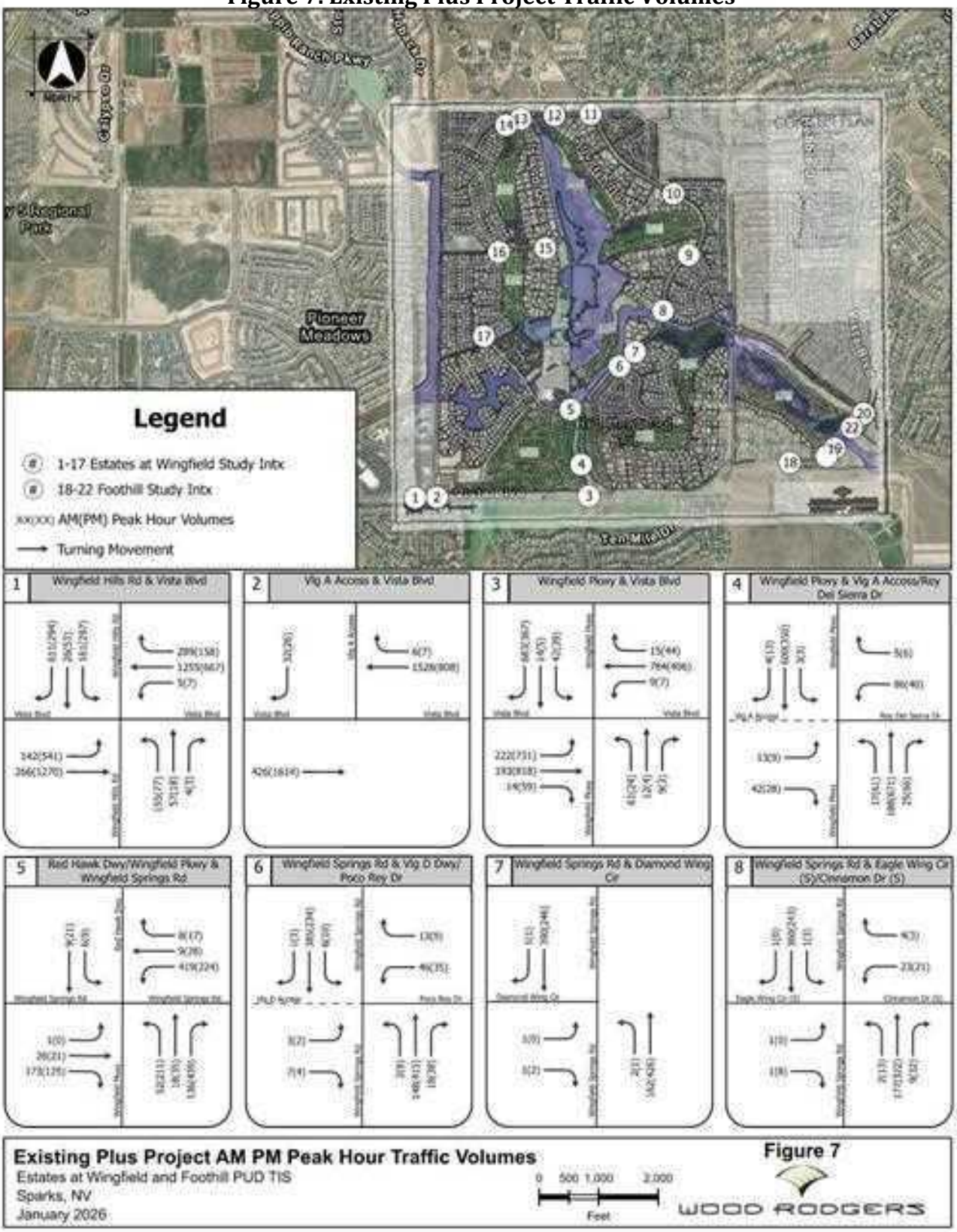
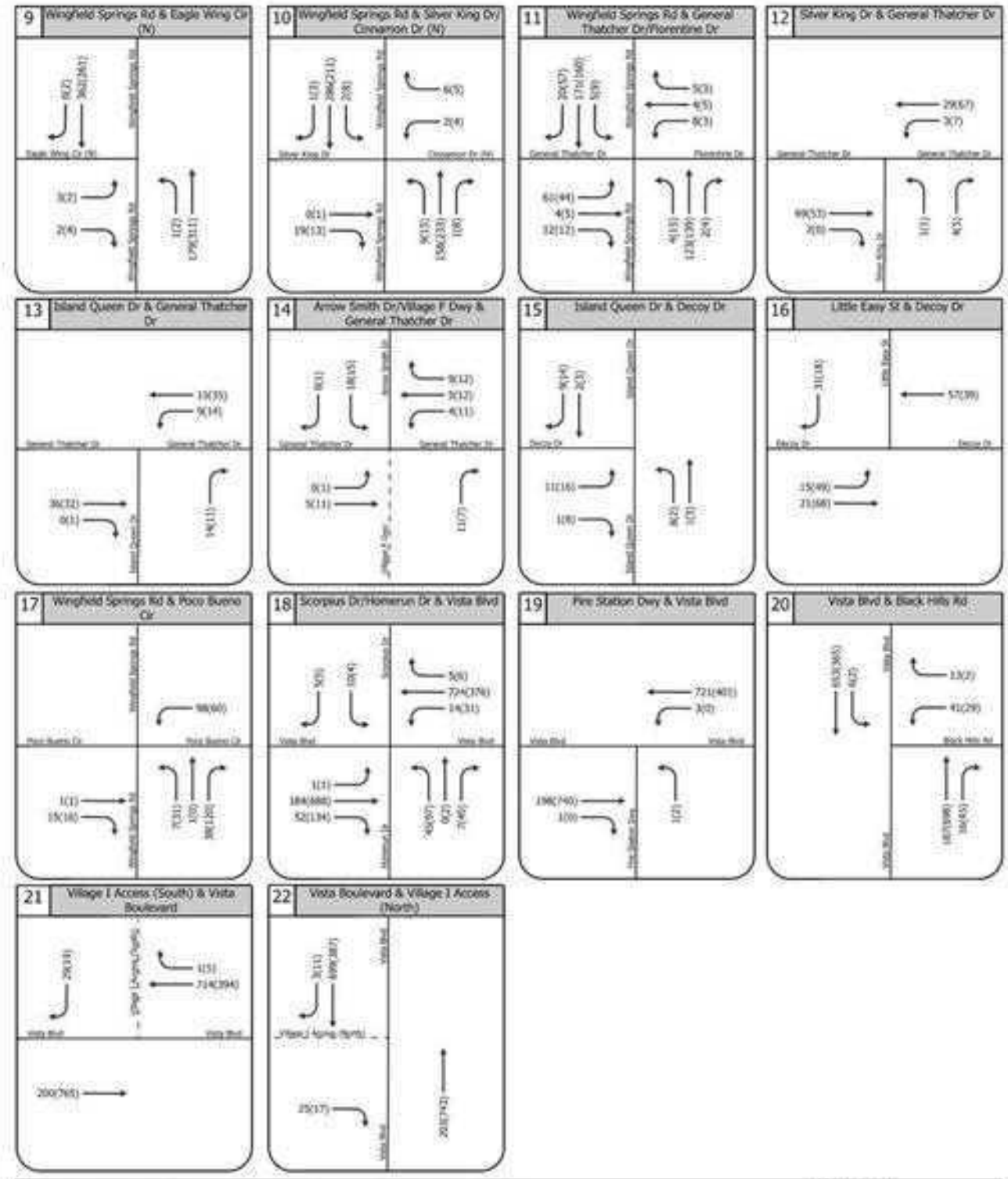


Figure 7. Existing Plus Project Traffic Volumes



Existing Plus Project AM PM Peak Hour Traffic Volumes
Estates at Wingfield and Foothill PUD TIS
Sparks, NV
January 2026

Figure 7
WOOD RODGERS

4 CUMULATIVE CONDITIONS

This chapter describes the Cumulative conditions traffic volumes and traffic operations at study intersections.

4.1 CUMULATIVE VOLUMES AND ROADWAY NETWORK

The Cumulative (Year 2050) conditions traffic volumes were developed by applying a yearly growth rate to existing (2025) counts over 25 years based on the RTC Washoe Traffic Demand Model.

2050 Cumulative condition volumes are shown in **Figure 7** on the following pages.

4.2 CUMULATIVE INTERSECTION OPERATIONS

Cumulative intersection operations were quantified under 2050 Cumulative traffic volumes (shown in **Figure 8**). **Table 6** illustrates the resulting Cumulative intersection LOS operations. Study intersections traffic operations were calculated using HCM 7th edition Synchro 12 software.

Table 6. 2050 Cumulative Intersection Operations

Subdivision	#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Conditions		
						Delay (S/V)[1]	LOS	Wrnt Met?[2]
Estates at Wingfield	1	Wingfield Hills Road & Vista Boulevard	Signal	D	AM	27.5	C	-
					PM	31.8	C	-
	2	Village A Access & Vista Boulevard	OWSC[1]	D	AM	18.6	C	No
					PM	12.4	B	No
	3	Wingfield Parkway & Vista Boulevard	Signal	D	AM	44.6	D	-
					PM	19.3	B	-
	4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	TWSC[2]	D	AM	14.5	B	-
					PM	16.9	C	-
	5	Wingfield Parkway & Wingfield Springs Road	AWSC[3]	D	AM	13.7	B	-
					PM	12.1	B	-
	6	Wingfield Springs Road & Poco Rey Drive	OWSC[1]	D	AM	13.5	B	No
					PM	13.4	B	No
	7	Wingfield Springs Road & Diamond Wing Court	OWSC[1]	D	AM	14.5	B	No
					PM	11.6	B	No
	8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	TWSC[2]	D	AM	14.9	B	No
					PM	30.2	D	No
	9	Wingfield Springs Road & Eagle Wing Circle (North)	OWSC[1]	D	AM	11.4	B	No
					PM	12.8	B	No
	10	Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	TWSC[2]	D	AM	11.2	B	No
					PM	13.1	B	No
	11	Wingfield Springs Road & General Thatcher Drive	TWSC[2]	D	AM	13.5	B	No
					PM	11.8	B	No
	12	Silver King Drive & General Thatcher Drive	OWSC[1]	C	AM	8.7	A	No
					PM	8.4	A	No
	13		OWSC[1]	C	AM	8.6	A	No

		Island Queen Drive & General Thatcher Drive			PM	8.6	A	No
	14	Arrow Smith Drive & General Thatcher Drive	TWSC[2]	C	AM	8.8	A	No
					PM	9.1	A	No
	15	Island Queen Drive & Decoy Drive	OWSC[1]	C	AM	8.9	A	No
					PM	8.9	A	No
	16	Little Easy Street & Decoy Drive	OWSC[1]	C	AM	8.7	A	No
					PM	8.5	A	No
	17	Wingfield Springs Road & Poco Bueno Circle	TWSC[2]	C	AM	7.4	A	No
					PM	7.6	A	No
Foothill	18	Scorpius Drive/Homerun Drive & Vista Boulevard	Signal	D	AM	12.5	B	No
					PM	12.2	B	No
	19	Fire Station 5 Driveway & Vista Boulevard	Signal	D	AM	1.1	A	No
					PM	1.1	A	No
	20	Vista Boulevard & Black Hills Drive	OWSC[1]	D	AM	15.9	C	No
					PM	21.0	C	No
	21	Village I Access (South) & Vista Boulevard[6]	OWSC[1]	D	AM	0.0	A	No
					PM	0.0	A	No
	22	Vista Boulevard & Village I Access (North)[6]	OWSC[1]	D	AM	0.0	A	No
					PM	0.0	A	No

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled (i.e., minor street stop-controlled)
[2] TWSC = Two-Way Stop-Controlled
[3] AWSC = All-Way Stop-Controlled
[4] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For Signalized and AWSC intersections, average intersection delay is reported.
[5] Wrnt Met? = Peak Hour Signal Warrant #3
[6] Proposed Village I access

As shown in **Table 6**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative conditions. Synchro intersection LOS output reports are included in **Appendix B**. MUTCD Peak Hour Signal Warrant #3 is not projected to be met at the unsignalized study intersection. Signal warrant worksheets are provided in **Appendix C**.

Figure 8. 2050 Cumulative Traffic Volumes

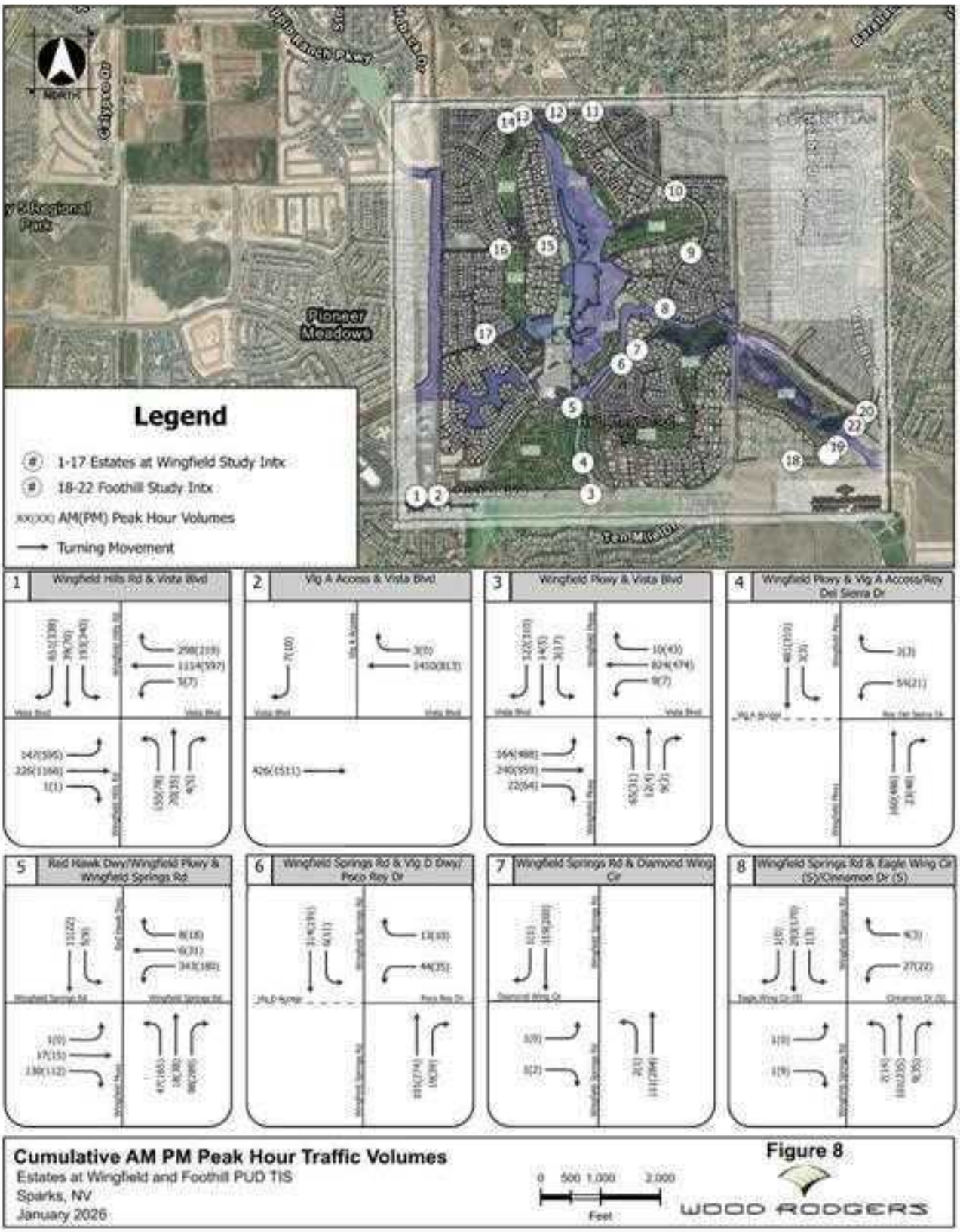
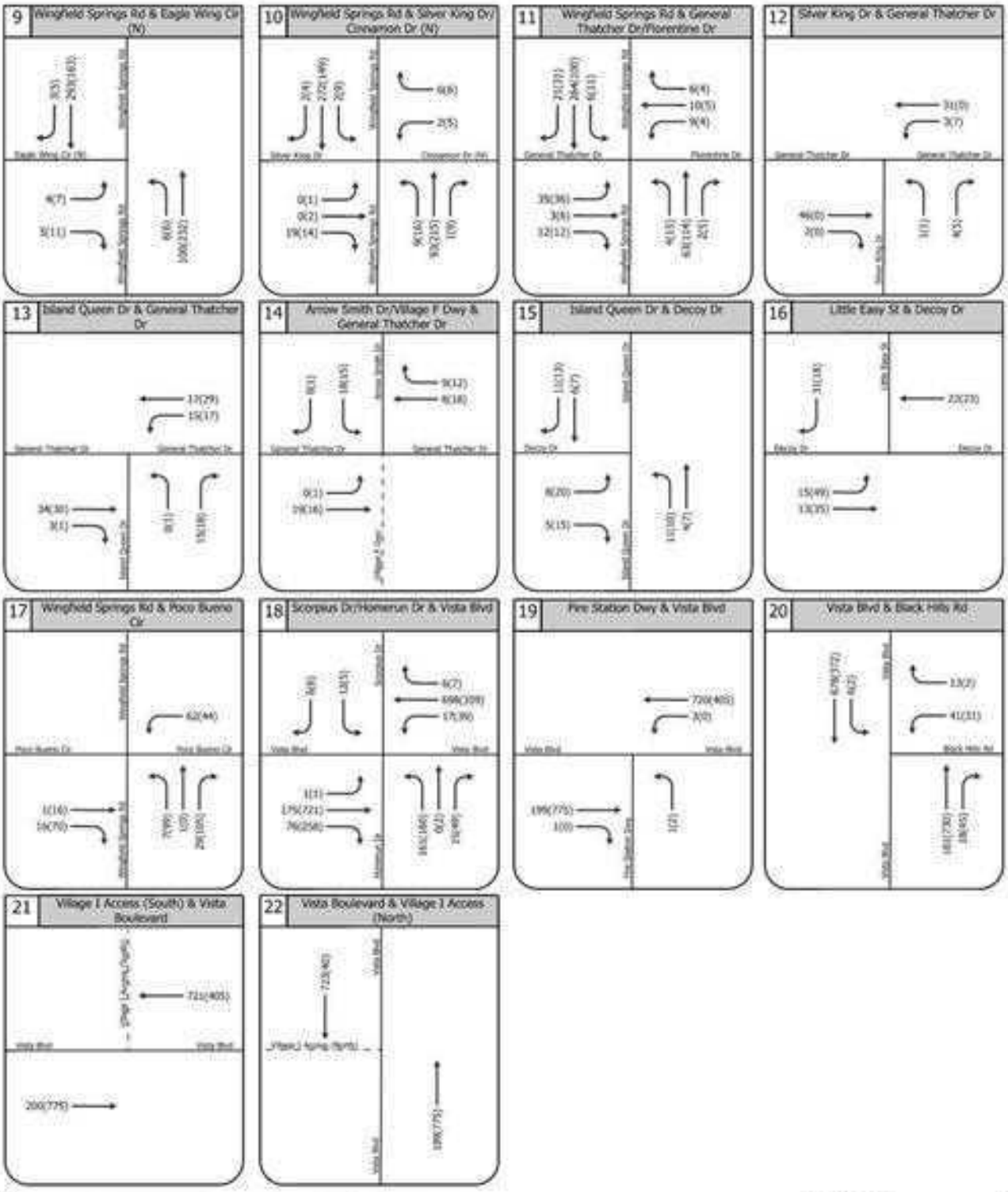


Figure 8. 2050 Cumulative Traffic Volumes



Cumulative AM PM Peak Hour Traffic Volumes
Estates at Wingfield and Foothill PUD TIS
Sparks, NV
January 2026

Figure 8

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5 CUMULATIVE PLUS PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE

Project trips were added to Cumulative conditions traffic volumes to obtain 2050 Cumulative Plus Project conditions traffic volumes, shown in **Figure 9** on the following pages. **Table 7** presents 2050 Cumulative Plus Project study intersection traffic operations under Existing intersection lane geometrics and control (illustrated in **Figure 3**) and Cumulative Plus Project traffic volumes. Study intersection traffic operations were calculated using HCM 7th edition Synchro 12 software.

Table 7. 2050 Cumulative and Cumulative Plus Project Intersection Operations

Subdivision	#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Conditions			Cumulative Plus Project Conditions		
						Delay (S/V)[1]	LOS	Wrnt Met?[2]	Delay (S/V)[1]	LOS	Wrnt Met?[2]
Estates at Wingfield	1	Wingfield Hills Road & Vista Boulevard	Signal	D	AM	27.5	C	-	33.1	C	-
					PM	31.8	C	-	36.5	D	-
	2	Village A Access & Vista Boulevard	OWSC[1]	D	AM	18.6	C	No	24.5	C	No
					PM	12.4	B	No	13.7	B	No
	3	Wingfield Parkway & Vista Boulevard	Signal	D	AM	44.6	D	-	**70.5**	**E**	-
					PM	19.3	B	-	28.5	C	-
	4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	TWSC[2]	D	AM	14.5	B	-	24.9	C	-
					PM	16.9	C	-	**47.1**	**E**	-
	5	Wingfield Parkway & Wingfield Springs Road	AWSC[3]	D	AM	13.7	B	-	25.9	D	-
					PM	12.1	B	-	22.5	C	-
	6	Wingfield Springs Road & Poco Rey Drive	OWSC[1]	D	AM	13.5	B	No	16.9	C	No
					PM	13.4	B	No	18.9	C	No
	7	Wingfield Springs Road & Diamond Wing Court	OWSC[1]	D	AM	14.5	B	No	18.0	C	No
					PM	11.6	B	No	13.9	B	No
	8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	TWSC[2]	D	AM	14.9	B	No	20.5	C	No
					PM	30.2	D	No	**107.6**	**F**	No
	9	Wingfield Springs Road & Eagle Wing Circle (North)	OWSC[1]	D	AM	11.4	B	No	13.0	B	No
					PM	12.8	B	No	18.3	C	No
	10	Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	TWSC[2]	D	AM	11.2	B	No	11.8	B	No
					PM	13.1	B	No	15.7	C	No
	11	Wingfield Springs Road & General Thatcher Drive	TWSC[2]	D	AM	13.5	B	No	17.6	C	No
					PM	11.8	B	No	15.2	C	No
	12	Silver King Drive & General Thatcher Drive	OWSC[1]	C	AM	8.7	A	No	8.9	A	No
					PM	8.4	A	No	8.5	A	No
	13	Island Queen Drive & General Thatcher Drive	OWSC[1]	C	AM	8.6	A	No	8.7	A	No
					PM	8.6	A	No	8.7	A	No
	14		TWSC[2]	C	AM	8.8	A	No	9.0	A	No

		Arrow Smith Drive & General Thatcher Drive			PM	9.1	A	No	9.5	A	No
	15	Island Queen Drive & Decoy Drive	OWSC[1]	C	AM	8.9	A	No	9.0	A	No
					PM	8.9	A	No	8.9	A	No
	16	Little Easy Street & Decoy Drive	OWSC[1]	C	AM	8.7	A	No	9.0	A	No
					PM	8.5	A	No	8.6	A	No
	17	Wingfield Springs Road & Poco Bueno Circle	TWSC[2]	C	AM	7.4	A	No	7.5	A	No
					PM	7.6	A	No	7.6	A	No
Foothill	18	Scorpius Drive/Homerun Drive & Vista Boulevard	Signal	D	AM	12.5	B	No	12.5	B	No
					PM	12.2	B	No	12.1	B	No
	19	Fire Station 5 Driveway & Vista Boulevard	Signal	D	AM	1.1	A	No	1.1	A	No
					PM	1.1	A	No	1.1	A	No
	20	Vista Boulevard & Black Hills Drive	OWSC[1]	D	AM	15.9	C	No	17.3	C	No
					PM	21.0	C	No	22.4	C	No
	21	Village I Access (South) & Vista Boulevard[6]	OWSC[1]	D	AM	0.0	A	No	11.5	B	No
					PM	0.0	A	No	9.9	A	No
	22	Vista Boulevard & Village I Access (North)[6]	OWSC[1]	D	AM	0.0	A	No	11.3	B	No
					PM	0.0	A	No	8.6	A	No

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled (i.e., minor street stop-controlled)
[2] TWSC = Two-Way Stop-Controlled
[3] AWSC = All-Way Stop-Controlled
[4] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For Signalized and AWSC intersections, average intersection delay is reported.
[5] Wrnt Met? = Peak Hour Signal Warrant #3
[6] Proposed Village I access

As shown in **Table 7**, the Wingfield Parkway and Vista Boulevard intersection is expected to operate at an unacceptable LOS under AM peak hour conditions during Cumulative Plus Project conditions, and the Wingfield Parkway & Village A Access/ Rey Del Sierra Drive intersection and the Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) intersection are expected to operate at an unacceptable LOS under PM peak hour conditions during Cumulative Plus Project conditions. All other study intersections are projected to operate at acceptable LOS conditions under Cumulative and Cumulative Plus Project conditions. Synchro software intersection LOS output reports are included in **Appendix B**. MUTCD Peak Hour Signal Warrant is not projected to be met at the unsignalized study intersections. Signal warrant worksheets are provided in **Appendix C**.

Figure 9. Cumulative Plus Project Traffic Volumes

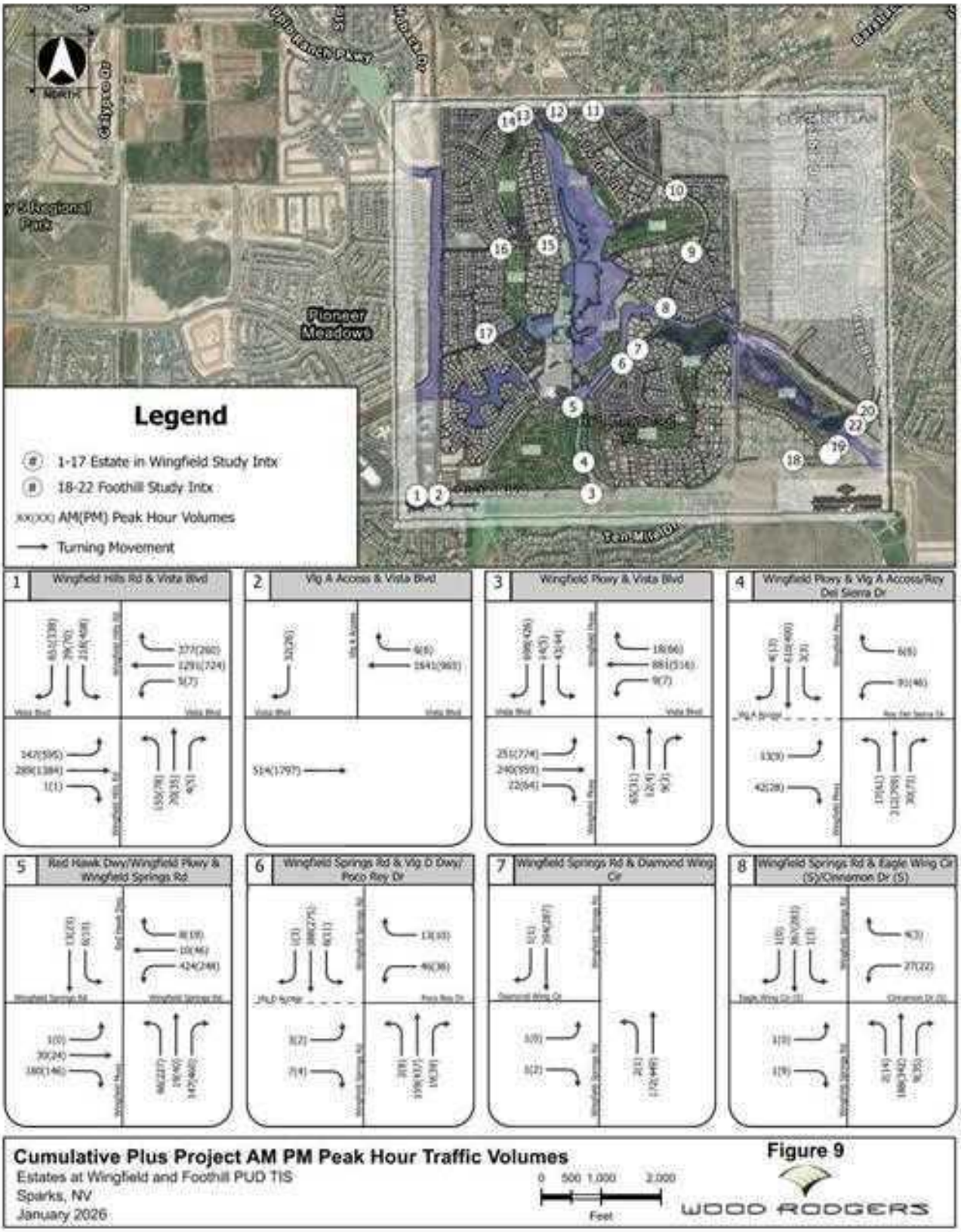
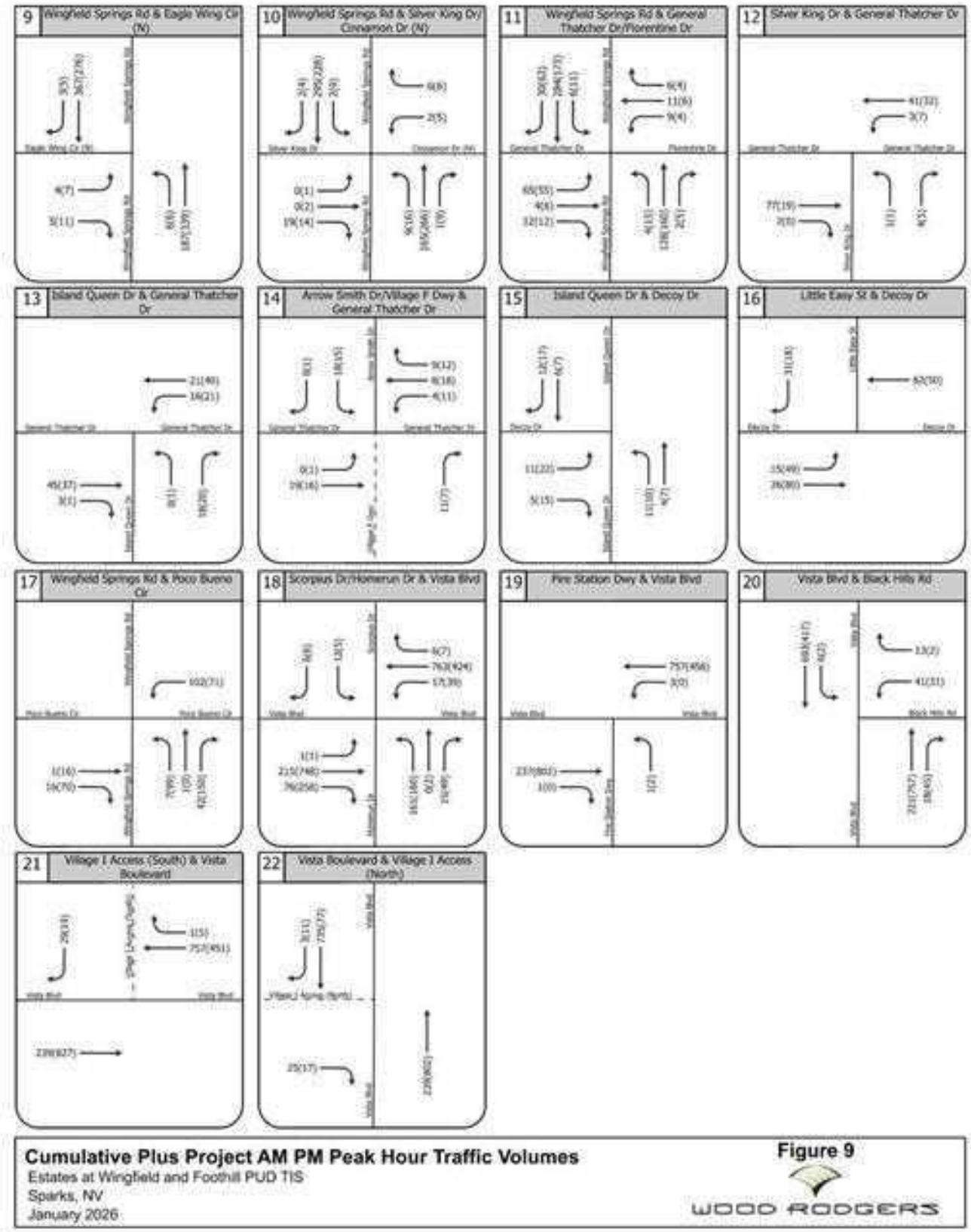


Figure 9. Cumulative Plus Project Traffic Volumes



Cumulative Plus Project AM PM Peak Hour Traffic Volumes
Estates at Wingfield and Foothill PUD TIS
Sparks, NV
January 2026

Figure 9

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6 INTERSECTION QUEUEING OPERATIONS

Vehicle queueing was analyzed at the study intersections for all stop-controlled movements, roundabout movements, and movements with turn pockets that the Project would add trips to. **Table 8** shows the available storage lengths and 95th percentile queues under all scenarios.

As shown in **Table 8**, the following queues are projected to exceed storage:

- **Wingfield Hills Road & Vista Boulevard**:
    - Southbound left PM peak hour conditions during Cumulative and Cumulative Plus Project scenarios
    - Southbound through AM peak hour conditions during Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios and PM peak hour conditions during Cumulative Plus Project scenarios
    - Southbound right AM peak hour conditions during Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios and PM peak hour conditions during Cumulative Plus Project scenarios
    - Westbound right AM peak hour and PM peak hour conditions during Cumulative and Cumulative Plus Project scenarios
- **Wingfield Parkway & Vista Boulevard:**
    - Southbound through AM peak hour conditions during Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios
    - Southbound right PM peak hour conditions during Existing, Existing Plus Project, and Cumulative scenarios, and AM and PM peak hour conditions during Cumulative Plus Project scenario

All other queues are projected to fit within available storage. Synchro queue reports using Simtraffic are included in **Appendix C**.

Table 8. 95th Percentile Queueing

#	Intersection	Movement	Available Storage (ft)	Existing Conditions 95th Percentile Queueing (ft)		Existing Plus Project Conditions 95th Percentile Queueing (ft)		Cumulative 95th Percentile Queueing (ft)		Cum Plus Project Conditions 95th Percentile Queueing (ft)	
				AM	PM	AM	PM	AM	PM	AM	PM
Estates at Wingfield											
1	Wingfield Hills Road & Vista Boulevard	NBL	275	117	79	124	85	133	86	156	98
		NBT	475	88	46	93	46	102	63	122	79
		NBR	50	32	32	39	27	32	39	35	-
		SBL	275	182	194	229	257	257	**348**	**327**	**301**
		SBT	785	**1417**	85	**1620**	117	**1605**	590	**1884**	**1822**
		SBR	785	**1599**	20	**1735**	33	**1719**	204	**1883**	**2187**
		EBL	620	136	257	138	259	155	299	165	487
		EBT	850	80	217	99	301	129	265	139	771
		EBR	820	-	-	-	-	-	-	-	-
		WBL	500	20	20	16	24	18	31	18	22
		WBT	285	250	155	285	192	274	289	280	303
		WBR	100	100	20	-	68	**121**	**132**	125	145
2	Village A Access & Vista Boulevard	SBR	350	25	31	61	50	26	34	59	52
		EBT	275	-	-	-	-	-	10	-	-
		WBT	1500	161	-	169	17	63	88	51	100
		WBTR	1500	47	-	80	6	68	87	61	99
3	Wingfield Parkway & Vista Boulevard	NBL	100	73	45	71	45	72	54	96	58
		NBTR	680	34	21	36	23	35	20	45	25
		SBL	400	11	37	116	49	39	39	85	66
		SBT	400	310	22	**632**	22	**594**	65	**596**	125
		SBR	150	**203**	87	**196**	125	**208**	132	**192**	**178**
		EBL	705	72	118	94	149	85	141	122	226
		EBT	1500	47	91	43	115	74	268	91	254

		EBTR	1500	56	114	57	137	92	210	111	290
		WBL	160	27	20	25	20	43	22	66	43
		WBT	1500	152	89	156	107	249	172	784	258
		WBTR	1500	167	114	180	136	273	199	820	282
4	Wingfield Parkway & Rey Del Sierra Drive	NBLT	425	-	-	30	73	-	7	30	97
		NBTR	425	-	6	8	49	-	7	12	66
		SBLT	885	7	5	321	5	48	6	197	6
		SBTR	885	14	-	574	4	285	-	492	-
		EBLTR		N/A	N/A	378	30	N/A	N/A	265	27
		WBLTR	480	37	21	**697**	49	231	22	761	48
5	Wingfield Parkway & Wingfield Springs Road	NBLT	880	49	87	56	114	59	91	74	156
		NBR	880	60	100	77	137	131	102	142	178
		SBLTR	115	23	30	24	30	24	32	25	32
		EBLTR	750	73	63	103	68	73	65	95	79
		WBLTR	1050	133	80	244	109	143	88	281	112
6	Wingfield Springs Road & Poco Rey Drive	NBLTR	1050	-	-	5	21	-	2	13	26
		SBLTR	335	11	20	16	25	23	24	24	27
		EBLTR		-	-	40	27	-	-	30	20
		WBLTR	130	52	52	56	51	57	51	66	53
7	Wingfield Springs Road & Diamond Wing Court	NBLT	335	10	8	17	10	8	7	8	8
		SBTR	815	-	-	-	-	-	-	-	-
		EBLR	225	15	12	17	15	11	11	17	13
8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	NBLTR	815	12	34	12	80	8	35	15	53
		SBLTR	960	3	13	4	49	-	14	5	32
		EBLTR	200	6	11	6	11	5	10	6	11
		WBLTR	325	41	43	44	57	47	45	53	59
9	Wingfield Springs Road & Eagle Wing Circle (North)	NBLT	960	3	4	3	13	22	16	34	30
		SBTR	1250	-	-	-	-	2	-	-	-
		EBLR	500	17	18	22	18	24	32	25	36
10	Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	NBLTR	1250	21	16	16	26	27	22	37	32
		SBLTR	510	5	12	12	32	16	19	10	18
		EBLTR	275	32	27	35	28	32	29	32	31

		WBLTR	55	26	25	22	25	23	28	23	28
11	Wingfield Springs Road & General Thatcher Drive	NBLTR	1375	11	18	9	21	17	24	20	32
		SBLTR	330	13	14	19	23	9	29	26	39
		EBLTR	550	35	27	48	52	41	38	49	42
		WBLTR	185	20	12	23	14	20	12	19	16
12	Silver King Drive & General Thatcher Drive	NBLR	440	17	21	18	21	17	17	18	18
		EBTR	540	-	-	-	-	-	-	-	-
		WBLT	550	6	-	3	10	6	5	5	10
13	Island Queen Drive & General Thatcher Drive	NBLR	730	28	26	37	54	33	41	38	43
		EBTR	220	-	-	-	-	-	-	-	-
		WBLT	500	5	3	9	6	3	10	14	10
14	Arrow Smith Drive & General Thatcher Drive	NBLTR	0	N/A	N/A	20	16	N/A	N/A	21	18
		SBLTR	425	39	38	39	38	37	38	38	39
		EBLT	630	-	-	-	-	-	-	-	3
		WBTR	225	-	-	-	4	-	-	6	4
15	Island Queen Drive & Decoy Drive	NBLT	175	3	-	10	10	4	6	5	3
		SBTR	130	-	-	-	-	-	-	-	-
		EBLR	750	30	41	39	55	34	50	39	45
16	Little Easy Street & Decoy Drive	SBLR	230	35	29	35	29	35	30	35	30
		EBLT	150	6	6	12	18	6	10	14	15
		WBTR	750	-	-	-	-	-	-	-	-
17	Wingfield Springs Road & Poco Bueno Circle	NBLTR	375	48	74	49	78	49	77	52	83
		SBLTR	50	-	-	-	-	-	-	-	-
		EBLTR	275	-	-	-	2	-	-	-	3
		WBLTR	475	15	23	19	29	16	28	16	33
Foothill											
18	Scorpius Drive/Homerun Drive & Vista Boulevard	NBL	220	17	29	15	31	49	49	51	48
		NBLT	220	48	58	48	60	73	74	68	73
		NBR	220	23	45	23	48	27	50	29	48
		SBLTR	120	34	28	37	29	38	30	42	31
		EBL	200	8	8	7	4	5	6	4	8
		EBT	525	39	124	44	146	90	265	86	241

		EBR	500	29	51	28	49	45	83	35	83
		WBL	200	32	48	31	46	38	50	37	55
		WBT	550	72	55	69	61	119	86	135	95
		WBTR	550	69	50	70	54	126	88	148	100
19	Fire Station 5 Driveway & Vista Boulevard	NBLR	50	9	15	9	12	9	13	12	15
		EBT	745	19	25	23	22	27	36	29	28
		EBTR	745	15	29	13	32	23	39	22	36
		WBL	105	10	-	9	-	15	-	11	-
		WBT	660	28	21	31	18	30	30	34	30
20	Vista Boulevard & Black Hills Drive	NBT	760	3	-	-	-	3	-	3	-
		NBR	140	-	-	-	-	-	-	-	-
		SBL	175	10	4	10	10	11	13	16	10
		SBT	375	-	-	-	-	-	-	-	-
		WBLR	0	56	51	47	52	63	61	62	58
21	Village I Access (South) & Vista Boulevard	SBR	200	N/A	N/A	46	39	N/A	N/A	45	39
		EBT	275	-	-	-	5	6	8	-	3
		WBT	355	3	-	3	-	4	-	7	-
		WBTR	355	N/A	N/A	5	3	N/A	N/A	8	-
22	Vista Boulevard & Village I Access (North)	NBT	400	-	-	-	-	-	-	-	-
		SBTR	215	N/A	N/A	-	-	-	-	4	3
		EBR	200	N/A	N/A	43	36	N/A	N/A	44	38

*Notes: **Bold** values indicate queue has exceeded storage length*
[1] Storage reported is available queueing length within a turn pocket. Storage reported for through movements is the distance to the nearest major cross-street.

7 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

All study intersections operate at acceptable LOS under Cumulative Plus Project traffic conditions with the exception of the following:

4. Wingfield Parkway & Vista Boulevard (#3)
5. Wingfield Parkway & Village A Access/Rey Del Sierra Drive (#4)
6. Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) (#8)

The following improvements are recommended to bring the intersection operations to acceptable LOS:

4. Wingfield Parkway & Vista Boulevard (#3)
    a. Widen Vista Boulevard to 6 lanes (this improvement is included in the RTC 2050 RTP as a planned improvement)
    b. Restripe southbound approach to provide left turn lane, shared through-right turn lane, and a right turn lane
5. Wingfield Parkway & Village A Access/Rey Del Sierra Drive (#4)
    a. Change the two-way stop-control to a roundabout (RAB)
6. Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South) (#8)
    a. Add west leg to provide access to Village A
    b. Change the one-way stop-control to a roundabout (RAB)

7.1 WINGFIELD PARKWAY & VISTA BOULEVARD INTERSECTION

The RTC 2050 RTP proposes future improvements in the vicinity of the Project including widening Vista Boulevard from four lanes to six lanes from Wingfield Parkway to Hubble Drive.

Additional improvements proposed at the Wingfield Parkway & Vista Boulevard analyzed include conversion of the southbound through lane to a southbound through-left lane. These proposed improvements are expected to allow the intersection to operate at acceptable LOS under Cumulative Plus Project conditions, shown in **Table 9.1** and improved 95th Percentile Queueing shown in **Table 9.2** on the following page.

Table 9.1 2050 Cumulative Plus Project With Improvements Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Plus Project Conditions		Cum Plus Project With Improvements	
					Delay (S/V)[1]	LOS	Delay (S/V)[1]	LOS
3	Wingfield Parkway & Vista Boulevard	Signal	D	AM	**70.5**	E	24.3	C
				PM	28.5	C	18.2	B
*Notes: **Bold** values indicate unacceptable LOS.*								

Table 10.2 2050 Cumulative Plus Project With Improvements 95th Percentile Queueing

#	Intersection	Movement	Cumulative Plus Project Conditions 95th Percentile Queueing (ft)			Cumulative Plus Project Conditions With Improvements 95th Percentile Queueing (ft)		
			Available Storage (ft)	AM	PM	Available Storage (ft)	AM	PM
3	Wingfield Parkway & Vista Boulevard	NBL	100	96	58	100	104	64
		NBTR	680	45	25	680	67	31
		SBL	400	85	66	400	86	69
		SBT	400	**596**	125	-	-	-
		SBTR	-	-	-	400	262	123
		SBR	150	**192**	**178**	150	100	90
		EBL	705	122	226	705	132	249
		EBT	1500	91	254	1500	119	309
		EBTR	1500	111	290	1500	144	350
		WBL	160	66	43	160	63	30
		WBT	1500	784	258	1500	348	238
		WBTR	1500	820	282	1500	340	219

*Notes: **Bold** values indicate queue has exceeded storage length*
[1] Storage reported is available queueing length within a turn pocket. Storage reported for through movements is the distance to the nearest major cross-street.

7.2 WINGFIELD PARKWAY & VILLAGE ACCESS/ REY DEL SIERRA DRIVE INTERSECTION

Improvements proposed at the Wingfield Parkway & Village A Access/ Rey Del Sierra Drive intersection include conversion of the control from two-way stop-control to a roundabout. As shown in **Table 10.1** and **Table 10.2** on the following page, this improvement is expected to allow the intersection to operate at acceptable LOS and improved queueing respectively under Cumulative Plus Project conditions.

Table 11.1 2050 Cumulative Plus Project With Improvements Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Plus Project		Cumulative Plus Project With Roundabout Alternative	
					Delay[2]	LOS	Delay	LOS
4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	TWSC/ RAB[1]	D	AM	24.9	C	4.9	A
				PM	**47.1**	**E**	5.4	A

*Notes: **Bold** values indicate unacceptable LOS.*
[1] Wingfield Parkway & Rey Del Sierra Drive intersection analyzed as a 2-lane roundabout
[2] TWSC = Two-Way Stop-Controlled, RAB = Roundabout
[3] For TWSC, the worst approach/movement delay and LOS is reported. For roundabout intersections, average intersection delay is reported.

Table 12.2 2050 Cumulative Plus Project With Improvements 95th Percentile Queueing

#	Intersection	Movement	Cumulative Plus Project Conditions 95th Percentile Queueing (ft)			Cumulative Plus Project Conditions With Improvements 95th Percentile Queueing (ft)		
			Available Storage (ft)	AM	PM	Available Storage (ft)	AM	PM
4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	NBLT	425	30	97	-	-	-
		NB	-	-	-	425	11	48
		NBTR	425	12	66	-	-	-
		SBLT	885	197	6	-	-	-
		SB	-	-	-	885	34	21
		SBTR	885	492	-	-	-	-
		EBLTR	200	265	27	200	10	5
		WBLTR	480	**761**	48	480	12	10

*Notes: **Bold** values indicate queue has exceeded storage length*
[1] Storage reported is available queueing length within a turn pocket. Storage reported for through movements is the distance to the nearest major cross-street.

An alternative improvement at the Wingfield & Village A Access/Rey Del Sierra Drive intersection that can be considered is construction of a raised median to restrict the Rey Del Sierra Drive and Village A Access roadway to a Right-In/Right-Out access only.

7.3 WINGFIELD SPRINGS ROAD & EAGLE WING CIRCLE (SOUTH)/ CINNAMON DRIVE (SOUTH) INTERSECTION

Improvements proposed at the Wingfield Springs Road & Eagle Wing Circle (South)/Cinnamon Drive (South) intersection include conversion of the control from two-way stop-control to a roundabout. As shown in **Table 11.1** and **Table 11.2** on the following page, this improvement is expected to allow the intersection to operate at acceptable LOS and improved queueing respectively under Cumulative Plus Project conditions.

Table 13.1 2050 Cumulative Plus Project With Improvements Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Plus Project		Cumulative Plus Project With Roundabout Alternative	
					Delay[2]	LOS	Delay	LOS
8	Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	TWSC/ RAB[1]	D	AM	20.5	C	5.0	A
				PM	**107.6**	**F**	5.2	A

*Notes: **Bold** values indicate unacceptable LOS.*
[1] Wingfield Parkway & Rey Del Sierra Drive intersection analyzed as a 2-lane roundabout
[2] TWSC = Two-Way Stop-Controlled, RAB = Roundabout
[3] For TWSC, the worst approach/movement delay and LOS is reported. For roundabout intersections, average intersection delay is reported.

Table 11.2 2050 Cumulative Plus Project With Improvements 95th Percentile Queueing

#	Intersection	Movement	Cumulative Plus Project Conditions 95th Percentile Queueing (ft)			Cumulative Plus Project Conditions With Improvements 95th Percentile Queueing (ft)		
			Available Storage (ft)	AM	PM	Available Storage (ft)	AM	PM
4	Wingfield Parkway & Village A Access/ Rey Del Sierra Drive	NBLTR	815	15	53	815	20	48
		SBLTR	960	5	32	960	46	33
		EBLTR	200	6	11	200	1	2
		WBLTR	325	53	59	325	4	4

*Notes: **Bold** values indicate queue has exceeded storage length*
[1] Storage reported is available queueing length within a turn pocket. Storage reported for through movements is the distance to the nearest major cross-street.

8 PROJECT SITE ACCESS AND INTERNAL CIRCULATION

The Project site access connects via Wingfield Parkway and Wingfield Springs Road.

9 PROJECT EFFECTS ON PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

The Project is not anticipated to cause a significant increase in pedestrian and bicycle traffic in the study area, and therefore no improvements are needed. The study area is not served by transit.

10 SAFETY EVALUATION

Five years of crash data (September 10, 2019 – September 09, 2024) were obtained from NDOT to identify high crash locations and common crash characteristics. NDOT crash data is included in **Appendix D**.

Table 12 on the following page summarizes the crash in the study area and describes the crash severity (fatal, incapacitating, non-incapacitating, claimed, not reported, no injury, unknown, and property damage only(PDO)) and **Table 13** summarizes the crash type (head-on, rear-end, angle, sideswipe-overtaking, non-collision, vehicle/pedestrian, vehicle/bicycle, and other/not stated). The NDOT data indicated that a total of 58 crashes occurred at the study facilities over the last five years.

Table 14. Summary of Crash Severity in Study Area (NDOT, 2019 – 2024)

Intersection	Total Crashes	Severity					
		Fatal	Incapacitating	Non-Incapacitating	Claimed	Property Damage (PDO)	Unknown/Not Reported
Wingfield Hills Road & Vista Boulevard	25	0	1	1	4	19	0
Village A Access & Vista Boulevard	0	0	0	0	0	0	0
Wingfield Parkway & Vista Boulevard	15	0	0	2	2	11	0
Wingfield Parkway & Rey Del Sierra Drive	3	0	0	0	3	0	0
Wingfield Parkway & Wingfield Springs Road	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Rey Drive	3	1	0	0	0	2	0
Wingfield Springs Road & Diamond Wing Court	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (North)	0	0	0	0	0	0	0
Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	1	0	0	0	0	1	0
Wingfield Springs Road & General Thatcher Drive	2	0	0	1	0	1	0
Silver King Drive & General Thatcher Drive	1	0	0	0	0	1	0
Island Queen Drive & General Thatcher Drive	0	0	0	0	0	0	0
Arrow Smith Drive & General Thatcher Drive	0	0	0	0	0	0	0
Island Queen Drive & Decoy Drive	0	0	0	0	0	0	0
Little Easy Street & Decoy Drive	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Bueno Circle	0	0	0	0	0	0	0
Scorpius Drive/Homerun Drive & Vista Boulevard	5	0	0	1	0	4	0
Fire Station 5 Driveway & Vista Boulevard	0	0	0	0	0	0	0
Vista Boulevard & Black Hills Drive	3	0	0	0	0	3	0
Totals	**58**	**1**	**1**	**4**	**10**	**42**	**0**

As shown in **Table 12**, the severity of most crashes involved PDO (42 collisions), followed by injuries (15 collisions). As shown in **Table 13**, the most common crash types were rear end crashes, followed by angle crashes.

Table 15. Summary of Crash Type in Study Area (NDOT, 2019 – 2024)

Intersection	Total Crashes	Type							
		Head-On	Rear-End	Sideswipe-Overtaking	Angle	Non-Collision	Vehicle/Pedestrian	Vehicle/Bicycle	Other/Not Stated
Wingfield Hills Road & Vista Boulevard	25	0	18	1	3	2	0	0	1
Village A Access & Vista Boulevard	0	0	0	0	0	0	0	0	0
Wingfield Parkway & Vista Boulevard	15	0	9	0	6	0	0	0	0
Wingfield Parkway & Rey Del Sierra Drive	3	0	3	0	0	0	0	0	0
Wingfield Parkway & Wingfield Springs Road	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Rey Drive	3	0	0	0	1	2	0	0	0
Wingfield Springs Road & Diamond Wing Court	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (North)	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	1	0	0	1	0	0	0	0	0
Wingfield Springs Road & General Thatcher Drive	2	0	0	0	2	0	0	0	0
Silver King Drive & General Thatcher Drive	1	0	0	0	0	1	0	0	0
Island Queen Drive & General Thatcher Drive	0	0	0	0	0	0	0	0	0
Arrow Smith Drive & General Thatcher Drive	0	0	0	0	0	0	0	0	0
Island Queen Drive & Decoy Drive	0	0	0	0	0	0	0	0	0
Little Easy Street & Decoy Drive	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Bueno Circle	0	0	0	0	0	0	0	0	0
Scorpius Drive/Homerun Drive & Vista Boulevard	5	0	0	0	3	2	0	0	0
Fire Station 5 Driveway & Vista Boulevard	0	0	0	0	0	0	0	0	0
Vista Boulevard & Black Hills Drive	3	0	2	0	0	1	0	0	0
Totals	**58**	**0**	**32**	**2**	**15**	**8**	**0**	**0**	**1**

Table 14 shows the primary crash factors (PCFs) at each study intersection. The most common PCFs were other unknown factors, followed by following too closely. Note that in Primary Crash Factors Driving under the Influence was reported in combination with other collision factors.

Table 16. Summary of Primary Crash Factors in Study Area (NDOT, 2019 – 2024)

Intersection	Total Crashes	PCF										
		Driving or Bicycling Under the Influence	Unsafe Speed	Wrong Side of Road	Unsafe Lane Change	Fail To Maintain Lane	Automobile Right of Way	Cyclist Right of Way	Traffic Signals and Signs	Following Too Closely	Other Improper Driving	Unknown
Wingfield Hills Road & Vista Boulevard	25	0	0	0	1	1	1	0	2	4	7	9
Village A Access & Vista Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Parkway & Vista Boulevard	15	2	1	0	1	1	1	0	2	4	2	3
Wingfield Parkway & Rey Del Sierra Drive	3	0	0	0	0	0	0	0	0	0	2	1
Wingfield Parkway & Wingfield Springs Road	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Rey Drive	3	0	1	0	0	0	0	0	0	0	0	2
Wingfield Springs Road & Diamond Wing Court	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (South)/ Cinnamon Drive (South)	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Eagle Wing Circle (North)	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Silver King Drive/Cinnamon Drive (North)	1	1	0	0	0	0	0	0	0	0	0	1
Wingfield Springs Road & General Thatcher Drive	2	0	0	0	1	0	1	0	0	0	0	0
Silver King Drive & General Thatcher Drive	1	1	0	0	0	0	0	0	0	0	0	1
Island Queen Drive & General Thatcher Drive	0	0	0	0	0	0	0	0	0	0	0	0
Arrow Smith Drive & General Thatcher Drive	0	0	0	0	0	0	0	0	0	0	0	0
Island Queen Drive & Decoy Drive	0	0	0	0	0	0	0	0	0	0	0	0
Little Easy Street & Decoy Drive	0	0	0	0	0	0	0	0	0	0	0	0
Wingfield Springs Road & Poco Bueno Circle	0	0	0	0	0	0	0	0	0	0	0	0
Scorpius Drive/Homerun Drive & Vista Boulevard	5	0	0	0	0	1	2	0	0	0	1	1
Fire Station 5 Driveway & Vista Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Vista Boulevard & Black Hills Drive	3	0	0	0	0	0	0	0	0	2	0	1
Totals	**58**	**4**	**2**	**0**	**3**	**3**	**5**	**0**	**4**	**10**	**12**	**19**

The Project is projected to operate similarly to the existing land uses and driveways in the area. Crash data did not display any areas of concern in the vicinity of the Project that are likely associated with the site. It is unlikely that the addition of Project traffic would result in a significant change in crash rates at the study facilities.

APPENDIX A | TRAFFIC COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Sparks, NV
N/S: Wingfield Hills Road
E/W: Vista Boulevard
Weather: Clear

File Name : 03_SPK_Wf Hill_Vista AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

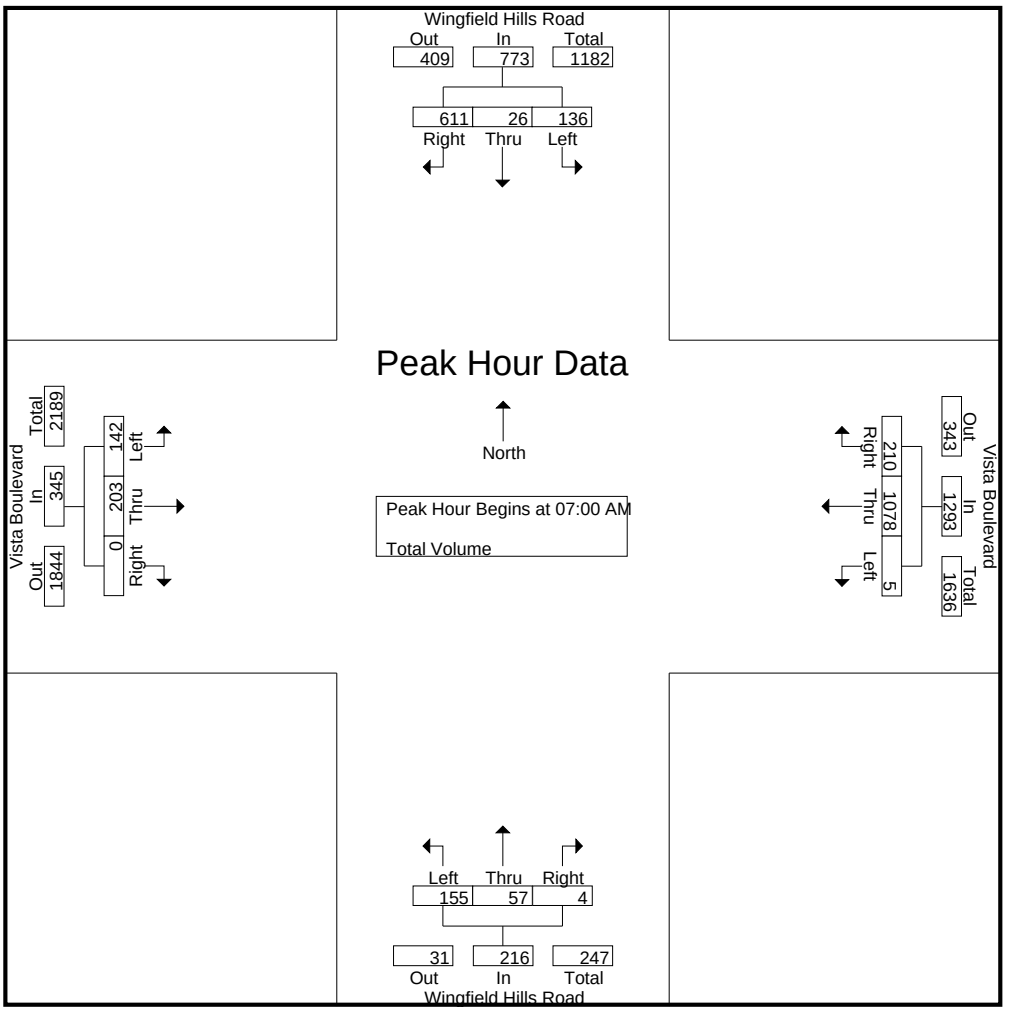
	Wingfield Hills Road Southbound				Vista Boulevard Westbound				Wingfield Hills Road Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	30	6	137	173	2	270	98	370	46	14	1	61	25	37	0	62	666
07:15 AM	48	9	155	212	2	311	58	371	36	20	1	57	29	45	0	74	714
07:30 AM	42	10	171	223	0	251	30	281	40	13	1	54	44	48	0	92	650
07:45 AM	16	1	148	165	1	246	24	271	33	10	1	44	44	73	0	117	597
Total	136	26	611	773	5	1078	210	1293	155	57	4	216	142	203	0	345	2627
08:00 AM	14	12	145	171	0	245	40	285	35	5	1	41	36	53	0	89	586
08:15 AM	33	6	146	185	0	253	35	288	36	8	3	47	35	65	0	100	620
08:30 AM	34	6	107	147	0	252	26	278	40	2	0	42	37	71	0	108	575
08:45 AM	19	1	78	98	1	172	23	196	26	9	4	39	42	84	0	126	459
Total	100	25	476	601	1	922	124	1047	137	24	8	169	150	273	0	423	2240
Grand Total	236	51	1087	1374	6	2000	334	2340	292	81	12	385	292	476	0	768	4867
Apprch %	17.2	3.7	79.1		0.3	85.5	14.3		75.8	21	3.1		38	62	0		
Total %	4.8	1	22.3	28.2	0.1	41.1	6.9	48.1	6	1.7	0.2	7.9	6	9.8	0	15.8	

	Wingfield Hills Road Southbound				Vista Boulevard Westbound				Wingfield Hills Road Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	30	6	137	173	**2**	270	**98**	370	**46**	14	**1**	**61**	25	37	0	62	666
07:15 AM	**48**	9	155	212	2	**311**	58	**371**	36	**20**	1	57	29	45	0	74	**714**
07:30 AM	42	**10**	**171**	**223**	0	251	30	281	40	13	1	54	**44**	48	0	92	650
07:45 AM	16	1	148	165	1	246	24	271	33	10	1	44	44	**73**	0	**117**	597
Total Volume	136	26	611	773	5	1078	210	1293	155	57	4	216	142	203	0	345	2627
% App. Total	17.6	3.4	79		0.4	83.4	16.2		71.8	26.4	1.9		41.2	58.8	0		
PHF	.708	.650	.893	.867	.625	.867	.536	.871	.842	.713	1.00	.885	.807	.695	.000	.737	.920

Counts Unlimited, Inc.
PO Box 1178
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City of Sparks, NV
N/S: Wingfield Hills Road
E/W: Vista Boulevard
Weather: Clear

File Name : 03_SPK_Wf Hill_Vista AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	30	6	137	173	**2**	270	**98**	370	**46**	14	**1**	**61**	36	53	0	89
+15 mins.	**48**	9	155	212	2	**311**	58	**371**	36	**20**	1	57	35	65	0	100
+30 mins.	42	**10**	**171**	**223**	0	251	30	281	40	13	1	54	37	71	0	108
+45 mins.	16	1	148	165	1	246	24	271	33	10	1	44	**42**	**84**	0	**126**
Total Volume	136	26	611	773	5	1078	210	1293	155	57	4	216	150	273	0	423
% App. Total	17.6	3.4	79		0.4	83.4	16.2		71.8	26.4	1.9		35.5	64.5	0	
PHF	.708	.650	.893	.867	.625	.867	.536	.871	.842	.713	1.000	.885	.893	.813	.000	.839

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(951) 268-6268

City of Sparks, NV
N/S: Wingfield Hills Road
E/W: Vista Boulevard
Weather: Clear

File Name : 03_SPK_Wf Hill_Vista PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

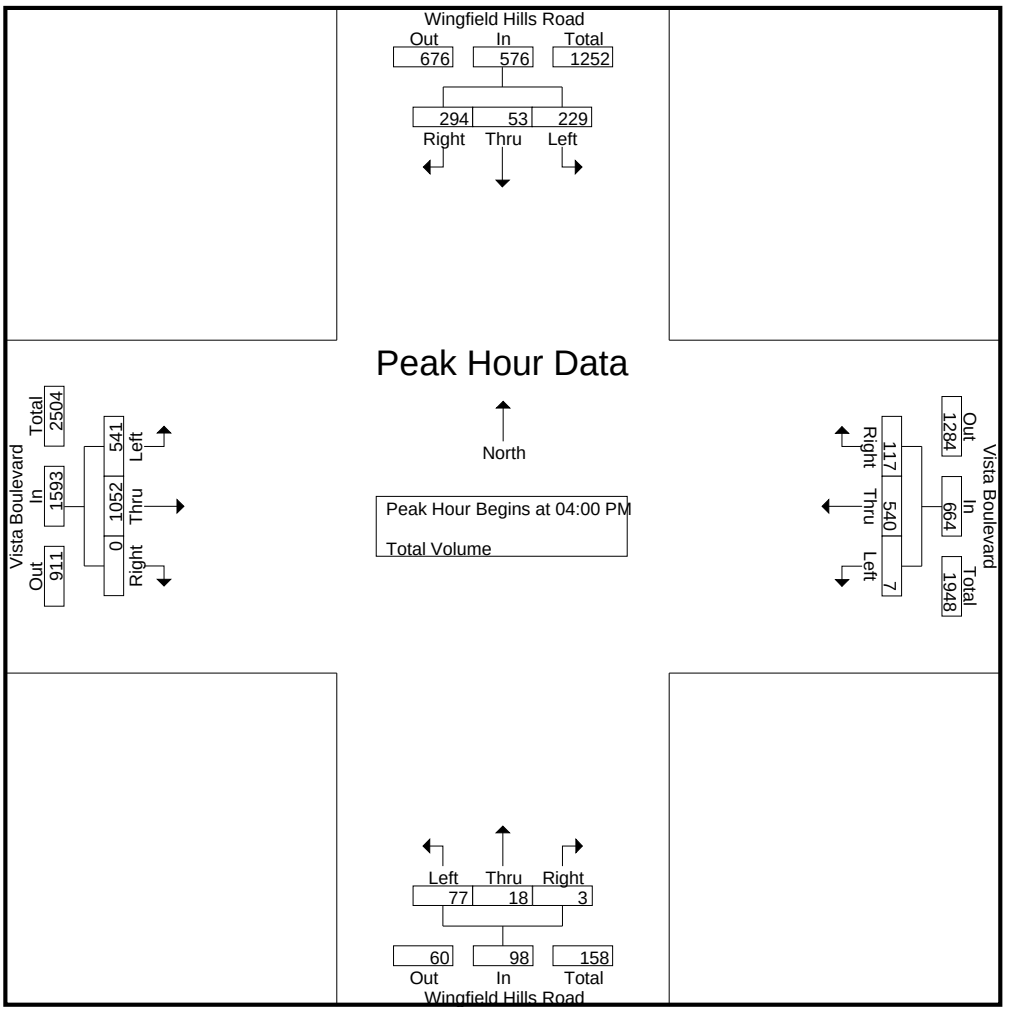
	Wingfield Hills Road Southbound				Vista Boulevard Westbound				Wingfield Hills Road Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	55	14	82	151	3	148	27	178	16	5	1	22	144	243	0	387	738
04:15 PM	48	16	76	140	1	140	31	172	19	8	0	27	124	264	0	388	727
04:30 PM	67	13	69	149	0	124	33	157	23	1	0	24	137	267	0	404	734
04:45 PM	59	10	67	136	3	128	26	157	19	4	2	25	136	278	0	414	732
Total	229	53	294	576	7	540	117	664	77	18	3	98	541	1052	0	1593	2931
05:00 PM	44	9	56	109	2	148	23	173	10	7	0	17	130	263	0	393	692
05:15 PM	49	16	60	125	2	125	25	152	19	6	3	28	145	285	0	430	735
05:30 PM	77	11	64	152	1	136	39	176	15	5	2	22	140	268	0	408	758
05:45 PM	59	13	62	134	2	118	38	158	13	6	5	24	135	258	0	393	709
Total	229	49	242	520	7	527	125	659	57	24	10	91	550	1074	0	1624	2894
Grand Total	458	102	536	1096	14	1067	242	1323	134	42	13	189	1091	2126	0	3217	5825
Apprch %	41.8	9.3	48.9		1.1	80.7	18.3		70.9	22.2	6.9		33.9	66.1	0		
Total %	7.9	1.8	9.2	18.8	0.2	18.3	4.2	22.7	2.3	0.7	0.2	3.2	18.7	36.5	0	55.2	

	Wingfield Hills Road Southbound				Vista Boulevard Westbound				Wingfield Hills Road Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	55	14	**82**	**151**	**3**	**148**	27	**178**	16	5	1	22	**144**	243	0	387	**738**
04:15 PM	48	**16**	76	140	1	140	31	172	19	**8**	0	**27**	124	264	0	388	727
04:30 PM	**67**	13	69	149	0	124	**33**	157	**23**	1	0	24	137	267	0	404	734
04:45 PM	59	10	67	136	3	128	26	157	19	4	**2**	25	136	**278**	0	**414**	732
Total Volume	229	53	294	576	7	540	117	664	77	18	3	98	541	1052	0	1593	2931
% App. Total	39.8	9.2	51		1.1	81.3	17.6		78.6	18.4	3.1		34	66	0		
PHF	.854	.828	.896	.954	.583	.912	.886	.933	.837	.563	.375	.907	.939	.946	.000	.962	.993

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:45 PM			
+0 mins.	55	14	**82**	**151**	**3**	**148**	27	**178**	16	5	1	22	136	278	0	414
+15 mins.	48	**16**	76	140	1	140	31	172	19	**8**	0	**27**	130	263	0	393
+30 mins.	**67**	13	69	149	0	124	**33**	157	**23**	1	0	24	**145**	**285**	0	**430**
+45 mins.	59	10	67	136	3	128	26	157	19	4	**2**	25	140	268	0	408
Total Volume	229	53	294	576	7	540	117	664	77	18	3	98	551	1094	0	1645
% App. Total	39.8	9.2	51		1.1	81.3	17.6		78.6	18.4	3.1		33.5	66.5	0	
PHF	.854	.828	.896	.954	.583	.912	.886	.933	.837	.563	.375	.907	.950	.960	.000	.956

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City of Sparks, NV
N/S: Village A Access
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Weather: Clear

File Name : 02_SPK_V A Acs_Vista AM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

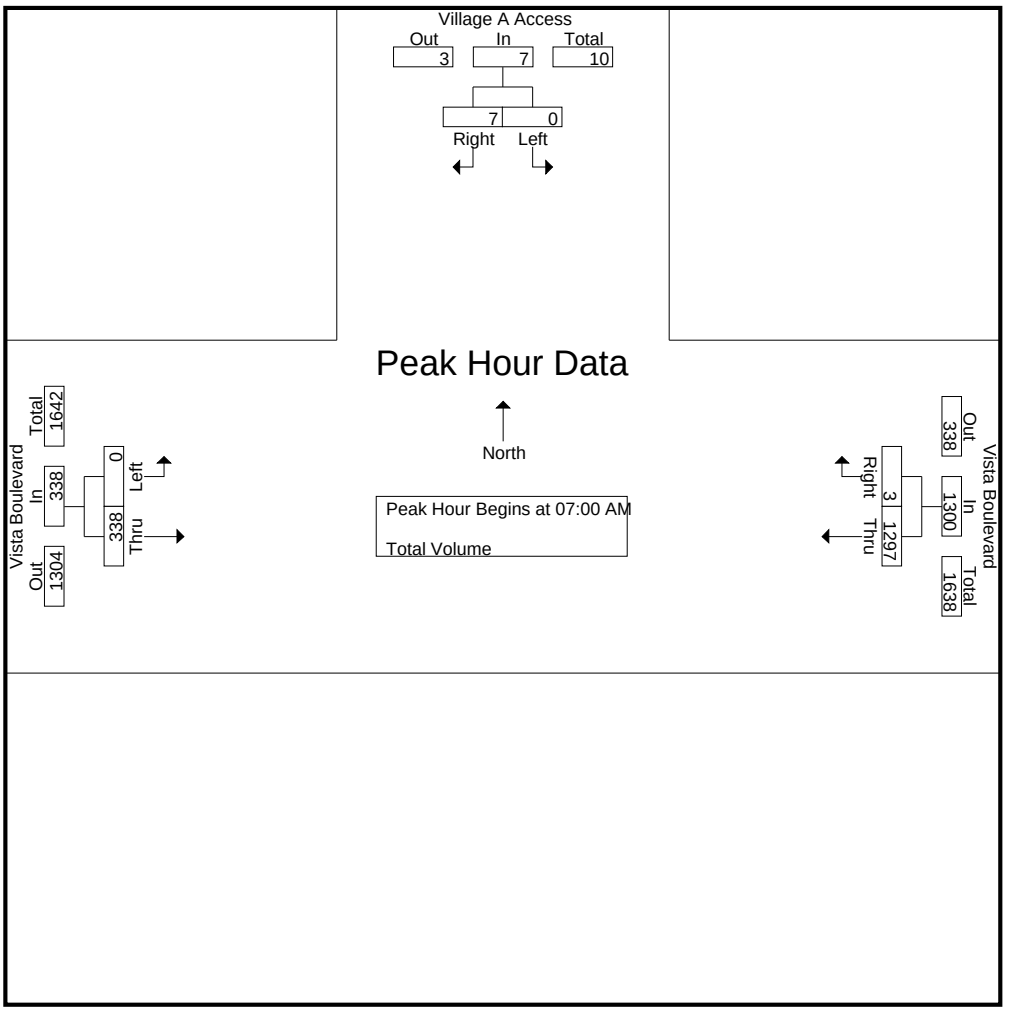
	Village A Access Southbound			Vista Boulevard Westbound			Vista Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	5	5	377	1	378	0	67	67	450
07:15 AM	0	2	2	357	1	358	0	91	91	451
07:30 AM	0	0	0	294	0	294	0	90	90	384
07:45 AM	0	0	0	269	1	270	0	90	90	360
Total	0	7	7	1297	3	1300	0	338	338	1645
08:00 AM	0	1	1	287	0	287	0	66	66	354
08:15 AM	0	0	0	277	0	277	0	100	100	377
08:30 AM	0	1	1	277	1	278	0	99	99	378
08:45 AM	0	0	0	200	0	200	0	109	109	309
Total	0	2	2	1041	1	1042	0	374	374	1418
Grand Total	0	9	9	2338	4	2342	0	712	712	3063
Apprch %	0	100		99.8	0.2		0	100		
Total %	0	0.3	0.3	76.3	0.1	76.5	0	23.2	23.2	

	Village A Access Southbound			Vista Boulevard Westbound			Vista Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**5**	**5**	**377**	**1**	**378**	0	67	67	450
07:15 AM	0	2	2	357	1	358	0	**91**	**91**	**451**
07:30 AM	0	0	0	294	0	294	0	90	90	384
07:45 AM	0	0	0	269	1	270	0	90	90	360
Total Volume	0	7	7	1297	3	1300	0	338	338	1645
% App. Total	0	100		99.8	0.2		0	100		
PHF	.000	.350	.350	.860	.750	.860	.000	.929	.929	.912

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	0	**5**	**5**	**377**	**1**	**378**	0	66	66
+15 mins.	0	2	2	357	1	358	0	100	100
+30 mins.	0	0	0	294	0	294	0	99	99
+45 mins.	0	0	0	269	1	270	0	**109**	**109**
Total Volume	0	7	7	1297	3	1300	0	374	374
% App. Total	0	100		99.8	0.2		0	100	
PHF	.000	.350	.350	.860	.750	.860	.000	.858	.858

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File Name : 02_SPK_V A Acs_Vista PM
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Groups Printed- Total Volume

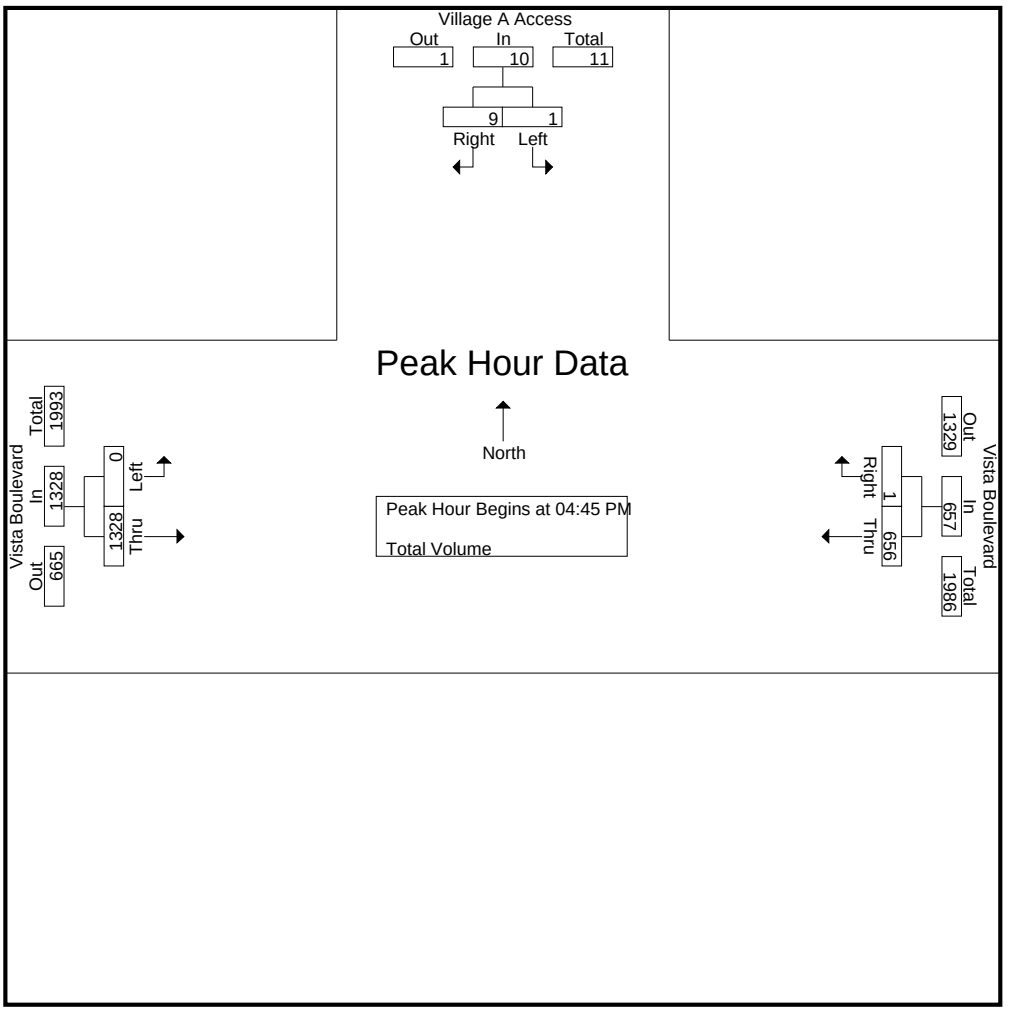
	Village A Access Southbound			Vista Boulevard Westbound			Vista Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	169	3	172	0	299	299	471
04:15 PM	0	7	7	167	3	170	0	309	309	486
04:30 PM	0	6	6	151	3	154	0	334	334	494
04:45 PM	0	8	8	148	0	148	0	344	344	500
Total	0	21	21	635	9	644	0	1286	1286	1951
05:00 PM	0	0	0	172	1	173	0	306	306	479
05:15 PM	1	1	2	152	0	152	0	337	337	491
05:30 PM	0	0	0	184	0	184	0	341	341	525
05:45 PM	0	0	0	158	0	158	0	328	328	486
Total	1	1	2	666	1	667	0	1312	1312	1981
Grand Total	1	22	23	1301	10	1311	0	2598	2598	3932
Apprch %	4.3	95.7		99.2	0.8		0	100		
Total %	0	0.6	0.6	33.1	0.3	33.3	0	66.1	66.1	

	Village A Access Southbound			Vista Boulevard Westbound			Vista Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	**8**	**8**	148	0	148	0	**344**	**344**	500
05:00 PM	0	0	0	172	**1**	173	0	306	306	479
05:15 PM	**1**	1	2	152	0	152	0	337	337	491
05:30 PM	0	0	0	**184**	0	**184**	0	341	341	**525**
Total Volume	1	9	10	656	1	657	0	1328	1328	1995
% App. Total	10	90		99.8	0.2		0	100		
PHF	.250	.281	.313	.891	.250	.893	.000	.965	.965	.950

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:45 PM		
+0 mins.	0	0	0	172	**1**	173	0	**344**	**344**
+15 mins.	0	7	7	152	0	152	0	306	306
+30 mins.	0	6	6	**184**	0	**184**	0	337	337
+45 mins.	0	**8**	**8**	158	0	158	0	341	341
Total Volume	0	21	21	666	1	667	0	1328	1328
% App. Total	0	100		99.9	0.1		0	100	
PHF	.000	.656	.656	.905	.250	.906	.000	.965	.965

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City of Sparks, NV
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File Name : 01_SPK_Wf P_Vista AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

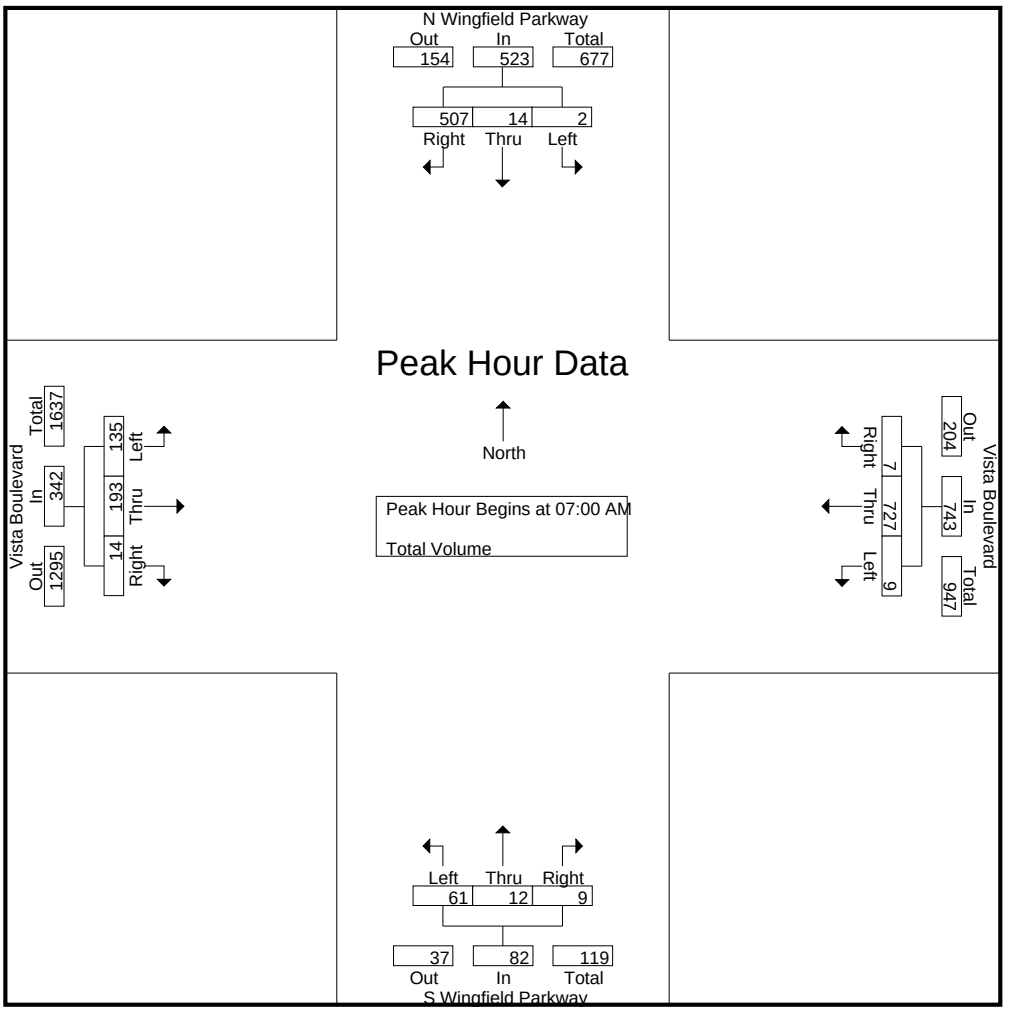
	N Wingfield Parkway Southbound				Vista Boulevard Westbound				S Wingfield Parkway Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	5	153	158	5	226	3	234	16	4	2	22	24	37	5	66	480
07:15 AM	1	3	134	138	1	186	0	187	18	1	6	25	34	59	6	99	449
07:30 AM	1	1	111	113	0	171	2	173	12	4	1	17	38	48	1	87	390
07:45 AM	0	5	109	114	3	144	2	149	15	3	0	18	39	49	2	90	371
Total	2	14	507	523	9	727	7	743	61	12	9	82	135	193	14	342	1690
08:00 AM	1	1	120	122	0	148	0	148	13	0	0	13	27	36	4	67	350
08:15 AM	2	5	100	107	1	159	4	164	16	6	0	22	42	51	9	102	395
08:30 AM	1	3	82	86	0	174	4	178	13	3	0	16	45	47	5	97	377
08:45 AM	1	0	80	81	0	114	2	116	5	5	0	10	49	60	1	110	317
Total	5	9	382	396	1	595	10	606	47	14	0	61	163	194	19	376	1439
Grand Total	7	23	889	919	10	1322	17	1349	108	26	9	143	298	387	33	718	3129
Apprch %	0.8	2.5	96.7		0.7	98	1.3		75.5	18.2	6.3		41.5	53.9	4.6		
Total %	0.2	0.7	28.4	29.4	0.3	42.2	0.5	43.1	3.5	0.8	0.3	4.6	9.5	12.4	1.1	22.9	

	N Wingfield Parkway Southbound				Vista Boulevard Westbound				S Wingfield Parkway Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**5**	**153**	**158**	**5**	**226**	**3**	**234**	16	**4**	2	22	24	37	5	66	**480**
07:15 AM	**1**	3	134	138	1	186	0	187	**18**	1	**6**	**25**	34	**59**	**6**	**99**	449
07:30 AM	1	1	111	113	0	171	2	173	12	4	1	17	38	48	1	87	390
07:45 AM	0	5	109	114	3	144	2	149	15	3	0	18	**39**	49	2	90	371
Total Volume	2	14	507	523	9	727	7	743	61	12	9	82	135	193	14	342	1690
% App. Total	0.4	2.7	96.9		1.2	97.8	0.9		74.4	14.6	11		39.5	56.4	4.1		
PHF	.500	.700	.828	.828	.450	.804	.583	.794	.847	.750	.375	.820	.865	.818	.583	.864	.880

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File Name : 01_SPK_Wf P_Vista AM
Site Code : 251153
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	0	**5**	**153**	**158**	**5**	**226**	**3**	**234**	16	**4**	2	22	27	36	4	67
+15 mins.	**1**	3	134	138	1	186	0	187	**18**	1	**6**	**25**	42	51	**9**	102
+30 mins.	1	1	111	113	0	171	2	173	12	4	1	17	45	47	5	97
+45 mins.	0	5	109	114	3	144	2	149	15	3	0	18	**49**	**60**	1	**110**
Total Volume	2	14	507	523	9	727	7	743	61	12	9	82	163	194	19	376
% App. Total	0.4	2.7	96.9		1.2	97.8	0.9		74.4	14.6	11		43.4	51.6	5.1	
PHF	.500	.700	.828	.828	.450	.804	.583	.794	.847	.750	.375	.820	.832	.808	.528	.855

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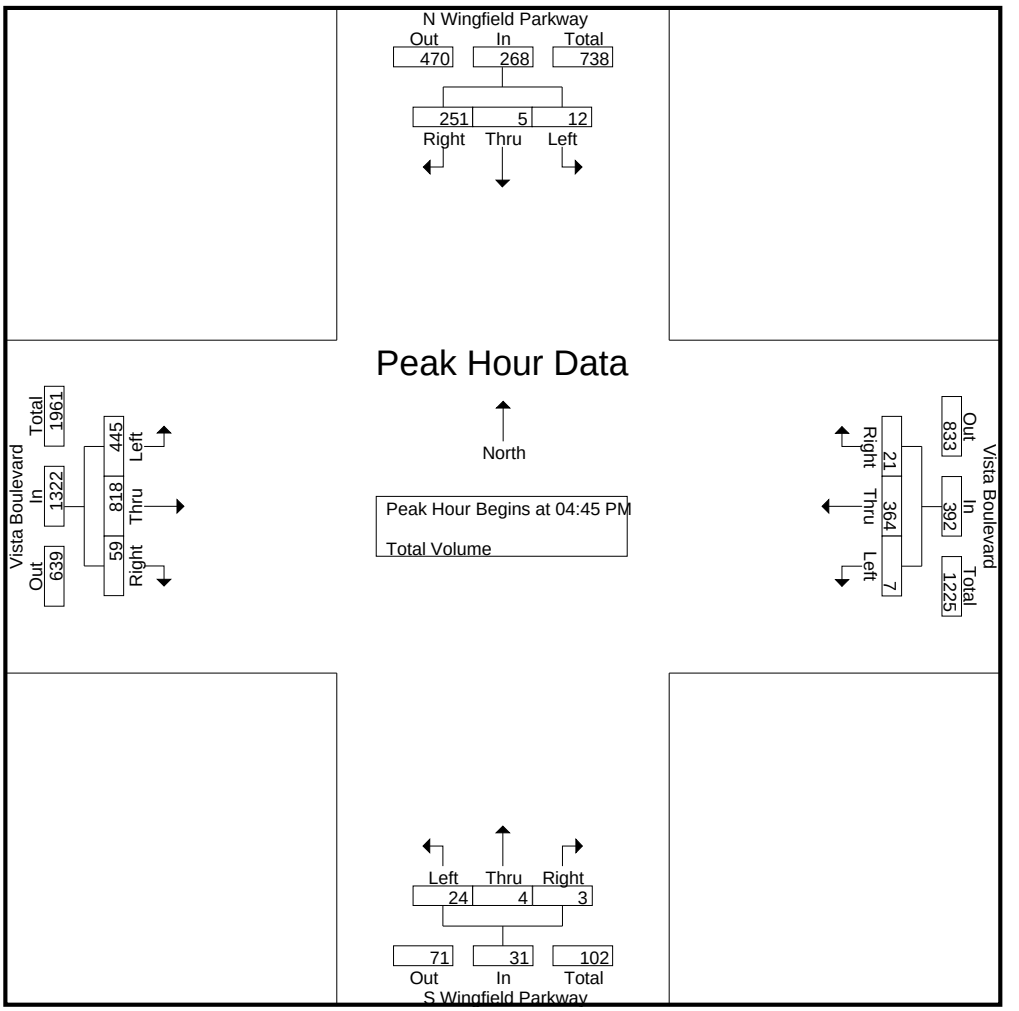
	N Wingfield Parkway Southbound				Vista Boulevard Westbound				S Wingfield Parkway Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	8	72	84	2	89	4	95	9	0	1	10	119	171	14	304	493
04:15 PM	3	2	63	68	0	100	2	102	9	3	1	13	113	178	12	303	486
04:30 PM	3	5	57	65	1	95	4	100	5	2	2	9	122	192	12	326	500
04:45 PM	3	1	63	67	1	79	3	83	4	0	1	5	119	211	14	344	499
Total	13	16	255	284	4	363	13	380	27	5	5	37	473	752	52	1277	1978
05:00 PM	2	2	59	63	2	106	5	113	7	1	0	8	98	187	13	298	482
05:15 PM	0	0	58	58	1	81	6	88	5	1	0	6	112	206	19	337	489
05:30 PM	7	2	71	80	3	98	7	108	8	2	2	12	116	214	13	343	543
05:45 PM	4	3	48	55	1	105	8	114	7	3	2	12	118	184	10	312	493
Total	13	7	236	256	7	390	26	423	27	7	4	38	444	791	55	1290	2007
Grand Total	26	23	491	540	11	753	39	803	54	12	9	75	917	1543	107	2567	3985
Apprch %	4.8	4.3	90.9		1.4	93.8	4.9		72	16	12		35.7	60.1	4.2		
Total %	0.7	0.6	12.3	13.6	0.3	18.9	1	20.2	1.4	0.3	0.2	1.9	23	38.7	2.7	64.4	

	N Wingfield Parkway Southbound				Vista Boulevard Westbound				S Wingfield Parkway Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	3	1	63	67	1	79	3	83	4	0	1	5	**119**	211	14	**344**	499
05:00 PM	2	**2**	59	63	2	**106**	5	**113**	7	1	0	8	98	187	13	298	482
05:15 PM	0	0	58	58	1	81	6	88	5	1	0	6	112	206	**19**	337	489
05:30 PM	**7**	2	**71**	**80**	**3**	98	**7**	108	**8**	**2**	**2**	**12**	116	**214**	13	343	**543**
Total Volume	12	5	251	268	7	364	21	392	24	4	3	31	445	818	59	1322	2013
% App. Total	4.5	1.9	93.7		1.8	92.9	5.4		77.4	12.9	9.7		33.7	61.9	4.5		
PHF	.429	.625	.884	.838	.583	.858	.750	.867	.750	.500	.375	.646	.935	.956	.776	.961	.927

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				05:00 PM				04:45 PM			
+0 mins.	**4**	**8**	**72**	**84**	2	**106**	5	113	7	1	0	8	**119**	211	14	**344**
+15 mins.	3	2	63	68	1	81	6	88	5	1	0	6	98	187	13	298
+30 mins.	3	5	57	65	**3**	98	7	108	**8**	2	**2**	**12**	112	206	**19**	337
+45 mins.	3	1	63	67	1	105	**8**	**114**	7	**3**	2	12	116	**214**	13	343
Total Volume	13	16	255	284	7	390	26	423	27	7	4	38	445	818	59	1322
% App. Total	4.6	5.6	89.8		1.7	92.2	6.1		71.1	18.4	10.5		33.7	61.9	4.5	
PHF	.813	.500	.885	.845	.583	.920	.813	.928	.844	.583	.500	.792	.935	.956	.776	.961

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Rey Del Sierra Drive
Weather: Clear

File Name : 07_SPK_Wf P_RDelS AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

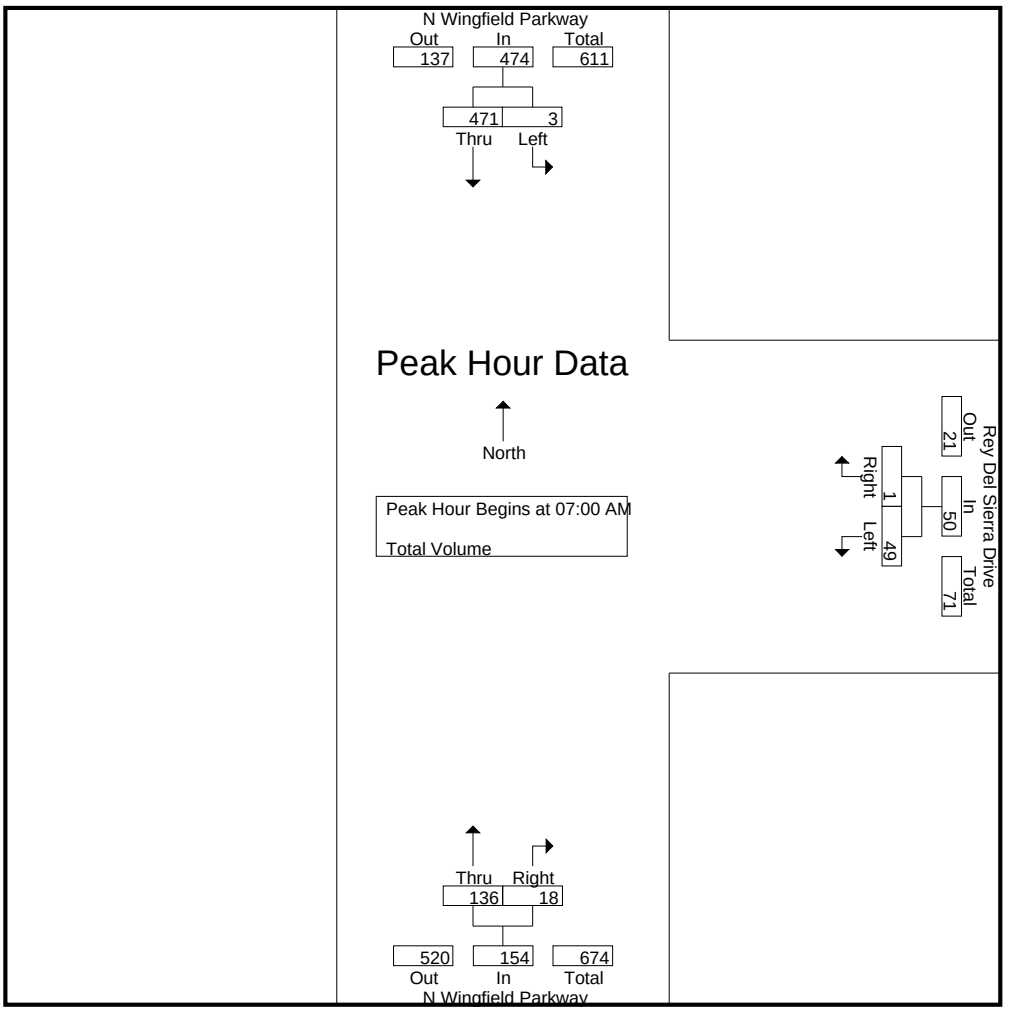
	N Wingfield Parkway Southbound			Rey Del Sierra Drive Westbound			N Wingfield Parkway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	154	155	14	0	14	29	2	31	200
07:15 AM	0	110	110	14	0	14	26	4	30	154
07:30 AM	0	108	108	10	0	10	40	9	49	167
07:45 AM	2	99	101	11	1	12	41	3	44	157
Total	3	471	474	49	1	50	136	18	154	678
08:00 AM	0	111	111	10	1	11	24	2	26	148
08:15 AM	1	98	99	8	0	8	42	5	47	154
08:30 AM	1	78	79	7	0	7	53	4	57	143
08:45 AM	0	77	77	5	1	6	52	3	55	138
Total	2	364	366	30	2	32	171	14	185	583
Grand Total	5	835	840	79	3	82	307	32	339	1261
Apprch %	0.6	99.4		96.3	3.7		90.6	9.4		
Total %	0.4	66.2	66.6	6.3	0.2	6.5	24.3	2.5	26.9	

	N Wingfield Parkway Southbound			Rey Del Sierra Drive Westbound			N Wingfield Parkway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	**154**	**155**	**14**	0	**14**	29	2	31	**200**
07:15 AM	0	110	110	14	0	14	26	4	30	154
07:30 AM	0	108	108	10	0	10	40	**9**	**49**	167
07:45 AM	**2**	99	101	11	**1**	12	**41**	3	44	157
Total Volume	3	471	474	49	1	50	136	18	154	678
% App. Total	0.6	99.4		98	2		88.3	11.7		
PHF	.375	.765	.765	.875	.250	.893	.829	.500	.786	.848

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Rey Del Sierra Drive
Weather: Clear

File Name : 07_SPK_Wf P_RDelS AM
Site Code : 251153
Start Date : 11/19/2025



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	1	**154**	**155**	**14**	0	**14**	24	2	26
+15 mins.	0	110	110	14	0	14	42	**5**	47
+30 mins.	0	108	108	10	0	10	**53**	4	**57**
+45 mins.	**2**	99	101	11	**1**	12	52	3	55
Total Volume	3	471	474	49	1	50	171	14	185
% App. Total	0.6	99.4		98	2		92.4	7.6	
PHF	.375	.765	.765	.875	.250	.893	.807	.700	.811

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Rey Del Sierra Drive
Weather: Clear

File Name : 07_SPK_Wf P_RDelS PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

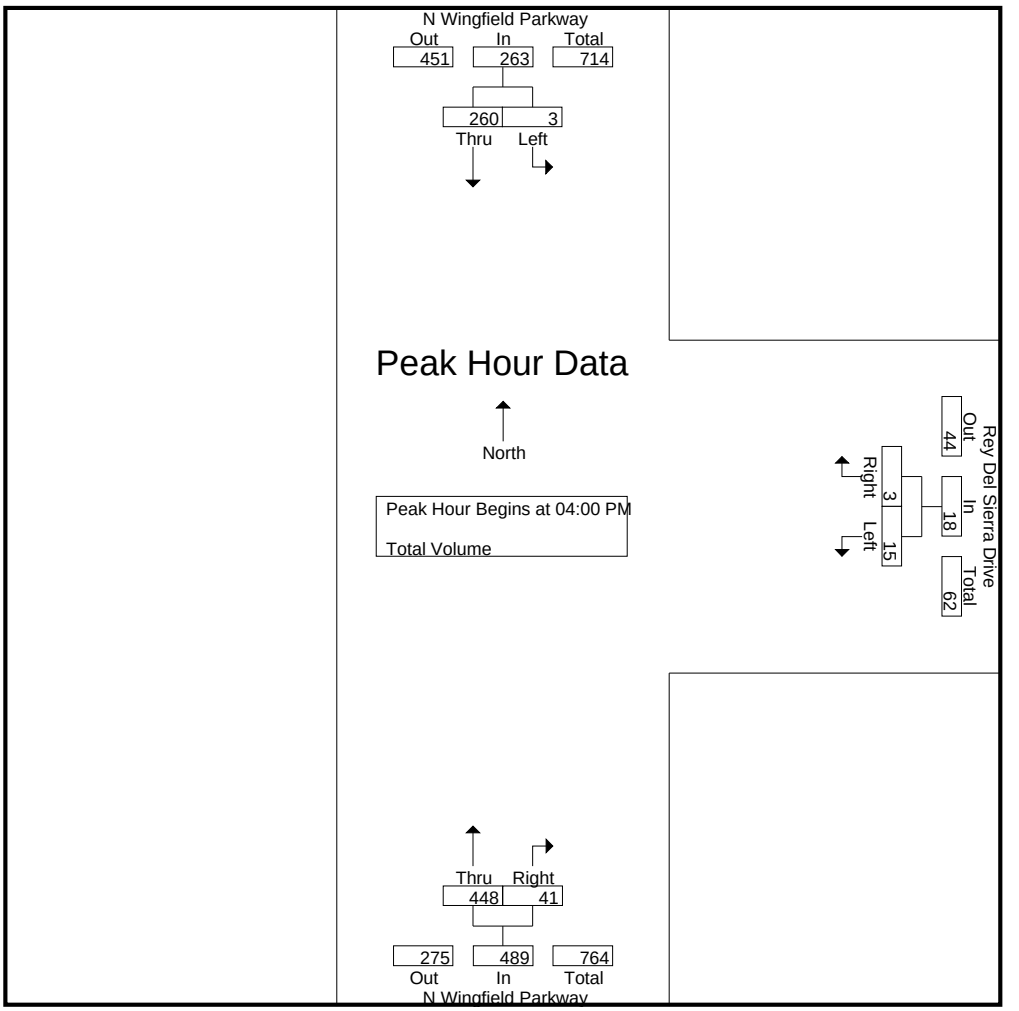
	N Wingfield Parkway Southbound			Rey Del Sierra Drive Westbound			N Wingfield Parkway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	79	80	4	3	7	107	11	118	205
04:15 PM	1	65	66	4	0	4	105	13	118	188
04:30 PM	1	59	60	4	0	4	123	11	134	198
04:45 PM	0	57	57	3	0	3	113	6	119	179
Total	3	260	263	15	3	18	448	41	489	770
05:00 PM	0	51	51	9	0	9	92	11	103	163
05:15 PM	0	60	60	2	0	2	113	10	123	185
05:30 PM	1	75	76	4	0	4	112	8	120	200
05:45 PM	1	51	52	2	0	2	112	11	123	177
Total	2	237	239	17	0	17	429	40	469	725
Grand Total	5	497	502	32	3	35	877	81	958	1495
Apprch %	1	99		91.4	8.6		91.5	8.5		
Total %	0.3	33.2	33.6	2.1	0.2	2.3	58.7	5.4	64.1	

	N Wingfield Parkway Southbound			Rey Del Sierra Drive Westbound			N Wingfield Parkway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**1**	**79**	**80**	**4**	**3**	**7**	107	11	118	**205**
04:15 PM	1	65	66	4	0	4	105	**13**	118	188
04:30 PM	1	59	60	4	0	4	**123**	11	**134**	198
04:45 PM	0	57	57	3	0	3	113	6	119	179
Total Volume	3	260	263	15	3	18	448	41	489	770
% App. Total	1.1	98.9		83.3	16.7		91.6	8.4		
PHF	.750	.823	.822	.938	.250	.643	.911	.788	.912	.939

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Rey Del Sierra Drive
Weather: Clear

File Name : 07_SPK_Wf P_RDelS PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:15 PM			04:00 PM		
+0 mins.	**1**	**79**	**80**	4	0	4	107	11	118
+15 mins.	1	65	66	4	0	4	105	**13**	118
+30 mins.	1	59	60	3	0	3	**123**	11	**134**
+45 mins.	0	57	57	**9**	0	**9**	113	6	119
Total Volume	3	260	263	20	0	20	448	41	489
% App. Total	1.1	98.9		100	0		91.6	8.4	
PHF	.750	.823	.822	.556	.000	.556	.911	.788	.912

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Wingfield Springs Road
Weather: Clear

File Name : 08_SPK_Wf P_Wf Sp AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

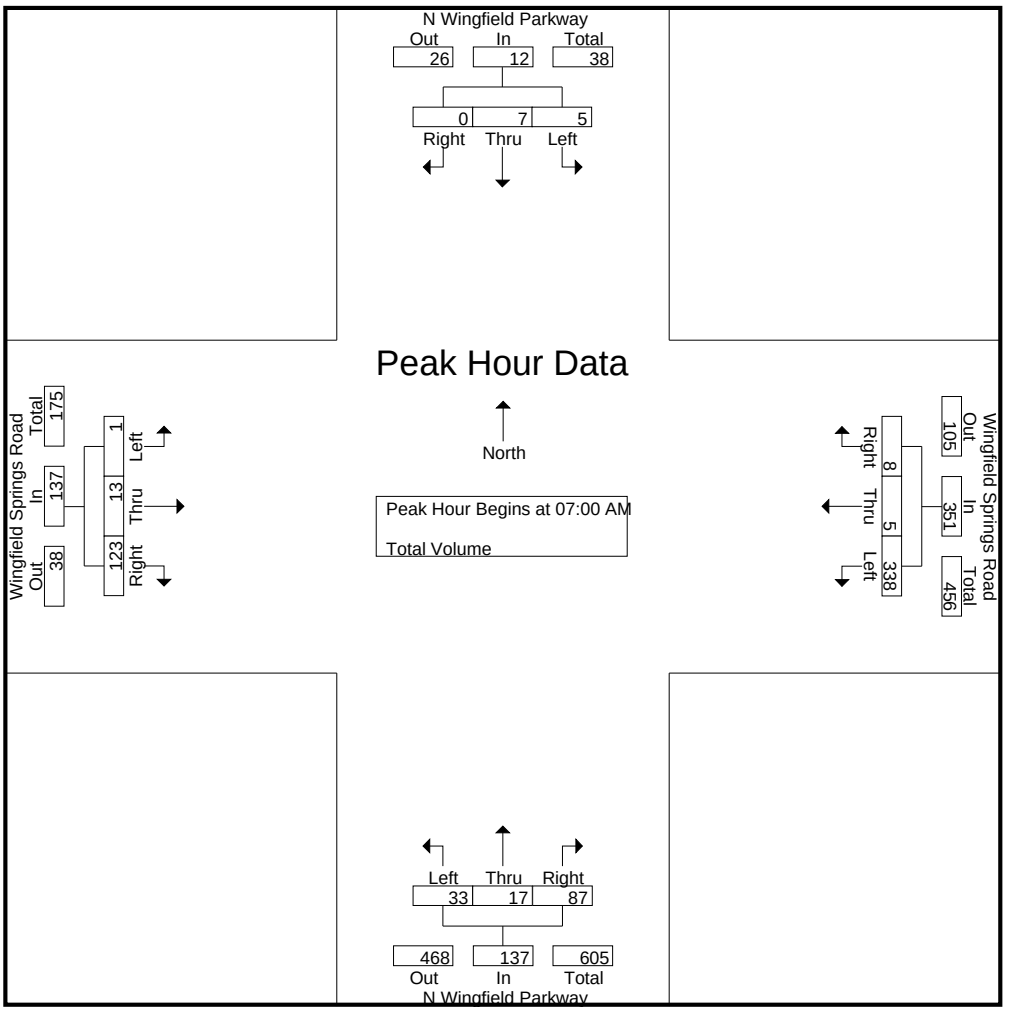
	N Wingfield Parkway Southbound				Wingfield Springs Road Westbound				N Wingfield Parkway Northbound				Wingfield Springs Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	2	0	4	111	0	4	115	8	7	14	29	0	4	42	46	194
07:15 AM	1	0	0	1	81	2	1	84	6	2	16	24	0	1	26	27	136
07:30 AM	0	2	0	2	73	1	0	74	11	2	27	40	0	4	28	32	148
07:45 AM	2	3	0	5	73	2	3	78	8	6	30	44	1	4	27	32	159
Total	5	7	0	12	338	5	8	351	33	17	87	137	1	13	123	137	637
08:00 AM	1	1	0	2	90	1	1	92	6	2	19	27	0	1	23	24	145
08:15 AM	0	3	0	3	65	3	5	73	10	11	20	41	0	2	32	34	151
08:30 AM	2	1	0	3	56	0	4	60	14	5	33	52	0	0	19	19	134
08:45 AM	0	3	0	3	47	4	2	53	17	5	26	48	0	1	27	28	132
Total	3	8	0	11	258	8	12	278	47	23	98	168	0	4	101	105	562
Grand Total	8	15	0	23	596	13	20	629	80	40	185	305	1	17	224	242	1199
Apprch %	34.8	65.2	0		94.8	2.1	3.2		26.2	13.1	60.7		0.4	7	92.6		
Total %	0.7	1.3	0	1.9	49.7	1.1	1.7	52.5	6.7	3.3	15.4	25.4	0.1	1.4	18.7	20.2	

	N Wingfield Parkway Southbound				Wingfield Springs Road Westbound				N Wingfield Parkway Northbound				Wingfield Springs Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	2	0	4	**111**	0	**4**	**115**	8	**7**	14	29	0	**4**	**42**	**46**	**194**
07:15 AM	1	0	0	1	81	**2**	1	84	6	2	16	24	0	1	26	27	136
07:30 AM	0	2	0	2	73	1	0	74	**11**	2	27	40	0	4	28	32	148
07:45 AM	2	**3**	0	**5**	73	2	3	78	8	6	**30**	**44**	**1**	4	27	32	159
Total Volume	5	7	0	12	338	5	8	351	33	17	87	137	1	13	123	137	637
% App. Total	41.7	58.3	0		96.3	1.4	2.3		24.1	12.4	63.5		0.7	9.5	89.8		
PHF	.625	.583	.000	.600	.761	.625	.500	.763	.750	.607	.725	.778	.250	.813	.732	.745	.821

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Wingfield Springs Road
Weather: Clear

File Name : 08_SPK_Wf P_Wf Sp AM
Site Code : 251153
Start Date : 11/19/2025



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	**2**	**3**	0	**5**	**111**	0	**4**	**115**	6	2	19	27	0	**4**	**42**	**46**
+15 mins.	1	1	0	2	81	**2**	1	84	10	**11**	20	41	0	1	26	27
+30 mins.	0	3	0	3	73	1	0	74	14	5	**33**	**52**	0	4	28	32
+45 mins.	2	1	0	3	73	2	3	78	**17**	5	26	48	**1**	4	27	32
Total Volume	5	8	0	13	338	5	8	351	47	23	98	168	1	13	123	137
% App. Total	38.5	61.5	0		96.3	1.4	2.3		28	13.7	58.3		0.7	9.5	89.8	
PHF	.625	.667	.000	.650	.761	.625	.500	.763	.691	.523	.742	.808	.250	.813	.732	.745

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City of Sparks, NV
N/S: Wingfield Parkway
E/W: Wingfield Springs Road
Weather: Clear

File Name : 08_SPK_Wf P_Wf Sp PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

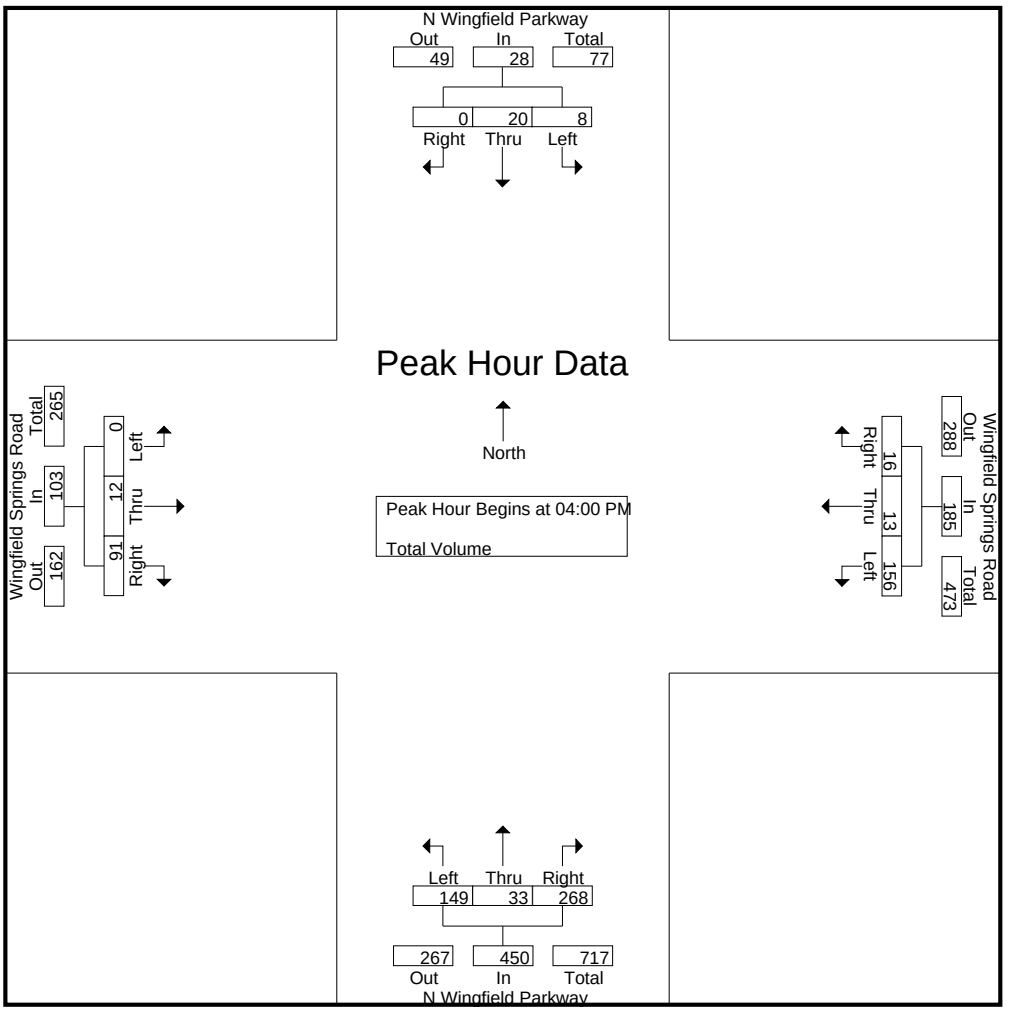
	N Wingfield Parkway Southbound				Wingfield Springs Road Westbound				N Wingfield Parkway Northbound				Wingfield Springs Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	7	0	8	47	5	2	54	32	9	75	116	0	3	24	27	205
04:15 PM	3	5	0	8	43	2	1	46	36	4	67	107	0	1	18	19	180
04:30 PM	4	4	0	8	34	5	5	44	46	11	70	127	0	7	20	27	206
04:45 PM	0	4	0	4	32	1	8	41	35	9	56	100	0	1	29	30	175
Total	8	20	0	28	156	13	16	185	149	33	268	450	0	12	91	103	766
05:00 PM	8	3	0	11	30	1	1	32	32	4	69	105	0	1	16	17	165
05:15 PM	2	3	0	5	46	3	4	53	26	10	59	95	0	2	12	14	167
05:30 PM	2	7	0	9	48	2	9	59	42	17	64	123	0	1	20	21	212
05:45 PM	2	6	0	8	28	3	18	49	27	16	69	112	0	0	16	16	185
Total	14	19	0	33	152	9	32	193	127	47	261	435	0	4	64	68	729
Grand Total	22	39	0	61	308	22	48	378	276	80	529	885	0	16	155	171	1495
Apprch %	36.1	63.9	0		81.5	5.8	12.7		31.2	9	59.8		0	9.4	90.6		
Total %	1.5	2.6	0	4.1	20.6	1.5	3.2	25.3	18.5	5.4	35.4	59.2	0	1.1	10.4	11.4	

	N Wingfield Parkway Southbound				Wingfield Springs Road Westbound				N Wingfield Parkway Northbound				Wingfield Springs Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**7**	0	**8**	**47**	**5**	2	**54**	32	9	**75**	116	0	3	24	27	205
04:15 PM	3	5	0	8	43	2	1	46	36	4	67	107	0	1	18	19	180
04:30 PM	**4**	4	0	8	34	5	5	44	**46**	**11**	70	**127**	0	**7**	20	27	**206**
04:45 PM	0	4	0	4	32	1	**8**	41	35	9	56	100	0	1	**29**	**30**	175
Total Volume	8	20	0	28	156	13	16	185	149	33	268	450	0	12	91	103	766
% App. Total	28.6	71.4	0		84.3	7	8.6		33.1	7.3	59.6		0	11.7	88.3		
PHF	.500	.714	.000	.875	.830	.650	.500	.856	.810	.750	.893	.886	.000	.429	.784	.858	.930

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City of Sparks, NV
N/S: Wingfield Parkway
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Weather: Clear

File Name : 08_SPK_Wf P_Wf Sp PM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				04:00 PM			
+0 mins.	**8**	3	0	**11**	30	1	1	32	32	9	**75**	116	0	3	24	27
+15 mins.	2	3	0	5	46	**3**	4	53	36	4	67	107	0	1	18	19
+30 mins.	2	**7**	0	9	**48**	2	9	**59**	**46**	**11**	70	**127**	0	**7**	20	27
+45 mins.	2	6	0	8	28	3	**18**	49	35	9	56	100	0	1	**29**	**30**
Total Volume	14	19	0	33	152	9	32	193	149	33	268	450	0	12	91	103
% App. Total	42.4	57.6	0		78.8	4.7	16.6		33.1	7.3	59.6		0	11.7	88.3	
PHF	.438	.679	.000	.750	.792	.750	.444	.818	.810	.750	.893	.886	.000	.429	.784	.858

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Rey Drive
Weather: Clear

File Name : 09_SPK_Wf Sp_PoRey AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

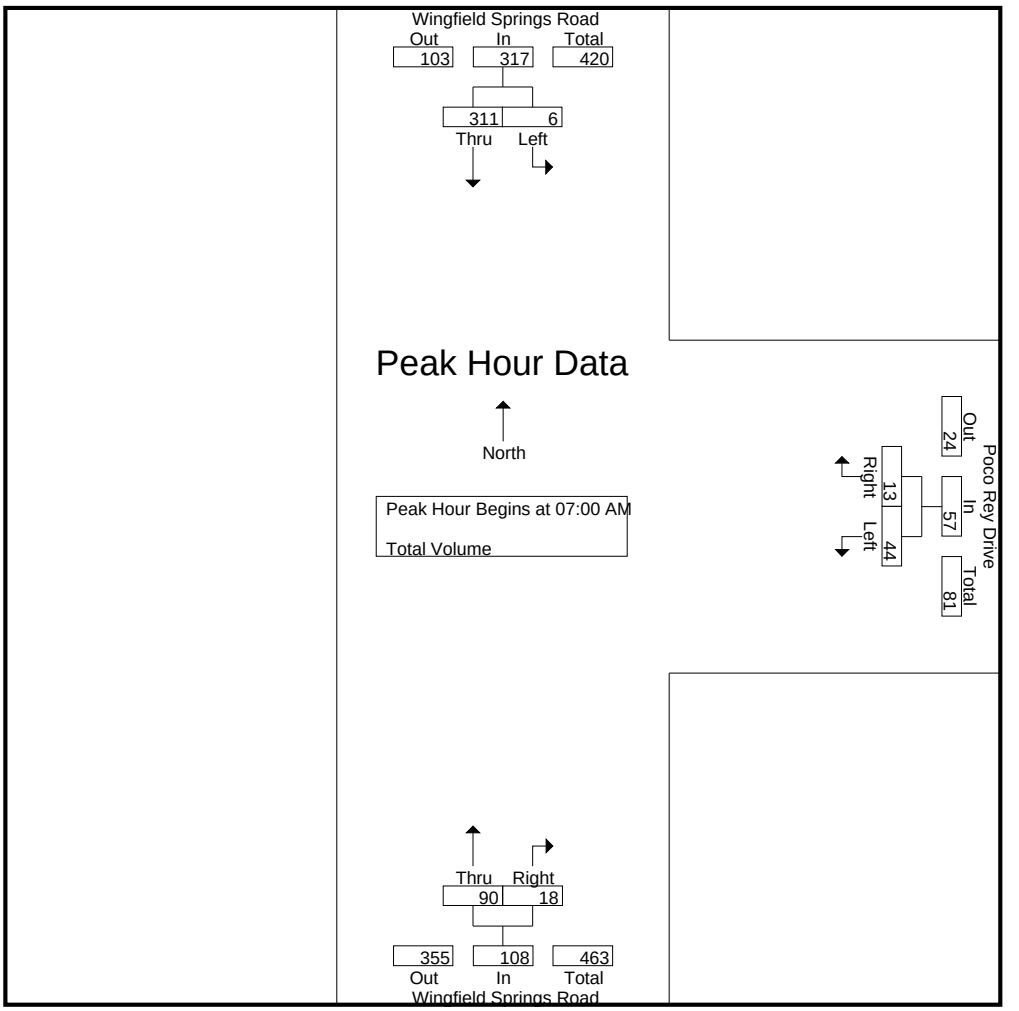
	Wingfield Springs Road Southbound			Poco Rey Drive Westbound			Wingfield Springs Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	102	103	16	2	18	14	5	19	140
07:15 AM	1	73	74	10	3	13	19	4	23	110
07:30 AM	2	64	66	11	4	15	29	1	30	111
07:45 AM	2	72	74	7	4	11	28	8	36	121
Total	6	311	317	44	13	57	90	18	108	482
08:00 AM	2	70	72	19	1	20	14	7	21	113
08:15 AM	3	62	65	13	1	14	19	3	22	101
08:30 AM	2	50	52	6	0	6	26	7	33	91
08:45 AM	1	50	51	7	4	11	22	6	28	90
Total	8	232	240	45	6	51	81	23	104	395
Grand Total	14	543	557	89	19	108	171	41	212	877
Apprch %	2.5	97.5		82.4	17.6		80.7	19.3		
Total %	1.6	61.9	63.5	10.1	2.2	12.3	19.5	4.7	24.2	

	Wingfield Springs Road Southbound			Poco Rey Drive Westbound			Wingfield Springs Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	**102**	**103**	**16**	2	**18**	14	5	19	**140**
07:15 AM	1	73	74	10	3	13	19	4	23	110
07:30 AM	**2**	64	66	11	**4**	15	**29**	1	30	111
07:45 AM	2	72	74	7	4	11	28	**8**	**36**	121
Total Volume	6	311	317	44	13	57	90	18	108	482
% App. Total	1.9	98.1		77.2	22.8		83.3	16.7		
PHF	.750	.762	.769	.688	.813	.792	.776	.563	.750	.861

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Rey Drive
Weather: Clear

File Name : 09_SPK_Wf Sp_PoRey AM
Site Code : 251153
Start Date : 11/19/2025



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:45 AM		
+0 mins.	1	**102**	**103**	11	**4**	15	**28**	**8**	**36**
+15 mins.	1	73	74	7	4	11	14	7	21
+30 mins.	**2**	64	66	**19**	1	**20**	19	3	22
+45 mins.	2	72	74	13	1	14	26	7	33
Total Volume	6	311	317	50	10	60	87	25	112
% App. Total	1.9	98.1		83.3	16.7		77.7	22.3	
PHF	.750	.762	.769	.658	.625	.750	.777	.781	.778

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City of Sparks, NV
N/S: Wingfield Springs Road
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Weather: Clear

File Name : 09_SPK_Wf Sp_PoRey PM
Site Code : 251153
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Page No : 1

Groups Printed- Total Volume

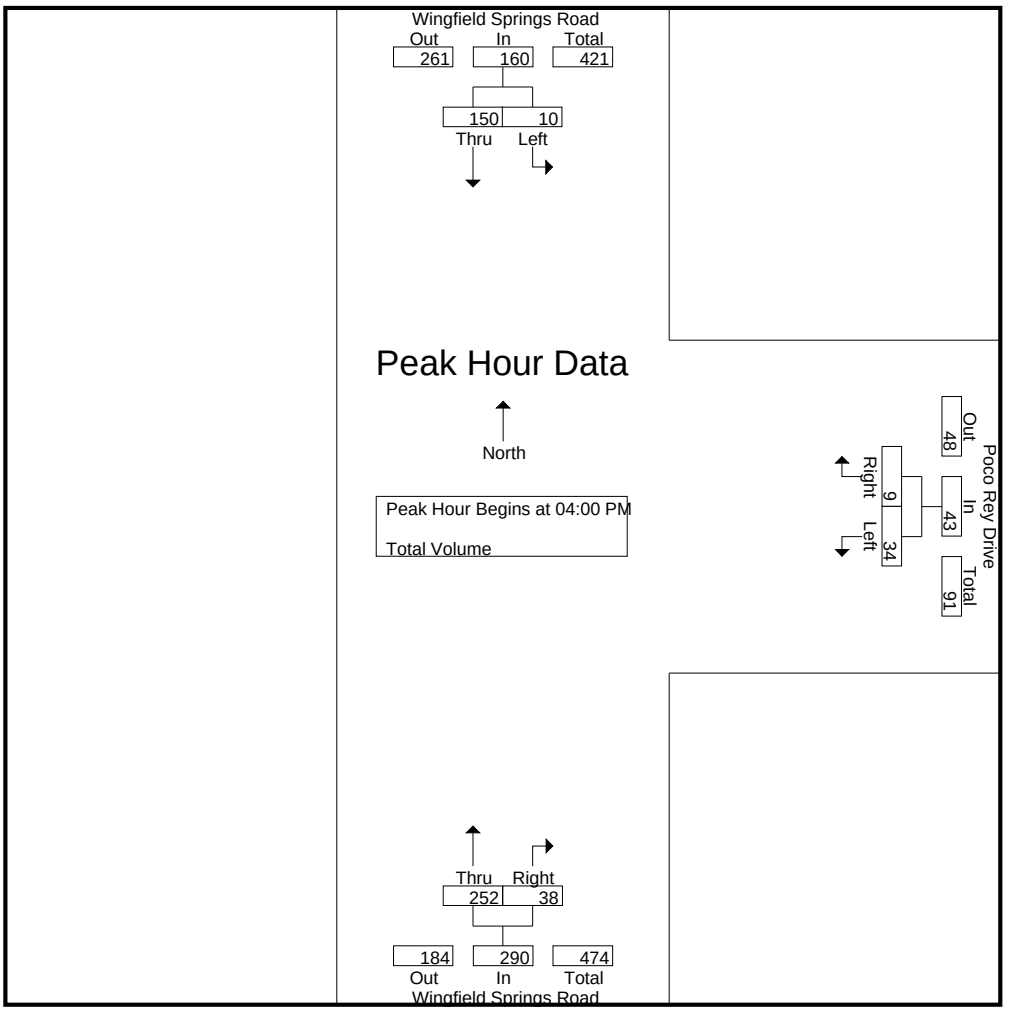
	Wingfield Springs Road Southbound			Poco Rey Drive Westbound			Wingfield Springs Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	5	46	51	9	1	10	69	11	80	141
04:15 PM	1	37	38	9	2	11	64	7	71	120
04:30 PM	3	34	37	8	4	12	68	12	80	129
04:45 PM	1	33	34	8	2	10	51	8	59	103
Total	10	150	160	34	9	43	252	38	290	493
05:00 PM	1	25	26	10	3	13	70	8	78	117
05:15 PM	1	42	43	10	2	12	50	14	64	119
05:30 PM	4	49	53	10	4	14	56	12	68	135
05:45 PM	6	44	50	5	1	6	53	13	66	122
Total	12	160	172	35	10	45	229	47	276	493
Grand Total	22	310	332	69	19	88	481	85	566	986
Apprch %	6.6	93.4		78.4	21.6		85	15		
Total %	2.2	31.4	33.7	7	1.9	8.9	48.8	8.6	57.4	

	Wingfield Springs Road Southbound			Poco Rey Drive Westbound			Wingfield Springs Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**5**	**46**	**51**	**9**	1	10	**69**	11	**80**	**141**
04:15 PM	1	37	38	9	2	11	64	7	71	120
04:30 PM	3	34	37	8	**4**	**12**	68	**12**	80	129
04:45 PM	1	33	34	8	2	10	51	8	59	103
Total Volume	10	150	160	34	9	43	252	38	290	493
% App. Total	6.2	93.8		79.1	20.9		86.9	13.1		
PHF	.500	.815	.784	.944	.563	.896	.913	.792	.906	.874

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Rey Drive
Weather: Clear

File Name : 09_SPK_Wf Sp_PoRey PM
Site Code : 251153
Start Date : 11/19/2025



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:45 PM			04:00 PM		
+0 mins.	1	25	26	8	2	10	**69**	11	**80**
+15 mins.	1	42	43	**10**	3	13	64	7	71
+30 mins.	4	**49**	**53**	10	2	12	68	**12**	80
+45 mins.	**6**	44	50	10	**4**	**14**	51	8	59
Total Volume	12	160	172	38	11	49	252	38	290
% App. Total	7	93		77.6	22.4		86.9	13.1	
PHF	.500	.816	.811	.950	.688	.875	.913	.792	.906

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Diamond Wing Court
Weather: Clear

File Name : 10_SPK_Wf Sp_DiaWi AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

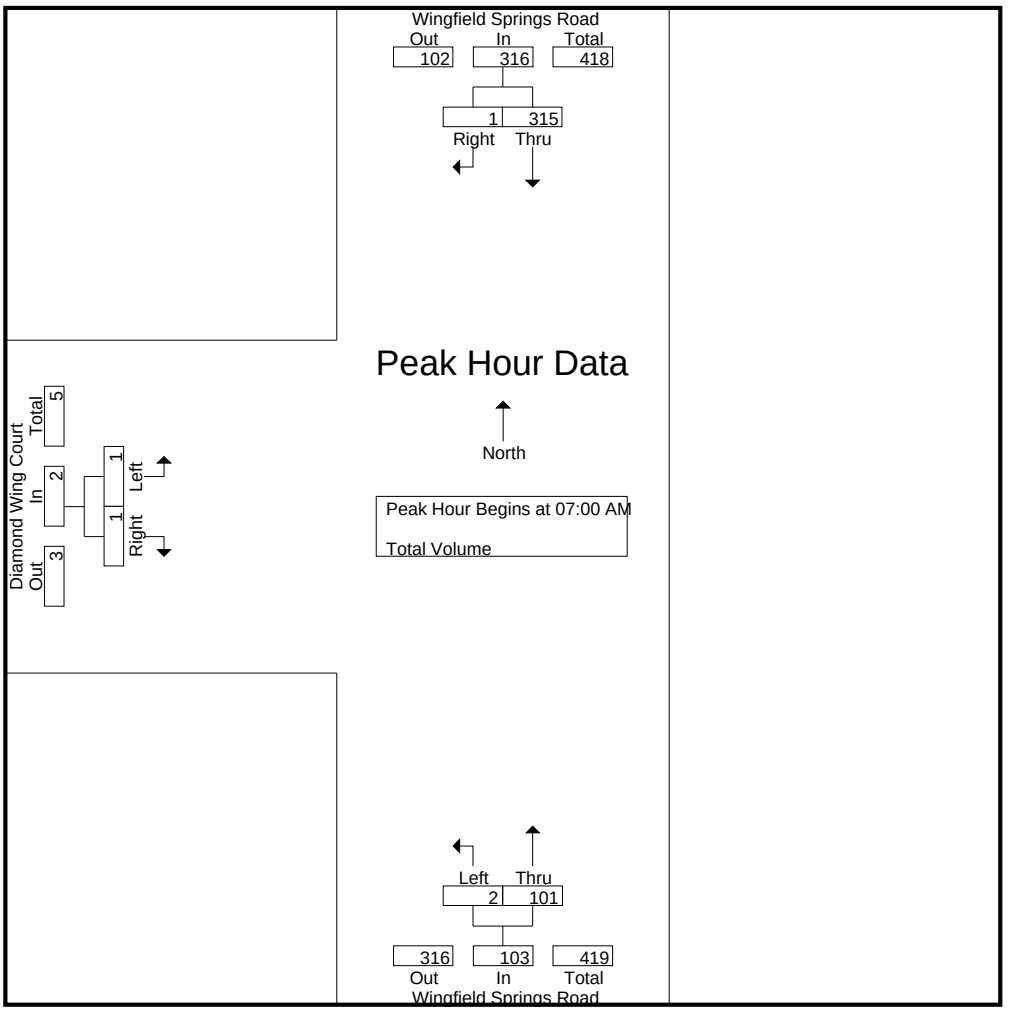
	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Diamond Wing Court Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	102	0	102	0	16	16	0	1	1	119
07:15 AM	73	0	73	2	20	22	1	0	1	96
07:30 AM	67	0	67	0	33	33	0	0	0	100
07:45 AM	73	1	74	0	32	32	0	0	0	106
Total	315	1	316	2	101	103	1	1	2	421
08:00 AM	72	0	72	0	14	14	0	0	0	86
08:15 AM	68	0	68	0	20	20	0	0	0	88
08:30 AM	50	0	50	0	26	26	0	0	0	76
08:45 AM	50	0	50	1	25	26	1	1	2	78
Total	240	0	240	1	85	86	1	1	2	328
Grand Total	555	1	556	3	186	189	2	2	4	749
Apprch %	99.8	0.2		1.6	98.4		50	50		
Total %	74.1	0.1	74.2	0.4	24.8	25.2	0.3	0.3	0.5	

	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Diamond Wing Court Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**102**	0	**102**	0	16	16	0	**1**	**1**	**119**
07:15 AM	73	0	73	**2**	20	22	**1**	0	1	96
07:30 AM	67	0	67	0	**33**	**33**	0	0	0	100
07:45 AM	73	**1**	74	0	32	32	0	0	0	106
Total Volume	315	1	316	2	101	103	1	1	2	421
% App. Total	99.7	0.3		1.9	98.1		50	50		
PHF	.772	.250	.775	.250	.765	.780	.250	.250	.500	.884

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Diamond Wing Court
Weather: Clear

File Name : 10_SPK_Wf Sp_DiaWi AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**102**	0	**102**	0	16	16	0	**1**	**1**
+15 mins.	73	0	73	**2**	20	22	**1**	0	1
+30 mins.	67	0	67	0	**33**	**33**	0	0	0
+45 mins.	73	**1**	74	0	32	32	0	0	0
Total Volume	315	1	316	2	101	103	1	1	2
% App. Total	99.7	0.3		1.9	98.1		50	50	
PHF	.772	.250	.775	.250	.765	.780	.250	.250	.500

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Diamond Wing Court
Weather: Clear

File Name : 10_SPK_Wf Sp_DiaWi PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

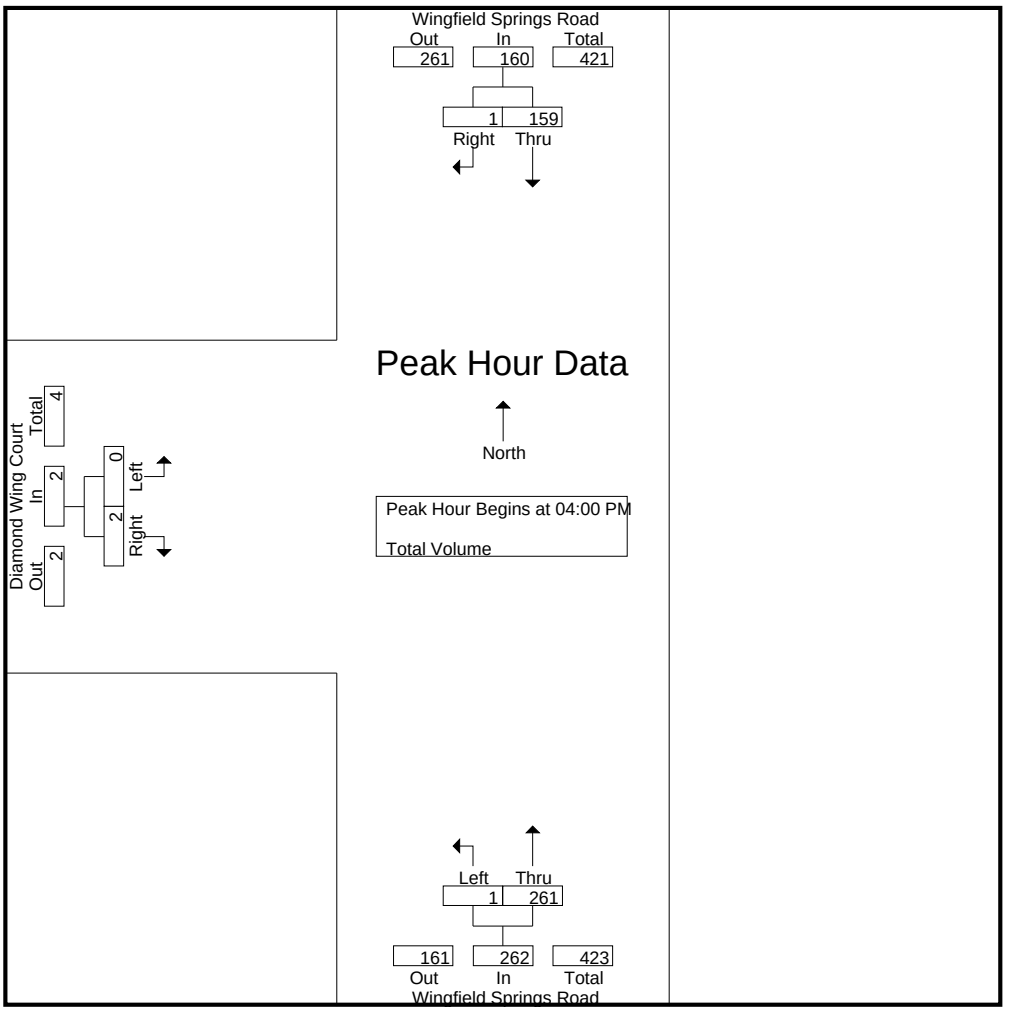
	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Diamond Wing Court Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	54	1	55	0	71	71	0	0	0	126
04:15 PM	35	0	35	0	66	66	0	1	1	102
04:30 PM	39	0	39	1	71	72	0	0	0	111
04:45 PM	31	0	31	0	53	53	0	1	1	85
Total	159	1	160	1	261	262	0	2	2	424
05:00 PM	26	0	26	0	73	73	0	0	0	99
05:15 PM	43	0	43	0	51	51	0	1	1	95
05:30 PM	54	1	55	1	60	61	0	0	0	116
05:45 PM	49	1	50	1	54	55	0	2	2	107
Total	172	2	174	2	238	240	0	3	3	417
Grand Total	331	3	334	3	499	502	0	5	5	841
Apprch %	99.1	0.9		0.6	99.4		0	100		
Total %	39.4	0.4	39.7	0.4	59.3	59.7	0	0.6	0.6	

	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Diamond Wing Court Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**54**	**1**	**55**	0	**71**	71	0	0	0	**126**
04:15 PM	35	0	35	0	66	66	0	**1**	**1**	102
04:30 PM	39	0	39	**1**	71	**72**	0	0	0	111
04:45 PM	31	0	31	0	53	53	0	1	1	85
Total Volume	159	1	160	1	261	262	0	2	2	424
% App. Total	99.4	0.6		0.4	99.6		0	100		
PHF	.736	.250	.727	.250	.919	.910	.000	.500	.500	.841

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Diamond Wing Court
Weather: Clear

File Name : 10_SPK_Wf Sp_DiaWi PM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:15 PM			05:00 PM		
+0 mins.	26	0	26	0	66	66	0	0	0
+15 mins.	43	0	43	**1**	71	72	0	1	1
+30 mins.	**54**	**1**	**55**	0	53	53	0	0	0
+45 mins.	49	1	50	0	**73**	**73**	0	**2**	**2**
Total Volume	172	2	174	1	263	264	0	3	3
% App. Total	98.9	1.1		0.4	99.6		0	100	
PHF	.796	.500	.791	.250	.901	.904	.000	.375	.375

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle S/Cinnamon Dr S
Weather: Clear

File Name : 11_SPK_Wf Sp_EWC S AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

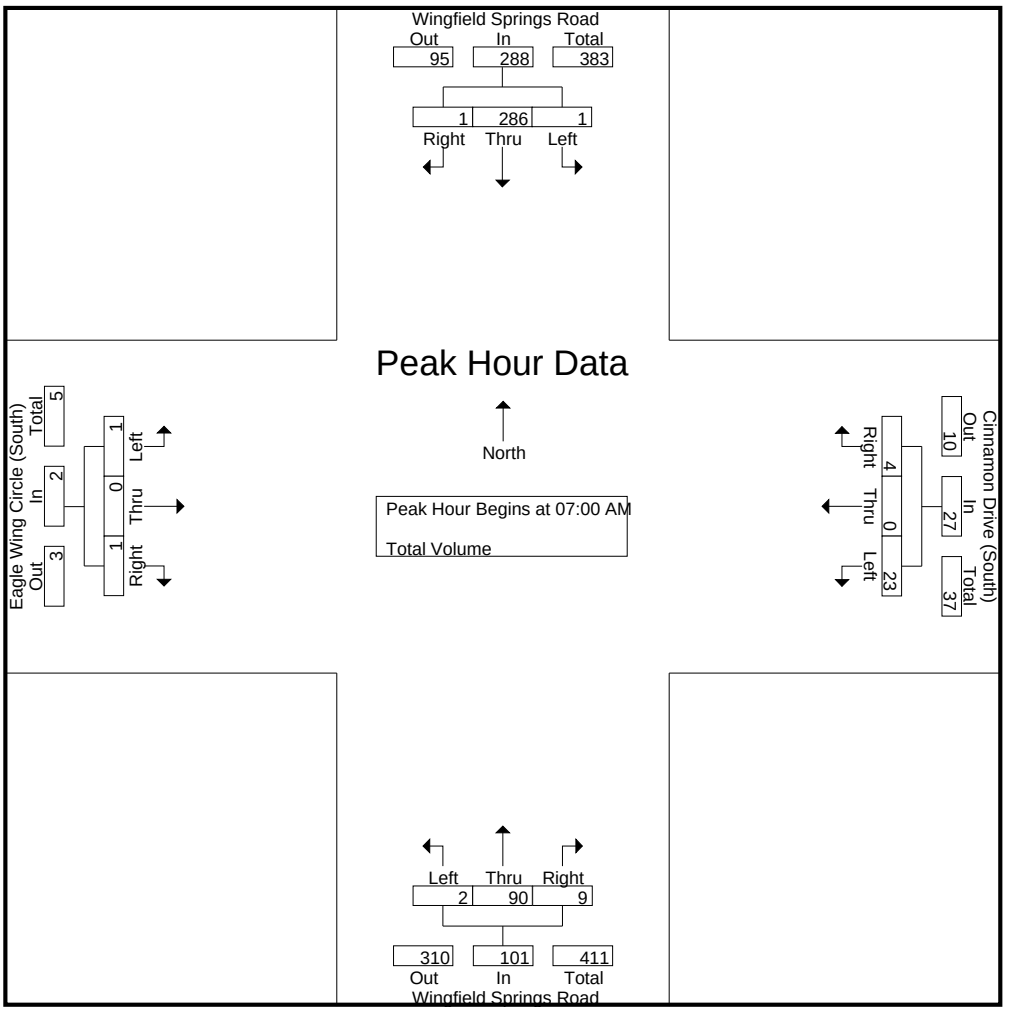
	Wingfield Springs Road Southbound				Cinnamon Drive (South) Westbound				Wingfield Springs Road Northbound				Eagle Wing Circle (South) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	86	0	86	9	0	1	10	0	14	2	16	0	0	1	1	113
07:15 AM	1	70	0	71	2	0	2	4	0	18	2	20	0	0	0	0	95
07:30 AM	0	65	0	65	5	0	1	6	1	29	2	32	0	0	0	0	103
07:45 AM	0	65	1	66	7	0	0	7	1	29	3	33	1	0	0	1	107
Total	1	286	1	288	23	0	4	27	2	90	9	101	1	0	1	2	418
08:00 AM	1	61	0	62	8	0	0	8	0	14	1	15	0	0	0	0	85
08:15 AM	0	57	0	57	9	0	1	10	0	20	1	21	0	0	2	2	90
08:30 AM	0	41	0	41	8	0	2	10	0	19	5	24	0	0	1	1	76
08:45 AM	1	46	0	47	3	0	1	4	2	24	2	28	0	0	2	2	81
Total	2	205	0	207	28	0	4	32	2	77	9	88	0	0	5	5	332
Grand Total	3	491	1	495	51	0	8	59	4	167	18	189	1	0	6	7	750
Apprch %	0.6	99.2	0.2		86.4	0	13.6		2.1	88.4	9.5		14.3	0	85.7		
Total %	0.4	65.5	0.1	66	6.8	0	1.1	7.9	0.5	22.3	2.4	25.2	0.1	0	0.8	0.9	

	Wingfield Springs Road Southbound				Cinnamon Drive (South) Westbound				Wingfield Springs Road Northbound				Eagle Wing Circle (South) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**86**	0	**86**	**9**	0	1	**10**	0	14	2	16	0	0	**1**	**1**	**113**
07:15 AM	**1**	70	0	71	2	0	**2**	4	0	18	2	20	0	0	0	0	95
07:30 AM	0	65	0	65	5	0	1	6	**1**	**29**	2	32	0	0	0	0	103
07:45 AM	0	65	**1**	66	7	0	0	7	1	29	**3**	**33**	**1**	0	0	1	107
Total Volume	1	286	1	288	23	0	4	27	2	90	9	101	1	0	1	2	418
% App. Total	0.3	99.3	0.3		85.2	0	14.8		2	89.1	8.9		50	0	50		
PHF	.250	.831	.250	.837	.639	.000	.500	.675	.500	.776	.750	.765	.250	.000	.250	.500	.925

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle S/Cinnamon Dr S
Weather: Clear

File Name : 11_SPK_Wf Sp_EWC S AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:00 AM				08:00 AM			
+0 mins.	0	**86**	0	**86**	7	0	0	7	0	14	2	16	0	0	0	0
+15 mins.	**1**	70	0	71	8	0	0	8	0	18	2	20	0	0	**2**	**2**
+30 mins.	0	65	0	65	**9**	0	1	**10**	**1**	**29**	2	32	0	0	1	1
+45 mins.	0	65	**1**	66	8	0	**2**	10	1	29	**3**	**33**	0	0	2	2
Total Volume	1	286	1	288	32	0	3	35	2	90	9	101	0	0	5	5
% App. Total	0.3	99.3	0.3		91.4	0	8.6		2	89.1	8.9		0	0	100	
PHF	.250	.831	.250	.837	.889	.000	.375	.875	.500	.776	.750	.765	.000	.000	.625	.625

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle S/Cinnamon Dr S
Weather: Clear

File Name : 11_SPK_Wf Sp_EWC S PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

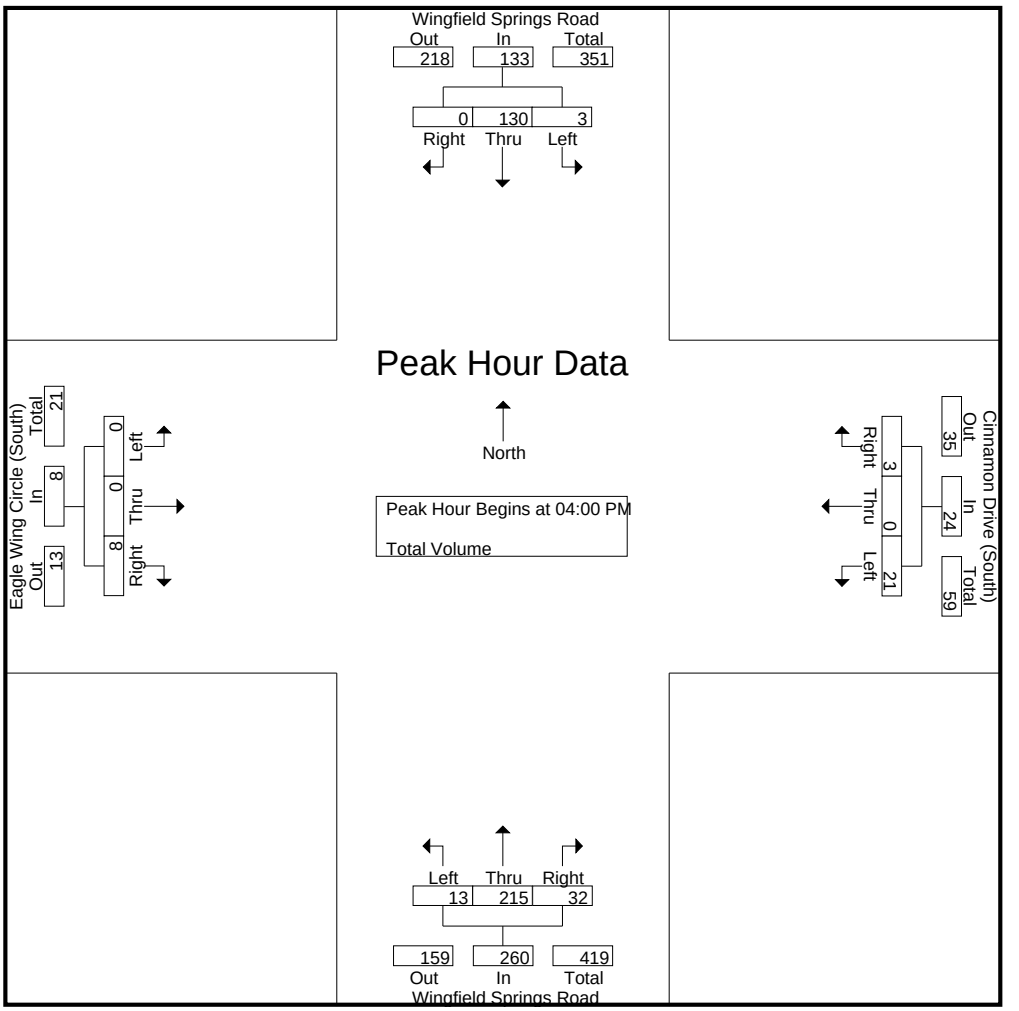
	Wingfield Springs Road Southbound				Cinnamon Drive (South) Westbound				Wingfield Springs Road Northbound				Eagle Wing Circle (South) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	50	0	51	4	0	0	4	8	55	7	70	0	0	4	4	129
04:15 PM	2	26	0	28	4	0	0	4	2	56	8	66	0	0	1	1	99
04:30 PM	0	31	0	31	7	0	2	9	3	58	10	71	0	0	2	2	113
04:45 PM	0	23	0	23	6	0	1	7	0	46	7	53	0	0	1	1	84
Total	3	130	0	133	21	0	3	24	13	215	32	260	0	0	8	8	425
05:00 PM	0	19	0	19	3	0	1	4	0	65	8	73	1	0	6	7	103
05:15 PM	1	37	1	39	4	0	0	4	0	44	6	50	0	0	1	1	94
05:30 PM	2	47	0	49	8	0	0	8	0	51	10	61	1	0	0	1	119
05:45 PM	2	42	0	44	5	1	0	6	3	43	6	52	0	0	3	3	105
Total	5	145	1	151	20	1	1	22	3	203	30	236	2	0	10	12	421
Grand Total	8	275	1	284	41	1	4	46	16	418	62	496	2	0	18	20	846
Apprch %	2.8	96.8	0.4		89.1	2.2	8.7		3.2	84.3	12.5		10	0	90		
Total %	0.9	32.5	0.1	33.6	4.8	0.1	0.5	5.4	1.9	49.4	7.3	58.6	0.2	0	2.1	2.4	

	Wingfield Springs Road Southbound				Cinnamon Drive (South) Westbound				Wingfield Springs Road Northbound				Eagle Wing Circle (South) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**50**	0	**51**	4	0	0	4	**8**	55	7	70	0	0	**4**	**4**	**129**
04:15 PM	**2**	26	0	28	4	0	0	4	2	56	8	66	0	0	1	1	99
04:30 PM	0	31	0	31	**7**	0	**2**	**9**	3	**58**	**10**	**71**	0	0	2	2	113
04:45 PM	0	23	0	23	6	0	1	7	0	46	7	53	0	0	1	1	84
Total Volume	3	130	0	133	21	0	3	24	13	215	32	260	0	0	8	8	425
% App. Total	2.3	97.7	0		87.5	0	12.5		5	82.7	12.3		0	0	100		
PHF	.375	.650	.000	.652	.750	.000	.375	.667	.406	.927	.800	.915	.000	.000	.500	.500	.824

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle S/Cinnamon Dr S
Weather: Clear

File Name : 11_SPK_Wf Sp_EWC S PM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				05:00 PM			
+0 mins.	0	19	0	19	4	0	0	4	2	56	8	66	**1**	0	**6**	**7**
+15 mins.	1	37	**1**	39	4	0	0	4	**3**	58	**10**	71	0	0	1	1
+30 mins.	**2**	**47**	0	**49**	**7**	0	**2**	**9**	0	46	7	53	1	0	0	1
+45 mins.	2	42	0	44	6	0	1	7	0	**65**	8	**73**	0	0	3	3
Total Volume	5	145	1	151	21	0	3	24	5	225	33	263	2	0	10	12
% App. Total	3.3	96	0.7		87.5	0	12.5		1.9	85.6	12.5		16.7	0	83.3	
PHF	.625	.771	.250	.770	.750	.000	.375	.667	.417	.865	.825	.901	.500	.000	.417	.429

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle (North)
Weather: Clear

File Name : 12_SPK_Wf Sp_EWC N AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

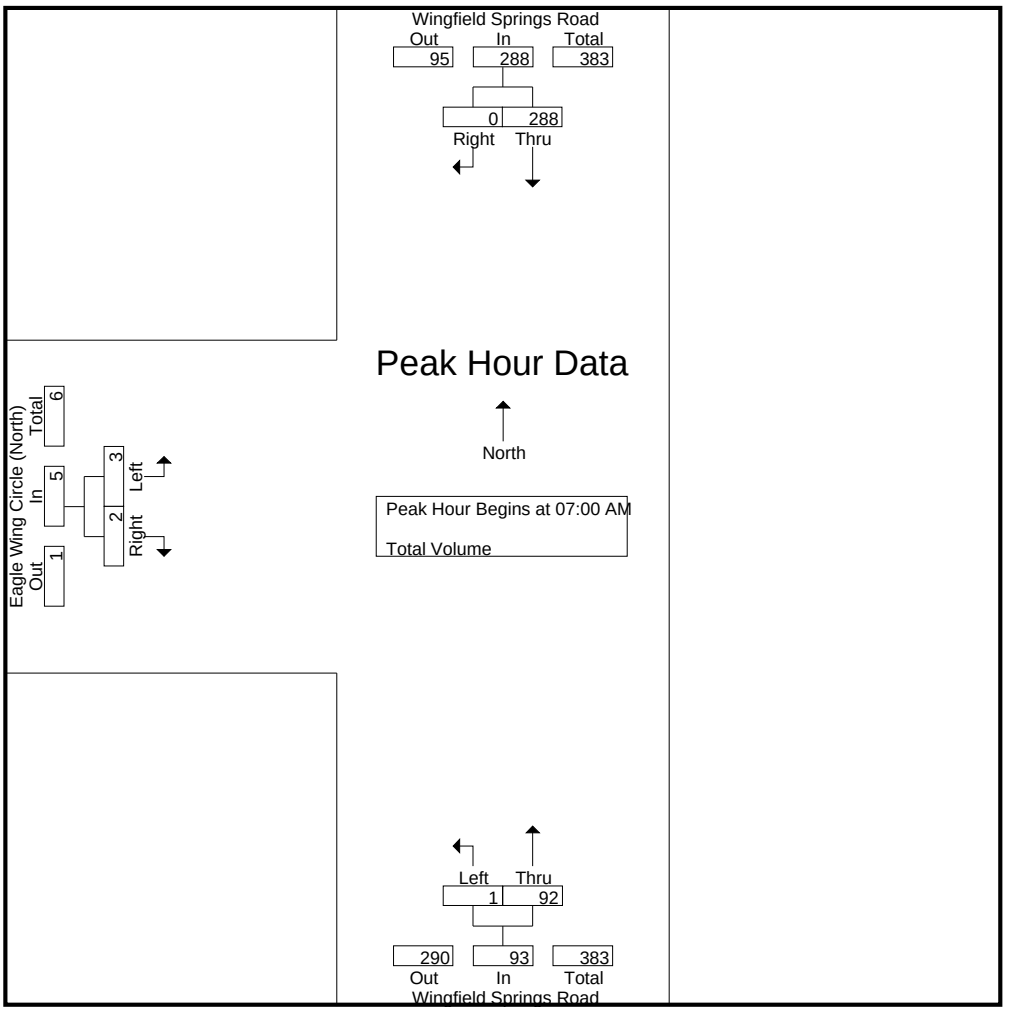
	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Eagle Wing Circle (North) Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	91	0	91	0	16	16	0	1	1	108
07:15 AM	71	0	71	0	19	19	1	1	2	92
07:30 AM	61	0	61	1	30	31	1	0	1	93
07:45 AM	65	0	65	0	27	27	1	0	1	93
Total	288	0	288	1	92	93	3	2	5	386
08:00 AM	61	0	61	1	14	15	0	1	1	77
08:15 AM	56	1	57	1	20	21	1	1	2	80
08:30 AM	40	0	40	0	21	21	0	1	1	62
08:45 AM	45	0	45	1	23	24	1	1	2	71
Total	202	1	203	3	78	81	2	4	6	290
Grand Total	490	1	491	4	170	174	5	6	11	676
Apprch %	99.8	0.2		2.3	97.7		45.5	54.5		
Total %	72.5	0.1	72.6	0.6	25.1	25.7	0.7	0.9	1.6	

	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Eagle Wing Circle (North) Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**91**	0	**91**	0	16	16	0	**1**	1	**108**
07:15 AM	71	0	71	0	19	19	**1**	1	**2**	92
07:30 AM	61	0	61	**1**	**30**	**31**	1	0	1	93
07:45 AM	65	0	65	0	27	27	1	0	1	93
Total Volume	288	0	288	1	92	93	3	2	5	386
% App. Total	100	0		1.1	98.9		60	40		
PHF	.791	.000	.791	.250	.767	.750	.750	.500	.625	.894

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle (North)
Weather: Clear

File Name : 12_SPK_Wf Sp_EWC N AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			08:00 AM		
+0 mins.	**91**	0	**91**	**1**	**30**	**31**	0	**1**	1
+15 mins.	71	0	71	0	27	27	**1**	1	**2**
+30 mins.	61	0	61	1	14	15	0	1	1
+45 mins.	65	0	65	1	20	21	1	1	2
Total Volume	288	0	288	3	91	94	2	4	6
% App. Total	100	0		3.2	96.8		33.3	66.7	
PHF	.791	.000	.791	.750	.758	.758	.500	1.000	.750

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle (North)
Weather: Clear

File Name : 12_SPK_Wf Sp_EWC N PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

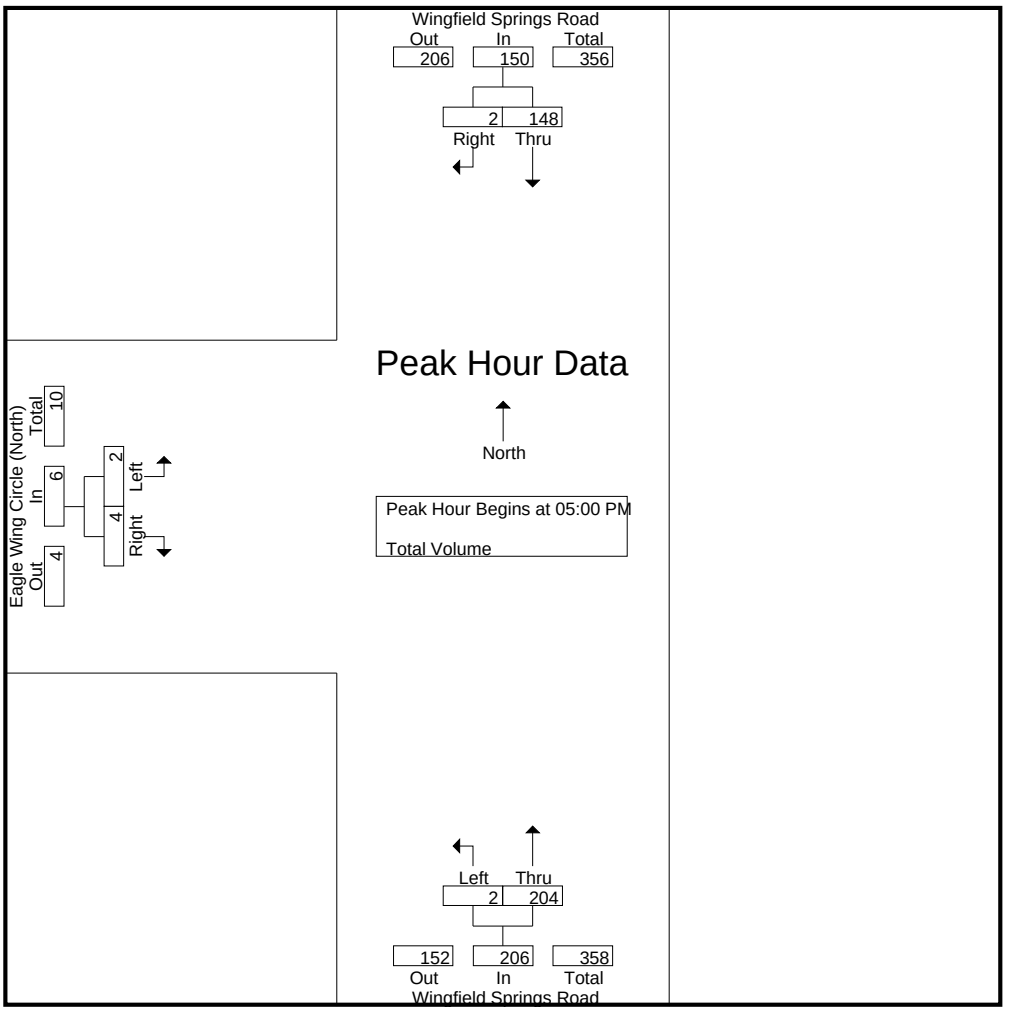
	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Eagle Wing Circle (North) Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	46	2	48	1	53	54	0	1	1	103
04:15 PM	28	0	28	0	57	57	0	0	0	85
04:30 PM	30	0	30	0	60	60	0	0	0	90
04:45 PM	22	0	22	0	47	47	0	1	1	70
Total	126	2	128	1	217	218	0	2	2	348
05:00 PM	19	0	19	0	67	67	1	1	2	88
05:15 PM	40	0	40	0	43	43	0	0	0	83
05:30 PM	46	0	46	1	51	52	0	1	1	99
05:45 PM	43	2	45	1	43	44	1	2	3	92
Total	148	2	150	2	204	206	2	4	6	362
Grand Total	274	4	278	3	421	424	2	6	8	710
Apprch %	98.6	1.4		0.7	99.3		25	75		
Total %	38.6	0.6	39.2	0.4	59.3	59.7	0.3	0.8	1.1	

	Wingfield Springs Road Southbound			Wingfield Springs Road Northbound			Eagle Wing Circle (North) Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	19	0	19	0	**67**	**67**	**1**	1	2	88
05:15 PM	40	0	40	0	43	43	0	0	0	83
05:30 PM	**46**	0	**46**	**1**	51	52	0	1	1	**99**
05:45 PM	43	**2**	45	1	43	44	1	**2**	**3**	92
Total Volume	148	2	150	2	204	206	2	4	6	362
% App. Total	98.7	1.3		1	99		33.3	66.7		
PHF	.804	.250	.815	.500	.761	.769	.500	.500	.500	.914

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Eagle Wing Circle (North)
Weather: Clear

File Name : 12_SPK_Wf Sp_EWC N PM
Site Code : 251153
Start Date : 11/19/2025



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:15 PM			05:00 PM		
+0 mins.	19	0	19	0	57	57	**1**	1	2
+15 mins.	40	0	40	0	60	60	0	0	0
+30 mins.	**46**	0	**46**	0	47	47	0	1	1
+45 mins.	43	**2**	45	0	**67**	**67**	1	**2**	**3**
Total Volume	148	2	150	0	231	231	2	4	6
% App. Total	98.7	1.3		0	100		33.3	66.7	
PHF	.804	.250	.815	.000	.862	.862	.500	.500	.500

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Silver King Drive S/Cinnamon Dr N
Weather: Clear

File Name : 13_SPK_Wf Sp_SK AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

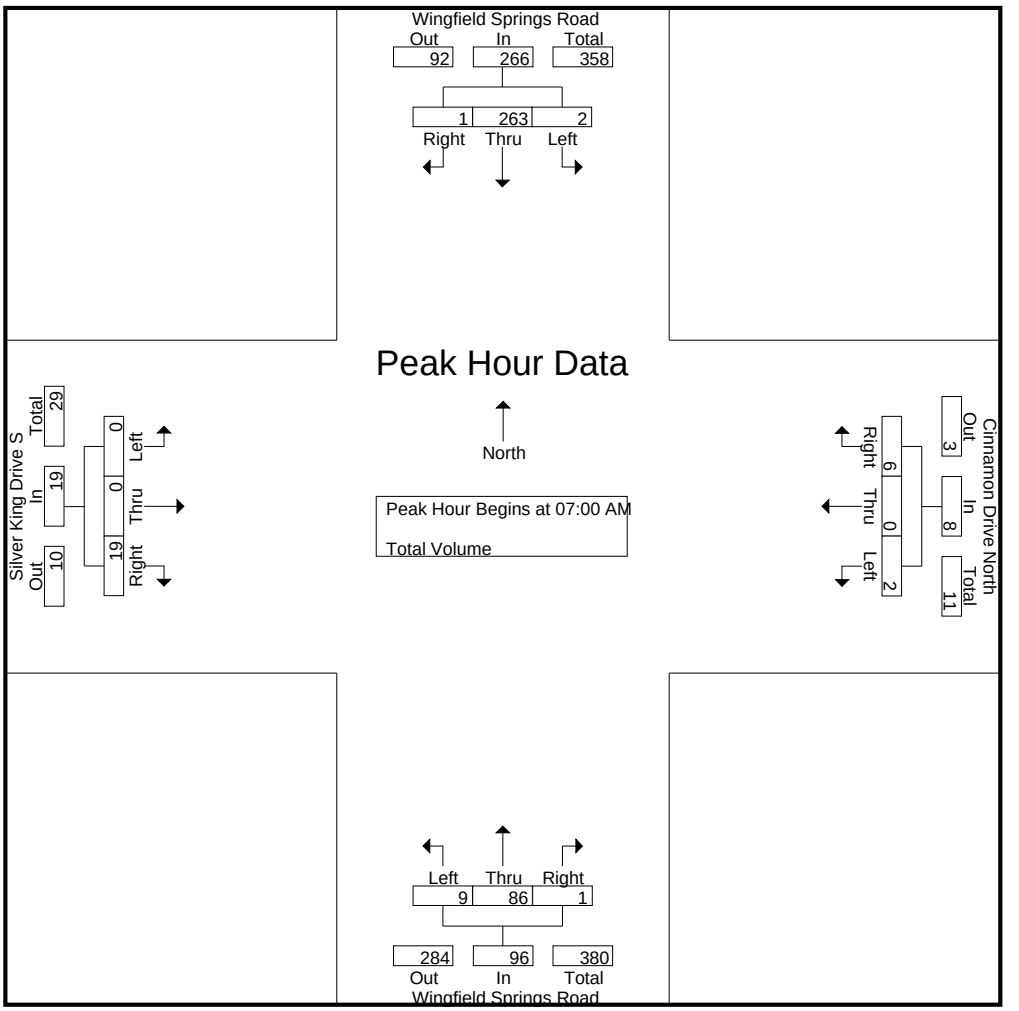
	Wingfield Springs Road Southbound				Cinnamon Drive North Westbound				Wingfield Springs Road Northbound				Silver King Drive S Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	83	1	85	2	0	0	2	2	16	0	18	0	0	4	4	109
07:15 AM	0	70	0	70	0	0	1	1	2	14	1	17	0	0	2	2	90
07:30 AM	0	52	0	52	0	0	3	3	5	28	0	33	0	0	9	9	97
07:45 AM	1	58	0	59	0	0	2	2	0	28	0	28	0	0	4	4	93
Total	2	263	1	266	2	0	6	8	9	86	1	96	0	0	19	19	389
08:00 AM	3	57	0	60	2	0	1	3	2	10	3	15	0	0	4	4	82
08:15 AM	3	50	0	53	1	0	0	1	1	18	0	19	0	0	5	5	78
08:30 AM	1	36	0	37	1	0	0	1	5	19	0	24	0	0	4	4	66
08:45 AM	2	43	0	45	1	0	2	3	2	20	0	22	0	0	4	4	74
Total	9	186	0	195	5	0	3	8	10	67	3	80	0	0	17	17	300
Grand Total	11	449	1	461	7	0	9	16	19	153	4	176	0	0	36	36	689
Apprch %	2.4	97.4	0.2		43.8	0	56.2		10.8	86.9	2.3		0	0	100		
Total %	1.6	65.2	0.1	66.9	1	0	1.3	2.3	2.8	22.2	0.6	25.5	0	0	5.2	5.2	

	Wingfield Springs Road Southbound				Cinnamon Drive North Westbound				Wingfield Springs Road Northbound				Silver King Drive S Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	**83**	**1**	**85**	**2**	0	0	2	2	16	0	18	0	0	4	4	**109**
07:15 AM	0	70	0	70	0	0	1	1	2	14	**1**	17	0	0	2	2	90
07:30 AM	0	52	0	52	0	0	**3**	**3**	**5**	**28**	0	**33**	0	0	**9**	**9**	97
07:45 AM	1	58	0	59	0	0	2	2	0	28	0	28	0	0	4	4	93
Total Volume	2	263	1	266	2	0	6	8	9	86	1	96	0	0	19	19	389
% App. Total	0.8	98.9	0.4		25	0	75		9.4	89.6	1		0	0	100		
PHF	.500	.792	.250	.782	.250	.000	.500	.667	.450	.768	.250	.727	.000	.000	.528	.528	.892

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Silver King Drive S/Cinnamon Dr N
Weather: Clear

File Name : 13_SPK_Wf Sp_SK AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	**1**	**83**	**1**	**85**	0	0	1	1	2	16	0	18	0	0	**9**	**9**
+15 mins.	0	70	0	70	0	0	**3**	**3**	2	14	**1**	17	0	0	4	4
+30 mins.	0	52	0	52	0	0	2	2	**5**	**28**	0	**33**	0	0	4	4
+45 mins.	1	58	0	59	**2**	0	1	3	0	28	0	28	0	0	5	5
Total Volume	2	263	1	266	2	0	7	9	9	86	1	96	0	0	22	22
% App. Total	0.8	98.9	0.4		22.2	0	77.8		9.4	89.6	1		0	0	100	
PHF	.500	.792	.250	.782	.250	.000	.583	.750	.450	.768	.250	.727	.000	.000	.611	.611

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Silver King Drive S/Cinnamon Dr N
Weather: Clear

File Name : 13_SPK_Wf Sp_SK PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

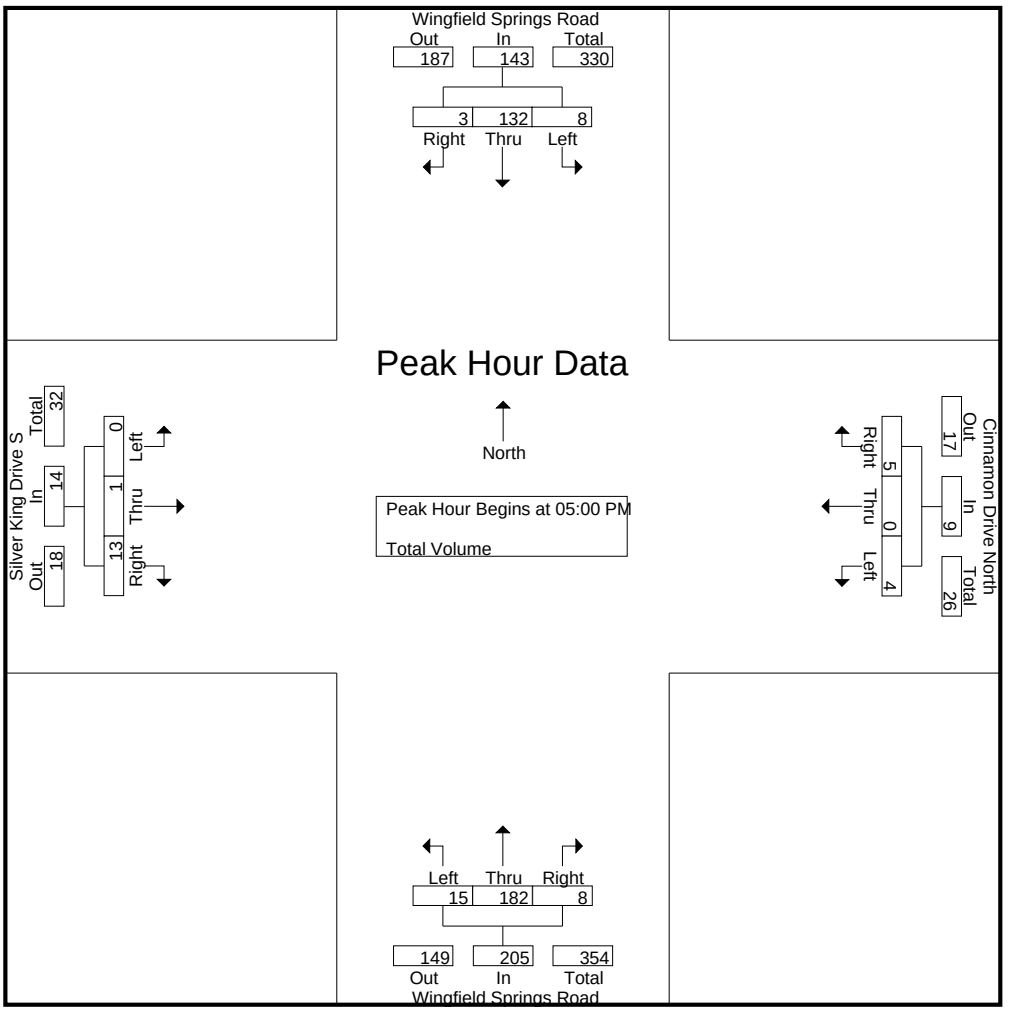
	Wingfield Springs Road Southbound				Cinnamon Drive North Westbound				Wingfield Springs Road Northbound				Silver King Drive S Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	39	0	40	3	0	1	4	4	42	4	50	1	0	4	5	99
04:15 PM	4	24	0	28	0	0	2	2	5	55	2	62	0	0	3	3	95
04:30 PM	0	30	0	30	0	0	4	4	6	53	1	60	0	0	1	1	95
04:45 PM	0	19	0	19	0	0	1	1	5	40	1	46	0	0	3	3	69
Total	5	112	0	117	3	0	8	11	20	190	8	218	1	0	11	12	358
05:00 PM	3	17	1	21	0	0	1	1	4	63	2	69	0	0	1	1	92
05:15 PM	2	36	1	39	0	0	2	2	3	35	1	39	0	0	7	7	87
05:30 PM	1	38	1	40	4	0	1	5	4	45	4	53	0	1	5	6	104
05:45 PM	2	41	0	43	0	0	1	1	4	39	1	44	0	0	0	0	88
Total	8	132	3	143	4	0	5	9	15	182	8	205	0	1	13	14	371
Grand Total	13	244	3	260	7	0	13	20	35	372	16	423	1	1	24	26	729
Apprch %	5	93.8	1.2		35	0	65		8.3	87.9	3.8		3.8	3.8	92.3		
Total %	1.8	33.5	0.4	35.7	1	0	1.8	2.7	4.8	51	2.2	58	0.1	0.1	3.3	3.6	

	Wingfield Springs Road Southbound				Cinnamon Drive North Westbound				Wingfield Springs Road Northbound				Silver King Drive S Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**3**	17	**1**	21	0	0	1	1	**4**	**63**	2	**69**	0	0	1	1	92
05:15 PM	2	36	1	39	0	0	**2**	2	3	35	1	39	0	0	**7**	**7**	87
05:30 PM	1	38	1	40	**4**	0	1	**5**	4	45	**4**	53	0	**1**	5	6	**104**
05:45 PM	2	**41**	0	**43**	0	0	1	1	4	39	1	44	0	0	0	0	88
Total Volume	8	132	3	143	4	0	5	9	15	182	8	205	0	1	13	14	371
% App. Total	5.6	92.3	2.1		44.4	0	55.6		7.3	88.8	3.9		0	7.1	92.9		
PHF	.667	.805	.750	.831	.250	.000	.625	.450	.938	.722	.500	.743	.000	.250	.464	.500	.892

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Silver King Drive S/Cinnamon Dr N
Weather: Clear

File Name : 13_SPK_Wf Sp_SK PM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				04:45 PM			
+0 mins.	**3**	17	**1**	21	**3**	0	1	**4**	5	55	**2**	62	0	0	3	3
+15 mins.	2	36	1	39	0	0	2	2	**6**	53	1	60	0	0	1	1
+30 mins.	1	38	1	40	0	0	**4**	4	5	40	1	46	0	0	**7**	**7**
+45 mins.	2	**41**	0	**43**	0	0	1	1	4	**63**	2	**69**	0	**1**	5	6
Total Volume	8	132	3	143	3	0	8	11	20	211	6	237	0	1	16	17
% App. Total	5.6	92.3	2.1		27.3	0	72.7		8.4	89	2.5		0	5.9	94.1	
PHF	.667	.805	.750	.831	.250	.000	.500	.688	.833	.837	.750	.859	.000	.250	.571	.607

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: General Thatcher Dr/S Florentine Dr
Weather: Clear

File Name : 14_SPK_Wf Sp_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

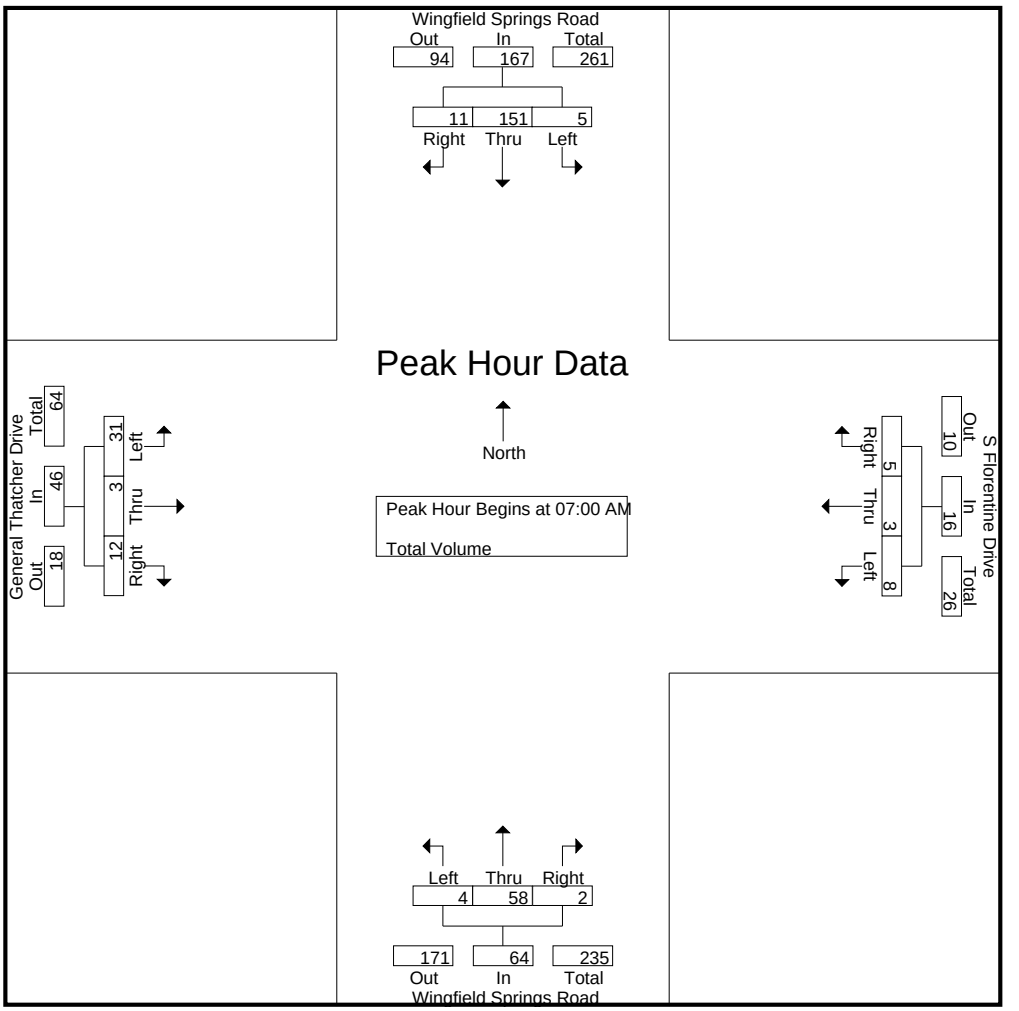
	Wingfield Springs Road Southbound				S Florentine Drive Westbound				Wingfield Springs Road Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	35	2	40	5	2	0	7	0	9	0	9	7	2	3	12	68
07:15 AM	1	40	0	41	2	1	2	5	0	13	0	13	4	0	3	7	66
07:30 AM	0	32	8	40	0	0	0	0	1	17	1	19	12	1	3	16	75
07:45 AM	1	44	1	46	1	0	3	4	3	19	1	23	8	0	3	11	84
Total	5	151	11	167	8	3	5	16	4	58	2	64	31	3	12	46	293
08:00 AM	0	36	1	37	2	1	2	5	2	4	0	6	4	0	6	10	58
08:15 AM	4	34	5	43	0	1	0	1	1	11	0	12	4	0	2	6	62
08:30 AM	1	21	3	25	0	0	0	0	4	9	0	13	3	0	3	6	44
08:45 AM	1	23	6	30	0	1	1	2	0	9	1	10	2	1	6	9	51
Total	6	114	15	135	2	3	3	8	7	33	1	41	13	1	17	31	215
Grand Total	11	265	26	302	10	6	8	24	11	91	3	105	44	4	29	77	508
Apprch %	3.6	87.7	8.6		41.7	25	33.3		10.5	86.7	2.9		57.1	5.2	37.7		
Total %	2.2	52.2	5.1	59.4	2	1.2	1.6	4.7	2.2	17.9	0.6	20.7	8.7	0.8	5.7	15.2	

	Wingfield Springs Road Southbound				S Florentine Drive Westbound				Wingfield Springs Road Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**3**	35	2	40	**5**	**2**	0	**7**	0	9	0	9	7	**2**	**3**	12	68
07:15 AM	1	40	0	41	2	1	2	5	0	13	0	13	4	0	3	7	66
07:30 AM	0	32	**8**	40	0	0	0	0	1	17	**1**	19	**12**	1	3	**16**	75
07:45 AM	1	**44**	1	**46**	1	0	**3**	4	**3**	**19**	1	**23**	8	0	3	11	**84**
Total Volume	5	151	11	167	8	3	5	16	4	58	2	64	31	3	12	46	293
% App. Total	3	90.4	6.6		50	18.8	31.2		6.2	90.6	3.1		67.4	6.5	26.1		
PHF	.417	.858	.344	.908	.400	.375	.417	.571	.333	.763	.500	.696	.646	.375	1.00	.719	.872

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: General Thatcher Dr/S Florentine Dr
Weather: Clear

File Name : 14_SPK_Wf Sp_GnF AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**3**	35	2	40	**5**	**2**	0	**7**	0	9	0	9	7	**2**	**3**	12
+15 mins.	1	40	0	41	2	1	2	5	0	13	0	13	4	0	3	7
+30 mins.	0	32	**8**	40	0	0	0	0	1	17	**1**	19	**12**	1	3	**16**
+45 mins.	1	**44**	1	**46**	1	0	**3**	4	**3**	**19**	1	**23**	8	0	3	11
Total Volume	5	151	11	167	8	3	5	16	4	58	2	64	31	3	12	46
% App. Total	3	90.4	6.6		50	18.8	31.2		6.2	90.6	3.1		67.4	6.5	26.1	
PHF	.417	.858	.344	.908	.400	.375	.417	.571	.333	.763	.500	.696	.646	.375	1.000	.719

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City of Sparks, NV
N/S: Wingfield Springs Road
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Weather: Clear

File Name : 14_SPK_Wf Sp_GnF PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

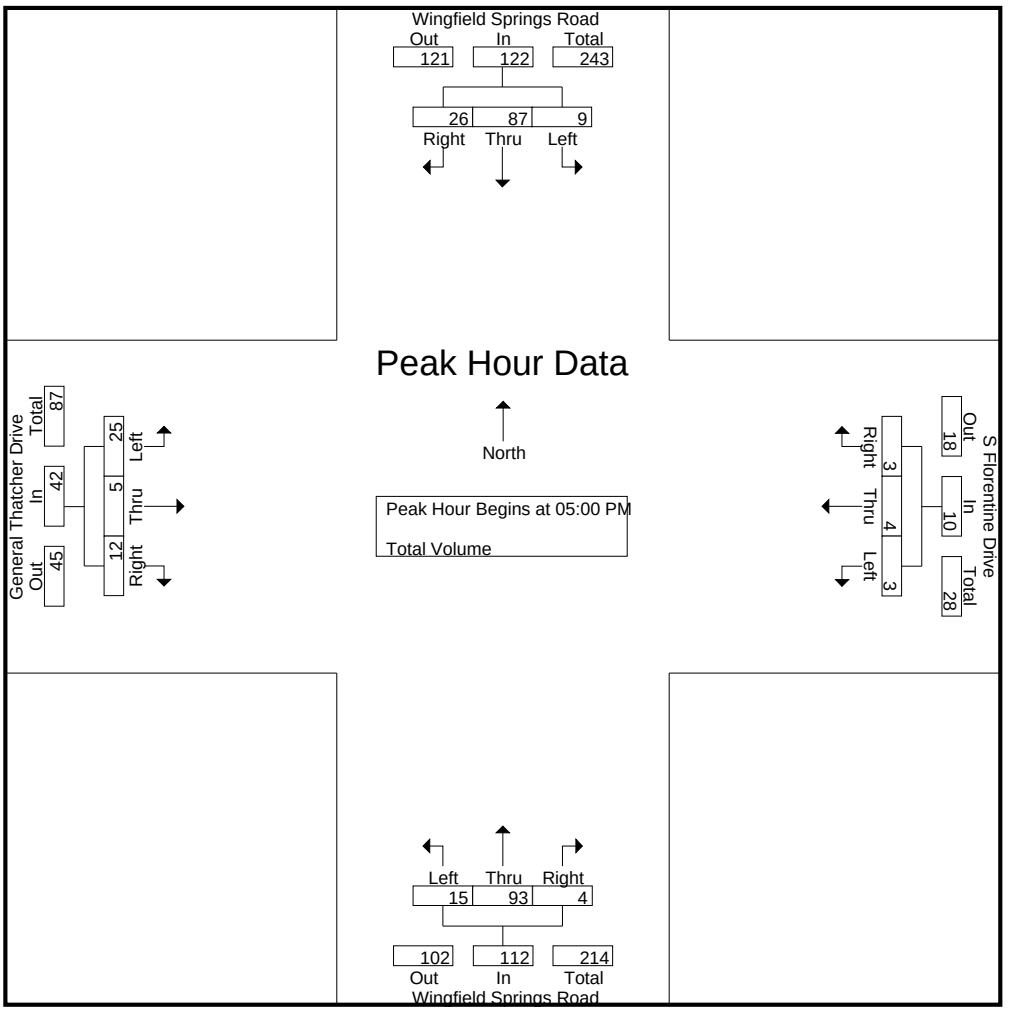
	Wingfield Springs Road Southbound				S Florentine Drive Westbound				Wingfield Springs Road Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	21	3	27	0	2	3	5	4	22	1	27	4	0	4	8	67
04:15 PM	1	20	3	24	0	1	1	2	2	27	2	31	1	3	1	5	62
04:30 PM	0	17	4	21	0	2	3	5	5	34	1	40	4	1	2	7	73
04:45 PM	0	8	4	12	1	1	3	5	5	22	1	28	1	1	1	3	48
Total	4	66	14	84	1	6	10	17	16	105	5	126	10	5	8	23	250
05:00 PM	3	11	4	18	0	0	0	0	4	30	2	36	3	0	3	6	60
05:15 PM	3	24	8	35	0	1	1	2	3	30	0	33	7	1	3	11	81
05:30 PM	1	25	7	33	1	1	0	2	3	18	2	23	9	2	3	14	72
05:45 PM	2	27	7	36	2	2	2	6	5	15	0	20	6	2	3	11	73
Total	9	87	26	122	3	4	3	10	15	93	4	112	25	5	12	42	286
Grand Total	13	153	40	206	4	10	13	27	31	198	9	238	35	10	20	65	536
Apprch %	6.3	74.3	19.4		14.8	37	48.1		13	83.2	3.8		53.8	15.4	30.8		
Total %	2.4	28.5	7.5	38.4	0.7	1.9	2.4	5	5.8	36.9	1.7	44.4	6.5	1.9	3.7	12.1	

	Wingfield Springs Road Southbound				S Florentine Drive Westbound				Wingfield Springs Road Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**3**	11	4	18	0	0	0	0	4	**30**	**2**	**36**	3	0	**3**	6	60
05:15 PM	3	24	**8**	35	0	1	1	2	3	30	0	33	7	1	3	11	**81**
05:30 PM	1	25	7	33	1	1	0	2	3	18	2	23	**9**	**2**	3	**14**	72
05:45 PM	2	**27**	7	**36**	**2**	**2**	**2**	**6**	**5**	15	0	20	6	2	3	11	73
Total Volume	9	87	26	122	3	4	3	10	15	93	4	112	25	5	12	42	286
% App. Total	7.4	71.3	21.3		30	40	30		13.4	83	3.6		59.5	11.9	28.6		
PHF	.750	.806	.813	.847	.375	.500	.375	.417	.750	.775	.500	.778	.694	.625	1.00	.750	.883

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: General Thatcher Dr/S Florentine Dr
Weather: Clear

File Name : 14_SPK_Wf Sp_GnF PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:30 PM				05:00 PM			
+0 mins.	**3**	11	4	18	0	**2**	**3**	**5**	**5**	**34**	1	**40**	3	0	**3**	6
+15 mins.	3	24	**8**	35	0	1	1	2	5	22	1	28	7	1	3	11
+30 mins.	1	25	7	33	0	2	3	5	4	30	**2**	36	**9**	**2**	3	**14**
+45 mins.	2	**27**	7	**36**	**1**	1	3	5	3	30	0	33	6	2	3	11
Total Volume	9	87	26	122	1	6	10	17	17	116	4	137	25	5	12	42
% App. Total	7.4	71.3	21.3		5.9	35.3	58.8		12.4	84.7	2.9		59.5	11.9	28.6	
PHF	.750	.806	.813	.847	.250	.750	.833	.850	.850	.853	.500	.856	.694	.625	1.000	.750

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City of Sparks, NV
N/S: Silver King Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 15_SPK_SK_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

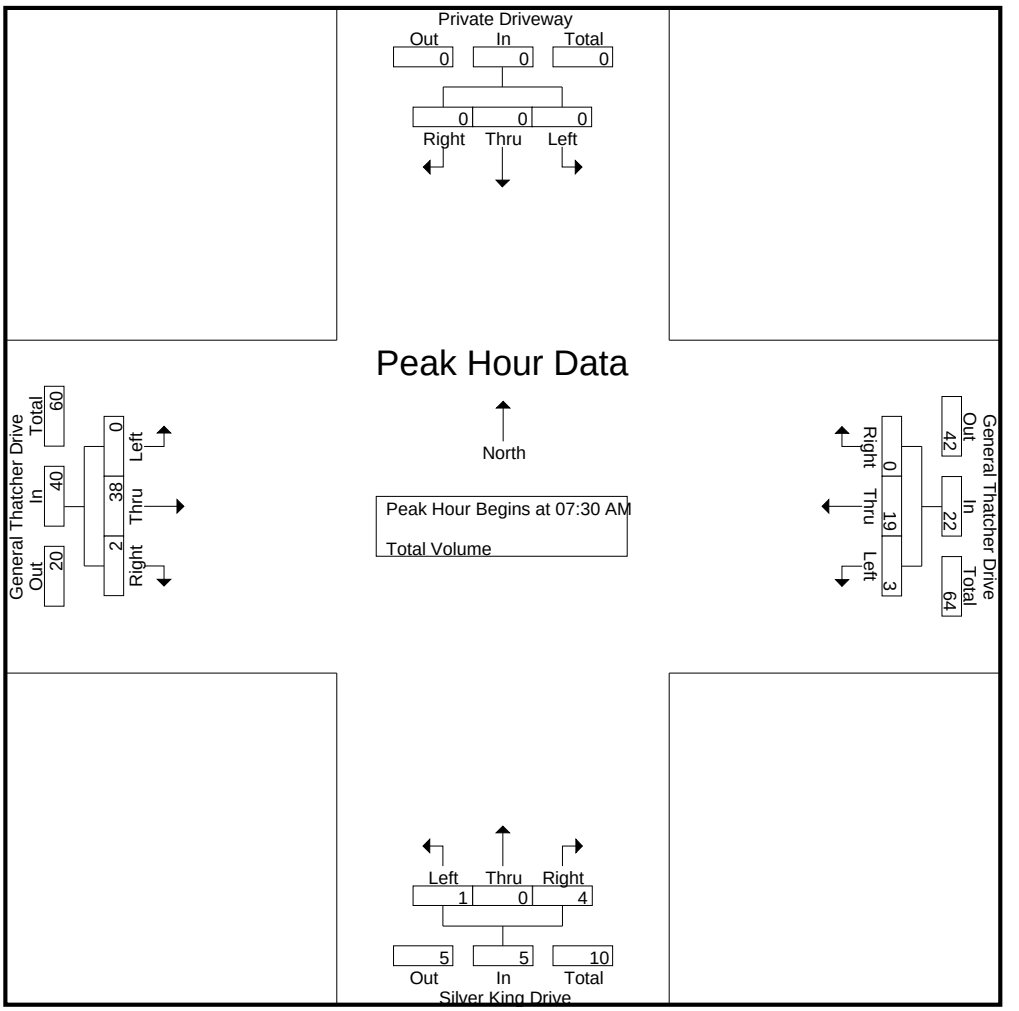
	Private Driveway Southbound				General Thatcher Drive Westbound				Silver King Drive Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	3	0	4	0	0	0	0	0	12	0	12	16
07:15 AM	0	0	0	0	0	1	0	1	0	0	3	3	0	5	0	5	9
07:30 AM	0	0	0	0	1	8	0	9	0	0	3	3	0	12	0	12	24
07:45 AM	0	0	0	0	0	2	0	2	1	0	1	2	0	10	0	10	14
Total	0	0	0	0	2	14	0	16	1	0	7	8	0	39	0	39	63
08:00 AM	0	0	0	0	2	2	0	4	0	0	0	0	0	10	1	11	15
08:15 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	6	1	7	14
08:30 AM	0	0	0	0	2	6	0	8	0	0	0	0	0	4	2	6	14
08:45 AM	0	0	0	0	2	5	0	7	0	0	1	1	0	10	0	10	18
Total	0	0	0	0	6	20	0	26	0	0	1	1	0	30	4	34	61
Grand Total	0	0	0	0	8	34	0	42	1	0	8	9	0	69	4	73	124
Apprch %	0	0	0		19	81	0		11.1	0	88.9		0	94.5	5.5		
Total %	0	0	0	0	6.5	27.4	0	33.9	0.8	0	6.5	7.3	0	55.6	3.2	58.9	

	Private Driveway Southbound				General Thatcher Drive Westbound				Silver King Drive Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	1	**8**	0	**9**	0	0	**3**	**3**	0	**12**	0	**12**	**24**
07:45 AM	0	0	0	0	0	2	0	2	**1**	0	1	2	0	10	0	10	14
08:00 AM	0	0	0	0	**2**	2	0	4	0	0	0	0	0	10	**1**	11	15
08:15 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	6	1	7	14
Total Volume	0	0	0	0	3	19	0	22	1	0	4	5	0	38	2	40	67
% App. Total	0	0	0		13.6	86.4	0		20	0	80		0	95	5		
PHF	.000	.000	.000	.000	.375	.594	.000	.611	.250	.000	.333	.417	.000	.792	.500	.833	.698

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(951) 268-6268

City of Sparks, NV
N/S: Silver King Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 15_SPK_SK_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:30 AM			
+0 mins.	0	0	0	0	**2**	2	0	4	0	0	0	0	0	**12**	0	**12**
+15 mins.	0	0	0	0	0	**7**	0	7	0	0	**3**	**3**	0	10	0	10
+30 mins.	0	0	0	0	2	6	0	**8**	0	0	3	3	0	10	**1**	11
+45 mins.	0	0	0	0	2	5	0	7	**1**	0	1	2	0	6	1	7
Total Volume	0	0	0	0	6	20	0	26	1	0	7	8	0	38	2	40
% App. Total	0	0	0		23.1	76.9	0		12.5	0	87.5		0	95	5	
PHF	.000	.000	.000	.000	.750	.714	.000	.813	.250	.000	.583	.667	.000	.792	.500	.833

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City of Sparks, NV
N/S: Silver King Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 15_SPK_SK_GnF PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

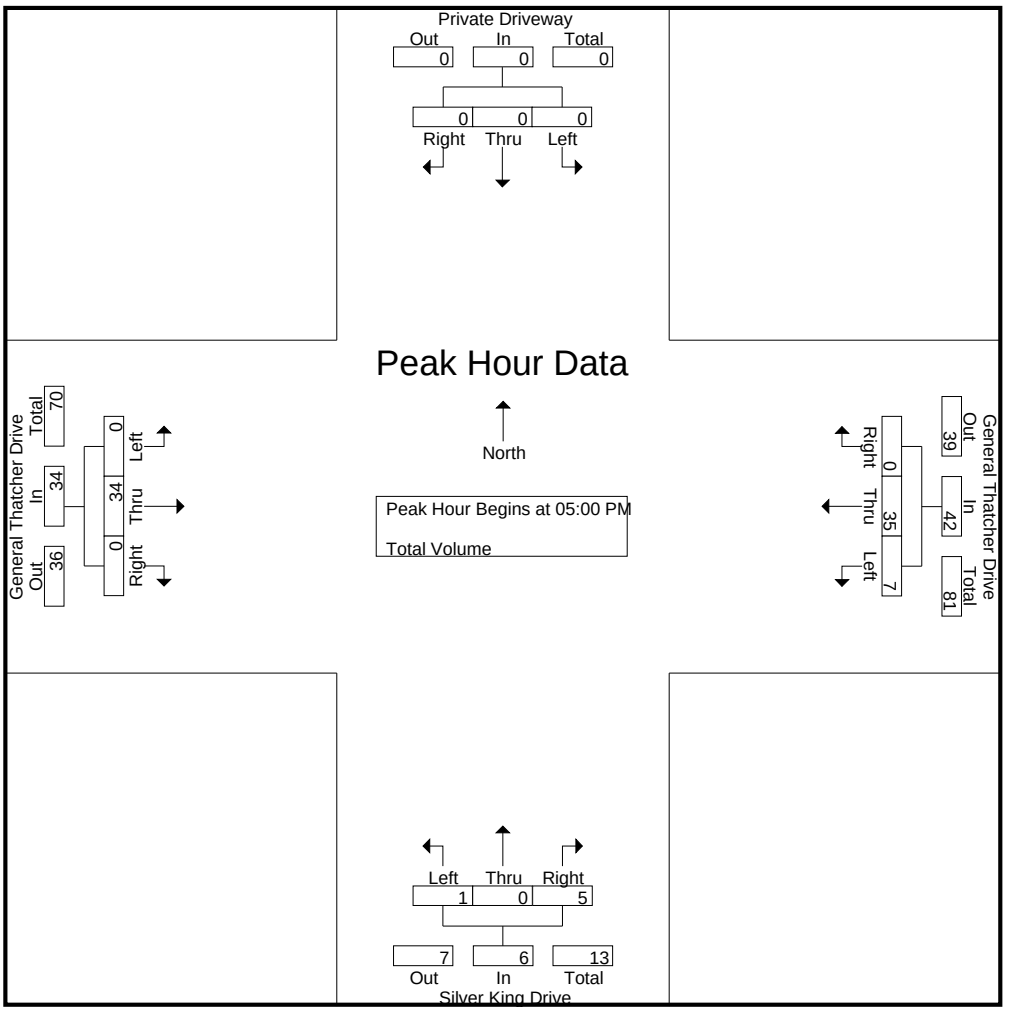
	Private Driveway Southbound				General Thatcher Drive Westbound				Silver King Drive Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	9	0	9	1	0	0	1	0	8	1	9	19
04:15 PM	0	0	0	0	1	5	0	6	0	0	0	0	0	3	0	3	9
04:30 PM	0	0	0	0	1	7	0	8	0	0	1	1	0	5	0	5	14
04:45 PM	0	0	0	0	2	7	0	9	0	0	0	0	0	3	1	4	13
Total	0	0	0	0	4	28	0	32	1	0	1	2	0	19	2	21	55
05:00 PM	0	0	0	0	0	9	0	9	1	0	1	2	0	4	0	4	15
05:15 PM	0	0	0	0	4	7	0	11	0	0	2	2	0	9	0	9	22
05:30 PM	0	0	0	0	1	8	0	9	0	0	2	2	0	11	0	11	22
05:45 PM	0	0	0	0	2	11	0	13	0	0	0	0	0	10	0	10	23
Total	0	0	0	0	7	35	0	42	1	0	5	6	0	34	0	34	82
Grand Total	0	0	0	0	11	63	0	74	2	0	6	8	0	53	2	55	137
Apprch %	0	0	0		14.9	85.1	0		25	0	75		0	96.4	3.6		
Total %	0	0	0	0	8	46	0	54	1.5	0	4.4	5.8	0	38.7	1.5	40.1	

	Private Driveway Southbound				General Thatcher Drive Westbound				Silver King Drive Northbound				General Thatcher Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	9	0	9	**1**	0	1	**2**	0	4	0	4	15
05:15 PM	0	0	0	0	**4**	7	0	11	0	0	**2**	2	0	9	0	9	22
05:30 PM	0	0	0	0	1	8	0	9	0	0	2	2	0	**11**	0	**11**	22
05:45 PM	0	0	0	0	2	**11**	0	**13**	0	0	0	0	0	10	0	10	**23**
Total Volume	0	0	0	0	7	35	0	42	1	0	5	6	0	34	0	34	82
% App. Total	0	0	0		16.7	83.3	0		16.7	0	83.3		0	100	0		
PHF	.000	.000	.000	.000	.438	.795	.000	.808	.250	.000	.625	.750	.000	.773	.000	.773	.891

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(951) 268-6268

City of Sparks, NV
N/S: Silver King Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 15_SPK_SK_GnF PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:45 PM				05:00 PM			
+0 mins.	0	0	0	0	0	9	0	9	0	0	0	0	0	4	0	4
+15 mins.	0	0	0	0	**4**	7	0	11	**1**	0	1	**2**	0	9	0	9
+30 mins.	0	0	0	0	1	8	0	9	0	0	**2**	2	0	**11**	0	**11**
+45 mins.	0	0	0	0	2	**11**	0	**13**	0	0	2	2	0	10	0	10
Total Volume	0	0	0	0	7	35	0	42	1	0	5	6	0	34	0	34
% App. Total	0	0	0		16.7	83.3	0		16.7	0	83.3		0	100	0	
PHF	.000	.000	.000	.000	.438	.795	.000	.808	.250	.000	.625	.750	.000	.773	.000	.773

Counts Unlimited, Inc.
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City of Sparks, NV
N/S: Island Queen Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 16_SPK_IsQu_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

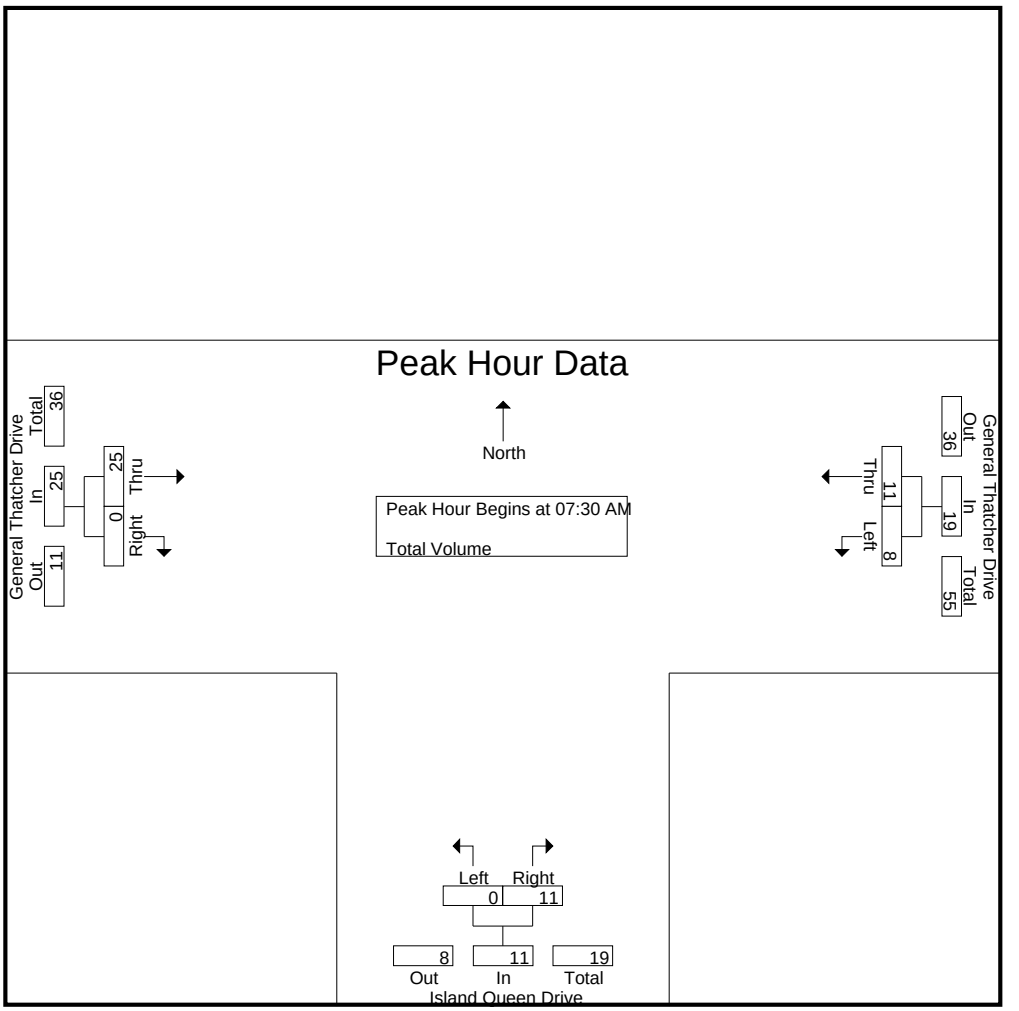
	General Thatcher Drive Westbound			Island Queen Drive Northbound			General Thatcher Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	3	0	3	3	9	0	9	15
07:15 AM	0	1	1	0	2	2	3	0	3	6
07:30 AM	3	5	8	0	4	4	7	0	7	19
07:45 AM	2	1	3	0	2	2	6	0	6	11
Total	5	10	15	0	11	11	25	0	25	51
08:00 AM	0	2	2	0	3	3	7	0	7	12
08:15 AM	3	3	6	0	2	2	5	0	5	13
08:30 AM	1	3	4	0	2	2	4	0	4	10
08:45 AM	1	4	5	0	2	2	7	0	7	14
Total	5	12	17	0	9	9	23	0	23	49
Grand Total	10	22	32	0	20	20	48	0	48	100
Apprch %	31.2	68.8		0	100		100	0		
Total %	10	22	32	0	20	20	48	0	48	

	General Thatcher Drive Westbound			Island Queen Drive Northbound			General Thatcher Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**3**	**5**	**8**	0	**4**	**4**	**7**	0	**7**	**19**
07:45 AM	2	1	3	0	2	2	6	0	6	11
08:00 AM	0	2	2	0	3	3	7	0	7	12
08:15 AM	3	3	6	0	2	2	5	0	5	13
Total Volume	8	11	19	0	11	11	25	0	25	55
% App. Total	42.1	57.9		0	100		100	0		
PHF	.667	.550	.594	.000	.688	.688	.893	.000	.893	.724

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City of Sparks, NV
N/S: Island Queen Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 16_SPK_IsQu_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:00 AM		
+0 mins.	**3**	**5**	**8**	0	3	3	**9**	0	**9**
+15 mins.	2	1	3	0	2	2	3	0	3
+30 mins.	0	2	2	0	**4**	**4**	7	0	7
+45 mins.	3	3	6	0	2	2	6	0	6
Total Volume	8	11	19	0	11	11	25	0	25
% App. Total	42.1	57.9		0	100		100	0	
PHF	.667	.550	.594	.000	.688	.688	.694	.000	.694

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City of Sparks, NV
N/S: Island Queen Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 16_SPK_IsQu_GnF PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

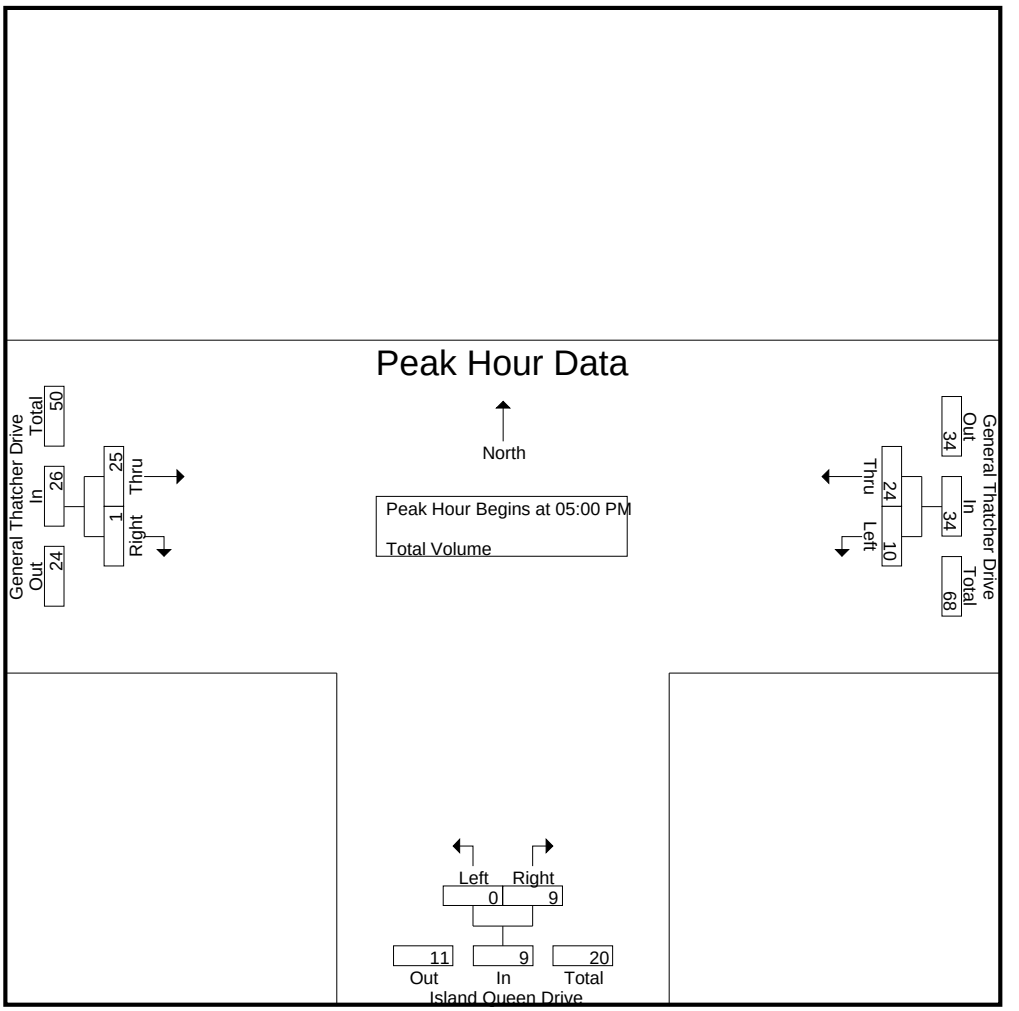
	General Thatcher Drive Westbound			Island Queen Drive Northbound			General Thatcher Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	8	10	0	2	2	7	0	7	19
04:15 PM	3	1	4	0	1	1	2	0	2	7
04:30 PM	2	8	10	0	3	3	2	0	2	15
04:45 PM	0	6	6	0	0	0	4	0	4	10
Total	7	23	30	0	6	6	15	0	15	51
05:00 PM	3	4	7	0	1	1	3	1	4	12
05:15 PM	3	5	8	0	4	4	6	0	6	18
05:30 PM	2	6	8	0	2	2	8	0	8	18
05:45 PM	2	9	11	0	2	2	8	0	8	21
Total	10	24	34	0	9	9	25	1	26	69
Grand Total	17	47	64	0	15	15	40	1	41	120
Apprch %	26.6	73.4		0	100		97.6	2.4		
Total %	14.2	39.2	53.3	0	12.5	12.5	33.3	0.8	34.2	

	General Thatcher Drive Westbound			Island Queen Drive Northbound			General Thatcher Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**3**	4	7	0	1	1	3	**1**	4	12
05:15 PM	3	5	8	0	**4**	**4**	6	0	6	18
05:30 PM	2	6	8	0	2	2	**8**	0	**8**	18
05:45 PM	2	**9**	**11**	0	2	2	8	0	8	**21**
Total Volume	10	24	34	0	9	9	25	1	26	69
% App. Total	29.4	70.6		0	100		96.2	3.8		
PHF	.833	.667	.773	.000	.563	.563	.781	.250	.813	.821

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City of Sparks, NV
N/S: Island Queen Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 16_SPK_IsQu_GnF PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**3**	4	7	0	1	1	3	**1**	4
+15 mins.	3	5	8	0	**4**	**4**	6	0	6
+30 mins.	2	6	8	0	2	2	**8**	0	**8**
+45 mins.	2	**9**	**11**	0	2	2	8	0	8
Total Volume	10	24	34	0	9	9	25	1	26
% App. Total	29.4	70.6		0	100		96.2	3.8	
PHF	.833	.667	.773	.000	.563	.563	.781	.250	.813

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City of Sparks, NV
N/S: Arrow Smith Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 17_SPK_ArSm_GnF AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

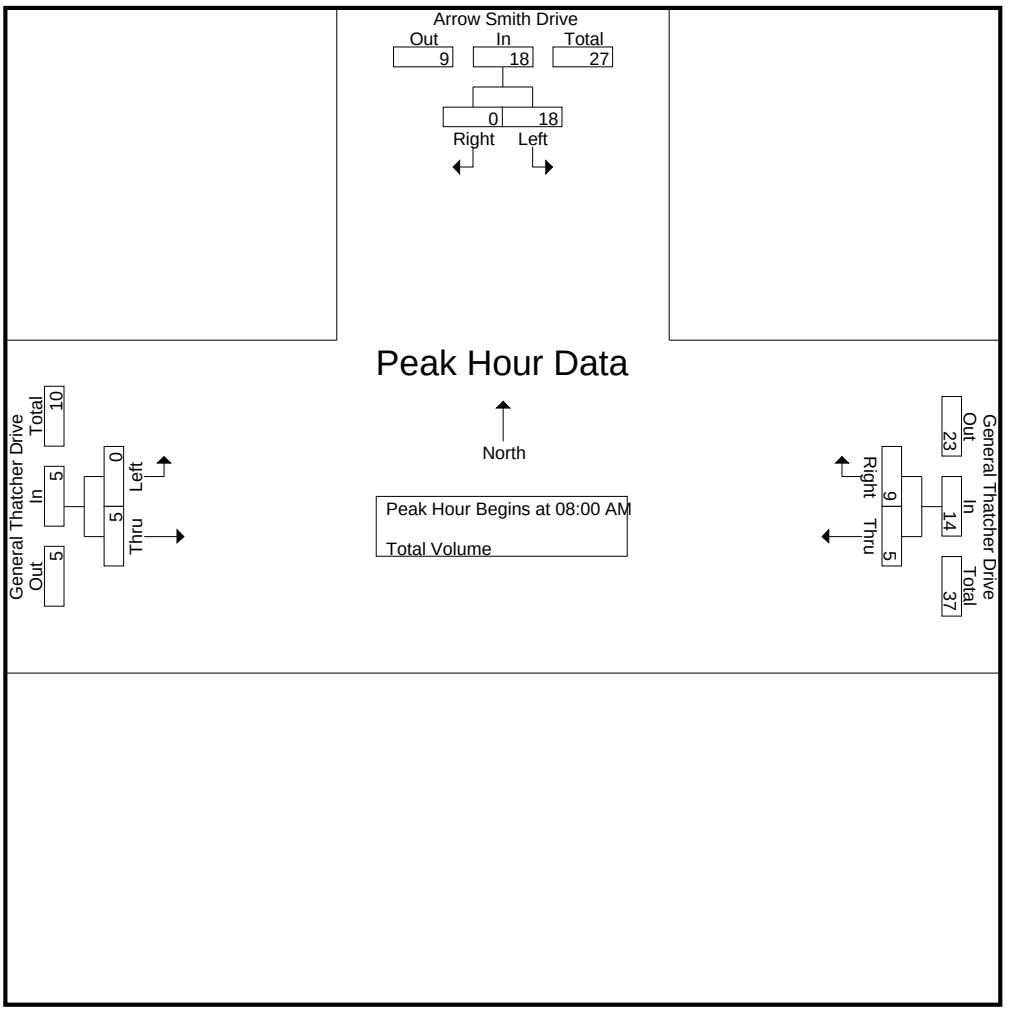
	Arrow Smith Drive Southbound			General Thatcher Drive Westbound			General Thatcher Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	5	0	5	1	2	3	0	4	4	12
07:15 AM	2	1	3	1	0	1	0	1	1	5
07:30 AM	2	0	2	1	4	5	0	4	4	11
07:45 AM	3	0	3	0	1	1	0	3	3	7
Total	12	1	13	3	7	10	0	12	12	35
08:00 AM	3	0	3	0	2	2	0	4	4	9
08:15 AM	4	0	4	2	1	3	0	1	1	8
08:30 AM	4	0	4	1	4	5	0	0	0	9
08:45 AM	7	0	7	2	2	4	0	0	0	11
Total	18	0	18	5	9	14	0	5	5	37
Grand Total	30	1	31	8	16	24	0	17	17	72
Apprch %	96.8	3.2		33.3	66.7		0	100		
Total %	41.7	1.4	43.1	11.1	22.2	33.3	0	23.6	23.6	

	Arrow Smith Drive Southbound			General Thatcher Drive Westbound			General Thatcher Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	3	0	3	0	2	2	0	**4**	**4**	9
08:15 AM	4	0	4	**2**	1	3	0	1	1	8
08:30 AM	4	0	4	1	**4**	**5**	0	0	0	9
08:45 AM	**7**	0	**7**	2	2	4	0	0	0	**11**
Total Volume	18	0	18	5	9	14	0	5	5	37
% App. Total	100	0		35.7	64.3		0	100		
PHF	.643	.000	.643	.625	.563	.700	.000	.313	.313	.841

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City of Sparks, NV
N/S: Arrow Smith Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 17_SPK_ArSm_GnF AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			07:00 AM		
+0 mins.	3	0	3	0	2	2	0	**4**	**4**
+15 mins.	4	0	4	**2**	1	3	0	1	1
+30 mins.	4	0	4	1	**4**	**5**	0	4	4
+45 mins.	**7**	0	**7**	2	2	4	0	3	3
Total Volume	18	0	18	5	9	14	0	12	12
% App. Total	100	0		35.7	64.3		0	100	
PHF	.643	.000	.643	.625	.563	.700	.000	.750	.750

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City of Sparks, NV
N/S: Arrow Smith Drive
E/W: General Thatcher Drive
Weather: Clear

File Name : 17_SPK_ArSm_GnF PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

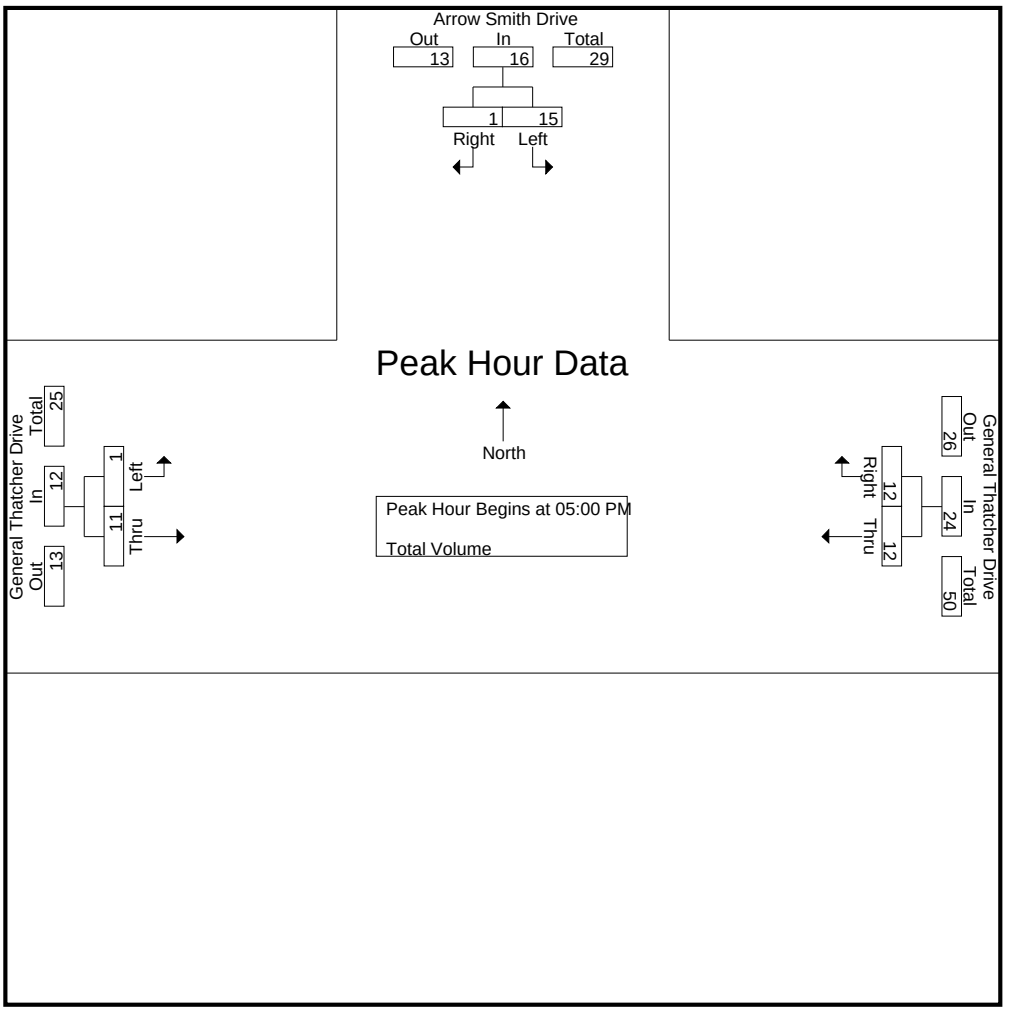
	Arrow Smith Drive Southbound			General Thatcher Drive Westbound			General Thatcher Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	1	0	1	2	6	8	0	5	5	14
04:15 PM	1	0	1	1	0	1	0	1	1	3
04:30 PM	1	0	1	3	3	6	0	1	1	8
04:45 PM	1	0	1	2	4	6	0	3	3	10
Total	4	0	4	8	13	21	0	10	10	35
05:00 PM	3	0	3	0	4	4	0	1	1	8
05:15 PM	2	0	2	4	1	5	0	4	4	11
05:30 PM	7	1	8	2	4	6	0	1	1	15
05:45 PM	3	0	3	6	3	9	1	5	6	18
Total	15	1	16	12	12	24	1	11	12	52
Grand Total	19	1	20	20	25	45	1	21	22	87
Apprch %	95	5		44.4	55.6		4.5	95.5		
Total %	21.8	1.1	23	23	28.7	51.7	1.1	24.1	25.3	

	Arrow Smith Drive Southbound			General Thatcher Drive Westbound			General Thatcher Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	3	0	3	0	**4**	4	0	1	1	8
05:15 PM	2	0	2	4	1	5	0	4	4	11
05:30 PM	**7**	**1**	**8**	2	4	6	0	1	1	15
05:45 PM	3	0	3	**6**	3	**9**	**1**	**5**	**6**	**18**
Total Volume	15	1	16	12	12	24	1	11	12	52
% App. Total	93.8	6.2		50	50		8.3	91.7		
PHF	.536	.250	.500	.500	.750	.667	.250	.550	.500	.722

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File Name : 17_SPK_ArSm_GnF PM
Site Code : 251153
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	3	0	3	0	**4**	4	0	1	1
+15 mins.	2	0	2	4	1	5	0	4	4
+30 mins.	**7**	**1**	**8**	2	4	6	0	1	1
+45 mins.	3	0	3	**6**	3	**9**	**1**	**5**	**6**
Total Volume	15	1	16	12	12	24	1	11	12
% App. Total	93.8	6.2		50	50		8.3	91.7	
PHF	.536	.250	.500	.500	.750	.667	.250	.550	.500

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City of Sparks, NV
N/S: Island Queen Drive
E/W: Decoy Drive
Weather: Clear

File Name : 19_SPK_IsQu_Decoy AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

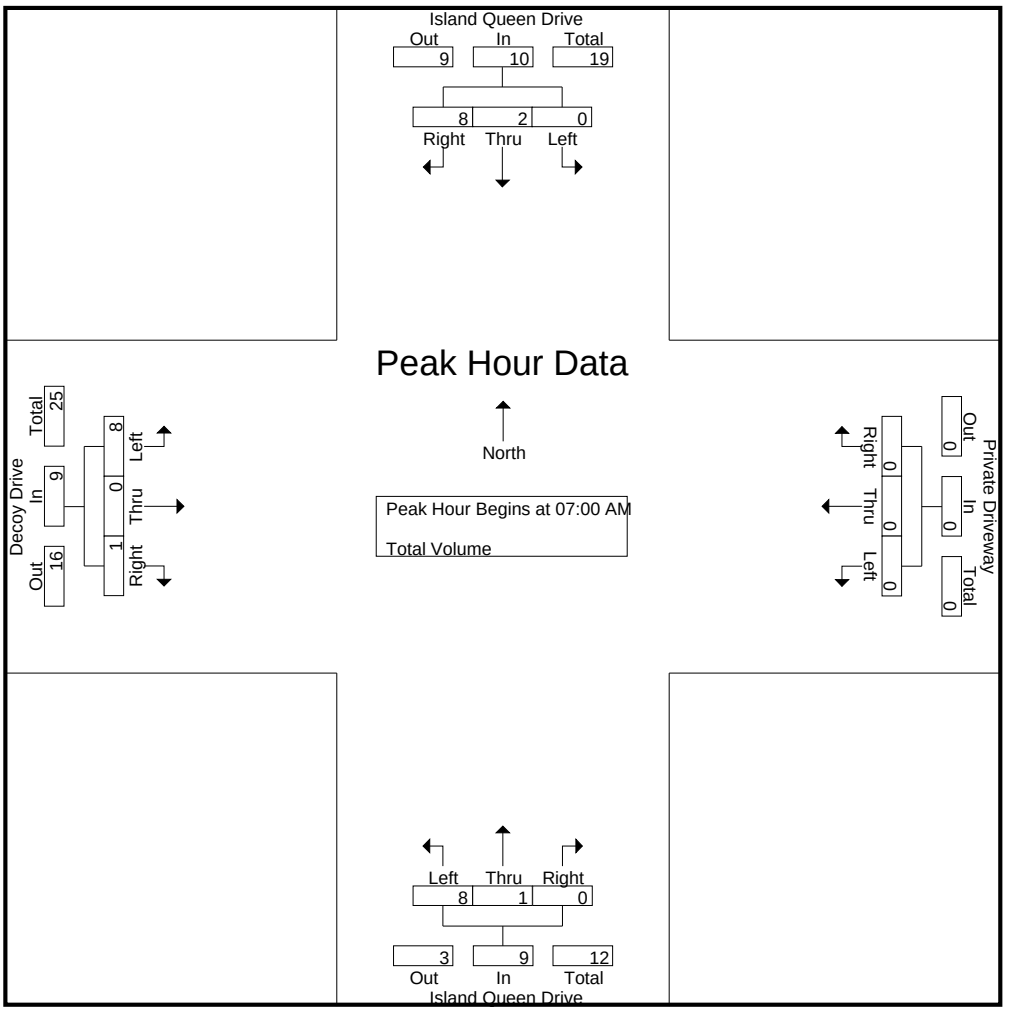
	Island Queen Drive Southbound				Private Driveway Westbound				Island Queen Drive Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	0	0	0	6	0	0	6	2	0	0	2	10
07:15 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	1	3
07:30 AM	0	2	3	5	0	0	0	0	1	0	0	1	5	0	0	5	11
07:45 AM	0	0	3	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Total	0	2	8	10	0	0	0	0	8	1	0	9	8	0	1	9	28
08:00 AM	0	0	1	1	0	0	0	0	1	1	0	2	1	0	0	1	4
08:15 AM	0	1	2	3	0	0	0	0	2	1	0	3	0	0	0	0	6
08:30 AM	0	0	3	3	0	0	0	0	2	1	0	3	1	0	1	2	8
08:45 AM	0	0	1	1	0	0	0	0	2	0	0	2	4	0	0	4	7
Total	0	1	7	8	0	0	0	0	7	3	0	10	6	0	1	7	25
Grand Total	0	3	15	18	0	0	0	0	15	4	0	19	14	0	2	16	53
Apprch %	0	16.7	83.3		0	0	0		78.9	21.1	0		87.5	0	12.5		
Total %	0	5.7	28.3	34	0	0	0	0	28.3	7.5	0	35.8	26.4	0	3.8	30.2	

	Island Queen Drive Southbound				Private Driveway Westbound				Island Queen Drive Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	2	2	0	0	0	0	**6**	0	0	**6**	2	0	0	2	10
07:15 AM	0	0	0	0	0	0	0	0	1	**1**	0	2	0	0	**1**	1	3
07:30 AM	0	**2**	**3**	**5**	0	0	0	0	1	0	0	1	**5**	0	0	**5**	**11**
07:45 AM	0	0	3	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Total Volume	0	2	8	10	0	0	0	0	8	1	0	9	8	0	1	9	28
% App. Total	0	20	80		0	0	0		88.9	11.1	0		88.9	0	11.1		
PHF	.000	.250	.667	.500	.000	.000	.000	.000	.333	.250	.000	.375	.400	.000	.250	.450	.636

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City of Sparks, NV
N/S: Island Queen Drive
E/W: Decoy Drive
Weather: Clear

File Name : 19_SPK_IsQu_Decoy AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	**2**	**3**	**5**	0	0	0	0	1	**1**	0	2	2	0	0	2
+15 mins.	0	0	3	3	0	0	0	0	**2**	1	0	**3**	0	0	**1**	1
+30 mins.	0	0	1	1	0	0	0	0	2	1	0	3	**5**	0	0	**5**
+45 mins.	0	1	2	3	0	0	0	0	2	0	0	2	1	0	0	1
Total Volume	0	3	9	12	0	0	0	0	7	3	0	10	8	0	1	9
% App. Total	0	25	75		0	0	0		70	30	0		88.9	0	11.1	
PHF	.000	.375	.750	.600	.000	.000	.000	.000	.875	.750	.000	.833	.400	.000	.250	.450

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City of Sparks, NV
N/S: Island Queen Drive
E/W: Decoy Drive
Weather: Clear

File Name : 19_SPK_IsQu_Decoy PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

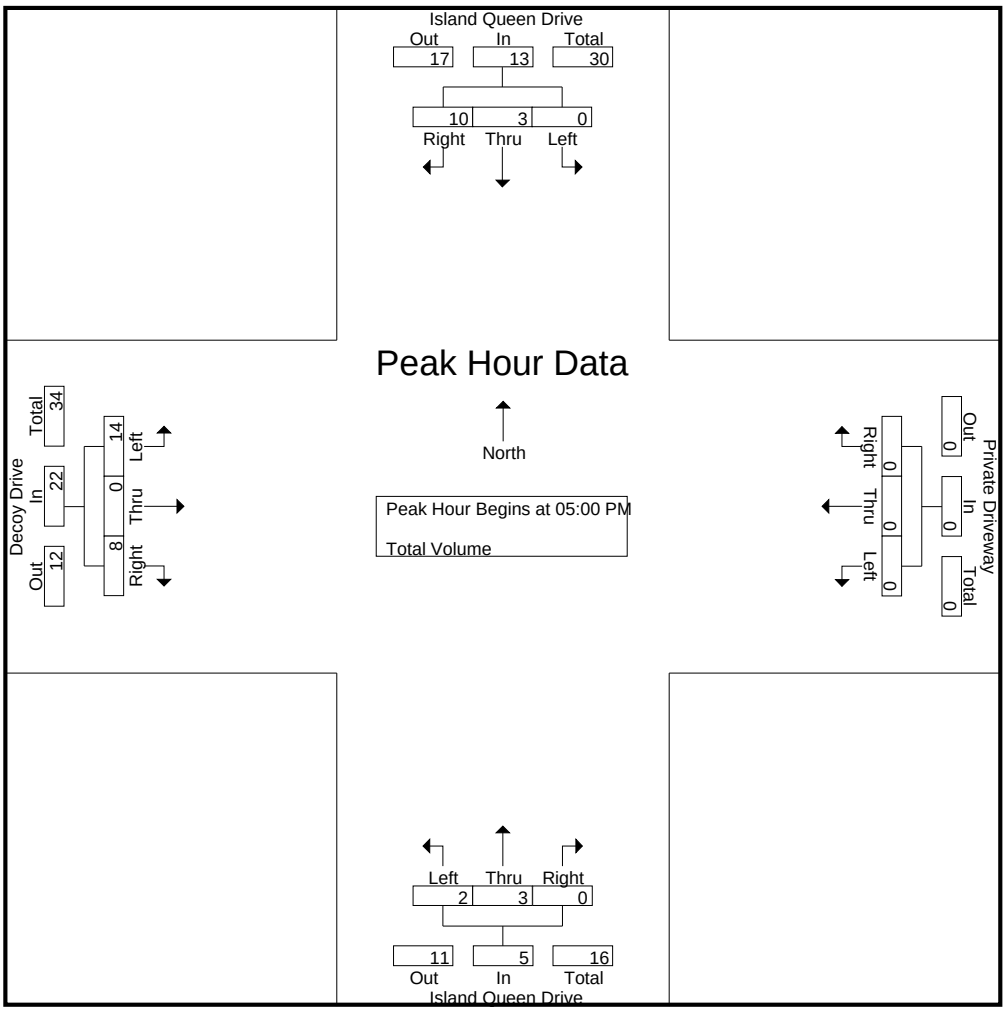
	Island Queen Drive Southbound				Private Driveway Westbound				Island Queen Drive Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	2	0	0	0	0	1	0	0	1	2	0	1	3	6
04:15 PM	0	0	3	3	0	0	0	0	0	0	0	0	6	0	1	7	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4	4
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3	4	5
Total	0	1	4	5	0	0	0	0	2	0	0	2	11	0	7	18	25
05:00 PM	0	0	1	1	0	0	0	0	0	1	0	1	5	0	0	5	7
05:15 PM	0	2	2	4	0	0	0	0	0	1	0	1	4	0	1	5	10
05:30 PM	0	0	3	3	0	0	0	0	1	0	0	1	0	0	3	3	7
05:45 PM	0	1	4	5	0	0	0	0	1	1	0	2	5	0	4	9	16
Total	0	3	10	13	0	0	0	0	2	3	0	5	14	0	8	22	40
Grand Total	0	4	14	18	0	0	0	0	4	3	0	7	25	0	15	40	65
Apprch %	0	22.2	77.8		0	0	0		57.1	42.9	0		62.5	0	37.5		
Total %	0	6.2	21.5	27.7	0	0	0	0	6.2	4.6	0	10.8	38.5	0	23.1	61.5	

	Island Queen Drive Southbound				Private Driveway Westbound				Island Queen Drive Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	0	0	0	0	0	**1**	0	1	**5**	0	0	5	7
05:15 PM	0	**2**	2	4	0	0	0	0	0	1	0	1	4	0	1	5	10
05:30 PM	0	0	3	3	0	0	0	0	**1**	0	0	1	0	0	3	3	7
05:45 PM	0	1	**4**	**5**	0	0	0	0	1	1	0	**2**	5	0	**4**	**9**	**16**
Total Volume	0	3	10	13	0	0	0	0	2	3	0	5	14	0	8	22	40
% App. Total	0	23.1	76.9		0	0	0		40	60	0		63.6	0	36.4		
PHF	.000	.375	.625	.650	.000	.000	.000	.000	.500	.750	.000	.625	.700	.000	.500	.611	.625

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City of Sparks, NV
N/S: Island Queen Drive
E/W: Decoy Drive
Weather: Clear

File Name : 19_SPK_IsQu_Decoy PM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	1	1	0	0	0	0	0	**1**	0	1	**5**	0	0	5
+15 mins.	0	**2**	2	4	0	0	0	0	0	1	0	1	4	0	1	5
+30 mins.	0	0	3	3	0	0	0	0	**1**	0	0	1	0	0	3	3
+45 mins.	0	1	**4**	**5**	0	0	0	0	1	1	0	**2**	5	0	**4**	**9**
Total Volume	0	3	10	13	0	0	0	0	2	3	0	5	14	0	8	22
% App. Total	0	23.1	76.9		0	0	0		40	60	0		63.6	0	36.4	
PHF	.000	.375	.625	.650	.000	.000	.000	.000	.500	.750	.000	.625	.700	.000	.500	.611

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City of Sparks, NV
N/S: Little Easy Street
E/W: Decoy Drive
Weather: Clear

File Name : 18_SPK_LEasy_Decoy AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

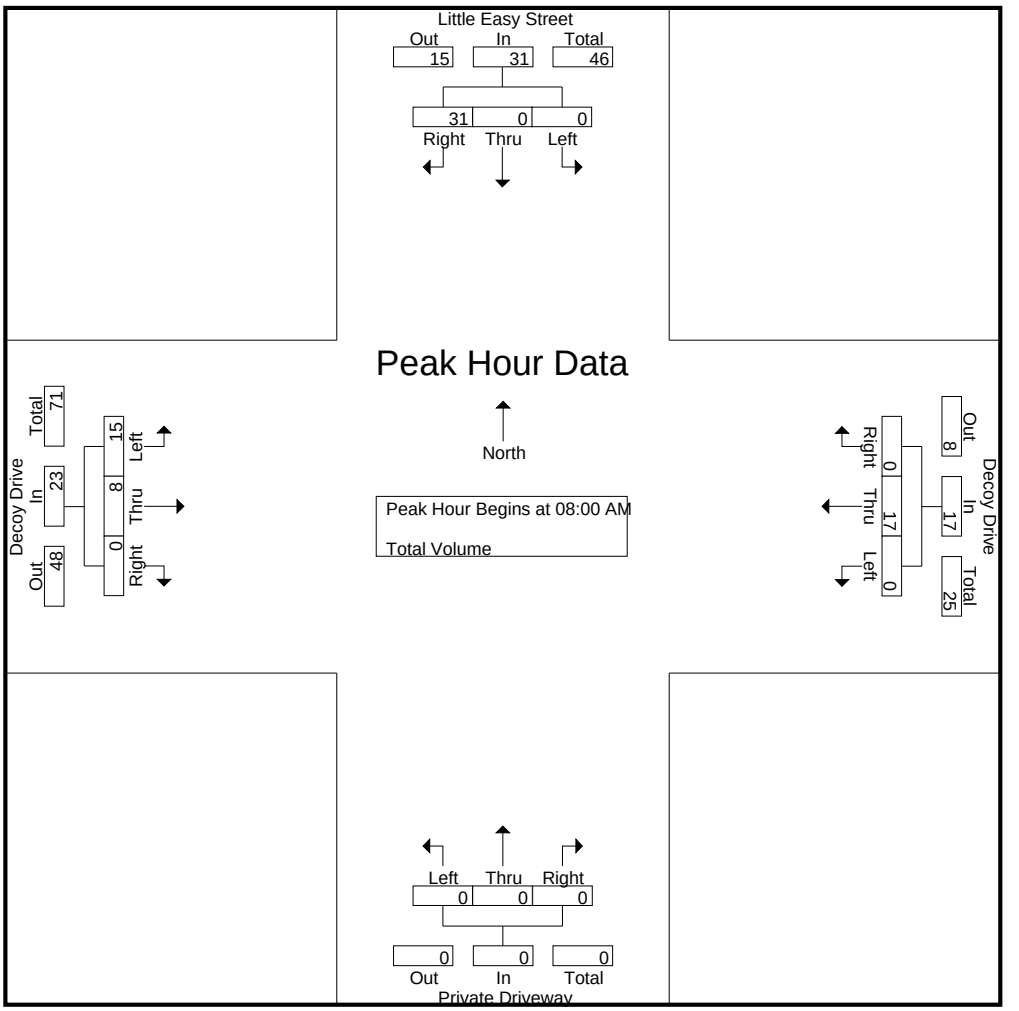
	Little Easy Street Southbound				Decoy Drive Westbound				Private Driveway Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	10	10	0	9	0	9	0	0	0	0	2	2	0	4	23
07:15 AM	0	0	8	8	0	1	0	1	0	0	0	0	2	1	0	3	12
07:30 AM	0	0	4	4	0	4	0	4	0	0	0	0	0	5	0	5	13
07:45 AM	0	0	8	8	0	3	0	3	0	0	0	0	0	1	0	1	12
Total	0	0	30	30	0	17	0	17	0	0	0	0	4	9	0	13	60
08:00 AM	0	0	6	6	0	2	0	2	0	0	0	0	2	1	0	3	11
08:15 AM	0	0	10	10	0	5	0	5	0	0	0	0	3	0	0	3	18
08:30 AM	0	0	6	6	0	6	0	6	0	0	0	0	4	3	0	7	19
08:45 AM	0	0	9	9	0	4	0	4	0	0	0	0	6	4	0	10	23
Total	0	0	31	31	0	17	0	17	0	0	0	0	15	8	0	23	71
Grand Total	0	0	61	61	0	34	0	34	0	0	0	0	19	17	0	36	131
Apprch %	0	0	100		0	100	0		0	0	0		52.8	47.2	0		
Total %	0	0	46.6	46.6	0	26	0	26	0	0	0	0	14.5	13	0	27.5	

	Little Easy Street Southbound				Decoy Drive Westbound				Private Driveway Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	6	6	0	2	0	2	0	0	0	0	2	1	0	3	11
08:15 AM	0	0	**10**	**10**	0	5	0	5	0	0	0	0	3	0	0	3	18
08:30 AM	0	0	6	6	0	**6**	0	**6**	0	0	0	0	4	3	0	7	19
08:45 AM	0	0	9	9	0	4	0	4	0	0	0	0	**6**	**4**	0	**10**	**23**
Total Volume	0	0	31	31	0	17	0	17	0	0	0	0	15	8	0	23	71
% App. Total	0	0	100		0	100	0		0	0	0		65.2	34.8	0		
PHF	.000	.000	.775	.775	.000	.708	.000	.708	.000	.000	.000	.000	.625	.500	.000	.575	.772

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City of Sparks, NV
N/S: Little Easy Street
E/W: Decoy Drive
Weather: Clear

File Name : 18_SPK_LEasy_Decoy AM
Site Code : 251153
Start Date : 11/19/2025
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	0	0	6	6	0	**9**	0	**9**	0	0	0	0	2	1	0	3
+15 mins.	0	0	**10**	**10**	0	1	0	1	0	0	0	0	3	0	0	3
+30 mins.	0	0	6	6	0	4	0	4	0	0	0	0	4	3	0	7
+45 mins.	0	0	9	9	0	3	0	3	0	0	0	0	**6**	**4**	0	**10**
Total Volume	0	0	31	31	0	17	0	17	0	0	0	0	15	8	0	23
% App. Total	0	0	100		0	100	0		0	0	0		65.2	34.8	0	
PHF	.000	.000	.775	.775	.000	.472	.000	.472	.000	.000	.000	.000	.625	.500	.000	.575

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City of Sparks, NV
N/S: Little Easy Street
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Weather: Clear

File Name : 18_SPK_LEasy_Decoy PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

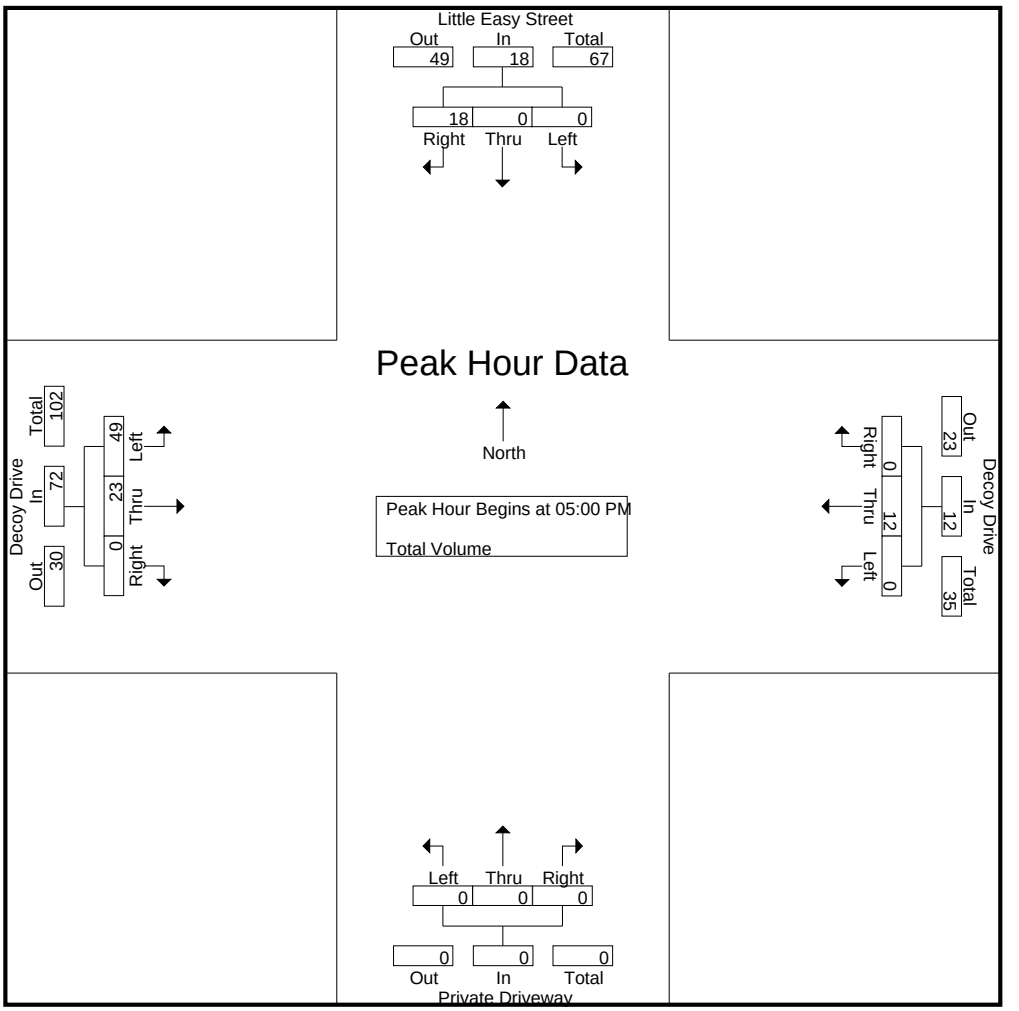
	Little Easy Street Southbound				Decoy Drive Westbound				Private Driveway Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	7	7	0	2	0	2	0	0	0	0	8	3	0	11	20
04:15 PM	0	0	2	2	0	3	0	3	0	0	0	0	12	7	0	19	24
04:30 PM	0	0	5	5	0	0	0	0	0	0	0	0	10	4	0	14	19
04:45 PM	0	0	6	6	0	0	0	0	0	0	0	0	12	4	0	16	22
Total	0	0	20	20	0	5	0	5	0	0	0	0	42	18	0	60	85
05:00 PM	0	0	5	5	0	1	0	1	0	0	0	0	12	5	0	17	23
05:15 PM	0	0	2	2	0	1	0	1	0	0	0	0	13	5	0	18	21
05:30 PM	0	0	3	3	0	4	0	4	0	0	0	0	13	5	0	18	25
05:45 PM	0	0	8	8	0	6	0	6	0	0	0	0	11	8	0	19	33
Total	0	0	18	18	0	12	0	12	0	0	0	0	49	23	0	72	102
Grand Total	0	0	38	38	0	17	0	17	0	0	0	0	91	41	0	132	187
Apprch %	0	0	100		0	100	0		0	0	0		68.9	31.1	0		
Total %	0	0	20.3	20.3	0	9.1	0	9.1	0	0	0	0	48.7	21.9	0	70.6	

	Little Easy Street Southbound				Decoy Drive Westbound				Private Driveway Northbound				Decoy Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	5	5	0	1	0	1	0	0	0	0	12	5	0	17	23
05:15 PM	0	0	2	2	0	1	0	1	0	0	0	0	**13**	5	0	18	21
05:30 PM	0	0	3	3	0	4	0	4	0	0	0	0	13	5	0	18	25
05:45 PM	0	0	**8**	**8**	0	**6**	0	**6**	0	0	0	0	11	**8**	0	**19**	**33**
Total Volume	0	0	18	18	0	12	0	12	0	0	0	0	49	23	0	72	102
% App. Total	0	0	100		0	100	0		0	0	0		68.1	31.9	0		
PHF	.000	.000	.563	.563	.000	.500	.000	.500	.000	.000	.000	.000	.942	.719	.000	.947	.773

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City of Sparks, NV
N/S: Little Easy Street
E/W: Decoy Drive
Weather: Clear

File Name : 18_SPK_LEasy_Decoy PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:00 PM				05:00 PM			
+0 mins.	0	0	**7**	**7**	0	1	0	1	0	0	0	0	12	5	0	17
+15 mins.	0	0	2	2	0	1	0	1	0	0	0	0	**13**	5	0	18
+30 mins.	0	0	5	5	0	4	0	4	0	0	0	0	13	5	0	18
+45 mins.	0	0	6	6	0	**6**	0	**6**	0	0	0	0	11	**8**	0	**19**
Total Volume	0	0	20	20	0	12	0	12	0	0	0	0	49	23	0	72
% App. Total	0	0	100		0	100	0		0	0	0		68.1	31.9	0	
PHF	.000	.000	.714	.714	.000	.500	.000	.500	.000	.000	.000	.000	.942	.719	.000	.947

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Bueno Circle
Weather: Clear

File Name : 20_SPK_Wf Sp_PoBu AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

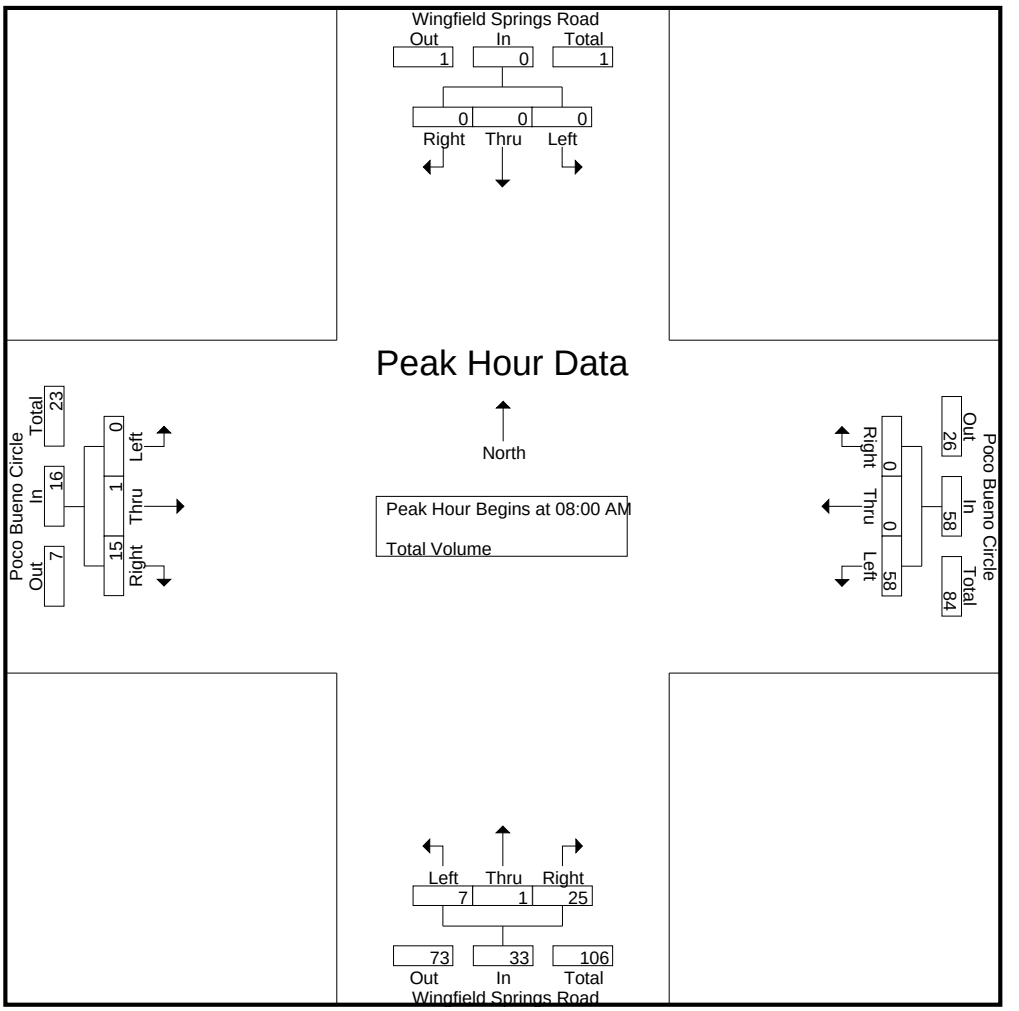
	Wingfield Springs Road Southbound				Poco Bueno Circle Westbound				Wingfield Springs Road Northbound				Poco Bueno Circle Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	23	0	0	23	2	0	4	6	0	0	4	4	34
07:15 AM	0	0	0	0	13	0	0	13	1	1	2	4	0	0	6	6	23
07:30 AM	0	0	0	0	11	0	0	11	2	0	6	8	0	0	8	8	27
07:45 AM	0	0	0	0	11	0	0	11	1	0	3	4	0	0	3	3	18
Total	0	1	0	1	58	0	0	58	6	1	15	22	0	0	21	21	102
08:00 AM	0	0	0	0	15	0	0	15	1	0	3	4	0	0	3	3	22
08:15 AM	0	0	0	0	17	0	0	17	0	0	4	4	0	0	4	4	25
08:30 AM	0	0	0	0	11	0	0	11	0	0	9	9	0	0	5	5	25
08:45 AM	0	0	0	0	15	0	0	15	6	1	9	16	0	1	3	4	35
Total	0	0	0	0	58	0	0	58	7	1	25	33	0	1	15	16	107
Grand Total	0	1	0	1	116	0	0	116	13	2	40	55	0	1	36	37	209
Apprch %	0	100	0		100	0	0		23.6	3.6	72.7		0	2.7	97.3		
Total %	0	0.5	0	0.5	55.5	0	0	55.5	6.2	1	19.1	26.3	0	0.5	17.2	17.7	

	Wingfield Springs Road Southbound				Poco Bueno Circle Westbound				Wingfield Springs Road Northbound				Poco Bueno Circle Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	15	0	0	15	1	0	3	4	0	0	3	3	22
08:15 AM	0	0	0	0	**17**	0	0	**17**	0	0	4	4	0	0	4	4	25
08:30 AM	0	0	0	0	11	0	0	11	0	0	**9**	9	0	0	**5**	**5**	25
08:45 AM	0	0	0	0	15	0	0	15	**6**	**1**	9	**16**	0	**1**	3	4	**35**
Total Volume	0	0	0	0	58	0	0	58	7	1	25	33	0	1	15	16	107
% App. Total	0	0	0		100	0	0		21.2	3	75.8		0	6.2	93.8		
PHF	.000	.000	.000	.000	.853	.000	.000	.853	.292	.250	.694	.516	.000	.250	.750	.800	.764

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Bueno Circle
Weather: Clear

File Name : 20_SPK_Wf Sp_PoBu AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	**1**	0	**1**	**23**	0	0	**23**	1	0	3	4	0	0	4	4
+15 mins.	0	0	0	0	13	0	0	13	0	0	4	4	0	0	6	6
+30 mins.	0	0	0	0	11	0	0	11	0	0	**9**	9	0	0	**8**	**8**
+45 mins.	0	0	0	0	11	0	0	11	**6**	**1**	9	**16**	0	0	3	3
Total Volume	0	1	0	1	58	0	0	58	7	1	25	33	0	0	21	21
% App. Total	0	100	0		100	0	0		21.2	3	75.8		0	0	100	
PHF	.000	.250	.000	.250	.630	.000	.000	.630	.292	.250	.694	.516	.000	.000	.656	.656

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Bueno Circle
Weather: Clear

File Name : 20_SPK_Wf Sp_PoBu PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

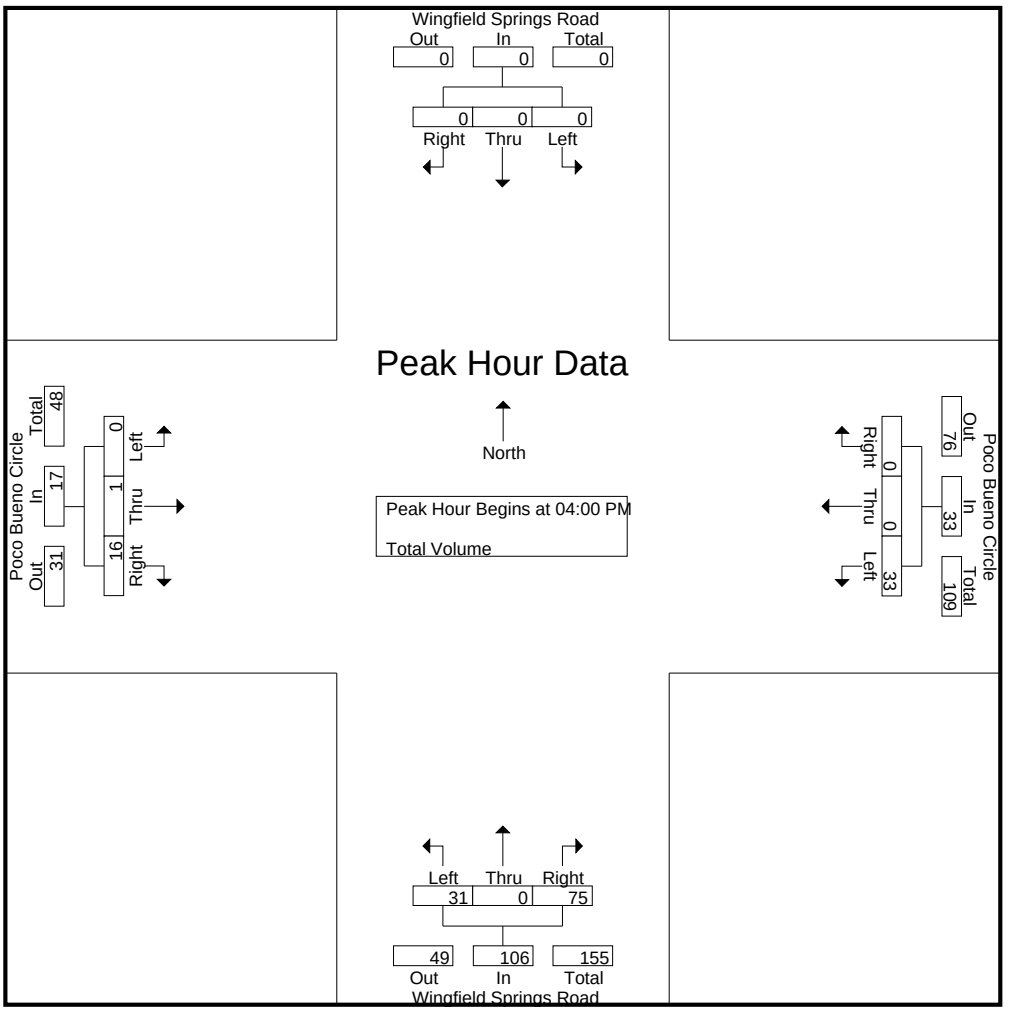
	Wingfield Springs Road Southbound				Poco Bueno Circle Westbound				Wingfield Springs Road Northbound				Poco Bueno Circle Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	12	0	0	12	7	0	16	23	0	0	6	6	41
04:15 PM	0	0	0	0	6	0	0	6	5	0	19	24	0	0	6	6	36
04:30 PM	0	0	0	0	5	0	0	5	12	0	22	34	0	1	0	1	40
04:45 PM	0	0	0	0	10	0	0	10	7	0	18	25	0	0	4	4	39
Total	0	0	0	0	33	0	0	33	31	0	75	106	0	1	16	17	156
05:00 PM	0	0	0	0	7	0	0	7	3	0	20	23	0	0	2	2	32
05:15 PM	0	0	0	0	2	0	0	2	3	0	22	25	0	0	7	7	34
05:30 PM	0	1	1	2	10	0	0	10	8	2	20	30	0	0	3	3	45
05:45 PM	0	1	0	1	13	0	0	13	1	0	21	22	0	0	3	3	39
Total	0	2	1	3	32	0	0	32	15	2	83	100	0	0	15	15	150
Grand Total	0	2	1	3	65	0	0	65	46	2	158	206	0	1	31	32	306
Apprch %	0	66.7	33.3		100	0	0		22.3	1	76.7		0	3.1	96.9		
Total %	0	0.7	0.3	1	21.2	0	0	21.2	15	0.7	51.6	67.3	0	0.3	10.1	10.5	

	Wingfield Springs Road Southbound				Poco Bueno Circle Westbound				Wingfield Springs Road Northbound				Poco Bueno Circle Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**12**	0	0	**12**	7	0	16	23	0	0	**6**	**6**	**41**
04:15 PM	0	0	0	0	6	0	0	6	5	0	19	24	0	0	6	6	36
04:30 PM	0	0	0	0	5	0	0	5	**12**	0	**22**	**34**	0	**1**	0	1	40
04:45 PM	0	0	0	0	10	0	0	10	7	0	18	25	0	0	4	4	39
Total Volume	0	0	0	0	33	0	0	33	31	0	75	106	0	1	16	17	156
% App. Total	0	0	0		100	0	0		29.2	0	70.8		0	5.9	94.1		
PHF	.000	.000	.000	.000	.688	.000	.000	.688	.646	.000	.852	.779	.000	.250	.667	.708	.951

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City of Sparks, NV
N/S: Wingfield Springs Road
E/W: Poco Bueno Circle
Weather: Clear

File Name : 20_SPK_Wf Sp_PoBu PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	0	0	0	**12**	0	0	**12**	**12**	0	**22**	**34**	0	0	**6**	**6**
+15 mins.	0	0	0	0	6	0	0	6	7	0	18	25	0	0	6	6
+30 mins.	0	**1**	**1**	**2**	5	0	0	5	3	0	20	23	0	**1**	0	1
+45 mins.	0	1	0	1	10	0	0	10	3	0	22	25	0	0	4	4
Total Volume	0	2	1	3	33	0	0	33	25	0	82	107	0	1	16	17
% App. Total	0	66.7	33.3		100	0	0		23.4	0	76.6		0	5.9	94.1	
PHF	.000	.500	.250	.375	.688	.000	.000	.688	.521	.000	.932	.787	.000	.250	.667	.708

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City of Sparks, NV
N/S: Scorpius Drive/Homerun Drive
E/W: Vista Boulevard
Weather: Clear

File Name : 04_SPK_Hr_Vista AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

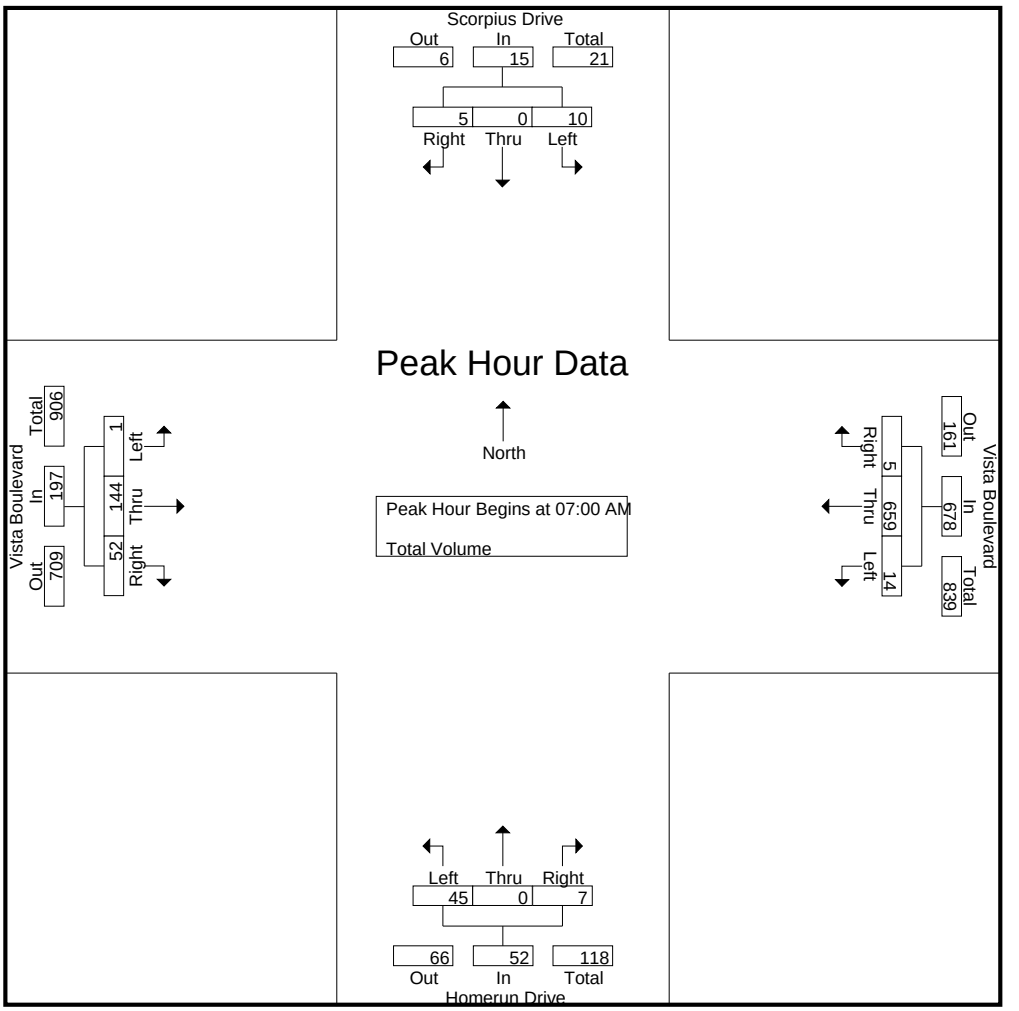
	Scorpius Drive Southbound				Vista Boulevard Westbound				Homerun Drive Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	0	1	3	7	196	0	203	8	0	3	11	0	24	12	36	253
07:15 AM	1	0	2	3	3	190	0	193	14	0	1	15	0	43	14	57	268
07:30 AM	4	0	1	5	0	136	1	137	12	0	3	15	0	42	16	58	215
07:45 AM	3	0	1	4	4	137	4	145	11	0	0	11	1	35	10	46	206
Total	10	0	5	15	14	659	5	678	45	0	7	52	1	144	52	197	942
08:00 AM	1	0	2	3	1	143	1	145	7	0	4	11	0	34	9	43	202
08:15 AM	0	0	2	2	1	160	2	163	10	0	1	11	0	30	11	41	217
08:30 AM	1	0	2	3	2	146	1	149	16	0	2	18	0	44	8	52	222
08:45 AM	5	0	1	6	0	110	1	111	7	0	4	11	0	52	8	60	188
Total	7	0	7	14	4	559	5	568	40	0	11	51	0	160	36	196	829
Grand Total	17	0	12	29	18	1218	10	1246	85	0	18	103	1	304	88	393	1771
Apprch %	58.6	0	41.4		1.4	97.8	0.8		82.5	0	17.5		0.3	77.4	22.4		
Total %	1	0	0.7	1.6	1	68.8	0.6	70.4	4.8	0	1	5.8	0.1	17.2	5	22.2	

	Scorpius Drive Southbound				Vista Boulevard Westbound				Homerun Drive Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	0	1	3	**7**	**196**	0	**203**	8	0	**3**	11	0	24	12	36	253
07:15 AM	1	0	**2**	3	3	190	0	193	**14**	0	1	**15**	0	**43**	14	57	**268**
07:30 AM	**4**	0	1	**5**	0	136	1	137	12	0	3	15	0	42	**16**	**58**	215
07:45 AM	3	0	1	4	4	137	**4**	145	11	0	0	11	**1**	35	10	46	206
Total Volume	10	0	5	15	14	659	5	678	45	0	7	52	1	144	52	197	942
% App. Total	66.7	0	33.3		2.1	97.2	0.7		86.5	0	13.5		0.5	73.1	26.4		
PHF	.625	.000	.625	.750	.500	.841	.313	.835	.804	.000	.583	.867	.250	.837	.813	.849	.879

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City of Sparks, NV
N/S: Scorpius Drive/Homerun Drive
E/W: Vista Boulevard
Weather: Clear

File Name : 04_SPK_Hr_Vista AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	2	0	1	3	**7**	**196**	0	**203**	8	0	**3**	11	0	**43**	14	57
+15 mins.	1	0	**2**	3	3	190	0	193	**14**	0	1	**15**	0	42	**16**	**58**
+30 mins.	**4**	0	1	**5**	0	136	1	137	12	0	3	15	**1**	35	10	46
+45 mins.	3	0	1	4	4	137	**4**	145	11	0	0	11	0	34	9	43
Total Volume	10	0	5	15	14	659	5	678	45	0	7	52	1	154	49	204
% App. Total	66.7	0	33.3		2.1	97.2	0.7		86.5	0	13.5		0.5	75.5	24	
PHF	.625	.000	.625	.750	.500	.841	.313	.835	.804	.000	.583	.867	.250	.895	.766	.879

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City of Sparks, NV
N/S: Scorpius Drive/Homerun Drive
E/W: Vista Boulevard
Weather: Clear

File Name : 04_SPK_Hr_Vista PM
Site Code : 251153
Start Date : 11/19/2025

Groups Printed- Total Volume

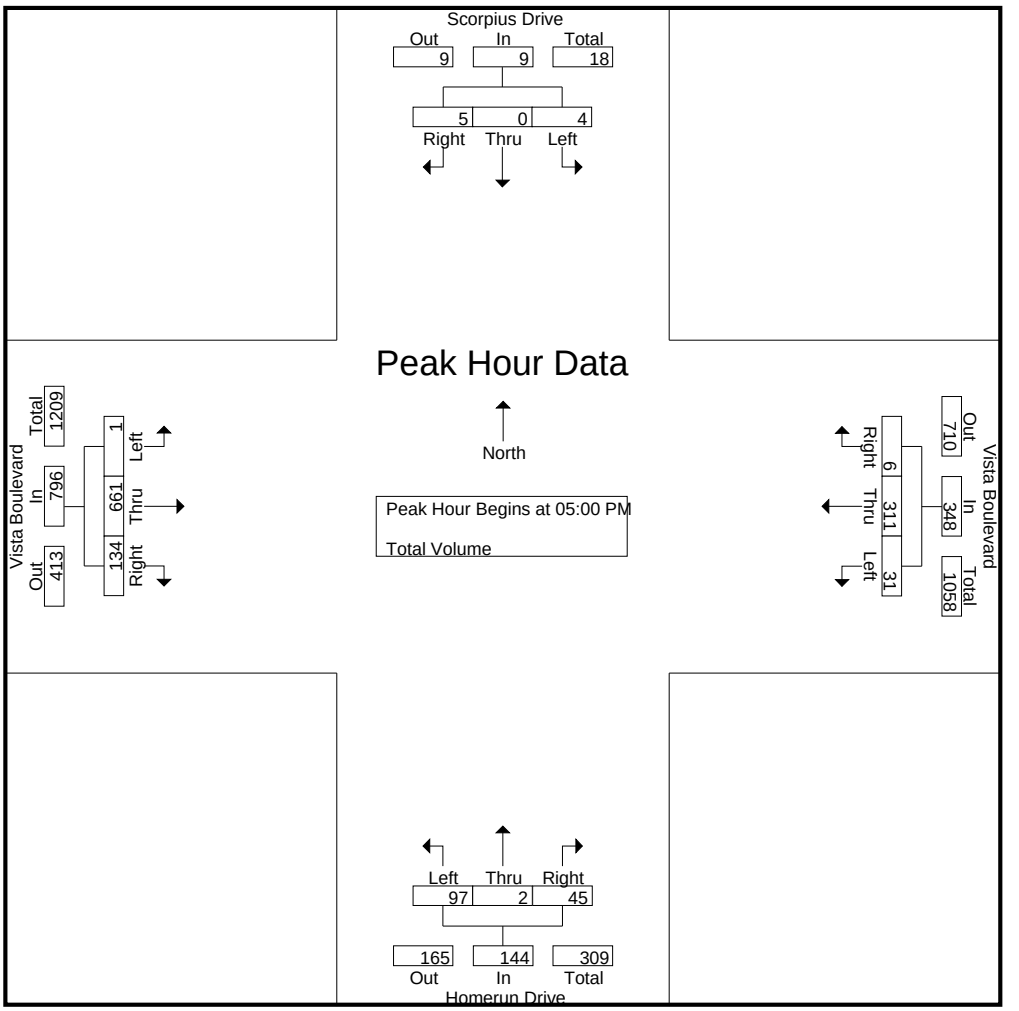
	Scorpius Drive Southbound				Vista Boulevard Westbound				Homerun Drive Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	2	72	1	75	14	0	5	19	1	163	14	178	273
04:15 PM	3	0	1	4	5	92	0	97	9	0	6	15	0	150	20	170	286
04:30 PM	0	0	2	2	4	83	0	87	18	0	7	25	2	164	33	199	313
04:45 PM	1	0	0	1	1	71	1	73	12	0	8	20	0	164	38	202	296
Total	5	0	3	8	12	318	2	332	53	0	26	79	3	641	105	749	1168
05:00 PM	1	0	2	3	2	85	0	87	23	1	6	30	0	151	34	185	305
05:15 PM	0	0	1	1	7	75	3	85	19	1	12	32	0	181	27	208	326
05:30 PM	3	0	0	3	13	73	2	88	26	0	15	41	1	170	36	207	339
05:45 PM	0	0	2	2	9	78	1	88	29	0	12	41	0	159	37	196	327
Total	4	0	5	9	31	311	6	348	97	2	45	144	1	661	134	796	1297
Grand Total	9	0	8	17	43	629	8	680	150	2	71	223	4	1302	239	1545	2465
Apprch %	52.9	0	47.1		6.3	92.5	1.2		67.3	0.9	31.8		0.3	84.3	15.5		
Total %	0.4	0	0.3	0.7	1.7	25.5	0.3	27.6	6.1	0.1	2.9	9	0.2	52.8	9.7	62.7	

	Scorpius Drive Southbound				Vista Boulevard Westbound				Homerun Drive Northbound				Vista Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	0	**2**	**3**	2	**85**	0	87	23	**1**	6	30	0	151	34	185	305
05:15 PM	0	0	1	1	7	75	**3**	85	19	1	12	32	0	**181**	27	**208**	326
05:30 PM	**3**	0	0	3	**13**	73	2	**88**	26	0	**15**	**41**	**1**	170	36	207	**339**
05:45 PM	0	0	2	2	9	78	1	88	**29**	0	12	41	0	159	**37**	196	327
Total Volume	4	0	5	9	31	311	6	348	97	2	45	144	1	661	134	796	1297
% App. Total	44.4	0	55.6		8.9	89.4	1.7		67.4	1.4	31.2		0.1	83	16.8		
PHF	.333	.000	.625	.750	.596	.915	.500	.989	.836	.500	.750	.878	.250	.913	.905	.957	.956

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City of Sparks, NV
N/S: Scorpius Drive/Homerun Drive
E/W: Vista Boulevard
Weather: Clear

File Name : 04_SPK_Hr_Vista PM
Site Code : 251153
Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				05:00 PM				04:45 PM			
+0 mins.	**3**	0	1	**4**	2	**85**	0	87	23	**1**	6	30	0	164	**38**	202
+15 mins.	0	0	**2**	2	7	75	**3**	85	19	1	12	32	0	151	34	185
+30 mins.	1	0	0	1	**13**	73	2	**88**	26	0	**15**	**41**	0	**181**	27	**208**
+45 mins.	1	0	2	3	9	78	1	88	**29**	0	12	41	**1**	170	36	207
Total Volume	5	0	5	10	31	311	6	348	97	2	45	144	1	666	135	802
% App. Total	50	0	50		8.9	89.4	1.7		67.4	1.4	31.2		0.1	83	16.8	
PHF	.417	.000	.625	.625	.596	.915	.500	.989	.836	.500	.750	.878	.250	.920	.888	.964

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City of Sparks, NV
N/S: Vista Boulevard
E/W: Sparks Fire Station #5
Weather: Clear

File Name : 05_SPK_Vista_SFS5 AM
Site Code : 251153
Start Date : 11/19/2025
Page No : 1

Groups Printed- Total Volume

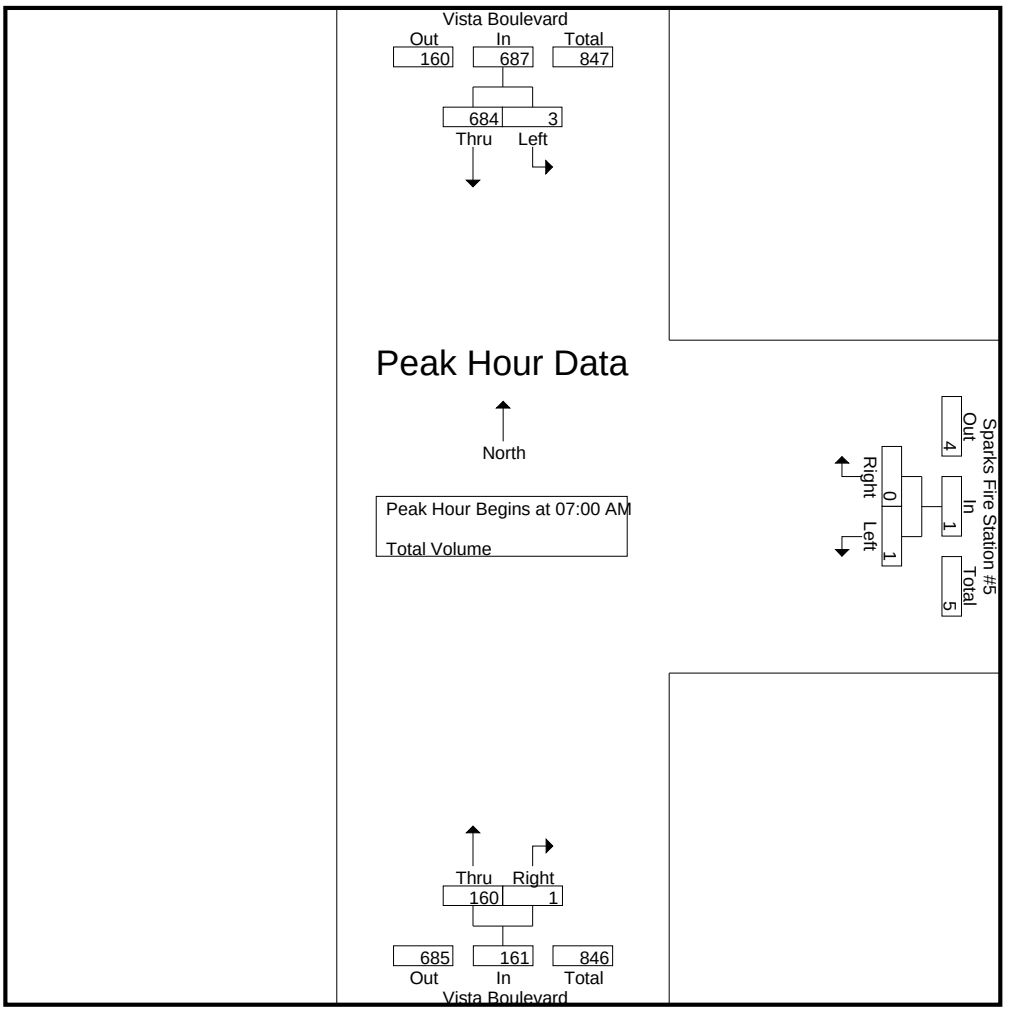
	Vista Boulevard Southbound			Sparks Fire Station #5 Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	203	205	0	0	0	29	0	29	234
07:15 AM	0	195	195	0	0	0	43	0	43	238
07:30 AM	0	137	137	0	0	0	48	1	49	186
07:45 AM	1	149	150	1	0	1	40	0	40	191
Total	3	684	687	1	0	1	160	1	161	849
08:00 AM	0	139	139	0	0	0	37	0	37	176
08:15 AM	0	160	160	1	0	1	31	0	31	192
08:30 AM	0	148	148	0	0	0	47	0	47	195
08:45 AM	0	109	109	1	0	1	61	0	61	171
Total	0	556	556	2	0	2	176	0	176	734
Grand Total	3	1240	1243	3	0	3	336	1	337	1583
Apprch %	0.2	99.8		100	0		99.7	0.3		
Total %	0.2	78.3	78.5	0.2	0	0.2	21.2	0.1	21.3	

	Vista Boulevard Southbound			Sparks Fire Station #5 Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**2**	**203**	**205**	0	0	0	29	0	29	234
07:15 AM	0	195	195	0	0	0	43	0	43	**238**
07:30 AM	0	137	137	0	0	0	**48**	**1**	**49**	186
07:45 AM	1	149	150	**1**	0	**1**	40	0	40	191
Total Volume	3	684	687	1	0	1	160	1	161	849
% App. Total	0.4	99.6		100	0		99.4	0.6		
PHF	.375	.842	.838	.250	.000	.250	.833	.250	.821	.892

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File Name : 05_SPK_Vista_SFS5 AM
Site Code : 251153
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			08:00 AM		
+0 mins.	**2**	**203**	**205**	0	0	0	37	0	37
+15 mins.	0	195	195	**1**	0	**1**	31	0	31
+30 mins.	0	137	137	0	0	0	47	0	47
+45 mins.	1	149	150	1	0	1	**61**	0	**61**
Total Volume	3	684	687	2	0	2	176	0	176
% App. Total	0.4	99.6		100	0		100	0	
PHF	.375	.842	.838	.500	.000	.500	.721	.000	.721

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E/W: Sparks Fire Station #5
Weather: Clear

File Name : 05_SPK_Vista_SFS5 PM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

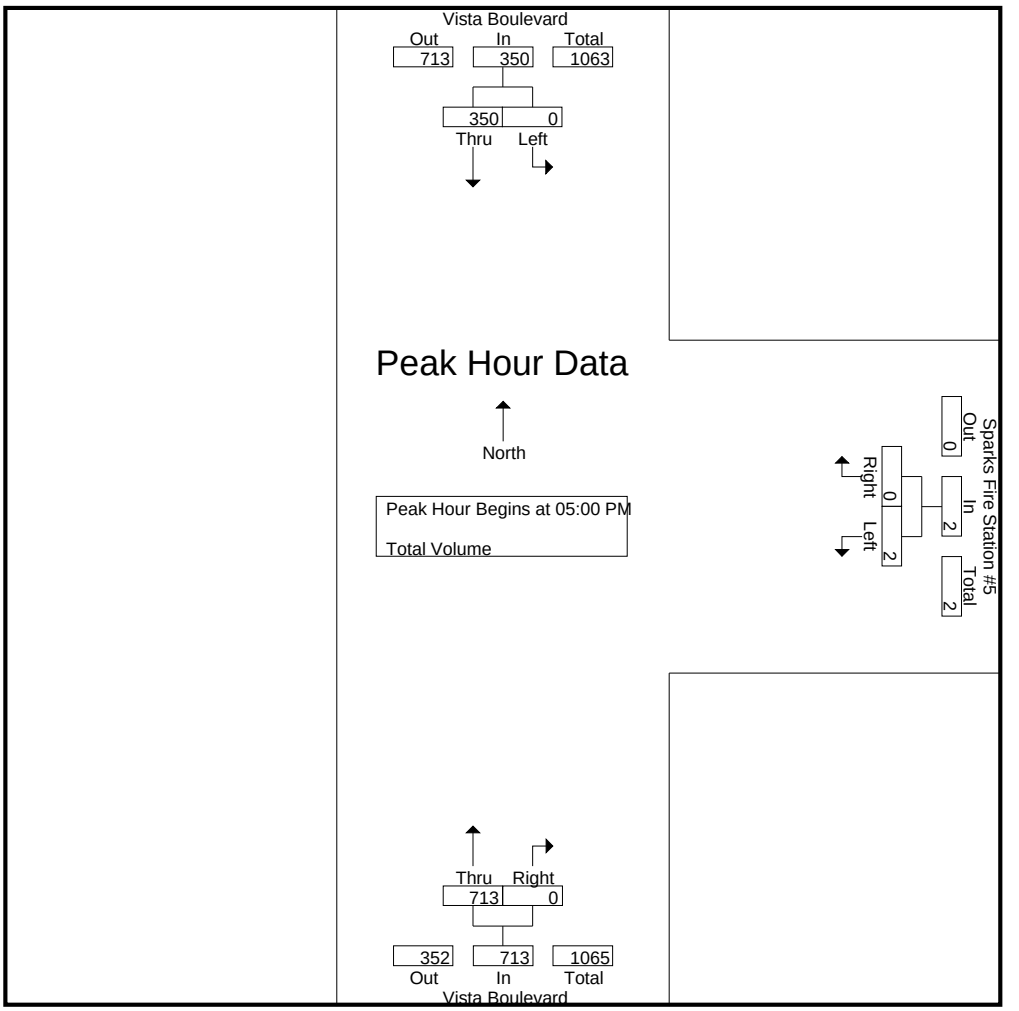
	Vista Boulevard Southbound			Sparks Fire Station #5 Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	78	78	0	0	0	169	1	170	248
04:15 PM	0	92	92	0	0	0	149	0	149	241
04:30 PM	0	88	88	0	0	0	169	1	170	258
04:45 PM	0	72	72	0	0	0	177	0	177	249
Total	0	330	330	0	0	0	664	2	666	996
05:00 PM	0	88	88	0	0	0	158	0	158	246
05:15 PM	0	84	84	0	0	0	186	0	186	270
05:30 PM	0	94	94	0	0	0	191	0	191	285
05:45 PM	0	84	84	2	0	2	178	0	178	264
Total	0	350	350	2	0	2	713	0	713	1065
Grand Total	0	680	680	2	0	2	1377	2	1379	2061
Apprch %	0	100		100	0		99.9	0.1		
Total %	0	33	33	0.1	0	0.1	66.8	0.1	66.9	

	Vista Boulevard Southbound			Sparks Fire Station #5 Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	88	88	0	0	0	158	0	158	246
05:15 PM	0	84	84	0	0	0	186	0	186	270
05:30 PM	0	**94**	**94**	0	0	0	**191**	0	**191**	**285**
05:45 PM	0	84	84	**2**	0	**2**	178	0	178	264
Total Volume	0	350	350	2	0	2	713	0	713	1065
% App. Total	0	100		100	0		100	0		
PHF	.000	.931	.931	.250	.000	.250	.933	.000	.933	.934

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File Name : 05_SPK_Vista_SFS5 PM
Site Code : 251153
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	88	88	0	0	0	158	0	158
+15 mins.	0	84	84	0	0	0	186	0	186
+30 mins.	0	**94**	**94**	0	0	0	**191**	0	**191**
+45 mins.	0	84	84	**2**	0	**2**	178	0	178
Total Volume	0	350	350	2	0	2	713	0	713
% App. Total	0	100		100	0		100	0	
PHF	.000	.931	.931	.250	.000	.250	.933	.000	.933

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City of Sparks, NV
N/S: Vista Boulevard
E/W: Black Hills Drive
Weather: Clear

File Name : 06_SPK_Vista_Blk H AM
Site Code : 251153
Start Date : 11/19/2025
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Groups Printed- Total Volume

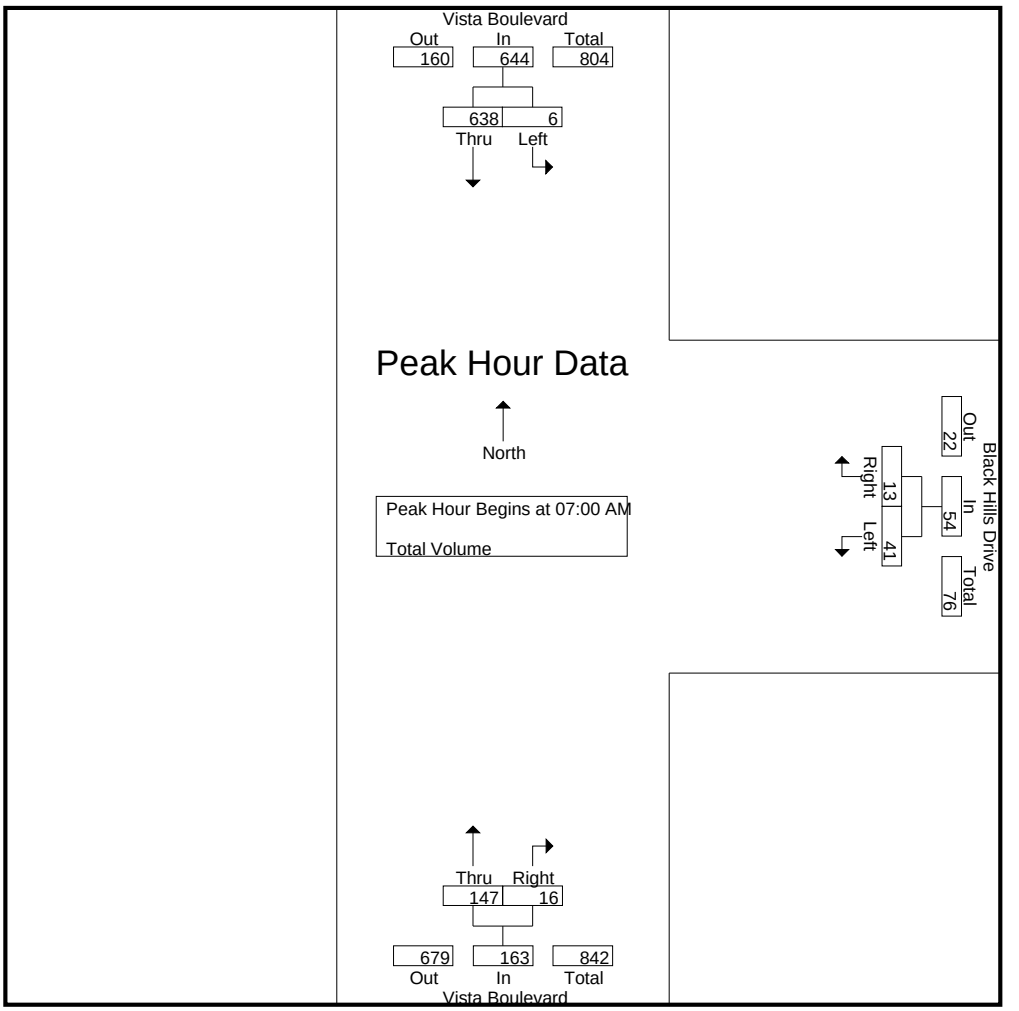
	Vista Boulevard Southbound			Black Hills Drive Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	193	195	9	5	14	29	3	32	241
07:15 AM	1	182	183	15	0	15	39	4	43	241
07:30 AM	1	128	129	6	5	11	43	4	47	187
07:45 AM	2	135	137	11	3	14	36	5	41	192
Total	6	638	644	41	13	54	147	16	163	861
08:00 AM	1	131	132	9	0	9	33	2	35	176
08:15 AM	2	146	148	12	1	13	29	2	31	192
08:30 AM	0	138	138	9	2	11	44	2	46	195
08:45 AM	0	100	100	9	1	10	53	8	61	171
Total	3	515	518	39	4	43	159	14	173	734
Grand Total	9	1153	1162	80	17	97	306	30	336	1595
Apprch %	0.8	99.2		82.5	17.5		91.1	8.9		
Total %	0.6	72.3	72.9	5	1.1	6.1	19.2	1.9	21.1	

	Vista Boulevard Southbound			Black Hills Drive Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**2**	**193**	**195**	9	**5**	14	29	3	32	**241**
07:15 AM	1	182	183	**15**	0	**15**	39	4	43	241
07:30 AM	1	128	129	6	5	11	**43**	4	**47**	187
07:45 AM	2	135	137	11	3	14	36	**5**	41	192
Total Volume	6	638	644	41	13	54	147	16	163	861
% App. Total	0.9	99.1		75.9	24.1		90.2	9.8		
PHF	.750	.826	.826	.683	.650	.900	.855	.800	.867	.893

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File Name : 06_SPK_Vista_Blk H AM
Site Code : 251153
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	**2**	**193**	**195**	9	**5**	14	33	2	35
+15 mins.	1	182	183	**15**	0	**15**	29	2	31
+30 mins.	1	128	129	6	5	11	44	2	46
+45 mins.	2	135	137	11	3	14	**53**	**8**	**61**
Total Volume	6	638	644	41	13	54	159	14	173
% App. Total	0.9	99.1		75.9	24.1		91.9	8.1	
PHF	.750	.826	.826	.683	.650	.900	.750	.438	.709

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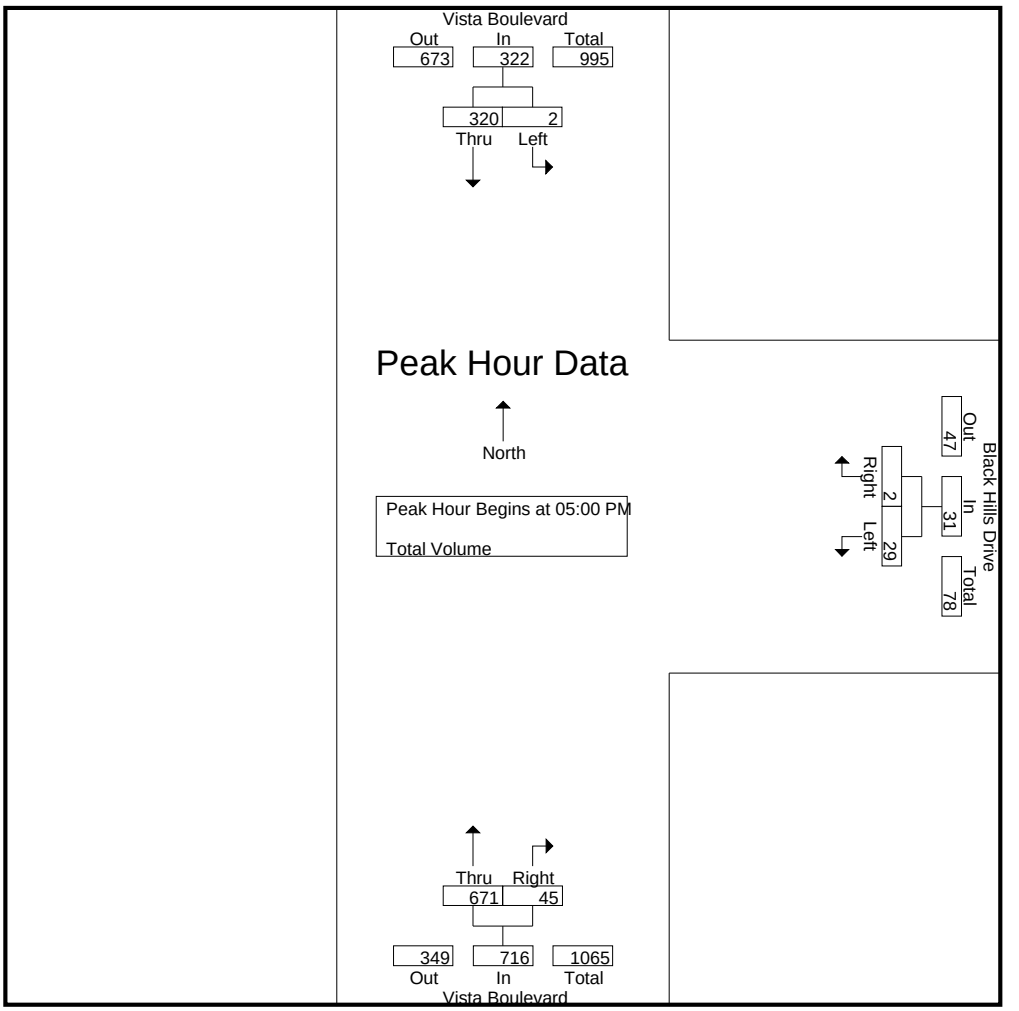
	Vista Boulevard Southbound			Black Hills Drive Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	3	70	73	7	3	10	152	18	170	253
04:15 PM	0	84	84	4	0	4	141	9	150	238
04:30 PM	2	84	86	4	1	5	153	10	163	254
04:45 PM	2	66	68	8	1	9	160	19	179	256
Total	7	304	311	23	5	28	606	56	662	1001
05:00 PM	1	78	79	7	0	7	147	15	162	248
05:15 PM	0	80	80	4	1	5	177	12	189	274
05:30 PM	1	88	89	7	1	8	177	12	189	286
05:45 PM	0	74	74	11	0	11	170	6	176	261
Total	2	320	322	29	2	31	671	45	716	1069
Grand Total	9	624	633	52	7	59	1277	101	1378	2070
Apprch %	1.4	98.6		88.1	11.9		92.7	7.3		
Total %	0.4	30.1	30.6	2.5	0.3	2.9	61.7	4.9	66.6	

	Vista Boulevard Southbound			Black Hills Drive Westbound			Vista Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**1**	78	79	7	0	7	147	**15**	162	248
05:15 PM	0	80	80	4	**1**	5	**177**	12	**189**	274
05:30 PM	1	**88**	**89**	7	1	8	177	12	189	**286**
05:45 PM	0	74	74	**11**	0	**11**	170	6	176	261
Total Volume	2	320	322	29	2	31	671	45	716	1069
% App. Total	0.6	99.4		93.5	6.5		93.7	6.3		
PHF	.500	.909	.904	.659	.500	.705	.948	.750	.947	.934

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Start Date : 11/19/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			04:45 PM		
+0 mins.	**1**	78	79	7	0	7	160	**19**	179
+15 mins.	0	80	80	4	**1**	5	147	15	162
+30 mins.	1	**88**	**89**	7	1	8	**177**	12	**189**
+45 mins.	0	74	74	**11**	0	**11**	177	12	189
Total Volume	2	320	322	29	2	31	661	58	719
% App. Total	0.6	99.4		93.5	6.5		91.9	8.1	
PHF	.500	.909	.904	.659	.500	.705	.934	.763	.951

APPENDIX B | SYNCHRO, SIMTRAFFIC AND SIDRA LOS AND QUEUE REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	203	0	5	1078	210	155	57	4	136	26	611
Future Volume (veh/h)	142	203	0	5	1078	210	155	57	4	136	26	611
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	242	0	6	1283	0	185	68	0	162	31	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1860		14	1627		272	127		206	196	
Arrive On Green	0.07	0.52	0.00	0.01	0.46	0.00	0.08	0.07	0.00	0.12	0.10	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	169	242	0	6	1283	0	185	68	0	162	31	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.5	2.6	0.0	0.2	22.5	0.0	3.8	2.6	0.0	6.5	1.1	0.0
Cycle Q Clear(g_c), s	3.5	2.6	0.0	0.2	22.5	0.0	3.8	2.6	0.0	6.5	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	1860		14	1627		272	127		206	196	
V/C Ratio(X)	0.67	0.13		0.43	0.79		0.68	0.54		0.79	0.16	
Avail Cap(c_a), veh/h	324	2247		121	2155		352	944		494	1272	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.2	9.0	0.0	36.3	16.9	0.0	33.0	33.2	0.0	31.6	30.0	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.0	19.5	1.5	0.0	3.5	3.5	0.0	6.5	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.8	0.0	0.2	8.1	0.0	1.7	1.2	0.0	3.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.7	9.0	0.0	55.8	18.4	0.0	36.5	36.6	0.0	38.2	30.4	0.0
LnGrp LOS	D	A		E	B		D	D		D	C	
Approach Vol, veh/h		411			1289			253			193	
Approach Delay, s/veh		20.4			18.6			36.5			36.9	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	10.1	6.0	43.9	10.9	12.8	10.8	39.1
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	20.4	37.1	5.0	46.5	7.5	50.0	6.9	44.6
Max Q Clear Time (g_c+I1), s	8.5	4.6	2.2	4.6	5.8	3.1	5.5	24.5
Green Ext Time (p_c), s	0.3	0.3	0.0	1.5	0.1	0.1	0.1	9.1

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	338	1297	3	0	7
Future Vol, veh/h	0	338	1297	3	0	7
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	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	393	1508	3	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	756
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	301
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	301
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	17.29
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	301
HCM Lane V/C Ratio	-	-	-	0.027
HCM Ctrl Dly (s/v)	-	-	-	17.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	193	14	9	727	7	61	12	9	2	14	507
Future Volume (veh/h)	135	193	14	9	727	7	61	12	9	2	14	507
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	224	16	10	845	8	71	14	10	2	16	590
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1099	78	22	974	9	91	425	303	5	692	696
Arrive On Green	0.07	0.33	0.33	0.01	0.27	0.27	0.05	0.42	0.42	0.00	0.37	0.37
Sat Flow, veh/h	3456	3365	239	1781	3607	34	1781	1015	725	1781	1870	1585
Grp Volume(v), veh/h	157	118	122	10	416	437	71	0	24	2	16	590
Grp Sat Flow(s),veh/h/ln	1728	1777	1827	1781	1777	1864	1781	0	1740	1781	1870	1585
Q Serve(g_s), s	3.7	4.0	4.0	0.5	18.6	18.6	3.3	0.0	0.7	0.1	0.5	27.7
Cycle Q Clear(g_c), s	3.7	4.0	4.0	0.5	18.6	18.6	3.3	0.0	0.7	0.1	0.5	27.7
Prop In Lane	1.00		0.13	1.00		0.02	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	237	580	596	22	480	504	91	0	728	5	692	696
V/C Ratio(X)	0.66	0.20	0.21	0.45	0.87	0.87	0.78	0.00	0.03	0.41	0.02	0.85
Avail Cap(c_a), veh/h	439	648	666	107	529	555	115	0	728	107	767	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	20.3	20.3	40.9	29.0	29.0	39.1	0.0	14.3	41.5	16.7	20.9
Incr Delay (d2), s/veh	3.1	0.2	0.2	13.8	13.4	12.8	22.6	0.0	0.0	48.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	1.6	0.3	9.2	9.5	2.0	0.0	0.3	0.1	0.2	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.0	20.4	20.4	54.7	42.4	41.8	61.7	0.0	14.3	89.5	16.7	29.3
LnGrp LOS	D	C	C	D	D	D	E		B	F	B	C
Approach Vol, veh/h		397			863			95			608	
Approach Delay, s/veh		28.6			42.2			49.7			29.2	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	39.5	6.4	32.6	8.9	35.5	11.1	27.9
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	34.6	5.0	30.4	5.4	34.2	10.6	24.8
Max Q Clear Time (g_c+I1), s	2.1	2.7	2.5	6.0	5.3	29.7	5.7	20.6
Green Ext Time (p_c), s	0.0	0.1	0.0	1.2	0.0	1.1	0.2	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	35.8
HCM 7th LOS	D

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	49	0	1	0	136	18	3	471	0
Future Vol, veh/h	0	0	0	49	0	1	0	136	18	3	471	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	60	0	1	0	168	22	4	581	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	673	779	291	477	768	95	581	0	0	190	0	0
Stage 1	589	589	-	179	179	-	-	-	-	-	-	-
Stage 2	84	190	-	298	589	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	341	326	706	471	331	943	989	-	-	1381	-	-
Stage 1	462	494	-	805	750	-	-	-	-	-	-	-
Stage 2	915	742	-	686	494	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	339	325	706	470	329	943	989	-	-	1381	-	-
Mov Cap-2 Maneuver	339	325	-	470	329	-	-	-	-	-	-	-
Stage 1	460	492	-	805	750	-	-	-	-	-	-	-
Stage 2	913	742	-	684	492	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	13.72	0	0.07
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	-	474	23	-	-
HCM Lane V/C Ratio	-	-	-	-	0.13	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	13.7	7.6	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	13	123	338	5	8	33	17	87	5	7	0
Future Vol, veh/h	1	13	123	338	5	8	33	17	87	5	7	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	17	164	451	7	11	44	23	116	7	9	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	8.9	15.9	9.6	9.2
HCM LOS	A	C	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	66%	0%	1%	96%	42%
Vol Thru, %	34%	0%	9%	1%	58%
Vol Right, %	0%	100%	90%	2%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	87	137	351	12
LT Vol	33	0	1	338	5
Through Vol	17	0	13	5	7
RT Vol	0	87	123	8	0
Lane Flow Rate	67	116	183	468	16
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.118	0.172	0.228	0.63	0.027
Departure Headway (Hd)	6.397	5.352	4.498	4.846	6.077
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	555	662	789	739	593
Service Time	4.193	3.147	2.575	2.906	4.077
HCM Lane V/C Ratio	0.121	0.175	0.232	0.633	0.027
HCM Control Delay, s/veh	10.1	9.3	8.9	15.9	9.2
HCM Lane LOS	B	A	A	C	A
HCM 95th-tile Q	0.4	0.6	0.9	4.5	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	44	0	13	0	90	18	6	311	0
Future Vol, veh/h	0	0	0	44	0	13	0	90	18	6	311	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	56	0	17	0	115	23	8	399	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	529	553	399	541	541	127	399	0	0	138	0	0
Stage 1	414	414	-	127	127	-	-	-	-	-	-	-
Stage 2	115	138	-	414	414	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	441	651	452	448	923	1160	-	-	1445	-	-
Stage 1	615	593	-	877	791	-	-	-	-	-	-	-
Stage 2	889	782	-	615	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	449	438	651	449	445	923	1160	-	-	1445	-	-
Mov Cap-2 Maneuver	449	438	-	449	445	-	-	-	-	-	-	-
Stage 1	611	589	-	877	791	-	-	-	-	-	-	-
Stage 2	873	782	-	611	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	13.27	0	0.14
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	-	508	34	-	-
HCM Lane V/C Ratio	-	-	-	-	0.144	0.005	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	13.3	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	101	315	1
Future Vol, veh/h	1	1	2	101	315	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	2	4	202	630	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	841	631	632	0	-	0
Stage 1	631	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	335	481	951	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	333	481	951	-	-	-
Mov Cap-2 Maneuver	333	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.24	0.17	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	35	-	394	-	-
HCM Lane V/C Ratio	0.004	-	0.01	-	-
HCM Ctrl Dly (s/v)	8.8	0	14.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	23	0	4	2	90	9	1	286	1
Future Vol, veh/h	1	0	1	23	0	4	2	90	9	1	286	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	37	0	6	3	143	14	2	454	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	607	621	455	613	615	150	456	0	0	157	0	0
Stage 1	458	458	-	156	156	-	-	-	-	-	-	-
Stage 2	149	163	-	457	459	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	408	403	605	404	407	896	1105	-	-	1423	-	-
Stage 1	583	567	-	846	768	-	-	-	-	-	-	-
Stage 2	853	763	-	583	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	404	401	605	401	405	896	1105	-	-	1423	-	-
Mov Cap-2 Maneuver	404	401	-	401	405	-	-	-	-	-	-	-
Stage 1	582	566	-	843	766	-	-	-	-	-	-	-
Stage 2	845	760	-	581	566	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.48	14.13	0.16	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	35	-	-	484	437	6	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	0.098	0.001	-	-
HCM Ctrl Dly (s/v)	8.3	0	-	12.5	14.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	1	92	288	0
Future Vol, veh/h	3	2	1	92	288	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	3	1	123	384	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	509	384	384	0	-	0
Stage 1	384	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	524	664	1174	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	523	664	1174	-	-	-
Mov Cap-2 Maneuver	523	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	900	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.37	0.09	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	19	-	572	-	-
HCM Lane V/C Ratio	0.001	-	0.012	-	-
HCM Ctrl Dly (s/v)	8.1	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	19	2	0	6	9	86	1	2	263	1
Future Vol, veh/h	0	0	19	2	0	6	9	86	1	2	263	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	31	3	0	10	15	141	2	3	431	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	609	611	432	609	611	142	433	0	0	143	0	0
Stage 1	439	439	-	171	171	-	-	-	-	-	-	-
Stage 2	170	172	-	438	439	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	407	409	624	407	409	906	1127	-	-	1440	-	-
Stage 1	597	578	-	831	757	-	-	-	-	-	-	-
Stage 2	831	756	-	598	578	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	396	402	624	380	402	906	1127	-	-	1440	-	-
Mov Cap-2 Maneuver	396	402	-	380	402	-	-	-	-	-	-	-
Stage 1	595	577	-	819	746	-	-	-	-	-	-	-
Stage 2	811	746	-	566	576	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.08	10.45	0.77	0.06
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	168	-	-	624	673	14	-	-
HCM Lane V/C Ratio	0.013	-	-	0.05	0.019	0.002	-	-
HCM Ctrl Dly (s/v)	8.2	0	-	11.1	10.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	3	12	8	3	5	4	58	2	5	151	11
Future Vol, veh/h	31	3	12	8	3	5	4	58	2	5	151	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	17	11	4	7	6	81	3	7	210	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	325	326	217	319	332	82	225	0	0	83	0	0
Stage 1	231	231	-	93	93	-	-	-	-	-	-	-
Stage 2	94	94	-	226	239	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	628	592	822	634	588	978	1344	-	-	1514	-	-
Stage 1	772	713	-	914	818	-	-	-	-	-	-	-
Stage 2	913	817	-	777	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	613	587	822	611	582	978	1344	-	-	1514	-	-
Mov Cap-2 Maneuver	613	587	-	611	582	-	-	-	-	-	-	-
Stage 1	768	709	-	910	814	-	-	-	-	-	-	-
Stage 2	898	813	-	753	704	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.09	10.43	0.48	0.22
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	112	-	-	655	685	53	-	-
HCM Lane V/C Ratio	0.004	-	-	0.098	0.032	0.005	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	11.1	10.4	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	38	2	3	19	1	4
Future Vol, veh/h	38	2	3	19	1	4
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	2	4	23	1	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	77	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1559	-	926	1022
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1559	-	924	1022
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1	8.62
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1001	-	-	245	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	0	8	11	0	11
Future Vol, veh/h	25	0	8	11	0	11
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	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	12	16	0	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	36	0	75	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1575	-	928	1036
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1575	-	921	1036
Mov Cap-2 Maneuver	-	-	-	-	921	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.08	8.53
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1036	-	-	758	-
HCM Lane V/C Ratio	0.015	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	5	9	0	0	0	18	0	0
Future Vol, veh/h	0	5	0	0	5	9	0	0	0	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	0	0	7	12	0	0	0	24	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	7	0	0	13	25	7	19	19	13
Stage 1	-	-	-	-	-	-	7	7	-	13	13	-
Stage 2	-	-	-	-	-	-	7	19	-	7	7	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1598	-	-	1614	-	-	1003	868	1076	994	875	1068
Stage 1	-	-	-	-	-	-	1015	890	-	1008	885	-
Stage 2	-	-	-	-	-	-	1015	880	-	1015	890	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1598	-	-	1614	-	-	1003	868	1076	994	875	1068
Mov Cap-2 Maneuver	-	-	-	-	-	-	1003	868	-	994	875	-
Stage 1	-	-	-	-	-	-	1015	890	-	1008	885	-
Stage 2	-	-	-	-	-	-	1015	880	-	1015	890	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0	8.71
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1598	-	-	1614	-	-	994
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.024
HCM Ctrl Dly (s/v)	0	0	-	-	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1	8	1	2	8
Future Vol, veh/h	8	1	8	1	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	2	18	2	4	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	51	13	22	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	958	1067	1593	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	947	1067	1593	-	-	-
Mov Cap-2 Maneuver	947	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.83	6.48	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	959	-	-
HCM Lane V/C Ratio	0.011	-	0.021	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	8	17	0	0	31
Future Vol, veh/h	15	8	17	0	0	31
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	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	14	29	0	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	95	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	905	1045
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	890	1045
Mov Cap-2 Maneuver	-	-	-	-	890	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	4.77	0	8.63
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1174	-	-	-	1045
HCM Lane V/C Ratio	0.016	-	-	-	0.051
HCM Ctrl Dly (s/v)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	15	58	0	0	7	1	25	0	0	0
Future Vol, veh/h	0	1	15	58	0	0	7	1	25	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	23	88	0	0	11	2	38	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	24	0	0	189	189	13	178	200	0
Stage 1	-	-	-	-	-	-	13	13	-	176	176	-
Stage 2	-	-	-	-	-	-	176	176	-	2	24	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1590	-	-	772	706	1067	784	696	-
Stage 1	-	-	-	-	-	-	1007	885	-	826	754	-
Stage 2	-	-	-	-	-	-	826	754	-	1020	875	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1590	-	-	-	667	1067	713	657	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	667	-	713	657	-
Stage 1	-	-	-	-	-	-	1007	885	-	780	712	-
Stage 2	-	-	-	-	-	-	780	712	-	983	875	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.4		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1590	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.055	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.4	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.2	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	144	52	14	659	5	45	0	7	10	0	5
Future Volume (veh/h)	1	144	52	14	659	5	45	0	7	10	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	164	59	16	749	6	51	0	8	11	0	6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1122	501	37	1211	10	224	0	100	24	0	13
Arrive On Green	0.00	0.32	0.32	0.02	0.34	0.34	0.06	0.00	0.06	0.02	0.00	0.02
Sat Flow, veh/h	1781	3554	1585	1781	3613	29	3563	0	1585	1104	0	602
Grp Volume(v), veh/h	1	164	59	16	368	387	51	0	8	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1781	0	1585	1707	0	0
Q Serve(g_s), s	0.0	1.1	0.9	0.3	5.9	5.9	0.5	0.0	0.2	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.1	0.9	0.3	5.9	5.9	0.5	0.0	0.2	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.65		0.35
Lane Grp Cap(c), veh/h	5	1122	501	37	595	625	224	0	100	37	0	0
V/C Ratio(X)	0.19	0.15	0.12	0.44	0.62	0.62	0.23	0.00	0.08	0.46	0.00	0.00
Avail Cap(c_a), veh/h	263	2005	894	263	1002	1052	2999	0	1334	897	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.9	8.3	8.2	16.4	9.4	9.4	15.1	0.0	14.9	16.4	0.0	0.0
Incr Delay (d2), s/veh	16.6	0.1	0.1	7.9	1.1	1.0	0.5	0.0	0.3	8.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.2	0.2	1.6	1.7	0.2	0.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.5	8.4	8.3	24.3	10.5	10.4	15.6	0.0	15.3	24.8	0.0	0.0
LnGrp LOS	C	A	A	C	B	B	B		B	C		
Approach Vol, veh/h		224			771			59			17	
Approach Delay, s/veh		8.5			10.8			15.6			24.8	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	6.8	5.8	15.8	5.4	5.1	16.4
Change Period (Y+Rc), s	4.7	5.1	5.1	4.7	5.1	5.1
Max Green Setting (Gmax), s	28.5	5.0	19.1	17.8	5.0	19.1
Max Q Clear Time (g_c+I1), s	2.5	2.3	3.1	2.3	2.0	7.9
Green Ext Time (p_c), s	0.1	0.0	1.0	0.0	0.0	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	10.8
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	160	1	3	684	1	0
Future Volume (veh/h)	160	1	3	684	1	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	222	1	4	950	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2400	11	1259	2351	0	0
Arrive On Green	0.66	0.66	0.66	0.66	0.00	0.00
Sat Flow, veh/h	3721	16	1158	3647	0	0
Grp Volume(v), veh/h	109	114	4	950	0	0
Grp Sat Flow(s),veh/h/ln	1777	1867	1158	1777	0	0
Q Serve(g_s), s	0.3	0.3	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.3	0.3	1.7	0.0	0.0
Prop In Lane		0.01	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	1176	1235	1259	2351	0	0
V/C Ratio(X)	0.09	0.09	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	2277	2393	1977	4554	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.8	0.9	1.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.9	0.9	0.9	1.2	0.0	0.0
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	223			954	0	
Approach Delay, s/veh	0.9			1.2	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	13.9	13.9
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	2.3	3.7
Green Ext Time (p_c), s	0.0	1.0	5.6

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	13	147	16	6	638
Future Vol, veh/h	41	13	147	16	6	638
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	18	207	23	8	899

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	673	104	0	0	230	0
Stage 1	207	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	388	931	-	-	1336	-
Stage 1	807	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	386	931	-	-	1336	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	594	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.64	0	0.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	449	1336	-
HCM Lane V/C Ratio	-	-	0.169	0.006	-
HCM Ctrl Dly (s/v)	-	-	14.6	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	161	678	0	0	0
Future Vol, veh/h	0	161	678	0	0	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	175	737	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	368
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	629
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	629
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	163	687	0
Future Vol, veh/h	0	0	0	163	687	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	177	747	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	373	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	624	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	624	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	1052	0	7	540	117	77	18	3	229	53	294
Future Volume (veh/h)	541	1052	0	7	540	117	77	18	3	229	53	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	564	1096	0	7	562	0	80	19	0	239	55	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	706	1495		16	802		207	138		290	332	
Arrive On Green	0.20	0.42	0.00	0.01	0.23	0.00	0.06	0.07	0.00	0.16	0.18	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	564	1096	0	7	562	0	80	19	0	239	55	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	9.8	16.3	0.0	0.2	9.2	0.0	1.4	0.6	0.0	8.2	1.6	0.0
Cycle Q Clear(g_c), s	9.8	16.3	0.0	0.2	9.2	0.0	1.4	0.6	0.0	8.2	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	706	1495		16	802		207	138		290	332	
V/C Ratio(X)	0.80	0.73		0.43	0.70		0.39	0.14		0.82	0.17	
Avail Cap(c_a), veh/h	948	2159		141	1466		323	929		407	1181	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.9	15.3	0.0	31.1	22.4	0.0	28.5	27.3	0.0	25.5	22.0	0.0
Incr Delay (d2), s/veh	3.6	0.7	0.0	16.9	1.1	0.0	1.2	0.4	0.0	9.1	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	5.5	0.0	0.2	3.5	0.0	0.6	0.3	0.0	3.9	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.4	16.0	0.0	47.9	23.6	0.0	29.7	27.8	0.0	34.6	22.2	0.0
LnGrp LOS	C	B		D	C		C	C		C	C	
Approach Vol, veh/h		1660			569			99			294	
Approach Delay, s/veh		19.9			23.9			29.3			32.3	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	9.8	6.0	31.9	8.9	16.3	18.3	19.6
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	14.4	31.3	5.0	38.3	5.9	39.8	17.3	26.0
Max Q Clear Time (g_c+I1), s	10.2	2.6	2.2	18.3	3.4	3.6	11.8	11.2
Green Ext Time (p_c), s	0.3	0.0	0.0	7.5	0.0	0.2	1.1	3.1

Intersection Summary	
HCM 7th Control Delay, s/veh	22.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1328	656	1	1	9
Future Vol, veh/h	0	1328	656	1	1	9
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1369	676	1	1	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1361	339
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	685	-
Critical Hdwy	-	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	0	-	-	-	168	561
Stage 1	0	-	-	-	390	-
Stage 2	0	-	-	-	449	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	168	561
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	11.53
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	561
HCM Lane V/C Ratio	-	-	-	0.017
HCM Ctrl Dly (s/v)	-	-	-	11.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	445	818	59	7	364	21	24	4	3	12	5	251
Future Volume (veh/h)	445	818	59	7	364	21	24	4	3	12	5	251
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	464	852	61	7	379	22	25	4	3	12	5	261
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	664	1235	88	17	629	36	53	193	145	27	337	590
Arrive On Green	0.19	0.37	0.37	0.01	0.18	0.18	0.03	0.19	0.19	0.02	0.18	0.18
Sat Flow, veh/h	3456	3363	241	1781	3414	198	1781	992	744	1781	1870	1585
Grp Volume(v), veh/h	464	450	463	7	197	204	25	0	7	12	5	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1827	1781	1777	1835	1781	0	1736	1781	1870	1585
Q Serve(g_s), s	6.1	10.4	10.4	0.2	4.9	4.9	0.7	0.0	0.2	0.3	0.1	6.0
Cycle Q Clear(g_c), s	6.1	10.4	10.4	0.2	4.9	4.9	0.7	0.0	0.2	0.3	0.1	6.0
Prop In Lane	1.00		0.13	1.00		0.11	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	664	653	671	17	328	338	53	0	337	27	337	590
V/C Ratio(X)	0.70	0.69	0.69	0.42	0.60	0.60	0.48	0.00	0.02	0.44	0.01	0.44
Avail Cap(c_a), veh/h	1330	1161	1194	184	662	683	199	0	1200	184	1277	1387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	13.0	13.0	23.8	18.1	18.1	23.1	0.0	15.8	23.6	16.3	11.4
Incr Delay (d2), s/veh	1.3	1.3	1.3	16.3	1.8	1.7	6.5	0.0	0.0	10.6	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.3	3.4	0.1	1.8	1.9	0.4	0.0	0.1	0.2	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.6	14.3	14.2	40.1	19.8	19.8	29.6	0.0	15.8	34.2	16.3	11.9
LnGrp LOS	B	B	B	D	B	B	C		B	C	B	B
Approach Vol, veh/h		1377			408			32			278	
Approach Delay, s/veh		16.0			20.2			26.6			13.0	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	14.0	5.8	23.2	6.0	13.3	14.7	14.3
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	33.4	5.0	31.6	5.4	33.0	18.6	18.0
Max Q Clear Time (g_c+I1), s	2.3	2.2	2.2	12.4	2.7	8.0	8.1	6.9
Green Ext Time (p_c), s	0.0	0.0	0.0	5.4	0.0	0.9	1.3	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	16.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	3	0	448	41	3	260	0
Future Vol, veh/h	0	0	0	15	0	3	0	448	41	3	260	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	0	3	0	492	45	3	286	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	538	830	143	664	807	269	286	0	0	537	0	0
Stage 1	292	292	-	515	515	-	-	-	-	-	-	-
Stage 2	246	537	-	149	292	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	426	304	879	346	314	729	1273	-	-	1027	-	-
Stage 1	691	669	-	511	533	-	-	-	-	-	-	-
Stage 2	736	521	-	838	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	422	303	879	345	313	729	1273	-	-	1027	-	-
Mov Cap-2 Maneuver	422	303	-	345	313	-	-	-	-	-	-	-
Stage 1	689	667	-	511	533	-	-	-	-	-	-	-
Stage 2	732	521	-	835	667	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	15.05	0	0.13
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1273	-	-	-	378	41	-	-
HCM Lane V/C Ratio	-	-	-	-	0.052	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	15.1	8.5	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	12	91	156	13	16	149	33	268	8	20	0
Future Vol, veh/h	0	12	91	156	13	16	149	33	268	8	20	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	106	181	15	19	173	38	312	9	23	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	9	11.1	11.2	9
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	0%	0%	84%	29%
Vol Thru, %	18%	0%	12%	7%	71%
Vol Right, %	0%	100%	88%	9%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	268	103	185	28
LT Vol	149	0	0	156	8
Through Vol	33	0	12	13	20
RT Vol	0	268	91	16	0
Lane Flow Rate	212	312	120	215	33
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.343	0.408	0.164	0.324	0.051
Departure Headway (Hd)	5.837	4.719	4.942	5.424	5.687
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	612	754	716	656	634
Service Time	3.618	2.499	3.036	3.505	3.687
HCM Lane V/C Ratio	0.346	0.414	0.168	0.328	0.052
HCM Control Delay, s/veh	11.7	10.8	9	11.1	9
HCM Lane LOS	B	B	A	B	A
HCM 95th-tile Q	1.5	2	0.6	1.4	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	34	0	9	0	252	38	10	150	0
Future Vol, veh/h	0	0	0	34	0	9	0	252	38	10	150	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	37	0	10	0	277	42	11	165	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	464	505	165	485	485	298	165	0	0	319	0	0
Stage 1	187	187	-	298	298	-	-	-	-	-	-	-
Stage 2	277	319	-	187	187	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	509	469	880	493	482	742	1413	-	-	1241	-	-
Stage 1	815	745	-	711	667	-	-	-	-	-	-	-
Stage 2	729	653	-	815	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	497	465	880	488	478	742	1413	-	-	1241	-	-
Mov Cap-2 Maneuver	497	465	-	488	478	-	-	-	-	-	-	-
Stage 1	807	738	-	711	667	-	-	-	-	-	-	-
Stage 2	720	653	-	807	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	12.53	0	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1413	-	-	-	525	113	-	-
HCM Lane V/C Ratio	-	-	-	-	0.09	0.009	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	12.5	7.9	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	261	159	1
Future Vol, veh/h	0	2	1	261	159	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	38	38	38	38
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	3	687	418	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1112	420	421	0	-	0
Stage 1	420	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	231	634	1138	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	230	634	1138	-	-	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	661	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.73	0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	7	-	634	-	-
HCM Lane V/C Ratio	0.002	-	0.008	-	-
HCM Ctrl Dly (s/v)	8.2	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	8	21	0	3	13	215	32	3	130	0
Future Vol, veh/h	0	0	8	21	0	3	13	215	32	3	130	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	43	43	43	43	43	43	43	43	43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	19	49	0	7	30	500	74	7	302	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	877	951	302	914	914	537	302	0	0	574	0	0
Stage 1	316	316	-	598	598	-	-	-	-	-	-	-
Stage 2	560	635	-	316	316	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	269	260	737	254	273	544	1259	-	-	999	-	-
Stage 1	695	655	-	489	491	-	-	-	-	-	-	-
Stage 2	513	472	-	695	655	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	254	248	737	237	261	544	1259	-	-	999	-	-
Mov Cap-2 Maneuver	254	248	-	237	261	-	-	-	-	-	-	-
Stage 1	689	649	-	472	474	-	-	-	-	-	-	-
Stage 2	488	456	-	672	649	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.01	23.07	0.4	0.19
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	88	-	-	737	255	41	-	-
HCM Lane V/C Ratio	0.024	-	-	0.025	0.219	0.007	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	10	23.1	8.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	4	2	204	148	2
Future Vol, veh/h	2	4	2	204	148	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	8	4	408	296	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	714	298	300	0	-	0
Stage 1	298	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	398	741	1261	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	741	1261	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.4	0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	575	-	-
HCM Lane V/C Ratio	0.003	-	0.021	-	-
HCM Ctrl Dly (s/v)	7.9	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	13	4	0	5	15	182	8	8	132	3
Future Vol, veh/h	0	1	13	4	0	5	15	182	8	8	132	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	21	7	0	8	25	298	13	13	216	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	606	219	598	602	305	221	0	0	311	0	0
Stage 1	245	245	-	354	354	-	-	-	-	-	-	-
Stage 2	348	361	-	243	248	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	418	412	821	414	414	735	1348	-	-	1249	-	-
Stage 1	759	703	-	663	630	-	-	-	-	-	-	-
Stage 2	668	626	-	760	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	399	398	821	388	400	735	1348	-	-	1249	-	-
Mov Cap-2 Maneuver	399	398	-	388	400	-	-	-	-	-	-	-
Stage 1	750	695	-	648	616	-	-	-	-	-	-	-
Stage 2	646	612	-	730	693	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.87	12.04	0.56	0.44
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	131	-	-	763	526	100	-	-
HCM Lane V/C Ratio	0.018	-	-	0.03	0.028	0.011	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	9.9	12	7.9	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	5	12	3	4	3	15	93	4	9	87	26
Future Vol, veh/h	25	5	12	3	4	3	15	93	4	9	87	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	7	16	4	5	4	20	124	5	12	116	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	324	327	133	310	341	127	151	0	0	129	0	0
Stage 1	157	157	-	167	167	-	-	-	-	-	-	-
Stage 2	167	169	-	143	175	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	629	592	916	642	581	924	1430	-	-	1456	-	-
Stage 1	845	768	-	835	760	-	-	-	-	-	-	-
Stage 2	835	758	-	859	754	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	606	578	916	609	567	924	1430	-	-	1456	-	-
Mov Cap-2 Maneuver	606	578	-	609	567	-	-	-	-	-	-	-
Stage 1	837	761	-	823	749	-	-	-	-	-	-	-
Stage 2	813	747	-	830	748	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.9	10.6	1.01	0.55
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	239	-	-	666	657	127	-	-
HCM Lane V/C Ratio	0.014	-	-	0.084	0.02	0.008	-	-
HCM Ctrl Dly (s/v)	7.6	0	-	10.9	10.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	0	7	35	1	5
Future Vol, veh/h	34	0	7	35	1	5
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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	0	9	45	1	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	44	0	108	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1564	-	890	1026
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1564	-	884	1026
Mov Cap-2 Maneuver	-	-	-	-	884	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	953	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.22	8.63
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	999	-	-	300	-
HCM Lane V/C Ratio	0.008	-	-	0.006	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	1	10	24	0	9
Future Vol, veh/h	25	1	10	24	0	9
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	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	1	12	30	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	86	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1580	-	915	1043
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1580	-	908	1043
Mov Cap-2 Maneuver	-	-	-	-	908	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	961	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.15	8.49
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1043	-	-	529	-
HCM Lane V/C Ratio	0.011	-	-	0.008	-
HCM Ctrl Dly (s/v)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	11	0	0	12	12	0	0	0	15	0	1
Future Vol, veh/h	1	11	0	0	12	12	0	0	0	15	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	50	50	50	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	22	0	0	24	24	0	0	0	30	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	22	0	0	50	74	22	62	62	36
Stage 1	-	-	-	-	-	-	26	26	-	36	36	-
Stage 2	-	-	-	-	-	-	24	48	-	26	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1559	-	-	1593	-	-	950	816	1055	933	829	1037
Stage 1	-	-	-	-	-	-	992	874	-	980	865	-
Stage 2	-	-	-	-	-	-	994	855	-	992	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1593	-	-	947	815	1055	932	828	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	947	815	-	932	828	-
Stage 1	-	-	-	-	-	-	990	872	-	980	865	-
Stage 2	-	-	-	-	-	-	992	855	-	990	872	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.61	0	0	8.98
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	150	-	-	1593	-	-	938
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.034
HCM Ctrl Dly (s/v)	0	7.3	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	8	2	3	3	10
Future Vol, veh/h	14	8	2	3	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	13	3	5	5	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	25	13	21	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	991	1067	1594	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	989	1067	1594	-	-	-
Mov Cap-2 Maneuver	989	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.67	2.91	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	720	-	1016	-	-
HCM Lane V/C Ratio	0.002	-	0.035	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	23	12	0	0	18
Future Vol, veh/h	49	23	12	0	0	18
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	24	13	0	0	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	13	0	-	0	140	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	127	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1606	-	-	-	853	1068
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1606	-	-	-	825	1068
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	898	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	4.98	0	8.43
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	1068
HCM Lane V/C Ratio	0.032	-	-	-	0.018
HCM Ctrl Dly (s/v)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	16	33	0	0	31	0	75	0	0	0
Future Vol, veh/h	0	1	16	33	0	0	31	0	75	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	23	46	0	0	44	0	106	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	24	0	0	106	106	13	94	117	0
Stage 1	-	-	-	-	-	-	13	13	-	93	93	-
Stage 2	-	-	-	-	-	-	93	93	-	1	24	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1591	-	-	874	784	1068	889	773	-
Stage 1	-	-	-	-	-	-	1008	885	-	914	818	-
Stage 2	-	-	-	-	-	-	914	818	-	1022	875	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1591	-	-	-	762	1068	778	751	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	762	-	778	751	-
Stage 1	-	-	-	-	-	-	1008	885	-	887	794	-
Stage 2	-	-	-	-	-	-	887	794	-	920	875	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.33		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1591	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.029	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.3	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	661	134	31	311	6	97	2	45	4	0	5
Future Volume (veh/h)	1	661	134	31	311	6	97	2	45	4	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	689	140	32	324	6	102	0	47	4	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1131	505	67	1266	23	376	0	167	9	0	11
Arrive On Green	0.00	0.32	0.32	0.04	0.35	0.35	0.11	0.00	0.11	0.01	0.00	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3569	66	3563	0	1585	741	0	926
Grp Volume(v), veh/h	1	689	140	32	161	169	102	0	47	9	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1858	1781	0	1585	1667	0	0
Q Serve(g_s), s	0.0	6.1	2.5	0.7	2.4	2.4	1.0	0.0	1.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.1	2.5	0.7	2.4	2.4	1.0	0.0	1.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.44		0.56
Lane Grp Cap(c), veh/h	5	1131	505	67	630	659	376	0	167	20	0	0
V/C Ratio(X)	0.21	0.61	0.28	0.47	0.26	0.26	0.27	0.00	0.28	0.45	0.00	0.00
Avail Cap(c_a), veh/h	239	1804	804	239	902	943	2727	0	1213	806	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	10.7	9.5	17.6	8.5	8.5	15.3	0.0	15.4	18.3	0.0	0.0
Incr Delay (d2), s/veh	20.3	0.5	0.3	5.1	0.2	0.2	0.4	0.0	0.9	15.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.6	0.3	0.7	0.7	0.4	0.0	0.3	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.9	11.3	9.8	22.7	8.7	8.7	15.7	0.0	16.3	33.5	0.0	0.0
LnGrp LOS	D	B	A	C	A	A	B		B	C		
Approach Vol, veh/h		830			362			149			9	
Approach Delay, s/veh		11.0			10.0			15.9			33.5	
Approach LOS		B			A			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	8.6	6.5	17.0	5.1	5.2	18.3
Change Period (Y+Rc), s	4.7	5.1	5.1	4.7	5.1	5.1
Max Green Setting (Gmax), s	28.5	5.0	18.9	18.0	5.0	18.9
Max Q Clear Time (g_c+I1), s	3.0	2.7	8.1	2.2	2.0	4.4
Green Ext Time (p_c), s	0.5	0.0	3.8	0.0	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	11.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	713	0	0	350	2	0
Future Volume (veh/h)	713	0	0	350	2	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	767	0	0	376	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2195	0	586	2195	0	0
Arrive On Green	0.62	0.00	0.00	0.62	0.00	0.00
Sat Flow, veh/h	3741	0	701	3647	0	0
Grp Volume(v), veh/h	767	0	0	376	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	701	1777	0	0
Q Serve(g_s), s	1.3	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane		0.00	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	2195	0	586	2195	0	0
V/C Ratio(X)	0.35	0.00	0.00	0.17	0.00	0.00
Avail Cap(c_a), veh/h	5144	0	1167	5144	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.1	0.0	0.0	1.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	1.2	0.0	0.0	1.0	0.0	0.0
LnGrp LOS	A			A		
Approach Vol, veh/h	767			376	0	
Approach Delay, s/veh	1.2			1.0	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	12.3	12.3
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	3.3	2.6
Green Ext Time (p_c), s	0.0	4.5	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	1.2
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	2	671	45	2	320
Future Vol, veh/h	29	2	671	45	2	320
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	2	706	47	2	337

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	879	353	0	0	754	0
Stage 1	706	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	287	643	-	-	852	-
Stage 1	450	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	286	643	-	-	852	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.62	0	0.06
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	297	852	-
HCM Lane V/C Ratio	-	-	0.11	0.002	-
HCM Ctrl Dly (s/v)	-	-	18.6	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	713	348	0	0	0
Future Vol, veh/h	0	713	348	0	0	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	775	378	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	189
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	821
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	821
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	716	350	0
Future Vol, veh/h	0	0	0	716	350	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	778	380	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	190	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	819	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	819	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	266	0	5	1255	289	155	57	4	161	26	611
Future Volume (veh/h)	142	266	0	5	1255	289	155	57	4	161	26	611
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	317	0	6	1494	0	185	68	0	192	31	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	1947		14	1723		262	117		234	221	
Arrive On Green	0.07	0.55	0.00	0.01	0.48	0.00	0.08	0.06	0.00	0.13	0.12	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	169	317	0	6	1494	0	185	68	0	192	31	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.0	3.7	0.0	0.3	31.4	0.0	4.4	3.0	0.0	8.8	1.2	0.0
Cycle Q Clear(g_c), s	4.0	3.7	0.0	0.3	31.4	0.0	4.4	3.0	0.0	8.8	1.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	1947		14	1723		262	117		234	221	
V/C Ratio(X)	0.69	0.16		0.43	0.87		0.71	0.58		0.82	0.14	
Avail Cap(c_a), veh/h	284	1969		106	1888		309	827		433	1114	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.1	9.4	0.0	41.5	19.2	0.0	37.9	38.3	0.0	35.5	33.2	0.0
Incr Delay (d2), s/veh	5.8	0.0	0.0	19.9	4.3	0.0	5.9	4.5	0.0	7.0	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.3	0.0	0.2	12.2	0.0	2.0	1.5	0.0	4.1	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.9	9.5	0.0	61.4	23.5	0.0	43.7	42.7	0.0	42.5	33.5	0.0
LnGrp LOS	D	A		E	C		D	D		D	C	
Approach Vol, veh/h		486			1500			253			223	
Approach Delay, s/veh		21.4			23.6			43.5			41.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	10.4	6.1	51.4	11.5	15.0	11.3	46.1
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	20.4	37.1	5.0	46.5	7.5	50.0	6.9	44.6
Max Q Clear Time (g_c+I1), s	10.8	5.0	2.3	5.7	6.4	3.2	6.0	33.4
Green Ext Time (p_c), s	0.3	0.3	0.0	2.1	0.1	0.1	0.0	7.3

Intersection Summary	
HCM 7th Control Delay, s/veh	26.8
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	426	1528	6	0	32
Future Vol, veh/h	0	426	1528	6	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	495	1777	7	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	892
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	245
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	245
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	22.33
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	245
HCM Lane V/C Ratio	-	-	-	0.152
HCM Ctrl Dly (s/v)	-	-	-	22.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	212	14	9	784	15	61	12	9	28	14	684
Future Volume (veh/h)	204	212	14	9	784	15	61	12	9	28	14	684
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	247	16	10	912	17	71	14	10	33	16	795
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	1179	76	22	962	18	91	398	284	55	695	732
Arrive On Green	0.09	0.35	0.35	0.01	0.27	0.27	0.05	0.39	0.39	0.03	0.37	0.37
Sat Flow, veh/h	3456	3390	218	1781	3569	67	1781	1015	725	1781	1870	1585
Grp Volume(v), veh/h	237	129	134	10	454	475	71	0	24	33	16	795
Grp Sat Flow(s),veh/h/ln	1728	1777	1831	1781	1777	1858	1781	0	1740	1781	1870	1585
Q Serve(g_s), s	6.2	4.7	4.7	0.5	23.1	23.1	3.6	0.0	0.8	1.7	0.5	34.2
Cycle Q Clear(g_c), s	6.2	4.7	4.7	0.5	23.1	23.1	3.6	0.0	0.8	1.7	0.5	34.2
Prop In Lane	1.00		0.12	1.00		0.04	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	313	618	637	22	479	501	91	0	682	55	695	732
V/C Ratio(X)	0.76	0.21	0.21	0.46	0.95	0.95	0.78	0.00	0.04	0.60	0.02	1.09
Avail Cap(c_a), veh/h	398	618	637	97	479	501	105	0	682	97	695	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	21.1	21.1	45.2	33.0	33.0	43.1	0.0	17.3	44.0	18.3	24.8
Incr Delay (d2), s/veh	6.2	0.2	0.2	14.2	28.5	27.7	27.2	0.0	0.0	10.0	0.0	58.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.9	2.0	0.3	13.1	13.6	2.3	0.0	0.3	0.9	0.2	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.1	21.3	21.3	59.4	61.5	60.7	70.3	0.0	17.3	54.0	18.3	83.6
LnGrp LOS	D	C	C	E	E	E	E		B	D	B	F
Approach Vol, veh/h		500			939			95			844	
Approach Delay, s/veh		33.5			61.1			56.9			81.2	
Approach LOS		C			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	40.7	6.5	37.4	9.3	38.8	13.7	30.2
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	34.6	5.0	30.4	5.4	34.2	10.6	24.8
Max Q Clear Time (g_c+I1), s	3.7	2.8	2.5	6.7	5.6	36.2	8.2	25.1
Green Ext Time (p_c), s	0.0	0.1	0.0	1.3	0.0	0.0	0.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	62.3
HCM 7th LOS	E

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	42	89	0	5	17	188	26	3	592	4
Future Vol, veh/h	13	0	42	89	0	5	17	188	26	3	592	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	52	110	0	6	21	232	32	4	731	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	899	1047	368	663	1033	132	736	0	0	264	0	0
Stage 1	741	741	-	290	290	-	-	-	-	-	-	-
Stage 2	158	306	-	373	743	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	234	227	629	347	231	893	866	-	-	1297	-	-
Stage 1	374	421	-	693	671	-	-	-	-	-	-	-
Stage 2	828	660	-	620	420	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	220	629	309	224	893	866	-	-	1297	-	-
Mov Cap-2 Maneuver	225	220	-	309	224	-	-	-	-	-	-	-
Stage 1	373	420	-	675	653	-	-	-	-	-	-	-
Stage 2	801	643	-	567	418	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.62	22.53	0.85	0.07
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	226	-	-	442	320	18	-	-
HCM Lane V/C Ratio	0.024	-	-	0.154	0.363	0.003	-	-
HCM Ctrl Dly (s/v)	9.3	0.2	-	14.6	22.5	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.6	0	-	-

Intersection	
Intersection Delay, s/veh	21.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	26	173	411	9	8	52	18	136	6	9	0
Future Vol, veh/h	1	26	173	411	9	8	52	18	136	6	9	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	35	231	548	12	11	69	24	181	8	12	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	11.4	31.8	11.4	10.4
HCM LOS	B	D	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	74%	0%	1%	96%	40%
Vol Thru, %	26%	0%	13%	2%	60%
Vol Right, %	0%	100%	87%	2%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	136	200	428	15
LT Vol	52	0	1	411	6
Through Vol	18	0	26	9	9
RT Vol	0	136	173	8	0
Lane Flow Rate	93	181	267	571	20
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.185	0.304	0.383	0.854	0.039
Departure Headway (Hd)	7.124	6.03	5.164	5.385	6.975
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	502	595	693	673	510
Service Time	4.883	3.789	3.219	3.427	5.065
HCM Lane V/C Ratio	0.185	0.304	0.385	0.848	0.039
HCM Control Delay, s/veh	11.5	11.4	11.4	31.8	10.4
HCM Lane LOS	B	B	B	D	B
HCM 95th-tile Q	0.7	1.3	1.8	9.7	0.1

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	8	7	44	8	13	2	148	18	6	381	1
Future Vol, veh/h	3	8	7	44	8	13	2	148	18	6	381	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	10	9	56	10	17	3	190	23	8	488	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	704	722	489	715	712	201	490	0	0	213	0	0
Stage 1	504	504	-	206	206	-	-	-	-	-	-	-
Stage 2	200	218	-	509	505	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	351	353	579	346	358	840	1073	-	-	1357	-	-
Stage 1	550	541	-	796	731	-	-	-	-	-	-	-
Stage 2	802	723	-	547	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	331	349	579	327	354	840	1073	-	-	1357	-	-
Mov Cap-2 Maneuver	331	349	-	327	354	-	-	-	-	-	-	-
Stage 1	546	536	-	793	729	-	-	-	-	-	-	-
Stage 2	773	721	-	524	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.34	17.26	0.1	0.12
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	21	-	-	408	376	28	-	-
HCM Lane V/C Ratio	0.002	-	-	0.057	0.221	0.006	-	-
HCM Ctrl Dly (s/v)	8.4	0	-	14.3	17.3	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	162	386	1
Future Vol, veh/h	1	1	2	162	386	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	2	4	324	772	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1105	773	774	0	-	0
Stage 1	773	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	233	399	842	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	232	399	842	-	-	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.44	0.11	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	22	-	293	-	-
HCM Lane V/C Ratio	0.005	-	0.014	-	-
HCM Ctrl Dly (s/v)	9.3	0	17.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	23	0	4	2	177	9	1	360	1
Future Vol, veh/h	1	0	1	23	0	4	2	177	9	1	360	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	37	0	6	3	281	14	2	571	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	863	877	572	869	871	288	573	0	0	295	0	0
Stage 1	575	575	-	294	294	-	-	-	-	-	-	-
Stage 2	287	302	-	575	576	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	275	287	519	272	289	751	1000	-	-	1266	-	-
Stage 1	503	503	-	714	669	-	-	-	-	-	-	-
Stage 2	720	665	-	504	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	271	285	519	270	288	751	1000	-	-	1266	-	-
Mov Cap-2 Maneuver	271	285	-	270	288	-	-	-	-	-	-	-
Stage 1	502	502	-	711	667	-	-	-	-	-	-	-
Stage 2	711	662	-	501	501	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.2	19.09	0.09	0.02
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	19	-	-	356	298	5	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009	0.144	0.001	-	-
HCM Ctrl Dly (s/v)	8.6	0	-	15.2	19.1	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	1	179	362	0
Future Vol, veh/h	3	2	1	179	362	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	3	1	239	483	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	724	483	483	0	-	0
Stage 1	483	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	393	584	1080	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	584	1080	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.1	0.05	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	10	-	451	-	-
HCM Lane V/C Ratio	0.001	-	0.015	-	-
HCM Ctrl Dly (s/v)	8.3	0	13.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	19	2	0	6	9	158	1	2	286	1
Future Vol, veh/h	0	0	19	2	0	6	9	158	1	2	286	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	31	3	0	10	15	259	2	3	469	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	765	766	470	765	766	260	470	0	0	261	0	0
Stage 1	476	476	-	289	289	-	-	-	-	-	-	-
Stage 2	289	290	-	475	477	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	320	333	594	320	333	779	1091	-	-	1304	-	-
Stage 1	570	557	-	718	673	-	-	-	-	-	-	-
Stage 2	719	672	-	570	556	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	310	326	594	298	326	779	1091	-	-	1304	-	-
Mov Cap-2 Maneuver	310	326	-	298	326	-	-	-	-	-	-	-
Stage 1	568	555	-	707	662	-	-	-	-	-	-	-
Stage 2	699	662	-	538	554	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.4	11.65	0.45	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	96	-	-	594	555	12	-	-
HCM Lane V/C Ratio	0.014	-	-	0.052	0.024	0.003	-	-
HCM Ctrl Dly (s/v)	8.3	0	-	11.4	11.6	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	4	12	8	4	5	4	123	2	5	171	20
Future Vol, veh/h	61	4	12	8	4	5	4	123	2	5	171	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	6	17	11	6	7	6	171	3	7	238	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	450	450	251	438	463	172	265	0	0	174	0	0
Stage 1	265	265	-	183	183	-	-	-	-	-	-	-
Stage 2	185	185	-	254	279	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	504	787	529	496	871	1299	-	-	1403	-	-
Stage 1	740	689	-	818	748	-	-	-	-	-	-	-
Stage 2	817	747	-	750	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	499	787	507	491	871	1299	-	-	1403	-	-
Mov Cap-2 Maneuver	504	499	-	507	491	-	-	-	-	-	-	-
Stage 1	736	685	-	815	744	-	-	-	-	-	-	-
Stage 2	801	743	-	724	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.43	11.55	0.24	0.19
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	56	-	-	534	573	45	-	-
HCM Lane V/C Ratio	0.004	-	-	0.2	0.041	0.005	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	13.4	11.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	2	3	29	1	4
Future Vol, veh/h	69	2	3	29	1	4
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	2	4	35	1	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	86	0	127	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1511	-	868	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1511	-	866	975
Mov Cap-2 Maneuver	-	-	-	-	866	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.69	8.81
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	951	-	-	169	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	0	9	15	0	14
Future Vol, veh/h	36	0	9	15	0	14
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	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	0	13	22	0	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	100	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	48	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	899	1015
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	975	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	891	1015
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	966	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.75	8.62
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1015	-	-	675	-
HCM Lane V/C Ratio	0.02	-	-	0.008	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	4	5	9	0	0	11	18	0	0
Future Vol, veh/h	0	5	0	4	5	9	0	0	11	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	0	5	7	12	0	0	15	24	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	7	0	0	24	36	7	30	30	13
Stage 1	-	-	-	-	-	-	7	7	-	23	23	-
Stage 2	-	-	-	-	-	-	17	29	-	7	7	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1598	-	-	1614	-	-	987	856	1076	979	863	1068
Stage 1	-	-	-	-	-	-	1015	890	-	995	876	-
Stage 2	-	-	-	-	-	-	1002	871	-	1015	890	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1598	-	-	1614	-	-	984	854	1076	962	860	1068
Mov Cap-2 Maneuver	-	-	-	-	-	-	984	854	-	962	860	-
Stage 1	-	-	-	-	-	-	1015	890	-	991	873	-
Stage 2	-	-	-	-	-	-	999	868	-	1001	890	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	1.61	8.39	8.84
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1076	1598	-	-	354	-	-	962
HCM Lane V/C Ratio	0.014	-	-	-	0.003	-	-	0.025
HCM Ctrl Dly (s/v)	8.4	0	-	-	7.2	0	-	8.8
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1	8	1	2	9
Future Vol, veh/h	11	1	8	1	2	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	2	18	2	4	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	52	14	24	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	956	1065	1590	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	946	1065	1590	-	-	-
Mov Cap-2 Maneuver	946	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.88	6.48	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1588	-	955	-	-
HCM Lane V/C Ratio	0.011	-	0.028	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	21	57	0	0	31
Future Vol, veh/h	15	21	57	0	0	31
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	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	36	98	0	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	98	0	-	0	186	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1495	-	-	-	803	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	789	958
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.1	0	8.98
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	750	-	-	-	958
HCM Lane V/C Ratio	0.017	-	-	-	0.056
HCM Ctrl Dly (s/v)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	15	98	0	0	7	1	38	0	0	0
Future Vol, veh/h	0	1	15	98	0	0	7	1	38	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	23	148	0	0	11	2	58	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	24	0	0	310	310	13	299	321	0
Stage 1	-	-	-	-	-	-	13	13	-	297	297	-
Stage 2	-	-	-	-	-	-	297	297	-	2	24	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1590	-	-	643	605	1067	653	596	-
Stage 1	-	-	-	-	-	-	1007	885	-	712	668	-
Stage 2	-	-	-	-	-	-	712	668	-	1020	875	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1590	-	-	-	548	1067	559	540	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	548	-	559	540	-
Stage 1	-	-	-	-	-	-	1007	885	-	645	605	-
Stage 2	-	-	-	-	-	-	645	605	-	964	875	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.5		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1590	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.093	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.5	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	189	52	14	724	5	45	0	7	10	0	5
Future Volume (veh/h)	1	189	52	14	724	5	45	0	7	10	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	215	59	16	823	6	51	0	8	11	0	6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1187	530	37	1277	9	222	0	99	24	0	13
Arrive On Green	0.00	0.33	0.33	0.02	0.35	0.35	0.06	0.00	0.06	0.02	0.00	0.02
Sat Flow, veh/h	1781	3554	1585	1781	3616	26	3563	0	1585	1104	0	602
Grp Volume(v), veh/h	1	215	59	16	404	425	51	0	8	17	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1866	1781	0	1585	1707	0	0
Q Serve(g_s), s	0.0	1.5	0.9	0.3	6.7	6.7	0.5	0.0	0.2	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.5	0.9	0.3	6.7	6.7	0.5	0.0	0.2	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.65		0.35
Lane Grp Cap(c), veh/h	5	1187	530	37	628	659	222	0	99	37	0	0
V/C Ratio(X)	0.20	0.18	0.11	0.44	0.64	0.64	0.23	0.00	0.08	0.46	0.00	0.00
Avail Cap(c_a), veh/h	255	1943	867	255	972	1020	2907	0	1293	870	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.4	8.2	8.0	16.9	9.5	9.5	15.6	0.0	15.4	16.9	0.0	0.0
Incr Delay (d2), s/veh	17.7	0.1	0.1	8.0	1.1	1.1	0.5	0.0	0.3	8.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.2	0.2	1.8	1.9	0.2	0.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.1	8.3	8.1	24.9	10.6	10.5	16.1	0.0	15.8	25.4	0.0	0.0
LnGrp LOS	D	A	A	C	B	B	B		B	C		
Approach Vol, veh/h		275			845			59			17	
Approach Delay, s/veh		8.4			10.8			16.1			25.4	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	6.9	5.8	16.8	5.5	5.1	17.4
Change Period (Y+Rc), s	4.7	5.1	5.1	4.7	5.1	5.1
Max Green Setting (Gmax), s	28.5	5.0	19.1	17.8	5.0	19.1
Max Q Clear Time (g_c+I1), s	2.5	2.3	3.5	2.3	2.0	8.7
Green Ext Time (p_c), s	0.1	0.0	1.3	0.0	0.0	3.7

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	199	1	3	721	1	0
Future Volume (veh/h)	199	1	3	721	1	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	1	4	1001	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2442	9	1213	2390	0	0
Arrive On Green	0.67	0.67	0.67	0.67	0.00	0.00
Sat Flow, veh/h	3725	13	1102	3647	0	0
Grp Volume(v), veh/h	135	142	4	1001	0	0
Grp Sat Flow(s),veh/h/ln	1777	1868	1102	1777	0	0
Q Serve(g_s), s	0.4	0.4	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.4	1.8	0.0	0.0
Prop In Lane		0.01	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	1195	1256	1213	2390	0	0
V/C Ratio(X)	0.11	0.11	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	2204	2317	1839	4407	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.8	0.9	1.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.9	0.9	0.9	1.2	0.0	0.0
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	277			1005	0	
Approach Delay, s/veh	0.9			1.2	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	14.4	14.4
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	2.4	3.8
Green Ext Time (p_c), s	0.0	1.3	5.9

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	13	187	16	6	653
Future Vol, veh/h	41	13	187	16	6	653
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	18	263	23	8	920

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	740	132	0	0	286	0
Stage 1	263	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	352	893	-	-	1273	-
Stage 1	757	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	350	893	-	-	1273	-
Mov Cap-2 Maneuver	350	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.77	0	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	410	1273	-
HCM Lane V/C Ratio	-	-	0.186	0.007	-
HCM Ctrl Dly (s/v)	-	-	15.8	7.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	200	714	1	0	29
Future Vol, veh/h	0	200	714	1	0	29
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	217	776	1	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	389
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	610
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	610
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	11.22
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	610
HCM Lane V/C Ratio	-	-	-	0.052
HCM Ctrl Dly (s/v)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	203	699	3
Future Vol, veh/h	0	25	0	203	699	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	0	221	760	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	382	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	616	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	616	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	616	-	-
HCM Lane V/C Ratio	-	0.044	-	-
HCM Ctrl Dly (s/v)	-	11.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 7th Signalized Intersection Summary
1: Wingfield Hills Rd & Vista Blvd 01/12/2026



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	1270	0	7	667	158	77	18	3	297	53	294
Future Volume (veh/h)	541	1270	0	7	667	158	77	18	3	297	53	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	564	1323	0	7	695	0	80	19	0	309	55	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	674	1592		16	931		188	121		347	383	
Arrive On Green	0.19	0.45	0.00	0.01	0.26	0.00	0.05	0.06	0.00	0.19	0.20	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	564	1323	0	7	695	0	80	19	0	309	55	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.6	24.2	0.0	0.3	13.3	0.0	1.7	0.7	0.0	12.5	1.8	0.0
Cycle Q Clear(g_c), s	11.6	24.2	0.0	0.3	13.3	0.0	1.7	0.7	0.0	12.5	1.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	674	1592		16	931		188	121		347	383	
V/C Ratio(X)	0.84	0.83		0.43	0.75		0.42	0.16		0.89	0.14	
Avail Cap(c_a), veh/h	808	1839		120	1249		276	791		347	1006	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.7	18.0	0.0	36.5	25.1	0.0	33.9	32.7	0.0	29.0	24.1	0.0
Incr Delay (d2), s/veh	6.6	3.0	0.0	17.3	1.7	0.0	1.5	0.6	0.0	23.8	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	9.1	0.0	0.2	5.3	0.0	0.7	0.3	0.0	7.3	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.3	21.0	0.0	53.8	26.8	0.0	35.4	33.3	0.0	52.8	24.3	0.0
LnGrp LOS	D	C		D	C		D	C		D	C	
Approach Vol, veh/h		1887			702			99			364	
Approach Delay, s/veh		25.3			27.0			35.0			48.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	9.9	6.1	38.5	9.1	20.3	19.8	24.8
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	14.4	31.3	5.0	38.3	5.9	39.8	17.3	26.0
Max Q Clear Time (g_c+I1), s	14.5	2.7	2.3	26.2	3.7	3.8	13.6	15.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.9	0.0	0.2	0.8	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.8
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1614	808	7	0	26
Future Vol, veh/h	0	1614	808	7	0	26
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1664	833	7	0	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	420
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	497
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	497
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	12.65
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	497
HCM Lane V/C Ratio	-	-	-	0.054
HCM Ctrl Dly (s/v)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	673	876	59	7	406	44	24	4	3	29	5	367
Future Volume (veh/h)	673	876	59	7	406	44	24	4	3	29	5	367
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	913	61	7	423	46	25	4	3	30	5	382
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	845	1412	94	16	590	64	50	217	163	58	418	741
Arrive On Green	0.24	0.42	0.42	0.01	0.18	0.18	0.03	0.22	0.22	0.03	0.22	0.22
Sat Flow, veh/h	3456	3381	226	1781	3234	350	1781	992	744	1781	1870	1585
Grp Volume(v), veh/h	701	480	494	7	231	238	25	0	7	30	5	382
Grp Sat Flow(s),veh/h/ln	1728	1777	1830	1781	1777	1807	1781	0	1736	1781	1870	1585
Q Serve(g_s), s	11.9	13.4	13.4	0.2	7.6	7.7	0.9	0.0	0.2	1.0	0.1	10.5
Cycle Q Clear(g_c), s	11.9	13.4	13.4	0.2	7.6	7.7	0.9	0.0	0.2	1.0	0.1	10.5
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	845	742	764	16	324	329	50	0	380	58	418	741
V/C Ratio(X)	0.83	0.65	0.65	0.43	0.71	0.72	0.50	0.00	0.02	0.52	0.01	0.52
Avail Cap(c_a), veh/h	1034	903	930	143	515	523	155	0	933	143	993	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	14.4	14.4	30.6	23.9	23.9	29.8	0.0	19.0	29.6	18.8	11.6
Incr Delay (d2), s/veh	4.8	1.2	1.1	16.8	2.9	3.0	7.4	0.0	0.0	7.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.6	4.8	0.2	3.1	3.2	0.5	0.0	0.1	0.5	0.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.1	15.6	15.6	47.4	26.8	26.9	37.2	0.0	19.1	36.6	18.8	12.2
LnGrp LOS	C	B	B	D	C	C	D		B	D	B	B
Approach Vol, veh/h		1675			476			32			417	
Approach Delay, s/veh		20.4			27.2			33.2			14.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	18.2	6.0	31.4	6.4	18.5	20.6	16.7
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	33.4	5.0	31.6	5.4	33.0	18.6	18.0
Max Q Clear Time (g_c+I1), s	3.0	2.2	2.2	15.4	2.9	12.5	13.9	9.7
Green Ext Time (p_c), s	0.0	0.0	0.0	5.4	0.0	1.4	1.2	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	20.8
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	28	40	0	6	61	613	66	3	340	13
Future Vol, veh/h	9	0	28	40	0	6	61	613	66	3	340	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	31	44	0	7	67	674	73	3	374	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	858	1268	194	1037	1238	373	388	0	0	746	0	0
Stage 1	387	387	-	844	844	-	-	-	-	-	-	-
Stage 2	471	880	-	193	395	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	250	167	815	185	174	624	1167	-	-	858	-	-
Stage 1	608	608	-	324	377	-	-	-	-	-	-	-
Stage 2	543	363	-	790	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	155	815	165	161	624	1167	-	-	858	-	-
Mov Cap-2 Maneuver	229	155	-	165	161	-	-	-	-	-	-	-
Stage 1	605	605	-	301	350	-	-	-	-	-	-	-
Stage 2	498	337	-	757	601	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.8	32.19	1.1	0.11
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	261	-	-	502	182	29	-	-
HCM Lane V/C Ratio	0.057	-	-	0.081	0.278	0.004	-	-
HCM Ctrl Dly (s/v)	8.3	0.5	-	12.8	32.2	9.2	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.1	0	-	-

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	125	214	28	17	211	35	381	9	21	0
Future Vol, veh/h	0	21	125	214	28	17	211	35	381	9	21	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	145	249	33	20	245	41	443	10	24	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	10.9	15.2	16.7	10.1
HCM LOS	B	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	0%	0%	83%	30%
Vol Thru, %	14%	0%	14%	11%	70%
Vol Right, %	0%	100%	86%	7%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	381	146	259	30
LT Vol	211	0	0	214	9
Through Vol	35	0	21	28	21
RT Vol	0	381	125	17	0
Lane Flow Rate	286	443	170	301	35
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.511	0.651	0.269	0.507	0.063
Departure Headway (Hd)	6.435	5.291	5.708	6.061	6.546
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	561	682	628	593	545
Service Time	4.175	3.03	3.758	4.103	4.614
HCM Lane V/C Ratio	0.51	0.65	0.271	0.508	0.064
HCM Control Delay, s/veh	15.7	17.4	10.9	15.2	10.1
HCM Lane LOS	C	C	B	C	B
HCM 95th-tile Q	2.9	4.8	1.1	2.9	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	4	34	0	9	8	357	38	10	225	3
Future Vol, veh/h	2	0	4	34	0	9	8	357	38	10	225	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	4	37	0	10	9	392	42	11	247	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	681	723	249	700	703	413	251	0	0	434	0	0
Stage 1	271	271	-	431	431	-	-	-	-	-	-	-
Stage 2	410	452	-	269	273	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	365	353	790	354	362	639	1315	-	-	1126	-	-
Stage 1	735	685	-	603	583	-	-	-	-	-	-	-
Stage 2	619	571	-	736	684	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	346	790	345	355	639	1315	-	-	1126	-	-
Mov Cap-2 Maneuver	352	346	-	345	355	-	-	-	-	-	-	-
Stage 1	727	678	-	597	578	-	-	-	-	-	-	-
Stage 2	604	566	-	724	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.53	15.76	0.15	0.35
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	35	-	-	558	382	75	-	-
HCM Lane V/C Ratio	0.007	-	-	0.012	0.124	0.01	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	11.5	15.8	8.2	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	368	237	1
Future Vol, veh/h	0	2	1	368	237	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	38	38	38	38
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	3	968	624	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1599	625	626	0	-	0
Stage 1	625	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	117	485	955	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	485	955	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.51	0.02	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	5	-	485	-	-
HCM Lane V/C Ratio	0.003	-	0.011	-	-
HCM Ctrl Dly (s/v)	8.8	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	8	21	0	3	13	322	32	3	243	0
Future Vol, veh/h	0	0	8	21	0	3	13	322	32	3	243	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	43	43	43	43	43	43	43	43	43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	19	49	0	7	30	749	74	7	565	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1388	1463	565	1426	1426	786	565	0	0	823	0	0
Stage 1	579	579	-	847	847	-	-	-	-	-	-	-
Stage 2	809	884	-	579	579	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	120	129	524	113	135	392	1007	-	-	807	-	-
Stage 1	501	501	-	357	378	-	-	-	-	-	-	-
Stage 2	374	364	-	501	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	120	524	102	126	392	1007	-	-	807	-	-
Mov Cap-2 Maneuver	110	120	-	102	126	-	-	-	-	-	-	-
Stage 1	494	494	-	337	357	-	-	-	-	-	-	-
Stage 2	347	343	-	477	494	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.12	65.48	0.31	0.12
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	63	-	-	524	112	22	-	-
HCM Lane V/C Ratio	0.03	-	-	0.035	0.498	0.009	-	-
HCM Ctrl Dly (s/v)	8.7	0	-	12.1	65.5	9.5	0	-
HCM Lane LOS	A	A	-	B	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2.3	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	4	2	311	261	2
Future Vol, veh/h	2	4	2	311	261	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	8	4	622	522	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1154	524	526	0	-	0
Stage 1	524	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	218	553	1041	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	217	553	1041	-	-	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.21	0.05	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	12	-	364	-	-
HCM Lane V/C Ratio	0.004	-	0.033	-	-
HCM Ctrl Dly (s/v)	8.5	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	13	4	0	5	15	233	8	8	211	3
Future Vol, veh/h	0	1	13	4	0	5	15	233	8	8	211	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	21	7	0	8	25	382	13	13	346	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	806	819	348	811	815	389	351	0	0	395	0	0
Stage 1	375	375	-	438	438	-	-	-	-	-	-	-
Stage 2	431	444	-	373	377	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	300	310	695	298	312	660	1208	-	-	1163	-	-
Stage 1	646	617	-	598	579	-	-	-	-	-	-	-
Stage 2	603	575	-	648	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	285	298	695	276	300	660	1208	-	-	1163	-	-
Mov Cap-2 Maneuver	285	298	-	276	300	-	-	-	-	-	-	-
Stage 1	637	609	-	582	564	-	-	-	-	-	-	-
Stage 2	579	560	-	617	607	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.89	14.16	0.47	0.29
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	105	-	-	634	408	65	-	-
HCM Lane V/C Ratio	0.02	-	-	0.036	0.036	0.011	-	-
HCM Ctrl Dly (s/v)	8	0	-	10.9	14.2	8.1	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	5	12	3	5	3	15	139	4	9	160	57
Future Vol, veh/h	44	5	12	3	5	3	15	139	4	9	160	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	7	16	4	7	4	20	185	5	12	213	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	504	506	251	469	541	188	289	0	0	191	0	0
Stage 1	275	275	-	228	228	-	-	-	-	-	-	-
Stage 2	229	231	-	241	313	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	478	469	787	505	448	854	1273	-	-	1383	-	-
Stage 1	731	682	-	775	715	-	-	-	-	-	-	-
Stage 2	774	713	-	763	657	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	456	456	787	474	435	854	1273	-	-	1383	-	-
Mov Cap-2 Maneuver	456	456	-	474	435	-	-	-	-	-	-	-
Stage 1	723	675	-	761	703	-	-	-	-	-	-	-
Stage 2	750	701	-	732	650	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.65	12.18	0.75	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	170	-	-	497	516	68	-	-
HCM Lane V/C Ratio	0.016	-	-	0.164	0.028	0.009	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	13.7	12.2	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	0	7	67	1	5
Future Vol, veh/h	53	0	7	67	1	5
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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	0	9	87	1	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	174	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	816	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	919	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	811	994
Mov Cap-2 Maneuver	-	-	-	-	811	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.7	8.79
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	958	-	-	170	-
HCM Lane V/C Ratio	0.008	-	-	0.006	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	1	14	35	0	11
Future Vol, veh/h	32	1	14	35	0	11
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	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	1	17	43	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	118	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1569	-	878	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1569	-	868	1031
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.09	8.54
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1031	-	-	514	-
HCM Lane V/C Ratio	0.013	-	-	0.011	-
HCM Ctrl Dly (s/v)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	11	0	11	12	12	0	0	7	15	0	1
Future Vol, veh/h	1	11	0	11	12	12	0	0	7	15	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	50	50	50	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	22	0	22	24	24	0	0	14	30	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	22	0	0	94	118	22	106	106	36
Stage 1	-	-	-	-	-	-	26	26	-	80	80	-
Stage 2	-	-	-	-	-	-	68	92	-	26	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1559	-	-	1593	-	-	889	772	1055	873	784	1037
Stage 1	-	-	-	-	-	-	992	874	-	929	828	-
Stage 2	-	-	-	-	-	-	942	819	-	992	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1593	-	-	874	760	1055	849	772	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	760	-	849	772	-
Stage 1	-	-	-	-	-	-	990	872	-	915	817	-
Stage 2	-	-	-	-	-	-	927	807	-	977	872	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.61	2.29	8.46	9.36
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1055	150	-	-	514	-	-	858
HCM Lane V/C Ratio	0.013	0.001	-	-	0.014	-	-	0.037
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	8	2	3	3	14
Future Vol, veh/h	16	8	2	3	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	13	3	5	5	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	28	16	28	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	987	1063	1586	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	985	1063	1586	-	-	-
Mov Cap-2 Maneuver	985	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.71	2.91	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	720	-	1010	-	-
HCM Lane V/C Ratio	0.002	-	0.039	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	68	39	0	0	18
Future Vol, veh/h	49	68	39	0	0	18
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	72	41	0	0	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	216	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1568	-	-	-	772	1030
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	856	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1568	-	-	-	746	1030
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.09	0	8.56
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	754	-	-	-	1030
HCM Lane V/C Ratio	0.033	-	-	-	0.018
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	16	60	0	0	31	0	120	0	0	0
Future Vol, veh/h	0	1	16	60	0	0	31	0	120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	23	85	0	0	44	0	169	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	24	0	0	182	182	13	170	193	0
Stage 1	-	-	-	-	-	-	13	13	-	169	169	-
Stage 2	-	-	-	-	-	-	169	169	-	1	24	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1591	-	-	780	712	1068	793	702	-
Stage 1	-	-	-	-	-	-	1008	885	-	833	759	-
Stage 2	-	-	-	-	-	-	833	759	-	1022	875	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1591	-	-	-	674	1068	632	665	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	674	-	632	665	-
Stage 1	-	-	-	-	-	-	1008	885	-	789	718	-
Stage 2	-	-	-	-	-	-	789	718	-	860	875	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.39		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1591	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.053	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.4	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.2	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	736	134	31	376	6	97	2	45	4	0	5
Future Volume (veh/h)	1	736	134	31	376	6	97	2	45	4	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	767	140	32	392	6	102	0	47	4	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1197	534	67	1337	20	369	0	164	9	0	11
Arrive On Green	0.00	0.34	0.34	0.04	0.37	0.37	0.10	0.00	0.10	0.01	0.00	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3583	55	3563	0	1585	741	0	926
Grp Volume(v), veh/h	1	767	140	32	194	204	102	0	47	9	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1860	1781	0	1585	1667	0	0
Q Serve(g_s), s	0.0	7.0	2.5	0.7	3.0	3.0	1.0	0.0	1.1	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.0	2.5	0.7	3.0	3.0	1.0	0.0	1.1	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.44		0.56
Lane Grp Cap(c), veh/h	5	1197	534	67	663	694	369	0	164	20	0	0
V/C Ratio(X)	0.22	0.64	0.26	0.48	0.29	0.29	0.28	0.00	0.29	0.45	0.00	0.00
Avail Cap(c_a), veh/h	232	1747	779	232	874	915	2642	0	1175	781	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	10.8	9.3	18.1	8.5	8.5	15.9	0.0	15.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	21.7	0.6	0.3	5.2	0.2	0.2	0.4	0.0	0.9	15.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.6	0.3	0.8	0.9	0.4	0.0	0.4	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.9	11.4	9.5	23.3	8.7	8.7	16.3	0.0	16.9	34.1	0.0	0.0
LnGrp LOS	D	B	A	C	A	A	B		B	C		
Approach Vol, veh/h		908			430			149			9	
Approach Delay, s/veh		11.1			9.8			16.5			34.1	
Approach LOS		B			A			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	8.7	6.5	18.0	5.2	5.2	19.4
Change Period (Y+Rc), s	4.7	5.1	5.1	4.7	5.1	5.1
Max Green Setting (Gmax), s	28.5	5.0	18.9	18.0	5.0	18.9
Max Q Clear Time (g_c+I1), s	3.1	2.7	9.0	2.2	2.0	5.0
Green Ext Time (p_c), s	0.5	0.0	3.9	0.0	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	11.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	765	0	0	404	2	0
Future Volume (veh/h)	765	0	0	404	2	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	823	0	0	434	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2251	0	561	2251	0	0
Arrive On Green	0.63	0.00	0.00	0.63	0.00	0.00
Sat Flow, veh/h	3741	0	665	3647	0	0
Grp Volume(v), veh/h	823	0	0	434	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	665	1777	0	0
Q Serve(g_s), s	1.4	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	0.7	0.0	0.0
Prop In Lane		0.00	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	2251	0	561	2251	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	4932	0	1063	4932	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.1	0.0	0.0	1.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	1.2	0.0	0.0	1.0	0.0	0.0
LnGrp LOS	A			A		
Approach Vol, veh/h	823			434	0	
Approach Delay, s/veh	1.2			1.0	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	12.8	12.8
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	3.4	2.7
Green Ext Time (p_c), s	0.0	4.8	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	1.2
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	2	698	45	2	365
Future Vol, veh/h	29	2	698	45	2	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	2	735	47	2	384

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	931	367	0	0	782	0
Stage 1	735	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	266	630	-	-	832	-
Stage 1	435	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	630	-	-	832	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.83	0	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	275	832	-
HCM Lane V/C Ratio	-	-	0.119	0.003	-
HCM Ctrl Dly (s/v)	-	-	19.8	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	765	394	5	0	19
Future Vol, veh/h	0	765	394	5	0	19
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	832	428	5	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	217
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	788
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	788
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.69
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	788
HCM Lane V/C Ratio	-	-	-	0.026
HCM Ctrl Dly (s/v)	-	-	-	9.7
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	743	387	11
Future Vol, veh/h	0	17	0	743	387	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	808	421	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	216	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	788	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	788	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.68	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	788	-	-
HCM Lane V/C Ratio	-	0.023	-	-
HCM Ctrl Dly (s/v)	-	9.7	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	226	1	5	1114	298	155	70	4	193	39	651
Future Volume (veh/h)	147	226	1	5	1114	298	155	70	4	193	39	651
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	269	0	6	1326	0	185	83	0	230	46	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1828		14	1597		263	134		273	279	
Arrive On Green	0.07	0.51	0.00	0.01	0.45	0.00	0.08	0.07	0.00	0.15	0.15	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	175	269	0	6	1326	0	185	83	0	230	46	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.1	3.3	0.0	0.3	27.3	0.0	4.3	3.6	0.0	10.4	1.8	0.0
Cycle Q Clear(g_c), s	4.1	3.3	0.0	0.3	27.3	0.0	4.3	3.6	0.0	10.4	1.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	1828		14	1597		263	134		273	279	
V/C Ratio(X)	0.70	0.15		0.43	0.83		0.70	0.62		0.84	0.16	
Avail Cap(c_a), veh/h	287	1987		107	1906		312	834		437	1125	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.7	10.6	0.0	41.1	20.1	0.0	37.5	37.5	0.0	34.2	30.9	0.0
Incr Delay (d2), s/veh	6.1	0.0	0.0	19.9	2.8	0.0	5.7	4.6	0.0	8.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.2	0.0	0.2	10.5	0.0	2.0	1.8	0.0	5.0	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.8	10.6	0.0	60.9	22.9	0.0	43.2	42.0	0.0	42.3	31.1	0.0
LnGrp LOS	D	B		E	C		D	D		D	C	
Approach Vol, veh/h		444			1332			268			276	
Approach Delay, s/veh		23.7			23.1			42.8			40.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	11.1	6.0	48.2	11.4	17.5	11.4	42.8
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	20.4	37.1	5.0	46.5	7.5	50.0	6.9	44.6
Max Q Clear Time (g_c+I1), s	12.4	5.6	2.3	5.3	6.3	3.8	6.1	29.3
Green Ext Time (p_c), s	0.4	0.4	0.0	1.7	0.1	0.2	0.0	8.1

Intersection Summary	
HCM 7th Control Delay, s/veh	27.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	426	1410	3	0	7
Future Vol, veh/h	0	426	1410	3	0	7
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	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	495	1640	3	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	822
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	272
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	272
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	18.62
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	272
HCM Lane V/C Ratio	-	-	-	0.03
HCM Ctrl Dly (s/v)	-	-	-	18.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	240	22	9	824	10	65	12	9	3	14	522
Future Volume (veh/h)	164	240	22	9	824	10	65	12	9	3	14	522
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	279	26	10	958	12	76	14	10	3	16	607
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1147	106	22	1020	13	97	422	301	7	682	701
Arrive On Green	0.08	0.35	0.35	0.01	0.28	0.28	0.05	0.42	0.42	0.00	0.36	0.36
Sat Flow, veh/h	3456	3288	304	1781	3594	45	1781	1015	725	1781	1870	1585
Grp Volume(v), veh/h	191	150	155	10	474	496	76	0	24	3	16	607
Grp Sat Flow(s),veh/h/ln	1728	1777	1816	1781	1777	1862	1781	0	1740	1781	1870	1585
Q Serve(g_s), s	4.9	5.5	5.6	0.5	23.8	23.8	3.8	0.0	0.7	0.2	0.5	31.6
Cycle Q Clear(g_c), s	4.9	5.5	5.6	0.5	23.8	23.8	3.8	0.0	0.7	0.2	0.5	31.6
Prop In Lane	1.00		0.17	1.00		0.02	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	267	620	634	22	504	529	97	0	723	7	682	701
V/C Ratio(X)	0.71	0.24	0.24	0.46	0.94	0.94	0.78	0.00	0.03	0.42	0.02	0.87
Avail Cap(c_a), veh/h	401	620	634	98	506	531	100	0	723	98	682	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	21.1	21.1	44.8	31.9	31.9	42.6	0.0	15.8	45.3	18.6	23.0
Incr Delay (d2), s/veh	3.5	0.2	0.2	14.2	25.6	24.8	31.3	0.0	0.0	34.7	0.0	11.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.2	2.3	0.3	13.2	13.7	2.5	0.0	0.3	0.1	0.2	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.6	21.3	21.3	59.0	57.5	56.7	73.9	0.0	15.8	80.1	18.6	34.1
LnGrp LOS	D	C	C	E	E	E	E		B	F	B	C
Approach Vol, veh/h		496			980			100			626	
Approach Delay, s/veh		30.3			57.1			59.9			33.9	
Approach LOS		C			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	42.5	6.5	37.2	9.6	37.9	12.5	31.3
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	33.4	5.0	31.6	5.1	33.3	10.6	26.0
Max Q Clear Time (g_c+I1), s	2.2	2.7	2.5	7.6	5.8	33.6	6.9	25.8
Green Ext Time (p_c), s	0.0	0.1	0.0	1.6	0.0	0.0	0.2	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	44.6
HCM 7th LOS	D

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	54	0	2	0	160	23	3	481	0
Future Vol, veh/h	0	0	0	54	0	2	0	160	23	3	481	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	67	0	2	0	198	28	4	594	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	700	827	297	516	813	113	594	0	0	226	0	0
Stage 1	601	601	-	212	212	-	-	-	-	-	-	-
Stage 2	99	226	-	304	601	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	326	305	699	442	311	918	978	-	-	1340	-	-
Stage 1	454	487	-	771	726	-	-	-	-	-	-	-
Stage 2	897	716	-	680	487	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	324	304	699	440	310	918	978	-	-	1340	-	-
Mov Cap-2 Maneuver	324	304	-	440	310	-	-	-	-	-	-	-
Stage 1	452	486	-	771	726	-	-	-	-	-	-	-
Stage 2	894	716	-	678	486	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	14.48	0	0.07
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	978	-	-	-	449	22	-	-
HCM Lane V/C Ratio	-	-	-	-	0.154	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	14.5	7.7	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	17	130	343	6	8	47	18	98	5	11	0
Future Vol, veh/h	1	17	130	343	6	8	47	18	98	5	11	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	23	173	457	8	11	63	24	131	7	15	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	9.4	17.3	10.1	9.5
HCM LOS	A	C	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	72%	0%	1%	96%	31%
Vol Thru, %	28%	0%	11%	2%	69%
Vol Right, %	0%	100%	88%	2%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	98	148	357	16
LT Vol	47	0	1	343	5
Through Vol	18	0	17	6	11
RT Vol	0	98	130	8	0
Lane Flow Rate	87	131	197	476	21
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.16	0.201	0.261	0.658	0.037
Departure Headway (Hd)	6.629	5.551	4.753	4.98	6.235
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	543	649	758	714	576
Service Time	4.34	3.261	2.768	3.079	4.254
HCM Lane V/C Ratio	0.16	0.202	0.26	0.667	0.036
HCM Control Delay, s/veh	10.6	9.7	9.4	17.3	9.5
HCM Lane LOS	B	A	A	C	A
HCM 95th-tile Q	0.6	0.7	1	5	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	44	0	13	0	101	19	6	314	0
Future Vol, veh/h	0	0	0	44	0	13	0	101	19	6	314	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	56	0	17	0	129	24	8	403	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	547	572	403	560	560	142	403	0	0	154	0	0
Stage 1	418	418	-	142	142	-	-	-	-	-	-	-
Stage 2	129	154	-	418	418	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	448	430	648	439	437	906	1156	-	-	1427	-	-
Stage 1	613	591	-	861	780	-	-	-	-	-	-	-
Stage 2	874	770	-	613	591	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	427	648	436	434	906	1156	-	-	1427	-	-
Mov Cap-2 Maneuver	436	427	-	436	434	-	-	-	-	-	-	-
Stage 1	608	587	-	861	780	-	-	-	-	-	-	-
Stage 2	858	770	-	608	587	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	13.53	0	0.14
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1156	-	-	-	495	34	-	-
HCM Lane V/C Ratio	-	-	-	-	0.148	0.005	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	13.5	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	111	319	1
Future Vol, veh/h	1	1	2	111	319	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	2	4	222	638	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	869	639	640	0	-	0
Stage 1	639	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	322	476	944	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	476	944	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.49	0.16	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	32	-	383	-	-
HCM Lane V/C Ratio	0.004	-	0.01	-	-
HCM Ctrl Dly (s/v)	8.8	0	14.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	27	0	4	2	101	9	1	293	1
Future Vol, veh/h	1	0	1	27	0	4	2	101	9	1	293	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	43	0	6	3	160	14	2	465	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	636	650	466	642	644	167	467	0	0	175	0	0
Stage 1	469	469	-	174	174	-	-	-	-	-	-	-
Stage 2	167	181	-	468	470	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	391	388	597	387	391	877	1095	-	-	1402	-	-
Stage 1	575	561	-	828	755	-	-	-	-	-	-	-
Stage 2	835	750	-	575	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	386	386	597	384	390	877	1095	-	-	1402	-	-
Mov Cap-2 Maneuver	386	386	-	384	390	-	-	-	-	-	-	-
Stage 1	574	560	-	825	753	-	-	-	-	-	-	-
Stage 2	827	747	-	573	559	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.73	14.86	0.15	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	32	-	-	469	414	6	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	0.119	0.001	-	-
HCM Ctrl Dly (s/v)	8.3	0	-	12.7	14.9	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	6	100	293	3
Future Vol, veh/h	4	5	6	100	293	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	7	8	133	391	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	542	393	395	0	-	0
Stage 1	393	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	501	656	1164	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	498	656	1164	-	-	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.4	0.46	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	102	-	575	-	-
HCM Lane V/C Ratio	0.007	-	0.021	-	-
HCM Ctrl Dly (s/v)	8.1	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	19	2	0	6	9	93	1	2	272	2
Future Vol, veh/h	0	0	19	2	0	6	9	93	1	2	272	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	31	3	0	10	15	152	2	3	446	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	636	638	448	635	639	153	449	0	0	154	0	0
Stage 1	454	454	-	183	183	-	-	-	-	-	-	-
Stage 2	182	184	-	452	456	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	391	395	611	391	394	893	1111	-	-	1426	-	-
Stage 1	586	569	-	819	748	-	-	-	-	-	-	-
Stage 2	820	748	-	587	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	379	388	611	365	387	893	1111	-	-	1426	-	-
Mov Cap-2 Maneuver	379	388	-	365	387	-	-	-	-	-	-	-
Stage 1	584	568	-	807	738	-	-	-	-	-	-	-
Stage 2	799	737	-	555	567	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.21	10.61	0.72	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	157	-	-	611	655	13	-	-
HCM Lane V/C Ratio	0.013	-	-	0.051	0.02	0.002	-	-
HCM Ctrl Dly (s/v)	8.3	0	-	11.2	10.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	3	12	9	10	6	4	63	2	6	264	21
Future Vol, veh/h	35	3	12	9	10	6	4	63	2	6	264	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	4	17	13	14	8	6	88	3	8	367	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	503	499	381	485	513	89	396	0	0	90	0	0
Stage 1	398	398	-	100	100	-	-	-	-	-	-	-
Stage 2	106	101	-	385	413	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	479	473	666	492	465	969	1163	-	-	1505	-	-
Stage 1	628	603	-	906	812	-	-	-	-	-	-	-
Stage 2	900	811	-	638	594	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	455	467	666	470	459	969	1163	-	-	1505	-	-
Mov Cap-2 Maneuver	455	467	-	470	459	-	-	-	-	-	-	-
Stage 1	623	599	-	902	808	-	-	-	-	-	-	-
Stage 2	873	807	-	613	590	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.49	12.26	0.47	0.15
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	104	-	-	493	531	37	-	-
HCM Lane V/C Ratio	0.005	-	-	0.141	0.065	0.006	-	-
HCM Ctrl Dly (s/v)	8.1	0	-	13.5	12.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	46	2	3	31	1	4
Future Vol, veh/h	46	2	3	31	1	4
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	2	4	37	1	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	58	0	101	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1546	-	897	1010
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1546	-	895	1010
Mov Cap-2 Maneuver	-	-	-	-	895	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.65	8.68
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	985	-	-	159	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	3	15	17	0	15
Future Vol, veh/h	34	3	15	17	0	15
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	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	4	22	25	0	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	54	0	120	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	68	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1552	-	876	1016
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1552	-	864	1016
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.45	8.62
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1016	-	-	844	-
HCM Lane V/C Ratio	0.021	-	-	0.014	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	0	8	9	0	0	0	18	0	0
Future Vol, veh/h	0	19	0	0	8	9	0	0	0	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	25	0	0	11	12	0	0	0	24	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	25	0	0	36	48	25	42	42	17
Stage 1	-	-	-	-	-	-	25	25	-	17	17	-
Stage 2	-	-	-	-	-	-	11	23	-	25	25	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1589	-	-	970	844	1051	961	850	1062
Stage 1	-	-	-	-	-	-	992	874	-	1003	882	-
Stage 2	-	-	-	-	-	-	1010	876	-	992	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1589	-	-	970	844	1051	961	850	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	970	844	-	961	850	-
Stage 1	-	-	-	-	-	-	992	874	-	1003	882	-
Stage 2	-	-	-	-	-	-	1010	876	-	992	874	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0	8.84
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1593	-	-	1589	-	-	961
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.025
HCM Ctrl Dly (s/v)	0	0	-	-	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	11	4	6	11
Future Vol, veh/h	8	5	11	4	6	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	11	24	9	13	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	83	26	38	0	-	0
Stage 1	26	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	918	1050	1573	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	904	1050	1573	-	-	-
Mov Cap-2 Maneuver	904	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.89	5.37	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1320	-	955	-	-
HCM Lane V/C Ratio	0.016	-	0.03	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	13	22	0	0	31
Future Vol, veh/h	15	13	22	0	0	31
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	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	22	38	0	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	38	0	-	0	112	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	885	1034
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	870	1034
Mov Cap-2 Maneuver	-	-	-	-	870	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.93	0	8.67
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	964	-	-	-	1034
HCM Lane V/C Ratio	0.016	-	-	-	0.052
HCM Ctrl Dly (s/v)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	16	62	0	0	7	1	29	0	0	0
Future Vol, veh/h	0	1	16	62	0	0	7	1	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	24	94	0	0	11	2	44	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	26	0	0	202	202	14	190	214	0
Stage 1	-	-	-	-	-	-	14	14	-	188	188	-
Stage 2	-	-	-	-	-	-	188	188	-	2	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1588	-	-	757	695	1066	770	684	-
Stage 1	-	-	-	-	-	-	1007	884	-	814	745	-
Stage 2	-	-	-	-	-	-	814	745	-	1020	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1588	-	-	-	653	1066	693	643	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	653	-	693	643	-
Stage 1	-	-	-	-	-	-	1007	884	-	766	701	-
Stage 2	-	-	-	-	-	-	766	701	-	977	874	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.41		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1588	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.059	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.4	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.2	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	175	76	17	698	6	161	0	15	12	0	6
Future Volume (veh/h)	1	175	76	17	698	6	161	0	15	12	0	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	199	86	19	793	7	183	0	17	14	0	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1104	493	43	1203	11	416	0	185	30	0	15
Arrive On Green	0.00	0.31	0.31	0.02	0.33	0.33	0.12	0.00	0.12	0.03	0.00	0.03
Sat Flow, veh/h	1781	3554	1585	1781	3610	32	3563	0	1585	1140	0	570
Grp Volume(v), veh/h	1	199	86	19	390	410	183	0	17	21	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1781	0	1585	1711	0	0
Q Serve(g_s), s	0.0	1.5	1.5	0.4	7.0	7.0	1.8	0.0	0.4	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.5	1.5	0.4	7.0	7.0	1.8	0.0	0.4	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	5	1104	493	43	592	621	416	0	185	45	0	0
V/C Ratio(X)	0.21	0.18	0.17	0.45	0.66	0.66	0.44	0.00	0.09	0.47	0.00	0.00
Avail Cap(c_a), veh/h	237	1809	807	237	905	949	2706	0	1204	812	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	9.4	9.4	18.1	10.7	10.7	15.4	0.0	14.8	18.0	0.0	0.0
Incr Delay (d2), s/veh	20.7	0.1	0.2	7.1	1.3	1.2	0.7	0.0	0.2	7.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.4	0.2	2.1	2.2	0.7	0.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.3	9.5	9.6	25.2	11.9	11.9	16.2	0.0	15.0	25.4	0.0	0.0
LnGrp LOS	D	A	A	C	B	B	B		B	C		
Approach Vol, veh/h		286			819			200			21	
Approach Delay, s/veh		9.6			12.2			16.1			25.4	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.1	6.0	16.8	5.7	5.2	17.6
Change Period (Y+Rc), s	4.7	5.1	5.1	4.7	5.1	5.1
Max Green Setting (Gmax), s	28.5	5.0	19.1	17.8	5.0	19.1
Max Q Clear Time (g_c+I1), s	3.8	2.4	3.5	2.5	2.0	9.0
Green Ext Time (p_c), s	0.6	0.0	1.2	0.0	0.0	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	12.5
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	199	1	3	720	1	0
Future Volume (veh/h)	199	1	3	720	1	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	1	4	1000	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2442	9	1213	2389	0	0
Arrive On Green	0.67	0.67	0.67	0.67	0.00	0.00
Sat Flow, veh/h	3725	13	1102	3647	0	0
Grp Volume(v), veh/h	135	142	4	1000	0	0
Grp Sat Flow(s),veh/h/ln	1777	1868	1102	1777	0	0
Q Serve(g_s), s	0.4	0.4	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.4	1.8	0.0	0.0
Prop In Lane		0.01	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	1195	1256	1213	2389	0	0
V/C Ratio(X)	0.11	0.11	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	2205	2318	1840	4410	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.8	0.9	1.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.9	0.9	0.9	1.2	0.0	0.0
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	277			1004	0	
Approach Delay, s/veh	0.9			1.2	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	14.3	14.3
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	2.4	3.8
Green Ext Time (p_c), s	0.0	1.3	5.9

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	13	181	18	6	678
Future Vol, veh/h	41	13	181	18	6	678
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	18	255	25	8	955

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	749	127	0	0	280	0
Stage 1	255	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	347	899	-	-	1279	-
Stage 1	764	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	345	899	-	-	1279	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.92	0	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	405	1279	-
HCM Lane V/C Ratio	-	-	0.188	0.007	-
HCM Ctrl Dly (s/v)	-	-	15.9	7.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	200	721	0	0	0
Future Vol, veh/h	0	200	721	0	0	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	217	784	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	392
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	607
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	607
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	199	723	0
Future Vol, veh/h	0	0	0	199	723	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	216	786	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	393	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	606	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	606	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	595	1166	1	7	597	219	78	35	5	340	70	338
Future Volume (veh/h)	595	1166	1	7	597	219	78	35	5	340	70	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	620	1215	0	7	622	0	81	36	0	354	73	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	727	1544		16	829		192	126		354	394	
Arrive On Green	0.21	0.43	0.00	0.01	0.23	0.00	0.06	0.07	0.00	0.20	0.21	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	620	1215	0	7	622	0	81	36	0	354	73	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	12.5	21.3	0.0	0.3	11.8	0.0	1.6	1.3	0.0	14.4	2.3	0.0
Cycle Q Clear(g_c), s	12.5	21.3	0.0	0.3	11.8	0.0	1.6	1.3	0.0	14.4	2.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	727	1544		16	829		192	126		354	394	
V/C Ratio(X)	0.85	0.79		0.43	0.75		0.42	0.29		1.00	0.19	
Avail Cap(c_a), veh/h	826	1879		123	1276		282	808		354	1028	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.5	17.6	0.0	35.7	25.8	0.0	33.1	32.1	0.0	29.0	23.5	0.0
Incr Delay (d2), s/veh	7.8	1.9	0.0	17.2	1.4	0.0	1.5	1.2	0.0	47.7	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	7.8	0.0	0.2	4.7	0.0	0.7	0.6	0.0	10.4	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.4	19.5	0.0	52.9	27.2	0.0	34.6	33.3	0.0	76.7	23.7	0.0
LnGrp LOS	D	B		D	C		C	C		E	C	
Approach Vol, veh/h		1835			629			117			427	
Approach Delay, s/veh		24.8			27.5			34.2			67.6	
Approach LOS		C			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	10.0	6.1	36.9	9.1	20.4	20.6	22.3
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	14.4	31.3	5.0	38.3	5.9	39.8	17.3	26.0
Max Q Clear Time (g_c+I1), s	16.4	3.3	2.3	23.3	3.6	4.3	14.5	13.8
Green Ext Time (p_c), s	0.0	0.1	0.0	7.3	0.0	0.3	0.7	3.1

Intersection Summary	
HCM 7th Control Delay, s/veh	31.8
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1511	813	0	0	10
Future Vol, veh/h	0	1511	813	0	0	10
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1558	838	0	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	419
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	498
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	498
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	12.38
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	498
HCM Lane V/C Ratio	-	-	-	0.021
HCM Ctrl Dly (s/v)	-	-	-	12.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	488	959	64	7	474	43	31	4	3	17	5	310
Future Volume (veh/h)	488	959	64	7	474	43	31	4	3	17	5	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	508	999	67	7	494	45	32	4	3	18	5	323
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	672	1345	90	16	701	64	62	219	164	39	388	637
Arrive On Green	0.19	0.40	0.40	0.01	0.21	0.21	0.03	0.22	0.22	0.02	0.21	0.21
Sat Flow, veh/h	3456	3380	227	1781	3294	299	1781	992	744	1781	1870	1585
Grp Volume(v), veh/h	508	525	541	7	266	273	32	0	7	18	5	323
Grp Sat Flow(s),veh/h/ln	1728	1777	1830	1781	1777	1817	1781	0	1736	1781	1870	1585
Q Serve(g_s), s	7.9	14.4	14.4	0.2	7.9	8.0	1.0	0.0	0.2	0.6	0.1	8.7
Cycle Q Clear(g_c), s	7.9	14.4	14.4	0.2	7.9	8.0	1.0	0.0	0.2	0.6	0.1	8.7
Prop In Lane	1.00		0.12	1.00		0.16	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	672	707	728	16	378	386	62	0	383	39	388	637
V/C Ratio(X)	0.76	0.74	0.74	0.43	0.70	0.71	0.52	0.00	0.02	0.46	0.01	0.51
Avail Cap(c_a), veh/h	1066	1022	1052	156	629	643	156	0	980	156	1056	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	14.7	14.7	28.1	20.8	20.8	27.1	0.0	17.4	27.6	18.0	12.8
Incr Delay (d2), s/veh	1.8	1.7	1.7	16.6	2.4	2.4	6.5	0.0	0.0	8.4	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.9	5.1	0.2	3.1	3.2	0.5	0.0	0.1	0.3	0.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.5	16.4	16.4	44.7	23.2	23.2	33.5	0.0	17.4	36.0	18.0	13.4
LnGrp LOS	C	B	B	D	C	C	C		B	D	B	B
Approach Vol, veh/h		1574			546			39			346	
Approach Delay, s/veh		18.7			23.5			30.6			14.7	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	17.2	5.9	28.1	6.6	16.4	16.5	17.5
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	5.0	32.2	5.0	32.8	5.0	32.2	17.6	20.2
Max Q Clear Time (g_c+I1), s	2.6	2.2	2.2	16.4	3.0	10.7	9.9	10.0
Green Ext Time (p_c), s	0.0	0.0	0.0	6.1	0.0	1.1	1.2	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	19.3
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	21	0	3	0	486	48	3	310	0
Future Vol, veh/h	0	0	0	21	0	3	0	486	48	3	310	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	0	3	0	534	53	3	341	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	614	934	170	737	908	293	341	0	0	587	0	0
Stage 1	347	347	-	560	560	-	-	-	-	-	-	-
Stage 2	267	587	-	177	347	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	376	264	844	306	274	703	1215	-	-	984	-	-
Stage 1	642	633	-	480	509	-	-	-	-	-	-	-
Stage 2	715	495	-	808	633	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	373	263	844	305	273	703	1215	-	-	984	-	-
Mov Cap-2 Maneuver	373	263	-	305	273	-	-	-	-	-	-	-
Stage 1	639	631	-	480	509	-	-	-	-	-	-	-
Stage 2	712	495	-	805	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	16.91	0	0.11
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	-	328	35	-	-
HCM Lane V/C Ratio	-	-	-	-	0.08	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	16.9	8.7	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	112	180	31	18	165	38	289	9	22	0
Future Vol, veh/h	0	15	112	180	31	18	165	38	289	9	22	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	17	130	209	36	21	192	44	336	10	26	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	9.8	12.8	12.6	9.5
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	81%	0%	0%	79%	29%
Vol Thru, %	19%	0%	12%	14%	71%
Vol Right, %	0%	100%	88%	8%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	289	127	229	31
LT Vol	165	0	0	180	9
Through Vol	38	0	15	31	22
RT Vol	0	289	112	18	0
Lane Flow Rate	236	336	148	266	36
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.405	0.472	0.217	0.421	0.061
Departure Headway (Hd)	6.176	5.057	5.29	5.696	6.068
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	583	712	678	634	590
Service Time	3.902	2.782	3.326	3.728	4.111
HCM Lane V/C Ratio	0.405	0.472	0.218	0.42	0.061
HCM Control Delay, s/veh	13.1	12.2	9.8	12.8	9.5
HCM Lane LOS	B	B	A	B	A
HCM 95th-tile Q	2	2.5	0.8	2.1	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	35	0	10	0	274	39	11	191	0
Future Vol, veh/h	0	0	0	35	0	10	0	274	39	11	191	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	38	0	11	0	301	43	12	210	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	535	578	210	557	557	323	210	0	0	344	0	0
Stage 1	234	234	-	323	323	-	-	-	-	-	-	-
Stage 2	301	344	-	234	234	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	456	427	830	441	439	718	1361	-	-	1215	-	-
Stage 1	769	711	-	689	651	-	-	-	-	-	-	-
Stage 2	708	637	-	769	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	444	422	830	436	434	718	1361	-	-	1215	-	-
Mov Cap-2 Maneuver	444	422	-	436	434	-	-	-	-	-	-	-
Stage 1	760	703	-	689	651	-	-	-	-	-	-	-
Stage 2	697	637	-	760	703	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	13.4	0	0.44
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1361	-	-	-	478	98	-	-
HCM Lane V/C Ratio	-	-	-	-	0.103	0.01	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	13.4	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	284	200	1
Future Vol, veh/h	0	2	1	284	200	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	38	38	38	38
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	3	747	526	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1280	528	529	0	-	0
Stage 1	528	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	183	551	1038	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	551	1038	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	465	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.6	0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	551	-	-
HCM Lane V/C Ratio	0.003	-	0.01	-	-
HCM Ctrl Dly (s/v)	8.5	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	22	0	3	14	235	35	3	170	0
Future Vol, veh/h	0	0	9	22	0	3	14	235	35	3	170	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	43	43	43	43	43	43	43	43	43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	21	51	0	7	33	547	81	7	395	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1021	1102	395	1062	1062	587	395	0	0	628	0	0
Stage 1	409	409	-	652	652	-	-	-	-	-	-	-
Stage 2	612	693	-	409	409	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	215	212	654	201	224	509	1163	-	-	954	-	-
Stage 1	619	596	-	457	464	-	-	-	-	-	-	-
Stage 2	481	445	-	619	596	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	200	654	185	212	509	1163	-	-	954	-	-
Mov Cap-2 Maneuver	201	200	-	185	212	-	-	-	-	-	-	-
Stage 1	613	590	-	437	444	-	-	-	-	-	-	-
Stage 2	453	425	-	594	590	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.69	30.21	0.4	0.15
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	86	-	-	654	200	31	-	-
HCM Lane V/C Ratio	0.028	-	-	0.032	0.291	0.007	-	-
HCM Ctrl Dly (s/v)	8.2	0	-	10.7	30.2	8.8	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.2	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	11	6	232	163	5
Future Vol, veh/h	7	11	6	232	163	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	22	12	464	326	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	819	331	336	0	-	0
Stage 1	331	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	345	711	1223	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	341	711	1223	-	-	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.77	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	45	-	500	-	-
HCM Lane V/C Ratio	0.01	-	0.072	-	-
HCM Ctrl Dly (s/v)	8	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	14	5	0	6	16	215	9	9	149	4
Future Vol, veh/h	1	2	14	5	0	6	16	215	9	9	149	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	3	23	8	0	10	26	352	15	15	244	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	682	697	248	688	693	360	251	0	0	367	0	0
Stage 1	277	277	-	412	412	-	-	-	-	-	-	-
Stage 2	405	420	-	275	280	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	364	365	791	361	367	685	1315	-	-	1191	-	-
Stage 1	729	681	-	617	594	-	-	-	-	-	-	-
Stage 2	623	590	-	731	679	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	345	351	791	333	353	685	1315	-	-	1191	-	-
Mov Cap-2 Maneuver	345	351	-	333	353	-	-	-	-	-	-	-
Stage 1	719	671	-	601	579	-	-	-	-	-	-	-
Stage 2	598	575	-	696	669	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.82	13.09	0.52	0.45
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	119	-	-	646	463	99	-	-
HCM Lane V/C Ratio	0.02	-	-	0.043	0.039	0.012	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	10.8	13.1	8.1	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	6	12	4	5	4	15	114	5	11	100	31
Future Vol, veh/h	36	6	12	4	5	4	15	114	5	11	100	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	8	16	5	7	5	20	152	7	15	133	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	379	382	154	362	399	155	175	0	0	159	0	0
Stage 1	183	183	-	195	195	-	-	-	-	-	-	-
Stage 2	195	199	-	167	204	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	579	551	892	594	539	890	1402	-	-	1421	-	-
Stage 1	818	748	-	806	739	-	-	-	-	-	-	-
Stage 2	806	737	-	835	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	553	536	892	559	524	890	1402	-	-	1421	-	-
Mov Cap-2 Maneuver	553	536	-	559	524	-	-	-	-	-	-	-
Stage 1	809	739	-	794	728	-	-	-	-	-	-	-
Stage 2	782	725	-	802	724	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.79	11.04	0.85	0.59
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	200	-	-	602	614	133	-	-
HCM Lane V/C Ratio	0.014	-	-	0.12	0.028	0.01	-	-
HCM Ctrl Dly (s/v)	7.6	0	-	11.8	11	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	7	0	1	5
Future Vol, veh/h	0	0	7	0	1	5
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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	9	0	1	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	19	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1621	-	998	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1621	-	992	1083
Mov Cap-2 Maneuver	-	-	-	-	992	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	7.23	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1621	-
HCM Lane V/C Ratio	0.007	-	-	0.006	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	1	17	29	1	18
Future Vol, veh/h	30	1	17	29	1	18
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	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	1	21	36	1	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	38	0	115	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1572	-	881	1034
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1572	-	869	1034
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.71	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1024	-	-	665	-
HCM Lane V/C Ratio	0.023	-	-	0.013	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	16	0	0	18	12	0	0	0	15	0	1
Future Vol, veh/h	1	16	0	0	18	12	0	0	0	15	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	50	50	50	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	32	0	0	36	24	0	0	0	30	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	32	0	0	72	96	32	84	84	48
Stage 1	-	-	-	-	-	-	36	36	-	48	48	-
Stage 2	-	-	-	-	-	-	36	60	-	36	36	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1580	-	-	919	794	1042	903	806	1021
Stage 1	-	-	-	-	-	-	980	865	-	965	855	-
Stage 2	-	-	-	-	-	-	980	845	-	980	865	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1580	-	-	916	793	1042	902	805	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	916	793	-	902	805	-
Stage 1	-	-	-	-	-	-	978	864	-	965	855	-
Stage 2	-	-	-	-	-	-	978	845	-	978	864	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.43	0	0	9.11
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	106	-	-	1580	-	-	908
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.035
HCM Ctrl Dly (s/v)	0	7.3	0	-	0	-	-	9.1
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	15	10	7	7	13
Future Vol, veh/h	20	15	10	7	7	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	25	16	11	11	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	66	22	33	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	939	1055	1579	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	929	1055	1579	-	-	-
Mov Cap-2 Maneuver	929	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.91	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	979	-	-
HCM Lane V/C Ratio	0.01	-	0.059	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	35	23	0	0	18
Future Vol, veh/h	49	35	23	0	0	18
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	37	24	0	0	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	164	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	140	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	826	1052
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	887	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	799	1052
Mov Cap-2 Maneuver	-	-	-	-	799	-
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	887	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	4.28	0	8.48
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1050	-	-	-	1052
HCM Lane V/C Ratio	0.032	-	-	-	0.018
HCM Ctrl Dly (s/v)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	70	44	0	0	99	0	105	0	0	0
Future Vol, veh/h	0	16	70	44	0	0	99	0	105	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	99	62	0	0	139	0	148	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	121	0	0	196	196	72	146	245	0
Stage 1	-	-	-	-	-	-	72	72	-	124	124	-
Stage 2	-	-	-	-	-	-	124	124	-	23	121	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1466	-	-	763	700	990	822	657	-
Stage 1	-	-	-	-	-	-	938	835	-	880	793	-
Stage 2	-	-	-	-	-	-	880	793	-	996	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1466	-	-	-	670	990	670	629	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	670	-	670	629	-
Stage 1	-	-	-	-	-	-	938	835	-	843	760	-
Stage 2	-	-	-	-	-	-	843	760	-	847	796	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.56		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1466	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.042	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.6	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	721	258	39	359	7	160	2	49	5	0	6
Future Volume (veh/h)	1	721	258	39	359	7	160	2	49	5	0	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	751	269	41	374	7	168	0	51	5	0	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1185	529	82	1348	25	408	0	181	11	0	13
Arrive On Green	0.00	0.33	0.33	0.05	0.38	0.38	0.11	0.00	0.11	0.01	0.00	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3568	67	3563	0	1585	758	0	910
Grp Volume(v), veh/h	1	751	269	41	186	195	168	0	51	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1858	1781	0	1585	1669	0	0
Q Serve(g_s), s	0.0	7.1	5.4	0.9	2.9	2.9	1.7	0.0	1.2	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.1	5.4	0.9	2.9	2.9	1.7	0.0	1.2	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.45		0.55
Lane Grp Cap(c), veh/h	4	1185	529	82	671	702	408	0	181	24	0	0
V/C Ratio(X)	0.22	0.63	0.51	0.50	0.28	0.28	0.41	0.00	0.28	0.46	0.00	0.00
Avail Cap(c_a), veh/h	224	1686	752	224	843	882	2549	0	1134	754	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	11.2	10.7	18.6	8.6	8.6	16.4	0.0	16.1	19.5	0.0	0.0
Incr Delay (d2), s/veh	23.5	0.6	0.8	4.7	0.2	0.2	0.7	0.0	0.8	13.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	1.5	0.4	0.8	0.9	0.6	0.0	0.4	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	11.8	11.4	23.3	8.8	8.8	17.1	0.0	17.0	32.5	0.0	0.0
LnGrp LOS	D	B	B	C	A	A	B		B	C		
Approach Vol, veh/h		1021			422			219			11	
Approach Delay, s/veh		11.7			10.2			17.0			32.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	6.9	18.4		5.3	5.2	20.2				
Change Period (Y+Rc), s		4.7	5.1	5.1		4.7	5.1	5.1				
Max Green Setting (Gmax), s		28.5	5.0	18.9		18.0	5.0	18.9				
Max Q Clear Time (g_c+I1), s		3.7	2.9	9.1		2.3	2.0	4.9				
Green Ext Time (p_c), s		0.7	0.0	4.2		0.0	0.0	1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	775	0	0	405	2	0
Future Volume (veh/h)	775	0	0	405	2	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	833	0	0	435	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2260	0	558	2260	0	0
Arrive On Green	0.64	0.00	0.00	0.64	0.00	0.00
Sat Flow, veh/h	3741	0	659	3647	0	0
Grp Volume(v), veh/h	833	0	0	435	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	659	1777	0	0
Q Serve(g_s), s	1.4	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	0.7	0.0	0.0
Prop In Lane		0.00	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	2260	0	558	2260	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	4898	0	1047	4898	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.1	0.0	0.0	1.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	1.2	0.0	0.0	1.0	0.0	0.0
LnGrp LOS	A			A		
Approach Vol, veh/h	833			435	0	
Approach Delay, s/veh	1.2			1.0	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	12.9	12.9
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	3.4	2.7
Green Ext Time (p_c), s	0.0	4.9	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	2	730	45	2	372
Future Vol, veh/h	31	2	730	45	2	372
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	2	768	47	2	392

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	968	384	0	0	816	0
Stage 1	768	-	-	-	-	-
Stage 2	200	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	251	614	-	-	808	-
Stage 1	418	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	251	614	-	-	808	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	812	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	20.97	0	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	260	808	-
HCM Lane V/C Ratio	-	-	0.134	0.003	-
HCM Ctrl Dly (s/v)	-	-	21	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	775	405	0	0	0
Future Vol, veh/h	0	775	405	0	0	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	842	440	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	220
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	784
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	784
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	775	40	0
Future Vol, veh/h	0	0	0	775	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	842	43	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	22	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1050	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1050	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	289	1	5	1291	377	155	70	4	218	39	651
Future Volume (veh/h)	147	289	1	5	1291	377	155	70	4	218	39	651
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	344	0	6	1537	0	185	83	0	260	46	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1968		14	1750		249	125		297	303	
Arrive On Green	0.07	0.55	0.00	0.01	0.49	0.00	0.07	0.07	0.00	0.17	0.16	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	175	344	0	6	1537	0	185	83	0	260	46	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.1	4.9	0.0	0.3	39.7	0.0	5.4	4.4	0.0	14.6	2.2	0.0
Cycle Q Clear(g_c), s	5.1	4.9	0.0	0.3	39.7	0.0	5.4	4.4	0.0	14.6	2.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	1968		14	1750		249	125		297	303	
V/C Ratio(X)	0.73	0.17		0.44	0.88		0.74	0.67		0.87	0.15	
Avail Cap(c_a), veh/h	256	2017		87	1927		266	710		467	1056	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.8	11.3	0.0	50.7	23.3	0.0	46.7	46.7	0.0	41.7	36.9	0.0
Incr Delay (d2), s/veh	9.7	0.0	0.0	20.7	4.7	0.0	10.1	6.0	0.0	10.7	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.8	0.0	0.2	16.2	0.0	2.6	2.2	0.0	7.2	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.5	11.3	0.0	71.3	27.9	0.0	56.8	52.7	0.0	52.4	37.2	0.0
LnGrp LOS	E	B		E	C		E	D		D	D	
Approach Vol, veh/h		519			1543			268			306	
Approach Delay, s/veh		26.6			28.1			55.5			50.1	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	11.9	6.2	62.2	12.5	21.7	12.5	55.9
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	26.9	38.9	5.0	58.2	7.9	57.9	7.6	55.6
Max Q Clear Time (g_c+I1), s	16.6	6.4	2.3	6.9	7.4	4.2	7.1	41.7
Green Ext Time (p_c), s	0.5	0.4	0.0	2.3	0.0	0.2	0.0	8.8

Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	514	1641	6	0	32
Future Vol, veh/h	0	514	1641	6	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	598	1908	7	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	958
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	221
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	221
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	24.52
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	221
HCM Lane V/C Ratio	-	-	-	0.168
HCM Ctrl Dly (s/v)	-	-	-	24.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	240	22	9	881	18	65	12	9	43	14	698
Future Volume (veh/h)	251	240	22	9	881	18	65	12	9	43	14	698
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	279	26	10	1024	21	76	14	10	50	16	812
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1343	124	22	1106	23	97	349	249	67	611	692
Arrive On Green	0.11	0.41	0.41	0.01	0.31	0.31	0.05	0.34	0.34	0.04	0.33	0.33
Sat Flow, veh/h	3456	3288	304	1781	3561	73	1781	1015	725	1781	1870	1585
Grp Volume(v), veh/h	292	150	155	10	511	534	76	0	24	50	16	812
Grp Sat Flow(s),veh/h/ln	1728	1777	1816	1781	1777	1857	1781	0	1740	1781	1870	1585
Q Serve(g_s), s	8.3	5.5	5.6	0.6	28.1	28.1	4.3	0.0	0.9	2.8	0.6	33.0
Cycle Q Clear(g_c), s	8.3	5.5	5.6	0.6	28.1	28.1	4.3	0.0	0.9	2.8	0.6	33.0
Prop In Lane	1.00		0.17	1.00		0.04	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	380	726	742	22	552	577	97	0	599	67	611	692
V/C Ratio(X)	0.77	0.21	0.21	0.46	0.93	0.93	0.78	0.00	0.04	0.75	0.03	1.17
Avail Cap(c_a), veh/h	821	901	921	88	567	592	102	0	599	155	611	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	19.3	19.3	49.5	33.7	33.7	47.1	0.0	22.0	48.1	23.1	28.4
Incr Delay (d2), s/veh	3.3	0.1	0.1	14.7	21.1	20.4	30.2	0.0	0.0	15.5	0.0	92.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.2	2.3	0.3	14.7	15.3	2.7	0.0	0.4	1.5	0.3	33.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.0	19.4	19.5	64.2	54.8	54.1	77.4	0.0	22.1	63.7	23.1	121.1
LnGrp LOS	D	B	B	E	D	D	E		C	E	C	F
Approach Vol, veh/h		597			1055			100			878	
Approach Delay, s/veh		32.9			54.5			64.1			116.0	
Approach LOS		C			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	39.3	6.6	46.6	10.1	37.6	16.5	36.8
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	8.8	30.0	5.0	51.2	5.8	33.0	24.0	32.2
Max Q Clear Time (g_c+I1), s	4.8	2.9	2.6	7.6	6.3	35.0	10.3	30.1
Green Ext Time (p_c), s	0.0	0.1	0.0	1.7	0.0	0.0	0.8	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	70.5
HCM 7th LOS	E

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	42	91	0	6	17	212	30	3	610	4
Future Vol, veh/h	13	0	42	91	0	6	17	212	30	3	610	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	52	112	0	7	21	262	37	4	753	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	936	1104	379	706	1088	149	758	0	0	299	0	0
Stage 1	763	763	-	322	322	-	-	-	-	-	-	-
Stage 2	173	341	-	384	765	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	220	210	619	323	214	870	849	-	-	1259	-	-
Stage 1	363	411	-	664	649	-	-	-	-	-	-	-
Stage 2	812	637	-	611	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	211	203	619	287	208	870	849	-	-	1259	-	-
Mov Cap-2 Maneuver	211	203	-	287	208	-	-	-	-	-	-	-
Stage 1	362	410	-	646	632	-	-	-	-	-	-	-
Stage 2	783	620	-	557	409	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.07	24.86	0.79	0.07
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	201	-	-	425	299	17	-	-
HCM Lane V/C Ratio	0.025	-	-	0.16	0.401	0.003	-	-
HCM Ctrl Dly (s/v)	9.3	0.2	-	15.1	24.9	7.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	1.9	0	-	-

Intersection	
Intersection Delay, s/veh	25.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	30	180	424	10	8	66	19	147	6	13	0
Future Vol, veh/h	1	30	180	424	10	8	66	19	147	6	13	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	40	240	565	13	11	88	25	196	8	17	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	12.3	40.2	12.2	10.7
HCM LOS	B	E	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	78%	0%	0%	96%	32%
Vol Thru, %	22%	0%	14%	2%	68%
Vol Right, %	0%	100%	85%	2%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	147	211	442	19
LT Vol	66	0	1	424	6
Through Vol	19	0	30	10	13
RT Vol	0	147	180	8	0
Lane Flow Rate	113	196	281	589	25
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.23	0.337	0.42	0.909	0.052
Departure Headway (Hd)	7.295	6.182	5.375	5.555	7.333
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	491	578	664	648	491
Service Time	5.068	3.955	3.449	3.613	5.333
HCM Lane V/C Ratio	0.23	0.339	0.423	0.909	0.051
HCM Control Delay, s/veh	12.3	12.1	12.3	40.2	10.7
HCM Lane LOS	B	B	B	E	B
HCM 95th-tile Q	0.9	1.5	2.1	11.6	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	7	46	0	13	2	159	19	6	388	1
Future Vol, veh/h	3	0	7	46	0	13	2	159	19	6	388	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	9	59	0	17	3	204	24	8	497	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	722	747	498	734	735	216	499	0	0	228	0	0
Stage 1	513	513	-	221	221	-	-	-	-	-	-	-
Stage 2	209	233	-	513	514	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	342	342	572	336	347	824	1065	-	-	1340	-	-
Stage 1	544	536	-	781	720	-	-	-	-	-	-	-
Stage 2	793	712	-	544	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	331	338	572	327	343	824	1065	-	-	1340	-	-
Mov Cap-2 Maneuver	331	338	-	327	343	-	-	-	-	-	-	-
Stage 1	539	531	-	779	718	-	-	-	-	-	-	-
Stage 2	775	710	-	531	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.88	16.93	0.09	0.12
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	20	-	-	470	377	27	-	-
HCM Lane V/C Ratio	0.002	-	-	0.027	0.201	0.006	-	-
HCM Ctrl Dly (s/v)	8.4	0	-	12.9	16.9	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	172	394	1
Future Vol, veh/h	1	1	2	172	394	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	2	4	344	788	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1141	789	790	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	222	391	830	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	221	391	830	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.95	0.11	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	21	-	282	-	-
HCM Lane V/C Ratio	0.005	-	0.014	-	-
HCM Ctrl Dly (s/v)	9.4	0	18	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	27	0	4	2	188	9	1	367	1
Future Vol, veh/h	1	0	1	27	0	4	2	188	9	1	367	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	43	0	6	3	298	14	2	583	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	891	906	583	898	899	306	584	0	0	313	0	0
Stage 1	587	587	-	312	312	-	-	-	-	-	-	-
Stage 2	305	319	-	586	587	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	263	276	512	260	279	734	990	-	-	1248	-	-
Stage 1	496	497	-	699	658	-	-	-	-	-	-	-
Stage 2	705	653	-	497	496	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	259	275	512	258	277	734	990	-	-	1248	-	-
Mov Cap-2 Maneuver	259	275	-	258	277	-	-	-	-	-	-	-
Stage 1	495	496	-	696	655	-	-	-	-	-	-	-
Stage 2	696	650	-	494	495	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.56	20.47	0.09	0.02
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	18	-	-	344	282	5	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009	0.175	0.001	-	-
HCM Ctrl Dly (s/v)	8.6	0	-	15.6	20.5	7.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	6	187	367	3
Future Vol, veh/h	4	5	6	187	367	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	7	8	249	489	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	757	491	493	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	376	577	1070	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	372	577	1070	-	-	-
Mov Cap-2 Maneuver	372	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.97	0.26	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	56	-	464	-	-
HCM Lane V/C Ratio	0.007	-	0.026	-	-
HCM Ctrl Dly (s/v)	8.4	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	19	2	0	6	9	165	1	2	295	2
Future Vol, veh/h	0	0	19	2	0	6	9	165	1	2	295	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	31	3	0	10	15	270	2	3	484	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	792	793	485	791	794	271	487	0	0	272	0	0
Stage 1	492	492	-	301	301	-	-	-	-	-	-	-
Stage 2	300	302	-	490	493	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	307	321	582	307	321	767	1076	-	-	1291	-	-
Stage 1	559	548	-	708	665	-	-	-	-	-	-	-
Stage 2	709	664	-	560	547	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	297	315	582	285	314	767	1076	-	-	1291	-	-
Mov Cap-2 Maneuver	297	315	-	285	314	-	-	-	-	-	-	-
Stage 1	557	546	-	697	654	-	-	-	-	-	-	-
Stage 2	689	654	-	528	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.54	11.84	0.43	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	92	-	-	582	539	12	-	-
HCM Lane V/C Ratio	0.014	-	-	0.054	0.024	0.003	-	-
HCM Ctrl Dly (s/v)	8.4	0	-	11.5	11.8	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	4	12	9	11	6	4	128	2	6	284	30
Future Vol, veh/h	65	4	12	9	11	6	4	128	2	6	284	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	6	17	13	15	8	6	178	3	8	394	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	628	624	415	604	643	179	436	0	0	181	0	0
Stage 1	432	432	-	190	190	-	-	-	-	-	-	-
Stage 2	197	192	-	414	453	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	395	402	637	410	392	864	1124	-	-	1395	-	-
Stage 1	602	582	-	811	743	-	-	-	-	-	-	-
Stage 2	805	742	-	616	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	397	637	389	387	864	1124	-	-	1395	-	-
Mov Cap-2 Maneuver	371	397	-	389	387	-	-	-	-	-	-	-
Stage 1	597	578	-	807	739	-	-	-	-	-	-	-
Stage 2	777	738	-	589	566	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.62	13.82	0.25	0.14
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	54	-	-	397	444	33	-	-
HCM Lane V/C Ratio	0.005	-	-	0.283	0.081	0.006	-	-
HCM Ctrl Dly (s/v)	8.2	0	-	17.6	13.8	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	77	2	3	41	1	4
Future Vol, veh/h	77	2	3	41	1	4
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	2	4	49	1	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	151	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1499	-	841	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	966	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	839	963
Mov Cap-2 Maneuver	-	-	-	-	839	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.51	8.87
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	935	-	-	123	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Ctrl Dly (s/v)	8.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	3	16	21	0	18
Future Vol, veh/h	45	3	16	21	0	18
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	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	4	23	30	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	70	0	144	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	848	996
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1531	-	835	996
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.19	8.71
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	996	-	-	778	-
HCM Lane V/C Ratio	0.026	-	-	0.015	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	4	8	9	0	0	11	18	0	0
Future Vol, veh/h	0	19	0	4	8	9	0	0	11	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	25	0	5	11	12	0	0	15	24	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	25	0	0	47	59	25	53	53	17
Stage 1	-	-	-	-	-	-	25	25	-	27	27	-
Stage 2	-	-	-	-	-	-	21	33	-	25	25	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1589	-	-	955	832	1051	946	839	1062
Stage 1	-	-	-	-	-	-	992	874	-	990	872	-
Stage 2	-	-	-	-	-	-	997	867	-	992	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1589	-	-	951	829	1051	930	836	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	951	829	-	930	836	-
Stage 1	-	-	-	-	-	-	992	874	-	987	869	-
Stage 2	-	-	-	-	-	-	994	864	-	979	874	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	1.39	8.47	8.98
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1051	1593	-	-	310	-	-	930
HCM Lane V/C Ratio	0.014	-	-	-	0.003	-	-	0.026
HCM Ctrl Dly (s/v)	8.5	0	-	-	7.3	0	-	9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	5	11	4	6	12
Future Vol, veh/h	11	5	11	4	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	45	45	45	45
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	11	24	9	13	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	84	27	40	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	917	1049	1570	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	903	1049	1570	-	-	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.96	5.38	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1320	-	944	-	-
HCM Lane V/C Ratio	0.016	-	0.038	-	-
HCM Ctrl Dly (s/v)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	26	62	0	0	31
Future Vol, veh/h	15	26	62	0	0	31
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	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	45	107	0	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	203	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1484	-	-	-	785	947
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	771	947
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.73	0	9.03
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	659	-	-	-	947
HCM Lane V/C Ratio	0.017	-	-	-	0.056
HCM Ctrl Dly (s/v)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	16	102	0	0	7	1	42	0	0	0
Future Vol, veh/h	0	1	16	102	0	0	7	1	42	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	24	155	0	0	11	2	64	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	26	0	0	323	323	14	311	335	0
Stage 1	-	-	-	-	-	-	14	14	-	309	309	-
Stage 2	-	-	-	-	-	-	309	309	-	2	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1588	-	-	630	595	1066	641	586	-
Stage 1	-	-	-	-	-	-	1007	884	-	701	660	-
Stage 2	-	-	-	-	-	-	701	660	-	1020	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1588	-	-	-	537	1066	543	529	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	537	-	543	529	-
Stage 1	-	-	-	-	-	-	1007	884	-	633	595	-
Stage 2	-	-	-	-	-	-	633	595	-	958	874	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.51		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1588	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.097	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.5	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	215	76	17	763	6	161	0	15	12	0	6
Future Volume (veh/h)	1	215	76	17	763	6	161	0	15	12	0	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	244	86	19	867	7	183	0	17	14	0	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1165	520	43	1265	10	407	0	181	30	0	15
Arrive On Green	0.00	0.33	0.33	0.02	0.35	0.35	0.11	0.00	0.11	0.03	0.00	0.03
Sat Flow, veh/h	1781	3554	1585	1781	3613	29	3563	0	1585	1140	0	570
Grp Volume(v), veh/h	1	244	86	19	426	448	183	0	17	21	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1781	0	1585	1711	0	0
Q Serve(g_s), s	0.0	1.9	1.5	0.4	7.9	7.9	1.9	0.0	0.4	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.9	1.5	0.4	7.9	7.9	1.9	0.0	0.4	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	5	1165	520	43	622	653	407	0	181	45	0	0
V/C Ratio(X)	0.22	0.21	0.17	0.45	0.69	0.69	0.45	0.00	0.09	0.47	0.00	0.00
Avail Cap(c_a), veh/h	231	1759	784	231	879	923	2631	0	1171	789	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	9.4	9.2	18.6	10.7	10.7	16.0	0.0	15.3	18.5	0.0	0.0
Incr Delay (d2), s/veh	21.9	0.1	0.1	7.2	1.3	1.3	0.8	0.0	0.2	7.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.4	0.2	2.4	2.5	0.7	0.0	0.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.2	9.5	9.4	25.8	12.1	12.0	16.7	0.0	15.5	26.0	0.0	0.0
LnGrp LOS	D	A	A	C	B	B	B		B	C		
Approach Vol, veh/h		331			893			200			21	
Approach Delay, s/veh		9.5			12.3			16.6			26.0	
Approach LOS		A			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.1	6.0	17.7		5.7	5.2	18.6				
Change Period (Y+Rc), s		4.7	5.1	5.1		4.7	5.1	5.1				
Max Green Setting (Gmax), s		28.5	5.0	19.1		17.8	5.0	19.1				
Max Q Clear Time (g_c+I1), s		3.9	2.4	3.9		2.5	2.0	9.9				
Green Ext Time (p_c), s		0.6	0.0	1.5		0.0	0.0	3.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.5									
HCM 7th LOS			B									

Notes
User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	237	1	3	757	1	0
Future Volume (veh/h)	237	1	3	757	1	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	329	1	4	1051	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2479	8	1170	2424	0	0
Arrive On Green	0.68	0.68	0.68	0.68	0.00	0.00
Sat Flow, veh/h	3728	11	1050	3647	0	0
Grp Volume(v), veh/h	161	169	4	1051	0	0
Grp Sat Flow(s),veh/h/ln	1777	1868	1050	1777	0	0
Q Serve(g_s), s	0.5	0.5	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.5	0.5	2.0	0.0	0.0
Prop In Lane		0.01	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	1212	1275	1170	2424	0	0
V/C Ratio(X)	0.13	0.13	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	2139	2249	1717	4277	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.8	0.9	1.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.9	0.9	0.9	1.2	0.0	0.0
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	330			1055	0	
Approach Delay, s/veh	0.9			1.2	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	14.8	14.8
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	2.5	4.0
Green Ext Time (p_c), s	0.0	1.5	6.1

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	13	221	18	6	693
Future Vol, veh/h	41	13	221	18	6	693
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	18	311	25	8	976

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	816	156	0	0	337	0
Stage 1	311	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	315	862	-	-	1219	-
Stage 1	716	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	313	862	-	-	1219	-
Mov Cap-2 Maneuver	313	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.26	0	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	369	1219	-
HCM Lane V/C Ratio	-	-	0.206	0.007	-
HCM Ctrl Dly (s/v)	-	-	17.3	8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	239	757	1	0	29
Future Vol, veh/h	0	239	757	1	0	29
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	260	823	1	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	412
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	589
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	589
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	11.46
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	589
HCM Lane V/C Ratio	-	-	-	0.054
HCM Ctrl Dly (s/v)	-	-	-	11.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	239	735	3
Future Vol, veh/h	0	25	0	239	735	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	0	260	799	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	401	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	599	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	599	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	599	-	-
HCM Lane V/C Ratio	-	0.045	-	-
HCM Ctrl Dly (s/v)	-	11.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	595	1384	1	7	724	260	78	35	5	408	70	338
Future Volume (veh/h)	595	1384	1	7	724	260	78	35	5	408	70	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	620	1442	0	7	754	0	81	36	0	425	73	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	719	1694		16	985		152	91		464	495	
Arrive On Green	0.21	0.48	0.00	0.01	0.28	0.00	0.04	0.05	0.00	0.26	0.26	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	620	1442	0	7	754	0	81	36	0	425	73	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	17.7	36.5	0.0	0.4	19.9	0.0	2.3	1.9	0.0	23.7	3.0	0.0
Cycle Q Clear(g_c), s	17.7	36.5	0.0	0.4	19.9	0.0	2.3	1.9	0.0	23.7	3.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	719	1694		16	985		152	91		464	495	
V/C Ratio(X)	0.86	0.85		0.45	0.77		0.53	0.40		0.92	0.15	
Avail Cap(c_a), veh/h	951	2004		87	1200		250	595		591	1080	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.0	23.5	0.0	50.4	33.9	0.0	47.8	47.1	0.0	36.7	28.7	0.0
Incr Delay (d2), s/veh	6.4	3.3	0.0	18.5	2.4	0.0	2.9	2.8	0.0	16.6	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	14.7	0.0	0.3	8.5	0.0	1.1	0.9	0.0	12.1	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.5	26.8	0.0	68.9	36.3	0.0	50.7	49.9	0.0	53.3	28.9	0.0
LnGrp LOS	D	C		E	D		D	D		D	C	
Approach Vol, veh/h		2062			761			117			498	
Approach Delay, s/veh		32.4			36.6			50.4			49.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.7	10.1	6.3	54.1	9.6	32.2	26.7	33.7
Change Period (Y+Rc), s	5.1	5.1	5.4	5.4	5.1	5.1	5.4	5.4
Max Green Setting (Gmax), s	33.9	32.5	5.0	57.6	7.4	59.0	28.1	34.5
Max Q Clear Time (g_c+I1), s	25.7	3.9	2.4	38.5	4.3	5.0	19.7	21.9
Green Ext Time (p_c), s	0.9	0.1	0.0	10.2	0.0	0.4	1.6	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	36.5
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1797	965	6	0	26
Future Vol, veh/h	0	1797	965	6	0	26
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1853	995	6	0	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	501
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	441
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	441
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	13.68
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	441
HCM Lane V/C Ratio	-	-	-	0.061
HCM Ctrl Dly (s/v)	-	-	-	13.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	774	959	64	7	516	66	31	4	3	44	5	426
Future Volume (veh/h)	774	959	64	7	516	66	31	4	3	44	5	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	806	999	67	7	538	69	32	4	3	46	5	444
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	911	1527	102	16	626	80	58	230	172	73	450	799
Arrive On Green	0.26	0.45	0.45	0.01	0.20	0.20	0.03	0.23	0.23	0.04	0.24	0.24
Sat Flow, veh/h	3456	3380	227	1781	3169	405	1781	992	744	1781	1870	1585
Grp Volume(v), veh/h	806	525	541	7	301	306	32	0	7	46	5	444
Grp Sat Flow(s),veh/h/ln	1728	1777	1830	1781	1777	1797	1781	0	1736	1781	1870	1585
Q Serve(g_s), s	16.8	17.3	17.3	0.3	12.3	12.4	1.3	0.0	0.2	1.9	0.2	14.5
Cycle Q Clear(g_c), s	16.8	17.3	17.3	0.3	12.3	12.4	1.3	0.0	0.2	1.9	0.2	14.5
Prop In Lane	1.00		0.12	1.00		0.23	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	911	803	827	16	351	355	58	0	402	73	450	799
V/C Ratio(X)	0.88	0.65	0.65	0.43	0.86	0.86	0.55	0.00	0.02	0.63	0.01	0.56
Avail Cap(c_a), veh/h	994	803	827	119	369	373	119	0	719	159	817	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	16.0	16.0	37.0	29.1	29.2	35.8	0.0	22.3	35.5	21.7	12.8
Incr Delay (d2), s/veh	9.1	1.9	1.9	17.4	17.3	17.8	8.0	0.0	0.0	8.6	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	6.5	6.6	0.2	6.5	6.7	0.7	0.0	0.1	1.0	0.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.7	17.9	17.9	54.4	46.4	46.9	43.9	0.0	22.3	44.0	21.7	13.4
LnGrp LOS	D	B	B	D	D	D	D		C	D	C	B
Approach Vol, veh/h		1872			614			39			495	
Approach Delay, s/veh		25.6			46.8			40.0			16.4	
Approach LOS		C			D			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	22.0	6.1	39.3	7.0	22.7	25.2	20.2
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	6.7	31.1	5.0	32.2	5.0	32.8	21.6	15.6
Max Q Clear Time (g_c+I1), s	3.9	2.2	2.3	19.3	3.3	16.5	18.8	14.4
Green Ext Time (p_c), s	0.0	0.0	0.0	5.4	0.0	1.6	1.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	28.5
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	28	46	0	6	61	709	73	3	400	13
Future Vol, veh/h	9	0	28	46	0	6	61	709	73	3	400	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	31	51	0	7	67	779	80	3	440	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	977	1447	227	1180	1414	430	454	0	0	859	0	0
Stage 1	453	453	-	953	953	-	-	-	-	-	-	-
Stage 2	524	993	-	226	460	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	205	130	776	146	137	574	1103	-	-	778	-	-
Stage 1	556	568	-	278	336	-	-	-	-	-	-	-
Stage 2	505	321	-	756	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	186	119	776	128	125	574	1103	-	-	778	-	-
Mov Cap-2 Maneuver	186	119	-	128	125	-	-	-	-	-	-	-
Stage 1	553	565	-	256	309	-	-	-	-	-	-	-
Stage 2	459	296	-	722	561	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.07	47.09	1.1	0.11
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	230	-	-	438	141	25	-	-
HCM Lane V/C Ratio	0.061	-	-	0.093	0.406	0.004	-	-
HCM Ctrl Dly (s/v)	8.5	0.6	-	14.1	47.1	9.6	0	-
HCM Lane LOS	A	A	-	B	E	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.8	0	-	-

Intersection	
Intersection Delay, s/veh	22.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	24	146	248	46	19	227	40	460	10	23	0
Future Vol, veh/h	0	24	146	248	46	19	227	40	460	10	23	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	28	170	288	53	22	264	47	535	12	27	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay, s/veh	12.3	20.3	26.4	10.9
HCM LOS	B	C	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	85%	0%	0%	79%	30%
Vol Thru, %	15%	0%	14%	15%	70%
Vol Right, %	0%	100%	86%	6%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	460	170	313	33
LT Vol	227	0	0	248	10
Through Vol	40	0	24	46	23
RT Vol	0	460	146	19	0
Lane Flow Rate	310	535	198	364	38
Geometry Grp	5	5	2	2	4a
Degree of Util (X)	0.585	0.838	0.336	0.643	0.077
Departure Headway (Hd)	6.785	5.64	6.118	6.365	7.252
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	531	642	585	564	497
Service Time	4.546	3.401	4.19	4.425	5.252
HCM Lane V/C Ratio	0.584	0.833	0.338	0.645	0.076
HCM Control Delay, s/veh	18.7	30.9	12.3	20.3	10.9
HCM Lane LOS	C	D	B	C	B
HCM 95th-tile Q	3.7	9.1	1.5	4.6	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	4	36	0	10	8	437	39	11	275	3
Future Vol, veh/h	2	0	4	36	0	10	8	437	39	11	275	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	4	40	0	11	9	480	43	12	302	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	826	869	304	846	849	502	305	0	0	523	0	0
Stage 1	328	328	-	519	519	-	-	-	-	-	-	-
Stage 2	498	541	-	326	330	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	291	290	736	282	298	570	1255	-	-	1043	-	-
Stage 1	685	647	-	540	532	-	-	-	-	-	-	-
Stage 2	554	521	-	686	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	279	283	736	274	291	570	1255	-	-	1043	-	-
Mov Cap-2 Maneuver	279	283	-	274	291	-	-	-	-	-	-	-
Stage 1	675	638	-	534	527	-	-	-	-	-	-	-
Stage 2	538	516	-	673	637	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.67	18.92	0.13	0.32
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	29	-	-	476	309	68	-	-
HCM Lane V/C Ratio	0.007	-	-	0.014	0.164	0.012	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	12.7	18.9	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	449	287	1
Future Vol, veh/h	0	2	1	449	287	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	38	38	38	38
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	3	1182	755	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1943	757	758	0	-	0
Stage 1	757	-	-	-	-	-
Stage 2	1187	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	71	408	853	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	408	853	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	290	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.94	0.02	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	4	-	408	-	-
HCM Lane V/C Ratio	0.003	-	0.013	-	-
HCM Ctrl Dly (s/v)	9.2	0	13.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	22	0	3	14	342	35	3	283	0
Future Vol, veh/h	0	0	9	22	0	3	14	342	35	3	283	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	43	43	43	43	43	43	43	43	43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	21	51	0	7	33	795	81	7	658	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1533	1614	658	1573	1573	836	658	0	0	877	0	0
Stage 1	672	672	-	901	901	-	-	-	-	-	-	-
Stage 2	860	942	-	672	672	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	95	104	464	89	110	367	930	-	-	770	-	-
Stage 1	445	454	-	333	357	-	-	-	-	-	-	-
Stage 2	350	342	-	445	454	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	95	464	78	101	367	930	-	-	770	-	-
Mov Cap-2 Maneuver	86	95	-	78	101	-	-	-	-	-	-	-
Stage 1	439	448	-	310	332	-	-	-	-	-	-	-
Stage 2	320	318	-	419	448	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.12	107.56	0.32	0.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	63	-	-	464	86	19	-	-
HCM Lane V/C Ratio	0.035	-	-	0.045	0.674	0.009	-	-
HCM Ctrl Dly (s/v)	9	0	-	13.1	107.6	9.7	0	-
HCM Lane LOS	A	A	-	B	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	3.2	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	11	6	339	276	5
Future Vol, veh/h	7	11	6	339	276	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	22	12	678	552	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1259	557	562	0	-	0
Stage 1	557	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	188	530	1009	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	530	1009	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.28	0.15	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	31	-	307	-	-
HCM Lane V/C Ratio	0.012	-	0.117	-	-
HCM Ctrl Dly (s/v)	8.6	0	18.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	14	5	0	6	16	266	9	9	228	4
Future Vol, veh/h	1	2	14	5	0	6	16	266	9	9	228	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	3	23	8	0	10	26	436	15	15	374	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	895	910	377	901	906	443	380	0	0	451	0	0
Stage 1	407	407	-	496	496	-	-	-	-	-	-	-
Stage 2	489	503	-	405	410	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	261	275	670	259	276	614	1178	-	-	1110	-	-
Stage 1	621	598	-	556	545	-	-	-	-	-	-	-
Stage 2	561	541	-	623	596	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	245	262	670	236	263	614	1178	-	-	1110	-	-
Mov Cap-2 Maneuver	245	262	-	236	263	-	-	-	-	-	-	-
Stage 1	611	587	-	539	529	-	-	-	-	-	-	-
Stage 2	535	525	-	588	586	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.3	15.68	0.45	0.31
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	98	-	-	521	355	67	-	-
HCM Lane V/C Ratio	0.022	-	-	0.053	0.051	0.013	-	-
HCM Ctrl Dly (s/v)	8.1	0	-	12.3	15.7	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	6	12	4	6	4	15	160	5	11	173	62
Future Vol, veh/h	55	6	12	4	6	4	15	160	5	11	173	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	8	16	5	8	5	20	213	7	15	231	83

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	559	561	272	521	599	217	313	0	0	220	0	0
Stage 1	301	301	-	257	257	-	-	-	-	-	-	-
Stage 2	257	260	-	264	343	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	440	436	767	466	415	823	1247	-	-	1349	-	-
Stage 1	708	665	-	748	695	-	-	-	-	-	-	-
Stage 2	747	693	-	741	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	415	423	767	434	402	823	1247	-	-	1349	-	-
Mov Cap-2 Maneuver	415	423	-	434	402	-	-	-	-	-	-	-
Stage 1	698	656	-	734	682	-	-	-	-	-	-	-
Stage 2	720	680	-	707	629	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.2	12.76	0.66	0.34
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	149	-	-	450	483	76	-	-
HCM Lane V/C Ratio	0.016	-	-	0.216	0.039	0.011	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	15.2	12.8	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	0	7	32	1	5
Future Vol, veh/h	19	0	7	32	1	5
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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	0	9	42	1	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	25	0	84	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1590	-	917	1052
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	963	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1590	-	912	1052
Mov Cap-2 Maneuver	-	-	-	-	912	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.31	8.54
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1025	-	-	323	-
HCM Lane V/C Ratio	0.008	-	-	0.006	-
HCM Ctrl Dly (s/v)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	1	21	40	1	20
Future Vol, veh/h	37	1	21	40	1	20
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	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	1	26	49	1	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	47	0	148	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1561	-	845	1023
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1561	-	830	1023
Mov Cap-2 Maneuver	-	-	-	-	830	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	907	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.53	8.65
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1012	-	-	620	-
HCM Lane V/C Ratio	0.026	-	-	0.017	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	16	0	11	18	12	0	0	7	15	0	1
Future Vol, veh/h	1	16	0	11	18	12	0	0	7	15	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	50	50	50	50	50	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	32	0	22	36	24	0	0	14	30	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	32	0	0	116	140	32	128	128	48
Stage 1	-	-	-	-	-	-	36	36	-	92	92	-
Stage 2	-	-	-	-	-	-	80	104	-	36	36	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1580	-	-	861	751	1042	845	763	1021
Stage 1	-	-	-	-	-	-	980	865	-	915	819	-
Stage 2	-	-	-	-	-	-	929	809	-	980	865	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1580	-	-	845	739	1042	821	751	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	845	739	-	821	751	-
Stage 1	-	-	-	-	-	-	978	864	-	902	807	-
Stage 2	-	-	-	-	-	-	913	797	-	965	864	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.43	1.96	8.5	9.51
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1042	106	-	-	447	-	-	831
HCM Lane V/C Ratio	0.013	0.001	-	-	0.014	-	-	0.039
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	15	10	7	7	17
Future Vol, veh/h	22	15	10	7	7	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	61	61	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	25	16	11	11	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	70	25	39	0	-	0
Stage 1	25	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	935	1051	1571	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	925	1051	1571	-	-	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.95	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	972	-	-
HCM Lane V/C Ratio	0.01	-	0.062	-	-
HCM Ctrl Dly (s/v)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	80	50	0	0	18
Future Vol, veh/h	49	80	50	0	0	18
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	84	53	0	0	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	53	0	-	0	240	53
Stage 1	-	-	-	-	53	-
Stage 2	-	-	-	-	187	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1553	-	-	-	748	1015
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1553	-	-	-	722	1015
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	845	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.81	0	8.61
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	684	-	-	-	1015
HCM Lane V/C Ratio	0.033	-	-	-	0.019
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	70	71	0	0	99	0	150	0	0	0
Future Vol, veh/h	0	16	70	71	0	0	99	0	150	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	99	100	0	0	139	0	211	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	121	0	0	272	272	72	223	321	0
Stage 1	-	-	-	-	-	-	72	72	-	200	200	-
Stage 2	-	-	-	-	-	-	200	200	-	23	121	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	1466	-	-	681	635	990	733	596	-
Stage 1	-	-	-	-	-	-	938	835	-	802	736	-
Stage 2	-	-	-	-	-	-	802	736	-	996	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1466	-	-	-	592	990	537	555	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	592	-	537	555	-
Stage 1	-	-	-	-	-	-	938	835	-	747	685	-
Stage 2	-	-	-	-	-	-	747	685	-	783	796	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.63		0
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	1466	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.068	-	-	-
HCM Ctrl Dly (s/v)	-	0	-	-	7.6	0	-	0
HCM Lane LOS	-	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	-	-	-	-	0.2	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	748	258	39	424	7	160	2	49	5	0	6
Future Volume (veh/h)	1	748	258	39	424	7	160	2	49	5	0	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	779	269	41	442	7	168	0	51	5	0	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1206	538	81	1374	22	404	0	180	11	0	13
Arrive On Green	0.00	0.34	0.34	0.05	0.38	0.38	0.11	0.00	0.11	0.01	0.00	0.01
Sat Flow, veh/h	1781	3554	1585	1781	3580	57	3563	0	1585	758	0	910
Grp Volume(v), veh/h	1	779	269	41	219	230	168	0	51	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1860	1781	0	1585	1669	0	0
Q Serve(g_s), s	0.0	7.5	5.4	0.9	3.5	3.5	1.8	0.0	1.2	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.5	5.4	0.9	3.5	3.5	1.8	0.0	1.2	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.45		0.55
Lane Grp Cap(c), veh/h	4	1206	538	81	682	714	404	0	180	24	0	0
V/C Ratio(X)	0.23	0.65	0.50	0.50	0.32	0.32	0.42	0.00	0.28	0.46	0.00	0.00
Avail Cap(c_a), veh/h	221	1669	744	221	834	874	2523	0	1122	746	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	11.2	10.6	18.8	8.7	8.7	16.6	0.0	16.3	19.7	0.0	0.0
Incr Delay (d2), s/veh	24.0	0.6	0.7	4.8	0.3	0.3	0.7	0.0	0.9	13.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	1.5	0.4	1.0	1.0	0.7	0.0	0.4	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.1	11.8	11.3	23.5	9.0	9.0	17.3	0.0	17.2	32.7	0.0	0.0
LnGrp LOS	D	B	B	C	A	A	B		B	C		
Approach Vol, veh/h		1049			490			219			11	
Approach Delay, s/veh		11.7			10.2			17.3			32.7	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	6.9	18.8		5.3	5.2	20.5				
Change Period (Y+Rc), s		4.7	5.1	5.1		4.7	5.1	5.1				
Max Green Setting (Gmax), s		28.5	5.0	18.9		18.0	5.0	18.9				
Max Q Clear Time (g_c+I1), s		3.8	2.9	9.5		2.3	2.0	5.5				
Green Ext Time (p_c), s		0.7	0.0	4.2		0.0	0.0	2.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	12.1	
HCM 7th LOS	B	

Notes
User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	802	0	0	456	2	0
Future Volume (veh/h)	802	0	0	456	2	0
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	862	0	0	490	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2287	0	546	2287	0	0
Arrive On Green	0.64	0.00	0.00	0.64	0.00	0.00
Sat Flow, veh/h	3741	0	641	3647	0	0
Grp Volume(v), veh/h	862	0	0	490	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	641	1777	0	0
Q Serve(g_s), s	1.5	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.8	0.0	0.0
Prop In Lane		0.00	1.00		0.00	0.00
Lane Grp Cap(c), veh/h	2287	0	546	2287	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	4798	0	999	4798	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.1	0.0	0.0	1.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	1.2	0.0	0.0	1.0	0.0	0.0
LnGrp LOS	A			A		
Approach Vol, veh/h	862			490	0	
Approach Delay, s/veh	1.2			1.0	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	0.0	13.2	13.2
Change Period (Y+Rc), s	4.7	4.7	4.7
Max Green Setting (Gmax), s	17.8	17.8	17.8
Max Q Clear Time (g_c+I1), s	0.0	3.5	2.8
Green Ext Time (p_c), s	0.0	5.0	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	1.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	2	757	45	2	417
Future Vol, veh/h	31	2	757	45	2	417
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	140	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	2	797	47	2	439

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1021	398	0	0	844	0
Stage 1	797	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	233	601	-	-	788	-
Stage 1	404	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	601	-	-	788	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	790	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	22.45	0	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	241	788	-
HCM Lane V/C Ratio	-	-	0.144	0.003	-
HCM Ctrl Dly (s/v)	-	-	22.4	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	827	451	5	0	19
Future Vol, veh/h	0	827	451	5	0	19
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	899	490	5	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	248
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	752
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	752
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.92
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	752
HCM Lane V/C Ratio	-	-	-	0.027
HCM Ctrl Dly (s/v)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	802	77	11
Future Vol, veh/h	0	17	0	802	77	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	872	84	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	48	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1011	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1011	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.63	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	1011	-	-
HCM Lane V/C Ratio	-	0.018	-	-
HCM Ctrl Dly (s/v)	-	8.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	240	22	9	881	10	65	12	9	43	14	698
Future Volume (veh/h)	251	240	22	9	881	10	65	12	9	43	14	698
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	279	26	10	1024	12	76	14	10	50	0	823
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	1204	111	22	1376	16	98	302	216	78	0	1271
Arrive On Green	0.11	0.37	0.37	0.01	0.26	0.26	0.05	0.30	0.30	0.04	0.00	0.29
Sat Flow, veh/h	3456	3288	304	1781	5202	61	1781	1015	725	1781	0	3170
Grp Volume(v), veh/h	292	150	155	10	670	366	76	0	24	50	0	823
Grp Sat Flow(s),veh/h/ln	1728	1777	1816	1781	1702	1859	1781	0	1740	1781	0	1585
Q Serve(g_s), s	5.8	4.2	4.2	0.4	12.9	12.9	3.0	0.0	0.7	2.0	0.0	15.0
Cycle Q Clear(g_c), s	5.8	4.2	4.2	0.4	12.9	12.9	3.0	0.0	0.7	2.0	0.0	15.0
Prop In Lane	1.00		0.17	1.00		0.03	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	395	651	665	22	900	492	98	0	517	78	0	1271
V/C Ratio(X)	0.74	0.23	0.23	0.45	0.74	0.74	0.78	0.00	0.05	0.64	0.00	0.65
Avail Cap(c_a), veh/h	561	746	762	125	1114	609	169	0	803	174	0	1835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	15.7	15.7	35.0	24.1	24.1	33.3	0.0	17.9	33.6	0.0	17.3
Incr Delay (d2), s/veh	3.1	0.2	0.2	13.2	2.1	3.9	12.4	0.0	0.0	8.3	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.5	1.6	0.2	5.0	5.7	1.6	0.0	0.3	1.0	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.7	15.9	15.9	48.3	26.2	27.9	45.8	0.0	17.9	41.9	0.0	17.9
LnGrp LOS	C	B	B	D	C	C	D		B	D		B
Approach Vol, veh/h		597			1046			100			873	
Approach Delay, s/veh		24.6			27.0			39.1			19.3	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	25.8	6.3	31.6	8.5	25.1	13.6	24.3
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	7.0	33.0	5.0	30.0	6.8	33.2	11.6	23.4
Max Q Clear Time (g_c+I1), s	4.0	2.7	2.4	6.2	5.0	17.0	7.8	14.9
Green Ext Time (p_c), s	0.0	0.1	0.0	1.6	0.0	3.5	0.4	4.0

Intersection Summary	
HCM 7th Control Delay, s/veh	24.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	774	1017	64	7	516	66	31	4	3	44	5	426
Future Volume (veh/h)	774	1017	64	7	516	66	31	4	3	44	5	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	806	1059	67	7	538	69	32	4	3	46	0	447
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1006	1531	97	16	775	98	62	146	110	81	0	1424
Arrive On Green	0.29	0.45	0.45	0.01	0.17	0.17	0.03	0.15	0.15	0.05	0.00	0.16
Sat Flow, veh/h	3456	3394	215	1781	4590	580	1781	992	744	1781	0	3170
Grp Volume(v), veh/h	806	554	572	7	397	210	32	0	7	46	0	447
Grp Sat Flow(s),veh/h/ln	1728	1777	1832	1781	1702	1766	1781	0	1736	1781	0	1585
Q Serve(g_s), s	12.4	14.3	14.4	0.2	6.3	6.5	1.0	0.0	0.2	1.5	0.0	5.2
Cycle Q Clear(g_c), s	12.4	14.3	14.4	0.2	6.3	6.5	1.0	0.0	0.2	1.5	0.0	5.2
Prop In Lane	1.00		0.12	1.00		0.33	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	1006	801	826	16	575	298	62	0	256	81	0	1424
V/C Ratio(X)	0.80	0.69	0.69	0.43	0.69	0.70	0.52	0.00	0.03	0.57	0.00	0.31
Avail Cap(c_a), veh/h	1475	980	1011	155	721	374	155	0	949	207	0	2749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	12.6	12.6	28.4	22.5	22.6	27.3	0.0	21.0	27.0	0.0	10.2
Incr Delay (d2), s/veh	2.0	1.6	1.5	16.6	2.0	4.3	6.5	0.0	0.0	6.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	4.7	4.9	0.2	2.4	2.7	0.5	0.0	0.1	0.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.9	14.2	14.2	45.0	24.6	26.9	33.9	0.0	21.1	33.2	0.0	10.3
LnGrp LOS	C	B	B	D	C	C	C		C	C		B
Approach Vol, veh/h		1932			614			39			493	
Approach Delay, s/veh		17.0			25.6			31.6			12.4	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	13.1	5.9	31.4	6.6	13.7	22.2	15.1
Change Period (Y+Rc), s	4.6	4.6	5.4	5.4	4.6	4.6	5.4	5.4
Max Green Setting (Gmax), s	6.7	31.5	5.0	31.8	5.0	33.2	24.6	12.2
Max Q Clear Time (g_c+I1), s	3.5	2.2	2.2	16.4	3.0	7.2	14.4	8.5
Green Ext Time (p_c), s	0.0	0.0	0.0	6.3	0.0	1.9	2.4	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	132	154	95	60	30	256	263	122	104	135	114	54
Average Queue (ft)	26	80	37	14	5	169	149	25	31	68	43	6
95th Queue (ft)	85	136	80	44	20	249	250	101	72	117	88	32
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						1	1					
Queuing Penalty (veh)						3	4					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							14	0			13	0
Queuing Penalty (veh)							30	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	230	1266	1411
Average Queue (ft)	90	450	690
95th Queue (ft)	182	1417	1599
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		9	11
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	SB
Directions Served	T	T	TR	T	T	R
Maximum Queue (ft)	31	77	62	110	154	29
Average Queue (ft)	1	7	6	7	14	6
95th Queue (ft)	17	50	47	67	111	25
Link Distance (ft)	152	152	152	2328	2328	865
Upstream Blk Time (%)		0	0			
Queuing Penalty (veh)		0	1			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	61	84	63	78	35	184	189	93	42	20	388	175
Average Queue (ft)	20	38	16	18	7	86	103	36	12	1	92	136
95th Queue (ft)	50	72	47	56	27	152	167	73	34	11	310	203
Link Distance (ft)			2328	2328		3421	3421		954	439	439	
Upstream Blk Time (%)											1	
Queuing Penalty (veh)											2	
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						1		0			0	18
Queuing Penalty (veh)						0		0			0	3

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	WB	SB	SB
Directions Served	LTR	LT	TR
Maximum Queue (ft)	50	11	24
Average Queue (ft)	16	0	1
95th Queue (ft)	37	7	14
Link Distance (ft)	1622	908	908
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	94	181	55	67	26
Average Queue (ft)	44	78	24	35	7
95th Queue (ft)	73	133	49	60	23
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	63	12
Average Queue (ft)	28	1
95th Queue (ft)	52	11
Link Distance (ft)	718	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	12
Average Queue (ft)	2	0
95th Queue (ft)	15	10
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	11	44	22	2
Average Queue (ft)	1	16	1	0
95th Queue (ft)	6	41	12	3
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	3
Average Queue (ft)	3	0
95th Queue (ft)	17	3
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	25	32	5
Average Queue (ft)	12	7	3	0
95th Queue (ft)	32	26	21	5
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	30	20	40
Average Queue (ft)	15	7	1	1
95th Queue (ft)	35	20	11	13
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	23
Average Queue (ft)	0	4
95th Queue (ft)	6	17
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	32
Average Queue (ft)	0	8
95th Queue (ft)	5	28
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	35
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	1003
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	36	3
Average Queue (ft)	8	0
95th Queue (ft)	30	3
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	42
Average Queue (ft)	0	15
95th Queue (ft)	6	35
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	51
Average Queue (ft)	2	22
95th Queue (ft)	15	48
Link Distance (ft)	303	1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	15	41	60	36	30	89	92	31	55	28	37
Average Queue (ft)	1	9	12	9	10	33	29	3	22	6	10
95th Queue (ft)	8	31	39	29	32	72	69	17	48	23	34
Link Distance (ft)		3421	3421			790	790		1990		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	32	26	18	38	34	21
Average Queue (ft)	4	3	1	8	5	1
95th Queue (ft)	19	15	10	28	23	9
Link Distance (ft)	48	48		343	343	659
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)			140			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	77	3	24
Average Queue (ft)	26	0	1
95th Queue (ft)	56	3	10
Link Distance (ft)	2110	168	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	WB
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	26
95th Queue (ft)	47
Link Distance (ft)	612
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 44

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	252	294	266	237	30	177	174	46	50	95	55	54
Average Queue (ft)	126	179	128	100	5	100	91	2	13	40	17	5
95th Queue (ft)	231	257	217	184	20	148	144	20	39	79	46	32
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							5				1	0
Queuing Penalty (veh)							6				0	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	234	114	27
Average Queue (ft)	116	38	1
95th Queue (ft)	194	85	20
Link Distance (ft)		1620	1620
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 2: Vista Blvd & Village A Access

Movement	B59	SB
Directions Served	T	R
Maximum Queue (ft)	14	30
Average Queue (ft)	1	9
95th Queue (ft)	7	31
Link Distance (ft)	2338	866
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	118	138	134	150	31	105	138	56	27	45	31	98
Average Queue (ft)	55	74	32	50	4	48	70	17	5	12	5	50
95th Queue (ft)	97	118	91	114	20	89	114	45	21	37	22	87
Link Distance (ft)			2338	2338		3421	3421		954	439	439	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT
Maximum Queue (ft)	27	10	20	11
Average Queue (ft)	7	0	0	1
95th Queue (ft)	21	0	6	5
Link Distance (ft)	1622	439	439	908
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	73	95	105	120	34
Average Queue (ft)	37	49	53	63	12
95th Queue (ft)	63	80	87	100	30
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	65	41
Average Queue (ft)	27	3
95th Queue (ft)	52	20
Link Distance (ft)	718	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	11
Average Queue (ft)	1	0
95th Queue (ft)	12	8
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	13	55	69	34
Average Queue (ft)	3	15	4	1
95th Queue (ft)	11	43	34	13
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	26	3
Average Queue (ft)	4	0
95th Queue (ft)	18	4
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	25	27	25
Average Queue (ft)	8	7	2	1
95th Queue (ft)	27	25	16	12
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	14	40	31
Average Queue (ft)	12	3	3	2
95th Queue (ft)	27	12	18	14
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	NB
Directions Served	LR
Maximum Queue (ft)	23
Average Queue (ft)	5
95th Queue (ft)	21
Link Distance (ft)	1010
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	3	32
Average Queue (ft)	0	6
95th Queue (ft)	3	26
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	44
Average Queue (ft)	12
95th Queue (ft)	38
Link Distance (ft)	1003
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	16
95th Queue (ft)	41
Link Distance (ft)	760
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	30
Average Queue (ft)	0	10
95th Queue (ft)	6	29
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	44	85
Average Queue (ft)	4	48
95th Queue (ft)	23	74
Link Distance (ft)	303	1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	18	144	156	71	58	63	64	42	64	55	34
Average Queue (ft)	1	53	67	24	20	26	20	7	35	20	7
95th Queue (ft)	8	109	124	51	48	55	50	29	58	45	28
Link Distance (ft)		3421	3421			780	780		1991		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)		0									
Queuing Penalty (veh)		0									

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	T	T	LR
Maximum Queue (ft)	44	40	32	35	30
Average Queue (ft)	5	7	5	3	2
95th Queue (ft)	25	29	21	18	15
Link Distance (ft)	48	48	347	347	659
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	60	6
Average Queue (ft)	22	0
95th Queue (ft)	51	4
Link Distance (ft)	2087	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		175
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Vista Blvd & Village I Access (South)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 22: Vista Blvd & Village I Access (North)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB	NB	SW
Directions Served	LR	LR	LR
Maximum Queue (ft)	27	3	16
Average Queue (ft)	2	0	1
95th Queue (ft)	14	3	8
Link Distance (ft)	612	1017	159
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement	SB
Directions Served	LR
Maximum Queue (ft)	59
Average Queue (ft)	25
95th Queue (ft)	54
Link Distance (ft)	810
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 6

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	121	154	118	76	25	269	272	122	107	142	112	56
Average Queue (ft)	24	84	49	19	3	200	182	39	31	71	47	7
95th Queue (ft)	80	138	99	56	16	276	285	124	74	124	93	39
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						2	2					
Queuing Penalty (veh)						13	12					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							19	0			16	0
Queuing Penalty (veh)							55	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	289	1587	1610
Average Queue (ft)	113	588	819
95th Queue (ft)	229	1620	1735
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		9	11
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	0	1	
Queuing Penalty (veh)	0	1	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	SB
Directions Served	T	T	TR	T	T	R
Maximum Queue (ft)	16	130	144	149	150	79
Average Queue (ft)	1	18	17	11	18	26
95th Queue (ft)	12	82	80	70	87	61
Link Distance (ft)	152	152	152	2328	2328	865
Upstream Blk Time (%)		0	0			
Queuing Penalty (veh)		1	1			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	96	110	57	71	34	189	211	87	47	170	486	175
Average Queue (ft)	35	56	14	21	7	94	114	36	13	27	352	170
95th Queue (ft)	73	94	43	57	25	156	180	71	36	116	632	196
Link Distance (ft)			2328	2328		3421	3421		954	439	439	
Upstream Blk Time (%)										0	29	
Queuing Penalty (veh)										0	109	
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						1		0			1	65
Queuing Penalty (veh)						0		0			6	9

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	331	718	49	10	362	573
Average Queue (ft)	99	217	8	0	50	160
95th Queue (ft)	378	697	30	8	321	574
Link Distance (ft)	1252	1622	439	439	908	908
Upstream Blk Time (%)					0	1
Queuing Penalty (veh)					0	2
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	138	291	66	93	26
Average Queue (ft)	60	111	31	47	8
95th Queue (ft)	103	244	56	77	24
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	69	8	30
Average Queue (ft)	14	31	0	2
95th Queue (ft)	40	56	5	16
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	23
Average Queue (ft)	3	1
95th Queue (ft)	17	17
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	12	53	27	5
Average Queue (ft)	1	18	1	0
95th Queue (ft)	6	44	12	4
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	3
Average Queue (ft)	5	0
95th Queue (ft)	22	3
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	25	34	31
Average Queue (ft)	12	5	2	1
95th Queue (ft)	35	22	16	12
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	34	19	39
Average Queue (ft)	21	7	1	2
95th Queue (ft)	48	23	9	19
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	3	26
Average Queue (ft)	0	4
95th Queue (ft)	3	18
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	19	36
Average Queue (ft)	1	15
95th Queue (ft)	9	37
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	20	31
Average Queue (ft)	6	14
95th Queue (ft)	20	39
Link Distance (ft)	1044	1003
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	44	15
Average Queue (ft)	14	1
95th Queue (ft)	39	10
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	24	43
Average Queue (ft)	1	16
95th Queue (ft)	12	35
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	33	52
Average Queue (ft)	3	24
95th Queue (ft)	19	49
Link Distance (ft)	303	1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	15	46	62	36	34	85	87	23	52	26	47
Average Queue (ft)	1	11	15	9	10	32	31	2	23	6	11
95th Queue (ft)	7	36	44	28	31	69	70	15	48	23	37
Link Distance (ft)		3421	3421			790	790		1990		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	38	28	21	40	51	21
Average Queue (ft)	5	2	1	8	8	1
95th Queue (ft)	23	13	9	28	31	9
Link Distance (ft)	48	48		343	343	659
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)			140			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	51	18
Average Queue (ft)	24	1
95th Queue (ft)	47	10
Link Distance (ft)	2110	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		175
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	WB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	3	6	52
Average Queue (ft)	0	0	19
95th Queue (ft)	3	5	46
Link Distance (ft)	48	48	655
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB
Directions Served	R
Maximum Queue (ft)	42
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	563
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	7
95th Queue (ft)	27
Link Distance (ft)	612
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement	SB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	810
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 210

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	238	278	379	342	33	223	229	121	63	98	54	49
Average Queue (ft)	137	187	182	147	7	128	122	12	15	45	17	4
95th Queue (ft)	229	259	301	269	24	190	192	68	46	85	46	27
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							12	0			2	0
Queuing Penalty (veh)							20	0			0	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	281	157	53
Average Queue (ft)	159	44	2
95th Queue (ft)	257	117	33
Link Distance (ft)		1620	1620
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	1	0	
Queuing Penalty (veh)	0	0	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	B59	B59	SB
Directions Served	T	TR	T	T	R
Maximum Queue (ft)	16	5	5	13	61
Average Queue (ft)	1	0	0	1	20
95th Queue (ft)	10	6	5	7	50
Link Distance (ft)	142	142	2338	2338	866
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	154	175	176	187	30	129	155	58	31	60	31	150
Average Queue (ft)	83	100	41	62	4	61	86	17	6	21	5	71
95th Queue (ft)	135	149	115	137	20	107	136	45	23	49	22	125
Link Distance (ft)			2338	2338		3421	3421		954	439	439	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						0						0
Queuing Penalty (veh)						0						0

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	54	74	97	96	12	4
Average Queue (ft)	11	19	26	8	1	0
95th Queue (ft)	30	49	73	49	5	4
Link Distance (ft)	1252	1622	439	439	908	908
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	82	140	144	185	36
Average Queue (ft)	43	68	68	82	12
95th Queue (ft)	68	109	114	137	30
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	53	46	51
Average Queue (ft)	7	25	3	4
95th Queue (ft)	27	51	21	25
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	31	17
Average Queue (ft)	2	1
95th Queue (ft)	15	10
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	14	80	143	55
Average Queue (ft)	3	20	11	4
95th Queue (ft)	11	57	80	49
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	24
Average Queue (ft)	4	1
95th Queue (ft)	18	13
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	29	50	58
Average Queue (ft)	9	7	4	3
95th Queue (ft)	28	25	26	32
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	16	41	50
Average Queue (ft)	25	4	3	3
95th Queue (ft)	52	14	21	23
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	17	26
Average Queue (ft)	1	5
95th Queue (ft)	10	21
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	67
Average Queue (ft)	0	30
95th Queue (ft)	6	54
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	20	45
Average Queue (ft)	0	3	12
95th Queue (ft)	4	16	38
Link Distance (ft)	217	1044	1003
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	62	20
Average Queue (ft)	31	1
95th Queue (ft)	55	10
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	30	27
Average Queue (ft)	3	9
95th Queue (ft)	18	29
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	3	50	95
Average Queue (ft)	0	6	51
95th Queue (ft)	2	29	78
Link Distance (ft)	513	303	1520
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	8	171	189	66	51	73	71	40	64	61	32
Average Queue (ft)	0	62	75	22	20	31	22	8	37	22	8
95th Queue (ft)	4	130	146	49	46	61	54	31	60	48	29
Link Distance (ft)		3421	3421			780	780		1991		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)		0									
Queuing Penalty (veh)		0									

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	T	T	LR
Maximum Queue (ft)	39	47	27	26	22
Average Queue (ft)	4	8	4	3	1
95th Queue (ft)	22	32	18	16	12
Link Distance (ft)	48	48	347	347	659
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	61	15
Average Queue (ft)	24	1
95th Queue (ft)	52	10
Link Distance (ft)	2087	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		175
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	EB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	6	3	38
Average Queue (ft)	0	0	14
95th Queue (ft)	5	3	39
Link Distance (ft)	780	48	687
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB
Directions Served	R
Maximum Queue (ft)	33
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	474
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB	NB	SW
Directions Served	LR	LR	LR
Maximum Queue (ft)	22	8	23
Average Queue (ft)	2	0	1
95th Queue (ft)	13	3	10
Link Distance (ft)	612	1017	159
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement	SB
Directions Served	LR
Maximum Queue (ft)	65
Average Queue (ft)	26
95th Queue (ft)	54
Link Distance (ft)	810
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 22

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	150	177	159	132	29	269	266	122	116	153	126	53
Average Queue (ft)	31	90	68	41	4	191	166	37	34	76	53	5
95th Queue (ft)	99	155	129	98	18	267	274	121	86	133	102	32
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						2	2					
Queuing Penalty (veh)						9	9					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							17	0			20	0
Queuing Penalty (veh)							51	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	300	1565	1608
Average Queue (ft)	130	585	784
95th Queue (ft)	257	1605	1719
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		12	13
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	1	1	
Queuing Penalty (veh)	0	2	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	SB
Directions Served	T	T	TR	T	T	R
Maximum Queue (ft)	22	112	127	97	109	34
Average Queue (ft)	1	12	13	6	12	6
95th Queue (ft)	11	63	68	53	66	26
Link Distance (ft)	152	152	152	2328	2328	865
Upstream Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	82	96	92	112	92	301	318	85	42	58	482	175
Average Queue (ft)	34	51	30	40	8	129	165	38	12	3	271	162
95th Queue (ft)	66	85	74	92	43	249	273	72	35	39	594	208
Link Distance (ft)			2328	2328		3421	3421		954	439	439	
Upstream Blk Time (%)											24	
Queuing Penalty (veh)											66	
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						3		0			1	61
Queuing Penalty (veh)						0		0			4	8

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	WB	SB	SB
Directions Served	LTR	LT	TR
Maximum Queue (ft)	253	97	387
Average Queue (ft)	69	5	73
95th Queue (ft)	231	48	285
Link Distance (ft)	1622	908	908
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	86	194	71	186	24
Average Queue (ft)	46	80	31	76	8
95th Queue (ft)	73	143	59	131	24
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	66	53
Average Queue (ft)	28	3
95th Queue (ft)	57	23
Link Distance (ft)	718	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	12
Average Queue (ft)	1	1
95th Queue (ft)	11	8
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	9	60	17
Average Queue (ft)	1	20	1
95th Queue (ft)	5	47	8
Link Distance (ft)	665	598	784
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	27	50	2
Average Queue (ft)	7	3	0
95th Queue (ft)	24	22	2
Link Distance (ft)	835	937	779
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	27	57	38
Average Queue (ft)	11	6	4	1
95th Queue (ft)	32	23	27	16
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	34	33	21
Average Queue (ft)	18	7	3	1
95th Queue (ft)	41	20	17	9
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	26
Average Queue (ft)	0	3
95th Queue (ft)	6	17
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	3	36
Average Queue (ft)	0	11
95th Queue (ft)	3	33
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	35
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1003
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	36	6
Average Queue (ft)	11	0
95th Queue (ft)	34	4
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	43
Average Queue (ft)	0	15
95th Queue (ft)	6	35
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	33	56
Average Queue (ft)	2	26
95th Queue (ft)	16	49
Link Distance (ft)	303	1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	8	99	125	65	46	134	146	58	86	28	41
Average Queue (ft)	0	35	42	17	13	69	70	19	45	8	13
95th Queue (ft)	5	79	90	45	38	119	126	49	73	27	38
Link Distance (ft)		3421	3421			790	790		1990		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	37	34	30	46	38	14
Average Queue (ft)	7	5	2	9	9	1
95th Queue (ft)	27	23	15	30	30	9
Link Distance (ft)	48	48		343	343	659
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)			140			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	92	3	24
Average Queue (ft)	28	0	1
95th Queue (ft)	63	3	11
Link Distance (ft)	2110	168	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	WB	WB
Directions Served	T	TR
Maximum Queue (ft)	9	7
Average Queue (ft)	0	0
95th Queue (ft)	6	4
Link Distance (ft)	48	48
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Vista Blvd & Village I Access (North)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB	SW
Directions Served	LR	LR
Maximum Queue (ft)	30	9
Average Queue (ft)	7	0
95th Queue (ft)	26	6
Link Distance (ft)	612	159
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	130	11	27
Average Queue (ft)	20	0	4
95th Queue (ft)	78	6	22
Link Distance (ft)	1266	624	810
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 154

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	297	332	312	278	52	271	272	123	60	107	80	54
Average Queue (ft)	178	220	154	134	6	197	197	41	15	43	28	8
95th Queue (ft)	265	299	265	233	31	280	289	132	44	86	63	39
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						4	4					
Queuing Penalty (veh)						15	15					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							30	0			6	0
Queuing Penalty (veh)							65	1			0	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	298	554	356
Average Queue (ft)	228	191	31
95th Queue (ft)	348	590	204
Link Distance (ft)		1620	1620
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	22	0	
Queuing Penalty (veh)	16	1	

Intersection: 2: Vista Blvd & Village A Access

Movement	EB	EB	WB	WB	WB	B59	B59	SB
Directions Served	T	T	T	T	TR	T	T	R
Maximum Queue (ft)	6	10	57	136	128	114	94	41
Average Queue (ft)	0	0	2	19	18	5	9	10
95th Queue (ft)	6	10	24	88	87	51	62	34
Link Distance (ft)	247	247	142	142	142	2338	2338	866
Upstream Blk Time (%)				1	1			
Queuing Penalty (veh)				2	3			
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	138	155	237	282	32	216	243	64	26	49	91	154
Average Queue (ft)	67	93	68	95	5	97	121	23	5	13	9	75
95th Queue (ft)	114	141	168	210	22	172	199	54	20	39	65	132
Link Distance (ft)			2338	2338		3421	3421		954	439	439	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						1		0				1
Queuing Penalty (veh)						0		0				0

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT
Maximum Queue (ft)	26	7	11	9
Average Queue (ft)	8	0	0	0
95th Queue (ft)	22	7	7	6
Link Distance (ft)	1622	439	439	908
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	77	111	111	126	43
Average Queue (ft)	41	54	57	66	14
95th Queue (ft)	65	88	91	102	32
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	58	2	42
Average Queue (ft)	27	0	4
95th Queue (ft)	51	2	24
Link Distance (ft)	718	1022	316
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	20	12
Average Queue (ft)	1	0
95th Queue (ft)	11	7
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	13	60	68	35
Average Queue (ft)	2	16	6	2
95th Queue (ft)	10	45	35	14
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	34	32
Average Queue (ft)	11	2
95th Queue (ft)	32	16
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	24	30	43	41
Average Queue (ft)	10	8	3	3
95th Queue (ft)	29	28	22	19
Link Distance (ft)	639	573	411	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	12	41	56
Average Queue (ft)	17	3	4	5
95th Queue (ft)	38	12	24	29
Link Distance (ft)	519	882	1266	2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	12	23
Average Queue (ft)	0	4
95th Queue (ft)	5	17
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	22	43
Average Queue (ft)	1	17
95th Queue (ft)	10	41
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	41
Average Queue (ft)	12
95th Queue (ft)	38
Link Distance (ft)	1003
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	53	9
Average Queue (ft)	23	0
95th Queue (ft)	50	6
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	15	29
Average Queue (ft)	1	11
95th Queue (ft)	10	30
Link Distance (ft)	159	1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	41	85
Average Queue (ft)	6	52
95th Queue (ft)	28	77
Link Distance (ft)	303	1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	13	299	312	122	64	108	104	58	85	61	39
Average Queue (ft)	1	133	149	42	23	45	44	18	48	23	8
95th Queue (ft)	6	245	265	83	50	86	88	49	74	50	30
Link Distance (ft)		3421	3421			780	780		1991		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)		2									
Queuing Penalty (veh)		0									

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	T	T	LR
Maximum Queue (ft)	58	57	43	42	24
Average Queue (ft)	10	13	8	5	2
95th Queue (ft)	36	39	30	25	13
Link Distance (ft)	48	48	347	347	659
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	1	1			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	79	22
Average Queue (ft)	26	2
95th Queue (ft)	61	13
Link Distance (ft)	2087	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		175
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	6	4
Average Queue (ft)	0	0
95th Queue (ft)	8	6
Link Distance (ft)	780	780
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Vista Blvd & Village I Access (North)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement	EB	NB	SW
Directions Served	LR	LR	LR
Maximum Queue (ft)	24	12	21
Average Queue (ft)	2	0	1
95th Queue (ft)	13	9	8
Link Distance (ft)	612	1017	159
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement	SB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	30
95th Queue (ft)	56
Link Distance (ft)	810
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 121

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	162	185	187	141	30	263	271	123	142	165	154	54
Average Queue (ft)	41	98	71	35	4	202	172	42	52	92	63	6
95th Queue (ft)	120	165	139	95	18	272	280	125	119	156	122	35
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						1	1					
Queuing Penalty (veh)						8	9					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							14	0			28	0
Queuing Penalty (veh)							52	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	300	1646	1648
Average Queue (ft)	294	964	967
95th Queue (ft)	327	1884	1883
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		24	22
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	87	1	
Queuing Penalty (veh)	34	2	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	SB
Directions Served	T	T	TR	T	T	R
Maximum Queue (ft)	23	84	124	200	270	78
Average Queue (ft)	1	12	14	29	50	26
95th Queue (ft)	13	51	61	132	187	59
Link Distance (ft)	152	152	152	2328	2328	865
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	123	142	129	148	122	790	811	112	61	120	483	175
Average Queue (ft)	59	71	32	44	12	375	414	49	16	34	396	173
95th Queue (ft)	105	122	91	111	66	784	820	96	45	85	596	192
Link Distance (ft)			2328	2328		3421	3421		954	439	439	
Upstream Blk Time (%)											26	
Queuing Penalty (veh)											102	
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)						25		1	0		1	65
Queuing Penalty (veh)						2		0	0		6	9

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	292	840	51	27	267	513
Average Queue (ft)	75	272	7	1	25	140
95th Queue (ft)	265	761	30	12	197	492
Link Distance (ft)	1252	1622	439	439	908	908
Upstream Blk Time (%)					0	0
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	124	347	96	182	31
Average Queue (ft)	57	118	40	87	8
95th Queue (ft)	95	281	74	142	25
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	87	32	46
Average Queue (ft)	8	34	1	3
95th Queue (ft)	30	66	13	24
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	13
Average Queue (ft)	3	0
95th Queue (ft)	17	8
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	11	66	24	5
Average Queue (ft)	1	21	1	0
95th Queue (ft)	6	53	15	5
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	60
Average Queue (ft)	7	5
95th Queue (ft)	25	34
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	27	75	13
Average Queue (ft)	11	6	6	1
95th Queue (ft)	32	23	37	10
Link Distance (ft)	639	573	411	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	65	27	40	54
Average Queue (ft)	23	7	3	3
95th Queue (ft)	49	19	20	26
Link Distance (ft)	519	882		2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	23
Average Queue (ft)	0	4
95th Queue (ft)	5	18
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	27	42
Average Queue (ft)	2	14
95th Queue (ft)	14	38
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	12	25	36
Average Queue (ft)	0	6	13
95th Queue (ft)	6	21	38
Link Distance (ft)	217	1044	1003
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	6
Average Queue (ft)	13	0
95th Queue (ft)	39	5
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	23	40
Average Queue (ft)	2	14
95th Queue (ft)	14	35
Link Distance (ft)		1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	33	56
Average Queue (ft)	2	28
95th Queue (ft)	16	52
Link Distance (ft)		1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	5	108	115	42	42	170	180	56	78	33	43
Average Queue (ft)	0	33	42	14	13	73	79	21	43	9	15
95th Queue (ft)	4	76	86	35	37	135	148	51	68	29	42
Link Distance (ft)		3421	3421			790	790		1990		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)		0				0					
Queuing Penalty (veh)		0				0					

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	40	41	24	41	51	21
Average Queue (ft)	7	4	1	10	10	1
95th Queue (ft)	29	22	11	31	34	12
Link Distance (ft)	48	48		343	343	659
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)			140			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	NB	SB	SB	SB
Directions Served	LR	T	L	T	T
Maximum Queue (ft)	82	3	27	5	5
Average Queue (ft)	28	0	2	0	0
95th Queue (ft)	62	3	16	5	5
Link Distance (ft)	2110	168		1842	1842
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			175		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	WB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	10	13	55
Average Queue (ft)	0	1	18
95th Queue (ft)	7	8	45
Link Distance (ft)	48	48	655
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB	SB
Directions Served	R	TR
Maximum Queue (ft)	50	3
Average Queue (ft)	17	0
95th Queue (ft)	44	4
Link Distance (ft)	563	168
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 229

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	L
Maximum Queue (ft)	317	579	1000	842	34	266	276	124	54	110	103	300
Average Queue (ft)	202	279	354	299	5	203	209	52	15	53	35	300
95th Queue (ft)	293	487	771	656	22	289	303	145	43	98	79	301
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)			1	0		3	5					
Queuing Penalty (veh)			0	0		15	21					
Storage Bay Dist (ft)	620	620						100	275			275
Storage Blk Time (%)		0	2	1			25	0			1	97
Queuing Penalty (veh)		0	13	0			66	1			0	68

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1654	1643
Average Queue (ft)	1601	1458
95th Queue (ft)	1822	2187
Link Distance (ft)	1620	1620
Upstream Blk Time (%)	86	35
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	SB
Directions Served	T	T	TR	T	T	R
Maximum Queue (ft)	30	145	150	179	190	60
Average Queue (ft)	1	25	28	21	30	22
95th Queue (ft)	19	100	99	106	122	52
Link Distance (ft)	142	142	142	2338	2338	866
Upstream Blk Time (%)		0	0			
Queuing Penalty (veh)		1	1			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	230	256	388	450	78	296	315	73	31	85	242	175
Average Queue (ft)	132	151	96	120	8	157	185	25	6	29	23	109
95th Queue (ft)	208	226	254	290	43	258	282	58	25	66	125	178
Link Distance (ft)			2338	2338		3421	3421		954	439	439	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	705	705			160			100				150
Storage Blk Time (%)			0			7		0			0	4
Queuing Penalty (veh)			0			0		0			0	0

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	TR	LT
Maximum Queue (ft)	41	64	130	124	11
Average Queue (ft)	10	20	35	12	1
95th Queue (ft)	27	48	97	66	6
Link Distance (ft)	1252	1622	439	439	908
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	97	149	201	229	41
Average Queue (ft)	49	66	84	107	14
95th Queue (ft)	79	112	156	178	32
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	59	47	53
Average Queue (ft)	4	26	4	4
95th Queue (ft)	20	53	26	27
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	13
Average Queue (ft)	2	0
95th Queue (ft)	13	8
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	70	116	63
Average Queue (ft)	3	20	9	3
95th Queue (ft)	11	59	53	32
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	48	62
Average Queue (ft)	11	4
95th Queue (ft)	36	30
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	28	56	34
Average Queue (ft)	11	9	6	3
95th Queue (ft)	31	28	32	18
Link Distance (ft)	639	573	411	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	25	65	83
Average Queue (ft)	20	4	5	7
95th Queue (ft)	42	16	32	39
Link Distance (ft)	519	882		2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	23
Average Queue (ft)	1	4
95th Queue (ft)	10	18
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	47
Average Queue (ft)	1	18
95th Queue (ft)	10	43
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	3	6	22	44
Average Queue (ft)	0	0	4	13
95th Queue (ft)	3	4	18	39
Link Distance (ft)	894	217	1044	1003
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	49	6
Average Queue (ft)	21	0
95th Queue (ft)	45	3
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	30	29
Average Queue (ft)	2	11
95th Queue (ft)	15	30
Link Distance (ft)		1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	4	48	94
Average Queue (ft)	0	8	54
95th Queue (ft)	3	33	83
Link Distance (ft)			1520
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	LTR
Maximum Queue (ft)	13	268	293	119	67	119	118	54	82	56	39
Average Queue (ft)	1	118	137	40	24	51	50	20	47	22	9
95th Queue (ft)	8	226	241	83	55	95	100	48	73	48	31
Link Distance (ft)		3421	3421			780	780		1991		951
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			545	200			200		200	
Storage Blk Time (%)		2									
Queuing Penalty (veh)		0									

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	T	T	LR
Maximum Queue (ft)	41	51	41	40	24
Average Queue (ft)	8	11	9	6	2
95th Queue (ft)	28	36	30	28	15
Link Distance (ft)	48	48	347	347	659
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	1			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	70	20
Average Queue (ft)	27	1
95th Queue (ft)	58	10
Link Distance (ft)	2087	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		175
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	2	3	38
Average Queue (ft)	0	0	14
95th Queue (ft)	2	3	39
Link Distance (ft)	780	780	687
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB	SB
Directions Served	R	TR
Maximum Queue (ft)	37	6
Average Queue (ft)	14	0
95th Queue (ft)	38	3
Link Distance (ft)	474	161
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 191

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	155	177	152	126	26	267	275	122	144	170	131	64
Average Queue (ft)	39	99	69	36	3	205	181	41	48	87	58	9
95th Queue (ft)	118	165	131	84	15	276	291	125	115	149	111	42
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)						2	2					
Queuing Penalty (veh)						11	11					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)							15	0			25	0
Queuing Penalty (veh)							56	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	300	1645	1652
Average Queue (ft)	283	914	959
95th Queue (ft)	349	1920	1899
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		25	24
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	74	0	
Queuing Penalty (veh)	30	1	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	B64	B64	B64	SB
Directions Served	T	T	TR	T	T	T	T		R
Maximum Queue (ft)	30	125	123	946	1059	7	84	36	79
Average Queue (ft)	1	17	18	226	308	0	5	2	27
95th Queue (ft)	19	75	75	793	978	7	39	21	63
Link Distance (ft)	152	152	152	1638	1638	634	634	634	865
Upstream Blk Time (%)	0	0	0						
Queuing Penalty (veh)	0	0	0						
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	TR	L	T	T	TR	L	TR	L	TR
Maximum Queue (ft)	127	152	139	172	135	358	390	380	107	73	127	316
Average Queue (ft)	62	82	66	84	11	183	214	196	53	19	33	147
95th Queue (ft)	112	132	119	144	63	313	348	340	104	67	86	262
Link Distance (ft)			634	634		3419	3419	3419		950	427	427
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	705	705			160				100			
Storage Blk Time (%)						14			4			6
Queuing Penalty (veh)						1			1			23

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	SB
Directions Served	R
Maximum Queue (ft)	175
Average Queue (ft)	100
95th Queue (ft)	203
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	150
Storage Blk Time (%)	2
Queuing Penalty (veh)	6

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	70	207	53	16	5	32
Average Queue (ft)	19	59	9	1	0	2
95th Queue (ft)	56	160	34	9	4	17
Link Distance (ft)	1252	1622	427	427	908	908
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	107	228	133	234	31
Average Queue (ft)	53	92	46	101	10
95th Queue (ft)	88	176	99	184	27
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	80	8	45
Average Queue (ft)	9	32	0	3
95th Queue (ft)	32	61	5	25
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	29	16
Average Queue (ft)	2	1
95th Queue (ft)	15	11
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	13	66	19	16
Average Queue (ft)	1	20	1	1
95th Queue (ft)	6	49	13	10
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	59
Average Queue (ft)	7	4
95th Queue (ft)	26	31
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	34	56	20
Average Queue (ft)	12	7	4	1
95th Queue (ft)	32	27	33	12
Link Distance (ft)	639	573	411	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	32	31	38
Average Queue (ft)	21	8	2	2
95th Queue (ft)	44	22	16	19
Link Distance (ft)	519	882		2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	23
Average Queue (ft)	0	4
95th Queue (ft)	4	18
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	40
Average Queue (ft)	1	12
95th Queue (ft)	10	36
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	20	33
Average Queue (ft)	5	13
95th Queue (ft)	19	37
Link Distance (ft)	1044	1003
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	41	3
Average Queue (ft)	12	0
95th Queue (ft)	37	3
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	42
Average Queue (ft)	1	15
95th Queue (ft)	13	36
Link Distance (ft)		1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	39	56
Average Queue (ft)	3	29
95th Queue (ft)	21	49
Link Distance (ft)		1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	LT	R	LTR
Maximum Queue (ft)	14	102	94	97	44	108	110	103	60	88	37	47
Average Queue (ft)	1	31	28	35	12	54	53	41	19	49	9	16
95th Queue (ft)	8	74	67	77	35	94	92	82	49	78	32	43
Link Distance (ft)		3419	3419	3419		793	793	793		1984		939
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200				200				200		200	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	TR	L	T	T	T	LR
Maximum Queue (ft)	44	27	26	21	38	48	31	15
Average Queue (ft)	7	3	2	1	9	7	4	1
95th Queue (ft)	29	15	14	10	30	28	18	9
Link Distance (ft)	50	50	50		343	343	343	647
Upstream Blk Time (%)	0		0					
Queuing Penalty (veh)	0		0					
Storage Bay Dist (ft)				140				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	NB	NB	SB
Directions Served	LR	T	TR	L
Maximum Queue (ft)	79	3	2	28
Average Queue (ft)	34	0	0	2
95th Queue (ft)	65	3	2	15
Link Distance (ft)	2108	169	169	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	WB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	4	3	53
Average Queue (ft)	0	0	18
95th Queue (ft)	4	3	46
Link Distance (ft)	50	50	643
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	44	5	8
Average Queue (ft)	18	0	0
95th Queue (ft)	44	5	6
Link Distance (ft)	551	169	169
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 142

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	T	L	T	T	R	L	L	T	R
Maximum Queue (ft)	310	611	974	894	28	268	278	123	79	122	96	49
Average Queue (ft)	198	271	346	305	5	204	208	50	15	50	34	5
95th Queue (ft)	287	469	731	663	21	289	302	143	50	96	76	31
Link Distance (ft)			1086	1086	247	247	247			1284	1284	
Upstream Blk Time (%)			1	0		4	5					
Queuing Penalty (veh)			0	0		16	20					
Storage Bay Dist (ft)	620	620						100	275			50
Storage Blk Time (%)		0	2	1			24	0			13	0
Queuing Penalty (veh)		0	11	0			63	1			1	0

Intersection: 1: Wingfield Hills Rd & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	300	1659	1640
Average Queue (ft)	300	1609	1492
95th Queue (ft)	300	1785	2165
Link Distance (ft)		1620	1620
Upstream Blk Time (%)		88	39
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	275		
Storage Blk Time (%)	97	1	
Queuing Penalty (veh)	68	3	

Intersection: 2: Vista Blvd & Village A Access

Movement	WB	WB	WB	B59	B59	B64	B64	B64	SB
Directions Served	T	T	TR	T	T	T	T		R
Maximum Queue (ft)	30	145	159	162	359	8	75	33	76
Average Queue (ft)	1	25	30	12	28	0	6	2	21
95th Queue (ft)	16	92	108	77	215	8	40	22	55
Link Distance (ft)	142	142	142	1635	1635	648	648	648	866
Upstream Blk Time (%)		0	0						
Queuing Penalty (veh)		1	1						
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	EB	EB	EB	EB	B64	B64	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	TR	T	T	L	T	T	TR	L	TR
Maximum Queue (ft)	270	274	378	419	2	6	61	254	270	244	80	42
Average Queue (ft)	158	170	142	187	0	0	6	134	157	118	27	8
95th Queue (ft)	243	249	303	350	2	6	30	217	238	219	64	31
Link Distance (ft)			648	648	1635	1635		3419	3419	3419		950
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	705	705					160				100	
Storage Blk Time (%)								5			0	
Queuing Penalty (veh)								0			0	

Intersection: 3: Wingfield Pkwy & Vista Blvd

Movement	SB	SB	SB
Directions Served	L	TR	R
Maximum Queue (ft)	86	154	142
Average Queue (ft)	31	72	37
95th Queue (ft)	69	123	90
Link Distance (ft)	427	427	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Intersection: 4: Wingfield Pkwy & Village A Dwy/Rey Del Sierra Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	46	76	137	120	20	17
Average Queue (ft)	11	21	33	14	1	1
95th Queue (ft)	31	55	100	73	10	9
Link Distance (ft)	1252	1622	427	427	908	908
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Wingfield Pkwy/Red Hawk Dwy/Village J Dwy & Wingfield Springs Rd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	91	139	226	229	40
Average Queue (ft)	47	66	90	116	15
95th Queue (ft)	77	107	170	190	32
Link Distance (ft)	442	1022	908	908	632
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Wingfield Springs Rd & Village D Dwy/Poco Rey Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	66	44	54
Average Queue (ft)	6	28	3	5
95th Queue (ft)	25	57	21	27
Link Distance (ft)	787	718	1022	316
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Wingfield Springs Rd & Diamond Wing Cir

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	11
Average Queue (ft)	2	0
95th Queue (ft)	12	9
Link Distance (ft)	648	316
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Wingfield Springs Rd & Eagle Wing Cir (South)/Cinnamon Dr (South)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	74	155	50
Average Queue (ft)	3	18	12	3
95th Queue (ft)	11	54	71	24
Link Distance (ft)	665	598	784	937
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Wingfield Springs Rd & Eagle Wing Cir (North)

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	35	90
Average Queue (ft)	10	4
95th Queue (ft)	30	36
Link Distance (ft)	835	937
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Wingfield Springs Rd & Silver King Dr/Cinnamon Dr (North)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	27	54	42
Average Queue (ft)	11	8	5	4
95th Queue (ft)	31	27	30	22
Link Distance (ft)	639	573	411	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wingfield Springs Rd & General Thatcher Dr/Florentine Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	22	62	56
Average Queue (ft)	22	5	8	5
95th Queue (ft)	46	16	37	27
Link Distance (ft)	519	882		2071
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Silver King Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	15	25
Average Queue (ft)	1	4
95th Queue (ft)	8	18
Link Distance (ft)	519	1010
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Island Queen Dr & General Thatcher Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	9	52
Average Queue (ft)	1	18
95th Queue (ft)	9	44
Link Distance (ft)	451	2202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Village F Dwy/Arrow Smith Dr & General Thatcher Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	13	20	45
Average Queue (ft)	0	3	12
95th Queue (ft)	11	15	38
Link Distance (ft)	217	1044	1003
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Island Queen Dr & Decoy Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	47	6
Average Queue (ft)	21	0
95th Queue (ft)	45	5
Link Distance (ft)	760	958
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Decoy Dr & Little Easy St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	27
Average Queue (ft)	3	10
95th Queue (ft)	18	28
Link Distance (ft)		1074
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Wingfield Springs Rd & Poco Bueno Cir

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	39	97
Average Queue (ft)	7	54
95th Queue (ft)	29	82
Link Distance (ft)		1520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Homerun Dr/Scorpius Dr & Vista Blvd/Vista Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	LT	R	LTR
Maximum Queue (ft)	14	212	246	258	63	95	90	74	57	84	61	39
Average Queue (ft)	1	78	101	124	24	40	35	25	17	48	26	9
95th Queue (ft)	9	161	189	219	52	78	74	54	47	75	54	33
Link Distance (ft)		3419	3419	3419		780	780	780		1984		939
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200				200				200		200	
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 19: Fire Station Access & Vista Blvd

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	LR
Maximum Queue (ft)	48	42	43	38	37	26	31
Average Queue (ft)	5	5	8	6	7	2	2
95th Queue (ft)	26	25	30	27	26	15	14
Link Distance (ft)	49	49	49	347	347	347	647
Upstream Blk Time (%)	0	0	0				
Queuing Penalty (veh)	0	0	0				
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 20: Vista Blvd /Vista Blvd & Black Hills Rd

Movement	WB	NB	NB	SB
Directions Served	LR	T	TR	L
Maximum Queue (ft)	85	3	7	17
Average Queue (ft)	24	0	0	1
95th Queue (ft)	60	0	7	10
Link Distance (ft)	2070	164	164	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Vista Blvd & Village I Access (South)

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	2	35
Average Queue (ft)	0	13
95th Queue (ft)	2	37
Link Distance (ft)	780	675
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Vista Blvd & Village I Access (North)

Movement	EB	NB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	32	6	5
Average Queue (ft)	13	0	0
95th Queue (ft)	37	4	5
Link Distance (ft)	462	347	164
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 53: Poco Bueno Cir & Decoy Dr

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 54: Wingfield Springs Rd & School Dwy

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 187

MOVEMENT SUMMARY

Site: Intx 4 [C+P PM Wingfield Spring Road & Village A/Rey Del Sierra Dr (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Wingfield Springs Road														
3	L2	61	3.0	66	3.0	0.337	5.7	LOS A	1.9	47.5	0.09	0.02	0.09	34.5
8	T1	709	3.0	771	3.0	0.337	5.7	LOS A	1.9	47.5	0.09	0.02	0.09	34.7
18	R2	73	3.0	79	3.0	0.337	5.7	LOS A	1.9	47.5	0.09	0.02	0.09	33.8
Approach		843	3.0	916	3.0	0.337	5.7	LOS A	1.9	47.5	0.09	0.02	0.09	34.6
East: Rey Del Sierra Drive														
1	L2	46	3.0	50	3.0	0.105	7.8	LOS A	0.4	9.9	0.64	0.64	0.64	31.6
6	T1	1	3.0	1	3.0	0.105	7.8	LOS A	0.4	9.9	0.64	0.64	0.64	31.5
16	R2	6	3.0	7	3.0	0.105	7.8	LOS A	0.4	9.9	0.64	0.64	0.64	30.7
Approach		53	3.0	58	3.0	0.105	7.8	LOS A	0.4	9.9	0.64	0.64	0.64	31.5
North: Wingfield Springs Road														
7	L2	3	3.0	3	3.0	0.183	4.5	LOS A	0.8	20.6	0.26	0.14	0.26	35.6
4	T1	400	3.0	435	3.0	0.183	4.5	LOS A	0.8	20.6	0.26	0.14	0.26	35.5
14	R2	13	3.0	14	3.0	0.183	4.5	LOS A	0.8	20.6	0.26	0.14	0.26	34.4
Approach		416	3.0	452	3.0	0.183	4.5	LOS A	0.8	20.6	0.26	0.14	0.26	35.5
West: Village A Access														
5	L2	9	3.0	10	3.0	0.051	5.0	LOS A	0.2	5.1	0.52	0.41	0.52	34.5
2	T1	1	3.0	1	3.0	0.051	5.0	LOS A	0.2	5.1	0.52	0.41	0.52	34.4
12	R2	28	3.0	30	3.0	0.051	5.0	LOS A	0.2	5.1	0.52	0.41	0.52	33.4
Approach		38	3.0	41	3.0	0.051	5.0	LOS A	0.2	5.1	0.52	0.41	0.52	33.7
All Vehicles		1350	3.0	1467	3.0	0.337	5.4	LOS A	1.9	47.5	0.18	0.09	0.18	34.7

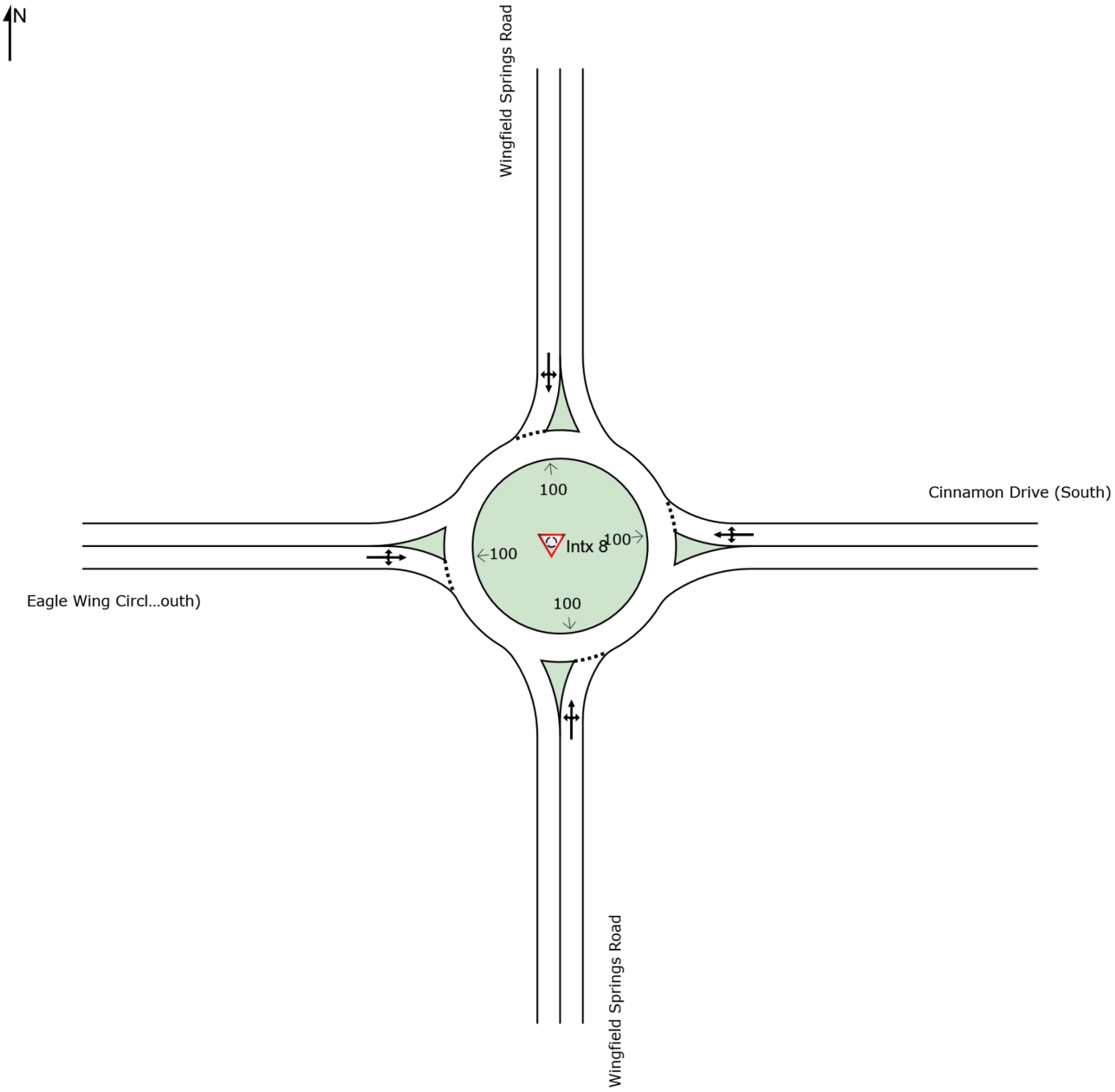
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: Intx 8 [C+P AM Wingfield Spring Road & Eagle Wing Cir (S)/Cinnamon Dr (S) (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: Intx 8 [C+P AM Wingfield Spring Road & Eagle Wing Cir (S)/Cinnamon Dr (S) (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Wingfield Springs Road														
3	L2	2	3.0	2	3.0	0.162	4.0	LOS A	0.8	20.0	0.04	0.00	0.04	35.8
8	T1	188	3.0	204	3.0	0.162	4.0	LOS A	0.8	20.0	0.04	0.00	0.04	35.8
18	R2	9	3.0	10	3.0	0.162	4.0	LOS A	0.8	20.0	0.04	0.00	0.04	34.7
Approach		199	3.0	216	3.0	0.162	4.0	LOS A	0.8	20.0	0.04	0.00	0.04	35.7
East: Cinnamon Drive (South)														
1	L2	27	3.0	29	3.0	0.032	3.6	LOS A	0.1	3.3	0.34	0.19	0.34	33.5
6	T1	1	3.0	1	3.0	0.032	3.6	LOS A	0.1	3.3	0.34	0.19	0.34	33.5
16	R2	4	3.0	4	3.0	0.032	3.6	LOS A	0.1	3.3	0.34	0.19	0.34	32.6
Approach		32	3.0	35	3.0	0.032	3.6	LOS A	0.1	3.3	0.34	0.19	0.34	33.4
North: Wingfield Springs Road														
7	L2	1	3.0	1	3.0	0.310	5.6	LOS A	1.8	45.3	0.16	0.06	0.16	35.0
4	T1	367	3.0	399	3.0	0.310	5.6	LOS A	1.8	45.3	0.16	0.06	0.16	34.9
14	R2	1	3.0	1	3.0	0.310	5.6	LOS A	1.8	45.3	0.16	0.06	0.16	33.9
Approach		369	3.0	401	3.0	0.310	5.6	LOS A	1.8	45.3	0.16	0.06	0.16	34.9
West: Eagle Wing Circle (South)														
5	L2	1	3.0	1	3.0	0.004	4.3	LOS A	0.0	0.4	0.47	0.28	0.47	34.7
2	T1	1	3.0	1	3.0	0.004	4.3	LOS A	0.0	0.4	0.47	0.28	0.47	34.6
12	R2	1	3.0	1	3.0	0.004	4.3	LOS A	0.0	0.4	0.47	0.28	0.47	33.6
Approach		3	3.0	3	3.0	0.004	4.3	LOS A	0.0	0.4	0.47	0.28	0.47	34.3
All Vehicles		603	3.0	655	3.0	0.310	5.0	LOS A	1.8	45.3	0.13	0.05	0.13	35.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Intx 8 [C+P PM Wingfield Spring Road & Eagle Wing Cir (S)/Cinnamon Dr (S) (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Wingfield Springs Road														
3	L2	14	3.0	15	3.0	0.319	5.6	LOS A	1.9	48.1	0.06	0.01	0.06	34.9
8	T1	342	3.0	372	3.0	0.319	5.6	LOS A	1.9	48.1	0.06	0.01	0.06	34.8
18	R2	35	3.0	38	3.0	0.319	5.6	LOS A	1.9	48.1	0.06	0.01	0.06	33.8
Approach		391	3.0	425	3.0	0.319	5.6	LOS A	1.9	48.1	0.06	0.01	0.06	34.7
East: Cinnamon Drive (South)														
1	L2	22	3.0	24	3.0	0.032	4.3	LOS A	0.1	3.2	0.46	0.32	0.46	33.2
6	T1	1	3.0	1	3.0	0.032	4.3	LOS A	0.1	3.2	0.46	0.32	0.46	33.1
16	R2	3	3.0	3	3.0	0.032	4.3	LOS A	0.1	3.2	0.46	0.32	0.46	32.2
Approach		26	3.0	28	3.0	0.032	4.3	LOS A	0.1	3.2	0.46	0.32	0.46	33.1
North: Wingfield Springs Road														
7	L2	3	3.0	3	3.0	0.243	4.9	LOS A	1.3	32.5	0.17	0.06	0.17	35.3
4	T1	283	3.0	308	3.0	0.243	4.9	LOS A	1.3	32.5	0.17	0.06	0.17	35.3
14	R2	1	3.0	1	3.0	0.243	4.9	LOS A	1.3	32.5	0.17	0.06	0.17	34.2
Approach		287	3.0	312	3.0	0.243	4.9	LOS A	1.3	32.5	0.17	0.06	0.17	35.3
West: Eagle Wing Circle (South)														
5	L2	1	3.0	1	3.0	0.013	3.9	LOS A	0.0	1.3	0.43	0.26	0.43	35.5
2	T1	1	3.0	1	3.0	0.013	3.9	LOS A	0.0	1.3	0.43	0.26	0.43	35.5
12	R2	9	3.0	10	3.0	0.013	3.9	LOS A	0.0	1.3	0.43	0.26	0.43	34.4
Approach		11	3.0	12	3.0	0.013	3.9	LOS A	0.0	1.3	0.43	0.26	0.43	34.6
All Vehicles		715	3.0	777	3.0	0.319	5.2	LOS A	1.9	48.1	0.12	0.05	0.12	34.9

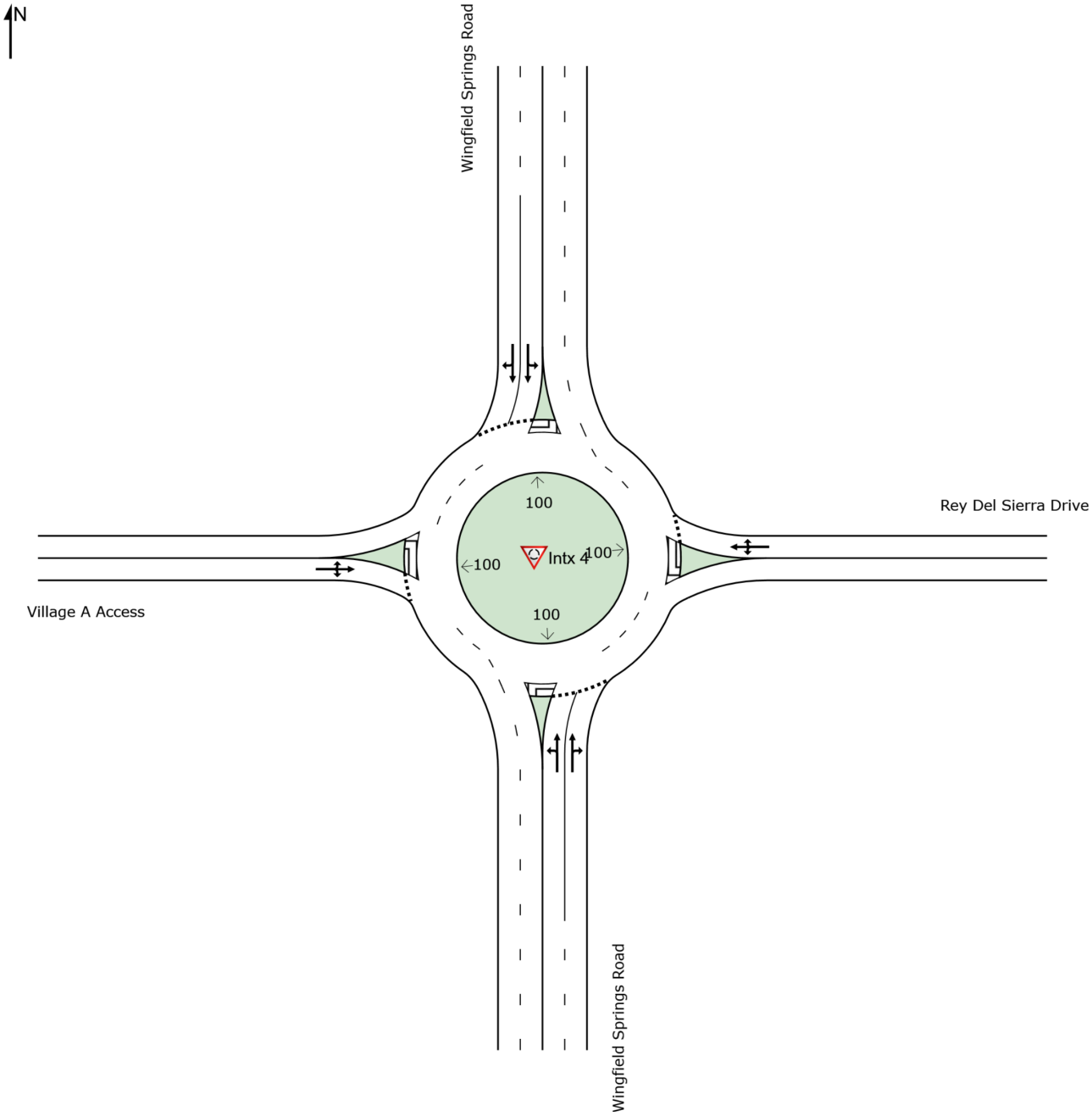
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LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: Intx 4 [C+P AM Wingfield Spring Road & Village A/Rey Del Sierra Dr (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: Intx 4 [C+P AM Wingfield Spring Road & Village A/Rey Del Sierra Dr (Site Folder: Cumulative Plus Project with Roundabout Improvements)]

Roundabout
Site Category: Cumulative Plus Project With RAB Improvements
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Wingfield Springs Road														
3	L2	17	3.0	18	3.0	0.104	3.5	LOS A	0.4	11.0	0.08	0.02	0.08	35.7
8	T1	212	3.0	230	3.0	0.104	3.5	LOS A	0.4	11.0	0.08	0.02	0.08	35.9
18	R2	30	3.0	33	3.0	0.104	3.5	LOS A	0.4	11.0	0.08	0.02	0.08	34.9
Approach		259	3.0	282	3.0	0.104	3.5	LOS A	0.4	11.0	0.08	0.02	0.08	35.7
East: Rey Del Sierra Drive														
1	L2	91	3.0	99	3.0	0.105	4.5	LOS A	0.4	11.4	0.41	0.28	0.41	32.9
6	T1	1	3.0	1	3.0	0.105	4.5	LOS A	0.4	11.4	0.41	0.28	0.41	32.9
16	R2	6	3.0	7	3.0	0.105	4.5	LOS A	0.4	11.4	0.41	0.28	0.41	32.0
Approach		98	3.0	107	3.0	0.105	4.5	LOS A	0.4	11.4	0.41	0.28	0.41	32.9
North: Wingfield Springs Road														
7	L2	3	3.0	3	3.0	0.272	5.4	LOS A	1.3	33.6	0.29	0.16	0.29	35.1
4	T1	610	3.0	663	3.0	0.272	5.4	LOS A	1.3	33.6	0.29	0.16	0.29	35.0
14	R2	4	3.0	4	3.0	0.272	5.4	LOS A	1.3	33.6	0.29	0.16	0.29	34.0
Approach		617	3.0	671	3.0	0.272	5.4	LOS A	1.3	33.6	0.29	0.16	0.29	35.0
West: Village A Access														
5	L2	13	3.0	14	3.0	0.102	7.2	LOS A	0.4	9.8	0.62	0.62	0.62	33.4
2	T1	1	3.0	1	3.0	0.102	7.2	LOS A	0.4	9.8	0.62	0.62	0.62	33.3
12	R2	42	3.0	46	3.0	0.102	7.2	LOS A	0.4	9.8	0.62	0.62	0.62	32.4
Approach		56	3.0	61	3.0	0.102	7.2	LOS A	0.4	9.8	0.62	0.62	0.62	32.6
All Vehicles		1030	3.0	1120	3.0	0.272	4.9	LOS A	1.3	33.6	0.27	0.16	0.27	34.8

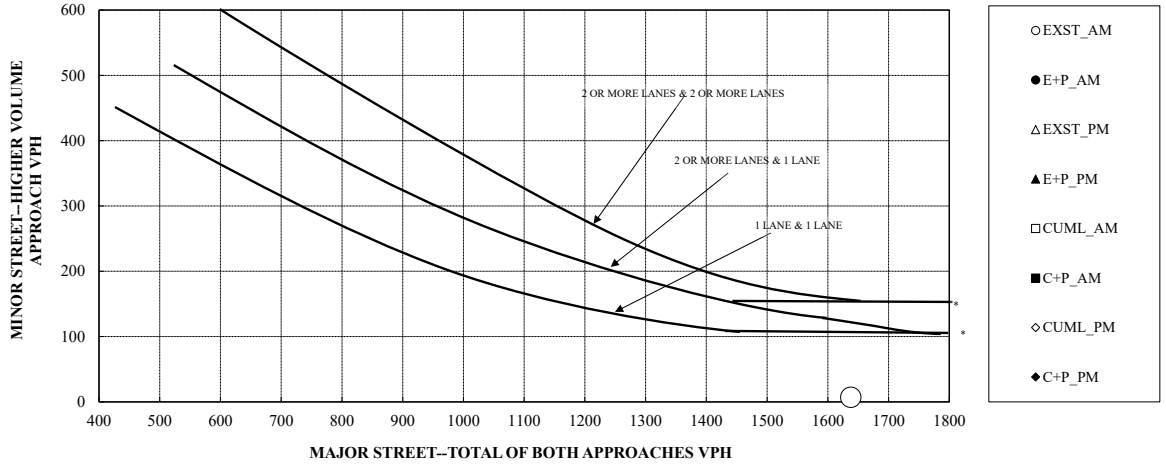
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX C | SIGNAL WARRANTS

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	1638	7	NO
E+P_AM	1960	32	NO
EXST_PM	1985	10	NO
E+P_PM	2429	26	NO
CUML_AM	1839	7	NO
C+P_AM	2161	32	NO
CUML_PM	2324	10	NO
C+P_PM	2768	26	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **2**

Intersection: **Village A Access & Vista Boulevard**

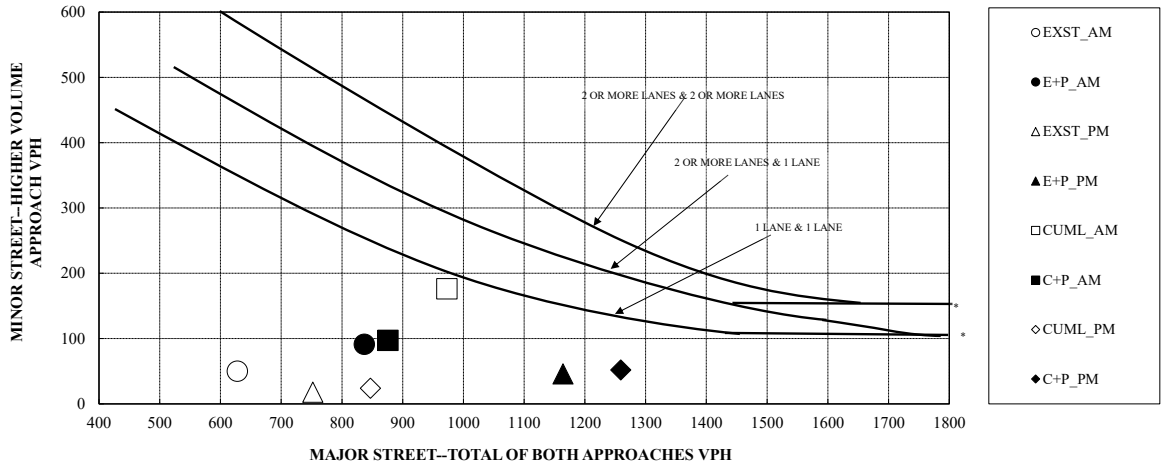
Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	628	50	NO
E+P_AM	837	91	NO
EXST_PM	752	18	NO
E+P_PM	1164	46	NO
CUML_AM	973	176	NO
C+P_AM	876	97	NO
CUML_PM	847	24	NO
C+P_PM	1259	52	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **4**

Intersection: **Wingfield Parkway & Rey Del Sierra Drive**

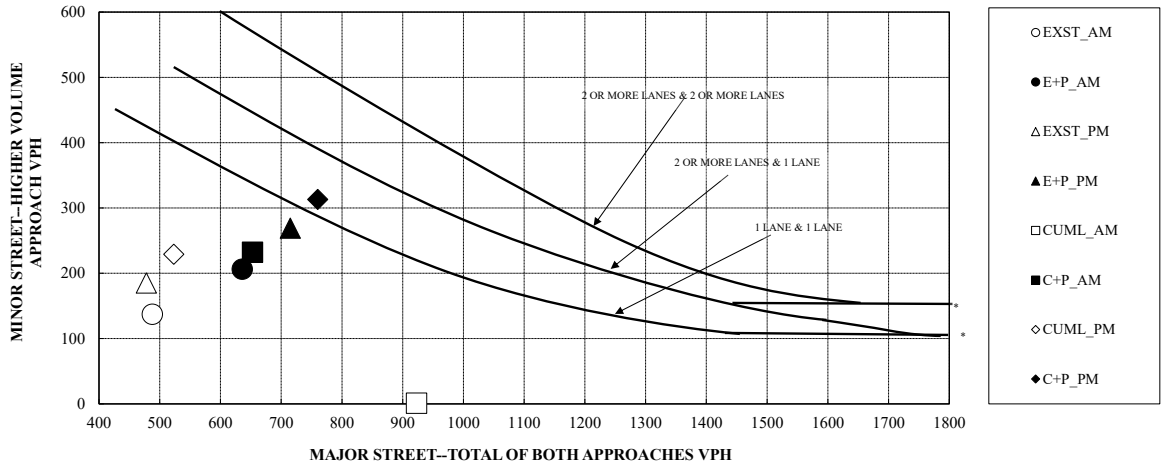
Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	488	137	NO
E+P_AM	636	206	NO
EXST_PM	478	185	NO
E+P_PM	715	269	NO
CUML_AM	923	1	NO
C+P_AM	653	232	NO
CUML_PM	523	229	NO
C+P_PM	760	313	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **5**

Intersection: **Wingfield Parkway & Wingfield Springs Roa**

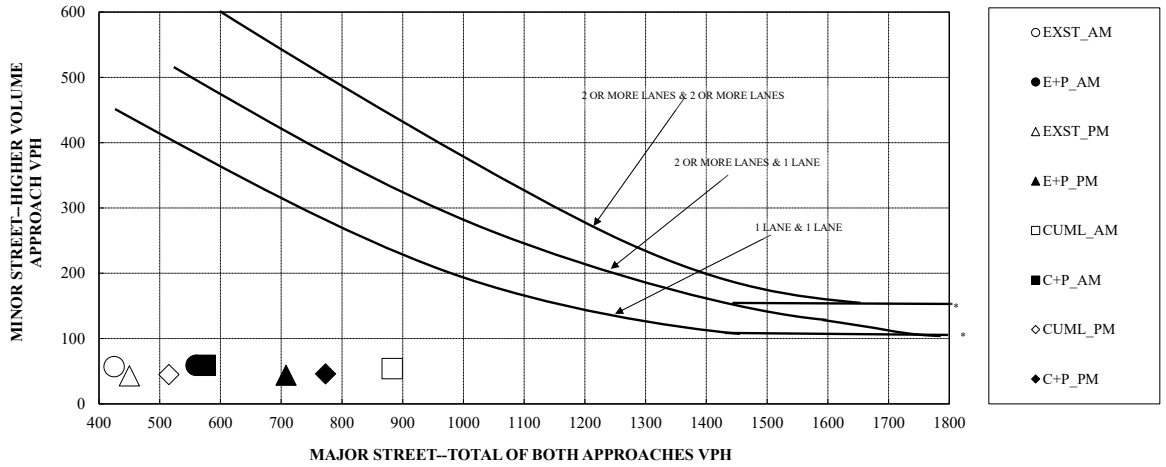
Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	425	57	NO
E+P_AM	560	59	NO
EXST_PM	450	43	NO
E+P_PM	708	44	NO
CUML_AM	883	54	NO
C+P_AM	575	59	NO
CUML_PM	515	45	NO
C+P_PM	773	46	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **6**

Intersection: **Wingfield Springs Road & Poco Rey Drive**

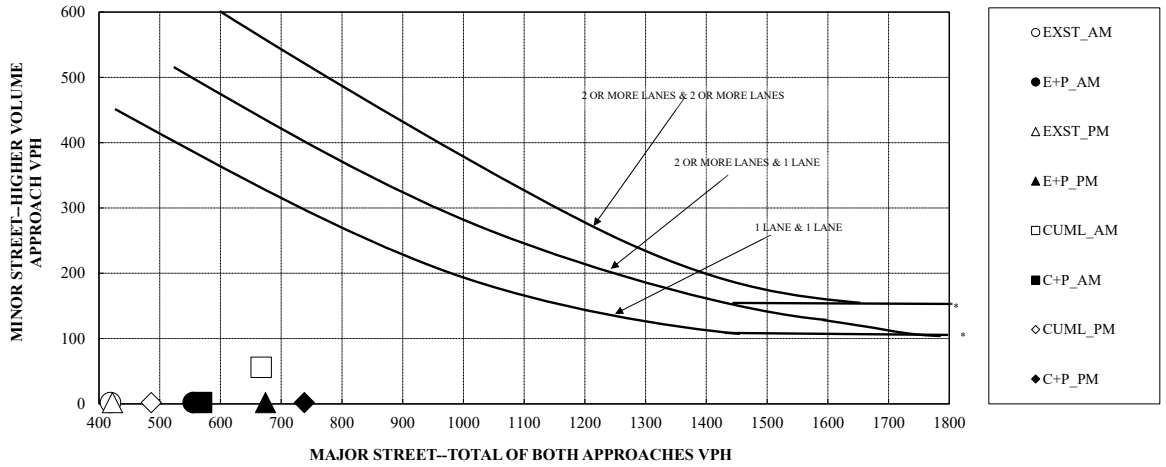
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	419	2	NO
E+P_AM	555	2	NO
EXST_PM	422	2	NO
E+P_PM	674	2	NO
CUML_AM	667	56	NO
C+P_AM	569	2	NO
CUML_PM	486	2	NO
C+P_PM	738	2	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **7**

Intersection: **Wingfield Springs Road & Diamond Wing C**

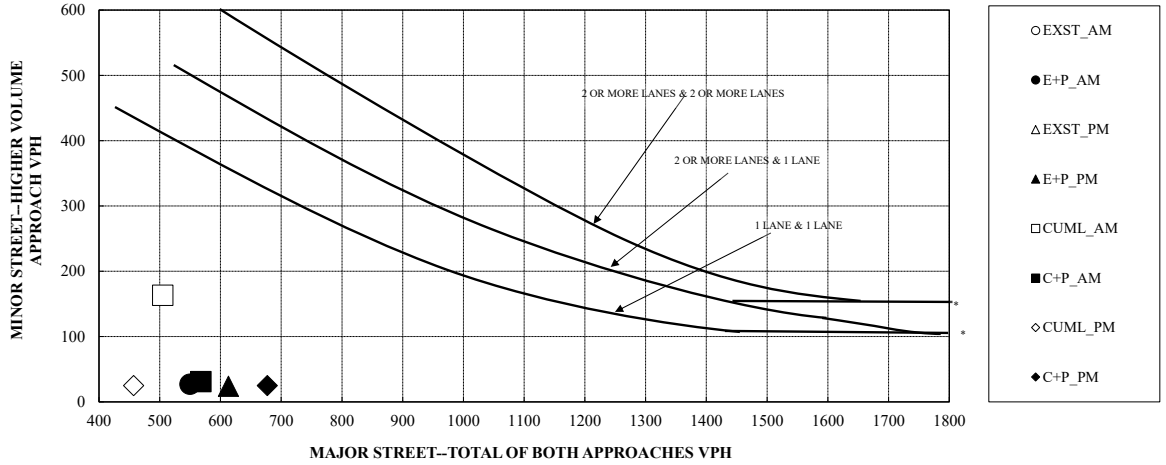
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	389	27	NO
E+P_AM	550	27	NO
EXST_PM	393	24	NO
E+P_PM	613	24	NO
CUML_AM	505	163	NO
C+P_AM	568	31	NO
CUML_PM	457	25	NO
C+P_PM	677	25	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **8**

Intersection: **Wingfield Springs Road & Eagle Wing Circl**

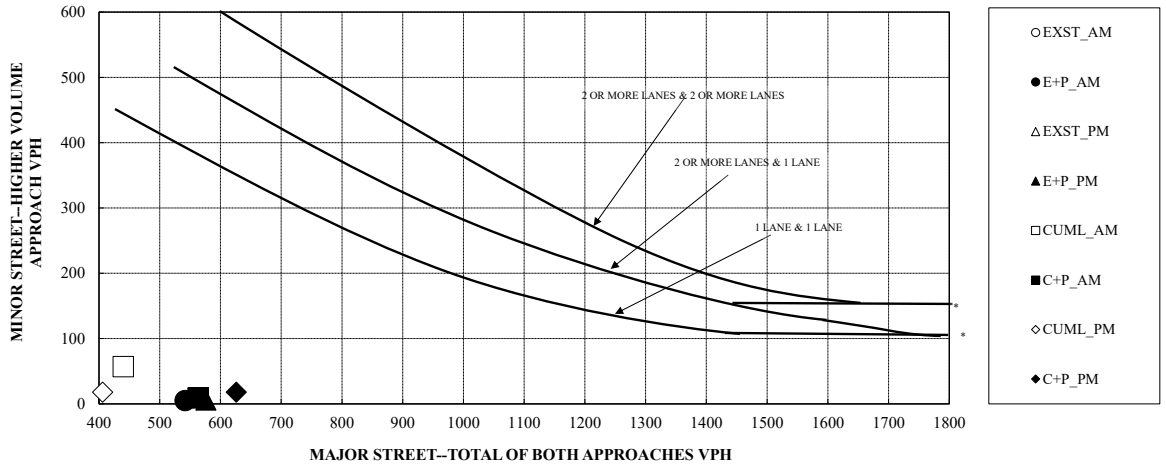
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	381	5	NO
E+P_AM	542	5	NO
EXST_PM	356	6	NO
E+P_PM	576	6	NO
CUML_AM	440	57	NO
C+P_AM	563	9	NO
CUML_PM	406	18	NO
C+P_PM	626	18	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **9**

Intersection: **Wingfield Springs Road & Eagle Wing Circl**

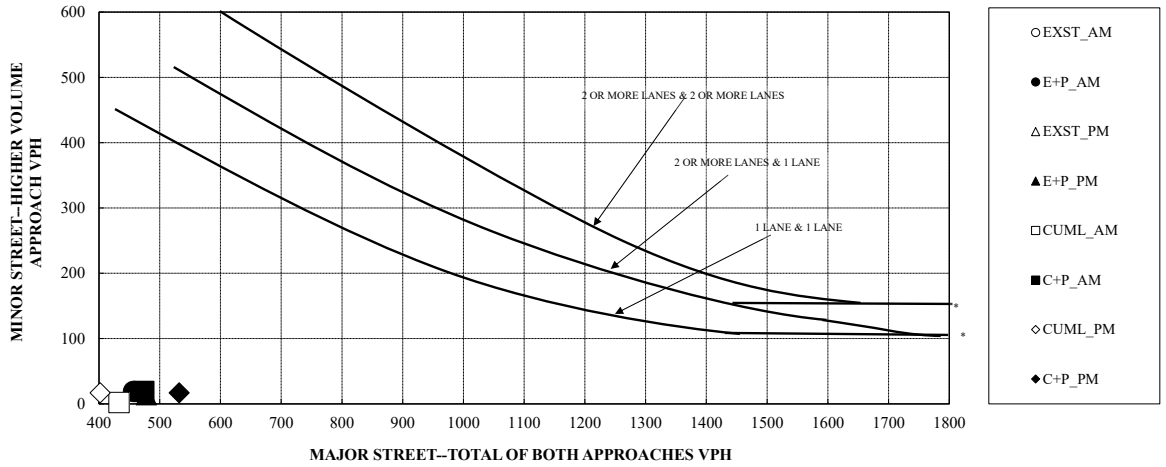
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	362	19	NO
E+P_AM	457	19	NO
EXST_PM	348	14	NO
E+P_PM	478	14	NO
CUML_AM	433	2	NO
C+P_AM	474	19	NO
CUML_PM	402	17	NO
C+P_PM	532	17	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **10**

Intersection: **Wingfield Springs Road & Silver King Drive**

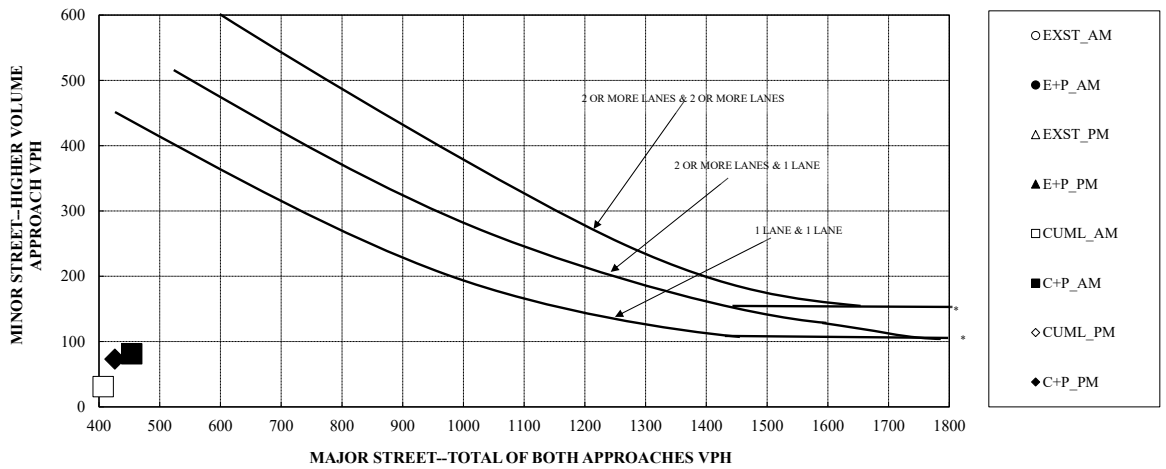
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	231	46	NO
E+P_AM	325	77	NO
EXST_PM	234	42	NO
E+P_PM	384	61	NO
CUML_AM	407	31	NO
C+P_AM	454	81	NO
CUML_PM	276	54	NO
C+P_PM	426	73	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **11**

Intersection: **Wingfield Springs Road & General Thatcher**

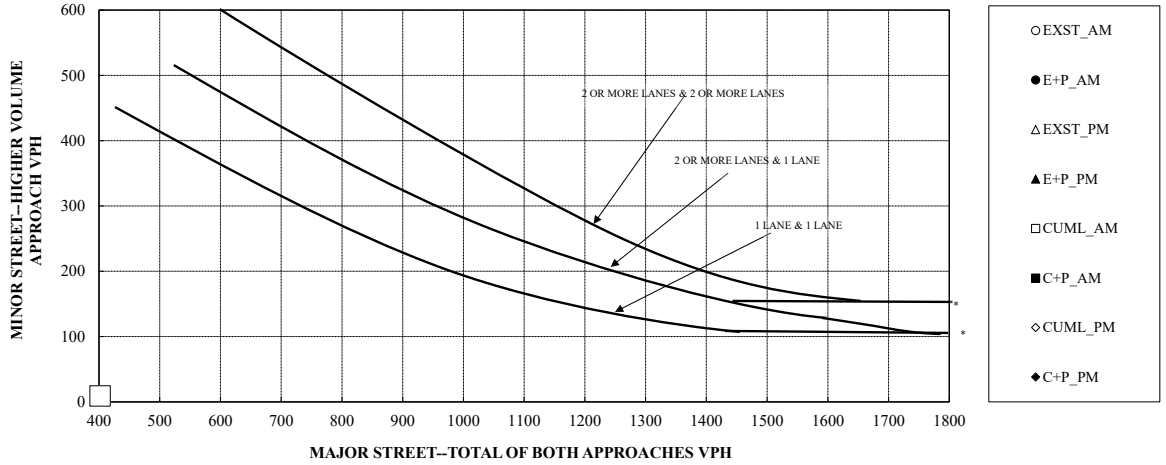
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	62	5	NO
E+P_AM	103	5	NO
EXST_PM	76	6	NO
E+P_PM	127	6	NO
CUML_AM	402	9	NO
C+P_AM	123	5	NO
CUML_PM	7	6	NO
C+P_PM	58	6	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **12**

Intersection: **Silver King Drive & General Thatcher Drive**

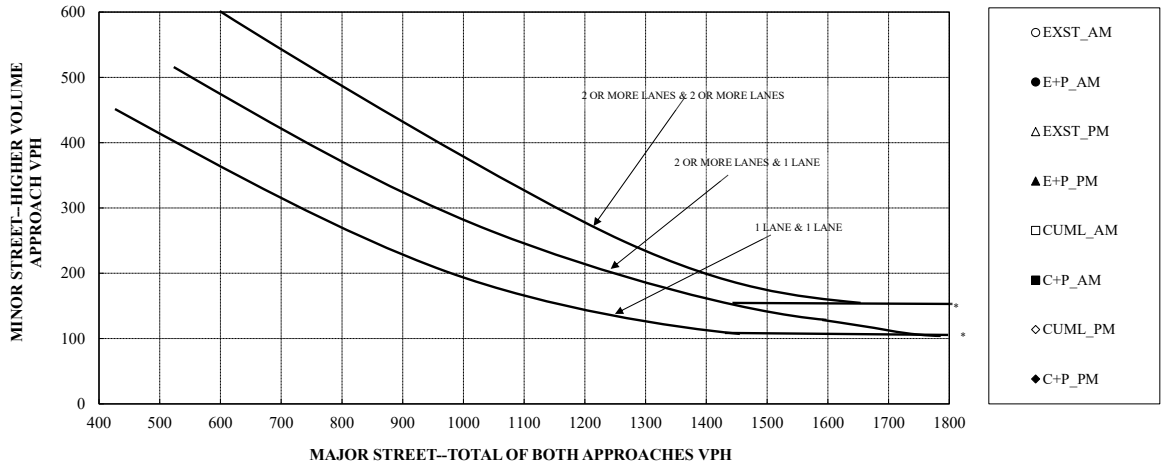
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	44	11	NO
E+P_AM	60	14	NO
EXST_PM	60	9	NO
E+P_PM	82	11	NO
CUML_AM	379	19	NO
C+P_AM	85	18	NO
CUML_PM	77	19	NO
C+P_PM	99	21	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **13**

Intersection: **Island Queen Drive & General Thatcher Dri**

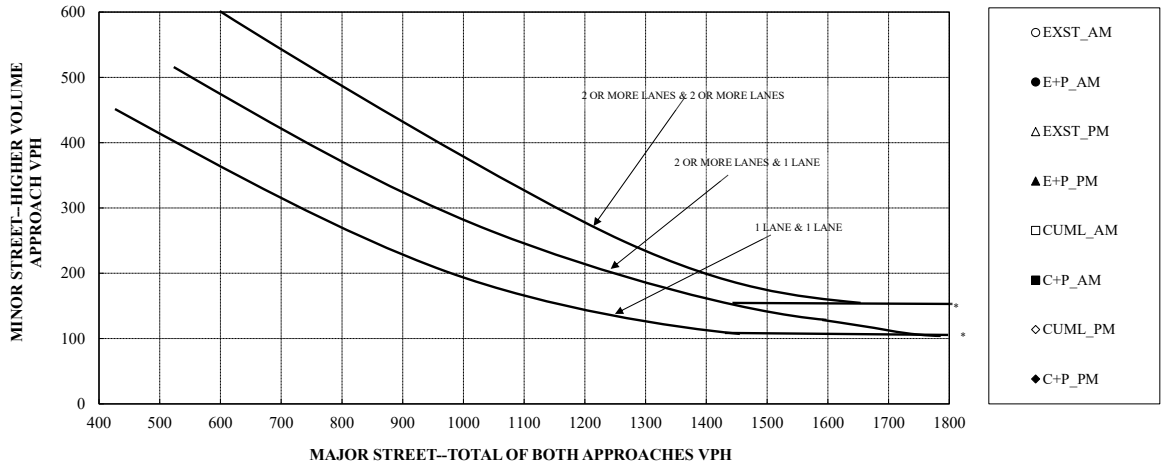
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	19	18	NO
E+P_AM	29	18	NO
EXST_PM	36	16	NO
E+P_PM	47	16	NO
CUML_AM	360	50	NO
C+P_AM	40	18	NO
CUML_PM	47	16	NO
C+P_PM	58	16	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **14**

Intersection: **Arrow Smith Drive & General Thatcher Driv**

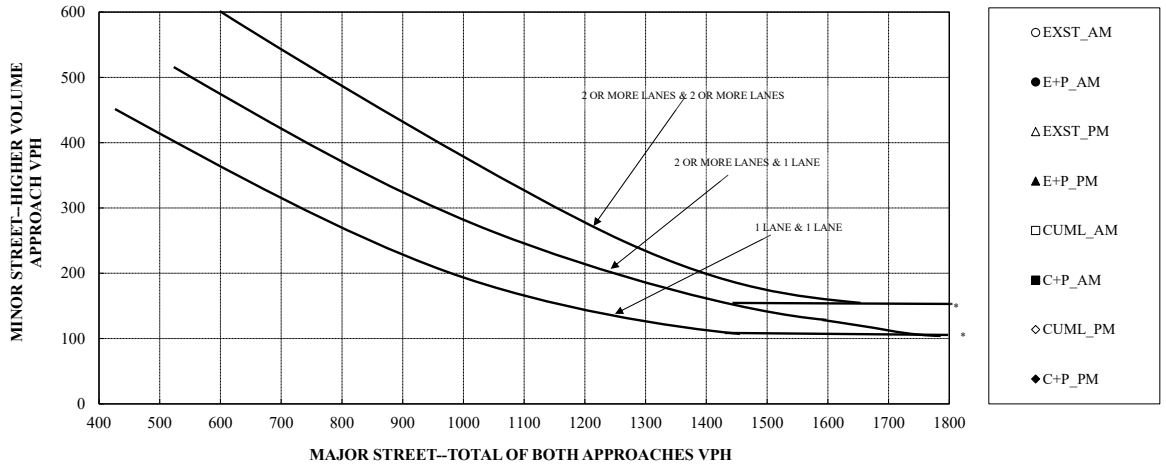
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	19	9	NO
E+P_AM	20	12	NO
EXST_PM	22	13	NO
E+P_PM	24	17	NO
CUML_AM	82	5	NO
C+P_AM	33	16	NO
CUML_PM	37	35	NO
C+P_PM	41	37	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **15**

Intersection: **Island Queen Drive & Decoy Drive**

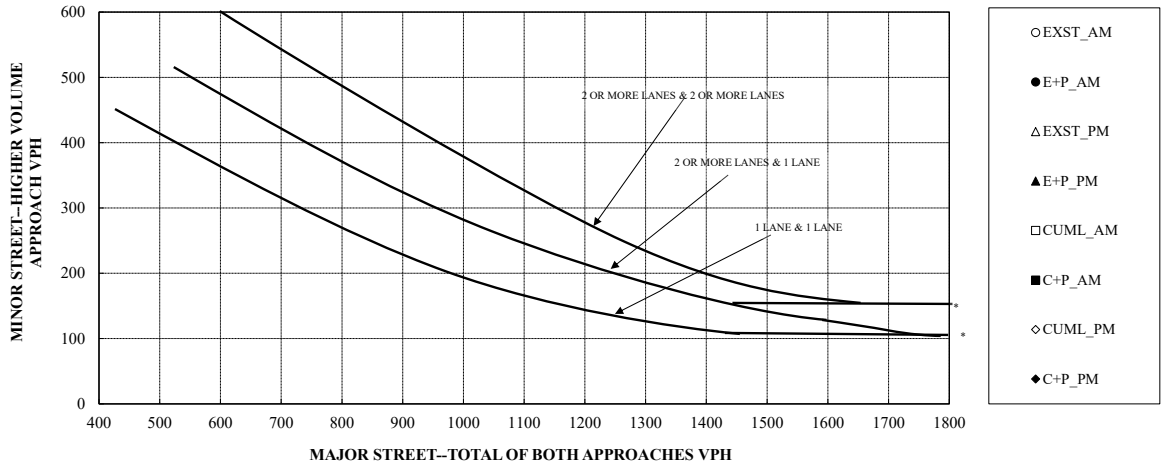
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	40	31	NO
E+P_AM	93	31	NO
EXST_PM	84	18	NO
E+P_PM	156	18	NO
CUML_AM	69	15	NO
C+P_AM	103	31	NO
CUML_PM	107	18	NO
C+P_PM	179	18	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **16**

Intersection: **Little Easy Street & Decoy Drive**

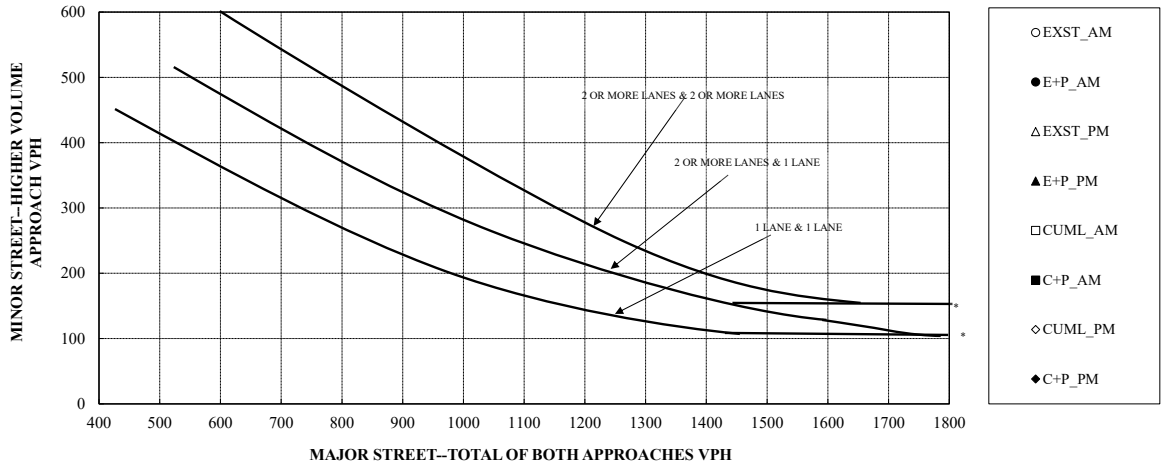
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	74	33	NO
E+P_AM	114	46	NO
EXST_PM	106	33	NO
E+P_PM	151	60	NO
CUML_AM	36	18	NO
C+P_AM	119	50	NO
CUML_PM	204	86	NO
C+P_PM	249	86	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **17**

Intersection: **Wingfield Springs Road & Poco Bueno Circl**

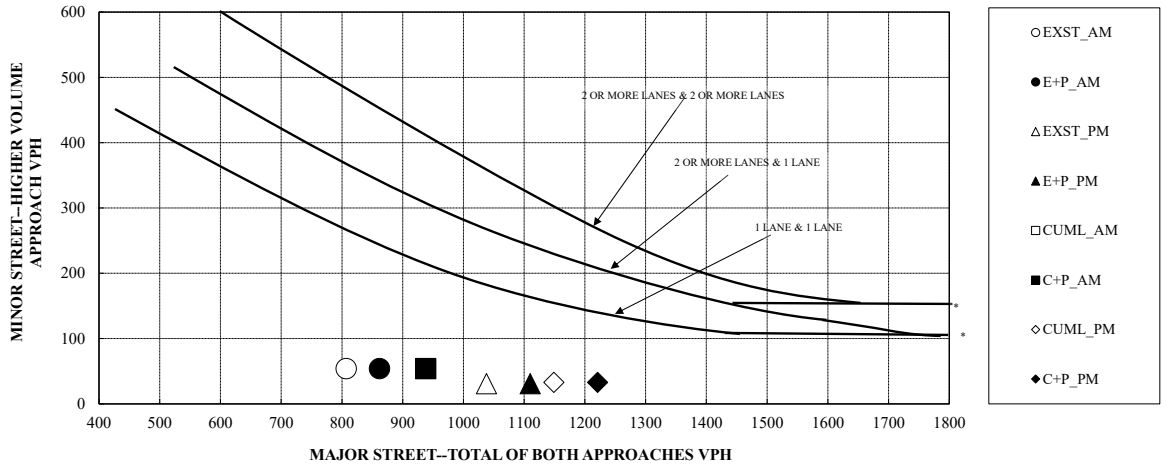
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM/PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (MUTCD)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	807	54	NO
E+P_AM	862	54	NO
EXST_PM	1038	31	NO
E+P_PM	1110	31	NO
CUML_AM	79	37	NO
C+P_AM	938	54	NO
CUML_PM	1149	33	NO
C+P_PM	1221	33	NO

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **January 14, 2026** Intersection No.: **20**

Intersection: **Vista Boulevard & Black Hills Drive**

Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **1**

APPENDIX D | NDOT COLLISION DATA (2019-2024)

OBJECTID *	Crash Severity	County	Crash Date	Crash Year	Crash Time	Primary Street	Distance	Dir	Secondary Street
3021059	INJURY CRASH	WASHOE	1/20/2020	2020	929	N WINGFIELD PW	<Null>	NORTH	REY DEL SIERRA DR
2983902	INJURY CRASH	WASHOE	1/20/2020	2020	9:29:00 AM	WINGFIELD PKWY	20	NORTH	REY DEL SIERRA DR
3022635	PROPERTY DAMAGE ONLY	WASHOE	1/25/2020	2020	2337	VISTA BL	<Null>	WEST	N WINGFIELD PW
2985641	PROPERTY DAMAGE ONLY	WASHOE	1/25/2020	2020	11:37:00 PM	VISTA BLVD	15	WEST	WINGFIELD PKWY
2988895	PROPERTY DAMAGE ONLY	WASHOE	2/25/2020	2020	6:53:00 AM	WINGFIELD HILLS RD	20	NORTH	VISTA BLVD
3025380	PROPERTY DAMAGE ONLY	WASHOE	2/25/2020	2020	653	WINGFIELD HILLS RD	<Null>	NORTH	VISTA BL
3028948	PROPERTY DAMAGE ONLY	WASHOE	4/4/2020	2020	1207	VISTA BL	<Null>	<Null>	WINGFIELD HILLS RD
2993322	PROPERTY DAMAGE ONLY	WASHOE	4/4/2020	2020	12:07:00 PM	VISTA BLVD	<Null>	AT INT	WINGFIELD HILLS RD
3030599	INJURY CRASH	WASHOE	4/21/2020	2020	912	VISTA BL	<Null>	<Null>	S WINGFIELD PW
2993926	INJURY CRASH	WASHOE	4/21/2020	2020	9:12:00 AM	VISTA BLVD	<Null>	AT INT	WINGFIELD PKWY
2995758	PROPERTY DAMAGE ONLY	WASHOE	5/23/2020	2020	2:46:00 PM	VISTA BLVD	<Null>	AT INT	SCORPIUS DR
3033429	PROPERTY DAMAGE ONLY	WASHOE	5/23/2020	2020	1446	VISTA BLVD	<Null>	<Null>	SCORPIUS DR
2998344	PROPERTY DAMAGE ONLY	WASHOE	6/13/2020	2020	9:00:00 PM	WINGFIELD HILLS RD	<Null>	AT INT	VISTA BLVD
3034983	PROPERTY DAMAGE ONLY	WASHOE	6/13/2020	2020	2100	WINGFIELD HILLS RD	<Null>	<Null>	VISTA BLVD
2998134	PROPERTY DAMAGE ONLY	WASHOE	6/16/2020	2020	7:15:00 PM	WINGFIELD HILLS RD	<Null>	AT INT	VISTA BLVD
3034819	PROPERTY DAMAGE ONLY	WASHOE	6/16/2020	2020	1915	WINGFIELD HILLS RD	<Null>	<Null>	VISTA BLVD
3036081	PROPERTY DAMAGE ONLY	WASHOE	6/24/2020	2020	1509	VISTA BL	<Null>	<Null>	WINGFIELD HILLS RD
3036647	INJURY CRASH	WASHOE	6/24/2020	2020	1212	VISTA BL	<Null>	NE	WINGFIELD HILLS RD
2998804	INJURY CRASH	WASHOE	6/24/2020	2020	12:12:00 PM	VISTA BLVD	100	NORTH	WINGFIELD HILLS RD
2999327	PROPERTY DAMAGE ONLY	WASHOE	6/24/2020	2020	3:09:00 PM	VISTA BLVD	<Null>	AT INT	WINGFIELD HILLS RD
3001795	PROPERTY DAMAGE ONLY	WASHOE	7/26/2020	2020	11:06:00 AM	VISTA BLVD	<Null>	AT INT	BLACK HILLS DR
3038193	PROPERTY DAMAGE ONLY	WASHOE	7/26/2020	2020	1106	VISTA BLVD	<Null>	<Null>	BLACK HILLS DR
3002956	PROPERTY DAMAGE ONLY	WASHOE	8/4/2020	2020	5:13:00 PM	WINGFIELD SPRINGS RD	45	SOUTH	POCO REY DR
3039532	PROPERTY DAMAGE ONLY	WASHOE	8/4/2020	2020	1713	WINGFIELD SPRINGS RD	<Null>	SOUTH	POCO REY DR
3045495	INJURY CRASH	WASHOE	9/22/2020	2020	1820	VISTA BL	<Null>	<Null>	N WINGFIELD PW
3008097	INJURY CRASH	WASHOE	9/22/2020	2020	6:20:00 PM	VISTA BLVD	<Null>	AT INT	N WINGFIELD PKWY
3202075	PROPERTY DAMAGE ONLY	WASHOE	1/9/2021	2021	54	SILVER KING DR	<Null>	NORTH	GLADIOLA CT
3202777	PROPERTY DAMAGE ONLY	WASHOE	1/15/2021	2021	1817	VISTA BLVD	<Null>	WEST	N WINGFIELD PKWY
3203428	PROPERTY DAMAGE ONLY	WASHOE	1/15/2021	2021	1745	VISTA DR	<Null>	SOUTH	WINGFIELD HILLS RD
3204126	PROPERTY DAMAGE ONLY	WASHOE	1/23/2021	2021	416	WINGFIELD HILLS RD	<Null>	SOUTH	VISTA BLVD
3205083	PROPERTY DAMAGE ONLY	WASHOE	2/7/2021	2021	1232	VISTA BLVD	<Null>	NORTH	WINGFIELD HILLS RD
3196090	INJURY CRASH	WASHOE	5/19/2021	2021	1259	GENERAL THATCHER DR	<Null>	<Null>	WINGFIELD SPRINGS RD
3198784	PROPERTY DAMAGE ONLY	WASHOE	6/15/2021	2021	716	VISTA BLVD	<Null>	<Null>	N WINGFIELD PKWY
3183521	INJURY CRASH	WASHOE	11/4/2021	2021	858	VISTA BLVD	<Null>	EAST	WINGFIELD HILLS RD
3150989	PROPERTY DAMAGE ONLY	WASHOE	1/27/2022	2022	731	VISTA BLVD	<Null>		N WINGFIELD PKWY
3153700	PROPERTY DAMAGE ONLY	WASHOE	2/23/2022	2022	1746	VISTA BLVD	<Null>	EAST	S WINGFIELD PKWY
3154664	PROPERTY DAMAGE ONLY	WASHOE	3/7/2022	2022	1730	VISTA BLVD	<Null>	AT INT	WINGFIELD HILLS RD
3179508	PROPERTY DAMAGE ONLY	WASHOE	5/18/2022	2022	237	VISTA BLVD	<Null>		HOMERUN DR
3180000	PROPERTY DAMAGE ONLY	WASHOE	6/1/2022	2022	1606	WINGFIELD SPRINGS RD	<Null>		GENERAL THATCHER DR
3180177	PROPERTY DAMAGE ONLY	WASHOE	6/2/2022	2022	728	WINGFIELD HILLS RD	<Null>		VISTA BLVD
3181344	PROPERTY DAMAGE ONLY	WASHOE	6/12/2022	2022	1756	VISTA BLVD	<Null>	SOUTH	HOMERUN DR
3158924	PROPERTY DAMAGE ONLY	WASHOE	8/1/2022	2022	2344	WINGFIELD SPRINGS RD	<Null>	AT INT	CINNAMON DR
3166455	INJURY CRASH	WASHOE	10/4/2022	2022	1321	N WINGFIELD PKWY	<Null>	AT INT	REY DEL SIERRA DR
3168060	INJURY CRASH	WASHOE	10/13/2022	2022	1747	SCORPIUS DR	<Null>		VISTA BLVD
3169004	PROPERTY DAMAGE ONLY	WASHOE	11/4/2022	2022	1450	VISTA BLVD	<Null>		BLACK HILLS DR
3172992	PROPERTY DAMAGE ONLY	WASHOE	12/2/2022	2022	2258	VISTA BLVD	<Null>	AT INT	WINGFIELD HILLS RD
3175039	PROPERTY DAMAGE ONLY	WASHOE	12/24/2022	2022	1637	VISTA BLVD	<Null>	NORTH	N WINGFIELD PKWY
3177202	INJURY CRASH	WASHOE	3/27/2023	2023	1859	WINGFIELD HILLS RD	<Null>		VISTA BLVD
3210947	PROPERTY DAMAGE ONLY	WASHOE	3/31/2023	2023	431	S WINGFIELD PKWY	<Null>	AT INT	VISTA BLVD
3209135	INJURY CRASH	WASHOE	4/27/2023	2023	2018	VISTA BLVD	<Null>	SOUTH	WINGFIELD HILLS RD
3212164	PROPERTY DAMAGE ONLY	WASHOE	4/28/2023	2023	726	VISTA BLVD	<Null>	WEST	WINGFIELD PKWY
3215080	PROPERTY DAMAGE ONLY	WASHOE	5/25/2023	2023	710	VISTA BLVD	<Null>		WINGFIELD HILLS RD
3255776	PROPERTY DAMAGE ONLY	WASHOE	11/7/2023	2023	1740	VISTA BLVD	<Null>	SOUTH	WINGFIELD HILLS RD
3267103	PROPERTY DAMAGE ONLY	WASHOE	11/16/2023	2023	2143	N WINGFIELD PKWY	<Null>		VISTA BLVD
3267225	FATAL CRASH	WASHOE	8/29/2024	2024	1906	POCO REY DR	<Null>		WINGFIELD SPRINGS RD
3269199	PROPERTY DAMAGE ONLY	WASHOE	9/19/2024	2024	743	VISTA BLVD	<Null>		S WINGFIELD PKWY
3271201	PROPERTY DAMAGE ONLY	WASHOE	11/30/2024	2024	827	WINGFIELD HILLS RD	<Null>	SOUTH	VISTA BLVD
3271446	INJURY CRASH	WASHOE	1/21/2025	2025	1643	WINGFIELD HILLS RD	<Null>	SOUTH	VISTA BLVD

Weather	Fatalities	Injured	Property Damage Only	Injury Type	Crash Type	Total Vehicles	V1 Type
CLOUDY|	0	1		C	REAR END	2	SEDAN 4-DOOR
CLOUDY	0	1		C	REAR END	2	SEDAN, 4 DOOR
CLEAR	0	0	PDO	O	REAR END	2	UTILITY
CLEAR	0	0	PDO	<Null>	REAR END	2	UTILITY
CLEAR	0	0	PDO	<Null>	REAR END	2	CARRY-ALL
CLEAR	0	0	PDO	O	REAR END	2	SUV/CARRY-ALL
CLOUDY|	0	0	PDO	O	REAR END	3	VAN
CLOUDY	0	0	PDO	<Null>	REAR END	3	VAN
CLEAR	0	1		B	ANGLE	2	SUV/CARRY-ALL
CLEAR	0	1		B	ANGLE	2	CARRY-ALL
CLEAR	0	0	PDO	<Null>	ANGLE	2	SEDAN, 4 DOOR
CLEAR	0	0	PDO	O	ANGLE	2	SEDAN 4-DOOR
BLOWING SNOW	0	0	PDO	<Null>	REAR END	2	
UNKNOWN|	0	0	PDO	O	REAR END	2	<Null>
CLEAR	0	0	PDO	<Null>	REAR END	2	PICKUP
CLEAR	0	0	PDO	<Null>	REAR END	2	PICKUP
RAIN|	0	0	PDO	O	REAR END	2	HATCHBACK 4-DOOR
CLEAR	0	2		C	REAR END	2	SEDAN 4-DOOR
CLEAR	0	2		C	REAR END	2	SEDAN, 4 DOOR
RAIN	0	0	PDO	<Null>	REAR END	2	HATCHBACK, 4 DOOR
CLEAR	0	0	PDO	<Null>	REAR END	2	CARRY-ALL
CLEAR	0	0	PDO	N	REAR END	2	SUV/CARRY-ALL
CLEAR	0	0	PDO	<Null>	NON-COLLISION	1	SEDAN, 4 DOOR
CLEAR	0	0	PDO	O	NON-COLLISION	1	SEDAN 4-DOOR
CLEAR	0	1		C	REAR END	2	SUV/CARRY-ALL
CLEAR	0	1		C	REAR END	2	CARRY-ALL
CLEAR	0	0	PDO	O	NON-COLLISION	1	HATCHBACK 4-DOOR
CLEAR	0	0	PDO	O	REAR END	3	HATCHBACK 4-DOOR
CLEAR	0	0	PDO	O	REAR END	2	SEDAN 4-DOOR
SNOW|	0	0	PDO	N	<Null>	1	SEDAN 4-DOOR
CLEAR	0	0	PDO	O	REAR END	2	HATCHBACK 2-DOOR
CLEAR	0	1		B	ANGLE	2	SEDAN 4-DOOR
CLEAR	0	0	PDO	O	ANGLE	2	SEDAN 4-DOOR
CLEAR	0	1		C	REAR END	2	SEDAN 4-DOOR
CLEAR	0	0	PDO	O	REAR END	2	UTILITY
CLEAR	0	0	PDO	O	REAR END	2	SEDAN 4-DOOR
UNKNOWN|	0	0	PDO	O	SIDESWIPE - OVERTAKING	2	<Null>
CLEAR	0	0	PDO	O	NON-COLLISION	1	UTILITY
CLEAR	0	0	PDO	O	ANGLE	2	WAGON
CLEAR	0	0	PDO	O	ANGLE	2	SUV/CARRY-ALL
CLEAR	0	0	PDO	O	NON-COLLISION	1	SEDAN 4-DOOR
<Null>	0	0	PDO	O	SIDESWIPE - MEETING	2	<Null>
<Null>	0	1		C	REAR END	2	MOTORCYCLE
CLEAR	0	1		C	ANGLE	1	SUV/CARRY-ALL
CLEAR	0	0	PDO	O	NON-COLLISION	1	UTILITY
<Null>	0	0	PDO	O	NON-COLLISION	1	SUV/CARRY-ALL
CLEAR	0	0	PDO	O	ANGLE	2	SEDAN 4-DOOR
CLEAR	0	2		C	ANGLE	2	SEDAN 4-DOOR
SLEET/HAIL|	0	0	PDO	O	ANGLE	2	<Null>
CLEAR	0	2		B	REAR END	3	PICKUP
CLEAR	0	0	PDO	O	REAR END	2	HATCHBACK 4-DOOR
CLEAR	0	0	PDO	O	ANGLE	2	PICKUP
CLEAR	0	0	PDO	O	REAR END	2	SUV/CARRY-ALL
CLEAR	0	0	PDO	O	REAR END	2	SEDAN 4-DOOR
CLEAR	1	1		K	ANGLE	2	MOTORCYCLE
CLEAR	0	0	PDO	O	ANGLE	2	SEDAN 4-DOOR
CLOUDY|FOG, SMOG, SMOKE, ASH|	0	0	PDO	O	NON-COLLISION	1	SEDAN 4-DOOR
CLEAR	0	1		A	REAR END	2	SUV/CARRY-ALL

V1 Dir	V1 Driver Age	V1 Lane Num	V1 Action	V1 Driver Factors	V1 Driver Distracted	V1 Vehicle Factors
SOUTH	23	2	STRAIGHT	DRIVER INATTENTION/DISTRACTED	PERSONAL HYGIENE	OTHER|
SOUTH	23	2	GOING STRAIGHT	INATTENTION/DISTRACTED	PERSONAL HYGIENE	OTHER
EAST	48	L1	STRAIGHT	<Null>	<Null>	HIT AND RUN|
EAST	48	L1	GOING STRAIGHT			HIT AND RUN
SOUTH	64	R1	GOING STRAIGHT	APPARENTLY NORMAL		OTHER
SOUTH	64	R1	STRAIGHT	APPARENTLY NORMAL	<Null>	OTHER|
SOUTH	33	2	STOPPED	DRIVER INATTENTION/DISTRACTED	OTHER INSIDE THE VEHICLE	OTH IMPROPER DRIVING|
SOUTH	33	2	STOPPED	INATTENTION/DISTRACTED	OTHER INSIDE THE VEHICLE	OTHER IMPROPER DRIVING
EAST	16	1	STRAIGHT	APPARENTLY NORMAL	<Null>	DISREGARD CONTROL DEVICE|
EAST	16	1	GOING STRAIGHT	APPARENTLY NORMAL		DISREGARDED TRAFFIC SIGNS, SIGNALS, ROAD MARKINGS
WEST	35	1	GOING STRAIGHT	APPARENTLY NORMAL		FAILED TO YIELD RIGHT OF WAY
WEST	<Null>	1	STRAIGHT	APPARENTLY NORMAL	<Null>	FAILED TO YIELD ROW|
WEST	<Null>		GOING STRAIGHT	UNKNOWN		HIT AND RUN
WEST	<Null>	<Null>	STRAIGHT	UNKNOWN	<Null>	HIT AND RUN|
NORTH	<Null>		GOING STRAIGHT	UNKNOWN		HIT AND RUN
NORTH	<Null>	<Null>	STRAIGHT	<Null>	<Null>	HIT AND RUN|
WEST	41	2	PASSING	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|UNSAFE LANE CHANGE|HIT AND RUN|AGGRESSIVE|
NORTH	<Null>	<Null>	STOPPED	APPARENTLY NORMAL	<Null>	UNKNOWN|
NORTH	<Null>		STOPPED	APPARENTLY NORMAL		UNKNOWN
WEST	41	2	PASSING OTHER VEHICLE	APPARENTLY NORMAL		FOLLOWED TOO CLOSELY
NORTH	61	1	GOING STRAIGHT	INATTENTION/DISTRACTED	OTHER INSIDE THE VEHICLE	FOLLOWED TOO CLOSELY
NORTH	<Null>	1	STRAIGHT	DRIVER INATTENTION/DISTRACTED	<Null>	FOLLOWING TOO CLOSE|
NORTH	51	1	GOING STRAIGHT	APPARENTLY NORMAL		
NORTH	51	1	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
WEST	36	2	STRAIGHT	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|
WEST	36	2	GOING STRAIGHT	APPARENTLY NORMAL		FOLLOWED TOO CLOSELY
NORTH	35	1	STRAIGHT	DRUG INVOLVEMENT	<Null>	HIT AND RUN|
EAST	<Null>	L2	STRAIGHT	APPARENTLY NORMAL	<Null>	TOO FAST FOR CONDITIONS|
EAST	<Null>	L2	LEAVING LANE	APPARENTLY NORMAL	<Null>	UNSAFE LANE CHANGE|
EAST	<Null>	2	RIGHT TURN	APPARENTLY NORMAL	<Null>	UNKNOWN|
SOUTH	<Null>	2	STRAIGHT	APPARENTLY NORMAL	<Null>	OTHER|
EAST	56	1	STRAIGHT	UNKNOWN	<Null>	FAILED TO YIELD ROW|
SOUTH	<Null>	2	STRAIGHT	APPARENTLY NORMAL	<Null>	FAILED TO YIELD ROW|DISREGARD CONTROL DEVICE|
EAST	30	1	STRAIGHT	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|
WEST	<Null>	2	STRAIGHT	APPARENTLY NORMAL	<Null>	OTH IMPROPER DRIVING|
EAST	71	2	STRAIGHT	HAD BEEN DRINKING	<Null>	OTHER|
NORTH	<Null>	1	ENTERING LANE	APPARENTLY NORMAL	<Null>	FAILED TO MAINTAIN LANE|HIT AND RUN|
NORTH	35	<Null>	STRAIGHT	APPARENTLY NORMAL	<Null>	FAILED TO MAINTAIN LANE|
EAST	49	<Null>	LEFT TURN	UNKNOWN	<Null>	UNSAFE LANE CHANGE|
SOUTH	54	1	ENTERING LANE	OTHER IMPROPER DRIVING	<Null>	FAILED TO YIELD ROW|
SOUTH	<Null>	2	STRAIGHT	APPARENTLY NORMAL	<Null>	OTHER|
SOUTH	51	1	LEAVING LANE	HAD BEEN DRINKING	<Null>	<Null>
NORTH	67	2	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
EAST	<Null>	1	STRAIGHT	UNKNOWN	<Null>	UNKNOWN|
NORTH	<Null>	1	LEAVING LANE	APPARENTLY FATIGUED/ASLEEP	<Null>	<Null>
NORTH	<Null>	<Null>	RIGHT TURN	APPARENTLY NORMAL	<Null>	OVER CORRECT/STEERING|
NORTH	37	2	LEAVING LANE	APPARENTLY FATIGUED/ASLEEP	<Null>	RAN OFF ROAD|
WEST	<Null>	1	STRAIGHT	APPARENTLY NORMAL	<Null>	DISREGARD CONTROL DEVICE|
<Null>	<Null>	<Null>	STRAIGHT	APPARENTLY NORMAL	<Null>	HIT AND RUN|
SOUTH	<Null>	2	STRAIGHT	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|
WEST	21	2	STRAIGHT	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|
SOUTH	75	2	STRAIGHT	OTHER IMPROPER DRIVING	<Null>	DISREGARD CONTROL DEVICE|
NORTH	<Null>	2	STRAIGHT	APPARENTLY NORMAL;	<Null>	HIT AND RUN|
EAST	20	1	STRAIGHT	HAD BEEN DRINKING;	<Null>	FOLLOWING TOO CLOSE|
NORTH	26	1	STRAIGHT	APPARENTLY NORMAL;OTHER IMPROPER DRIVING;	<Null>	EXCEEDING SPEED LIMIT|
WEST	72	L1	LANE CHANGE	APPARENTLY NORMAL;	<Null>	UNSAFE LANE CHANGE|
SOUTH	36	R1	RIGHT TURN	APPARENTLY NORMAL;	<Null>	OTHER|
SOUTH	<Null>	1	STRAIGHT	UNKNOWN;	<Null>	<Null>

V1 Most Harmful Event	V1 All Events	V2 Type	V2 Dir	V2 Driver Age	V2 Lane Num	V2 Action	V2 Driver Factors	V2 Driver Distracted	V2 Vehicle Factors
SLOW/STOPPED VEHICLE	<Null>	SEDAN 4-DOOR	SOUTH	53	2	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE	SEDAN, 4 DOOR	S	53	2	STOPPED	APPARENTLY NORMAL		
MOTOR VEHICLE IN TRANSPORT	SLOW/STOPPED VEHICLE	VAN	EAST	53	L1	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE	VAN	E	53	L1	STOPPED	APPARENTLY NORMAL		
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE	VANETTE	S	39	R1	TURNING RIGHT	APPARENTLY NORMAL		
SLOW/STOPPED VEHICLE	<Null>	VANETTE	SOUTH	39	R1	RIGHT TURN	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	<Null>	SUV/CARRY-ALL	SOUTH	30	2	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE	CARRY-ALL	S	30	2	STOPPED	APPARENTLY NORMAL		
MOTOR VEHICLE IN TRANSPORT	<Null>	PICKUP	NORTH	56	1	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT		PICKUP	N	56	1	GOING STRAIGHT	APPARENTLY NORMAL		
MOTOR VEHICLE IN TRANSPORT		PICKUP	S	30	1	GOING STRAIGHT	APPARENTLY NORMAL		OTHER
MOTOR VEHICLE IN TRANSPORT	<Null>	PICKUP	SOUTH	<Null>	1	STRAIGHT	<Null>	<Null>	OTHER|
MOTOR VEHICLE IN TRANSPORT	PARKED MOTOR VEHICLE	CARRY-ALL	W	33		STOPPED	UNKNOWN		
MOTOR VEHICLE IN TRANSPORT	PARKED MOTOR VEHICLE	SUV/CARRY-ALL	WEST	<Null>	<Null>	STOPPED	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT		PICKUP	N	<Null>		STOPPED			
MOTOR VEHICLE IN TRANSPORT	<Null>	PICKUP	NORTH	<Null>	<Null>	STOPPED	<Null>	<Null>	<Null>
SLOW/STOPPED VEHICLE	MOTOR VEHICLE IN TRANSPORT	HATCHBACK 4-DOOR	WEST	59	2	STRAIGHT	APPARENTLY NORMAL	<Null>	UNKNOWN|
MOTOR VEHICLE IN TRANSPORT	<Null>	SEDAN 4-DOOR	NORTH	<Null>	<Null>	STRAIGHT	APPARENTLY NORMAL	<Null>	FOLLOWING TOO CLOSE|
MOTOR VEHICLE IN TRANSPORT		SEDAN, 4 DOOR	N	<Null>		GOING STRAIGHT	APPARENTLY NORMAL		FOLLOWED TOO CLOSELY
MOTOR VEHICLE IN TRANSPORT	SLOW/STOPPED VEHICLE	HATCHBACK, 4 DOOR	W	59	2	GOING STRAIGHT	APPARENTLY NORMAL		UNKNOWN
MOTOR VEHICLE IN TRANSPORT		SEDAN, 4 DOOR	X	23	1	STOPPED	APPARENTLY NORMAL		
MOTOR VEHICLE IN TRANSPORT	<Null>	SEDAN 4-DOOR	<Null>	<Null>	1	STOPPED	<Null>	<Null>	<Null>
PEDAL CYCLE	PEDAL CYCLE			<Null>					
PEDAL CYCLIST	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
SLOW/STOPPED VEHICLE	<Null>	HATCHBACK 4-DOOR	WEST	23	2	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE	HATCHBACK, 4 DOOR	W	23	2	STOPPED	APPARENTLY NORMAL		
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	HATCHBACK 4-DOOR	EAST	<Null>	L2	STRAIGHT	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	SLOW/STOPPED VEHICLE	SEDAN 4-DOOR	EAST	<Null>	<Null>	LEFT TURN	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	PARKED MOTOR VEHICLE	HATCHBACK 4-DOOR	SOUTH	<Null>	2	STOPPED	<Null>	<Null>	OTHER|
MOTOR VEHICLE IN TRANSPORT	<Null>	VAN	NORTH	31	1	STRAIGHT	UNKNOWN	<Null>	UNKNOWN|
MOTOR VEHICLE IN TRANSPORT	OTHER MOVABLE OBJECT	SUV/CARRY-ALL	NORTH	<Null>	1	LEFT TURN	<Null>	<Null>	UNKNOWN|
SLOW/STOPPED VEHICLE	<Null>	SEDAN 4-DOOR	WEST	69	1	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	UTILITY	WEST	<Null>	2	STRAIGHT	<Null>	<Null>	<Null>
SLOW/STOPPED VEHICLE	<Null>	PICKUP	EAST	<Null>	2	PARKED	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SUV/CARRY-ALL	NORTH	<Null>	2	STRAIGHT	<Null>	<Null>	UNKNOWN|
RAN OFF ROAD RIGHT	OTHER POST, POLE OR SUPPORT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	WAGON	NORTH	40	<Null>	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SEDAN 4-DOOR	WEST	30	1	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
TREE/SHRUB	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	CROSS CENTERLINE	<Null>	NORTH	26	1	STRAIGHT	APPARENTLY NORMAL	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SUV/CARRY-ALL	NORTH	<Null>	2	STOPPED	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	RAN OFF ROAD RIGHT	PICKUP	NORTH	<Null>	<Null>	PARKED	<Null>	<Null>	OTHER|
MOTOR VEHICLE IN TRANSPORT	<Null>	SEDAN 4-DOOR	EAST	<Null>	L1	LEFT TURN	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SEDAN 4-DOOR	SOUTH	<Null>	<Null>	STRAIGHT	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	PICKUP	SOUTH	<Null>	2	STRAIGHT	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	HATCHBACK 4-DOOR	WEST	69	2	STRAIGHT	APPARENTLY NORMAL	<Null>	UNKNOWN|
SLOW/STOPPED VEHICLE	<Null>	HATCHBACK 4-DOOR	EAST	25	2	STOPPED	APPARENTLY NORMAL	<Null>	<Null>
SLOW/STOPPED VEHICLE	<Null>	SUV/CARRY-ALL	NORTH	44	2	STOPPED	APPARENTLY NORMAL;	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SUV/CARRY-ALL	EAST	44	1	STOPPED	APPARENTLY NORMAL;	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	SUV/CARRY-ALL	WEST	17	1	ENTERING LANE	APPARENTLY NORMAL;	<Null>	UNKNOWN|
MOTOR VEHICLE IN TRANSPORT	<Null>	UTILITY	WEST	87	2	STRAIGHT	APPARENTLY NORMAL;	<Null>	<Null>
OTHER MOVABLE OBJECT	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
MOTOR VEHICLE IN TRANSPORT	<Null>	MOTORCYCLE	SOUTH	75	1	STRAIGHT	APPARENTLY NORMAL;	<Null>	UNKNOWN|

V2 Most Harmful Event
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
MOTOR VEHICLE IN TRANSPORT
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
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MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
PARKED MOTOR VEHICLE
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
MOTOR VEHICLE IN TRANSPORT
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MOTOR VEHICLE IN TRANSPORT
SLOW/STOPPED VEHICLE
SLOW/STOPPED VEHICLE
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SLOW/STOPPED VEHICLE
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PARKED MOTOR VEHICLE
MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
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MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
MOTOR VEHICLE IN TRANSPORT
<Null>
MOTOR VEHICLE IN TRANSPORT

V2 All Events	First Harmful Event	Nonmotorist Factors	Factors Roadway	Lighting	HWY Factors	Agency	Accident Rec Num
<Null>	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	700809
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE		DRY	DAYLIGHT	NONE	SPPD	3036046
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	NONE	DARK - SPOT ROADWAY LIGHTING	NONE	Sparks PD	700715
SLOW/STOPPED VEHICLE	MOTOR VEHICLE IN TRANSPORT		DRY	DARK - SPOT LIGHTING	NONE	SPPD	3036070
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE		DRY	DAWN	NONE	SPPD	3045699
<Null>	<Null>	<Null>	NONE	DAWN	NONE	Sparks PD	700607
SLOW/STOPPED VEHICLE	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	707884
SLOW/STOPPED VEHICLE	SLOW/STOPPED VEHICLE		DRY	DAYLIGHT	NONE	SPPD	3050262
<Null>	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	707924
	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3051747
	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3052868
<Null>	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	804691
PARKED MOTOR VEHICLE	MOTOR VEHICLE IN TRANSPORT		UNKNOWN	DARK - UNKNOWN LIGHTING	UNKNOWN	SPPD	3054845
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	UNKNOWN	DARK - UNKNOWN ROADWAY LIGHTING	UNKNOWN	Sparks PD	813292
SLOW/STOPPED VEHICLE	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3057707
<Null>	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	816262
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	WET, ICY, SNOW, SLUSH	DAYLIGHT	WET, ICY, SNOW, SLUSH	Sparks PD	813832
<Null>	<Null>	<Null>	BACKUP DUE TO REGULAR CONGESTION	DAYLIGHT	BACKUP DUE TO REGULAR CONGESTION	Sparks PD	813710
	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	BACKUP DUE TO REGULAR CONGESTION	SPPD	3057725
SLOW/STOPPED VEHICLE	MOTOR VEHICLE IN TRANSPORT		WET	DAYLIGHT	WET, ICY, SNOW, SLUSH	SPPD	3057727
SLOW/STOPPED VEHICLE	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3075746
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	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3077004
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	MOTOR VEHICLE IN TRANSPORT		DRY	DAYLIGHT	NONE	SPPD	3131865
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<Null>	<Null>	<Null>	NONE	DARK - SPOT ROADWAY LIGHTING	NONE	SPARKS PD	882313
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	NONE	DARK - SPOT ROADWAY LIGHTING	NONE	SPARKS PD	882118
<Null>	<Null>	<Null>	WEATHERWET, ICY, SNOW, SLUSH	DARK - SPOT ROADWAY LIGHTING	WEATHERWET, ICY, SNOW, SLUSH	Sparks PD	884231
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<Null>	Ran off Road Right	<Null>	NONE	DARK - CONT ROADWAY LIGHTING	NONE	Sparks PD	1086215
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CROSS CENTERLINE	Cross Centerline	<Null>	NONE	DARK - SPOT ROADWAY LIGHTING	NONE	Sparks PD	1119084
MOTOR VEHICLE IN TRANSPORT	<Null>	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	1148937
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<Null>	Pedal Cyclist	<Null>	NONE	DAYLIGHT	NONE	Sparks PD	1632777

Pedalcyclist	Pedestrian	Motorcyclist	AnimalType	CrashDateTimeUTC	GlobalID *	created_user	created_date	last_edited_user	last_edited_date	CrashNum	SHAPE *
NO	NO	NO	<Null>	<Null>	{5C7AF62A-09AC-4802-81C0-BDCF7823996A}	NBACON	3/17/2025 13:30	NBACON	3/17/2025 13:38	<Null>	Point
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Wingfield Springs

Development Agreement Handbook

DRAFT AMENDMENTS
JAN. 21, 2026

Approved by the
Sparks City Council
April 2015

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SECTION I - INTRODUCTION

INTRODUCTION

APPLICANT

The master developer of the overall Wingfield Springs project is Red Hawk Land Company, a Nevada Limited Liability Company. Red Hawk Land Company presently owns 1645± acres of the project site.

PROJECT OVERVIEW

The purpose of this document is to outline the master plan and overall development strategy for the Wingfield Springs Planned Community and set forth the standards which will guide its future development. This Wingfield Springs Development Agreement Handbook will also serve as a request for Master Plan Amendment and request for zone change consistent with the plan outlined herein. The Development Agreement Handbook is an exhibit to the development agreement between Red Hawk Land Company and the City of Sparks ("The Development Agreement").

The Wingfield Springs Planned Community consists of 1645± acres located within the Spanish Springs Valley; approximately 7 miles north of Interstate 80 (see Figure 1). The property includes two unique parcels of land. The parcel north of Vista Boulevard, hereafter referred to as "the northern parcel", includes level and gently sloping terrain with wetlands, two large spring fed lakes and a number of mature cottonwood trees. The parcel south of Vista Boulevard, hereafter referred to as "the southern parcel," includes gently sloping hills as well as steeper terrain which provide excellent views of the lakes and the valley and surrounding mountains beyond.

The entire project site has been annexed into the City of Sparks, rezoned to Planned Unit Development and the City has entered into a Development Agreement with the developer. Both parcels (previously known as Wingfield Springs and Wingfield Hills) also have approved master plans, Development Standards Handbooks, and Tentative Maps which were secured by the previous project developers. A Special Use Permit for hillside development was also approved for the southern parcel. The current request is for approval of the Development Agreement including a revised Master Plan and Development Agreement Handbook, Master Plan Amendment and appropriate zone change for the entire project consistent with the visions of the current developer.
Technical information relating to the project sites in general has been previously submitted with the original projects.

The revised project is designed to provide the City of Sparks with a unique and exciting planned community featuring a variety of residential villages and amenities. The plan features 18~~36~~ holes of golf~~, with 18 holes located on the northern parcel and 18 holes~~ on the southern parcel. Also included are clubhouse facilities, a resort complex, a neighborhood and village commercial center, parks and an expansive open space network. The plan proposes a mixture of residential development on the northern and southern portions of the project at a density of about ~~1.56~~1.87 units per acre.

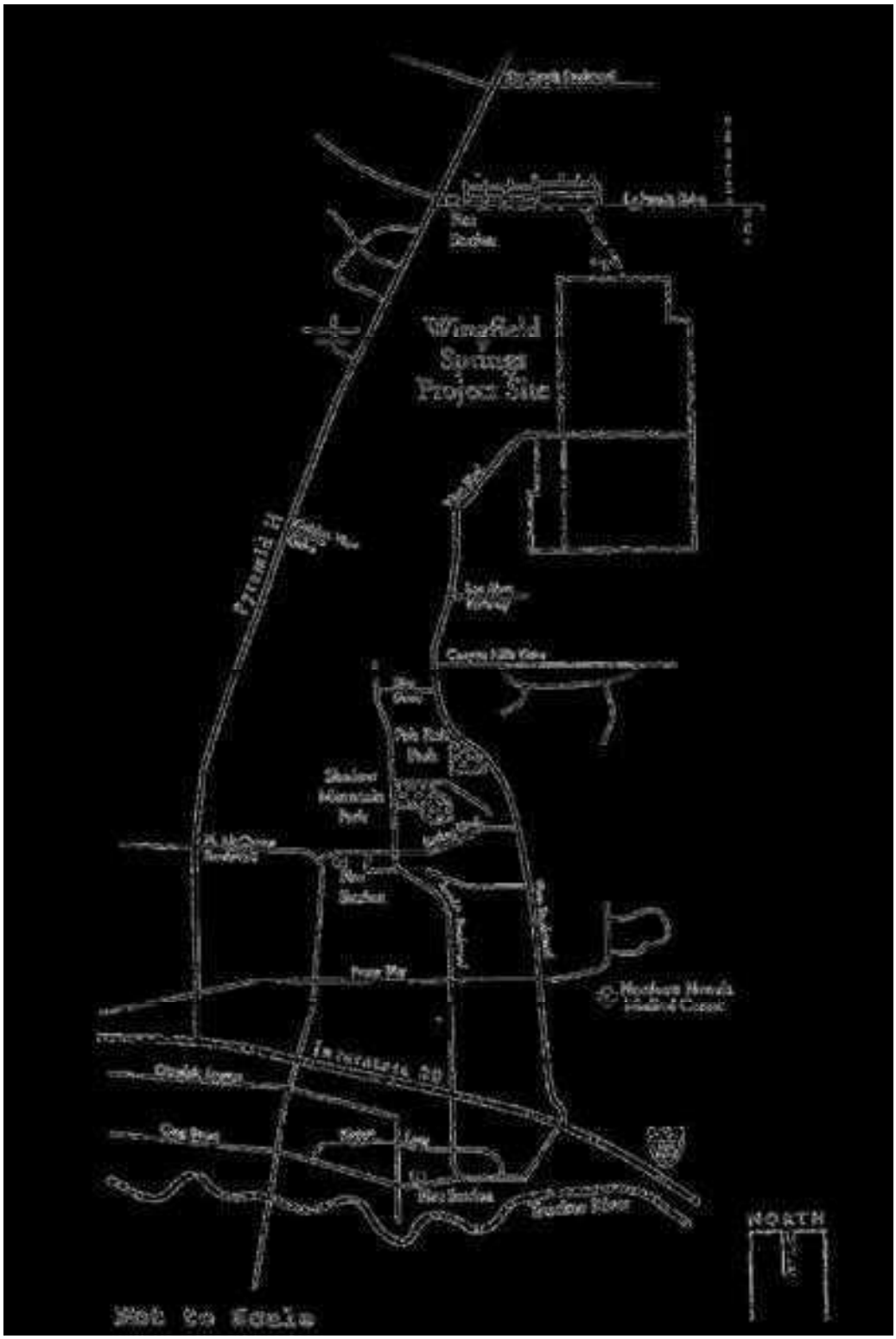


Figure 1: Location Map

BACKGROUND

The planning process for the Wingfield Springs Planned Community Development was initiated in August 1990, by a prior owner, the Spanish Springs Development Limited Partnership (SSDLP), who retained Pyramid Engineers and Land Surveyors to provide the planning and preliminary engineering and surveying services for the Wingfield Springs portion of the project. At that time, the SSDLP owned 123 acres of the northern parcel and had an option to purchase the remaining 575 acres from Alice Paulsen and Royce Hardy. Initially the southern parcel was not included in the development plans for the community. Both the northern and southern parcels, however, were located in the Spanish Springs Planning Area of Washoe County, outside of the Sphere of Influence (SOI) for the City of Sparks. The County Land Use Plan identified a portion of the northern parcel for low density suburban uses.

The majority of both parcels, however, were identified as "non-designated areas". County zoning on the northern and southern parcels was A-5 (1 dwelling unit per 10 acres) and A-7 (1 unit per 40 acres).

Regional Planning

In the early 1990's (as a result of the Regional Planning process), a number of exciting policy changes affecting the development potential of the Spanish Springs Valley and the Wingfield Springs' site occurred. Involvement in the Regional Planning process, however, increased the number of requirements to be satisfied prior to governmental consideration of any development projects.

While the Regional Plan was being formulated, a number of major property owners in the Spanish Springs Valley approached the City of Sparks and with the consent of the City, requested to be included in the SOI. Inclusion in the SOI would allow property to be considered for annexation into the City of Sparks before 2007. A request to designate the area for urban and suburban development on the Regional Land Use Diagram was also made and the owners and developers agreed to participate with the City of Sparks and Washoe County in formulating a master plan for the SOI. The need for a new plan for the area in Spanish Springs outside of the SOI was also discussed.

The Regional Plan identifying the SOI and designating the area for "Urban and Suburban" uses was approved by the Regional Planning Governing Board on March 21, 1991 (see Figure 2). The master planning process, which was initiated in October 1990 resulted in the completion of a final plan, entitled "Plan for Northern Sparks Sphere of Influence Area in the Spanish Springs Valley", (NSSOI) in October 1991. The plan was funded by a number of the major property owners and developers in the valley and prepared jointly by their consultants with input from the City of Sparks, Washoe County and various public and private entities. The SSDLP contributed towards the funding of the plan and participated fully in the plan development. Washoe County staff members concurrently developed a plan for the area of Spanish Springs outside of the SOI.

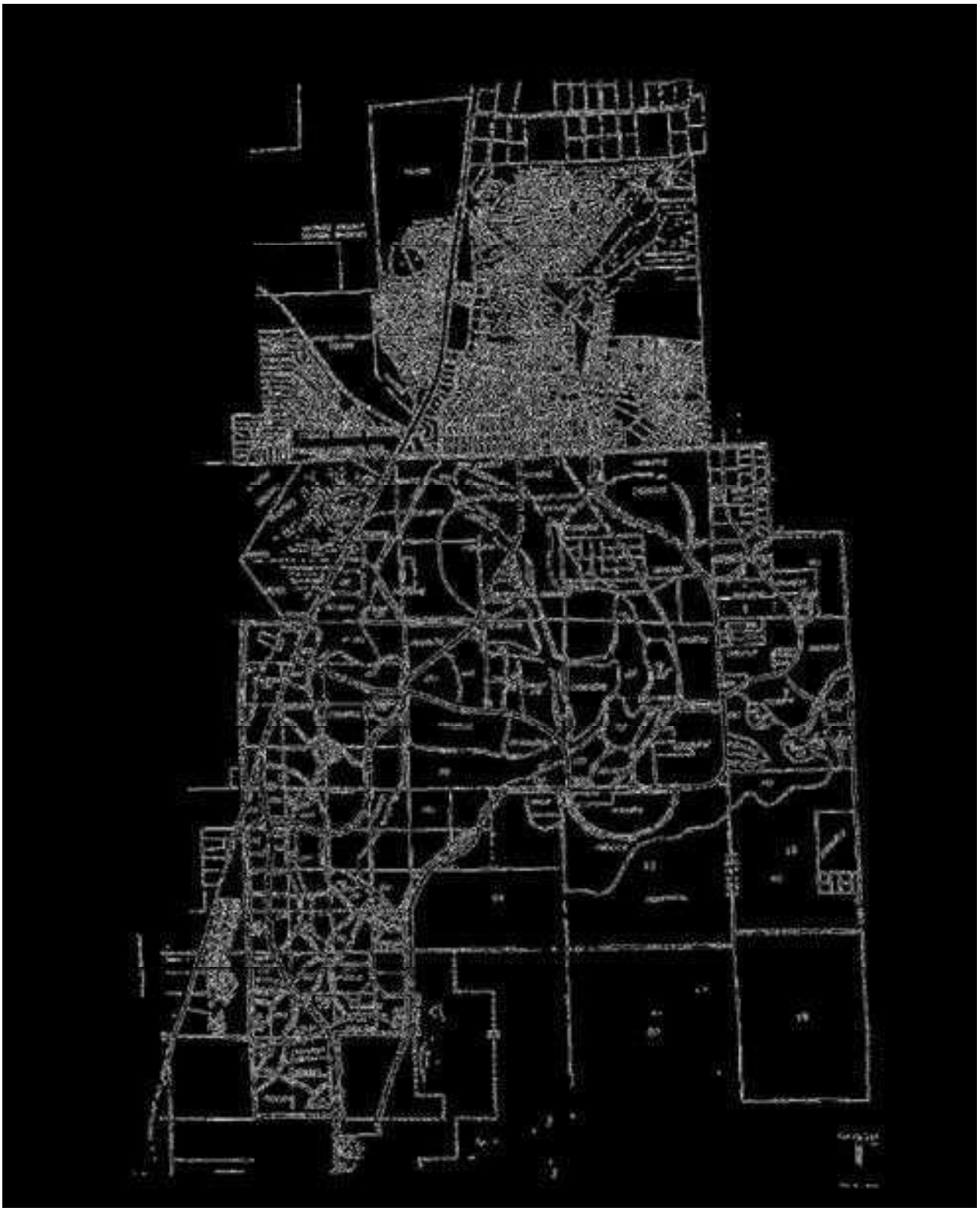


Figure 2: Sphere of Influence (PNSSOI) Plan

Both plans were approved by the Washoe County and Sparks Planning Commissions and the Regional Planning Commission in January and February 1992. Subsequent to the approval at the commission level, however, concerns were raised regarding whether TMWA or Washoe County would provide water service to the valley. Approval of the NSSOI and County plan, by the County Board of Commissioners and the Sparks City Council, which left the water service options open was granted on March 23, and 24, 1992. Final adoption of the plans by the Regional Planning Governing Board was granted on May 14, 1992.

Final adoption of the plans satisfied the Regional Plan requirement for the preparation of land use plans for the Sparks SOI and the county area of Spanish Springs outside of the SOI. Implementation of the plans, however, required the resolution of the water service issue, as well as the concerns identified in the plans such as infrastructure financing.

Additional mandates of the Regional Plan required the City of Sparks to obtain approval by the Regional Planning Commission of the Sparks Master Plan and an Annexation Program to identify areas to be considered for annexation in the next seven years. The Annexation Program area included the entire Wingfield Springs property. Final adoption of the Annexation Program and the Sparks City Master Plan was granted on April 21, 1992.

Subsequent governmental action has included the annexation of the northern parcel (Wingfield Springs) on March 23, 1992 and the approval of a Tentative Map, master plan and Development Standards Handbook on June 22, 1992 with SSDLP as the applicants. The southern parcel (Wingfield Hills) was annexed to the City on October 13, 1992. The project applicant was Jeff Bumb, one of the partners in the SSDLP. At that time, Mr. Bumb had an option to purchase the property from Alan and Marcia Oppio. A Tentative Map, special use permit, zone change, master plan, and Development Standards Handbook were also approved on May 10, 1993 with a one year time extension granted on April 25, 1994.

Ownership Transfer

In December of 1993, the options on both the northern and southern parcels were transferred from the SSDLP and Jeff Bumb to Red Hawk Land Company. Currently, Red Hawk Land Company owns the northern parcel and has an option to purchase the southern parcel from Alan and Marcia Oppio. With the transfer of the property ownership/option, new ideas and concepts regarding the development of the property emerged. Red Hawk Land Company worked closely with the City of Sparks regarding their proposed changes and has continued to move forward with the project by securing approval of a zone change to Planned Unit Development and approval of the first Final Map for the northern parcel on June 13, 1994.

Since the transfer of ownership, other issues associated with development in Spanish Springs have been and are continuing to be addressed. The water service issue was resolved on May 11, 1994 with TMWA being authorized to serve the southerly portion of Spanish Springs Valley (including the entire Wingfield Springs Project) and Washoe County to serve the northerly portion of the valley.

A sewer financing Development Agreement has been executed between Red Hawk Land Company and the City of Sparks (a copy of which is attached with the Development Agreement). An ordinance allowing for the establishment of Development Agreements in the City of Sparks was approved by the City Council on June 11, 1994. It is the intent of Red Hawk Land Company to enter into a Development Agreement with the City for the overall Wingfield Springs Community.

GOALS, POLICIES AND PROCEDURES

The master plan for the Wingfield Springs Community is consistent with the plans, policies and action programs identified in the NSSOI. The specific goals and policies to guide the development of the project are outlined below:

OVERALL PROJECT GOAL

To provide the City of Sparks with an exciting, environmentally sensitive planned community featuring a mix of quality residential, commercial, open space and recreational uses within the unique setting of lakes, wetlands and hills.

POLICIES

- Provide for continuity in the development of the residential and non-residential aspects of the project and ensure compatibility between uses through the approval of a Development Agreement, the establishment of a Design Review Committee (DRC), the use of a Development Agreement Handbook and the recordation of Covenants, Conditions and Restrictions (CC & R's).

- Develop 18~~36~~ championship golf holes to provide recreational opportunities for residents of the project, and others within the City of Sparks and elsewhere in the region.

- Provide for a maximum overall density of two units per acre by encouraging a mix of housing densities, sites, styles and settings through the establishment of unique and individual residential villages.

- Provide for a safe, efficient and aesthetically pleasing access and circulation network which **will** include roadways and pathways of varying types and styles within the project.

- Require the design and use of compatible and coordinated lighting, signage and fencing throughout the project.

- Maintain existing lakes, wetlands and steep slopes as significant site features.

- Develop an open space network by integrating public and private open space and recreational areas into the project and providing for connections to trails outside of the project boundaries.

- Encourage walking and biking through development of an extensive pathway system throughout the project. Promote carpooling and transit by accommodating future development of bus stops, turnouts and shelters at appropriate locations.

- Orient residential and non-residential lots and structures to take advantage of views to the wetlands, lakes, open space, recreational and golf course areas and the valley beyond.

- Provide for the management of storm water by enhancing and blending drainage features into the open space network.

- Promote water conservation throughout the project, provide for and promote resource efficient landscaping and building design, use water conserving irrigation systems throughout the golf course, common areas and development parcels within the project in accordance with the intent of the City of Sparks Landscape Ordinance, Building Code and Water Conservation Ordinance.

- Promote cost effective and practical energy efficient designs and encourage builder participation in the Sierra Pacific Power Company "Good Cents" program.

- Require site sensitive grading and erosion control practices, in accordance with the intent of the City of Sparks Hillside Development regulations, Washoe County District Health and Nevada Division of Environmental Protection regulations and best management practices.

- Promote clustering where appropriate to ensure aesthetic qualities of the property are maintained.

- Assure that each development provides the appropriate amenities, infrastructure and water rights to support itself.

- When available and if economically and logistically feasible, utilize reclaimed water resources as appropriate to irrigate some or all of the parks, open space and golf course.

PROCEDURES

Development Review Process

Purpose/Intent

The review and approval process established for subsequent submittals under the Development Agreement and this Development Agreement Handbook embodies the intent of the City of Sparks procedures and practices but simplifies and streamlines certain steps because of the nature and scope of the controls and assurances provided by the Wingfield Springs Development Agreement Handbook. To our knowledge, all of these procedures and practices are consistent with the goals and policies of the City of Sparks and the State of Nevada.

Administrators

The Sparks City Engineer and the Sparks Community Development Director shall be the administrators, hereinafter referred to individually or collectively as the "Administrator," of this process. Each administrator shall have the principal authority to interpret and make decisions based on the plans, standards, and guidelines contained herein according to the scope of the responsibilities granted to them in Titles 15, 17 and 20 of the Sparks Municipal Code.

Review Process

All proposed development under this Development Agreement Handbook shall require review and approval in the following manner:

Pre-Application Conference

The master developer, sub-developers or individual builders, hereinafter referred to as the "Applicant," shall request a pre-application conference with the Administrator and representatives of City agencies to clarify the requirements, standards and policies as identified in this Development Agreement Handbook after such Applicant has received approval for such request from the Design Review Committee established by the CC&R's adopted by the property owner. The Applicant shall present plans describing the general nature and intent of their proposed development.

The Administrator shall determine whether the Applicant's proposed development is clearly consistent with the intent of this Development Agreement Handbook. If deemed consistent, the Administrator shall instruct the Applicant to proceed directly with preparation of a Final Development Plan and Final Map. If the proposed development is deemed not consistent, the Administrator shall require the Applicant to first submit a Preliminary Development Plan for review and approval. The Administrator shall furnish written comments and recommendations to assist the Applicant in preparing their next submittal.

Preliminary Development Plan

If requested by the Administrator, the Applicant shall prepare and submit a Preliminary Development Plan including:

a. A site survey and site analysis of the parcel and its immediate surroundings (min. scale of 1"=40'). The survey shall include a vicinity map, data defining the acreage of the property area, R.O.W. and easement lines, topography at one foot intervals and at critical spot elevations, location and description of existing vegetation, relationship of adjoining roadways, development parcels, wetlands, lakes and other site features. Included with the survey shall be a brief site analysis report including information on existing vegetation to remain, soil data including soil boring logs and geotechnical evaluation for structural limitations, topographic and drainage constraints and other natural or man-made elements which affect development of the site.

b. A preliminary site plan (min. scale of 1"=40') showing the proposed lotting, building envelopes and/or building locations; drives, parking and walkway configurations, walls/fencing, approximate site grading, landscape concept, site lighting fixtures, and utility and mechanical equipment locations. Also, a general description of the proposed

development including density, percentage of building and/or impervious area coverage, building height, development phasing and functional relationships.

c. A project schedule showing the remaining design time, permitting and construction scheduling including target dates for the beginning and completion of construction.

d. Such information as may be reasonably requested by the Administrator and Planning Commission to allow him to positively consider the factors listed in NRS 278.349(3).

The Administrator and the Planning Commission shall review the Preliminary Development Plan within 60 days for consistency with this Development Agreement Handbook and furnish written comments, conditions, and recommendations to assist the Applicant in preparing their Final Development Plan submittal.

Conformance Review Process

Single Family Detached villages in the Southern Parcel will require a Conformance Review consisting of the following:

Preliminary Map

After the pre-application meeting conference, the Applicant shall prepare and submit a preliminary map submittal, containing at a minimum the following items:

a. A site plan (minimum scale = 1 inch = 40 feet) indicating the proposed platting of the lots (including the proposed building setbacks);

b. A site plan (minimum scale= 1 inch= 40 feet) indicating proposed locations of utilities; and

c. A site plan (minimum scale= 1 inch= 40 feet) indicating preliminary grading illustrating existing and proposed contours at one-foot intervals, proposed spot grades, proposed finish floor elevations, and proposed drainage patterns;

d. A site plan (minimum scale= 1 inch= 40 feet) indicating street landscaping and project entry landscaping/ monument locations and details (including proposed building materials and colors); and

e. Preliminary architectural building elevations of all four (4) sides of the proposed single family detached/ attached/ multi-family model(s) (including proposed building materials and colors).

f. F. An assessment of the applicability of the City of Sparks Slopes, Hilltops, and ridges Ordinance (SMC 20.99). If Section 20.99 applies to the proposed development, the application requirements of SMC Section 20.99.050 shall be provided with the submittal. A special use permit shall not be required for the Conformance Review submittal.

The preliminary map submittal shall only be delivered to the City for review on the same dates as the City of Sparks Tentative Subdivision Map submittal deadline dates.

The Applicant shall provide sufficient numbers of the preliminary map submittal to the City to ensure that City staff shall distribute these copies to the City staff charged with reviewing tentative subdivision maps and those agencies as set forth in Nevada Revised Statutes 278.335.

Tue Applicant, City staff and other pertinent reviewing local and / or state agencies shall convene at a prescribed time in a scheduled Plan Review meeting to review the project and determine if the application is in conformance with the approved standards in the Wingfield Springs Development Standards Handbook.

If at the Plan Review meeting the proposed preliminary map submittal is determined to be in compliance with the Wingfield Springs Development Standards Handbook, then the preliminary map approval shall follow the standards as stated in Nevada Revised Statutes 278.360 in regard to presentation of a final map or series of final maps, extensions of time and termination of the preliminary map approval.

If at the Plan Review meeting the preliminary plan is determined to not be in compliance with the Wingfield Springs Development Standards Handbook, then the Administrator shall notify the Applicant in writing as to the manner in which the application has been deemed not in compliance with the Wingfield Springs Development Standards Handbook. The Applicant can appeal the decision of the Administrator to the Planning Commission or re-submit at the next available tentative map submittal date.

Final Development Plan

The Applicant shall prepare and submit a Final Development Plan and Final Map prepared in accordance with NRS 278.372, this Development Agreement Handbook, and the Development Agreement including:

a. A final site plan, (min. scale l"=40'), showing the proposed lotting, building envelopes and/or building locations; drives, parking and walkway configurations, walls/fencing, approximate site grading, landscape concept, site lighting fixtures, and utility and mechanical equipment locations. Also, a general description of the proposed development including density, percentage of building and/or impervious area coverage, building height, development phasing and functional relationships.

b. A utility plan (min. scale of 1"=40') showing sanitary sewer line locations, sizes and materials, water line location and sizes, and telephone, gas, and electric connections, including service lines to site lighting fixtures.

c. A grading and drainage plan (min. scale of 1"=40') indicating existing and proposed contours at one foot intervals and spot grades, finished floor elevations, stem wall elevations, drainage patterns, erosion and sedimentation control measures.

d. A landscape plan (min. scale of 1"=40') showing existing vegetation and relocated vegetation to remain and the location, species, quantity and size of all proposed new plant material.

e. An irrigation plan (min. scale of 1"=40') showing the proposed locations and coverage of irrigation heads, laterals, and valve control equipment.

f. Building floor and roof plan(s), (min scale of 1/4"=1'-0"), indicating the location of uses within the structure, door and window locations, adjoining patios, deck or screened enclosures, and garages.

g. Building elevations (min. scale of 1/4"=1'-0") indicating exterior materials, color, finishes and textures, roof and chimney treatments, door, window, porch, patio and screened enclosure treatments, and building lighting.

h. An updated schedule showing permitting and construction scheduling including target dates for the beginning and completion of construction.

The Administrator shall distribute the Final Development Plan and Final Map to appropriate City Departments and commenting agencies and shall then review the Final Development Plan and Final Map for consistency and compliance with the Development Agreement and this Development Agreement Handbook. The Administrator shall recommend approval, recommend approval with modifications, or recommend disapproval of the Final Development Plan and Final Map offering written comments and recommendations to help the Applicant understand what is necessary to receive approval within 90 days after receipt of a complete submission package. The City Council shall review and approve the Final Map if such map is consistent with the Development Agreement entered into between the City of Sparks and Red Hawk Land Company and this Development . Agreement Handbook. The Applicant shall make such changes in the Final Map or Plan as may be necessary to implement such changes as required by the City prior to approval by the City Council.

Special Use Permits

Upon receipt of a Development Plan application requesting a use defined in this Development Agreement Handbook as requiring a Special Use Permit, the Administrator shall notice the application both in a general public notice and to all property owners as required by NRS and within twenty days of receipt of such request for special use.

If no opposition to the use is received in any form by the Administrator in response to the notice, the Administrator shall review the Development Plan for special use consistency and compliance with this Development Agreement Handbook. The Administrator shall recommend approval, recommend approval with modifications, or recommend disapproval of the Development Plan offering written comments and recommendations to help the Applicant understand what is necessary to receive approval.

If a negative response is received to the required notice, the Administrator shall schedule a public hearing with the City Council. The City Council shall then approve, approve with modifications, or disapprove the Final Development Plan for Special Use.

Flexibility

The master land use plan, development standards and design guidelines contained herein are intended to depict the general nature and relative intensity of residential and non-residential development at Wingfield Springs, while allowing sufficient flexibility to permit detailed planning and design at the time of actual development. The configuration of development parcels and phases

may be altered from those shown on the master land use plan to accommodate detailed site conditions and revisions to the project's implementation strategy, providing the reconfiguration does not conflict with the general intent or specific conditions described in this Development Agreement Handbook. Residential and non-residential density may also be transferred between development parcels providing this transfer does not conflict with the general intent of specific conditions described in this Development Agreement Handbook and does not exceed the total approved project unit count.

Omissions

When issues arise that are not covered in this Development Agreement Handbook, the provisions and definitions of the City of Sparks Zoning Ordinance and Subdivision Regulations in effect at the time submission of a Final Development Plan shall apply.

Deviations

The Administrator shall have the authority in his/her sole discretion to administratively approve minor deviations in the plans, standards and guidelines as requested by the Developer prior to the submission of a Final Development Plan for each phase. Minor deviations include such items as parcel configurations, parcel sizes, irregular lots, and special setback conditions. The Administrator shall process requests requiring substantial deviations as amendments to the Development Agreement or to the Development Agreement Handbook.

Amendments to Final Development Plans

Once a Final Development Plan has been approved, the Applicant may only amend the Plan subject to the Administrator's review and approval of the amendment. Final Map amendment shall be processed in accordance with applicable State law.

Appeals

The Applicant may appeal any decision, comments or recommendations of the Administrator to the City Council. The City Council shall hear the appeal and either affirm, modify or reverse the determination of the Administrator. Such decision of the City Council may be appealed as provided by applicable law.

SECTION II - EXISTING CONDITIONS

EXISTING CONDITIONS

SITE OVERVIEW

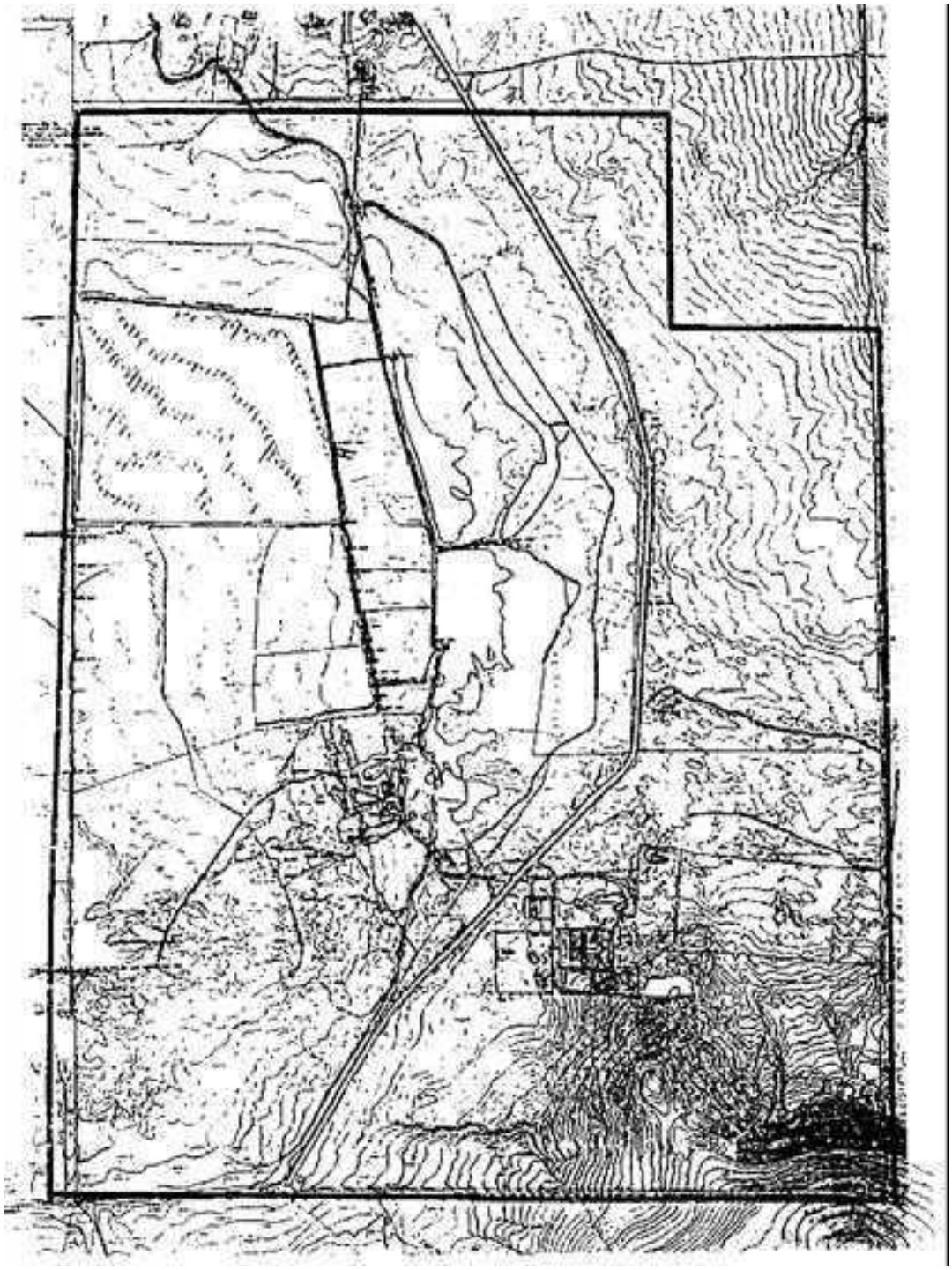
Site opportunities and constraints relating to the property were carefully considered and balanced with the overall desired project concepts and goals. The site overview as discussed below summarizes the physical characteristics of the properties and provides the foundation for the development of the two master plan scenarios.

EXISTING OWNERSHIP/USES/ACCESS

The 712± acre northern parcel includes the 575± acre former Wingfield Ranch, the 14± acre out parcel and the 123± acre property adjacent to the ranch on the southeast. The Wingfield Ranch property has been historically used for grazing purposes. Two unoccupied ranch houses and miscellaneous agricultural buildings were previously located on the property. The 643± acre southern parcel was previously undeveloped and under the ownership of Alan and Marcia Oppio. The BLM exchange added 290± acres to the southern parcel. Current access to both properties is from Vista Blvd. approximately 7 miles north of Interstate 80. The total project area is 1,645± acres.

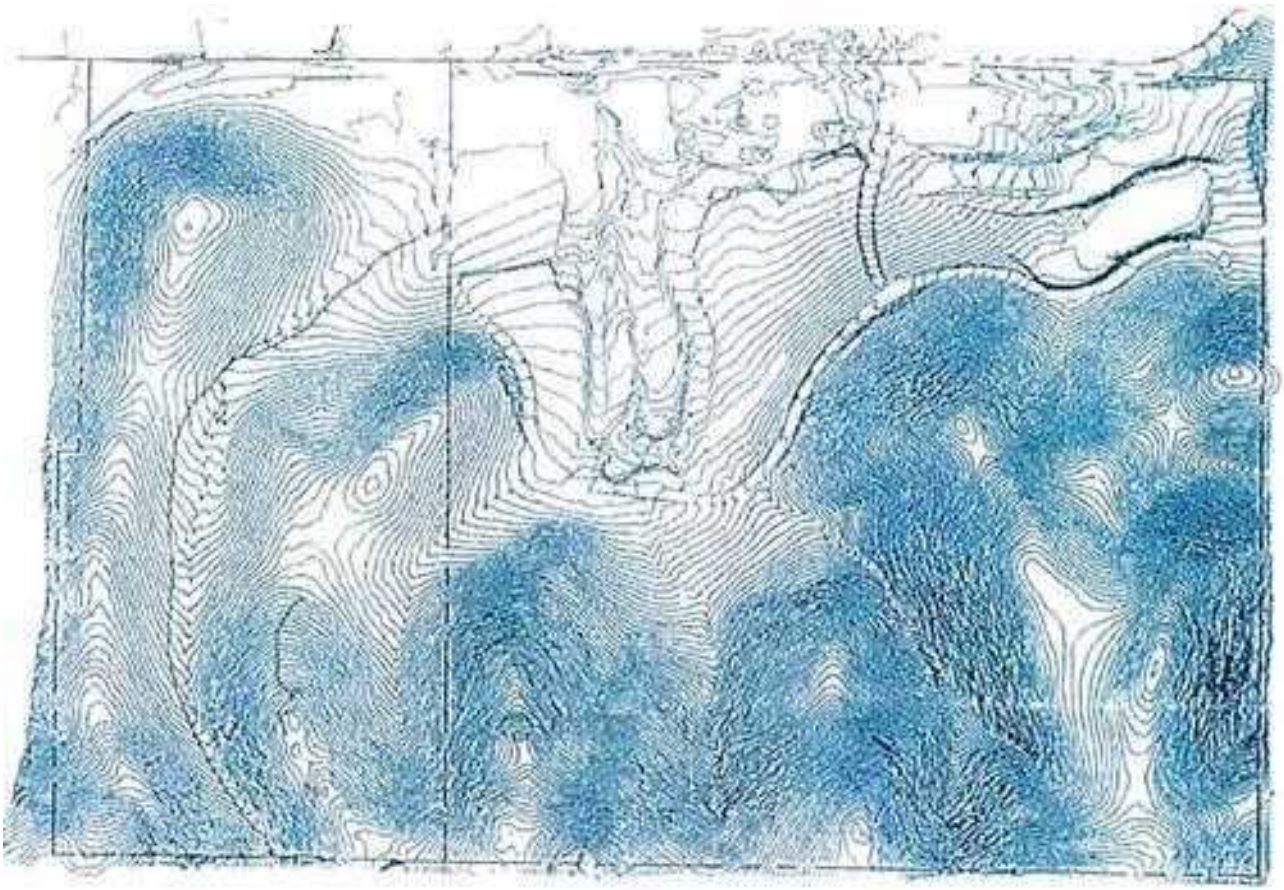
TOPOGRAPHY

The northern parcel includes flat terrain sloping to the southwest at a gradient of 1% or less, as well as gently sloping terrain to the northwest. Slopes on the southerly portions of the northern parcel are up to 15% and provide magnificent views of lakes, wetlands and Spanish Springs Valley. The southern parcel has much more dramatic topography, which ranges in elevation from 4,470 feet at the northwest corner to 5,070 feet towards the southeast for a total relief of about 600 feet. Slopes range from 2% to over 30%. The northern half of the property is generally the most suitable for development; therefore, much of the steeper slopes will remain in open space.



Note: Contour Interval = 1'-0"

Figure 3: **Northern Parcel Topography Map**



Note: Contour Interval = 5'-0"

Figure 4: **Southern Parcel Topography Map**

EXISTING LAKES AND WETLANDS

The Orr Ditch enters the Wingfield Springs site at the north property line and flows in a southeasterly direction into two lakes which total approximately 29 acres in area. A narrow strip of upland, ranging from 20 to 65 feet in width separates the upper lake from the lower lake. Culverts under the strip of land provide water flow between the lakes. Water from the Orr Ditch has been used for many years to irrigate the Wingfield Ranch and other nearby lands for grazing purposes. Several man-made ditches which divert water from the Orr Ditch and the lakes are present on the site. A small pond is located south of the ranch houses and receives overflows from the lower lake and drainage from the east. The pond is an aesthetic feature of the property and will be integrated into the landscaping theme for the project.

A small artesian well located to the northeast of the existing ranch houses is presently pumped for domestic purposes. A second, larger well is also located to the southeast of the lower lake. The well has been used to feed the lakes to provide irrigation for the ranch. According to a 1987 report prepared by Water source, the peak day capacity appears to exceed 1,000 gpm and is of excellent quality. Strong recharge characteristics are also evident.

Certificated groundwater rights consist of 361.90 acre feet. The existing well is currently planned to be used to irrigate the first 18 holes of golf, until other more appropriate and economic water resources are available for use by the development. According to the Project's golf course architect, Robert Trent Jones, Jr., the first 18 golf holes (135± acres of irrigated area) should not require more than 359± acre feet of water per year maximum. Additional water needed for common area irrigation and additional golf holes will be secured through the use of the existing 378 acre feet of surface water rights appurtenant to the property, and/or the purchase of additional water rights, and/or the use of reclaimed water.

Preliminary general mapping by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Department indicated the potential existence of wetlands on the Wingfield Ranch portion of the site. Huffman and Associates were subsequently retained to delineate the U.S. Army Corps of Engineers jurisdictional wetlands. A total of 42 acres of jurisdictional wetlands were identified and verified by the U.S. Army Corps of Engineers (see figures Sa and Sb).

In accordance with the NSSOI, the identified wetlands will primarily remain undeveloped and are incorporated into the overall open space network for the project. Red Hawk Land Company is currently pursuing a U.S. Anny Corp of Engineers Section 404 nationwide dredge and fill permit for the minimal area (4.2 ± acres) where golf improvements or roadway/pedestrian facilities impact these wetlands. A copy of the Section 404 permit application will be provided to the City upon submittal.

The Orr Ditch will also be incorporated into the open space system with pedestrian and roadway crossings anticipated. Residential lots adjacent to the ditch will be developed in accordance with the NSSOI with low, open fencing to maintain the open space feeling required. It is anticipated that the lakes, wetlands and Orr Ditch corridor will either be dedicated to Washoe County or be retained under the ownership of either the golf course entity or the property owners within the development.

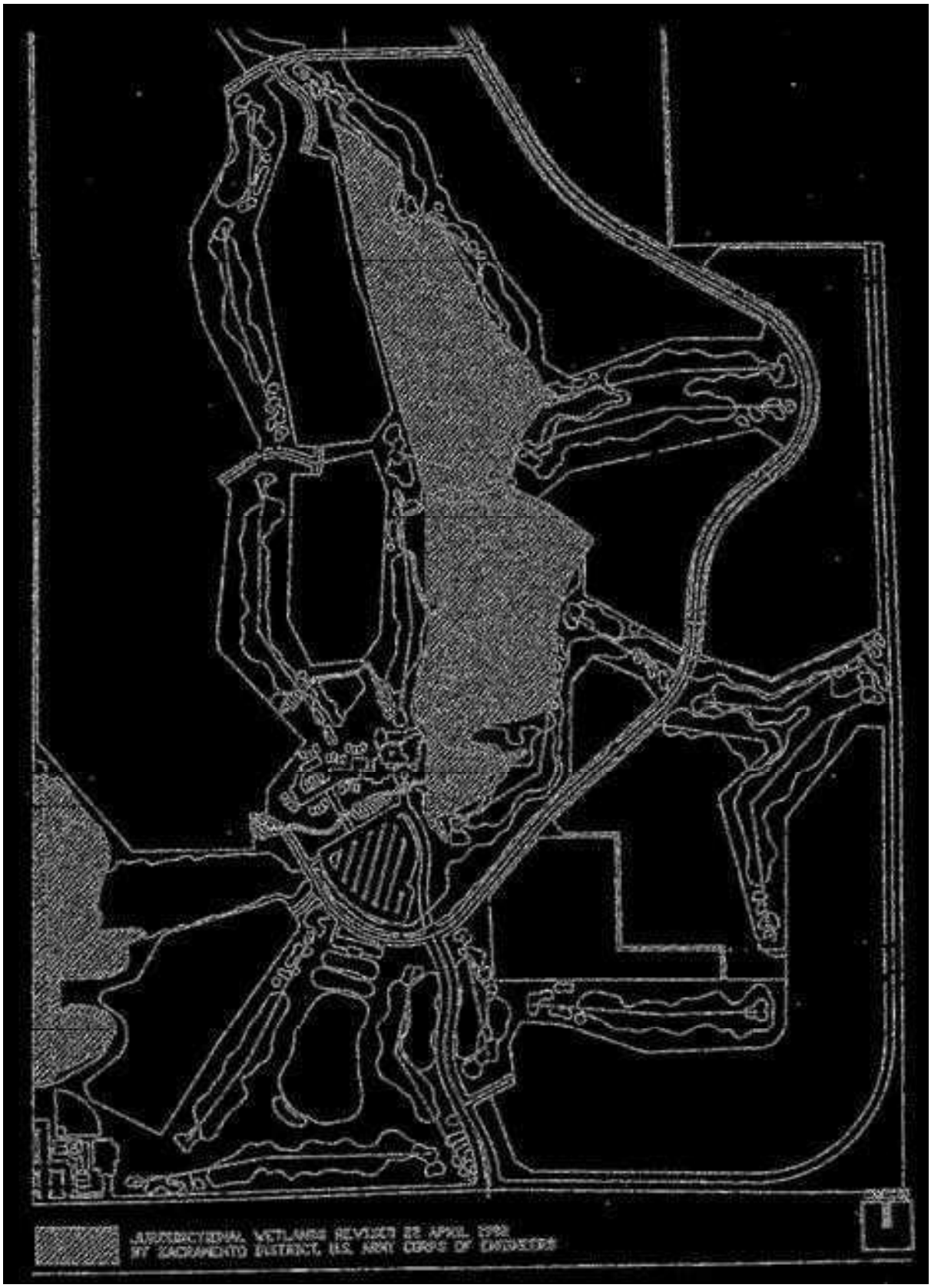
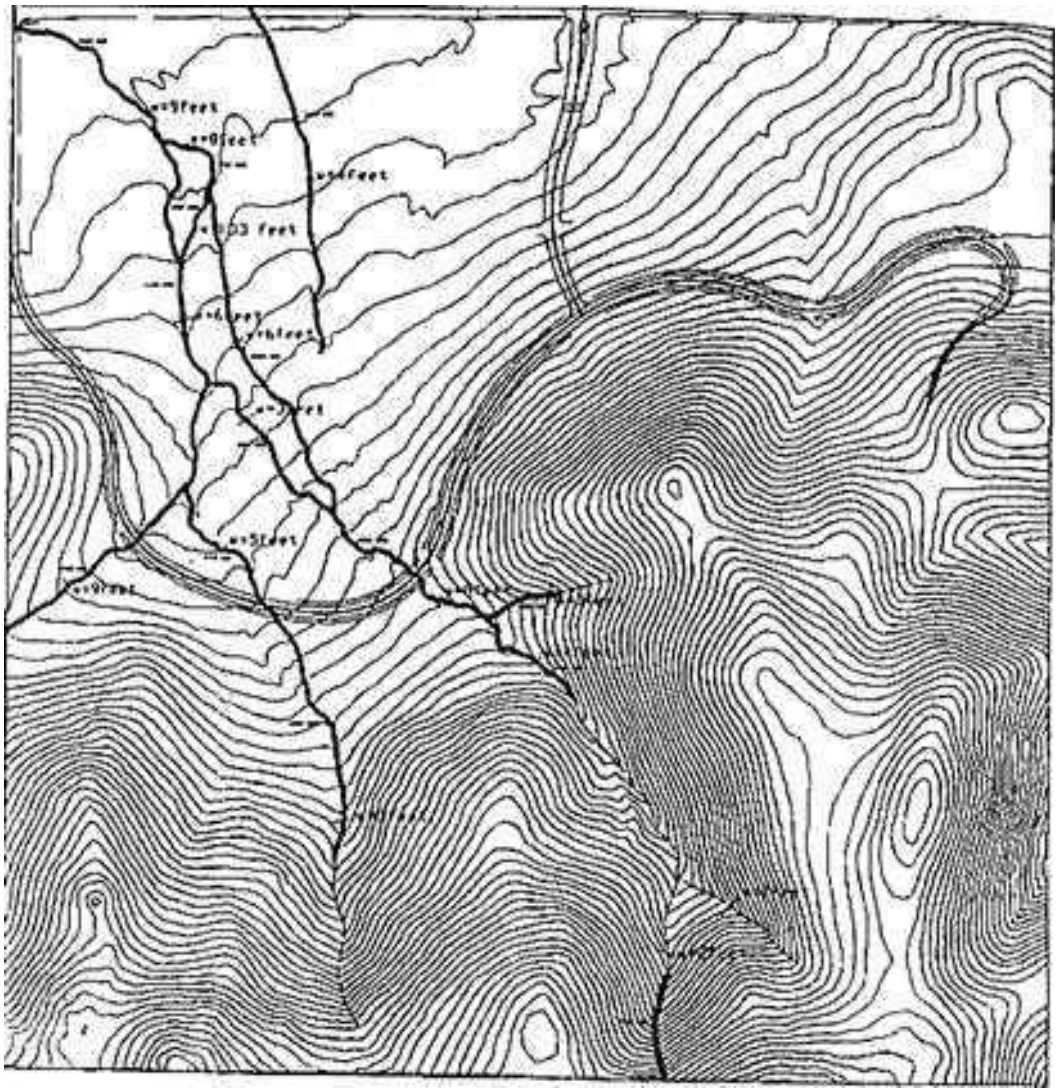


Figure 5a: **Wetland Jurisdictional Areas – Northern Parcel**



LEGEND

Intermittent drainage potentially subject to Corps Jurisdiction. average width listed

Contour Line

Site Boundary

Impacts to waters of the U.S. not to scale



Figure 5b: Wetland Jurisdictional Areas – Southern Parcel

HYDROLOGY

Contributing drainage areas to the northern parcel consists of approximately 10.66 square miles of hills and alluvial fans of the Pah Rah Range and Spanish Springs Canyon Drainage Basins. The Federal Emergency Management Agency's Flood Insurance Rate Map studies have determined that the JOO-year recurrent storm flow passing through the northern parcel site is approximately 900 cfs. This flow creates an "AO(l)" zone on a portion of the site. This zone is described as an area of 100-year shallow flooding where average depths of inundation are one (1) foot; no flood hazard factors are determined.

The contributing drainage area to the southern parcel is comprised of approximately 2 square miles. Several minor, intermittent drainage channels are located on the property. In general, the channels are well defined in the steeper southerly portions of the site but lose definition as they approach the northerly half of the property. Therefore, during major storm events, concentrated flows revert to sheet flow as they approach the northern portion and exit the site at the northwest corner of the property. The Federal Emergency Management Agency's Flood Insurance Rate Map has delineated the southern parcel as lying within flood zone C which is defined as an area of minimal potential flooding during the 100-year storm event.

Preliminary hydrology studies and maps for both the northern parcel and southern parcel have previously been submitted to the City. These studies investigated flooding potential and proposed preliminary mitigation measures for building protection and stormwater conveyance. Final hydrology reports, including a HEC-2 analysis for the northern parcel, will be provided to the City prior to development of the property. New reports and analysis shall be provided as necessary with future development.

VEGETATION

Vegetation on the northern parcel ranges from pasture grasses in irrigated areas and northern desert shrub at slightly higher elevations, to riparian vegetation in the vicinity of designated wetland areas. The predominant plant type in non-disturbed areas is from the northern desert shrub family.

Portions of the northern parcel under direct irrigation contain Baltic rushes, caric sedges, buttercup, saltgrass and bulrushes. Higher elevated areas, not under direct irrigation, support sagebrush, black greasewood, bud and wild rye, shadscale, rabbit brush, caric sedge, Indian rice grass, white sage and other grasses.

The wetland areas on the northern parcel support some hydrophytic species including caric sedges, buttercup, Baltic rush, and bulrushes. Around the lake bodies, isolated groups of willows, bulrushes and cottonwoods are prevalent. Large mature cottonwoods are southwest of the lower lake. Every attempt will be made to integrate and preserve healthy trees on the property.

The southern parcel has not been irrigated. Vegetation consists of low grasses and bushes at the lower elevations and becomes very sparse at higher elevations. Vegetation generally includes the

northern desert shrub family species such as sagebrush, black greasewood, bud and wild rye, shadscale, rabbit brush, caric sedges, Indian rice grass, white sage and other grasses.

GEOLOGIC CONDITIONS

Preliminary geotechnical studies of both the northern and southern parcels were performed by Kleinfelder, Inc. and were previously submitted to the City. The reports indicated there were no active faults on the property. The nearest known fault is located approximately two miles southeast of the site.

Geologic conditions on the northern parcel include expansive soils in the north and central portions, shallow bedrock with possible near surface expansive soil areas in the southeast and shallow ground water conditions in the low portions of the site near the wetlands. Most other parts of the site contain soils of low expansion potential which should be suitable for reuse as compacted structural fill. Most areas of the site are expected to provide moderate bearing capacities for conventional, shallow spread foundations.

Geologic conditions on the southern parcel include soil covered with scattered cobbles and boulders on the flatter portions of the property and boulder size rocks on the steeper slopes and ridges. Bedrock outcrops are also present along the ridge tops and peaks on the southern portions of the property. Near surface clay soils, which are moderately to highly expansive are present across a majority of the site and will most likely require modification in the approach to site grading and support of structures and pavement. Shallow bedrock will require ripping or blasting of excavations deeper than a few feet.

Final design level geotechnical reports will be provided prior to development. A summary of Kleinfelder's geotechnical report on the northern and southern parcels is provided in Appendix F.

ARCHAEOLOGICAL RESOURCES

A survey for historic and prehistoric resources has been completed by Kautz Environmental Consultants, Inc. and has been reviewed and approved by the Nevada Division of Historic Preservation and Archaeology, the City of Sparks, and representatives of the Washoe Tribal Council, the Reno-Sparks Indian Colony, and the Pyramid Lake Tribal Council. A mitigation plan with an emergency discovery clause is currently being circulated among these same reviewers for comment. This work is being completed in conformity with the Conservation Element of the Truckee Meadows Regional Plan.

The northern parcel was found to contain a total of 72 nonsignificant isolated finds, 14 prehistoric archaeological sites, 5 historic sites, and 2 sites that contain components from both time periods (see Figures 6a and 6b). Five of the prehistoric sites had been previously recorded. One site that should have been rediscovered during the current project was not relocated and has to be presumed to have been destroyed since the time when it was initially recorded. Two sites were also

systematically probed to determine the significance of their below-surface assemblage and were determined not significant based upon those limited probes.

A total of 13 of the prehistoric sites were determined to be temporary encampments or localities utilized for limited objectives for short periods of time (flint knapping, food preparation, seed grinding, sleeping, etc.). Three of the large sites were determined to represent village or winter village sites. The historic sites are composed of three roadside dump locations, a small portion of the Orr Ditch dated 1872, and the Spanish Springs Ranch complex.

Three Native American village sites were recommended as significant resources and mitigation should the project proceed. The Orr Ditch segment and the Spanish Springs Ranch were also determined important resources; however, it was recommended that as both the ditch and the ranch complex have been altered to the extent that their original integrity has been lost, they no longer should be considered significant or eligible for nomination to the National Register of Historic Places.

The southern parcel was found to contain only 42 isolated finds. These isolated finds were deemed not significant and were found to be almost exclusively located on the toe of the alluvial fan. No evidence of prehistoric upland use could be determined.

An archaeological review was conducted on 296± acres of land located west of the existing southern parcel of Wingfield Springs. Three potential finds were located on the 296 acres. Only one site was deemed significant. Red Hawk Land Company has entered into an agreement with the Pyramid Lake and Washoe Tribes to preserve the petroglyph on site. The site is located in an area that will not be disturbed by construction of the golf course and will remain in its natural state.

Guidelines for development and operation of this project are consistent with the Mitigation Plan and Emergency Discovery Plan once approved by the parties listed above. These documents are currently being circulated for approval. In the interim, the following preliminary guidelines will be followed:

1. Prior to development, an approved Mitigation Plan and Emergency Discovery Plan shall be implemented.

2. Should any prehistoric or historic material be discovered outside the context of an approved mitigation activity, all work shall stop within 25 ft. of the discovery and the project archaeologist shall be notified within 24 hours. Given the lack of fragile structures on the property, Dr. Kautz, the project archaeologist, recommends this distance is adequate.

3. The project archaeologist will inspect the find and if it is deemed a new and important discovery, will immediately notify a representative of the Nevada Division of Historic Preservation and Archaeology.

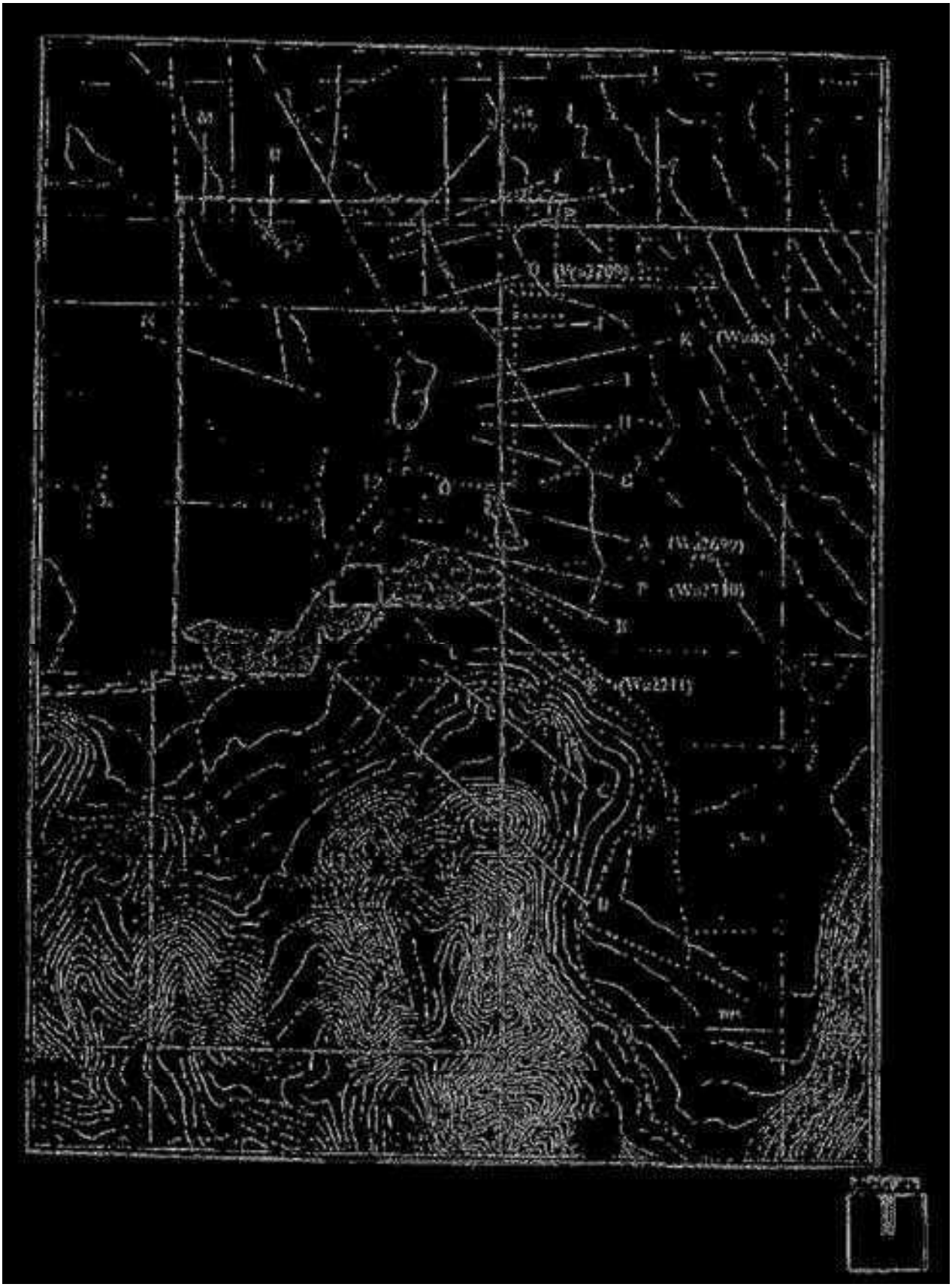


Figure 6: **Archaeological Survey (East)**



Figure 6b: **Archaeological Survey (West)**

AIR QUALITY

The property is located within an air quality attainment area; however, the Regional Planning Governing Board adopted regulations for non-attainment areas in the Spanish Springs Sphere of Influence on June 10, 1993. Only stoves on the Low Emitting List or decorative gas appliances shall be installed. Prior to the commencement of construction of each phase or partial phase of this project, a Dust Control Plan shall be submitted to the Air Quality Management Division of the Washoe County District Health Department for review and approval. All construction shall be conducted in accordance with the conditions placed upon the applicable approved Dust Control Plan, as prescribed in Section 040.030(A) of the Washoe County District Board of Health Air Quality Regulations.

SECTION III - THE MASTER PLAN

THE MASTER PLAN

The overall Master Plan was developed with sensitivity to the physical characteristics of the site, preserving natural features and enhancing open space. Streets, land use patterns and densities in the project have also been planned to be in compliance with the NSSOI.

The Master Plan proposes a mix of uses including residential villages with a range of unit types, lot sizes and densities and ~~36~~ 18 holes of golf ~~with 18 holes~~ located on the ~~northern parcel and 18 on the~~ southern parcel. The project also includes clubhouse facilities; commercial complexes; a public facility site; and a parks and open space network with an extensive pedestrian/bicycle pathway system linking different areas of the project. The Master Plan, illustrative plan and land use and acreage summaries are presented on the following pages.

FIGURE 7a: MASTER PLAN - NORTHERN PARCEL
LANDUSE SUMMARY

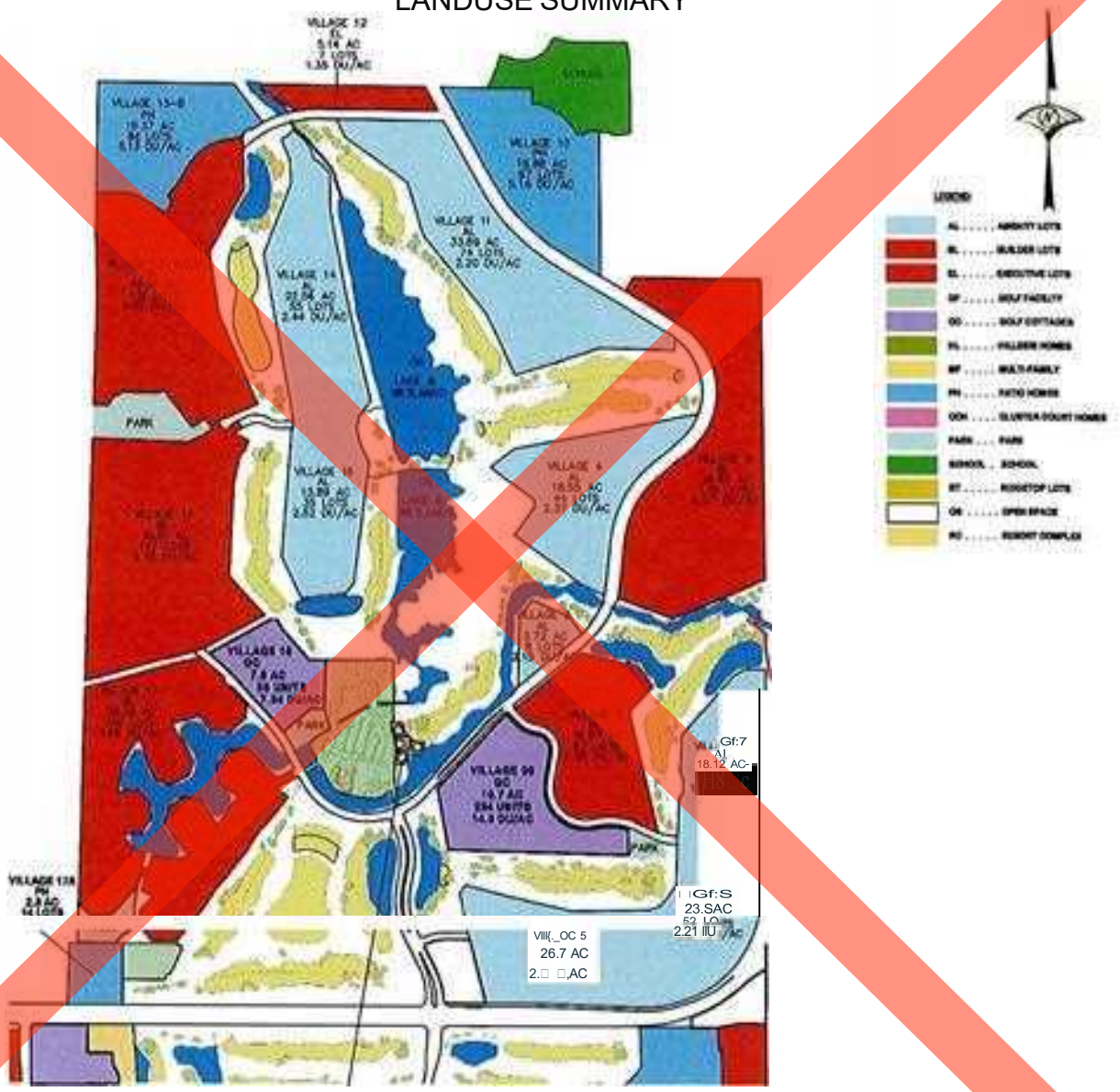


FIGURE 7a: MASTER PLAN - NORTHERN PARCEL LANDUSE SUMMARY

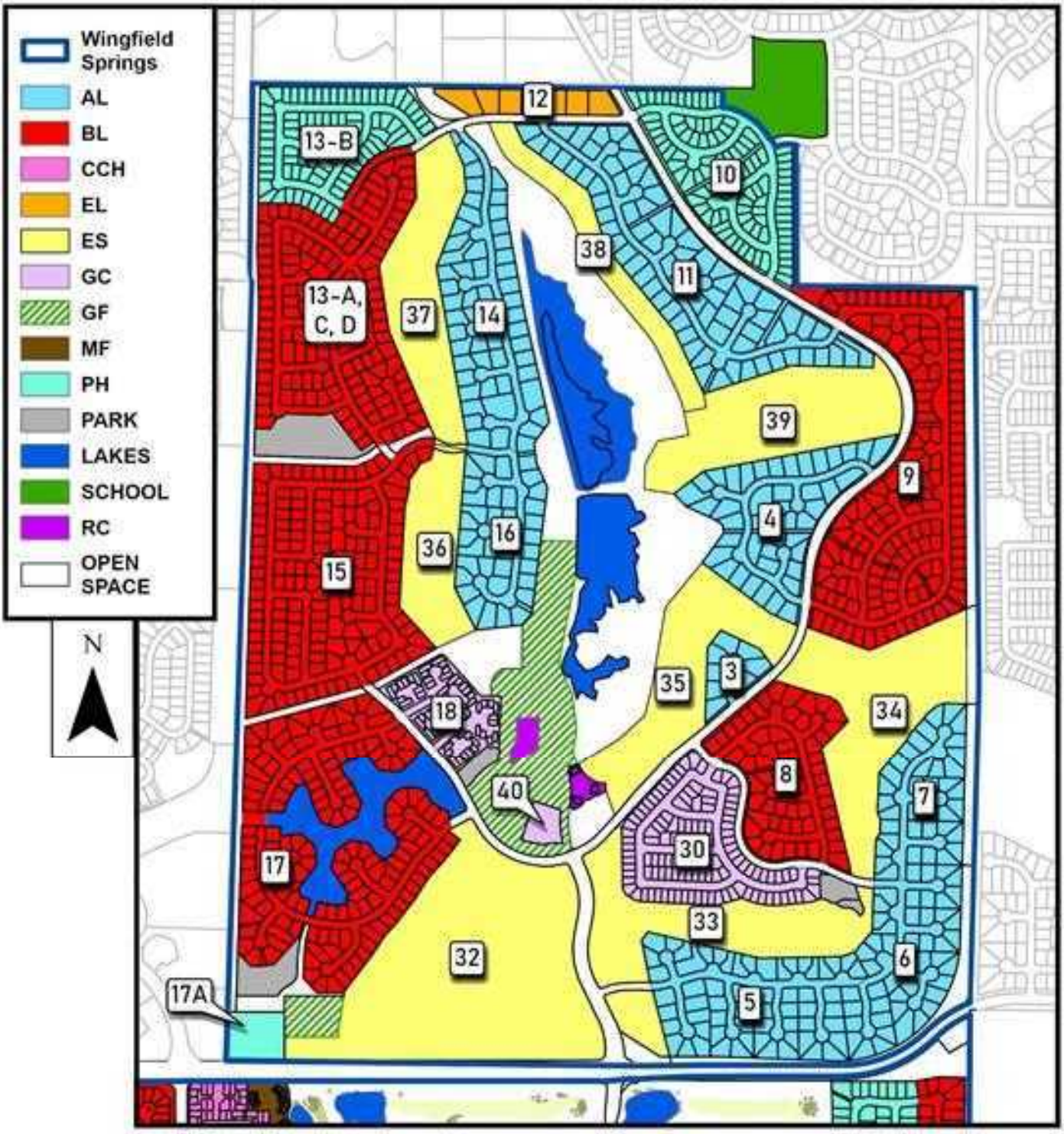


Figure 7a: Wingfield Springs Master Plan - Northern Parcel

FIGURE 7b: MASTER PLAN - SOUTHERN PARCEL LANDUSE SUMMARY

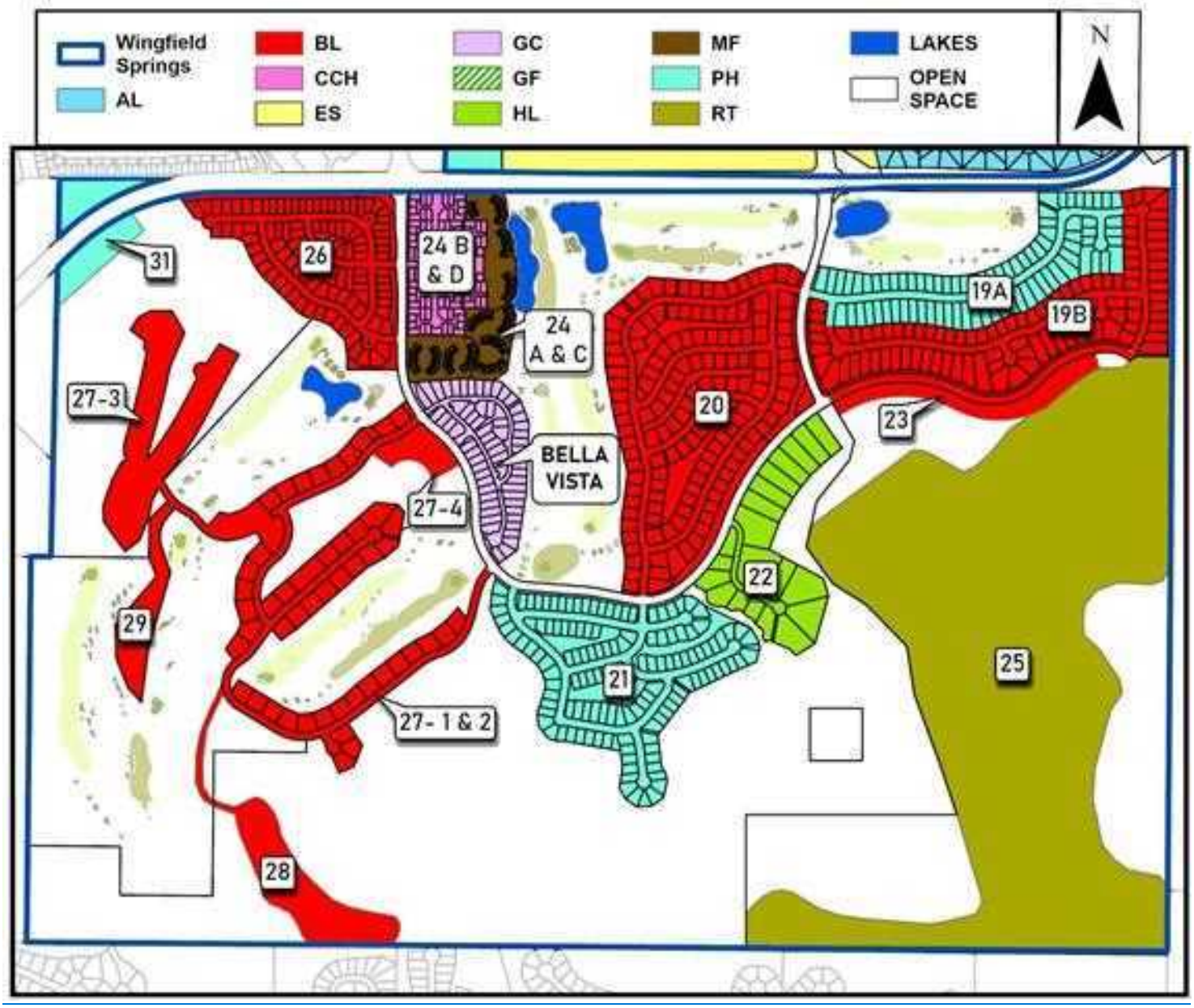
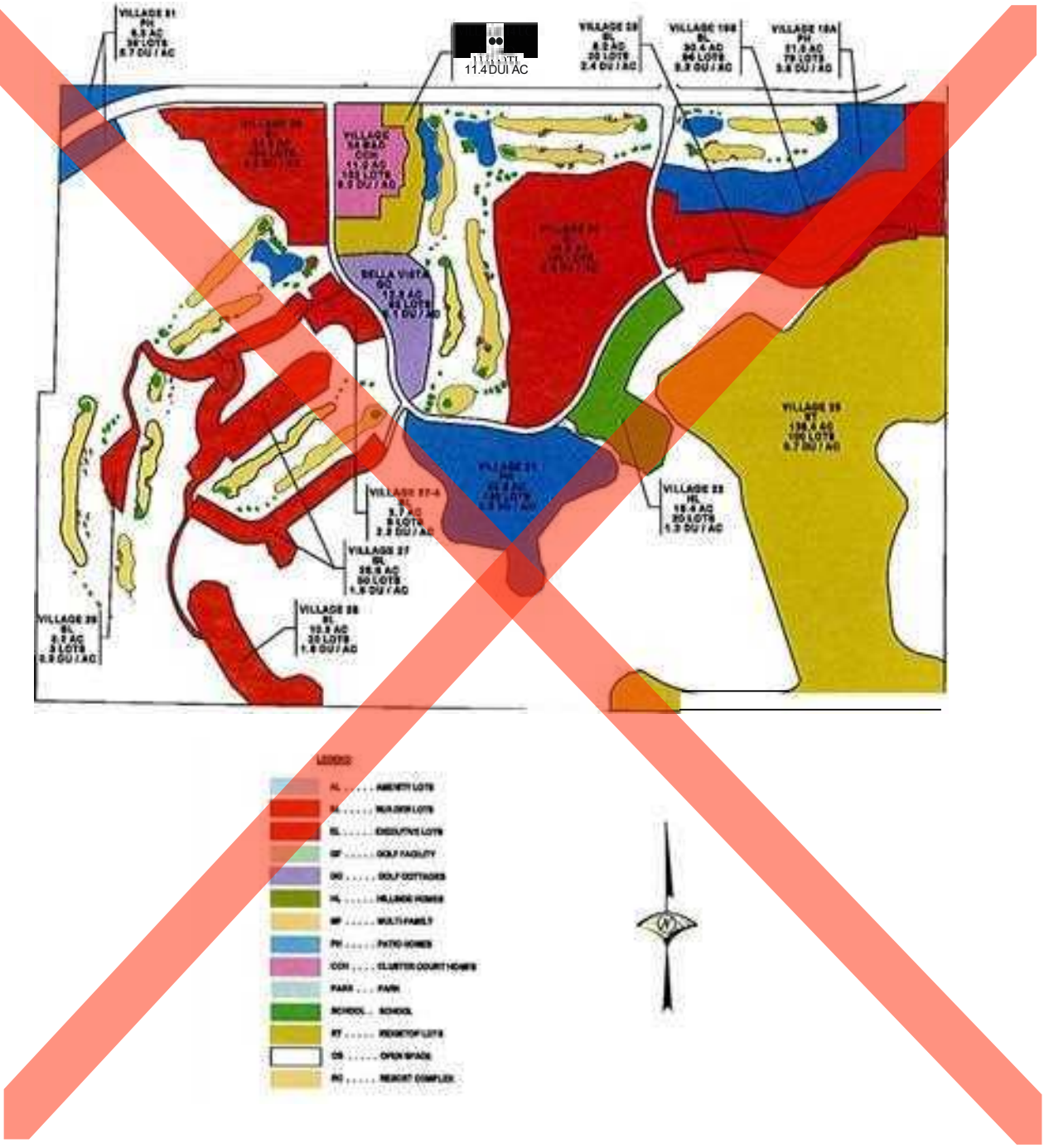


Figure 7b: Wingfield Springs Master Plan - Southern Parcel


11.4 DUI AC

LAND USE SUMMARY

RESIDENTIAL WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name/Number	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
1	-	-	-	-	-	-
2	-	-	-	-	-	-
3	AL - Amenity Lots	8	3.7	2.2	8	0
4	AL - Amenity Lots	43	19.8	2.3	43	0
5	AL - Amenity Lots	58	21.8	2.7	58	0
6	AL - Amenity Lots	50	16.8	3.0	50	0
7	AL - Amenity Lots	36	12.9	2.8	36	0
8	BL – Builder Lots	57	18.1	3.2	57	0
9	BL – Builder Lots	136	39.0	3.5	136	0
10	PH – Patio Homes	97	19.3	5.0	97	0
11	AL – Amenity Lots	74	31.9	2.3	74	0
12	EL – Executive Lots	84	4.4	1.6	84	0
13 – A, C, & D	BL – Builder Lots	132	35.7	3.7	132	0
13 – B	PH – Patio Homes	84	16.6	5.1	84	0
14	AL - Amenity Lots	53	21.7	2.5	53	0
15	BL – Builder Lots	147	39.1	3.8	147	0
16	AL - Amenity Lots	35	14.4	2.4	35	0
17	BL – Builder Lots	140	39.3	3.6	140	0
17A	PH – Patio Homes	14	2.9	4.9	0	14
18	GC – Golf Cottages	58	7.9	7.4	58	0
19A	PH – Patio Homes	79	21.2	3.7	79	0
19B	BL – Builder Lots	96	30.2	3.2	96	0
20	BL – Builder Lots	140	49.9	2.8	140	0
21	PH – Patio Homes	130	32.8	4.0	130	0
22	HL – Hillside Homes	11	16.4	0.7	11	0
23	BL – Builder Lots	20[2]	8.1	2.5	0	20
24 A & C	MF – Multifamily	138	10.3	13.4	138	0
24 B & D	CCH – Cluster Court Homes	102	11.0	9.3	102	0
25	RT – Ridgetop Lots	100[3]	140.5	0.7	0	100
26	BL – Builder Lots	104	24.4	4.3	104	0
27 Phases 1 & 2	BL – Builder Lots	43	26.6	1.6	43	0
27 Phase 3	BL – Builder Lots	35	15.6	2.2	0	35
27 Phase 4	BL – Builder Lots	8	2.5	3.2	0	8
28	BL – Builder Lots	20	10.3	2.0	0	20
29	BL – Builder Lots	3	4.6	0.7	0	3
30	GC – Golf Cottages	123	18.3	6.7	123	0
31	PH – Patio Homes	36	6.0	6.0	0	36
32	ES – Estate Lots	181	45.9	3.9	0	181
33	ES – Estate Lots	75	20.7	3.6	0	75
34	ES – Estate Lots	75	21.8	3.4	0	75
35	ES – Estate Lots	18	16.8	1.1	0	18
36	ES – Estate Lots	41	10.8	3.8	0	41
37	ES – Estate Lots	62	15.8	3.9	0	62
38	ES – Estate Lots	37	8.8	4.2	0	37
39	ES – Estate Lots	94	19.7	4.8	0	94
40	GC – Golf Cottages	9	1.3	6.7	0	9
Bella Vista	GC – Golf Cottages	62	12.2	5.1	62	0
Northern Parcel Subtotal	-	1,944	545.2	3.6	1,338	606
Southern Parcel Subtotal	-	1,127	422.6	2.7	905	222
Residential Grand Total	**-**	**3,071**	**967.8**	**3.2**	**2,243**	**828**

NON-RESIDENTIAL WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
Northern Parcel:						
Resort Complex	RC	3	1.9	3.3	3	0
Golf Facility	GF	-	20.7	-		
Community Roads	-	-	15.0	-		
Southern Parcel:						
Golf Course	-	-	162.5	-		
Community Roads	-	-	2.6			
Vista Blvd	-	-	21.0	-		
Non-Residential Grand Total		**3**	**223.7**		**3**	**0**

OPEN SPACE WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
Northern Parcel:						
-	Parks	-	10.0	-	-	-
-	Wetlands	-	41.1	-	-	-
-	Lakes	-	33.0	-	-	-
-	Other Open Space	-	37.0	-	-	-
Southern Parcel:						
-	Other Open Space	-	332.4	-		
Open Space Grand Total			**453.5**			

Notes:

1. *Mapped Villages were based on an analysis of the Washoe County Assessors Records on January 10, 2026. Remaining units/lots are based on the last recorded date of the Handbook.*

2. *Village 23. Village 23 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 23 is entitled for 20 total units. No additional units shall be final mapped in Village 23 without the express written consent of the Master Developer, Red Hawk Land Company.*

3. *Village 25. Village 25 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 25 is entitled for 100 total units based on the following conditions: the land owner or its successors or assignees has immediate handbook entitlement rights for 75 units and the additional 25 units shall not be final mapped in Village 25 without first obtaining the express written consent of the Master Developer, Red Hawk Land Company.*



Village	Units	Designation	Acreage	Density (du/ac)	Sparks LUM Designation	Sparks LUM Units
1	-	-	-	-	-	-
2	-	-	-	-	-	-
3	6	AL	3.7	2.2	4	14.9
4	44	AL	18.8	2.4	4	74.2
5	56	AL	25.7	2.2		
6	82	AL	29.5	2.7	4	213.8
7	36	AL	18.1	2.0		
8	27	CL	10.8	3.4	4	67.2
9	133	SF	34.0	3.7	4	127.4
10	97	PH	16.9	5.1	4	78.5
11	74	AL	33.7	2.2	4	134.8
12	7	CL	0.7	9.4	2	10.3
13	215	PRM	42.7	5.4	4	241
14	55	AL	22.5	2.4	4	90
15	147	SF	38.0	3.7	4	150.7
16	35	CL	13.8	2.5	4	55.4
17	40	SF	38.3	3.7	4	153.3
17A	4	PH	2.0	2.0	2	
18	98	SC	7.0	7.0	15	118.6
20	24	CL	10.7	14.3	4	85.0
19	71	PRM	61.9	3.4	4	278.4
21	71	SF	28.5	2.5	4	189.7
21	130	PH	32.8	4.0	4	131.2
22	20	PL	18.0	1.2	1	18.4
23	None	CL	8.2	-	4	43.2
24	230	CMU/MF	21.5	11.3	10 & 15	276
25	None	PL	138.4	-	1	138.4
26	106	SF	24.5	4.2	4	97.8
27 Phase 1 & 2	60	SF	20.6	1.8	4	230.5
27 Phase 4	5	CL	0.7	2.2	4	14.2
28	21	CL	10.6	1.2	4	48.5
29	2	SF	0.2	10.0	4	12.8
31	23	PR	0.5	5.7	40	
Park Pad	8	CC	1.2	6.1	8	78.1
Northern Parcel Sub-Total	2		4.3	3.8		
Southern Parcel Sub-Total	3		43.2	2.2		
Subtotal Offsite	150		58.7	2.6		
Northern Parcel:						
Resort Complex	5	CC	8.0	2.5		
Golf Facility		CF	11.3			
Golf Course (incl. 15 ac in Cell 4 not developed)			194.1			
Community Facility			18.0			
Residential Area	1		3			
Golf Course			182.5			
Community Facility			21.0			
Residential Area			374.3			
Subtotal						
Northern Parcel:			Acreage			
Parks			10.0			
Wetlands			41.1			
Lakes			33.0			
Other Open Space			42.0			
Southern Parcel:						
Other Open Space			332.4			
Open Space Subtotal			458.5			
GRAND TOTAL	2459		1845.0	1.5		

Please see notes applicable to the Land Use Summary on the following page.

~~*1. Village 23. Village 23 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 23 is entitled for 20 total units. No additional units shall be final mapped in Village 23 without the express written consent of the Master Developer, Red Hawk Land Company.*~~

~~*2. Village 25. Village 25 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 25 is entitled for 100 total units based on the following conditions: the land owner or its successors or assignees has immediate handbook entitlement rights for 75 units and the additional 25 units shall not be final mapped in Village 25 without first obtaining the express written consent of the Master Developer, Red Hawk Land Company.*~~

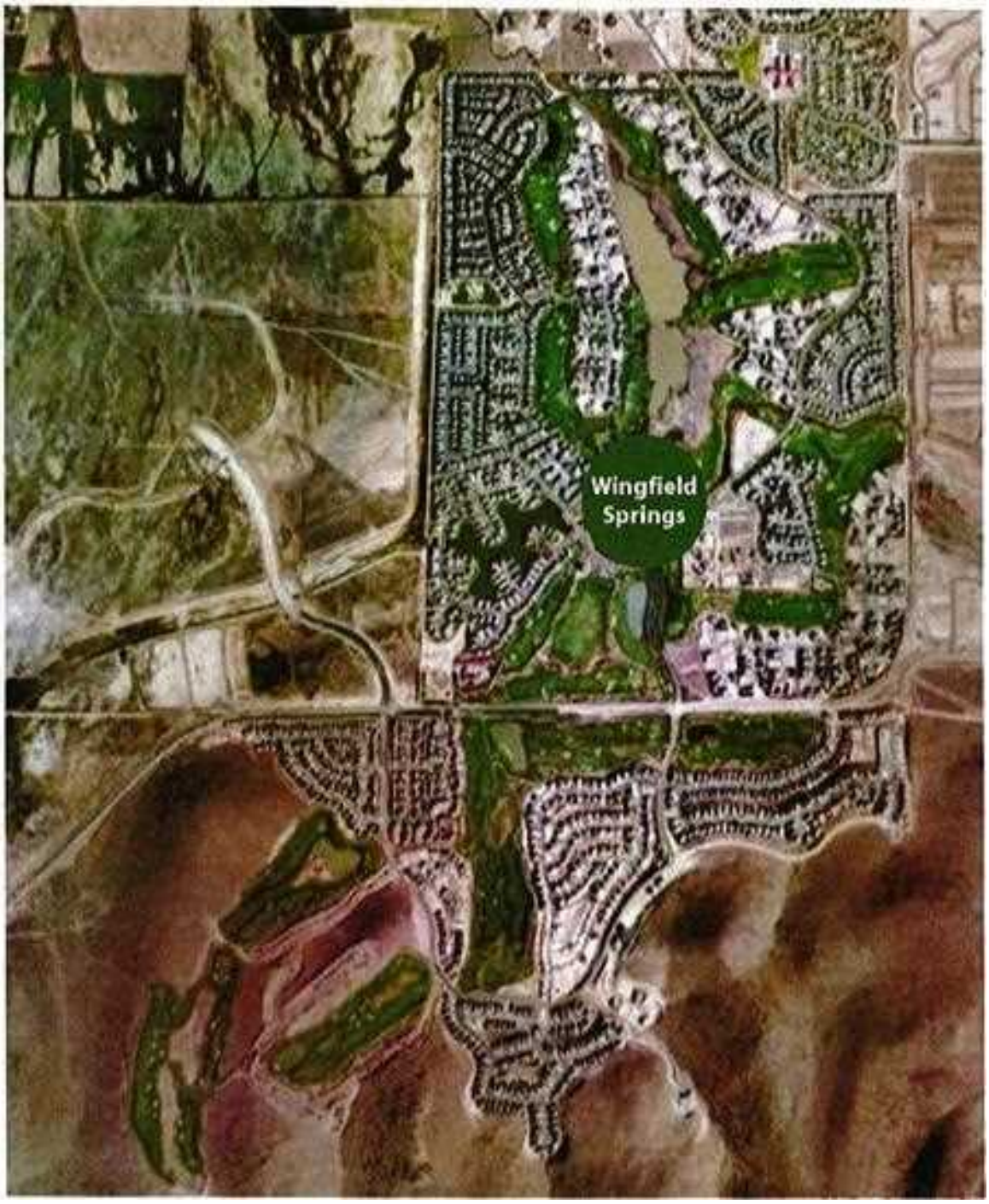


Figure 9: Context Map

COMPATIBILITY WITH SURROUNDING PROPERTIES

Surrounding properties to the north, south, east and west of Wingfield Springs are presently developed. A few single family residences are located in Baldwin Estates adjacent to the northerly property boundary of the Wingfield Springs project. The proposed Bighorn single family residential development is also located north of Wingfield Springs.

The Master Plan has been developed with sensitivity to the existing uses, as well as planned land use designations identified in the NSSOI. The relationship between the project Master Plan and the NSSOI are shown in Figure 9, which illustrates that the single family residential densities and open space connections around the perimeter of the property are in substantial compliance with the NSSOI. The Master Plan offers densities lower than those identified in the NSSOI and in addition provides 10 acres of parks and a 25-foot open space buffer along the westerly property line.

Commercial uses at the southwestern comer of the northern parcel and at the northwest comer of the southern parcel are also in compliance with the NSSOI.

The new Wingfield development will also provide important trail system linkages to adjacent properties, including equestrian, bicycle, and hiking trails.

PHASING STRATEGY

Initial phases of construction to facilitate development of the project are somewhat easier to identify and predict than later phases which will be dependent on market conditions, absorption rates, builder performance and construction logistics.

The first phase of development will involve master grading, construction of the entrance parkways, re-routing of the existing Spanish Springs Road through the northern parcel, and construction of the first 18 holes of the golf course and a temporary clubhouse facility on the northern parcel property, and development of the rough "development parcel pads" for the initial residential villages.

Grading of the golf course on the northern parcel will require borrow grading on the southern parcel. Grading of the northern parcel will create some conflicts and the relocation of Spanish Springs Road. Traffic detours and public information programs will be employed to minimize the inconvenience to residents both north and east of the project site. The final master grading plan will be approved by the City Engineer.

Prior to the opening of the golf course, Vista Boulevard will be extended from its present terminus, approximately 2 1/2 miles to the project entrance of Wingfield Springs. The extended roadway will be improved two travel lanes, which will be the first phase of the ultimate roadway as generally depicted in the Concept Financing Plan. Vista Boulevard from its present terminus to the project entrance is expected to be widened by the City

from two to four lanes when the volumes associated with this project exceed 12,080 Average Daily Trips (ADT). The developer will dedicate the ultimate right-of-way for Vista Boulevard that bisects the property to the City of Sparks and has dedicated 1/2 of the right-of-way for the continuation of the roadway which borders the easternmost boundary of its property.

Utilities including gas, electric and sewer will most likely be extended within the Vista Boulevard corridor to the project entrances. Water service from TMWA will also be provided during this phase.

Following the construction of the golf course, the Vista Boulevard extension, the entrance parkway to the northern parcel, the new collector road, and the phase one residential villages will be developed as the market demands.

The actual timeframes associated with buildout will depend on market forces. It is anticipated that individual lots may be sold in some of the residential villages for custom homes while other entire villages may be sold to individual builders. The resort complex and commercial areas are expected to be developed when justified to meet market demands and the service needs of the project residents, as well as nearby residents in Spanish Springs Valley.

A fire station is being considered at the community school site. The school would be remodeled into a fire station.

Residential amenities, including the equestrian trails and pedestrian and bicycle pathways will be developed with construction of the individual residential villages. Completion of the various parks will be tied to buildout thresholds to ensure the needs of the residents are met. The community park on the northern parcel site will be completed with construction of the Neighborhood Commercial Center. The pocket parks will be completed on or before the buildout of the residential villages adjacent to the specific parks.

Residential Construction Tax revenue collected in the interim and credits against future revenues will used by the developer to construct the parks in accordance with the City of Sparks Parks Department requirements. Upon completion, the parks will be dedicated to the City of Sparks.

FLEXIBILITY

The master plan and phasing strategy contained herein are intended to depict the general nature and relative intensity of residential and non-residential development at Wingfield Springs, while allowing sufficient flexibility to permit detailed planning and design at the time of actual development. The configuration of development parcels and phases may be altered from those shown on the master plan to accommodate detailed site conditions and revisions to the project's implementation strategy providing that the reconfiguration

does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook. Residential and non-residential density (including Patio Homes) may also be transferred between development parcels providing this transfer does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook.

Specific conditions which limit this flexibility include:

1. Total residential units shall not exceed ~~2,564~~3,074 (~~1.56~~1.87 dwelling units per acre).

2. Total commercial uses shall not exceed 275,000 GSF of freestanding commercial uses, and 175,000 GSF of golf club and related uses. The golf club, neighborhood commercial, and village commercial developments shall remain in the areas shown on the master plan identified herein although precise acreage and configuration may vary.
3. The total number of Patio Homes, Resort Condominiums, Cluster Court Homes, Multi-Family and Golf Cottages shall not exceed 984 lots.

SECTION IV - INFRASTRUCTURE AND PUBLIC SERVICES

INFRASTRUCTURE AND PUBLIC SERVICES

ACCESS AND CIRCULATION

Overall traffic impacts for the buildout of the SOI were analyzed by the Regional Transportation Commission (RTC) during the preparation of the master plan. Recommendations and policies regarding transportation in general are included in the NSSOI. Specific roadway development and transportation alternatives relating to the Wingfield Springs Community will conform to the NSSOI.

Traffic reports for the previously approved master plans which outlined overall trip generation and distribution and provided an analysis of off-site and on-site infrastructure requirements, have been submitted to the City of Sparks and are also provided in the technical supplement Appendix. Both the previous reports and the update, recommend continuous monitoring of the traffic situation as the project develops. An update to these traffic studies/reports is provided in Appendix C. Traffic monitoring will be completed at periodic intervals in accordance with these recommendations.

Access

Access to the project is presently provided by Vista Boulevard from the south (previously known as Spanish Springs Road) and Spanish Springs Road/La Posada Drive from the north.

Vista Boulevard has been extended to the project entry parkways located near the center of the northern and southern parcels. These parkways provide the entry statements into the communities and connect to the main collector roads of each project.

Upon development, several types of streets and pathway systems will provide access to and within the Wingfield Springs Community. Pedestrian and bicycle pathways will be included within the street right-of-ways, as well as within interior portions of the project. Equestrian trails and golf cart paths are also planned within the development. It is anticipated that in the future, bus service will most likely be provided to the area. The developer will work with the RTC and the Washoe County School District to identify future bus routes and stops.

The access and circulation aspects of the roadway and pathway/trail systems are as follows:

ROADWAY SYSTEM

The roadway system hierarchy includes arterial, parkway, collector and local streets as shown in Figures 10a and 10b.

According to the RTC, the proposed plan for Vista Boulevard is for the eventual buildout of a four lane major arterial within a six lane right-of-way to the main entrances to Wingfield Springs (northern and southern parcels). East of this dual project entry, the road is planned for four lanes with a transition to two lanes.

FIGURE 10a: VEHICULAR CIRCULATION PLAN NORTHERN PARCEL



Figure 10a: Vehicular Circulation Plan (Northern Parcel)

FIGURE 10a: VEHICULAR CIRCULATION PLAN
NORTHERN PARCEL



Figure 10a: Vehicular Circulation Plan (Northern Parcel)

FIGURE 10b: VEHICULAR CIRCULATION PLAN SOUTHERN PARCEL

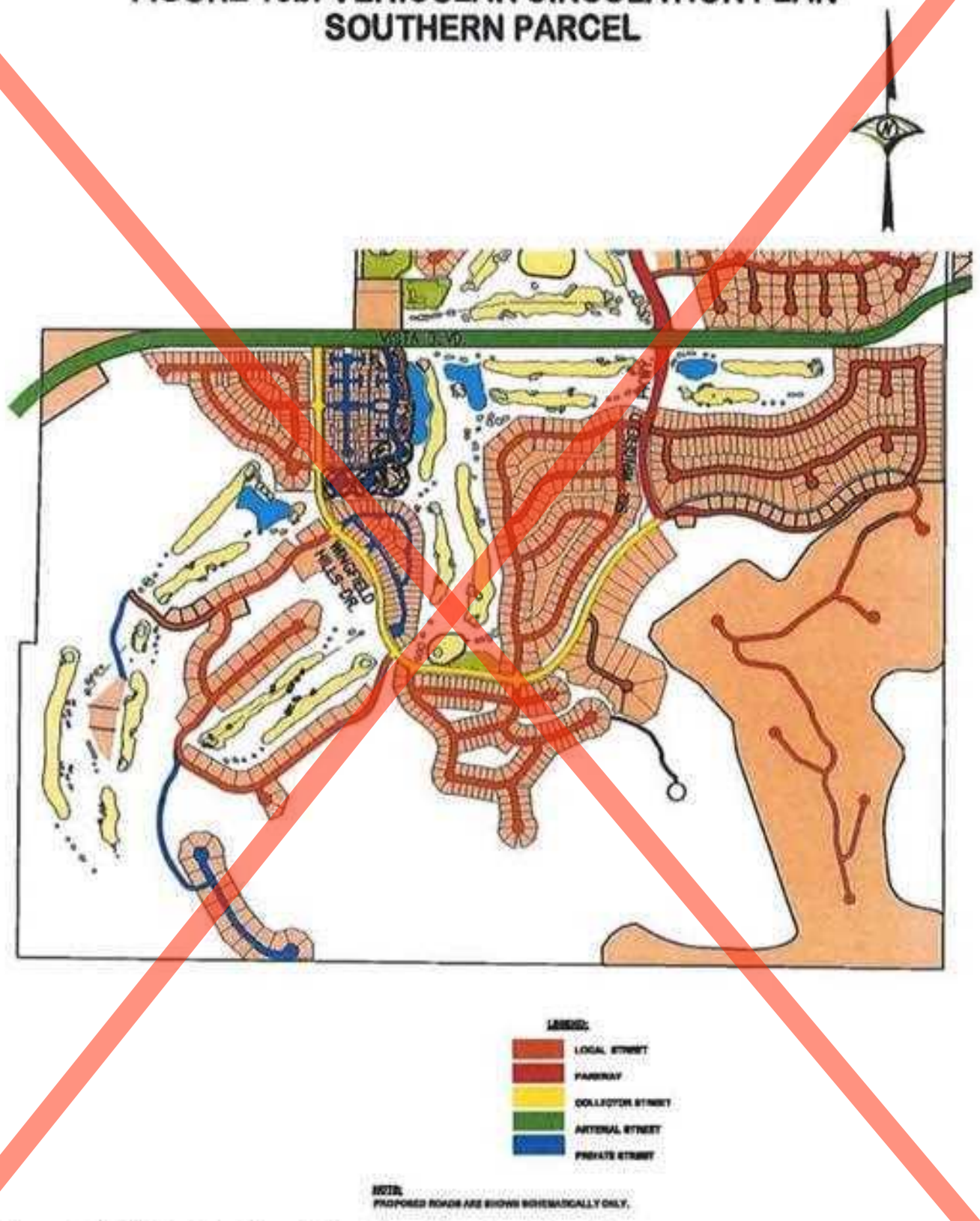


Figure 10b. Vehicular Circulation Plan (Southern Parcel)

FIGURE 10b: VEHICULAR CIRCULATION PLAN SOUTHERN PARCEL

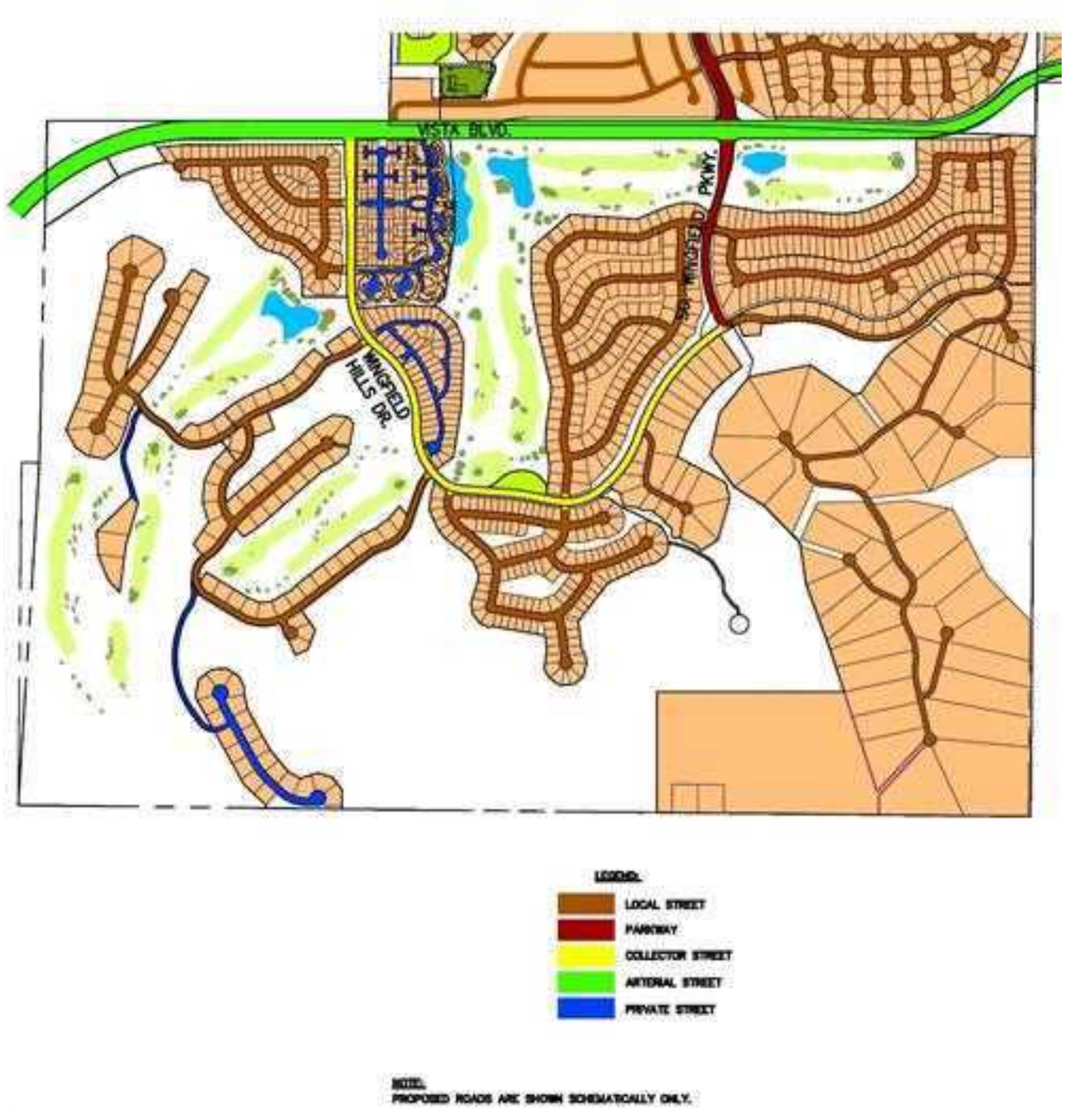


Figure 10b. Vehicular Circulation Plan (Southern Parcel)

The final design of street configurations, and intersections, shall be considered at the time of preliminary design, and shall be subject to the Public Works Director's and Fire Chiefs approval.

Conceptual roadway design sections consistent with the NSSOI are provided in Figures 11-14.

ARTERIAL STREETS

The design sections for arterials (Figure 11a and b) include a median and a separated pathway on one side of the street. Utilities will be accommodated within the right-of ways where possible. Where this is not feasible, Public Utility Easements (PUE's) shall be included adjacent to the right-of-way on each side of the street.

The NSSOI requires property owners adjacent to planned arterials to dedicate the right-of-way for the ultimate roadway widths. Development of a plan to determine the mechanisms for financing various public improvements including arterial roadways in the NSSOI was also required. The Northern Sparks Sphere of Influence financing concept plan was approved by the Sparks City Council on March 28, 1994.

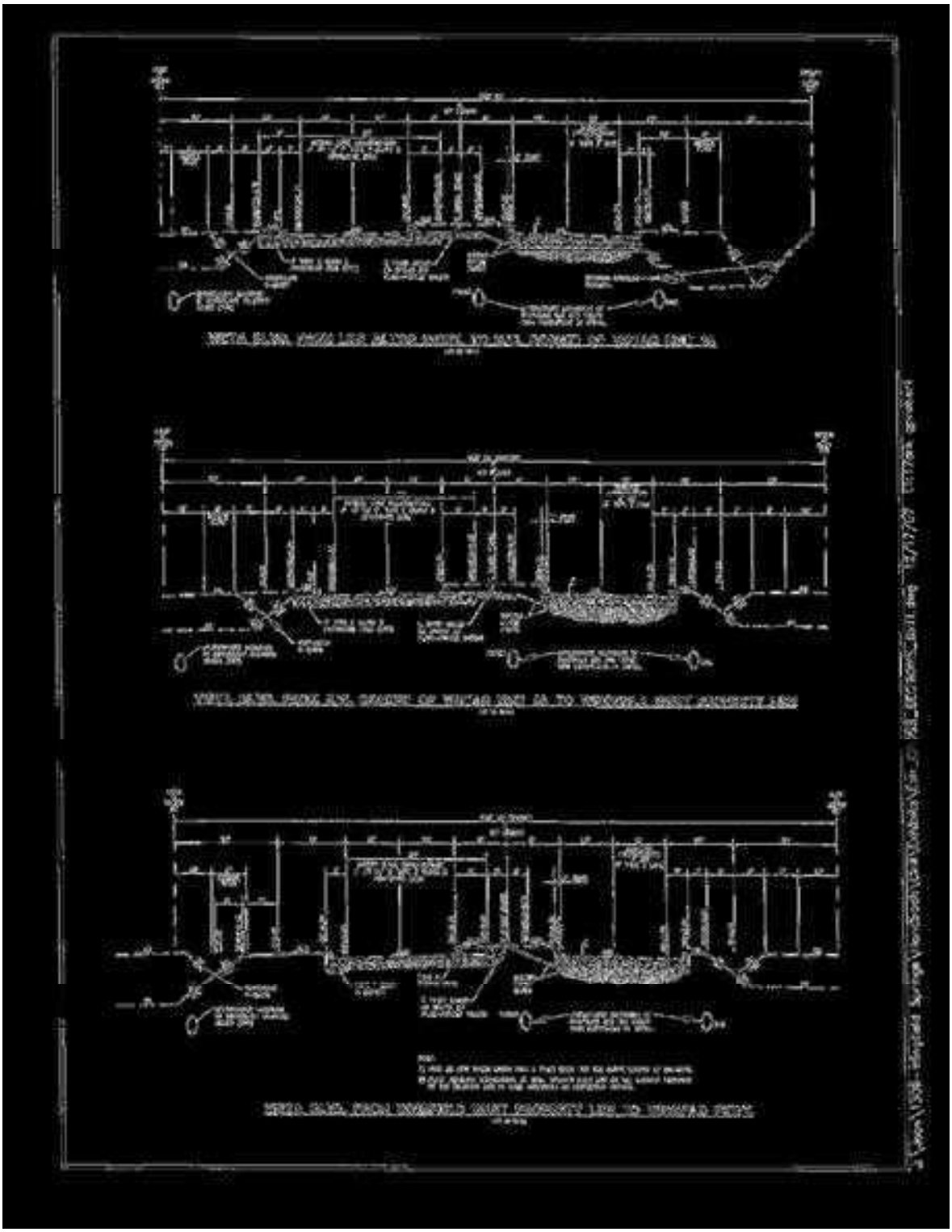
In conformance with the NSSOI, Red Hawk Land Company has dedicated one-half of the right-of-way for the ultimate arterial roadway width adjacent to each property. Two travel lanes of the Vista Boulevard extension were constructed from the previous end of the pavement at the Vistas to the main project entrances.

According to an updated traffic study (Reference Appendix C), the two lane improvement (Figure 11a) will serve an acceptable level for the entire development. Further improvements to this section of Vista will depend upon the ultimate buildout of the project. Periodic traffic reports may be provided to address internal circulation and to track the cumulative off-site traffic volumes on Vista Boulevard if reasonably requested by the City. The need for the creation of a signalized intersection at Vista Boulevard and the main project entrances will be based on the buildout of the project and the overall development activity in the area.

The Vista Boulevard extension is the only arterial street serving the project site. The ultimate street is anticipated to be constructed in general accordance with the NSSOI.

- Where feasible, Public Utility Corridors (PUC's) will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, Public Utility Easements (PUE's) shall be included adjacent to the right-of-way on each side of the street. (Refer to PUE's under Local Streets section)

- The right-of-way for the ultimate arterial roadway through and adjacent to the property shall be dedicated to the City of Sparks and if not previously constructed by others, two travel lanes (Figure 11a, 11b and c), shall be constructed by Red Hawk Land Company from the present end of the pavement at the Vistas to the main project entrance.



- If the Vista Boulevard extension is constructed solely by this developer, with acceptance of the two lane improvement (Figure I la), the project shall be assured future approvals up to a level of development that would generate 12,080 Average Daily Trips.

- Further extension and improvement of Vista Boulevard will be the responsibility of the Regional Transportation Commission (RTC) with funds raised from their infrastructure financing fees or other sources.

PARKWAYS

Entry parkways, north and south, will be developed as divided roadways connecting to interior collector streets. The right-of-way section for the parkways will vary with variation of the median widths with rights of way from 60 to 130 feet. Two travel lanes will be provided in each direction at the intersection with Vista then transition to a single lane in each direction on the Southern Parcel. Pedestrian paths and bicycle lanes are also planned on the parkway segments.

Typical street sections for the Parkways are provided in Figure 12.

- The main entrance roads north and south into the project will be constructed as divided parkways, with two travel lanes in each direction that will accommodate acceleration, deceleration, and turning movements within a variable right-of-way from Vista Boulevard.

- Where feasible, PUC's will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, PUE's shall be included adjacent to the right-of-way on each side of the street (Refer to PUE widths under Local Streets section).

- Access along these parkway streets shall be limited with no more than one shared direct access point to residential villages and no on-street parking permitted.

COLLECTOR STREETS

The collector street on the northern parcel is located on the east side of the existing lakes,

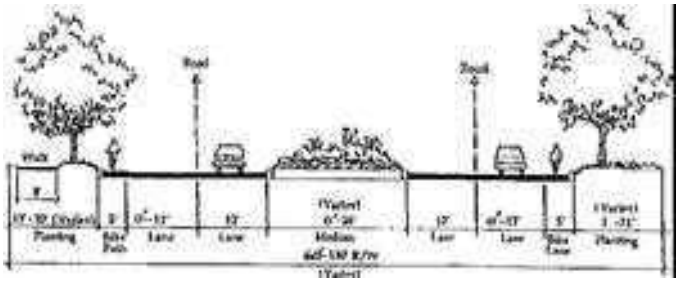


Figure 12: Entry Parkways (North & South Parcels)

connecting to the existing Spanish Springs Road north of the property and will be the only access to the north until the planned arterial portion of Vista Boulevard beyond the project entrances is extended by the City. The collector street on the southern parcel connects to Vista Boulevard at two locations, at the entry parkway and west of it.

The collector streets will be designed as two lane roadways within a 60-80 foot right-of-way with limited access points, no lots backing directly onto the street (except the hillside lots onto the south side of the collector on the southern parcel) and no on-street parking. Bicycle lanes, additional landscaping and separate pathways on one side of the street are also planned. The collector right-of-way may be designed to accommodate a landscape median wherever practical to encourage slower vehicular speeds.

Typical street sections for the Collector Streets are provided in Figures 13a through 13c.

- Collector streets include Springs Drive from the north parkway street to the north property line and Hills Drive from the south parkway street eastward to the equestrian center and westward to an intersection with Vista Boulevard.

- These collector streets shall be designed with limited access points, no on-street parking except for in front of the Hillside lots and limited direct access from a maximum of 40 residential lots on the south side of Hills Drive.

- The streets will be developed with two travel lanes and a separate pedestrian/bicycle pathway on one side within a 50 - 80 foot right-of-way.

- Springs Drive will include paving and traffic treatments to keep travel speeds slow.

- Where feasible, PUC's will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, PUE's shall be included adjacent to the right-of-way on each side of the street (Refer to PUE widths under Local Streets section).

LOCAL STREETS

Due to the location and amenities associated with the Wingfield Springs Community, the residential villages are intended to portray a unique, high quality image beyond the standard urban subdivision appearance. The image will be created in part by the housing designs, lot sizes, fencing, setbacks, but also by the street sections. In terms of the local streets within the residential villages, the design will include one travel lane in each direction and landscape areas and separate sidewalks on each side of the street. Local streets serving Ridgetop Lots, shall not have on-street parking. Local streets serving Hillside, Executive and Amenity Lots shall provide on-street parking on one side of the street, except as provided herein. Local streets serving Builder Lots, Patio Homes or Golf Cottages may provide on-street parking on both sides of the street or provide off-street parking (either on-site or off-site as allowed by the Development Standards section of this handbook). These street sections are shown in Figures 14a-c.

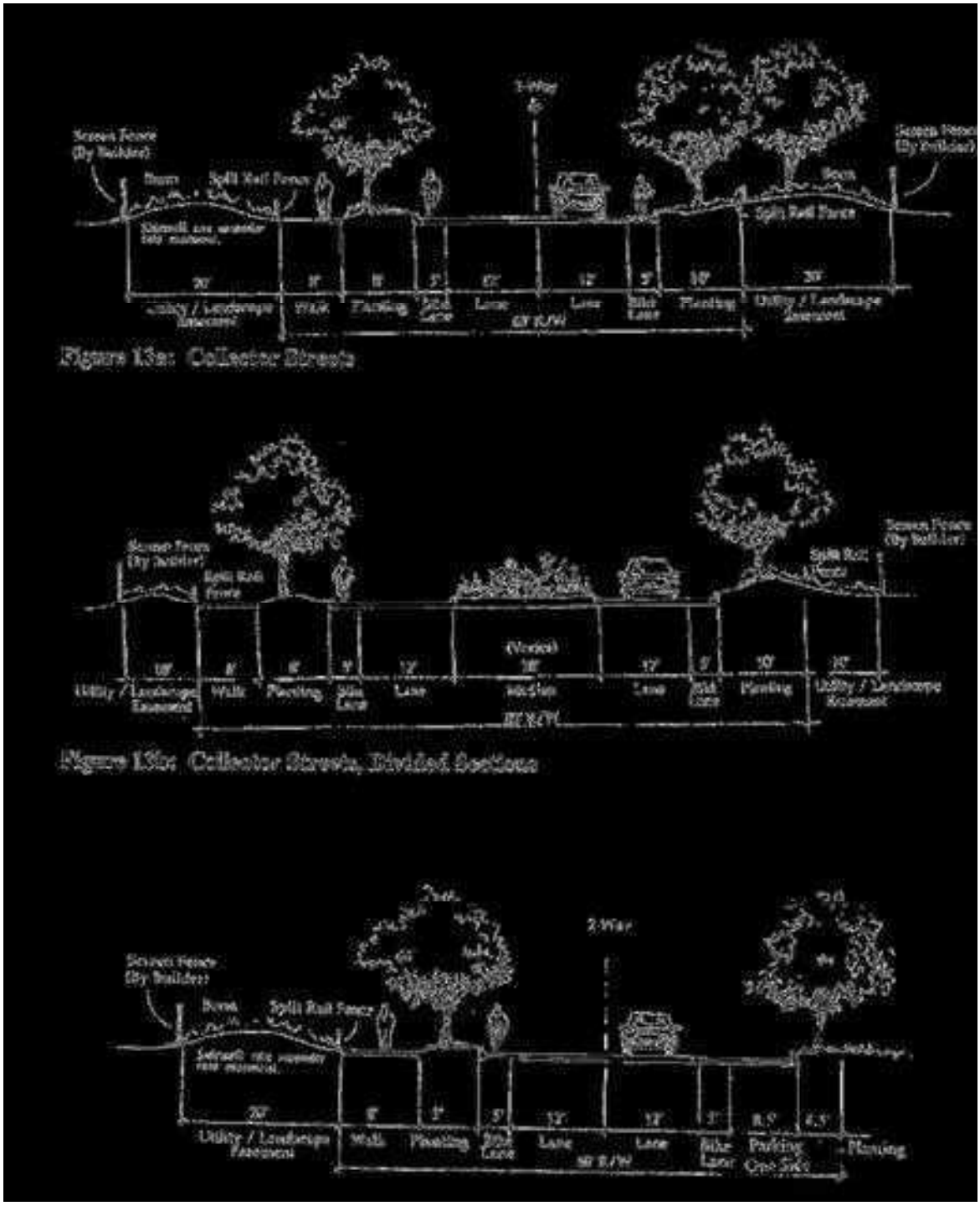


Figure 13c: Collector Streets with Lots Fronting Street

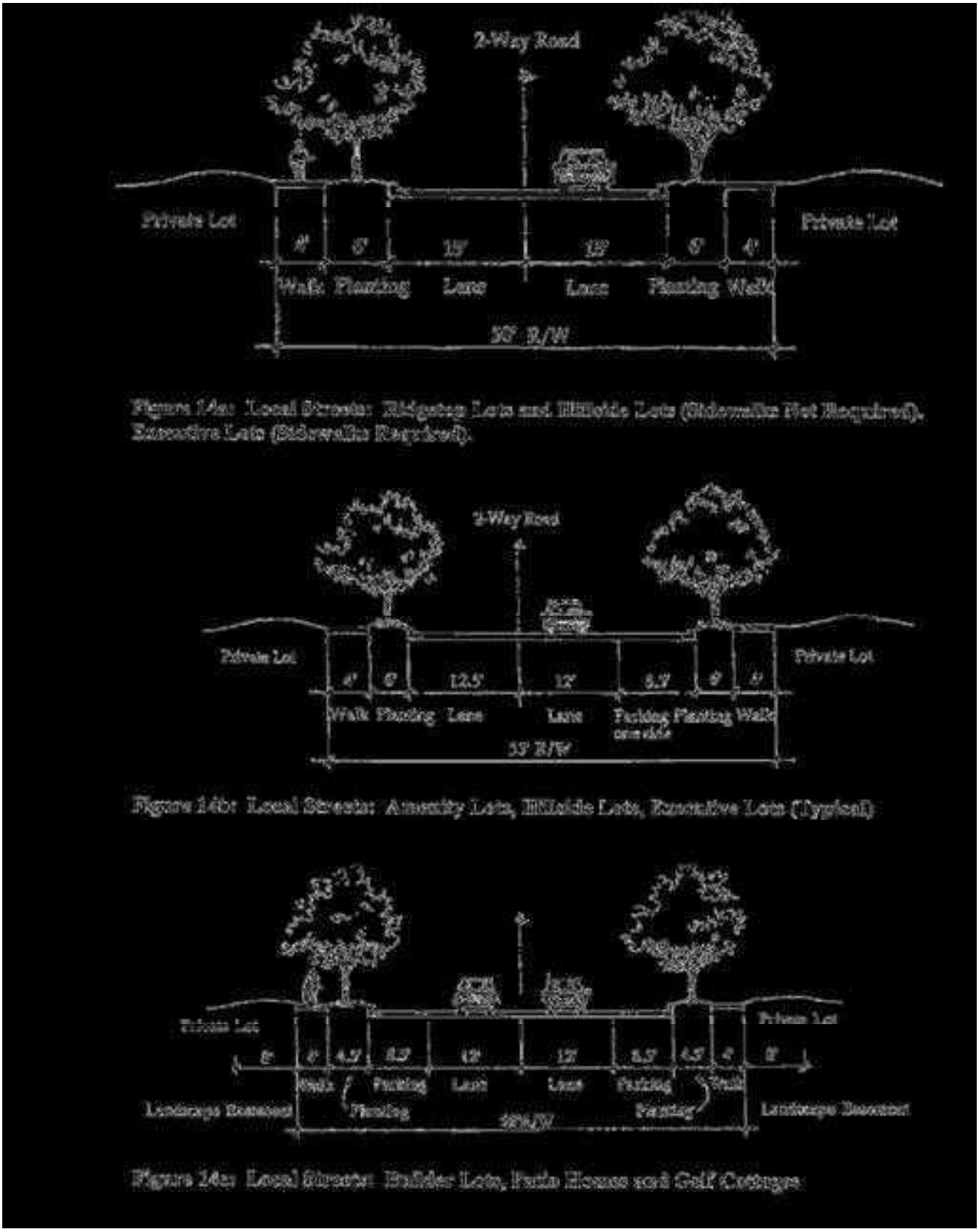


Figure 14a: Local Streets: Alleyway Lots and Hillside Lots (Sidewalks Not Required). Executive Lots (Sidewalks Required).

Figure 14b: Local Streets: Amenity Lots, Hillside Lots, Executive Lots (Typical)

Figure 14c: Local Streets: Builder Lots, Patio Homes and Golf Cottages

In a very few instances local streets within villages have been designed with cul-de-sacs having one direct access point. The purpose for such a design is either to create an exclusive setting or to limit street crossing disruptions between golf course fairways. In these situations where a second means of access is necessary, gated fire emergency access easements, with 29 feet of stabilized subsurface will be constructed.

With any of the options, a public improvement easement will be required adjacent to the street right-of-way on each side of the street.

Public Utility Easements on lots are as follows:

7.5' along front property line
2.5' on each side property line
5' along rear property line.

The individual builders or developers of each village will be required to present the selected street option and justification to the City of Sparks with the submittal of individual phase Development Plans. In certain situations (i.e. topography of the land, single loaded streets) a reduced street section may be used at the approval of the administrator.

Private streets may be desired by builders in certain villages. Street widths, adequate visitor parking and pedestrian access shall be addressed with each project.

PEDESTRIAN AND RECREATIONAL CIRCULATION SYSTEM

The pedestrian and recreational circulation system includes bicycle and pedestrian pathways within street right-of-ways, interior pathways, sidewalks, golf cart paths and equestrian trails.

Pathways, trails and residential village sidewalks shall generally be developed in accordance with the pedestrian circulation system as depicted in Figures I5a and I5b. It is understood, however, that as the project develops, path and trail locations may require modification. Pathways, trails and appropriate lighting will be reviewed by the City of Sparks with each subsequent Development Plan application.

A. Sidewalks

1. Sidewalks and meandering pathways will be provided within the street right-of-ways and throughout the interior portions of the project to provide links between the residential villages, parks, the open spaces areas, the clubhouse and commercial areas.
2. As designated in Figures 12, 13 and 14 sidewalks may be provided on one side of the street only on Arterial, Parkway and Collector Streets.
3. Sidewalks will be a minimum of four (4) feet width in residential areas and five (5) feet width in commercial areas and constructed of concrete. (Low impact development alternatives may be considered on a project by project basis).

4. Sidewalks shall be designed to connect to interior pathways and paths within street right-of-ways, where possible. Sidewalks will be maintained by the adjoining lot owners or the project's homeowners association.

B. Pedestrian/Bicycle Pathways

1. Bicycle lanes are primarily provided within the street right-of-ways. The provision of a linked pathway system will provide an alternative to automobile travel, as well as recreational enjoyment.
2. Pathways shall meander and widths shall vary between 4-1O feet depending on user type, traffic areas and sight distance considerations.
3. Paths within street right-of-ways shall be constructed of concrete.
4. Pathway crossings of streets will be made at intersections for safety purposes.
5. Potential pathway conflicts with golf cart paths, equestrian trails, village sidewalks and streets shall be minimized to the approval of the Public Works Director.
6. Interior paths shall be designed with connection points to paths and sidewalks within street right-of-ways.
7. Pathways shall be owned by the City of Sparks and maintained by adjoining lot owners or the project's homeowners association. Temporary pathways may be unpaved and unimproved.

C. Golf Cart Paths

1. Golf cart paths shall be independent of pedestrian/bicycle pathways throughout the project. Special treatment of any necessary crossings of pedestrian/bicycle pathways, village sidewalks, streets and equestrian trails shall be required.
2. Golf cart paths will be owned and maintained by the owner or operator of the golf course.
3. The existing lake crossing separating the upper and lower lakes will be used as a shared pedestrian, bicycle and golf cart crossing (see Figure 16).
4. Careful planning of the pathways will be required to minimize conflicts with golf cart paths and equestrian trails and provide for safe street crossings. Final design of the street and lake crossing will be approved by the Public Works Director.
5. Golf cart paths will be provided with the final golf course design and will be separated from the pedestrian/bicycle paths. It is anticipated that (I) grade-separated (tunnel) crossing will be used under the ultimate build-out section of Vista Boulevard with appropriate controlled, lighted, pedestrian access. Special paving treatment at the on-grade crossings may be used on the collector roads.

D. Multi-Use Trails

1. A multi-use trail network will be incorporated into the open space system identified in the NSSOI. These trails within the project have been

carefully planned to provide future connections to the overall network and prevent conflicts with the golf course, residential villages and wetlands areas.

2. Multi-use trails will accommodate horseback riding and off-road recreational bicycling and hiking. These trails are planned along the northerly property lines to provide connections from the Orr Ditch to properties to the east and west, on the southern parcel connecting the equestrian center of the property to the east and west.
3. Trails will be owned and maintained by the project's homeowners association.
4. Final design of any necessary crossings of streets, sidewalks or pathways shall be to the approval of the Public Works Director. Connections to the overall open space network identified in the NSSOI will also be provided.

FIGURE 15a: PEDESTRIAN CIRCULATION SYSTEM NORTHERN PARCEL

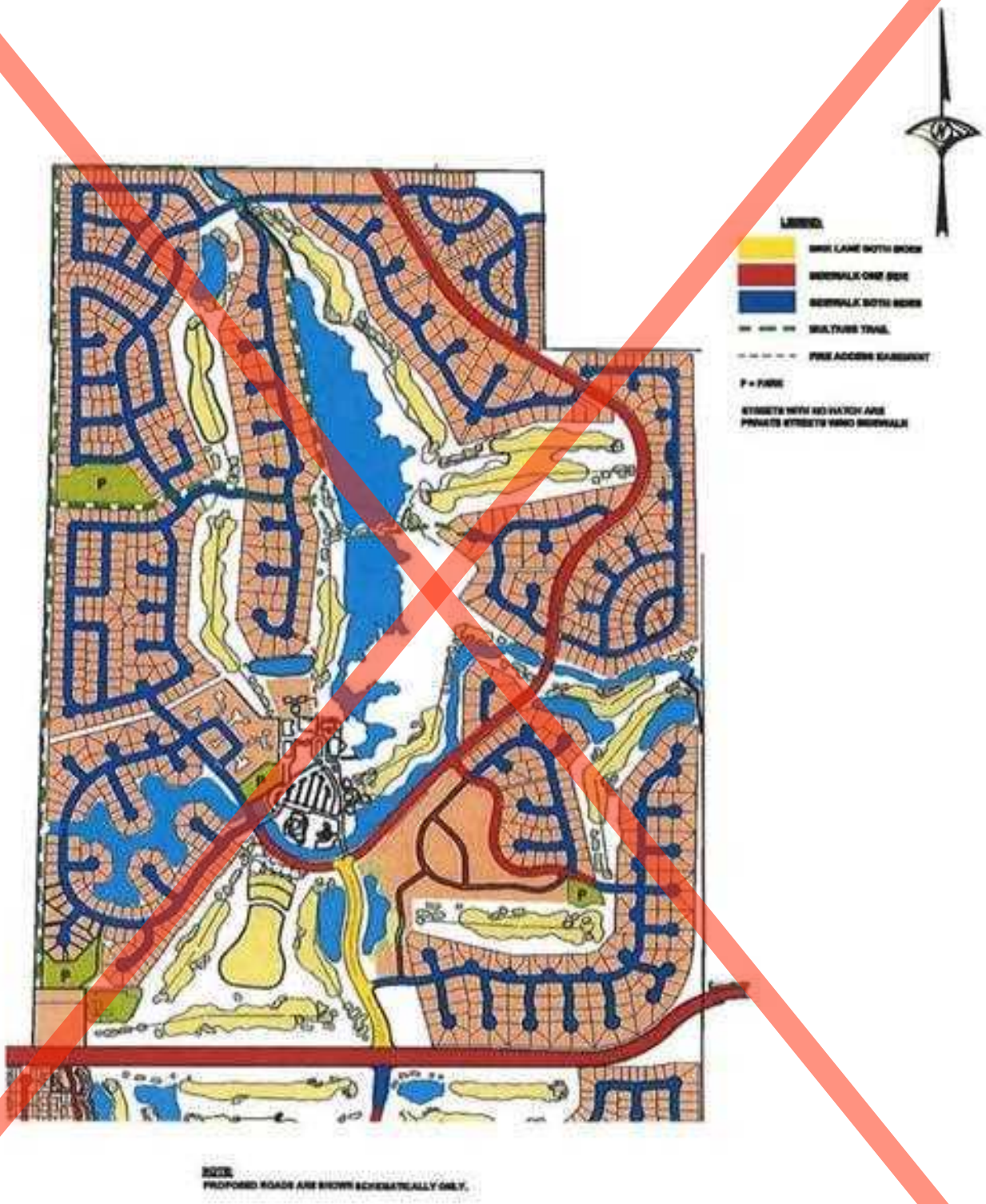


Figure 15a: Pedestrian Circulation System (Northern Parcel)

FIGURE 15a: PEDESTRIAN CIRCULATION SYSTEM NORTHERN PARCEL



Figure 15a: Pedestrian Circulation System (Northern Parcel)

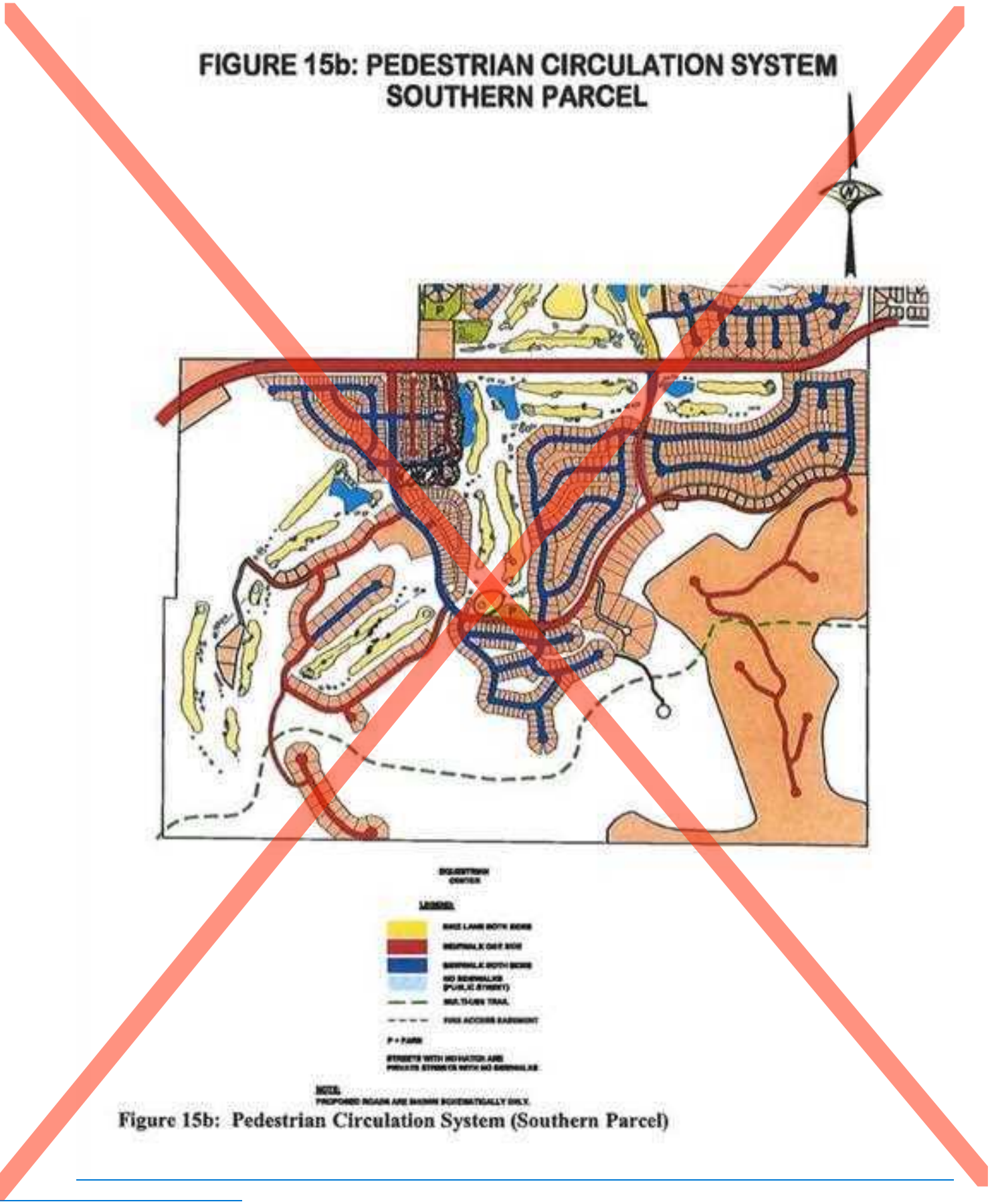


Figure 15b: Pedestrian Circulation System (Southern Parcel)

FIGURE 15b: PEDESTRIAN CIRCULATION SYSTEM SOUTHERN PARCEL

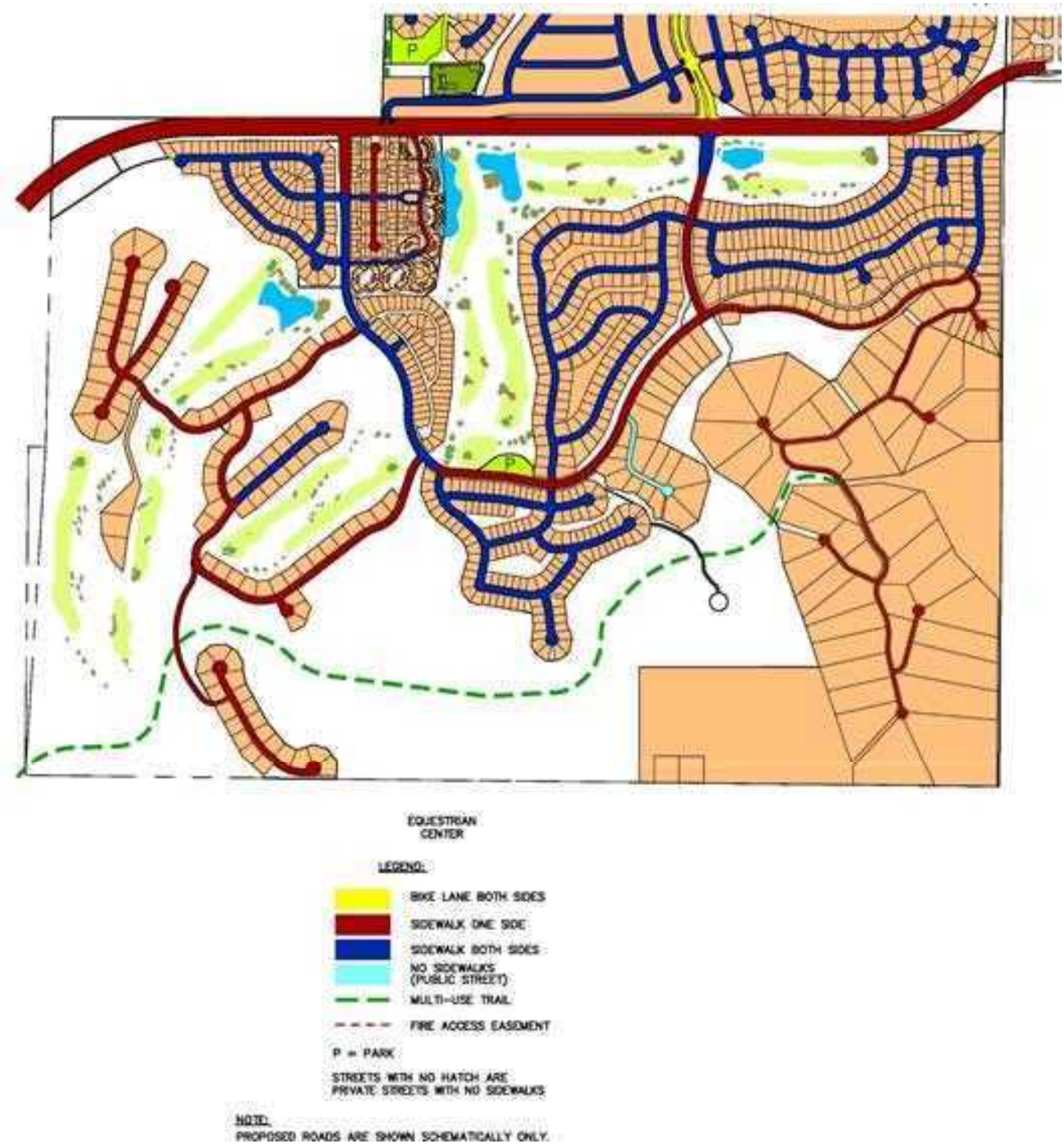


Figure 15b: Pedestrian Circulation System (Southern Parcel)

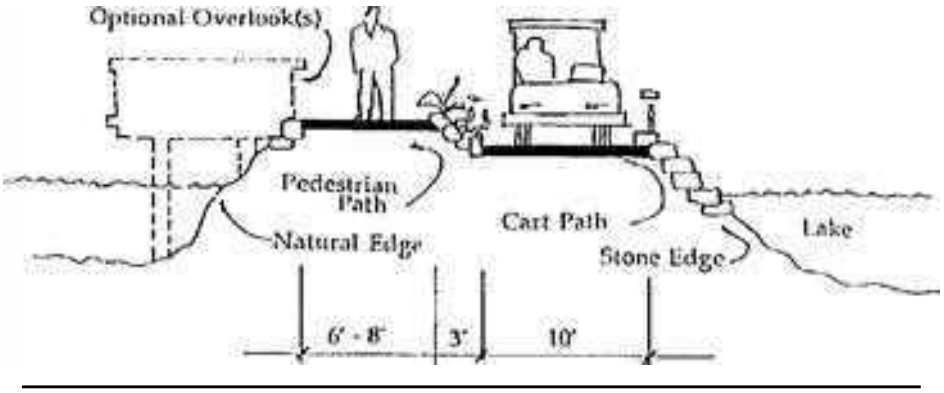


Figure 16: Preliminary Lake Crossing Detail (Looking West)

UTILITIES

Water Service

The water service provider for the Wingfield Springs Community is TMWA. TMWA currently holds the water franchise within the City of Sparks. The Public Service Commission of Nevada ("PSC") has approved the expansion of TMWA water service boundary to serve this project and the southern part of the Spanish Springs Valley.

Service to Wingfield Springs will require dedication of additional surface water rights to TMWA. The water system facilities plan and design, to and within the project, has been completed by TMWA, subject to the existing tariffs and rules approved by the PSC and execution of appropriate service agreements.

Estimated Project Water Demand

The estimated water demand for residential and commercial uses on the project is approximately 1415 acre feet per year. Considering the 58% drought year factor required by SPPCo, approximately 2,100 acre feet would have to be dedicated for the overall development. Demands for parks and open space are not included in this calculation. These estimates are based on the TMWA water demand sheet included in Appendix D. Such calculations may be revised if SPPCo's drought year yield is modified. Final calculations will be made with each phase of development.

Presently 138± acre feet of Truckee River surface water rights are appurtenant to the property. Certified groundwater rights consist of 637± acre feet from an existing well located on the

southeasterly side of the lower lake on the northern parcel and a second back up well currently being drilled.

The golf course and common areas will be irrigated with groundwater and groundwater rights from the existing on-site well. Treatment of the groundwater will not be necessary.

Surface water rights will be used to supplement groundwater resources and/or dedicated to TMWA for residential and non-residential uses. Additional water rights to serve the project as **it** progresses will be purchased and dedicated to TMWA.

Water meters will be required throughout the development. Water conservation concepts including the use of drought tolerant landscaping designs as well as the best available water conserving irrigation systems, fixtures and appliances shall be required.

Sanitary Sewer Service

The estimated sewage generation for the Master Plan is 1,035,200 gallons per day. The sewage generation worksheet estimate is in Appendix E.

The Wingfield Springs developer, Red Hawk Land Company, in conjunction with Bighorn Development II, Ltd. and Countryside Development, Inc. entered into a Development Agreement with the City of Sparks for construction of a trunk sanitary sewer facility to serve their projects.

Storm Drainage

Preliminary hydrology reports which addressed storm drainage for the previously approved projects were submitted to the City and are included in the Appendix. The golf course and open space areas will be designed as an integral part of the stormwater management plan for the project. Runoff, which is generated on-site will be transported via a series of catch basins, channels, and underground storm drainage systems to detention basins within the golf course or open space. The detention basins will serve to delay the arrival time of potential flood flows thereby eliminating any negative impact to downstream landowners. The existing lakes on the northern parcel will have standpipes and weirs installed so that during major storm events the water levels can be maintained at elevations below the existing or improved lake edges. The golf course will be designed to accommodate the storm drain system. The development shall contribute to the NSSOI storm drainage financing plan.

The routing of the 100-year storm event, generated off-site, is tentatively proposed to be accomplished by the construction of temporary "interceptor" channels along the north and east property lines of the northern parcel. These channels will capture the off-site flows as they enter the property providing conveyance to the golf course storm drainage system to the southwest. The channels will be abandoned when Vista Boulevard is extended adjacent to the east property line. Vista Boulevard will then serve to channel the runoff to the natural low point along the east property line and thence into the golf course storm drainage system. Culverts under Lake Springs Drive will be constructed to pass the 100-year recurrent storm event while allowing for all-weather access within the project.

Prior to development of the project, a final hydrology report, which includes an HEC-2 analysis for the northern parcel will be required to determine the most effective methods for intercepting and routing the I 00-year event through the project without adversely affecting downstream property owners. In conjunction with stormwater interception and routing plans, site grading will also be used to protect future residents from flooding. Building pads in the AO zone will most likely be raised above the base flood elevations. A FEMA Letter of Map Amendment will be obtained as required.

Natural Gas

Natural gas within the SOI shall be provided by SPPCo. A schematic distribution system is included in the PSSNOI. The ultimate natural gas distribution system outside of and within the project will be designed by Sierra Pacific Power Company. Natural gas shall be provided to every residential property.

Electrical Service

Electrical service for the SOI will be provided by SPPCo and is discussed in the NSSOI. It is anticipated that the SOI will be surrounded with backbone overhead electrical lines. Underground distribution feeders will then be installed within each individual project.

To serve the Wingfield Springs Community, three phase electrical service has been extended by SPPCo underground along the Vista Boulevard right-of-way from the intersection of Vista and Los Altos Parkway to the project's western-most property line as well as from overhead lines north of the project the underground to the project's northeast comer. The ultimate electrical distribution design, outside, as well as within the project will be provided by SPPCo.

FIRE PROTECTION

The Wingfield Springs Community is served by fire station Number 5 on Vista Boulevard in The Foothills project. Fire protection is governed by the Automatic Aid Development Agreement between the City of Sparks and Truckee Meadows Fire Protection District which ensures adequate fire protection for the area.

The site was proposed by the Master Developer to be located in The Foothills project on Vista Boulevard. The Master Developer constructed the station and entered into a Construction Credit Agreement with the City of Sparks.

The Infrastructure Financing Concept Plan for the NSSOI which addresses public facilities including fire protection has been adopted. The land set aside by this project for a public facility site shall be considered as a credit toward the fees required of this developer.

Fire prevention measures within the project shall require Class A roofing, excluding wood shake shingles, sprinklers in commercial buildings (where required by local codes), and emergency

access roads to provide secondary access. It should also be noted that the existing lakes and irrigated open space will act as fire breaks.

POLICE PROTECTION

As the property is within the City of Sparks, police protection will be provided by the Sparks Police Department.

SCHOOLS

A number of future school sites have been identified in the NSSOI Wingfield Springs residents are currently zoned for Beasley Elementary School, Mendive Middle School and Reed High School, all located within 4 miles of the project. An elementary school site had been approved for purchase/construction by the Washoe County School District at the northeastern corner of the Wingfield Springs site. This school will be shared by the Wingfield Springs and Cimarron projects. A new high school and middle school site has also been identified by the School District at the corner of Spanish Springs Road and Pyramid Highway (Eagle Canyon site).

PARKS

Parks shall be designed to meet city standards, including telephone lines to the parks ifrequired by the City Parks & Recreation Director. If water rights are provided for park usage by the City of Sparks, Red Hawk Land Company shall be given appropriate credit.

Wingfield Springs Development Agreement Handbook

SECTION V - DEVELOPMENT STANDARDS

DEVELOPMENTSTANDARDS

INTRODUCTION

The Wingfield Springs Master Plan identifies a series of residential and non-residential development parcels. The configuration of development parcels and phases may be altered from those shown on the master plan or phasing strategy to accommodate detailed site conditions and revisions to the project's implementation strategy, providing that the reconfiguration does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook. Residential and non-residential density may also be transferred between development parcels providing this transfer does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook.

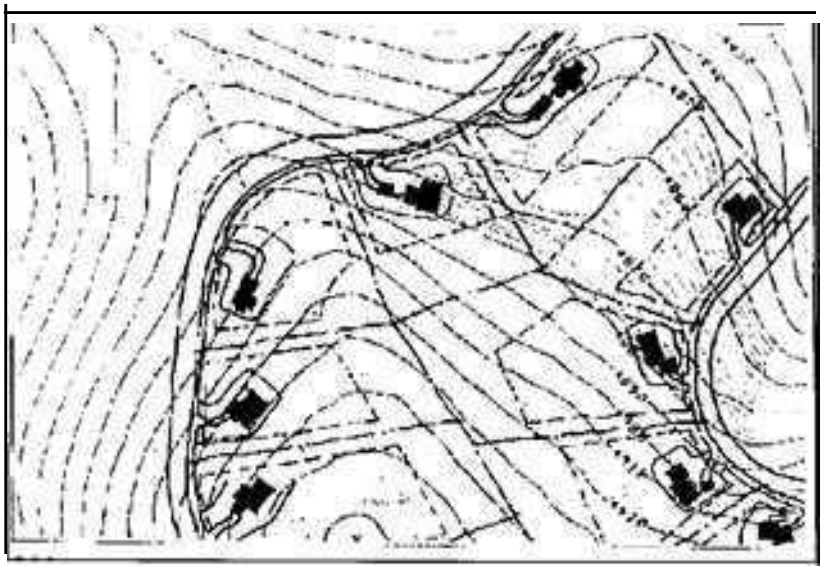
The following development standards are intended to direct the nature and intensity of residential and non-residential uses at Wingfield Springs. These standards shall be used by the Administrator in determining the acceptability of individual final development plans submitted for each phase of development. Where issues arise that are not covered by these standards, the City of Sparks Title 20 Zoning and Land Use Controls shall apply. The development standards contained in the Development Agreement and the Development Agreement Handbook may be amended at any time by mutual consent of Red Hawk Land Company, its representatives and assigns and the City of Sparks.

Accessory structures are permitted in each land use category as follows:

Accessory uses and buildings are permitted in all cases in which they are incidental to and do not alter the character of the premises in respect to uses permitted in the district. All accessory structures must be located within the lot's designated building envelope.

One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the projected roof area does not exceed 120 square feet do not require a building permit and may be located on the side and rear property lines. However, these accessory buildings may not encroach into the front and side yard setback areas from the main building or structure.

One-or-more-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, when the projected roof area exceeds 120 square feet, require a building permit. These accessory buildings may not encroach into the front yard setback, shall be a minimum of five feet from the side and rear property lines, and shall be a minimum of ten feet from the main building or structure.



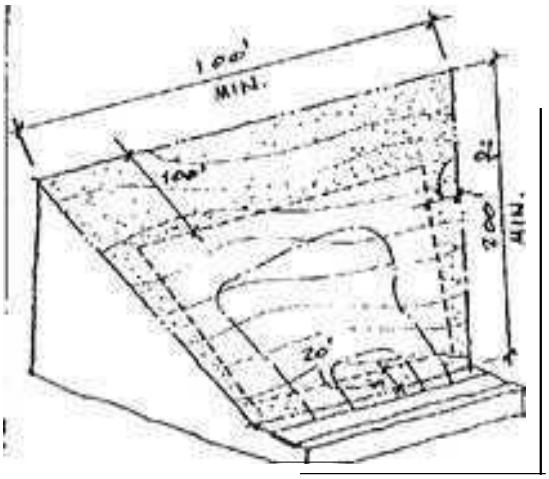
RIDGETOP LOTS

Description:
Ridgetop lots are very large lots to be located only in the ridge top area on the southern parcel overlooking the valley. Lots are irregular in size to conform to the varied and often steep topography.

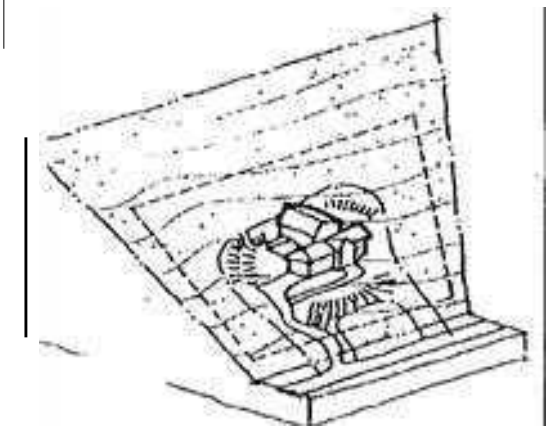
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Stables and corrals (maximum 2 horses per acre).
- Temporary sales offices and model homes.
- Recreational facilities (for the sole use of residents of the immediate neighborhood).
- In-home child care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Private recreation clubs.
- Bed and breakfast inns.
- Public utility structures.

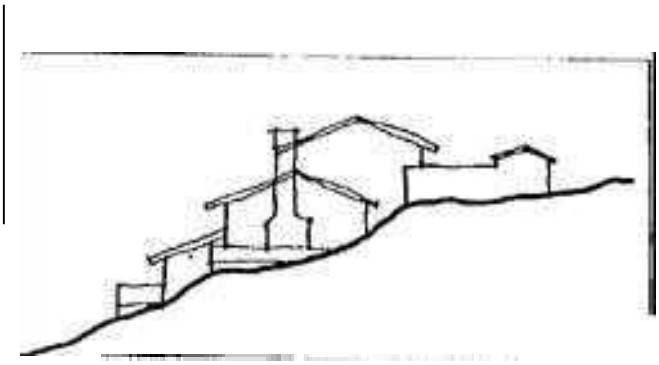
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



All Structures Within Building Envelope



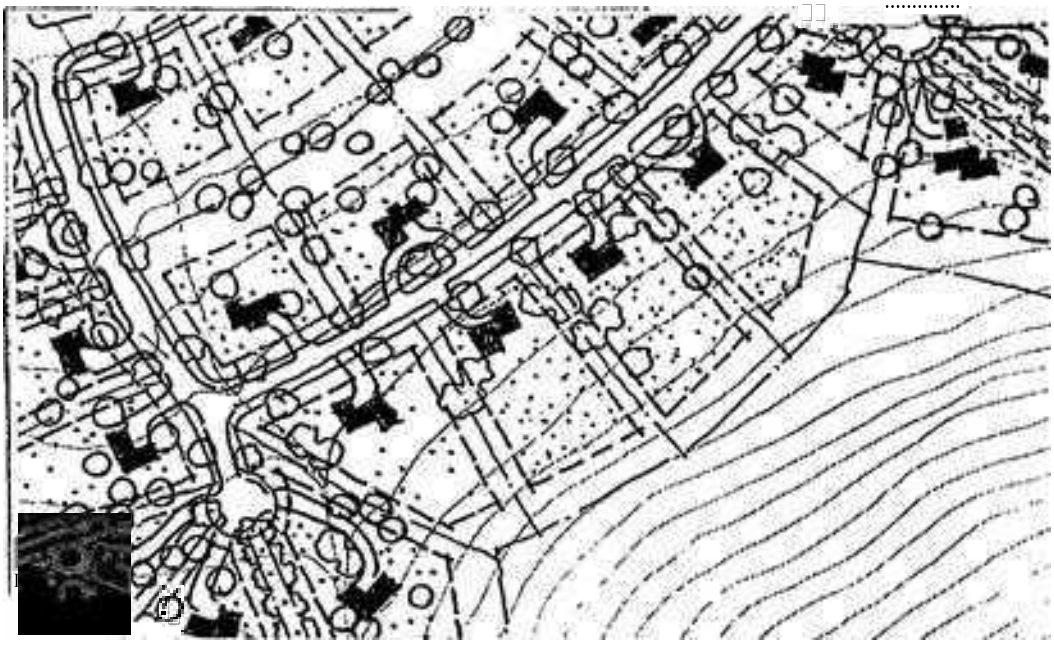
Houses Sized to be Compatible with Existing Topography

RIDGETOP LOTS

Lot Characteristics Minimum Lot Size:
43,560 Square feet
Minimum Lot Depth: I00 Feet
Minimum Lot Width: I00 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: I00 Feet (20 feet with Building Envelope)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: I0% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions:

- A building envelope shall be designated on every Ridgetop lot. All site disturbances (construction of buildings, site work, grading, etc.) must be contained within this envelope. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Houses and other structures shall be sited to minimize excessive grading and shall be compatible with existing topography as approved on Final Map. The placement of homes on or near ridges shall show a high degree of sensitivity to terrain and its visual impacts.
- All graded, sloped banks facing the street shall not exceed a 2:1 gradient, nor shall they exceed ten feet in height without a horizontal terrace. A series of terraces with rockery walls < 5 ft. tall are preferred over I or more acre cut slopes.
- Side or rear entry garages are encouraged wherever possible, garage doors should not directly face the street. Each lot shall have a maximum of two driveway cuts joining the street.
- Driveways shall provide sufficient area to accommodate up to 4 additional visiting vehicles.
- Residential fire sprinklers are required for each dwelling.



HILLSIDE LOTS

Description:
Hillside Lots are very large lots to be located along Hills Drive in the southern parcel with dramatic views to the valley below.

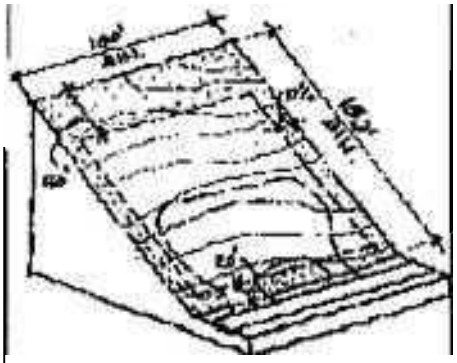
Principal Permitted Uses:
- Single family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Bed and breakfast inns.
- Public utility structures.

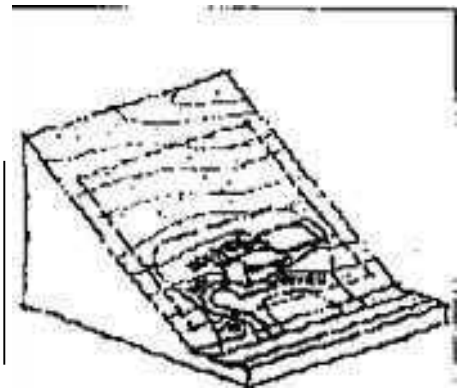
Prohibited Uses:
- All uses not specifically identified above.

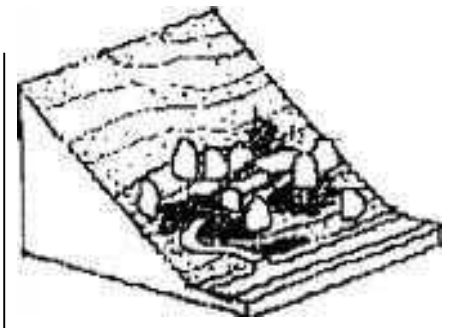
HILLSIDE LOTS

Lot Characteristics



Typical Lot

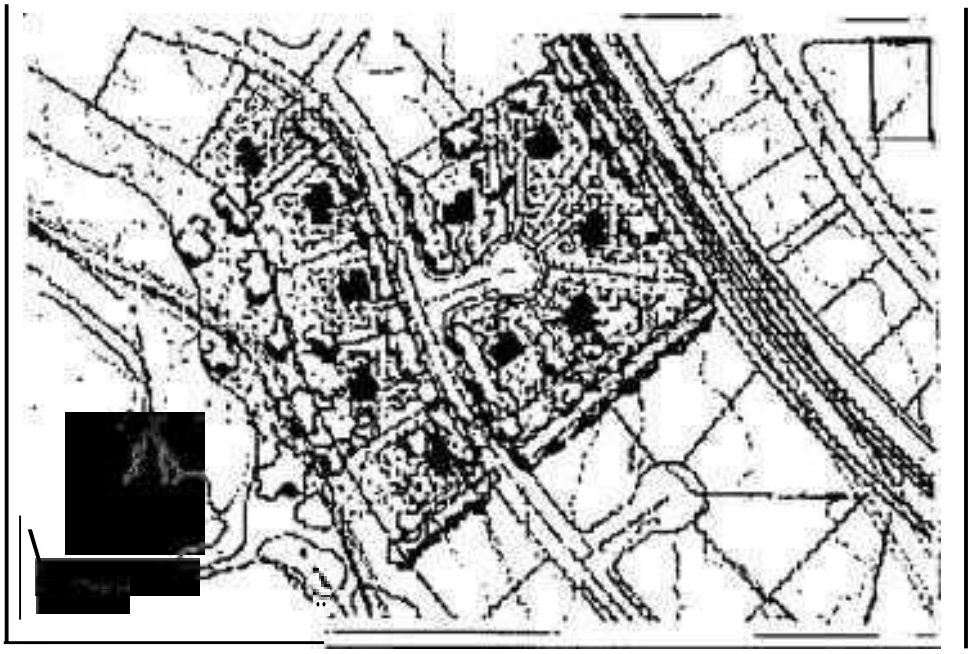




Minimum Lot Size: 20,000 Square feet
Minimum Lot Depth: 150 Feet
Minimum Lot Width: 100 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: 50 Feet (20 feet with Building Envelope)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 20% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions

- A building envelope shall be designated on every Hillside lot. All site disturbances (construction of buildings, sitework, grading, etc.) must be contained within this envelope. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Houses and other structures shall be sited to minimize excessive grading and shall be compatible with existing topography as approved in Final Map.
- All graded, sloped banks facing the street shall not exceed a 2:1 gradient, (if recommendation by a geotechnical engineer is obtained for 1.5:1 slopes they may be allowed, with approval from the engineering manager) nor shall they exceed ten feet in height without a horizontal terrace. A series of terraces with rockery walls 6 feet in maximum height are preferred over 1 acre cut slopes.
- Adjacent lots along Hills Drive shall have shared driveways wherever possible.
- Side or rear entry garages are encouraged wherever possible, garage doors should not directly face the street.
- Driveways shall provide sufficient area to accommodate up to 2 additional visiting vehicles.



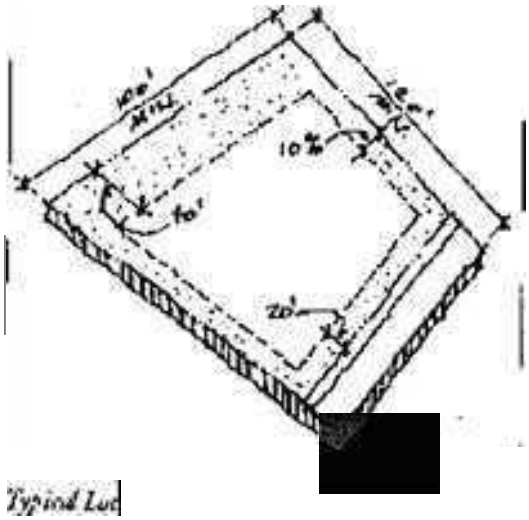
EXECUTIVE LOTS

Description:
Executive Lots are large lots many of which are oriented to site amenities such as the existing lakes, wetlands, golf course, parks and open space. These lots are anticipated to be sold to individuals or builders for custom home construction.

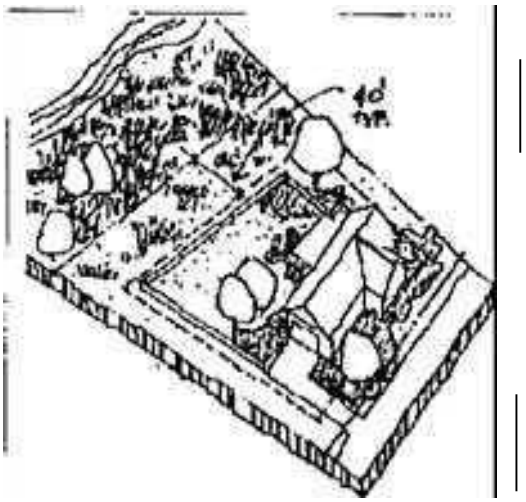
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child-care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Bed and breakfast inns.
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



Lots Fronting Lakes/Wetlands



Lots Fronting Golf Course

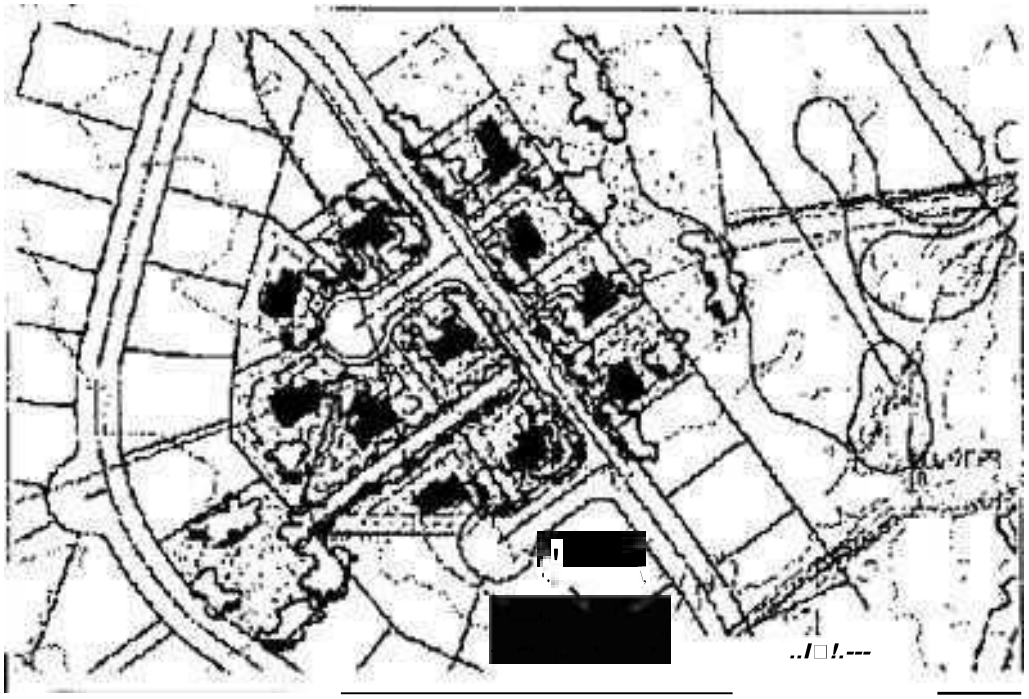
EXECUTIVE LOTS

Lot Characteristics

Minimum Lot Size: 15,000 Square feet
Minimum Lot Depth: 120 Feet
Minimum Lot Width: 100 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: 40 Feet (10 Feet with Building Envelope).
Max. Building Height: 30 Feet (2 stories)
Executive Lots on northern-most property line of project are limited in height to 20' (1 story)
Max. Building Coverage: 30% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions

- The rear setback on lots directly fronting on the existing lakes/wetlands is subject to USACOE section 404 permit wetland buffer restrictions (40' buffer typical).
- A building envelope shall be located on every Executive lot directly fronting on the golf course. All houses, accessory structures, and hardscape improvements must be located within this area. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Executive lots located on hillside sites (with slopes averaging greater than 15%) shall also have a designated building envelope. All houses, accessory structures, and hardscape improvements must be located within this area.
- A minimum of 50% of all garages shall be side or rear entry. Garage doors shall not directly face the street.
- Driveways provide sufficient area to accommodate up to 2 additional visiting vehicles.



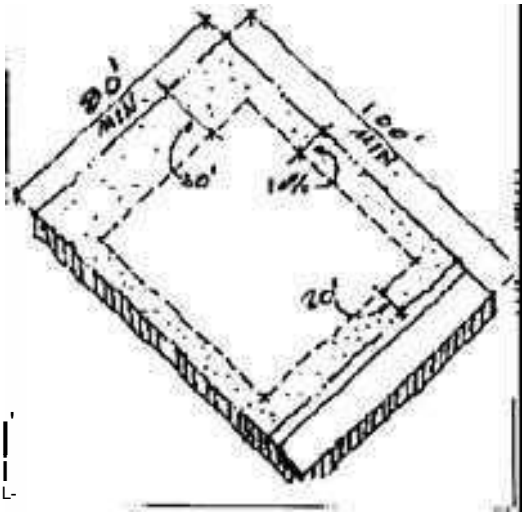
AMENITY LOTS

Description:
Amenity lots are large lots, many of which are oriented to site amenities such as the lakes, golf course, parks and open space.

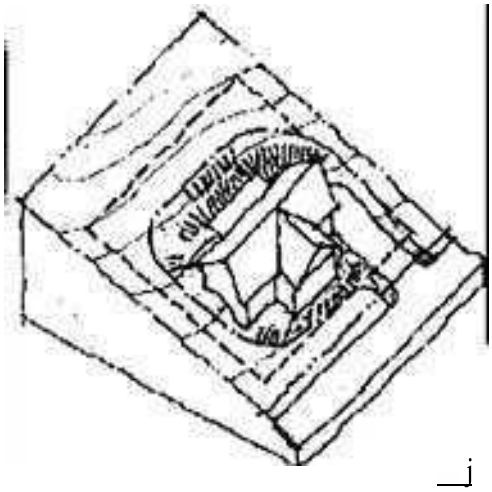
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child-care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

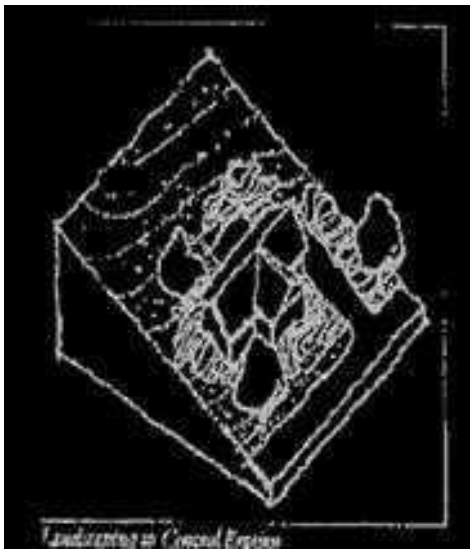
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



All Structures Within Building Envelope



AMENITY LOTS

Lot Characteristics

Minimum Lot Size: 10,000 Square feet (except it may be 9,000 square feet for a maximum of25% of the lots in Unit 5)
Minimum Lot Depth: 100 Feet
Minimum Lot Width: 80 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10 Feet or 10% of Lot Width Each Side (whichever is greater)
Exterior side yard setback: 15 feet
Rear Yard Setback: 20 Feet (the rear yard setback may be reduced to 10 feet upon the recommendation of the Design Review Committee, taking into consideration the placement of the house on the lot, the type of amenity it abuts (at the rear) and the proximity of the golf course, if applicable)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 35% of Lot Area
Minimum Size of Residence: 1,600 Square feet

Special Conditions

- Amenity lots may have a designated building envelope to control the siting of structures on the lot when the lot abuts (at the rear) an amenity (golf course, lake, open landscape area, park, but not to include hedgerows).
- Comer lots shall be a minimum of 100' width.
- Houses and other structures must be sited to minimize excessive grading and shall be compatible with existing topography as approved on Final Development Plan.
- Amenity lots of 120' or greater width will have side or rear entry garages. Garage doors are encouraged to not directly face the street.
- Driveways shall provide sufficient area to accommodate up to 1 visiting vehicle.

ESTATES LOTS

Description:
Estates lots are medium sized lots anticipated to be sold to builders in parcels for their development. Estates lot parcels are generally located in the northern parcel with orientation to existing development and orientation to project amenities and open space where applicable. Estates lots will allow for the relocation of regional drainageways if necessary.

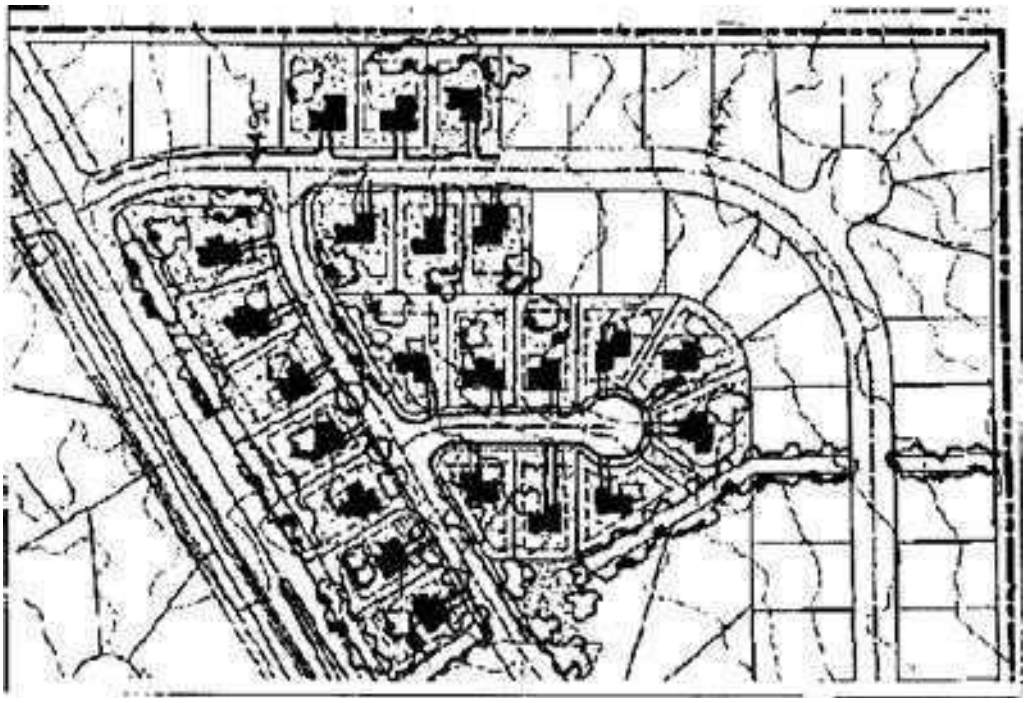
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.

Lot Characteristics
Minimum Lot Size: 6,000 Square feet
Lot Width: 60 Feet
Minimum Lot Frontage: 35 feet
Min. Front Yard Setback: 15 feet
Min. Garage/Carport: 20 feet
Min. Side Yard Setbacks: 5 feet
Min. Exterior Side Yard Setback: 10 feet
Min. Rear Yard Setback: 20 feet
Max. Building Height: 30 feet (2 stories)

Special Conditions
- Houses and other structures should be sited to minimize excessive grading and shall be compatible with existing topography.
- Garage doors are encouraged to have architectural detailing to help minimize their impact on the street frontage.



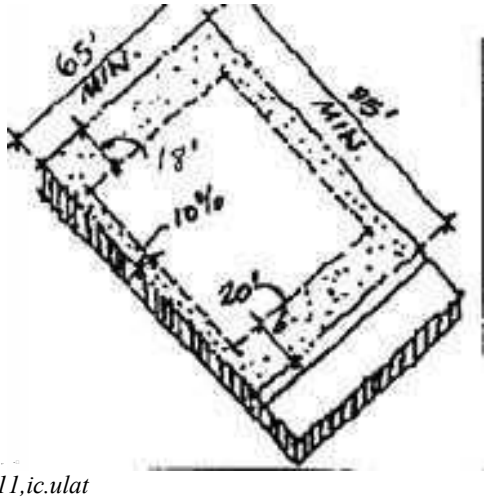
BUILDER LOTS

Description:
Builder lots are medium sized lots anticipated to be sold to builders in parcels for their development. Builder lot parcels are generally located around the perimeter of the project with less orientation to project amenities.

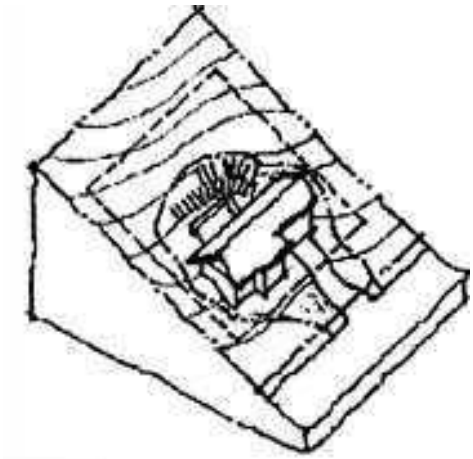
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child-care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

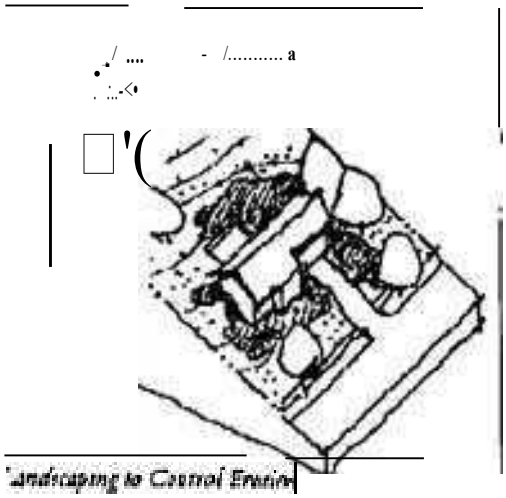
Prohibited Uses:
- All uses not specifically identified above.



T11,ic.ulat



All Structures Within Building Envelope



Landscaping to Control Erosion

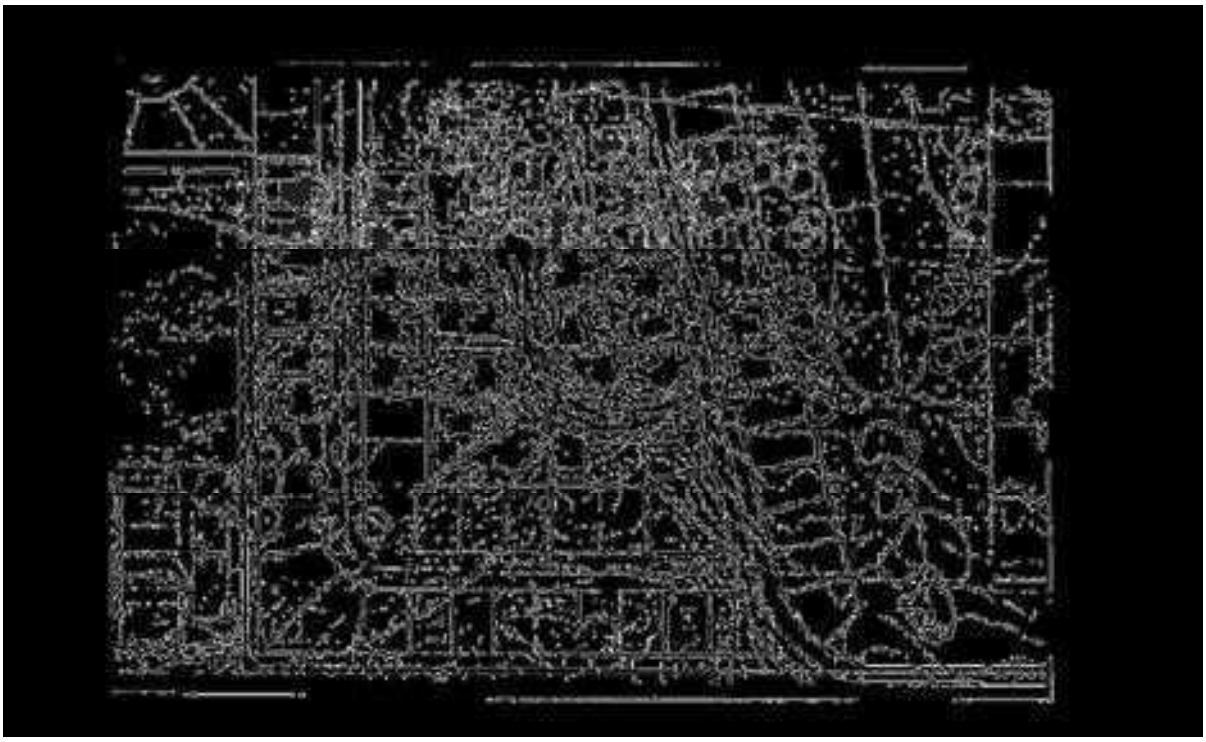
BUILDER LOTS

Lot Characteristics

Minimum Lot Size: 6,000 Square feet
Minimum Lot Depth: 85 Feet
Minimum Lot Width: 65 Feet
Minimum Lot Frontage: 40 Feet (30' with building envelope)
Front Yard Setback: 20 Feet; 15 Feet with a sideload garage.
Side Yard Setbacks: 7.5 feet minimum
Exterior Side Yard Setback: 7.5 Feet
Rear Yard Setback: 18 Feet (10 feet with building envelope abutting amenities)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 45% of Lot Area
Minimum Size of Residence: 1,400 Square feet

Special Conditions

- Corner Lots shall be a minimum of 70' wide.
- Builder lots may have a designated building envelope to control the siting of structures on the lot when the lot abuts (at the rear) an amenity (golf course, lake, open landscape area, park, but not to include hedgerows) or lots located on hillside sites with slopes averaging greater than 15%.
- Houses and other structures should be sited to minimize excessive grading and shall be compatible with existing topography.
- Garage doors are encouraged to have architectural detailing to help minimize their impact on the street frontage.



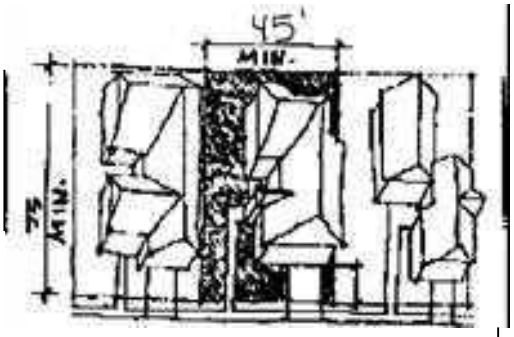
PATIO HOMES

Description:
Patio Homes are smaller individual lots which encourage unit clustering. Patio Home parcels will form more compact neighborhoods where zero lot line and other innovative siting techniques are encouraged. Patio home parcels must meet building code requirements for fire and safety.

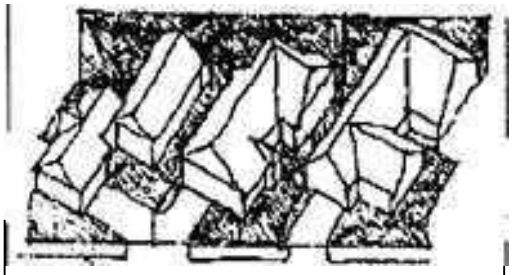
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and accessory buildings.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child-care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

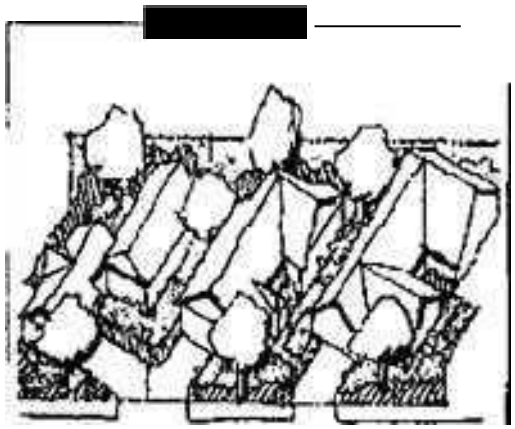
Uses Requiring a Conditional Use Permit:
- Public utility structures.

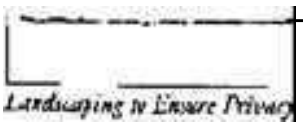
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot Formation







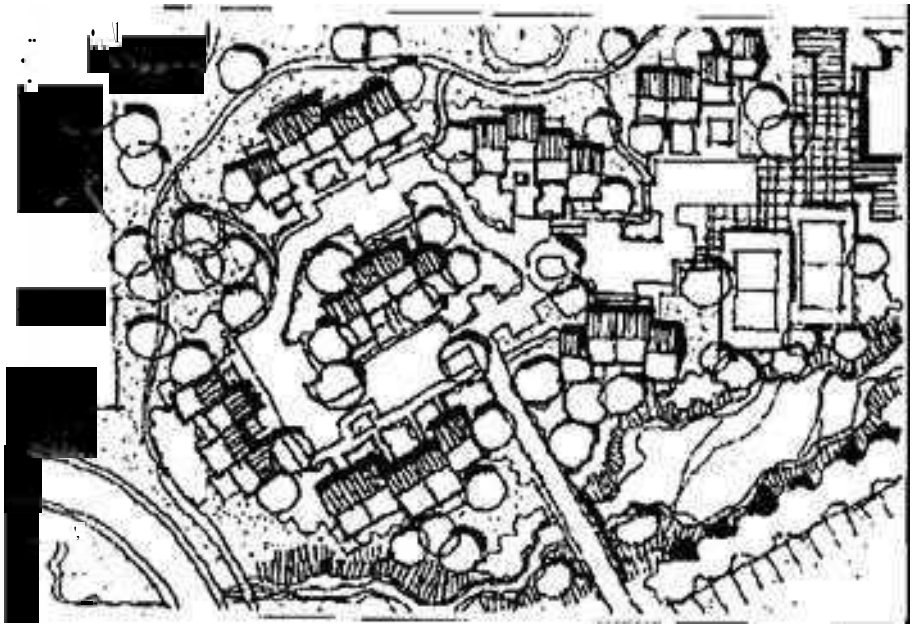
PATIO HOMES

Lot Characteristics

Minimum Lot Size: 4,000 Square feet
Minimum Lot Depth: 75 Feet
Minimum Lot Width: 45 Feet
Minimum Lot Frontage: 35 Feet (25 Feet Frontage allowed in 25% of lots within a Village)
Front Yard Setback: 15 feet from attached living area, 18 feet from front load garage, IO feet from side load garage or accessory structure if a courtyard is provided behind said structure with a minimum square footage equal to 550 square feet. The side load garage or accessory structure width may not exceed 50% of the Lot Width.
Side Yard Setbacks: (4 Feet) or (0 Feet, 8 Feet)
Rear Yard Setback: IO Feet
Max. Building Height: 30' Feet (2 stories)
Max. Building Coverage: 55% of Lot Area
Minimize Size of Residence: 1,250 Square feet
Exterior Side Yard Setback: IO Feet

Special Conditions

- Zero lot line conditions are acceptable between adjacent lots.
- All site disturbances, (house construction, sitework, grading, etc.) must be contained within the lot lines.
- Corner lots shall be a minimum of 50 feet wide.
- Special attention should be paid to providing architectural diversity and visual variety in the street scene.
- Side entry garages may be constructed within 15 feet of the front property line provided that there is sufficient room to allow vehicles to utilize the driveway into the garage. In addition, the proposed patio home garage must be large enough to allow for interior parking of vehicles.



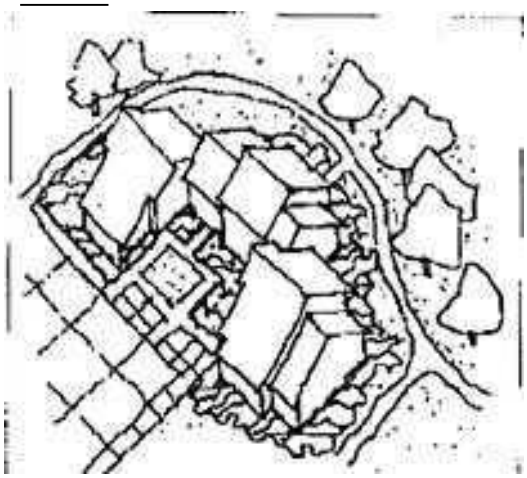
GOLF COTTAGES

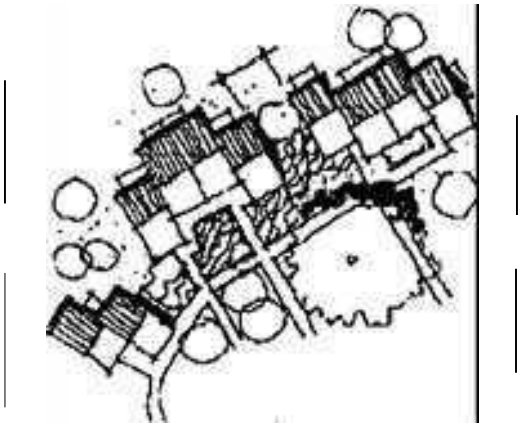
Description:
Golf Cottages are attached or detached townhouse or condominium units oriented toward the golf course. It is anticipated that the cottages will be constructed by multiple builders. Cottages located adjacent to the golf club will be allowed to restrict vehicular access to golf carts and maintenance vehicles providing that sufficient parking is available in the adjoining golf club/course parking lot. Golf cottages must meet building code requirements for fire and safety.

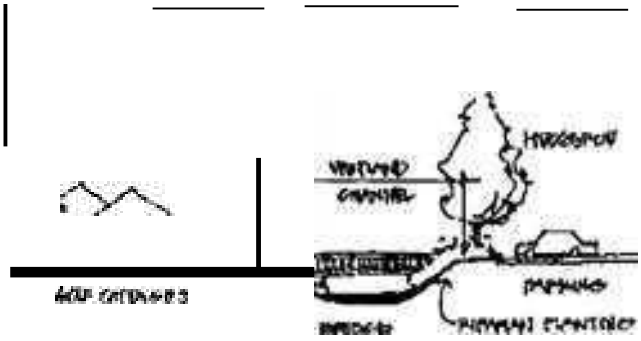
Principal Permitted Uses:
- Single or multiple family dwellings of a permanent nature and their accessory buildings and uses,
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Timeshare or interval ownership units.
- Accessory structures.

Uses Requiring a Special Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





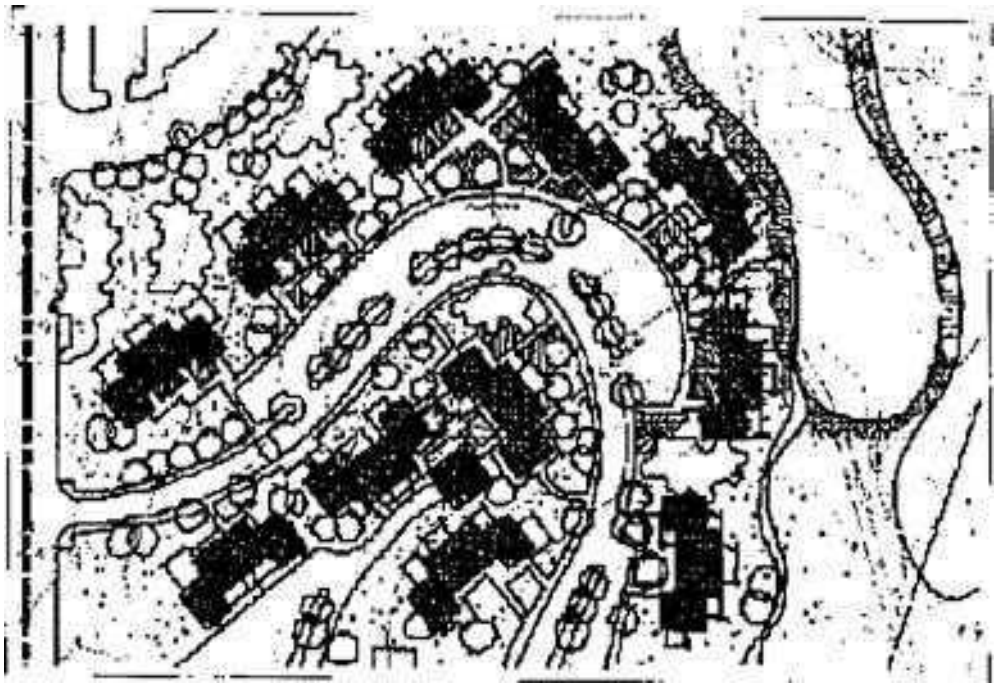


GOLF COTTAGES

Unit Characteristics
Maximum Density: 16 du/ac.
Maximum Impervious Coverage: 70% (project wide).
Front Setback: 15 Feet to living/5 Feet or greater than 20 Feet to front load garage/I0 Feet to parking.
Exterior Project Side Setback: 15 Feet
Side Setbacks: 0,5 feet (10 Feet Between Buildings)
Rear Setback: 5 Feet
Max. Building Height: 50 Feet (4 stories)
Max. Units per Bldg: 20Parking: one space per bedroom (minimum 1 per unit (provided on-site), the remainder may be shared with golf club/course parking requirements if applicable).

Special Conditions

- Vehicular access to golf cottages adjoining the golf club site may be restricted to golf carts, valet carts and maintenance vehicles, providing sufficient parking is provided in adjoining golf club/course parking area.
- Existing mature trees on site must be protected during construction to the maximum extent practical.
- Creative massing and siting techniques are required. Cottages shall be oriented with clear views of the golf course **(if** possible).
- Sustainable or "green" design features are encouraged.
- Parking may be provided within the footprint of the building.
- Ground floor units should have patios to provide outdoor space. Upper floor units should provide decks or balconies.
- Lots for Single family detached homes shall use the lot characteristics for Patio Homes.



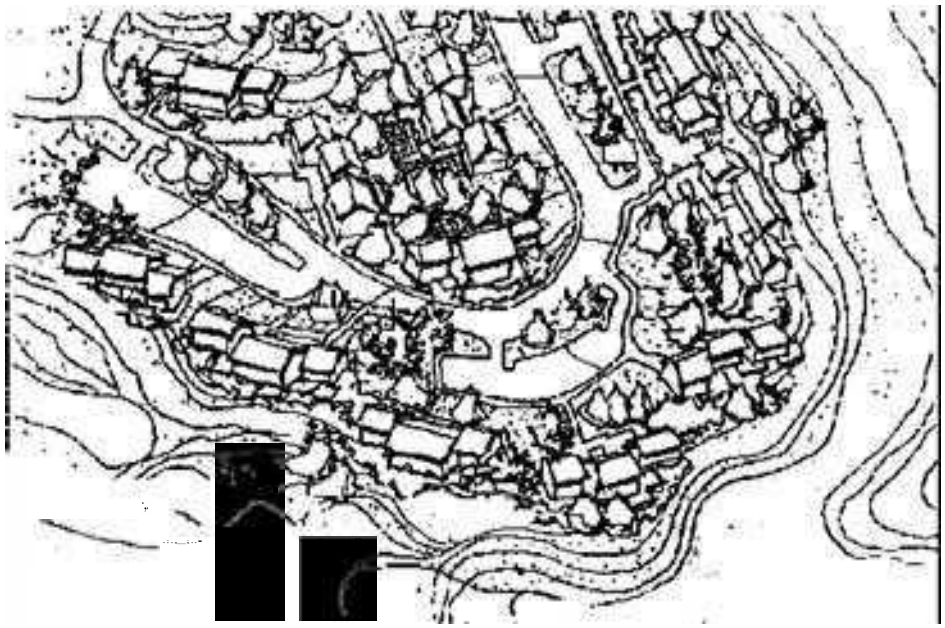
RESORT CONDOMINIUMS

Description:
Resort Condominiums are attached units located on the northern parcel with golf frontage. Units will be arranged in 4 story maximum buildings and will have access to both private and shared private open space. Resort condominiums are an alternative use to apartments should market conditions dictate.

Principal Permitted Uses:
- Multiple family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.
- Golf Cottages.

Uses Requiring a Special Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



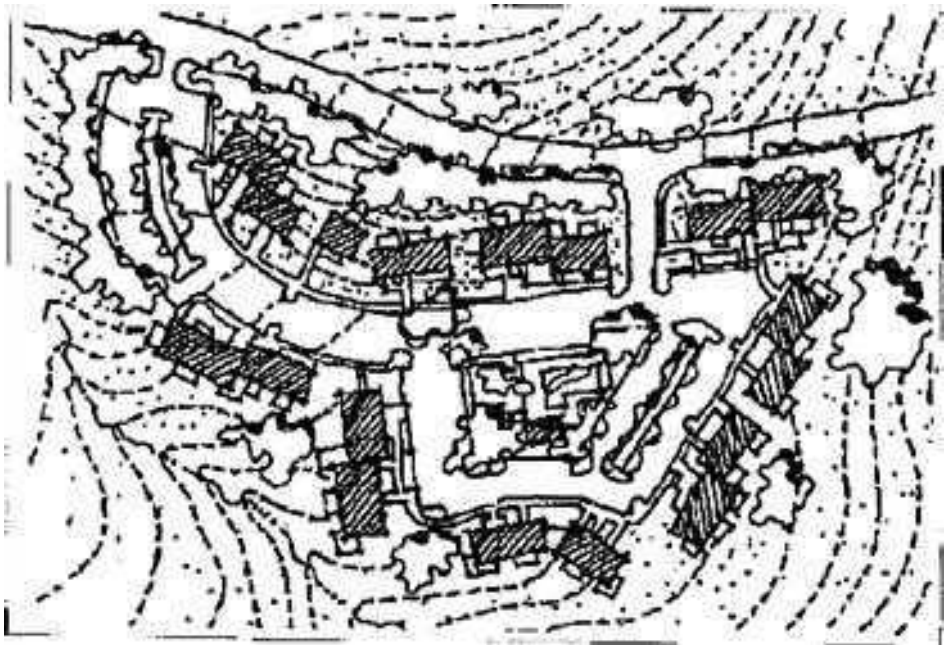
RESORT CONDOMINIUMS

Unit Characteristics

Maximum Density: 20 du/ac
Maximum Building Coverage: 50%plus 10% for covered parking, garages, separate storage space, etc.(Total project).
Maximum Impervious Coverage: 75% (Total Project).
Project Front Setback: 15 Feet (IO Feet to parking/5 Feet or greater than 20 Feet to front load garage).
Project Side Setbacks: 10 Feet
Setback Between Bldg: 10 Feet
Project Rear Setback: 5 Feet
Max. Building Height: 50 Feet (4 stories)
Max. Units per Building: 20
Parking: 1 space per bedroom (minimum 1 per unit provided on-site), the remainder may be shared with the Golf Facility parking.

Special Conditions

- Buildings shall respect ex1stmg drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Sustainable or "green" design features are encouraged.



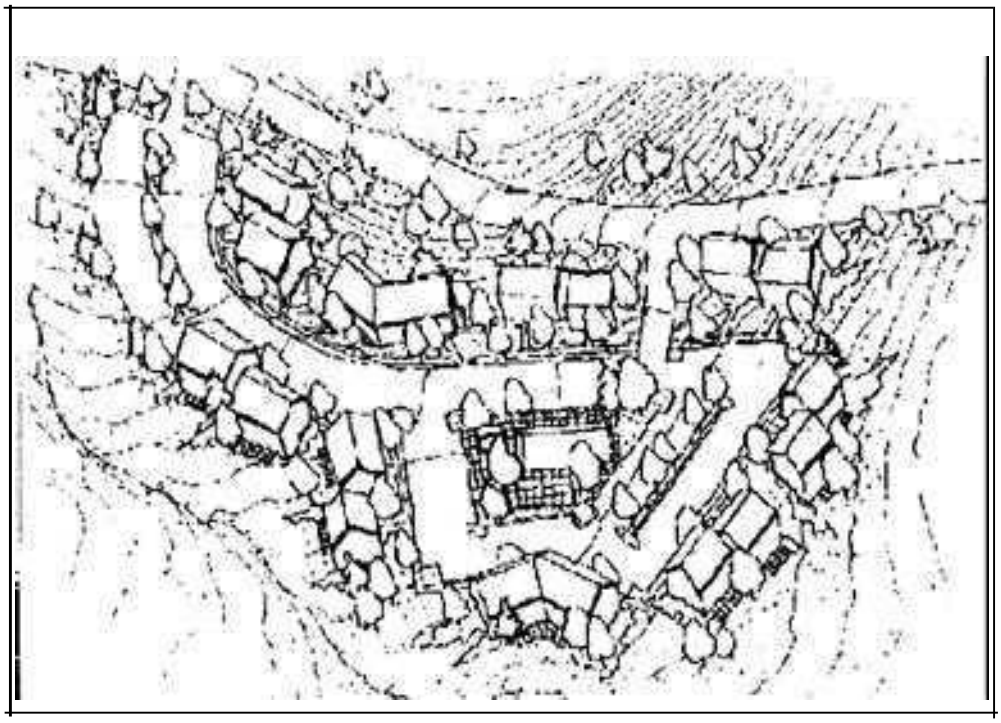
APARTMENTS

Description:
Apartments are attached units located on the southern parcel adjacent to the Village Center and Resort Complex. Units will be arranged in 4 story maximum buildings and will have access to shared private open space.

Principal Permitted Uses:
- Multiple family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



APARTMENTS

Characteristics
Maximum Density: 26 du/ac
Maximum Bldg. Coverage: 50% plus 10% for covered parking, garages, separate storage space, etc. (Total Project).
Maximum Impervious Coverage: 80%
Front Setback: 25 Feet (IO Feet from Parking)
Exterior Project Side Setback: 20 Feet (10 Feet Between Buildings)
Rear Yard Setback: 5 Feet
Maximum Building Height: 50 Feet (4 stories)
Maximum Units per Building: 40
Parking: I space per bedroom

Special Conditions:
- Buildings must respect existing drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Residential units must be buffered from adjoining commercial and hotel loading and service areas.

GOLF FACILITY

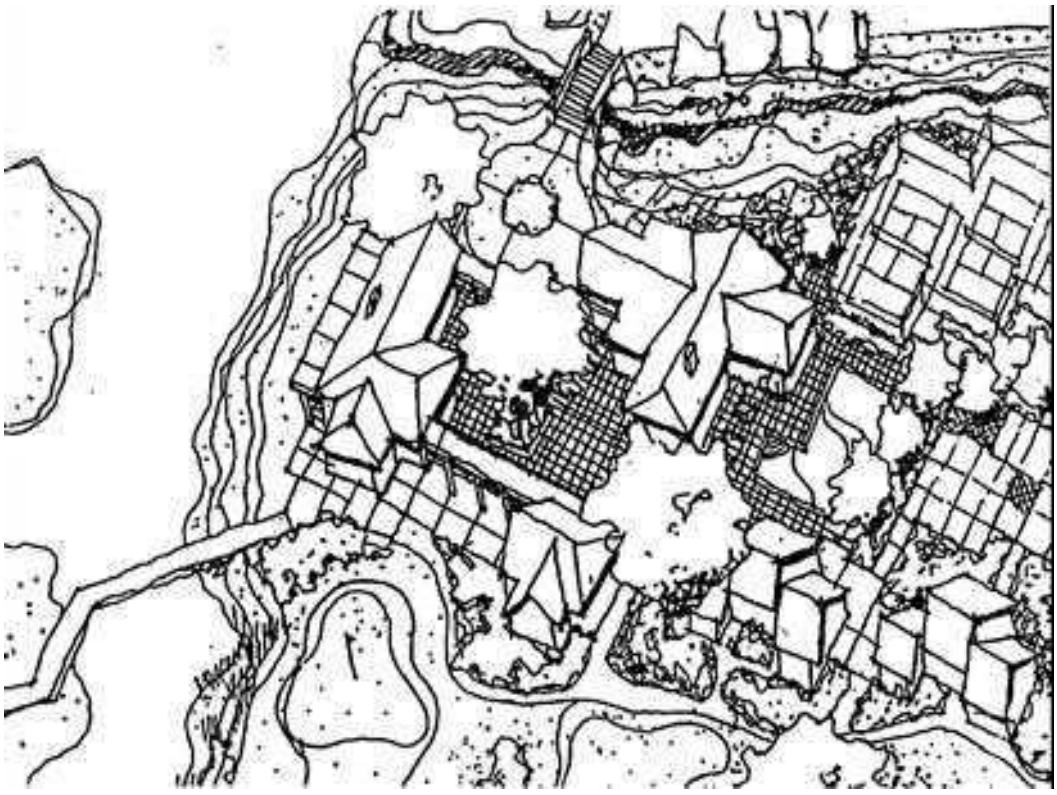


Description:
The Golf Club is located in the heart of the northern parcel within the mature Cottonwood trees surrounding the old Wingfield Ranch building. The Club and associated parking areas encompass approximately 11 acres and are located on the westerly side of the existing southern lake.
The clubhouse will be the focal point of the development where golf course play will begin and end. Architecture will be ranch style in character with views to the wetlands, lakes and the golf course.

Permitted Uses:
- Retail.
- Restaurant, cafes and food service facilities, including banquet and catering facilities.
- Bars, taverns, brew-pubs, lounges and cabarets.
- Temporary or permanent golf club with or without membership (For profit or non-profit including locker rooms, member's lounges, etc.) and its ancillary buildings and uses.
- Recreational facilities including tennis courts, swimming pool, spa, fitness center, salon, etc.
- Restricted gaming.
- Convention and meeting space.
- Integrated residential dwellings and their accessory buildings and uses within the golf club complex.
- Accessory structures.
- Child-care facilities requiring more than one caregiver.
- Professional/medical offices.
- Drive through facilities.
- Personal Services.
- Dry Cleaner.
- Bank branch offices with drive through.
- Grocery store or market.

Uses Requiring a Special Use Permit
- Public utility structures.
- Indoor tennis or skating rink structures.

Prohibited Uses:
- All uses not specifically identified above.



GOLF FACILITY

Characteristics
Maximum Building Coverage : 35%
Maximum Impervious Coverage: 75%
Exterior Front Setback: 15' (10' From Parking)
Exterior Side Setback: IO'
Setbacks between buildings: IO'
Rear Setback: 5 Feet
Maximum Bldg. Ht.: 40 Feet (3 stories)
Parking: Per City code.

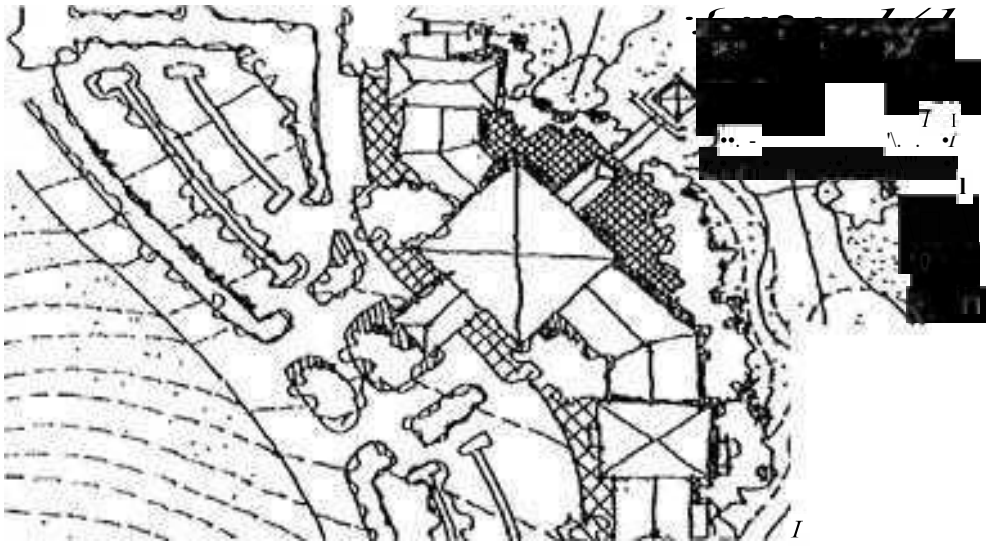
Special Conditions:
- Building massing and style should reflect the project's overall "ranch" theme.
- Club buildings and hardscape shall be sited to preserve existing trees to the maximum extent practical.
- Club service and loading facilities shall be completely screened from view from the club amenities, golf course, and nearby residential units.
- Creative massing and siting techniques are required.
- Building site plan shall respect existing wetlands surrounding the property.

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RESORT COMPLEX

Description:

The resort complex is oriented to the golf course and is intended to include recreation, retail, dining and entertainment facilities.

Principals Permitted Uses:

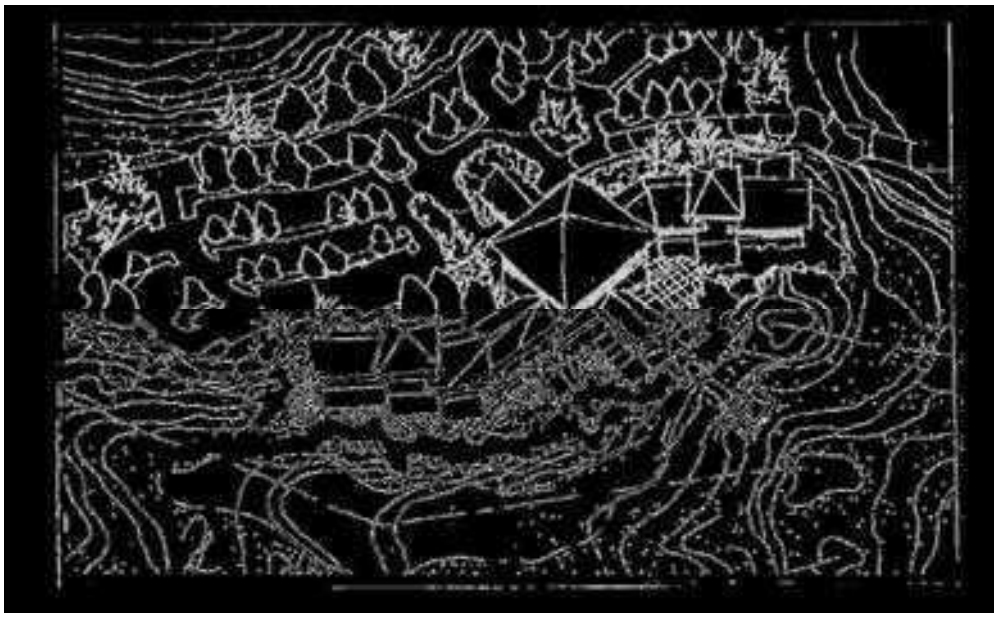
- Restaurant or cafe.
- Timeshare, interval ownership and lodging (Maximum number of units shall not exceed 43).
- Retail stores and offices.
- Bars, taverns and brew-pubs (with restricted gaming).
- Amusement and entertainment centers.
- Single and multiple family residential dwellings and their accessory buildings and uses.
- Golf halfway house including restaurant and food service facilities, bar or tavern, lockers, restrooms, retail specialty and golf related stores, pro-shop and related offices, concessions and shelters.
- Accessory structures.
- Resort Condominiums.
- Child care facilities requiring more than one caregiver.

Uses Requiring Conditional Use Permit:

- Clubs, lodges and social halls.
- Public utility structures.

Prohibited Uses:

- All uses not specifically identified above.



RESORT COMPLEX

Characteristics

Maximum Bldg. Coverage: 35%
Maximum Impervious Coverage: 7S%
Front Setback: SO Feet (10' from parking)
Side Setback: 20 Feet (1O' between bldg.)
Rear Setback: 20 Feet
Max. Building Height: SO Feet (4 stories)
Parking: I space per 300 square feet of net leasable retail floor area, and I space per I00 square feet of restaurant or bar floor area. Support facility parking may be shared with Resort Complex parking.

Special Conditions:

- Building should be sited with respect to existing drainage patterns of the site per approval of Final Map. Building massing shall step with the natural grade.
- Surface parking areas should be landscaped and terraced with the natural grade as necessary.

Wingfield Springs Development Agreement Handbook







GOLF COURSE

Parcel Characteristics

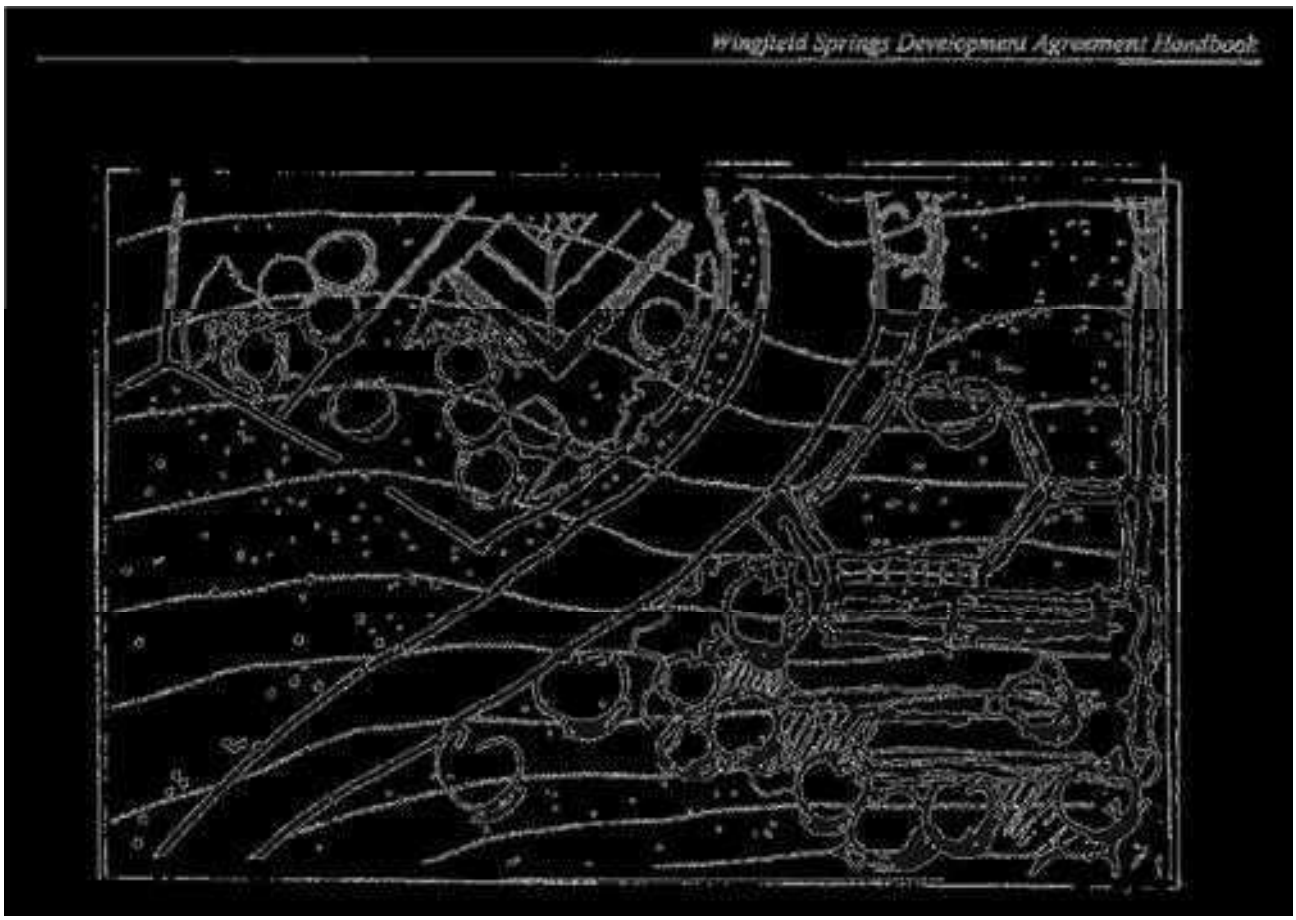
Setback for Buildings: 20 Feet from adjoining property or parcel boundary

Max. Building Height: 25 Feet

Parking: Not to exceed 428 permanent or overflow parking stalls

Special Conditions:

- Buildings, golf course, driving range and path should be sited with respect to existing drainage patterns per approval of Final Map.
- Building massing, golf course and driving range should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from adjacent uses.
- Golf maintenance buildings and service/equipment yards shall be completely screened with berming, fencing, walls and/or vegetation from view from adjoining residential units both within the project and off-site.

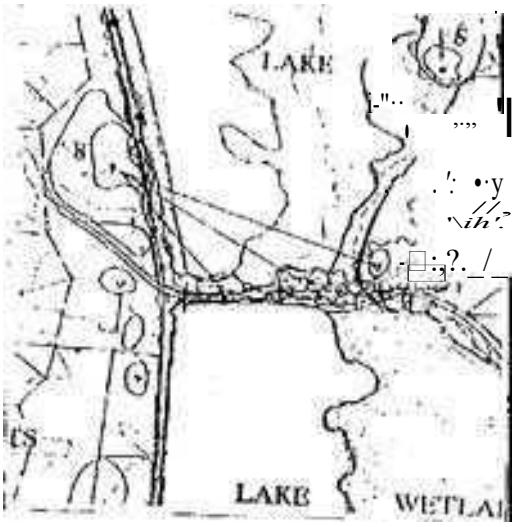


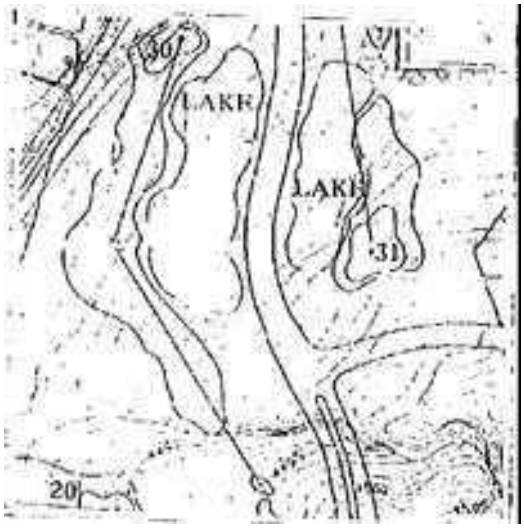
Description:
The golf course will include 18~~36~~ holes of golf, a practice range, putting green(s) related restroom, shelter, concession and golf maintenance facilities.

Principal Permitted Uses:
- Golf course(s), practice range and putting greens.
- Golf learning center and temporary golf club house.
- Permanent and overflow parking-total stalls not to exceed 428.
- Restroom, concession and shelter facilities.
- Golf maintenance buildings, equipment storage, equipment and maintenance yards, equipment wash facilities, gasoline service, chemical storage facilities.
- Cart path and cart bridges.
- Retail specialty and golf-related stores (pro-shop).
- Caretaker's residence and caretaker's office.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





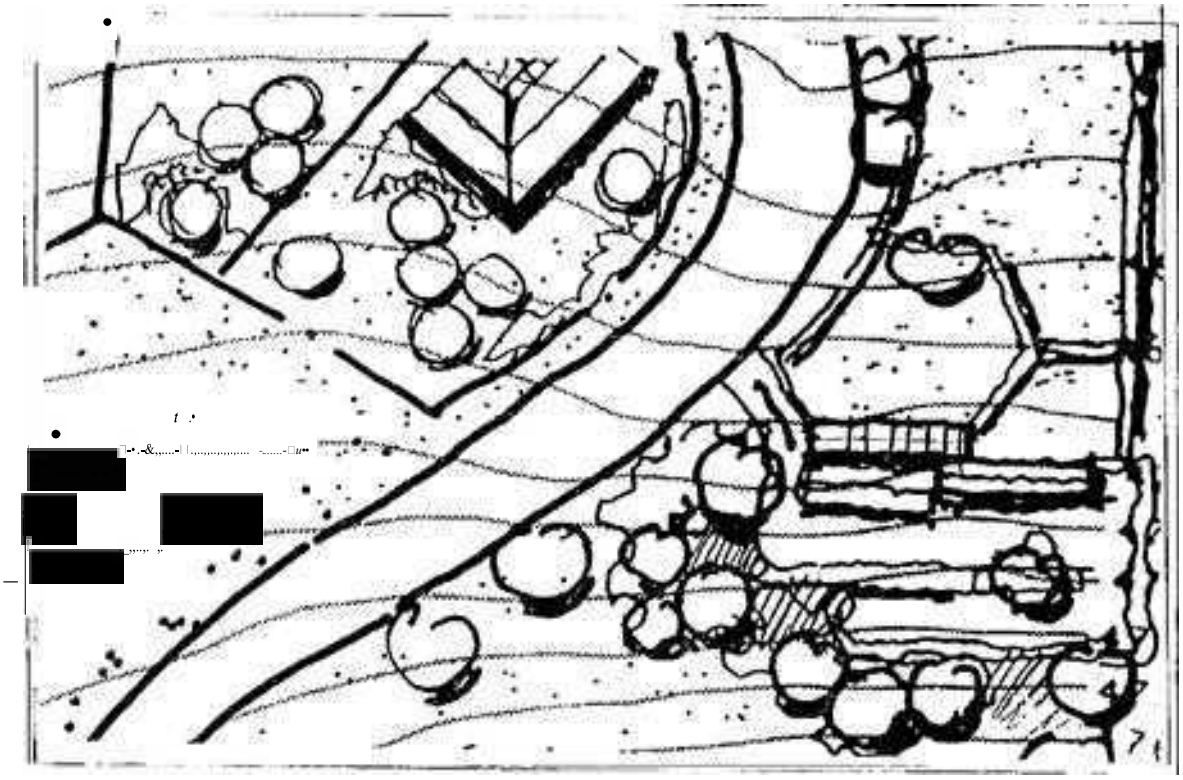


GOLF COURSE

Parcel Characteristics
Setback for Buildings: 20 Feet from adjoining property or parcel boundary
Max. Building Height: 25 Feet
Parking: Not to exceed 428 permanent or overflow parking stalls

Special Conditions:

- Buildings, golf course, driving range and path should be sited with respect to existing drainage patterns per approval of Final Map.
- Building massing, golf course and driving range should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from adjacent uses.
- Golf maintenance buildings and service/equipment yards shall be completely screened with henning, fencing, walls and/or vegetation from view from adjoining residential units both within the project and off-site.



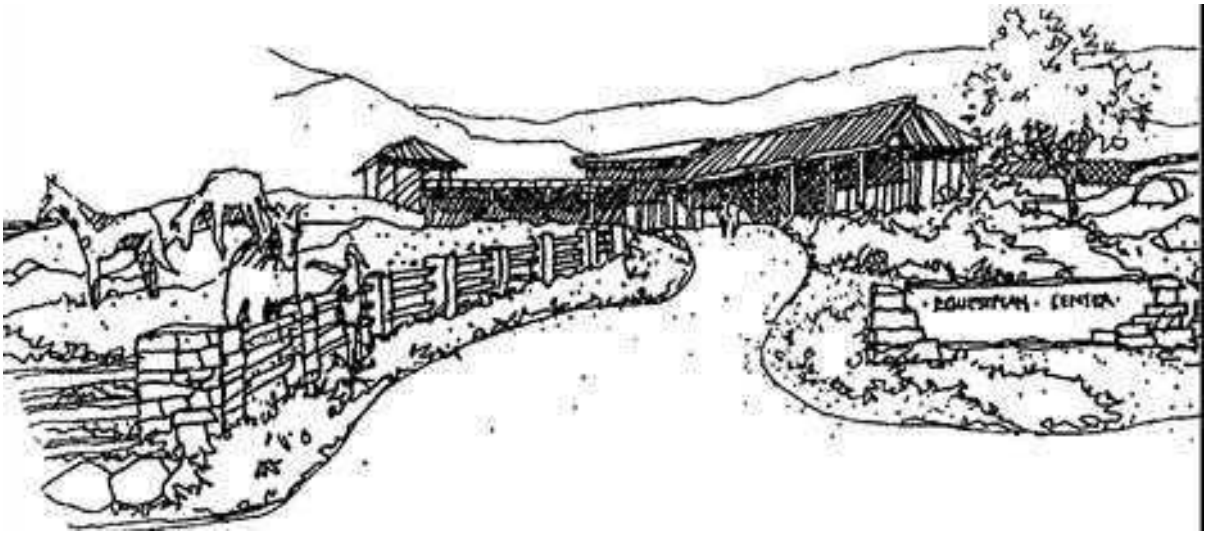
EQUESTRIAN CENTER

Description:
The Equestrian Center is located on the eastern edge of the southern parcel and is generally intended to include equestrian uses and related facilities to serve residents of the project who own or wish to board horses.

Principal Permitted Uses:
- Boarding and riding stables.
- Paddocks, pastures, and corrals.
- Equestrian related/retail.
- Caretaker's residence and caretaker's office.
- Restaurant, cafe or bar (with restricted gaming).
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Clubs, lodges, or social halls.
- Public utility structure.

Prohibited Uses:
- All uses not specifically identified above.



EQUESTRIAN CENTER

Parcel Characteristics

Setback for Buildings: 30 Feet from property or parcel boundary. 10 feet between paddock or corral fencing and property or parcel boundary.

Max. Building Height: 25 Feet, with special tower elements ofless than I00 square feet permitted to maximum 50 feet.

Parking: 0.7 spaces per horse stall.

Special Conditions:

- Building should be sited with respect to existing drainage patterns to approval of Final Map.
- Building massing and pastures should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from roads and residents.
- Facility should be sited in respect to multi-use trail network.

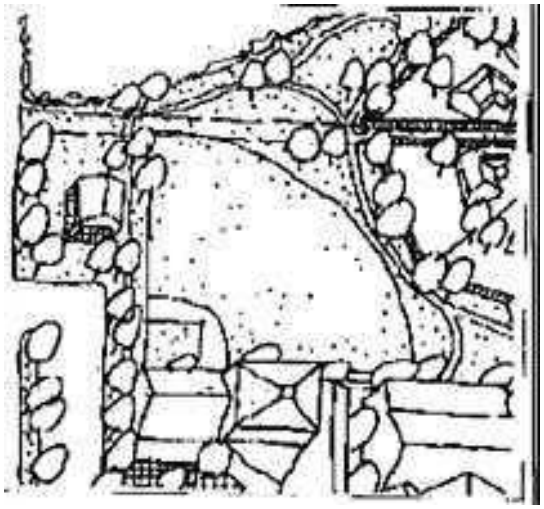


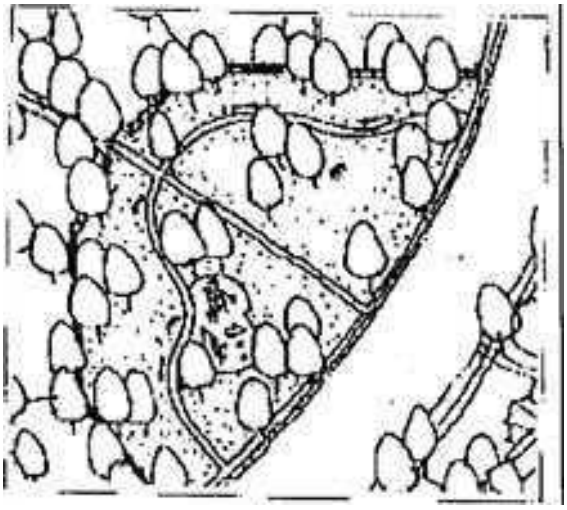
PARK & OPEN SPACE

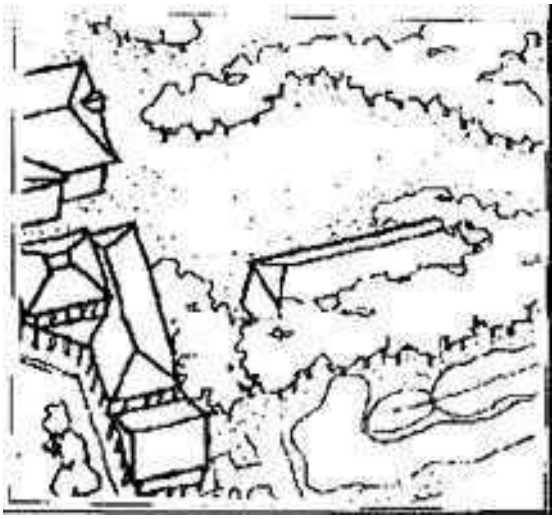
Description:
Areas within the project which are designated for parks and open space are intended to provide passive and active recreational opportunities for project residents. Parks and open space facilities include a community park, neighborhood parks, trail system, wetlands, hedgerows, and natural open space areas.

Principal Permitted Uses:
- Trails (pedestrian, bike, equestrian).
- Recreational facilities including playfields/tot lots, tennis courts, swimming pools, basketball courts, etc.
- One interpretative center including a maximum of 2,500 square feet of pavilion type space with associated boardwalks, signage, and viewing platforms.
- Restroom facilities, park structures, gazebos and pavilions.
- Accessory structures.

Prohibited Uses:
- All uses not specifically identified above.







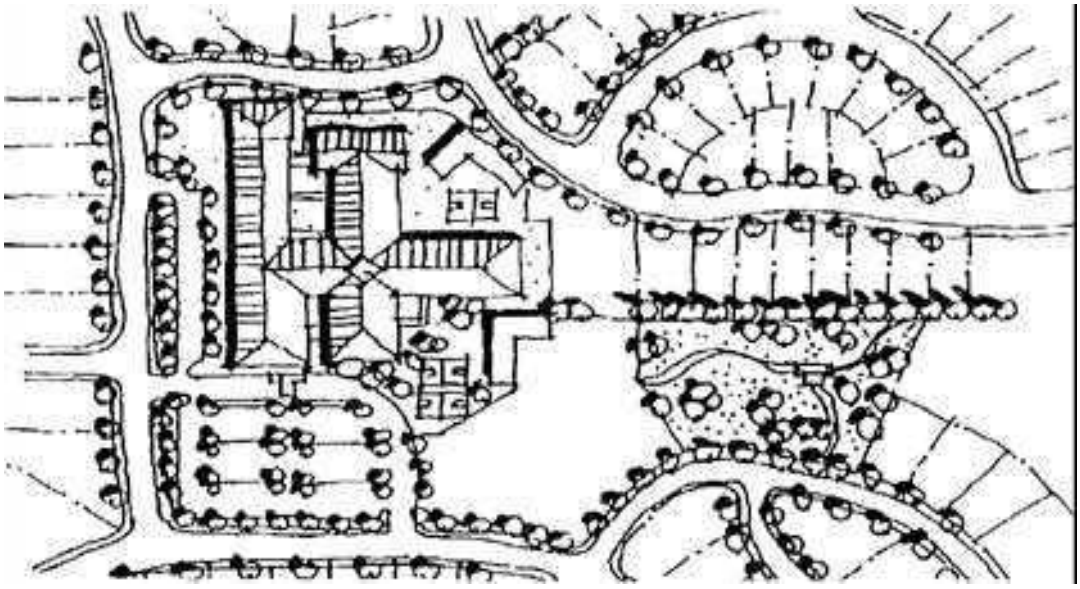
PARK & OPEN SPACE

Parcel Characteristics

Setback for Buildings/Fields/Play Equipment: 20 Feet
Max. Building Height: 25 Feet
Parking: (none required)

Special Conditions:

- Trails and play field should be sited with respect to existing drainage patterns, solar orientation and prevailing winds.
- Service and maintenance facilities shall be completely screened from adjacent uses.
- Site lighting should be low intensity and utilize cut-off luminaries to minimize glare and impacts to surrounding residential areas.
- Where appropriate, neighborhood parks should be sited adjacent to a local public street for clear visibility.



SCHOOL/ PARK SITE

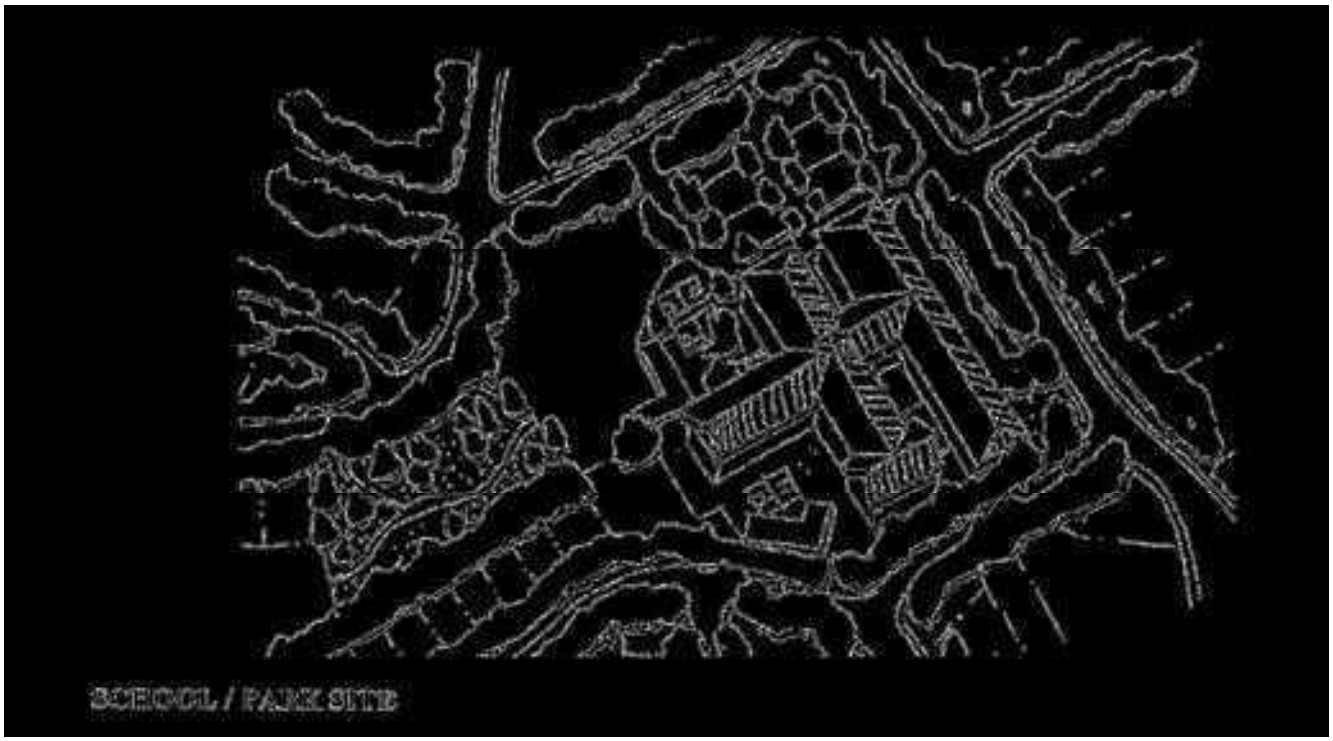
Description
The school / park site is located in the northeastern comer of the northern parcel allowing the facilities to service both Wingfield Springs and the Cimarron project to the north.

Principal Permitted Uses:
- Public school.
- Private school.
- Parks and recreational facilities, including playfields, tot lots, tennis courts, swimming pools, basketball courts, baseball diamonds, etc.
- Trails (pedestrian, bicycle and equestrian).
- Restroom facilities, park structures, gazebos and pavilions.
- Accessory structures.

Uses Requiring Conditional Use Permit:
- Clubs, lodges and social halls.
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.

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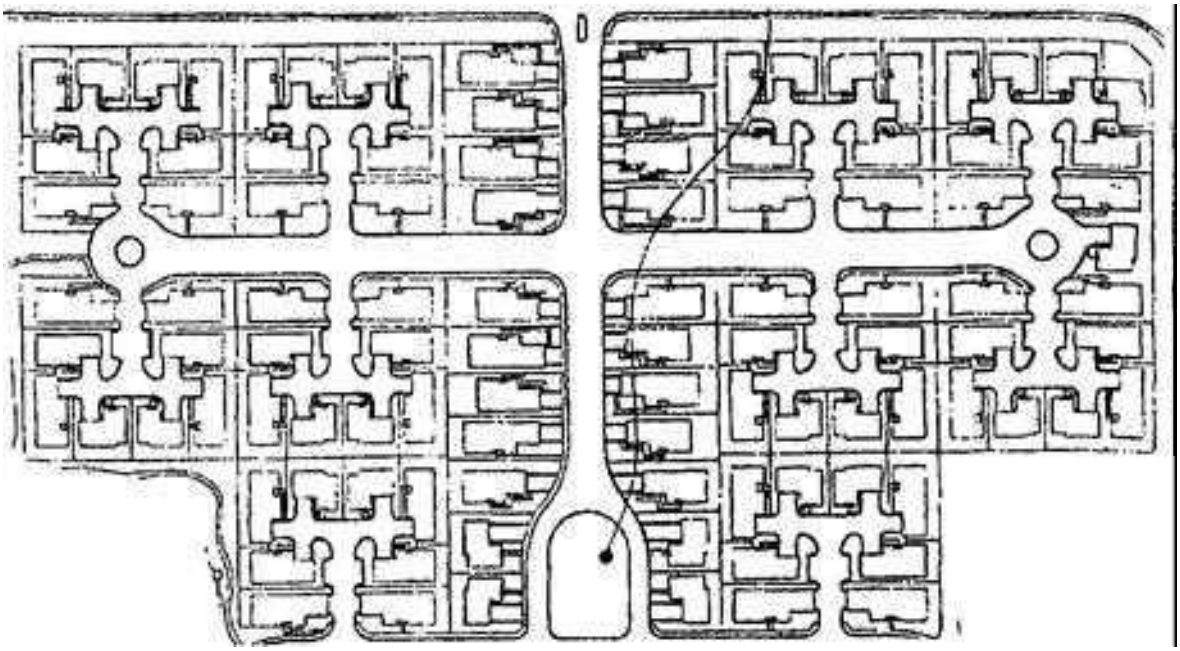


Characteristics

Setback for principal buildings: 20 feet
Setback for fencing, play equipment and accessory structures: IO feet
Maximum building height: 40 feet (3 stories)
Maximum building coverage: 40%
Maximum impervious coverage: 85%
Parking
For Park (none required)
For School (per current WCSD standards)

Special Conditions:

- School recreation facilities and park facilities should be designed for maximum joint use within the constraints of Washoe County School District (WCSD) and City of Sparks Park & Recreation Department criteria.
- If school is not developed by WCSD, developer may develop private school or allow school site (8.7 acres) to become park and return some or all of park site (1.9 acres) to residential use.
- All structures and recreational facilities should be sited with respect to existing drainage patterns, solar orientation and prevailing winds.
- Service and maintenance facilities shall be completely screened from adjacent uses.
- Site lighting should be low intensity and utilize cutoff luminaries to minimize glare and light overspill to surrounding residential areas.



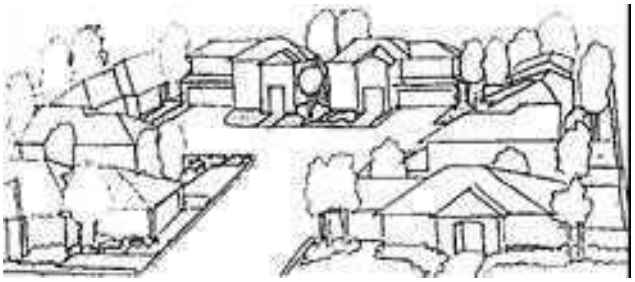
CLUSTER COURT HOMES

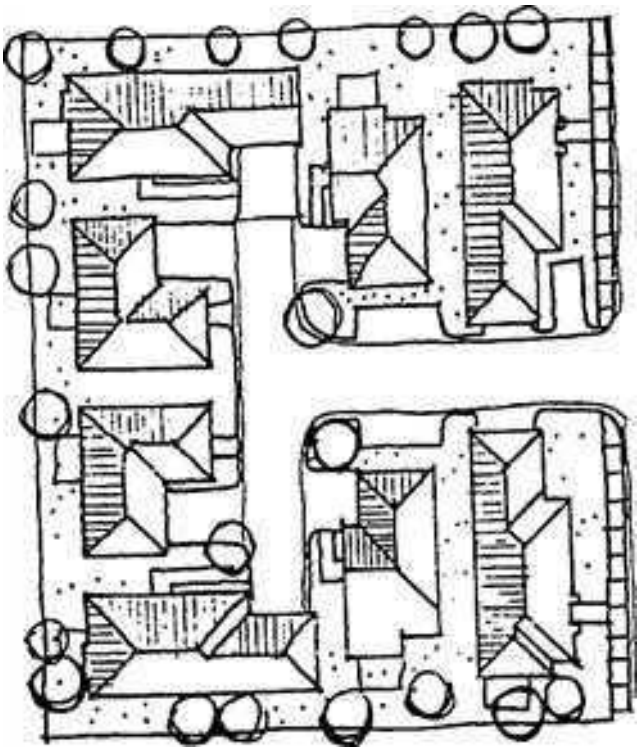
Description
Cluster Court Homes are smaller individual lots which encourage unit clustering. Cluster Court Home parcels will form more compact neighborhoods where innovative siting techniques are encouraged. Cluster Court Home parcels must meet building code requirements for fire safety.

Principal Permitted Uses:
- Single Family dwellings of a permanent nature and accessory buildings.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





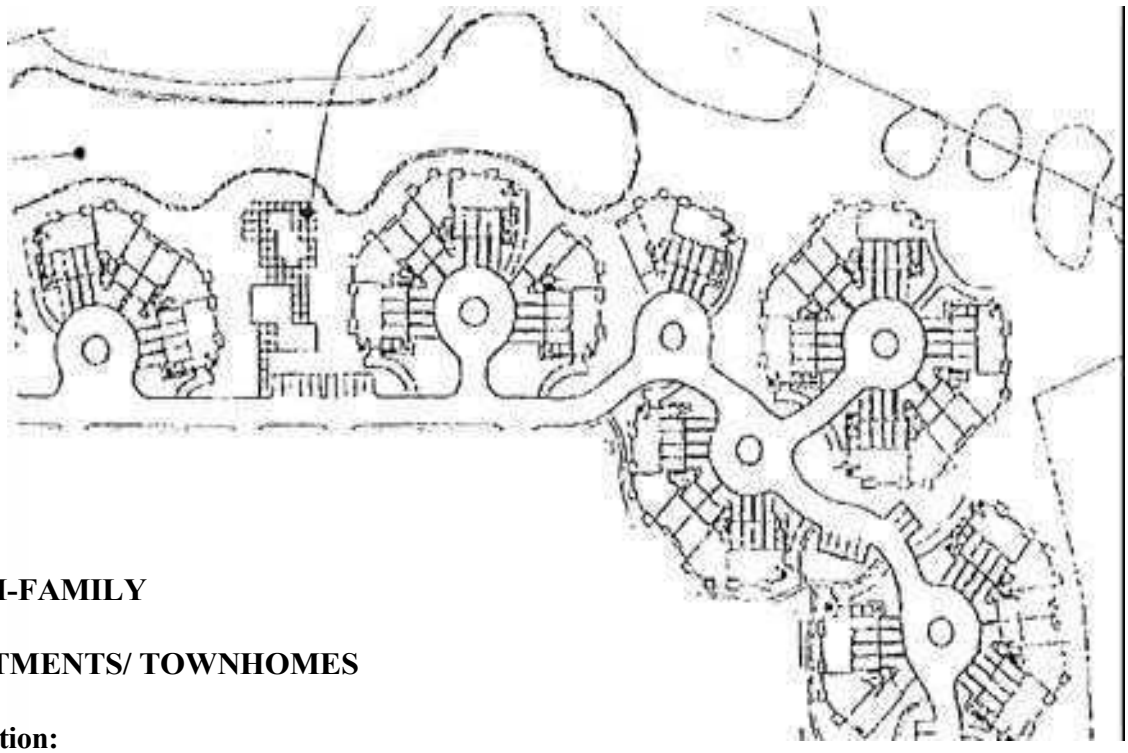
CLUSTER COURT HOMES

Lot Characteristics

Minimum Lot Size: 2650 Square feet
Minimum Lot Depth: 53 Feet
Minimum Lot Width: 35 Feet
Minimum Lot Frontage: 35 Feet (except that 25 Foot Frontage is allowed in 25% of lots within a Village).
Front Yard Setback:
Adjoining public (perimeter) street: 10 Feet (to House), 8 Feet (to Porch)
Adjoining private drive or court: 8 Feet (to House), 6 Feet (to Porch)
Setbacks vary depending on if building facade is passive (i.e. without doorway, patio or access to home) or active (i.e. with doorway, patio or access to home).
Side Yard Setbacks: 5 Feet
Rear Yard Setback: 14 Feet - House IO Feet - Fireplace/T.V. Ct.
Garage Setback: Apron at court entry= 4 Feet Drive at court= 18 Feet
Drive at perimeter street= 18 Feet
Maximum Building Height: 30' Feet (2 stories)
Maximum Building Coverage 50% of Lot Area
Minimum Size of Residence: 1100 Square feet
Parking: One (I) space per bedroom. Guest parking shall be provided in marked spaces outside travel lanes, not in common courts.

Special Conditions:

- All site disturbances, (house construction, sitework, grading, etc.) must be contained within comer lot lines.
- Cornner lots shall be a minimum of 41 feet wide. Special attention shall be paid to providing architectural diversity and visual variety in the street scene
- Clusters shall be aligned so the access to the rear four lots is aligned for solar orientation (north/south).
  Clusters shall back up to either a perimeter landscape area or a hedgerow of not less than fifteen feet in width.
- Fencing shall be consistent with Wingfield Springs design guidelines except that side fencing may contain an extension of up to two feet in front of windows to provide privacy opportunities.
- Builder shall demonstrate participation in special financing programs to minimize the down payments for these units.



MULTI-FAMILY

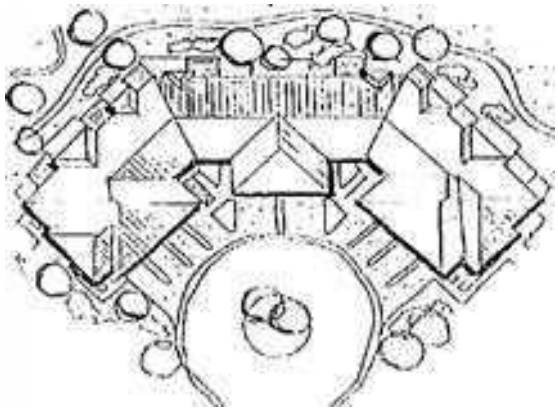
APARTMENTS/ TOWNHOMES

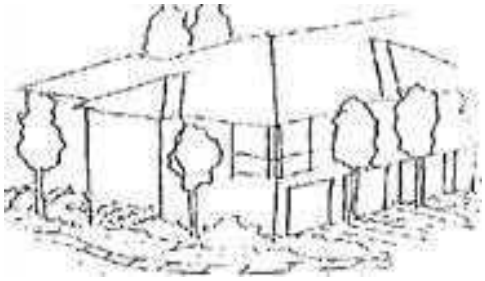
Description:
Apartment /Townhomes are multi-family dwellings in 6-14 unit buildings with access to both private and shared public open space. All dwellings shall be eligible for inclusion in a rental program established and maintained by the Developer concurrent with the construction of multi-family units. "Rent-to-own" and "Lease-to-own" programs shall be encouraged along with innovative financing plans to encourage use by both mobile and single-parent segments of the residential market.

Principal Permitted Uses:
- Multi-family (attached) dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





MULTI-FAMILY

APARTMENTS/ TOWNHOMES

Unit Characteristics
Maximum Density: 20 du/ac
Maximum Building Coverage: 60% plus 10% for covered parking, garages, separate storage space, etc.
Maximum Impervious Coverage: 75%
Front Setbacks: 10 Feet
Side Setbacks: 20 Feet Between Buildings
Rear Setbacks: 10 Feet
Max. Building Height: 40 Feet (3 stories)
Max. Units per Building: 12
Parking: 2.25 spaces per unit

Special Conditions
- Buildings shall respect existing drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Residential units must be buffered from adjoining commercial and hotel loading and service areas.
- Special construction techniques shall be incorporated to mitigate potential noise between attached or stacked units.
- Builder shall demonstrate participation in special financing programs to minimize the down payments for these units.

SECTION VI- DESIGN GUIDELINES

DESIGN GUIDELINES

INTRODUCTION

A design review committee (DRC) will be set up to review plans for the development of all lots and parcels in Wingfield Springs. The DRC may include one member from the City of Sparks, appointed by the City Manager and either the mayor or one member of the City Council appointed by the Council. DRC responsibilities will include the review of site plans, building plans, elevations, materials, colors, fencing, signage, lighting, landscaping and parking arrangements prior to permit submittal to the City of Sparks.

Specific responsibilities and standards will be further defined in the Declaration of Protective Covenants, Conditions and Restrictions (CC&R's) which will also serve Wingfield Springs. The DRC shall have sole authority in determining compliance with the CC&R's and design guidelines.

ARCHITECTURE

Wingfield Springs is not intended to be developed with one prevalent architectural style and variety in the architecture is encouraged. An emphasis, however, will be placed on consistency with the overall ranch theme including indigenous architectural styles, the use of quality materials and complementary relationships between building and site design features. Historic ranch styles are encouraged.

1. House scale and building heights shall relate to topography, lot sizes and setbacks. A mix of one and two story units in the single family neighborhoods will be encouraged. Custom homes on slope sensitive lots shall use hillside adaptive design techniques such as post and beam construction and daylight basements to minimize streetside and rear yard facade exposure. Building heights in multi-family neighborhoods and non-residential uses may be taller but should have a massing and scale compatible with adjoining residential uses.



A mix of one and two story homes with varying architectural styles.

2. A mix of housing styles and types is encouraged. Front yard setbacks shall vary wherever possible. No adjacent single family detached home will be permitted to have the same plan/elevation or color. Each single family village developed by a home builder shall have a minimum of four models each having three elevations and material change and wall/roof color variations.

3. Homes on Executive, Amenity, Hillside and Ridgetop lots shall be encouraged to have side or rear-entry garages (garage doors not directly facing the street) as provided for in Section V. Homes on smaller lots are encouraged to provide side or rear-entry garages if possible.

4. Private exterior living spaces such as decks and patios are required in the design of each unit in the multi-family neighborhoods.

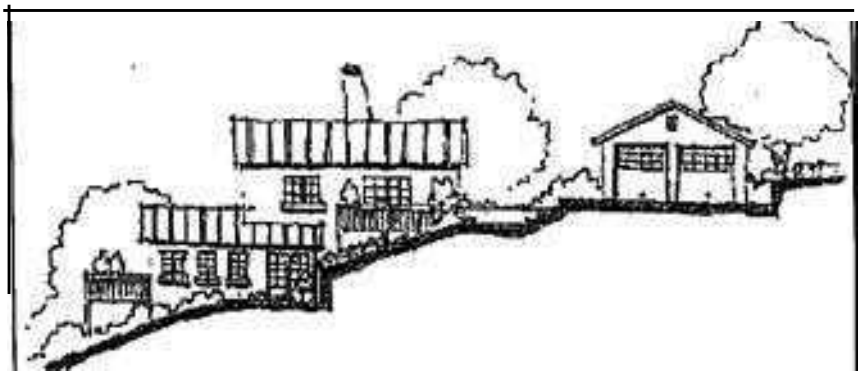
5. Roof pitch variations are preferred. No Flat roofs or rock covered roofs shall be permitted. Tile, concrete tile, architectural grade composition shingles, shake shingles or other materials approved by the DRC are permitted. Shake shingles shall be used only with the approval of the Fire Chief.

6. Passive solar designs are encouraged.

7. The use or incorporation of wood, stone and/or brick on exteriors is encouraged. Material changes, fenestration changes and variations of wall and window surface planes are also encouraged.

8. In order to avoid the appearance of a false applique, no material changes shall be allowed on comers or on facades which are visible from common areas. If material changes occur, they must occur at logical changes in building form.

9. Windows shall be sensitively placed to protect privacy of adjacent residences.



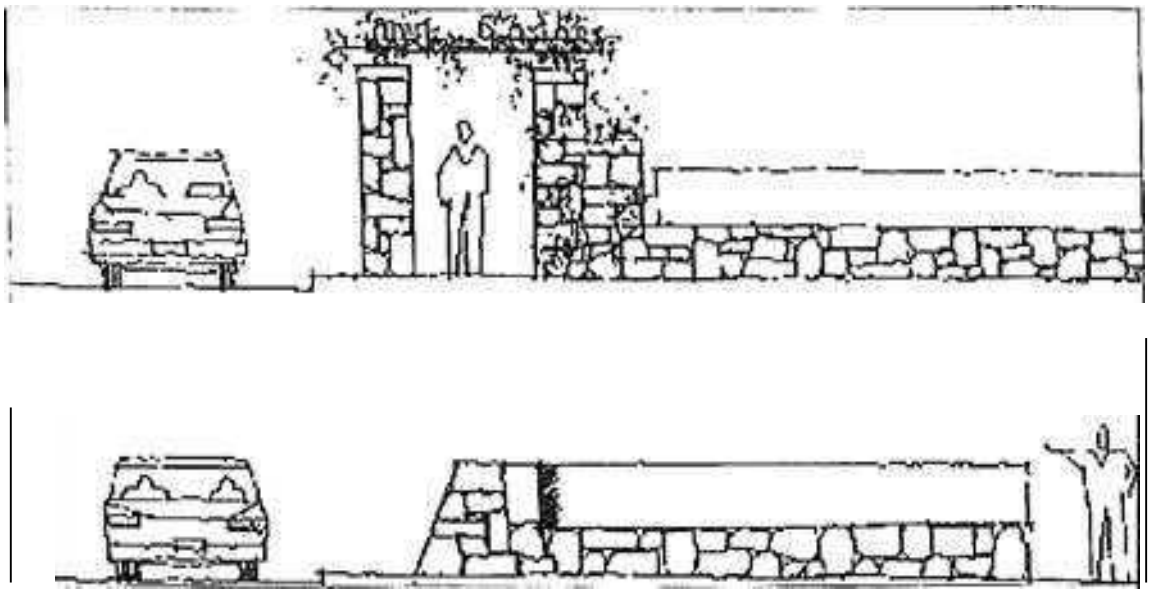
Homes on slope sensitive lots should use hillside adaptive design techniques to ***minimize facade exposure.***

10. View corridors are critical to and from all open spaces. The siting of buildings, accessory structures, fences, etc. and their impact on views and adjacent uses shall be carefully considered.

11. Mechanical equipment on roofs, above ground transformers, utility equipment and loading, service and storage areas shall be screened, enclosed or buried from view from the streets, pathways, public areas and adjacent uses. Trash enclosures and maintenance structures shall be designed to be compatible in style, materials and colors with the main building and shall be of masonry type construction.

12. Strong vertical elements (chimneys, multistory bays, etc.) should be used sparingly. Horizontal elements should dominate facades, in order to reduce the perceived height.

13. No reflective glass is permitted.

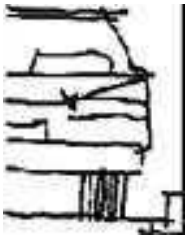


1:·mry Signag<' Options

SIGNAGE

The signage and graphics within Wingfield Springs will follow the overall "ranch" style theme and history of the project. Signage will further reinforce design concepts and provide identification for the residential villages and non-residential uses. Signage will also be provided for traffic control, along pathways and for public information purposes. 1n all cases, signs will be kept simple to reduce, not contribute, to visual clutter. Traffic control signage shall be approved by the City Public Works Director.

Signage throughout the project shall be consistent and compatible. Sizes, styles and configurations will vary dependent on the specific purpose, activity level, and building materials.





1. General

   a. The Wingfield Springs logo shall be used as appropriate throughout the project.
   b. Lighting and landscaping shall be considered an integral part of all signage proposals.
   c. Signs constructed of native stone, wood, and other natural materials with painted or relief cut letters are encouraged.
   d. Prohibited signs shall include:

      - Signs which constitute a hazard to traffic of pedestrians;
      - Signs located within any stream or drainage channel;
      - Mobile signs or portable signs except as provided in Sparks Municipal Code;
      - Inflatable signs except as provided in Sparks Municipal Code;
      - Signs which produce odor, sound, smoke, flame, or other emissions;
      - Signs which imitate or simulate official signs, or which use yellow or red blinking or intermittent lights resembling danger or warning signals;
      - Signs using strobe lights or individual light bulbs exceeding 75 watts;
      - Signs on public property or right-of-way or signs attached to utility poles, street-lights, fences, barns, sheds, or other similar structures; and
      - Roof signs.

   e. All signs shall be in accordance with the City of Sparks ordinances in effect at the time of use and subject to approval by the DRC and permitted by the City of Sparks.
   f. All house numbers shall be visible from street.

2. Identification signage

Identification signs will be provided at project entrances as part of the overall entry statement to Wingfield Springs. Each village shall have its own entry statement and signage theme or color combinations.

Monument signs, piers, walls, or freestanding monolith/pylons shall be used. Project identification entry signage shall not exceed 10' in height and 250 square feet total and may be provided on each side of the entry road. Residential identification signs shall not exceed 6 feet in height or 120 square feet in area and may be provided on each side of an entrance street. Lighting of project and village entrance identification signs shall be indirect with screened ground mounted or cove-mounted light sources.

3. Special purpose signs

a. Directional and informational signs for the golf club, golf course, and accessory uses shall not exceed 12 feet in height or 108 square feet in sign face area and shall be consistent and compatible throughout the project. The sign shall have a maximum 2 foot high stone veneer base with a maximum combined sign face height of 8 feet, excluding air space. An additional 1~~1~~ foot of height may be added to the sign to allow for architectural embellishment. The signs are to be located beyond the right of way and a maximum of five directional and/or informational signs are permitted for the entire Wingfield Springs Development. Lighting of directional and information signs shall be indirect with screened ground mounted or cove mounted light sources. Color and materials are subject to approval of the DRC and the Administrator.

b. All temporary signs shall be in accordance with Sparks's ordinances and subject to approval by the DRC. Signs which are not located within the public right of way shall not create a visual barrier at street and driveway intersection~~,~~ and shall be approved by the City Public Works Director.



General character of direction and informational signage

LIGHTING

Lighting shall be functional and efficient, while keeping with the design themes of Wingfield Springs. Lighting will vary from larger scale illumination of major roadways to intimate lighting of pathways, building entries or residential lots. In general, to reduce light pollution in the high visibility desert development, overall lighting shall be minimized. Lighting guidelines are outlined below.

All lighting shall be in accordance with City of Sparks ordinances in effect at the time of site plan approval and subject to approval by the DRC.

1. Fixtures will be of a scale consistent with use.

2. Light fixture style, type and color shall be consistent and compatible throughout the project. The style of light standards along public streets shall be subject to the approval of the City of Sparks. However, if such light type is not consistent with city standards, the Homeowner's Association shall be responsible for the cost of repair and replacements.

3. In all cases, lighting shall not extend beyond its property line. Cut-off fixtures shall be used.

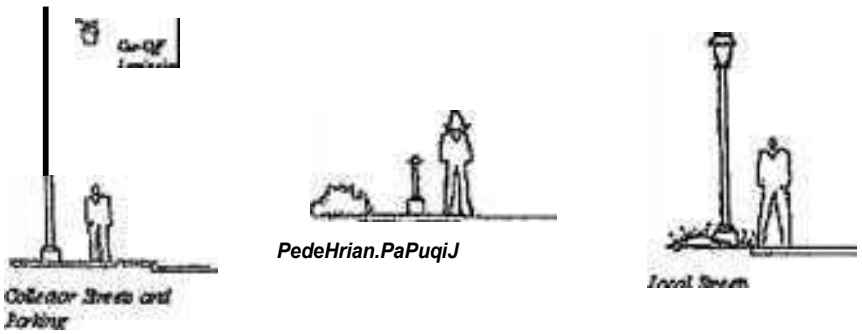
4. Illumination levels shall not be in excess of what is required. Lighting design shall address specific functions of activity areas. Site lighting shall be indirect in character.

5. If lighting for signage is provided, it shall relate to signage and graphics and shall heighten the visibility and appearance of signage.

6. Lighting fixtures shall be located as to minimize shadows and interference.

7. Spillover lighting shall not be permitted. Lighting shall reflect away from adjoining properties.

8. Energy consumption shall be considered in determining lighting fixtures.



FENCING

Fencing will be used for safety and security purposes, sound abatement, to control pets, enhance village themes, delineate uses and for screening. All fencing shall be approved by the DRC.

1. A consistent fencing theme will be required throughout each individual village and along Wingfield Springs Drive.

2. If fencing is desired on rear or side yards adjacent to the golf course, lakes, or other open space areas, open fencing such as buck and pole or split rail, or other transparent fencing approved by the DRC not to exceed 42" in height, shall be used to preserve vistas and maintain an open space feeling. Fencing in these areas may be replaced by additional landscaping, berming or in the case of owners with dogs, "invisible fencing."

3. Open fencing is generally encouraged to maximize views: however, solid fencing for safety, security and privacy purposes may be considered where lots are not adjacent to the golf course, lakes, or open space areas. Solid fencing shall be consistent in design, shall not exceed 6 feet in height and may be constructed of wood with stone or masonry accents.

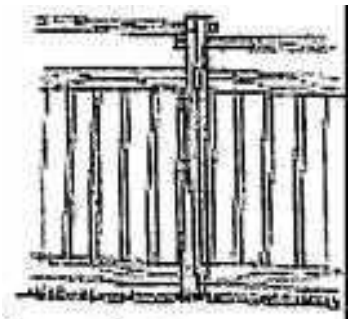
4. Fencing within the front yard shall be limited to low, transparent fences, not to exceed 48" in height. Within the front yard, walls or hedges shall not exceed 36 inches in height. Taller and more opaque rear and side yard fencing should terminate into the side wall of residential buildings at least 5 feet behind streetside facade(s). All sight triangles at intersections shall be maintained.

5. The use of chain link fence shall be restricted to pet and pool enclosures and tennis courts. Black vinyl coated chain link fence will be required when chain link fencing is necessary and approved by the DRC. Pet enclosures shall not be used as a property fence.

6. Adequate sight distance shall be maintained along roadways and intersections according to accepted engineering practices and roadway design speeds.



Split Rail Fence



Screen Fence

GOLF COURSE

The golf courses at Wingfield Springs are the central amenity of the project. Development parcel improvements should blend with the golf course improvements, including grading, landscaping, signage, roads, walls, fences and screening.

1. Development parcel configurations may require adjustment to accommodate the final golf course route to minimize cross traffic, protect individual homes, and encourage clear access from hole to hole.

2. To the greatest extent possible, the number oflots with fairway frontage shall be maximized.

3. Amenities such as water features, trees and topography shall be incorporated into the design.

4. Multiple tee placements to create various levels of difficulty of play shall be considered to accommodate beginners, as well as more accomplished players.

5. The golf course shall be designed to assist in stormwater control through functional grading. Where necessary, portions of fairways shall double as detention basins and/or allow for stormwater control as required by the final hydrology studies.

6. The golf course is one of the main elements of the project. As such, all signage and related facility construction such as restroom, concession and shelter structures shall be consistent with the overall development theme.

7. The golf cart paths will be independent of pedestrian pathways throughout the project to avoid conflict of purposes.

8. Golf cart access from the residential and resort villages shall be encouraged.

9. Landscaping and irrigation relating to the golf course shall be designed with an emphasis on water conservation and shall follow the guidelines outlined in the landscaping section of this document. A fertilizer management plan for the golf course shall also be prepared.

LANDSCAPE

Landscaping within Wingfield Springs shall integrate resource efficient design measures and environmentally compatible plants to ensure drought resistant and water conserving vegetation as an integral part of the design. All landscaping within the project shall be provided in accordance with the City of Sparks Landscaping Ordinance unless stricter requirements are

identified in this Development Agreement Handbook. Conformance review shall be conducted by the Design Review Committee prior to Building Permit Submittal.

1. Colors and textures of plant material should be consistent within the overall project common areas yet vary within the individual parcels in order to create unity in the common areas and variety in the individual villages.

2. The ultimate mature size of plants will be evaluated on maintenance, life span and functional requirements. In areas where screening is needed, plants shall be selected upon their form and branching density.

3. New plantings are encouraged to be informal and clustered to relate to the existing landscape.

4. Landscape design should encourage appropriate native plants; low, natural massings and no abrupt transitions of plant materials, especially on the hillsides and ridgetops.

S. A series of linear rows of trees, or "hedgerows," shall be planted in the non-hillside areas to help maintain the site's rural character and reduce the large scale of the residential villages. Hedgerow trees shall be columnar in growth habitat, and shall be suitable to the desert climate.

6. Trees shall also be encouraged to shade paved surface areas and consequently minimize reflected solar heat.

7. All plant materials shall be evaluated in terms of how well they enhance the architecture, existing plant material, enclose spaces and link various activities within Wingfield Springs.

8. Climate influences shall be considered in order to get the maximum gain out of plant material. Evergreens along the north and west sides of buildings will be encouraged; as they will diffuse the winter winds. Deciduous plants adjacent to buildings will be recommended since they provide summer shade while allowing winter sun to enter the building. Special consideration shall be given to trees with tap roots and/or non-evasive root growth.

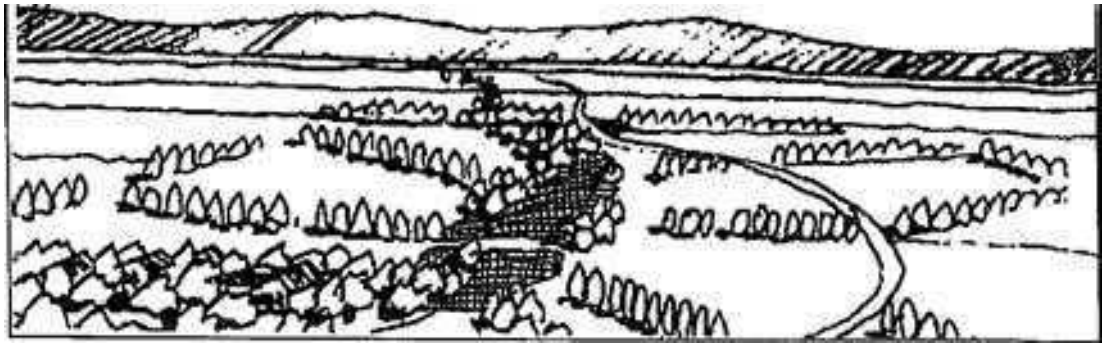
9. Drought tolerant principles shall be used when applicable. Plants selected shall be grouped and zoned according to water consumption rates and soil requirements. To aid in water conservation, plants should be confined to planting beds, and the use of mulches at a minimum of 1 inch depth is encouraged.

10. Native high desert plant materials are encouraged.

Wingfield Springs Development Agreement Handbook

11. Plants which require little maintenance should be favored over those which require constant spray and pruning. Special attention shall be given to appropriate plant spacings, as this will reduce unwarranted pruning.

12. Plant life cycle should be considered with plant materials. An appropriate mix of slow, medium and fast growth rates shall be encouraged. The result of a proper mix will be a long living, increased drought tolerant and disease resistant stand of vegetation.



Hedgerows are planned to define open spaces in the valley floor

13. Fire retardant and low fuel plants are encouraged within 30 feet of all buildings. A minimum of IO' vegetation clearance must be maintained around chimneys. Wetlands and their setbacks are excluded.

14. Proper turf management aids in soil erosion control, dust stabilization, temperature moderation and high groundwater recharge. The type and selection of turf areas should be selected in the same manner as all other plantings. Hydro mulching is permitted.

15. Existing trees over 6" in diameter should be preserved to the greatest extent possible. No grading shall occur within its dripline. Trees are to be protected during construction. (See Grading Guidelines, VI-I1.)

16. Irrigation is critical for healthy plant material with deep watering the best way to apply water. This promotes deeper roots which are not as susceptible to drought.

    a. All permanent systems are to be below ground and fully automatic. Use of water conserving systems including, but not limited to, drip irrigation and moisture sensors is strongly encouraged. Irrigation heads, where used, are to be adjusted to minimize permissible run-off. All irrigation heads adjacent to paved areas, curbs and in turf shall be of the pop-up type.

b. Backflow control devices are to be located so as to minimize their adverse visual impact. In addition, such control devices shall be screened by shrubs.

17. Undeveloped sites or portions of sites held in reserve for future development need not be irrigated or fully landscaped; however, these areas shall, at a minimum, be seeded with a drought resistant clover/wildflower mix to minimize weed growth and erosion. The use of temporary on-grade irrigation systems shall be permitted in these areas.

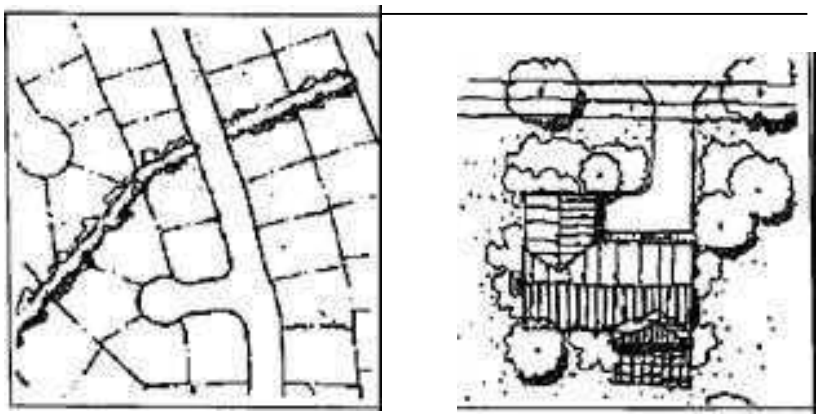
18. Landscaping adjacent to the golf course will be required to blend with the construction of the course. Yards shall open onto the course. A plant palette shall be created for the golf course perimeter which will be applicable to adjacent development.

19. Turf areas should be limited in size. Where used, turf shall be of a drought tolerant type.

20. Decomposed granite, stone, and gravel beddings are encouraged.

OPEN SPACE

The open space areas are an integral part of the development providing expansive vistas, windbreaks, wildlife habitat, and passive and active recreational opportunities and identity.



Open Space Guidelines

1. Any Future Neighborhood parks and recreational amenities shall be constructed with input from the City of Sparks.

2. Hedgerows will be required in designated areas.

3. Wetlands are to be protected and preserved on site according to local, state and federal regulations.

GRADING/REVEGETATION

Grading will be coordinated with the golf course design and storm drainage plans for the property. Detention basins and ponds will be constructed to delay storm water flows in some locations. Lots in many of the villages will be individually graded in a site sensitive manner to reduce impacts. Cut and fill slopes along roadways will be carefully designed to minimize visual impacts. Grading and revegetation guidelines are outlined below and shall comply with Washoe County Health Department and the City of Sparks requirements including Hillside Development Standards, and with Soil Conservation Services requirements.

1. All disturbed areas will be revegetated or restored, with proper erosion and dust control methods. Stockpiling, erosion and the loss of topsoil shall be minimized.

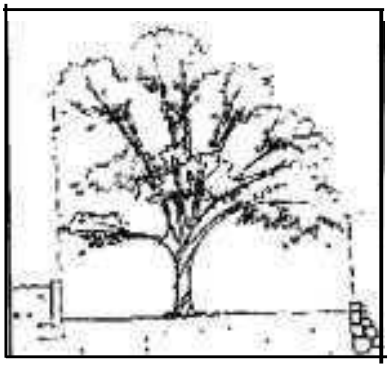
2. Seeding shall be done as soon as possible after finish grading has been completed.

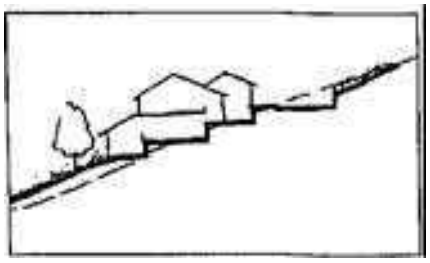
3. Topsoil that is removed shall be centrally located with respect to construction phasing. The stockpile shall be protected by seeding, watering, mulching or covering or by other method.

4. All grading shall follow the City of Sparks requirements. Slopes of 3: 1 or less are preferred with overall finish grades contoured and blending with natural land forms to the greatest extent possible. Slopes of 2:1 are permitted provided these slopes are revegetated with native seed mixes and erosion control matting (i.e. coconut matting or equal). 2:1 slopes shall also have temporary irrigation installed until native grasses/plants are substantially established. The Wingfield Springs Community Association shall retain a maintenance easement across all 2:1 slopes to allow for repair and replanting in case of future erosion. The use of custom retaining walls of native rock and landscaping to screen cut slopes and fill areas shall be encouraged.

5. Individual site sensitive grading, as well as appropriate hillside adaptive construction shall be provided on slope sensitive lots and shall be reviewed and approved by the DRC.

6. Detention basins will be developed in conjunction with other earthwork operations for use in sediment and drainage control during construction.





STORM DRAINAGE

Storm drainage will be accommodated through a combination of piping and surface drainage in accordance with the results of the final hydrology study.

1. A final hydrology study shall be prepared prior to development of each project phase/village.

2. Detention basins and ponds to be constructed shall be incorporated into the golf course and open space landscaping designs as project amenities. Drainage channels shall be natural in appearance, not concrete lined. Alternative designs to reduce erosion or improve downstream water quality may be approved by the Administrator.

3. Accumulated sediments shall be removed and maintenance performed as necessary by the City of Sparks, the project's homeowner's association or golf course operator, as established pursuant to further agreement.

4. Catch basins shall include oil/sand separators or other measures to provide for the pretreatment/removal of petrochemicals and silts.

FIRE PROTECTION/PREVENTION

A fire station and other public facility site will be provided within the neighborhood commercial center parcel. The design and construction of the fire station will be coordinated with the adjoining general store and related uses.

1. The developer shall contribute their fair share to the financing of the public facility in accordance with the Infrastructure Financing Concept Plan.

2. The development shall comply with all applicable fire codes and requirements for construction, including the provision of secondary access, hydrant locations, class A roofing, fire breaks, etc. The irrigated open spaces and golf course will act as fire breaks throughout the project. It is further anticipated that fire sprinklers shall be installed in residences on ridgetop lots and may be installed on other private residences.

WATER CONSERVATION

1. Water meters will be required for all uses within the project.

2. Resource efficient landscaping, water conservation irrigation systems and domestic water fixtures shall be required throughout the project in accordance with City of Sparks Ordinances.

3. Builders shall be encouraged to provide state-of-the-art water conserving fixtures and appliances in residential and non-residential developments.

4. If feasible in the future, the reuse of treated effluent may be considered for golf course irrigation.

ENERGY CONSERVATION

The Sierra Pacific Power Company (SPPCo.) in cooperation with the Builders Association of Northern Nevada participates in an energy-efficiency program known as "Good Cents." Good Cents is a nationwide program, introduced to Northern Nevada in 1989 to improve the energy

efficiency of homes. Homes built according to the program's guidelines are inspected and certified by Sierra Pacific representatives.

Features required for the Good Cents Home designation include added attic, wall and floor insulation, energy-efficient double-pane windows, moisture penetration barriers, high-efficiency heating and cooling systems and energy-saving water heaters.

1. Builders shall be encouraged to participate in the Good Cents program and construct homes to meet program requirements.

2. Passive solar designs and wind orientations shall be considered in single and multi-family residential designs.

ELECTRIC SERVICE

It is anticipated that electrical service will most likely be provided along Vista Boulevard with overhead service to the western boundary of the project and underground service along Vista Boulevard bisecting the site. The interior portions of the project shall be developed with underground electrical lines.

AIRQUALITY

The Wingfield Springs development is located within an air quality attainment area however the Regional Planning Governing Board adopted regulations for non-attainment in the SOI on June 10, 1993. Traffic reduction is encouraged within the project through the provision of an extensive pedestrian and bicycle pathway system. Guidelines relating to maintaining air quality within the project are provided below.

1. Parking spaces designated for "Park and Ride" purposes shall be provided within the neighborhood commercial center parcel.

2. The developer will work with the Washoe County School District and the Regional Transportation Commission to identify bus stop locations for future bus service to the project.

3. Wood burning devices shall comply with Environmental Protection Agency Standards in accordance with Washoe County District Health Department and City of Sparks regulations.

4. Dust control mitigation measures shall comply with Washoe County District Health Department Standards.

GEOTECHNICAL

A preliminary geotechnical report has been prepared for the project site. According to the report, there are no severe constraints which would prevent development of the property.

1. Final geotechnical reports shall be required prior to the construction of on and off-site infrastructure improvements, as well as for each specific development within the project. Reports shall address site preparation, excavation, cuts and fills, grading, foundation requirements and pavement section requirements.

2. Construction shall follow the requirements of the final geotechnical reports with testing required to verify compliance.

APPENDICES

APPENDIX A: GLOSSARY

ACCESSORY STRUCTURES	"Accessory Structures" means a detached building or structure which is subordinate to, and the use of which is incidental to that of the main building, structure, or use of the same parcel or lot of land, including mother in law quarters on Executive Lots or larger.
ADMINISTRATOR	See Procedures, Section 1, page 8.
APARTMENT HOUSE	"Apartment House" means a multiple dwelling, as that term is defined in this title.
AVERAGE DAILY TRAFFIC (ADT)	"Average Daily Traffic" (ADT) is the total volume of vehicles in both directions during a given time period (in whole days), greater than one day and less than one year, divided by the number of days within that time period.
BUILDING	"Building" means any structure having a roof supported by columns or walls used for the enclosure of persons, animals or chattel, but not including a trailer coach or mobile home.
BUILDING ENVELOPE	"Building Envelope" is a specified area of a lot or parcel of land with which may be coextensive with the setbacks required herein.
BUILDING FOOTPRINT	"Building Footprint" is the area encompassed by the exterior walls of a fully enclosed dwelling unit, garage, or other structure.
BUILDING HEIGHT	"Building Height" means vertical distance from the average level of the highest and lowest points of that portion of the lot covered by the building to the ceiling line of

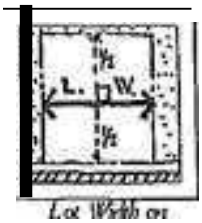
	the topmost floor.
BUILDING MASSING	"Building Massing' means that three-dimensional bulk and scale of a building.
BUILDING SETBACK	"Building Setback" means the distance between the property line and the nearest portion of the structure on the property.
BUILDING SETBACK PROJECTIONS	Projections into the building setbacks may be allowed under the following circumstances with the approval of the Design Review committee (DRC). Fireplaces, chimneys, greenhouses, window bays and wall pop-outs may project into the building setback. The encroachment into the setback shall not be more than 25 square feet and the depth of the encroachment may not be more than 2.5 feet. All encroachments shall comply with the Uniform Building Code requirements.
CHILD CARE FACILITY	"Child Dare Facility" means any place or home, institution or establishment in which children are received, cared for or maintained for an period of time with or without compensation.
CLUB	"Club" means a profit or nonprofit association of persons organized solely or primarily to render a service which is usually a commercial enterprise.
COMMON AREAS	"Common Areas" means those portions of the project site which do not fall within a residential or commercial parcel and will ultimately be owned in "common" by the Homeowners Association.
COMMUNITY FACILITY	"Community Facilities" means an office and/or meeting facility to conduct the business of the Homeowners Association. In addition, the facility could be used by

	residents of the community for games, meetings, exhibits, or other community resident activities.
DENSITY, GROSS	"Gross Density" means the ratio of total number of dwelling units to the total land area contained within the application.
DENSITY, NET	"Net Density" is the ratio of the total number of dwelling units or lots contained within privately held land to the amount of area within that privately held land.
DESIGN REVIEW COMMITTEE (DRC)	The "DRC" will consist of a committee of individuals appointed by the land owner or Homeowners Association to review issues of planning, architecture and landscape design related to this project.
DEVELOPMENT AGREEMENT	"Development Agreement" means the agreement entered into between the City of Sparks and Loeb Enterprises Limited Liability Company.
DWELLING	"Dwelling" means any building or portion thereof used exclusively for residential purposes, but shall not include hotels, clubs, boarding or rooming houses, fraternity or sorority houses, institutions or mobile homes.
DWELLING UNIT	"Dwelling Unit" means one or more rooms in a dwelling or multiple dwelling or apartment hotel used for occupancy by one family (including necessary employees of such family) for living or sleeping and having only one kitchen.
EASEMENT	"Easement" is the right of one party to use the land of another for a specified purpose or purposes.

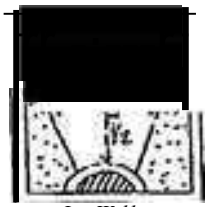
FINISHED GRADE	"Finished Grade" is the final elevation of the ground surface conforming to the approved grading plan.
FLOOR AREA, GROSS	"Gross Floor Area" is the sum of the gross horizontal areas of the several floors of a building, or portion thereof.
GAMING	"Gaming" includes all legally authorized activities consistent with the currently applicable NRS Ch. 463.
GARAGE,PRIVATE	"Private Garage" means the space intended for the use by the private vehicles of families' resident upon the lot.
GOLF COTTAGE	"Golf Cottages" are the attached *or detached* townhouse or condominium type units with views of the golf course and are in close proximity to the golf club.
HEDGEROW	"Hedgerow" means a linear public easement used for tree planting and pedestrian circulation.
LOT	"Lot" means a distinct part of a parcel of land divided with the intent to transfer ownership or for building purposes which abuts upon a means of access.
LOT DEPTH	"Lot Depth" means the distance between the front and rear lot lines.
LOT FRONTAGE	"Lot Frontage" means the narrowest lot dimension fronting on a street.

LOTWIDTH

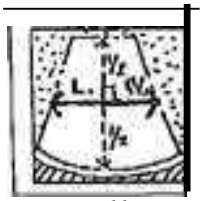
"Lot Width" means the distance between the side lot lines measured at right angles to the lot depth at the midpoint between the front and rear line. This is where minimum lot width is measured



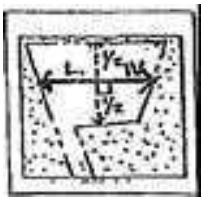
"Rectalinear" Lot



Lot Width on "Cul-de-Sac" Lot



Lot Width on "Wedge" Lot



Lot Width on "Flag" Lot

LOT LINES

"Lot Lines" are the~~ht~~ property lines bounding the lot.

NATIVE VEGETATION

"Native Vegetation" means plant materials indigenous to the region surrounding Sparks, Nevada.

MULTIPLE-FAMILY DWELLING

"Multiple-Family Dwelling" means a building to be used to house three or more families living independently of each other, having their own kitchen facilities and including the necessary employees of each family including apartments, condominiums, and town homes.

NATURAL AREAS

"Natural Areas" are areas of untouched natural landscape, wetland, or desert areas.

NATURAL GRADE

"Natural Grade" is the slope of natural or undisturbed ground surface prior to any grading operation.

NET USABLE FLOOR AREA

"Net Usable Floor Area" means the sum of the gross floor area minus the following areas measured from the center of the inside walls: areas used for public corridors, interior stairways, public lobbies, interior courts, public rest rooms; mechanical

	equipment areas; elevators and elevator shafts and such other areas.
NONCONFORMING USE	"Nonconforming Use" is a building, structure or premises legally existing and/or used at the time of adoption of this Development Agreement Handbook or any amendment thereto, and which does not conform with the use regulations of the district in which located. Any such building, structure or premises conforming in respect to use but not in respect to height, area, yards, or courts, or distance requirement from more restricted districts or uses shall not be considered a nonconforming use.
OPEN SPACE	"Open Space" is the area of land which remains undeveloped for the purposes of maintaining existing character.
PARCEL OF LAND	"Parcel of Land" means any unit or contiguous units of land, in the possession of or recorded as the property of one owner.
PRINCIPAL PERMITTED USE	"Principal Permitted Use" means the main use of land buildings as distinguished from a subordinate or accessory use.
RECREATIONAL CLUB PRNATE	"Recreation club" means a group or association formed as a legal entity to provide recreational services to its members, either for profit or non-profit.
RECREATIONAL VEHICLE	"Recreational Vehicle" means a vehicular type unit primarily designed as temporary living quarters for travel, recreational, or camping use which may be driven or towed on a highway, and which may be self-propelled, mounted upon, or drawn by a motor vehicle. Recreational vehicle includes any travel trailer, camping trailer, motor home, pickup coach, or slide-in camper.

RIGHT-OF-WAY	"Right-of-Way" means land which by deed conveyance, dedication, or process of law is reserved for use by the general public for roadway improvements, drainage facilities, and other public utilities.
SINGLE-FAMILY DWELLING	"Single-Family Dwelling" means a building containing one kitchen designed or used or designed and used to house not more than one family, including necessary employees of such family.
SITE	"Site" means a parcel or combination of parcels or lots which share a common development plan or which are dependent upon one another for access, parking or utilities.
STREET	"Street" means a public or private thoroughfare which affords a primary means of access to a butting property.
STREET, ARTERIAL	"Arterial Streets" are thoroughfares used primarily for carrying fast and/or heavy traffic.
STREET,COLLECTOR	"Collector Streets" are thoroughfares used primarily for carrying traffic from minor streets to arterials.
STREET, CUL-DE-SAC	"Cul-de-Sac" is a dead-end street provided with a vehicular turn around at its terminus.
STREET, LOCAL	"Local Streets" are streets used exclusively for access to private lots.
STREET, PRIVATE	"Private Street" is any pare! Of land used for a street, road, lane or way or similar designation which is maintained by a private party or has not been officially accepted for perpetual maintenance on behalf of the

	public.
STRUCTURE	"Structure" means any construction except a tent, trailer, mobile home or vehicle.
USE	"Use" is the purpose for which land or a building thereon is designed, arranged or intended, or for which it is occupied or maintained, let or leased.
YARD	"Yard" means an open space on the same lot or parcel with the building, extending from the building to the nearest lot line.
YARD,FRONT	"Front Yard" means the yard lying between the front wall of the main building and the front property line and extending across the full width of the lot or parcel.
YARD,REAR	"Rear Yard" means the yard between the main building and the rear line and extending across the full width of the lot or parcel.
YARD, SIDE	"Side Yard" means the yard lying between the side lot line and the main building and extending from the front yard line to the rear yard line.
ZERO-LOT-LINE	"Zero-Lot-Line" means a property line where there is no minimum building setback requirement on an interior side yard, on two (2) interior side yards or on an interior side yard and rear yard.

APPENDIX B: PROJECT DESIGN TEAM

The project design team for the Wingfield Springs Development consists of the following members:

EDAW, lnc-

EDAW's responsibilities include development of the final site plans, landscape concepts and assemblage of the original Development Agreement Handbook.

ERA (Economics Research Associates)-

ERA has performed market studies for the project and has provided input into the site plans with regard to the golf course and product types and mixes.

Hale Irwin-

Hale Irwin is the professional golf course architect for The Hills Course on the southern parcel.

Huffman and Associates -

Huffman and Associates performed the wetlands delineation for the property and is responsible for coordinating with the U.S. Army Corps of Engineers as the project develops.

Kautz and Associates -

Kautz and Associates have performed archaeological investigations of the property and are responsible for coordinating with the Nevada Department of Conservation and Natural Resources.

Kleinfelder, Inc. -

Kleinfelder has performed preliminary geotechnical investigations on the property for the tentative map process, as well as a hydrologic study for planning purposes. Kleinfelder will be responsible for providing more in depth investigations with regard to geotechnical matters and groundwater as the project develops.

Lionel Sawyer and Collins -

Lionel Sawyer and Collins has provided legal counsel and coordination assistance through the permitting process.

Pyramid Engineers and Land Surveyors -

Pyramid Engineers and Land Surveyors has been involved in the project since its inception in A11gust of 1990 providing project coordination, governmental processing, planning, civil engineering, environmental engineering, mapping and surveying services.

Red Hawk Land Company-

Red Hawk Land Company has provided legal counsel, coordination assistance and assemblage of the Development Agreement Handbook.

Robert Trent Jones Jr. -

Robert Trent Jones Jr. is the professional golf course architect for The Lakes Course on the northern parcel

Rosaschi Construction Company, Inc. -

Rosaschi Construction has provided construction and cost estimate assistance as well as feasibility analysis.

Wood Rogers -

Wood Rogers has provided planning, civil engineering, environmental engineering, mapping and surveying services.







Wingfield Springs

Development Agreement Handbook

DRAFT AMENDMENTS
JAN. 21, 2026

Approved by the
Sparks City Council
April 2015

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SECTION I - INTRODUCTION

INTRODUCTION

APPLICANT

The master developer of the overall Wingfield Springs project is Red Hawk Land Company, a Nevada Limited Liability Company. Red Hawk Land Company presently owns 1645± acres of the project site.

PROJECT OVERVIEW

The purpose of this document is to outline the master plan and overall development strategy for the Wingfield Springs Planned Community and set forth the standards which will guide its future development. This Wingfield Springs Development Agreement Handbook will also serve as a request for Master Plan Amendment and request for zone change consistent with the plan outlined herein. The Development Agreement Handbook is an exhibit to the development agreement between Red Hawk Land Company and the City of Sparks ("The Development Agreement").

The Wingfield Springs Planned Community consists of 1645± acres located within the Spanish Springs Valley; approximately 7 miles north of Interstate 80 (see Figure 1). The property includes two unique parcels of land. The parcel north of Vista Boulevard, hereafter referred to as "the northern parcel", includes level and gently sloping terrain with wetlands, two large spring fed lakes and a number of mature cottonwood trees. The parcel south of Vista Boulevard, hereafter referred to as "the southern parcel," includes gently sloping hills as well as steeper terrain which provide excellent views of the lakes and the valley and surrounding mountains beyond.

The entire project site has been annexed into the City of Sparks, rezoned to Planned Unit Development and the City has entered into a Development Agreement with the developer. Both parcels (previously known as Wingfield Springs and Wingfield Hills) also have approved master plans, Development Standards Handbooks, and Tentative Maps which were secured by the previous project developers. A Special Use Permit for hillside development was also approved for the southern parcel. The current request is for approval of the Development Agreement including a revised Master Plan and Development Agreement Handbook, Master Plan Amendment and appropriate zone change for the entire project consistent with the visions of the current developer. Technical information relating to the project sites in general has been previously submitted with the original projects.

The revised project is designed to provide the City of Sparks with a unique and exciting planned community featuring a variety of residential villages and amenities. The plan features 18 holes of golf on the southern parcel. Also included are clubhouse facilities, a resort complex, a neighborhood and village commercial center, parks and an expansive open space network. The plan proposes a mixture of residential development on the northern and southern portions of the project at a density of about 1.87 units per acre.

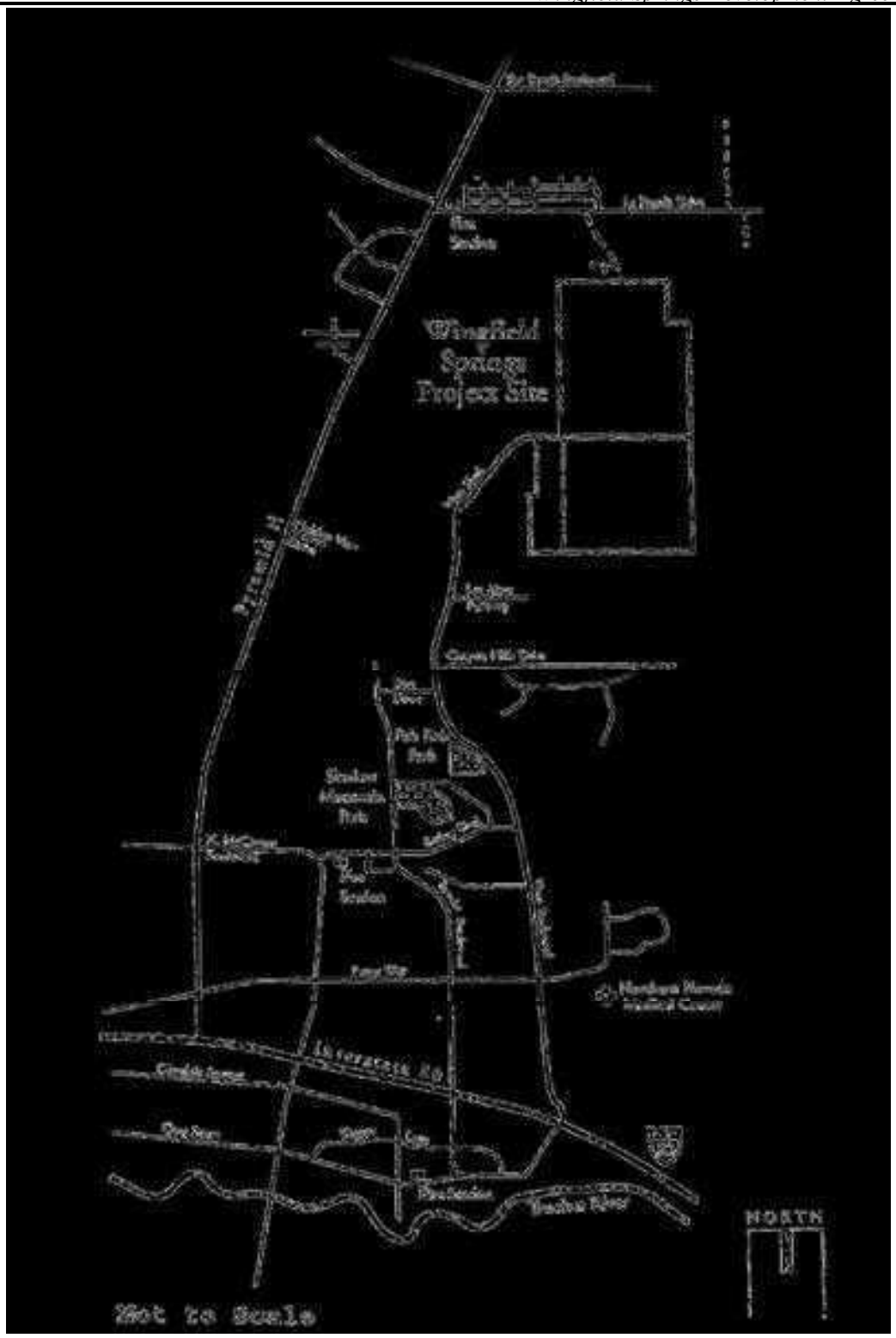


Figure 1: Location Map

BACKGROUND

The planning process for the Wingfield Springs Planned Community Development was initiated in August 1990, by a prior owner, the Spanish Springs Development Limited Partnership (SSDLP), who retained Pyramid Engineers and Land Surveyors to provide the planning and preliminary engineering and surveying services for the Wingfield Springs portion of the project. At that time, the SSDLP owned 123 acres of the northern parcel and had an option to purchase the remaining 575 acres from Alice Paulsen and Royce Hardy. Initially the southern parcel was not included in the development plans for the community. Both the northern and southern parcels, however, were located in the Spanish Springs Planning Area of Washoe County, outside of the Sphere of Influence (SOI) for the City of Sparks. The County Land Use Plan identified a portion of the northern parcel for low density suburban uses.

The majority of both parcels, however, were identified as "non-designated areas". County zoning on the northern and southern parcels was A-5 (1 dwelling unit per 10 acres) and A-7 (1 unit per 40 acres).

Regional Planning

In the early 1990's (as a result of the Regional Planning process), a number of exciting policy changes affecting the development potential of the Spanish Springs Valley and the Wingfield Springs' site occurred. Involvement in the Regional Planning process, however, increased the number of requirements to be satisfied prior to governmental consideration of any development projects.

While the Regional Plan was being formulated, a number of major property owners in the Spanish Springs Valley approached the City of Sparks and with the consent of the City, requested to be included in the SOI. Inclusion in the SOI would allow property to be considered for annexation into the City of Sparks before 2007. A request to designate the area for urban and suburban development on the Regional Land Use Diagram was also made and the owners and developers agreed to participate with the City of Sparks and Washoe County in formulating a master plan for the SOI. The need for a new plan for the area in Spanish Springs outside of the SOI was also discussed.

The Regional Plan identifying the SOI and designating the area for "Urban and Suburban" uses was approved by the Regional Planning Governing Board on March 21, 1991 (see Figure 2). The master planning process, which was initiated in October 1990 resulted in the completion of a final plan, entitled "Plan for Northern Sparks Sphere of Influence Area in the Spanish Springs Valley", (NSSOI) in October 1991. The plan was funded by a number of the major property owners and developers in the valley and prepared jointly by their consultants with input from the City of Sparks, Washoe County and various public and private entities. The SSDLP contributed towards the funding of the plan and participated fully in the plan development. Washoe County staff members concurrently developed a plan for the area of Spanish Springs outside of the SOI.

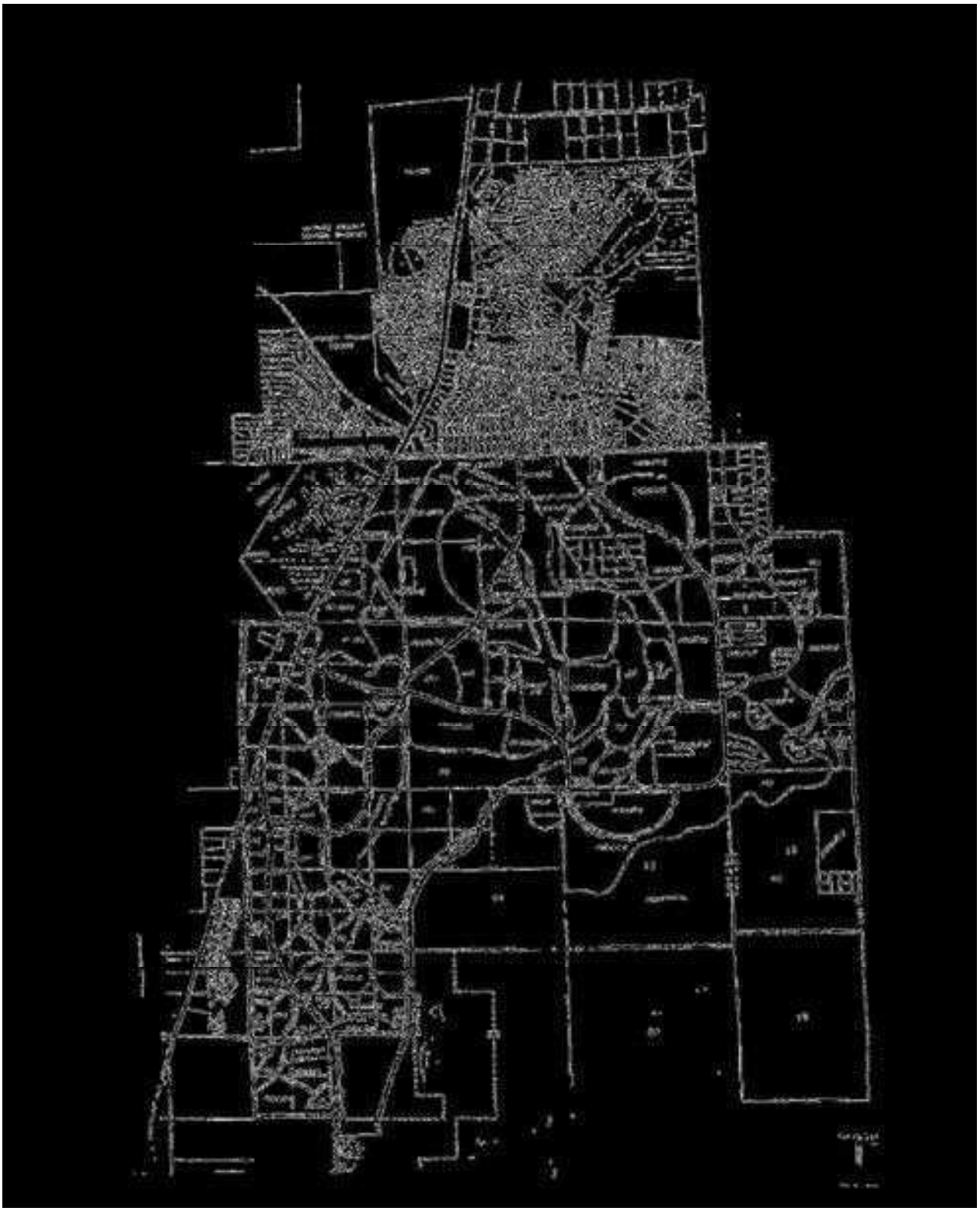


Figure 2: Sphere of Influence (PNSSOI) Plan

Both plans were approved by the Washoe County and Sparks Planning Commissions and the Regional Planning Commission in January and February 1992. Subsequent to the approval at the commission level, however, concerns were raised regarding whether TMWA or Washoe County would provide water service to the valley. Approval of the NSSOI and County plan, by the County Board of Commissioners and the Sparks City Council, which left the water service options open was granted on March 23, and 24, 1992. Final adoption of the plans by the Regional Planning Governing Board was granted on May 14, 1992.

Final adoption of the plans satisfied the Regional Plan requirement for the preparation of land use plans for the Sparks SOI and the county area of Spanish Springs outside of the SOI. Implementation of the plans, however, required the resolution of the water service issue, as well as the concerns identified in the plans such as infrastructure financing.

Additional mandates of the Regional Plan required the City of Sparks to obtain approval by the Regional Planning Commission of the Sparks Master Plan and an Annexation Program to identify areas to be considered for annexation in the next seven years. The Annexation Program area included the entire Wingfield Springs property. Final adoption of the Annexation Program and the Sparks City Master Plan was granted on April 21, 1992.

Subsequent governmental action has included the annexation of the northern parcel (Wingfield Springs) on March 23, 1992 and the approval of a Tentative Map, master plan and Development Standards Handbook on June 22, 1992 with SSDLP as the applicants. The southern parcel (Wingfield Hills) was annexed to the City on October 13, 1992. The project applicant was Jeff Bumb, one of the partners in the SSDLP. At that time, Mr. Bumb had an option to purchase the property from Alan and Marcia Oppio. A Tentative Map, special use permit, zone change, master plan, and Development Standards Handbook were also approved on May 10, 1993 with a one year time extension granted on April 25, 1994.

Ownership Transfer

In December of 1993, the options on both the northern and southern parcels were transferred from the SSDLP and Jeff Bumb to Red Hawk Land Company. Currently, Red Hawk Land Company owns the northern parcel and has an option to purchase the southern parcel from Alan and Marcia Oppio. With the transfer of the property ownership/option, new ideas and concepts regarding the development of the property emerged. Red Hawk Land Company worked closely with the City of Sparks regarding their proposed changes and has continued to move forward with the project by securing approval of a zone change to Planned Unit Development and approval of the first Final Map for the northern parcel on June 13, 1994.

Since the transfer of ownership, other issues associated with development in Spanish Springs have been and are continuing to be addressed. The water service issue was resolved on May 11, 1994 with TMWA being authorized to serve the southerly portion of Spanish Springs Valley (including the entire Wingfield Springs Project) and Washoe County to serve the northerly portion of the valley.

A sewer financing Development Agreement has been executed between Red Hawk Land Company and the City of Sparks (a copy of which is attached with the Development Agreement). An ordinance allowing for the establishment of Development Agreements in the City of Sparks was approved by the City Council on June 11, 1994. It is the intent of Red Hawk Land Company to enter into a Development Agreement with the City for the overall Wingfield Springs Community.

GOALS, POLICIES AND PROCEDURES

The master plan for the Wingfield Springs Community is consistent with the plans, policies and action programs identified in the NSSOI. The specific goals and policies to guide the development of the project are outlined below:

OVERALL PROJECT GOAL

To provide the City of Sparks with an exciting, environmentally sensitive planned community featuring a mix of quality residential, commercial, open space and recreational uses within the unique setting of lakes, wetlands and hills.

POLICIES

- Provide for continuity in the development of the residential and non-residential aspects of the project and ensure compatibility between uses through the approval of a Development Agreement, the establishment of a Design Review Committee (DRC), the use of a Development Agreement Handbook and the recordation of Covenants, Conditions and Restrictions (CC & R's).

- Develop 18 championship golf holes to provide recreational opportunities for residents of the project, and others within the City of Sparks and elsewhere in the region.

- Provide for a maximum overall density of two units per acre by encouraging a mix of housing densities, sites, styles and settings through the establishment of unique and individual residential villages.

- Provide for a safe, efficient and aesthetically pleasing access and circulation network which **will** include roadways and pathways of varying types and styles within the project.

- Require the design and use of compatible and coordinated lighting, signage and fencing throughout the project.

- Maintain existing lakes, wetlands and steep slopes as significant site features.

- Develop an open space network by integrating public and private open space and recreational areas into the project and providing for connections to trails outside of the project boundaries.

- Encourage walking and biking through development of an extensive pathway system throughout the project. Promote carpooling and transit by accommodating future development of bus stops, turnouts and shelters at appropriate locations.

- Orient residential and non-residential lots and structures to take advantage of views to the wetlands, lakes, open space, recreational and golf course areas and the valley beyond.

- Provide for the management of storm water by enhancing and blending drainage features into the open space network.

- Promote water conservation throughout the project, provide for and promote resource efficient landscaping and building design, use water conserving irrigation systems throughout the golf course, common areas and development parcels within the project in accordance with the intent of the City of Sparks Landscape Ordinance, Building Code and Water Conservation Ordinance.

- Promote cost effective and practical energy efficient designs and encourage builder participation in the Sierra Pacific Power Company "Good Cents" program.

- Require site sensitive grading and erosion control practices, in accordance with the intent of the City of Sparks Hillside Development regulations, Washoe County District Health and Nevada Division of Environmental Protection regulations and best management practices.

- Promote clustering where appropriate to ensure aesthetic qualities of the property are maintained.

- Assure that each development provides the appropriate amenities, infrastructure and water rights to support itself.

- When available and if economically and logistically feasible, utilize reclaimed water resources as appropriate to irrigate some or all of the parks, open space and golf course.

PROCEDURES

Development Review Process

Purpose/Intent

The review and approval process established for subsequent submittals under the Development Agreement and this Development Agreement Handbook embodies the intent of the City of Sparks procedures and practices but simplifies and streamlines certain steps because of the nature and scope of the controls and assurances provided by the Wingfield Springs Development Agreement Handbook. To our knowledge, all of these procedures and practices are consistent with the goals and policies of the City of Sparks and the State of Nevada.

Administrators

The Sparks City Engineer and the Sparks Community Development Director shall be the administrators, hereinafter referred to individually or collectively as the "Administrator," of this process. Each administrator shall have the principal authority to interpret and make decisions based on the plans, standards, and guidelines contained herein according to the scope of the responsibilities granted to them in Titles 15, 17 and 20 of the Sparks Municipal Code.

Review Process

All proposed development under this Development Agreement Handbook shall require review and approval in the following manner:

Pre-Application Conference

The master developer, sub-developers or individual builders, hereinafter referred to as the "Applicant," shall request a pre-application conference with the Administrator and representatives of City agencies to clarify the requirements, standards and policies as identified in this Development Agreement Handbook after such Applicant has received approval for such request from the Design Review Committee established by the CC&R's adopted by the property owner. The Applicant shall present plans describing the general nature and intent of their proposed development.

The Administrator shall determine whether the Applicant's proposed development is clearly consistent with the intent of this Development Agreement Handbook. If deemed consistent, the Administrator shall instruct the Applicant to proceed directly with preparation of a Final Development Plan and Final Map. If the proposed development is deemed not consistent, the Administrator shall require the Applicant to first submit a Preliminary Development Plan for review and approval. The Administrator shall furnish written comments and recommendations to assist the Applicant in preparing their next submittal.

Preliminary Development Plan

If requested by the Administrator, the Applicant shall prepare and submit a Preliminary Development Plan including:

a. A site survey and site analysis of the parcel and its immediate surroundings (min. scale of 1"=40'). The survey shall include a vicinity map, data defining the acreage of the property area, R.O.W. and easement lines, topography at one foot intervals and at critical spot elevations, location and description of existing vegetation, relationship of adjoining roadways, development parcels, wetlands, lakes and other site features. Included with the survey shall be a brief site analysis report including information on existing vegetation to remain, soil data including soil boring logs and geotechnical evaluation for structural limitations, topographic and drainage constraints and other natural or man-made elements which affect development of the site.

b. A preliminary site plan (min. scale of 1"=40') showing the proposed lotting, building envelopes and/or building locations; drives, parking and walkway configurations, walls/fencing, approximate site grading, landscape concept, site lighting fixtures, and utility and mechanical equipment locations. Also, a general description of the proposed

development including density, percentage of building and/or impervious area coverage, building height, development phasing and functional relationships.

c. A project schedule showing the remaining design time, permitting and construction scheduling including target dates for the beginning and completion of construction.

d. Such information as may be reasonably requested by the Administrator and Planning Commission to allow him to positively consider the factors listed in NRS 278.349(3).

The Administrator and the Planning Commission shall review the Preliminary Development Plan within 60 days for consistency with this Development Agreement Handbook and furnish written comments, conditions, and recommendations to assist the Applicant in preparing their Final Development Plan submittal.

Conformance Review Process

Single Family Detached villages in the Southern Parcel will require a Conformance Review consisting of the following:

Preliminary Map

After the pre-application meeting conference, the Applicant shall prepare and submit a preliminary map submittal, containing at a minimum the following items:

a. A site plan (minimum scale = 1 inch = 40 feet) indicating the proposed platting of the lots (including the proposed building setbacks);

b. A site plan (minimum scale= 1 inch= 40 feet) indicating proposed locations of utilities; and

c. A site plan (minimum scale= 1 inch= 40 feet) indicating preliminary grading illustrating existing and proposed contours at one-foot intervals, proposed spot grades, proposed finish floor elevations, and proposed drainage patterns;

d. A site plan (minimum scale= 1 inch= 40 feet) indicating street landscaping and project entry landscaping/ monument locations and details (including proposed building materials and colors); and

e. Preliminary architectural building elevations of all four (4) sides of the proposed single family detached/ attached/ multi-family model(s) (including proposed building materials and colors).

f. F. An assessment of the applicability of the City of Sparks Slopes, Hilltops, and ridges Ordinance (SMC 20.99). If Section 20.99 applies to the proposed development, the application requirements of SMC Section 20.99.050 shall be provided with the submittal. A special use permit shall not be required for the Conformance Review submittal.

The preliminary map submittal shall only be delivered to the City for review on the same dates as the City of Sparks Tentative Subdivision Map submittal deadline dates.

The Applicant shall provide sufficient numbers of the preliminary map submittal to the City to ensure that City staff shall distribute these copies to the City staff charged with reviewing tentative subdivision maps and those agencies as set forth in Nevada Revised Statutes 278.335.

Tue Applicant, City staff and other pertinent reviewing local and / or state agencies shall convene at a prescribed time in a scheduled Plan Review meeting to review the project and determine if the application is in conformance with the approved standards in the Wingfield Springs Development Standards Handbook.

If at the Plan Review meeting the proposed preliminary map submittal is determined to be in compliance with the Wingfield Springs Development Standards Handbook, then the preliminary map approval shall follow the standards as stated in Nevada Revised Statutes 278.360 in regard to presentation of a final map or series of final maps, extensions of time and termination of the preliminary map approval.

If at the Plan Review meeting the preliminary plan is determined to not be in compliance with the Wingfield Springs Development Standards Handbook, then the Administrator shall notify the Applicant in writing as to the manner in which the application has been deemed not in compliance with the Wingfield Springs Development Standards Handbook. The Applicant can appeal the decision of the Administrator to the Planning Commission or re-submit at the next available tentative map submittal date.

Final Development Plan

The Applicant shall prepare and submit a Final Development Plan and Final Map prepared in accordance with NRS 278.372, this Development Agreement Handbook, and the Development Agreement including:

a. A final site plan, (min. scale l"=40'), showing the proposed lotting, building envelopes and/or building locations; drives, parking and walkway configurations, walls/fencing, approximate site grading, landscape concept, site lighting fixtures, and utility and mechanical equipment locations. Also, a general description of the proposed development including density, percentage of building and/or impervious area coverage, building height, development phasing and functional relationships.

b. A utility plan (min. scale of 1"=40') showing sanitary sewer line locations, sizes and materials, water line location and sizes, and telephone, gas, and electric connections, including service lines to site lighting fixtures.

c. A grading and drainage plan (min. scale of 1"=40') indicating existing and proposed contours at one foot intervals and spot grades, finished floor elevations, stem wall elevations, drainage patterns, erosion and sedimentation control measures.

d. A landscape plan (min. scale of 1"=40') showing existing vegetation and relocated vegetation to remain and the location, species, quantity and size of all proposed new plant material.

e. An irrigation plan (min. scale of 1"=40') showing the proposed locations and coverage of irrigation heads, laterals, and valve control equipment.

f. Building floor and roof plan(s), (min scale of 1/4"=1'-0"), indicating the location of uses within the structure, door and window locations, adjoining patios, deck or screened enclosures, and garages.

g. Building elevations (min. scale of 1/4"=1'-0") indicating exterior materials, color, finishes and textures, roof and chimney treatments, door, window, porch, patio and screened enclosure treatments, and building lighting.

h. An updated schedule showing permitting and construction scheduling including target dates for the beginning and completion of construction.

The Administrator shall distribute the Final Development Plan and Final Map to appropriate City Departments and commenting agencies and shall then review the Final Development Plan and Final Map for consistency and compliance with the Development Agreement and this Development Agreement Handbook. The Administrator shall recommend approval, recommend approval with modifications, or recommend disapproval of the Final Development Plan and Final Map offering written comments and recommendations to help the Applicant understand what is necessary to receive approval within 90 days after receipt of a complete submission package. The City Council shall review and approve the Final Map if such map is consistent with the Development Agreement entered into between the City of Sparks and Red Hawk Land Company and this Development . Agreement Handbook. The Applicant shall make such changes in the Final Map or Plan as may be necessary to implement such changes as required by the City prior to approval by the City Council.

Special Use Permits

Upon receipt of a Development Plan application requesting a use defined in this Development Agreement Handbook as requiring a Special Use Permit, the Administrator shall notice the application both in a general public notice and to all property owners as required by NRS and within twenty days of receipt of such request for special use.

If no opposition to the use is received in any form by the Administrator in response to the notice, the Administrator shall review the Development Plan for special use consistency and compliance with this Development Agreement Handbook. The Administrator shall recommend approval, recommend approval with modifications, or recommend disapproval of the Development Plan offering written comments and recommendations to help the Applicant understand what is necessary to receive approval.

If a negative response is received to the required notice, the Administrator shall schedule a public hearing with the City Council. The City Council shall then approve, approve with modifications, or disapprove the Final Development Plan for Special Use.

Flexibility

The master land use plan, development standards and design guidelines contained herein are intended to depict the general nature and relative intensity of residential and non-residential development at Wingfield Springs, while allowing sufficient flexibility to permit detailed planning and design at the time of actual development. The configuration of development parcels and phases

may be altered from those shown on the master land use plan to accommodate detailed site conditions and revisions to the project's implementation strategy, providing the reconfiguration does not conflict with the general intent or specific conditions described in this Development Agreement Handbook. Residential and non-residential density may also be transferred between development parcels providing this transfer does not conflict with the general intent of specific conditions described in this Development Agreement Handbook and does not exceed the total approved project unit count.

Omissions

When issues arise that are not covered in this Development Agreement Handbook, the provisions and definitions of the City of Sparks Zoning Ordinance and Subdivision Regulations in effect at the time submission of a Final Development Plan shall apply.

Deviations

The Administrator shall have the authority in his/her sole discretion to administratively approve minor deviations in the plans, standards and guidelines as requested by the Developer prior to the submission of a Final Development Plan for each phase. Minor deviations include such items as parcel configurations, parcel sizes, irregular lots, and special setback conditions. The Administrator shall process requests requiring substantial deviations as amendments to the Development Agreement or to the Development Agreement Handbook.

Amendments to Final Development Plans

Once a Final Development Plan has been approved, the Applicant may only amend the Plan subject to the Administrator's review and approval of the amendment. Final Map amendment shall be processed in accordance with applicable State law.

Appeals

The Applicant may appeal any decision, comments or recommendations of the Administrator to the City Council. The City Council shall hear the appeal and either affirm, modify or reverse the determination of the Administrator. Such decision of the City Council may be appealed as provided by applicable law.

SECTION II - EXISTING CONDITIONS

EXISTING CONDITIONS

SITE OVERVIEW

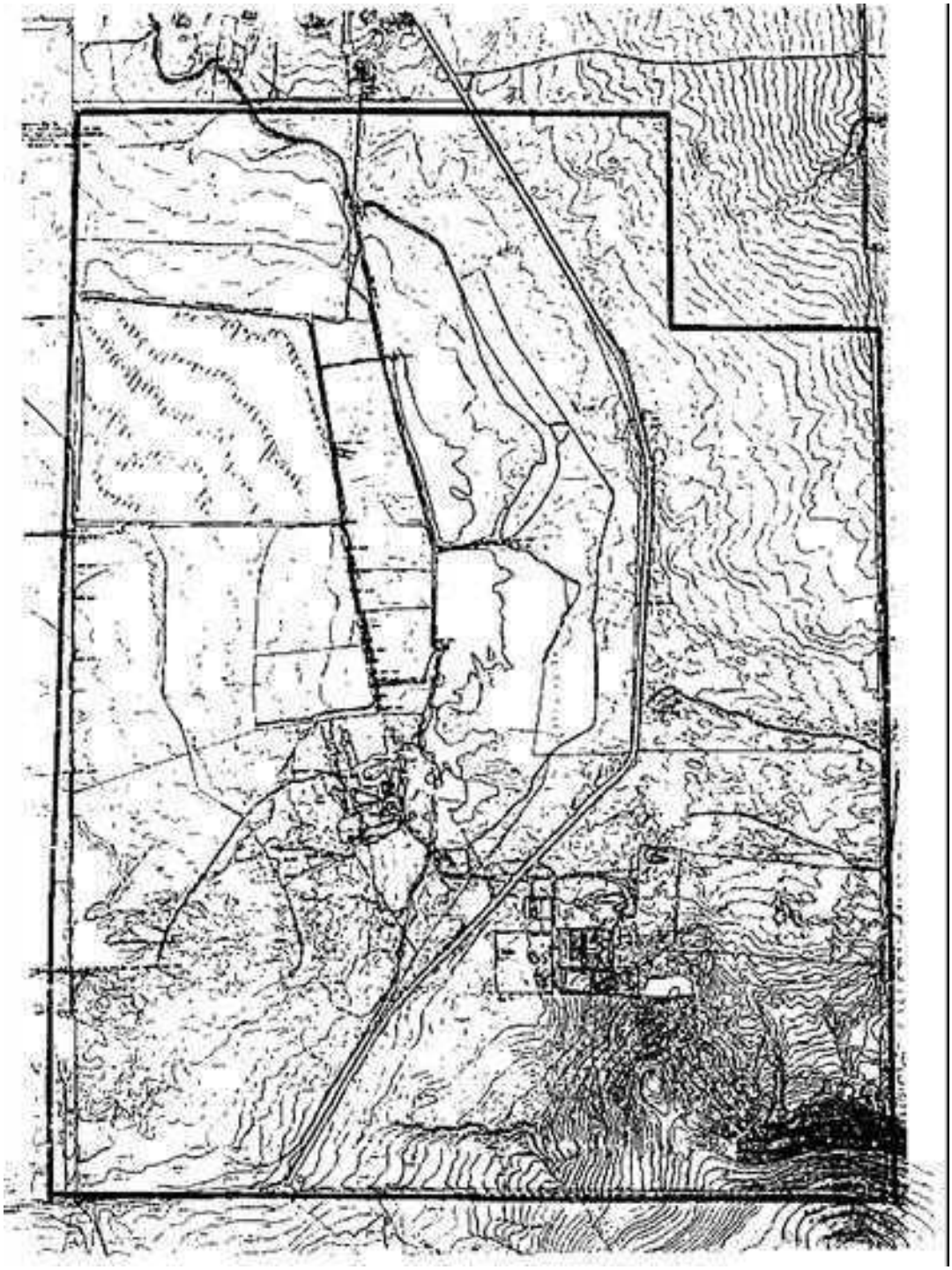
Site opportunities and constraints relating to the property were carefully considered and balanced with the overall desired project concepts and goals. The site overview as discussed below summarizes the physical characteristics of the properties and provides the foundation for the development of the two master plan scenarios.

EXISTING OWNERSHIP/USES/ACCESS

The 712± acre northern parcel includes the 575± acre former Wingfield Ranch, the 14± acre out parcel and the 123± acre property adjacent to the ranch on the southeast. The Wingfield Ranch property has been historically used for grazing purposes. Two unoccupied ranch houses and miscellaneous agricultural buildings were previously located on the property. The 643± acre southern parcel was previously undeveloped and under the ownership of Alan and Marcia Oppio. The BLM exchange added 290± acres to the southern parcel. Current access to both properties is from Vista Blvd. approximately 7 miles north of Interstate 80. The total project area is 1,645± acres.

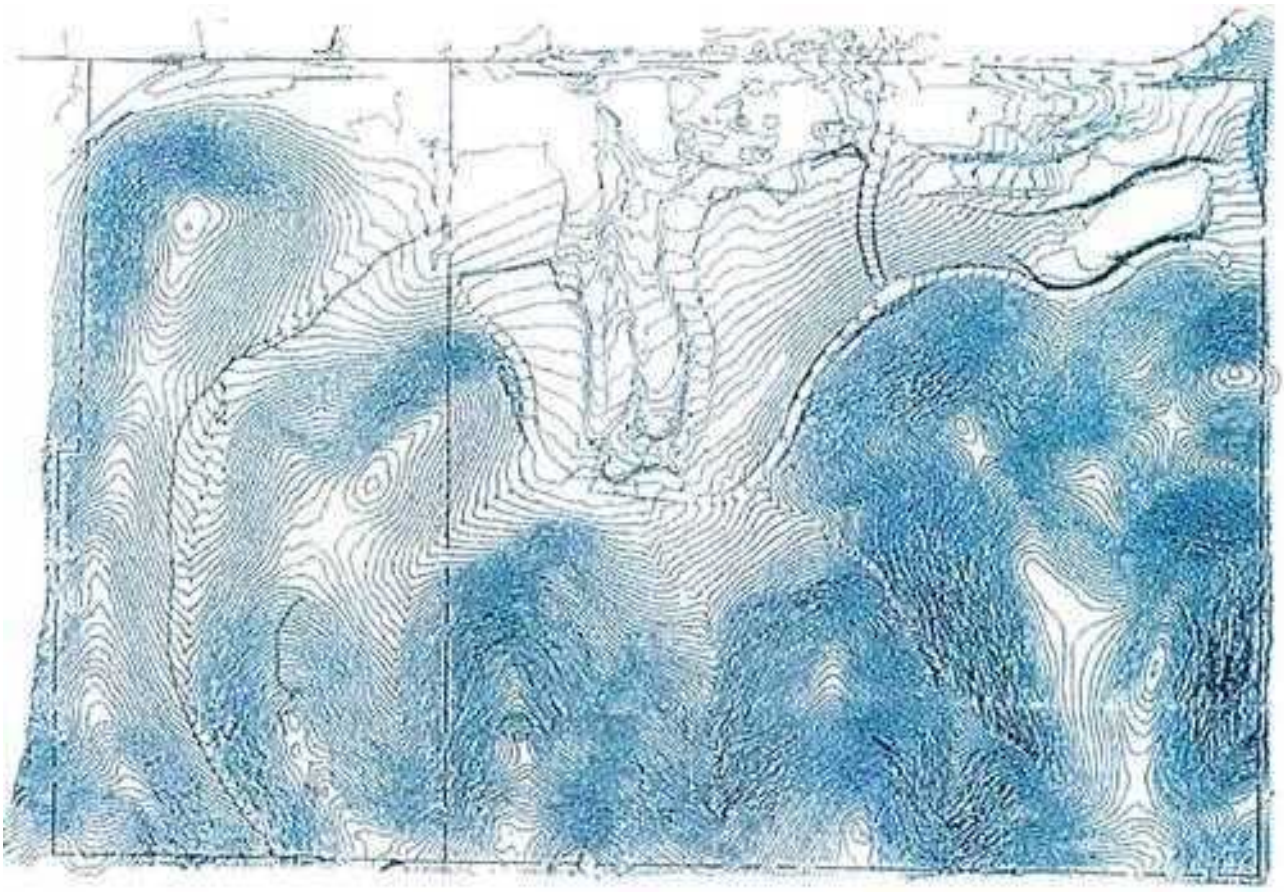
TOPOGRAPHY

The northern parcel includes flat terrain sloping to the southwest at a gradient of 1% or less, as well as gently sloping terrain to the northwest. Slopes on the southerly portions of the northern parcel are up to 15% and provide magnificent views of lakes, wetlands and Spanish Springs Valley. The southern parcel has much more dramatic topography, which ranges in elevation from 4,470 feet at the northwest corner to 5,070 feet towards the southeast for a total relief of about 600 feet. Slopes range from 2% to over 30%. The northern half of the property is generally the most suitable for development; therefore, much of the steeper slopes will remain in open space.



Note: Contour Interval = 1'-0"

Figure 3: **Northern Parcel Topography Map**



Note: Contour Interval = 5'-0"

Figure 4: **Southern Parcel Topography Map**

EXISTING LAKES AND WETLANDS

The Orr Ditch enters the Wingfield Springs site at the north property line and flows in a southeasterly direction into two lakes which total approximately 29 acres in area. A narrow strip of upland, ranging from 20 to 65 feet in width separates the upper lake from the lower lake. Culverts under the strip of land provide water flow between the lakes. Water from the Orr Ditch has been used for many years to irrigate the Wingfield Ranch and other nearby lands for grazing purposes. Several man-made ditches which divert water from the Orr Ditch and the lakes are present on the site. A small pond is located south of the ranch houses and receives overflows from the lower lake and drainage from the east. The pond is an aesthetic feature of the property and will be integrated into the landscaping theme for the project.

A small artesian well located to the northeast of the existing ranch houses is presently pumped for domestic purposes. A second, larger well is also located to the southeast of the lower lake. The well has been used to feed the lakes to provide irrigation for the ranch. According to a 1987 report prepared by Water source, the peak day capacity appears to exceed 1,000 gpm and is of excellent quality. Strong recharge characteristics are also evident.

Certificated groundwater rights consist of 361.90 acre feet. The existing well is currently planned to be used to irrigate the first 18 holes of golf, until other more appropriate and economic water resources are available for use by the development. According to the Project's golf course architect, Robert Trent Jones, Jr., the first 18 golf holes (135± acres of irrigated area) should not require more than 359± acre feet of water per year maximum. Additional water needed for common area irrigation and additional golf holes will be secured through the use of the existing 378 acre feet of surface water rights appurtenant to the property, and/or the purchase of additional water rights, and/or the use of reclaimed water.

Preliminary general mapping by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Department indicated the potential existence of wetlands on the Wingfield Ranch portion of the site. Huffman and Associates were subsequently retained to delineate the U.S. Army Corps of Engineers jurisdictional wetlands. A total of 42 acres of jurisdictional wetlands were identified and verified by the U.S. Army Corps of Engineers (see figures Sa and Sb).

In accordance with the NSSOI, the identified wetlands will primarily remain undeveloped and are incorporated into the overall open space network for the project. Red Hawk Land Company is currently pursuing a U.S. Anny Corp of Engineers Section 404 nationwide dredge and fill permit for the minimal area (4.2 ± acres) where golf improvements or roadway/pedestrian facilities impact these wetlands. A copy of the Section 404 permit application will be provided to the City upon submittal.

The Orr Ditch will also be incorporated into the open space system with pedestrian and roadway crossings anticipated. Residential lots adjacent to the ditch will be developed in accordance with the NSSOI with low, open fencing to maintain the open space feeling required. It is anticipated that the lakes, wetlands and Orr Ditch corridor will either be dedicated to Washoe County or be retained under the ownership of either the golf course entity or the property owners within the development.

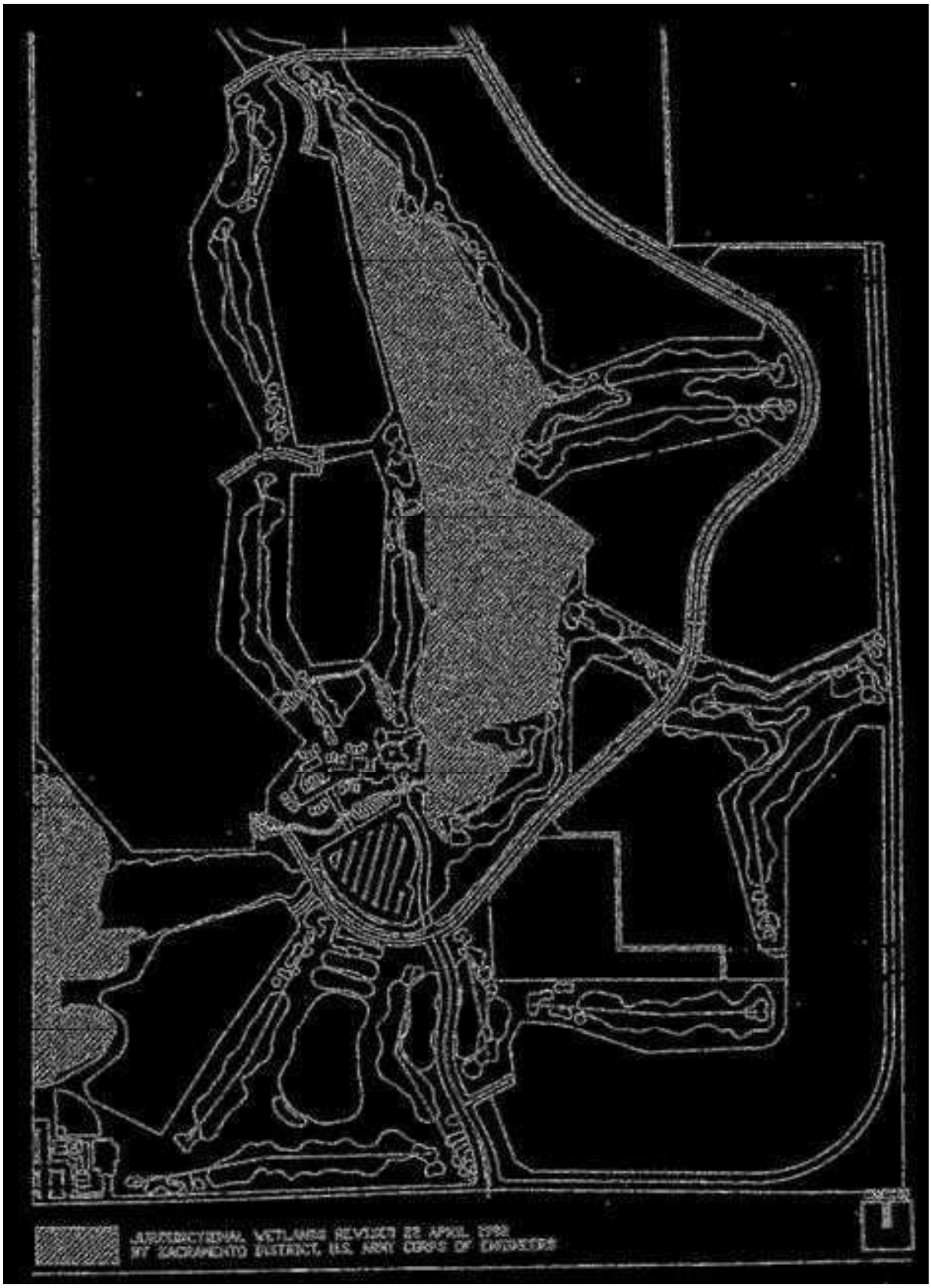
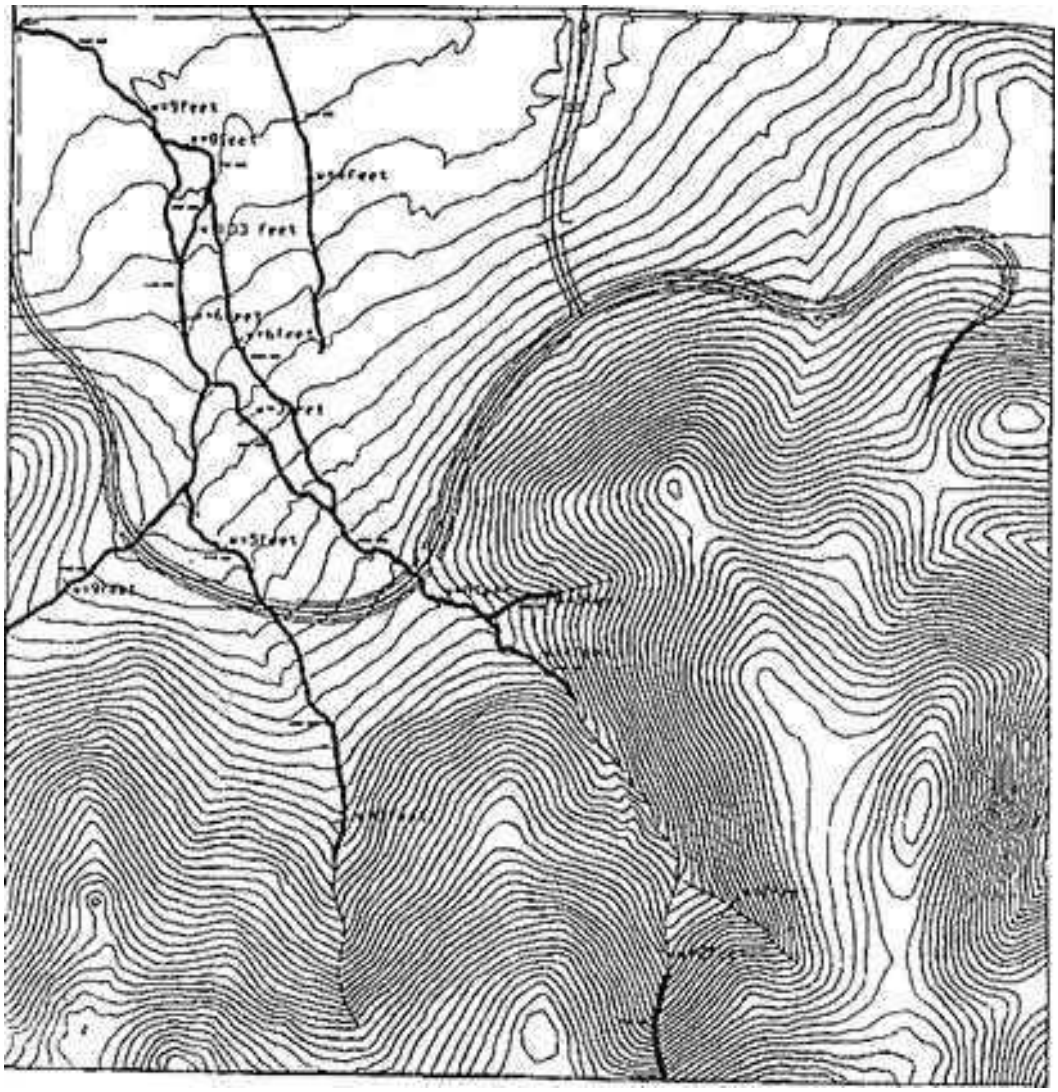


Figure 5a: **Wetland Jurisdictional Areas – Northern Parcel**



LEGEND

Intermittent drainage potentially subject to Corps Jurisdiction. average width listed

Contour Line

Site Boundary

Impacts to waters of the U.S. not to scale



Figure 5b: Wetland Jurisdictional Areas – Southern Parcel

HYDROLOGY

Contributing drainage areas to the northern parcel consists of approximately 10.66 square miles of hills and alluvial fans of the Pah Rah Range and Spanish Springs Canyon Drainage Basins. The Federal Emergency Management Agency's Flood Insurance Rate Map studies have determined that the JOO-year recurrent storm flow passing through the northern parcel site is approximately 900 cfs. This flow creates an "AO(l)" zone on a portion of the site. This zone is described as an area of 100-year shallow flooding where average depths of inundation are one (1) foot; no flood hazard factors are determined.

The contributing drainage area to the southern parcel is comprised of approximately 2 square miles. Several minor, intermittent drainage channels are located on the property. In general, the channels are well defined in the steeper southerly portions of the site but lose definition as they approach the northerly half of the property. Therefore, during major storm events, concentrated flows revert to sheet flow as they approach the northern portion and exit the site at the northwest corner of the property. The Federal Emergency Management Agency's Flood Insurance Rate Map has delineated the southern parcel as lying within flood zone C which is defined as an area of minimal potential flooding during the 100-year storm event.

Preliminary hydrology studies and maps for both the northern parcel and southern parcel have previously been submitted to the City. These studies investigated flooding potential and proposed preliminary mitigation measures for building protection and stormwater conveyance. Final hydrology reports, including a HEC-2 analysis for the northern parcel, will be provided to the City prior to development of the property. New reports and analysis shall be provided as necessary with future development.

VEGETATION

Vegetation on the northern parcel ranges from pasture grasses in irrigated areas and northern desert shrub at slightly higher elevations, to riparian vegetation in the vicinity of designated wetland areas. The predominant plant type in non-disturbed areas is from the northern desert shrub family.

Portions of the northern parcel under direct irrigation contain Baltic rushes, caric sedges, buttercup, saltgrass and bulrushes. Higher elevated areas, not under direct irrigation, support sagebrush, black greasewood, bud and wild rye, shadscale, rabbit brush, caric sedge, Indian rice grass, white sage and other grasses.

The wetland areas on the northern parcel support some hydrophytic species including caric sedges, buttercup, Baltic rush, and bulrushes. Around the lake bodies, isolated groups of willows, bulrushes and cottonwoods are prevalent. Large mature cottonwoods are southwest of the lower lake. Every attempt will be made to integrate and preserve healthy trees on the property.

The southern parcel has not been irrigated. Vegetation consists of low grasses and bushes at the lower elevations and becomes very sparse at higher elevations. Vegetation generally includes the

northern desert shrub family species such as sagebrush, black greasewood, bud and wild rye, shadscale, rabbit brush, caric sedges, Indian rice grass, white sage and other grasses.

GEOLOGIC CONDITIONS

Preliminary geotechnical studies of both the northern and southern parcels were performed by Kleinfelder, Inc. and were previously submitted to the City. The reports indicated there were no active faults on the property. The nearest known fault is located approximately two miles southeast of the site.

Geologic conditions on the northern parcel include expansive soils in the north and central portions, shallow bedrock with possible near surface expansive soil areas in the southeast and shallow ground water conditions in the low portions of the site near the wetlands. Most other parts of the site contain soils of low expansion potential which should be suitable for reuse as compacted structural fill. Most areas of the site are expected to provide moderate bearing capacities for conventional, shallow spread foundations.

Geologic conditions on the southern parcel include soil covered with scattered cobbles and boulders on the flatter portions of the property and boulder size rocks on the steeper slopes and ridges. Bedrock outcrops are also present along the ridge tops and peaks on the southern portions of the property. Near surface clay soils, which are moderately to highly expansive are present across a majority of the site and will most likely require modification in the approach to site grading and support of structures and pavement. Shallow bedrock will require ripping or blasting of excavations deeper than a few feet.

Final design level geotechnical reports will be provided prior to development. A summary of Kleinfelder's geotechnical report on the northern and southern parcels is provided in Appendix F.

ARCHAEOLOGICAL RESOURCES

A survey for historic and prehistoric resources has been completed by Kautz Environmental Consultants, Inc. and has been reviewed and approved by the Nevada Division of Historic Preservation and Archaeology, the City of Sparks, and representatives of the Washoe Tribal Council, the Reno-Sparks Indian Colony, and the Pyramid Lake Tribal Council. A mitigation plan with an emergency discovery clause is currently being circulated among these same reviewers for comment. This work is being completed in conformity with the Conservation Element of the Truckee Meadows Regional Plan.

The northern parcel was found to contain a total of 72 nonsignificant isolated finds, 14 prehistoric archaeological sites, 5 historic sites, and 2 sites that contain components from both time periods (see Figures 6a and 6b). Five of the prehistoric sites had been previously recorded. One site that should have been rediscovered during the current project was not relocated and has to be presumed to have been destroyed since the time when it was initially recorded. Two sites were also

systematically probed to determine the significance of their below-surface assemblage and were determined not significant based upon those limited probes.

A total of 13 of the prehistoric sites were determined to be temporary encampments or localities utilized for limited objectives for short periods of time (flint knapping, food preparation, seed grinding, sleeping, etc.). Three of the large sites were determined to represent village or winter village sites. The historic sites are composed of three roadside dump locations, a small portion of the Orr Ditch dated 1872, and the Spanish Springs Ranch complex.

Three Native American village sites were recommended as significant resources and mitigation should the project proceed. The Orr Ditch segment and the Spanish Springs Ranch were also determined important resources; however, it was recommended that as both the ditch and the ranch complex have been altered to the extent that their original integrity has been lost, they no longer should be considered significant or eligible for nomination to the National Register of Historic Places.

The southern parcel was found to contain only 42 isolated finds. These isolated finds were deemed not significant and were found to be almost exclusively located on the toe of the alluvial fan. No evidence of prehistoric upland use could be determined.

An archaeological review was conducted on 296± acres of land located west of the existing southern parcel of Wingfield Springs. Three potential finds were located on the 296 acres. Only one site was deemed significant. Red Hawk Land Company has entered into an agreement with the Pyramid Lake and Washoe Tribes to preserve the petroglyph on site. The site is located in an area that will not be disturbed by construction of the golf course and will remain in its natural state.

Guidelines for development and operation of this project are consistent with the Mitigation Plan and Emergency Discovery Plan once approved by the parties listed above. These documents are currently being circulated for approval. In the interim, the following preliminary guidelines will be followed:

1. Prior to development, an approved Mitigation Plan and Emergency Discovery Plan shall be implemented.

2. Should any prehistoric or historic material be discovered outside the context of an approved mitigation activity, all work shall stop within 25 ft. of the discovery and the project archaeologist shall be notified within 24 hours. Given the lack of fragile structures on the property, Dr. Kautz, the project archaeologist, recommends this distance is adequate.

3. The project archaeologist will inspect the find and if it is deemed a new and important discovery, will immediately notify a representative of the Nevada Division of Historic Preservation and Archaeology.

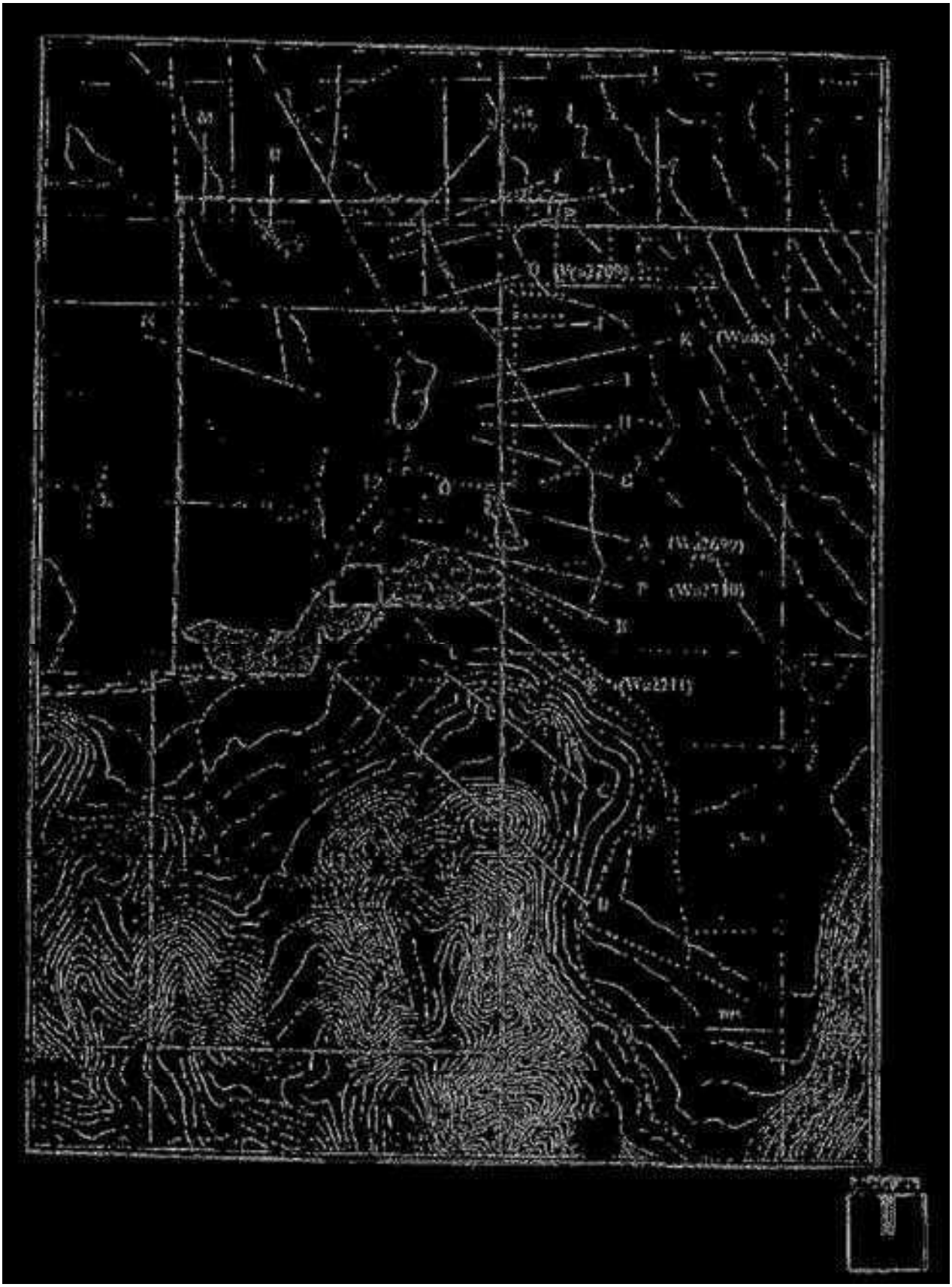


Figure 6: **Archaeological Survey (East)**



Figure 6b: **Archaeological Survey (West)**

AIR QUALITY

The property is located within an air quality attainment area; however, the Regional Planning Governing Board adopted regulations for non-attainment areas in the Spanish Springs Sphere of Influence on June 10, 1993. Only stoves on the Low Emitting List or decorative gas appliances shall be installed. Prior to the commencement of construction of each phase or partial phase of this project, a Dust Control Plan shall be submitted to the Air Quality Management Division of the Washoe County District Health Department for review and approval. All construction shall be conducted in accordance with the conditions placed upon the applicable approved Dust Control Plan, as prescribed in Section 040.030(A) of the Washoe County District Board of Health Air Quality Regulations.

SECTION III - THE MASTER PLAN

THE MASTER PLAN

The overall Master Plan was developed with sensitivity to the physical characteristics of the site, preserving natural features and enhancing open space. Streets, land use patterns and densities in the project have also been planned to be in compliance with the NSSOI.

The Master Plan proposes a mix of uses including residential villages with a range of unit types, lot sizes and densities and 18 holes of golf located on the southern parcel. The project also includes clubhouse facilities; commercial complexes; a public facility site; and a parks and open space network with an extensive pedestrian/bicycle pathway system linking different areas of the project. The Master Plan, illustrative plan and land use and acreage summaries are presented on the following pages.

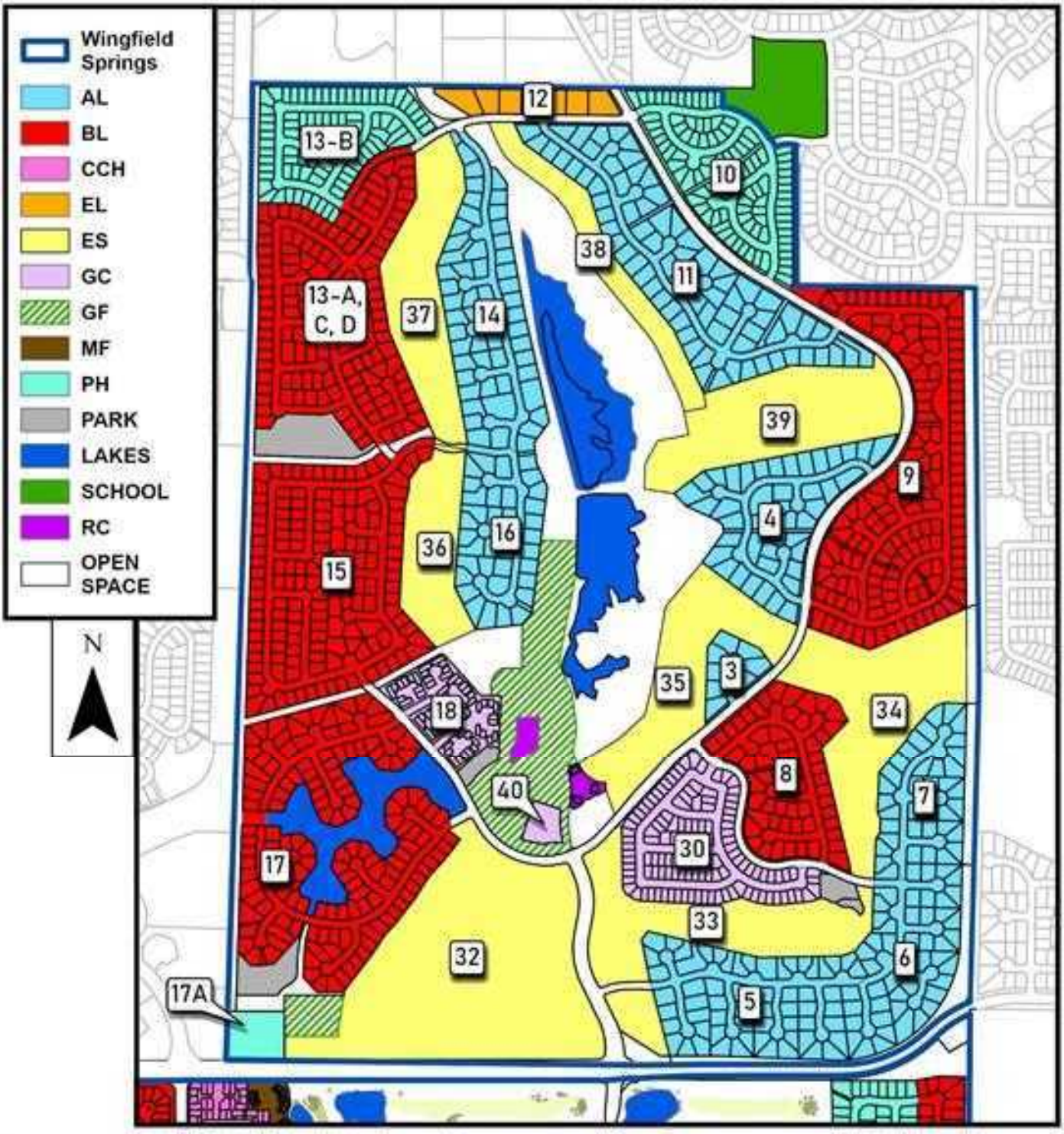


Figure 7a: Wingfield Springs Master Plan - Northern Parcel

FIGURE 7b: MASTER PLAN - SOUTHERN PARCEL
LANDUSE SUMMARY

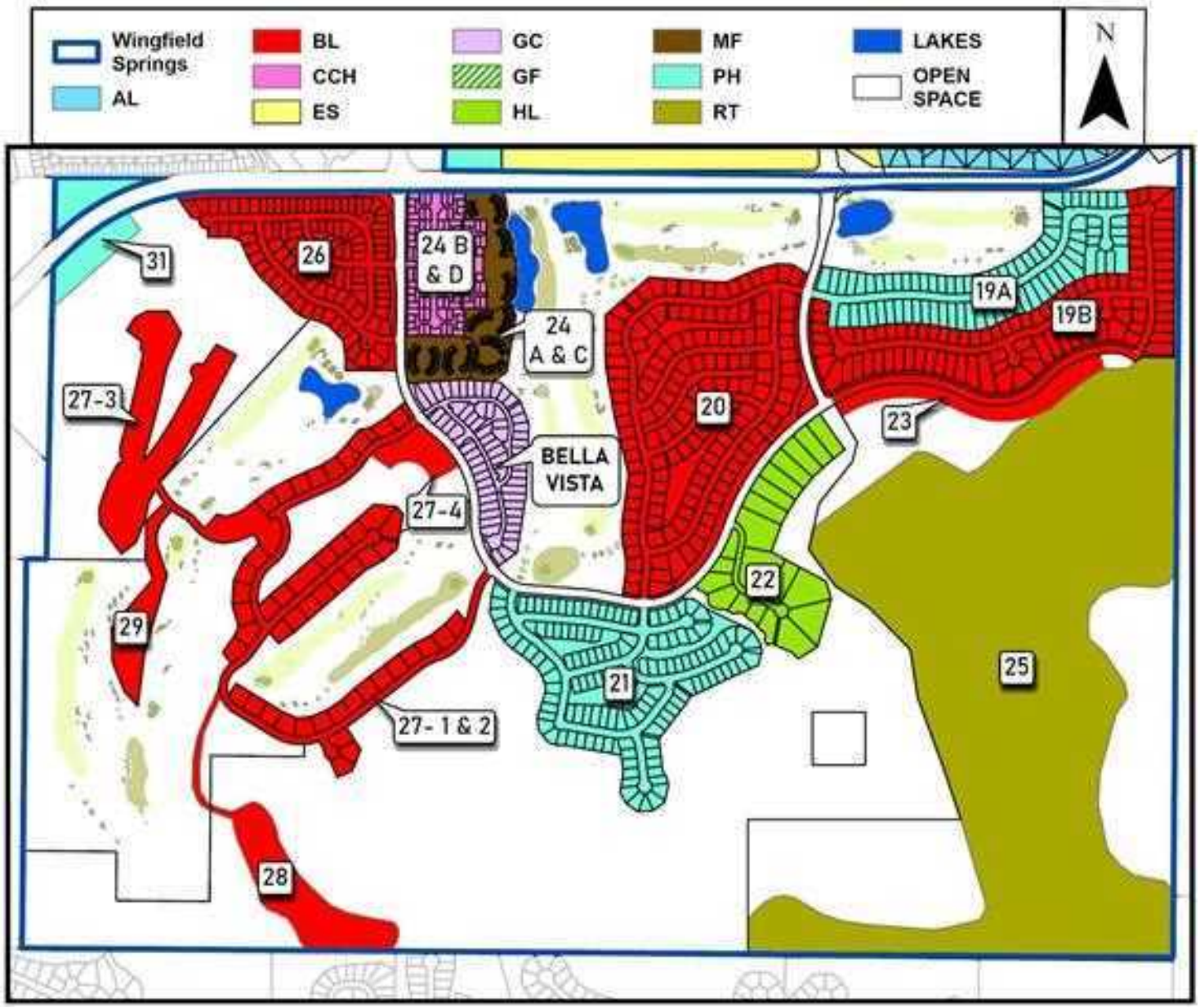


Figure 7b: Wingfield Springs Master Plan - Southern Parcel

LAND USE SUMMARY

RESIDENTIAL WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name/Number	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
1	-	-	-	-	-	-
2	-	-	-	-	-	-
3	AL - Amenity Lots	8	3.7	2.2	8	0
4	AL - Amenity Lots	43	19.8	2.3	43	0
5	AL - Amenity Lots	58	21.8	2.7	58	0
6	AL - Amenity Lots	50	16.8	3.0	50	0
7	AL - Amenity Lots	36	12.9	2.8	36	0
8	BL – Builder Lots	57	18.1	3.2	57	0
9	BL – Builder Lots	136	39.0	3.5	136	0
10	PH – Patio Homes	97	19.3	5.0	97	0
11	AL – Amenity Lots	74	31.9	2.3	74	0
12	EL – Executive Lots	84	4.4	1.6	84	0
13 – A, C, & D	BL – Builder Lots	132	35.7	3.7	132	0
13 – B	PH – Patio Homes	84	16.6	5.1	84	0
14	AL - Amenity Lots	53	21.7	2.5	53	0
15	BL – Builder Lots	147	39.1	3.8	147	0
16	AL - Amenity Lots	35	14.4	2.4	35	0
17	BL – Builder Lots	140	39.3	3.6	140	0
17A	PH – Patio Homes	14	2.9	4.9	0	14
18	GC – Golf Cottages	58	7.9	7.4	58	0
19A	PH – Patio Homes	79	21.2	3.7	79	0
19B	BL – Builder Lots	96	30.2	3.2	96	0
20	BL – Builder Lots	140	49.9	2.8	140	0
21	PH – Patio Homes	130	32.8	4.0	130	0
22	HL – Hillside Homes	11	16.4	0.7	11	0
23	BL – Builder Lots	20[2]	8.1	2.5	0	20
24 A & C	MF – Multifamily	138	10.3	13.4	138	0
24 B & D	CCH – Cluster Court Homes	102	11.0	9.3	102	0
25	RT – Ridgetop Lots	100[3]	140.5	0.7	0	100
26	BL – Builder Lots	104	24.4	4.3	104	0
27 Phases 1 & 2	BL – Builder Lots	43	26.6	1.6	43	0
27 Phase 3	BL – Builder Lots	35	15.6	2.2	0	35
27 Phase 4	BL – Builder Lots	8	2.5	3.2	0	8
28	BL – Builder Lots	20	10.3	2.0	0	20
29	BL – Builder Lots	3	4.6	0.7	0	3
30	GC – Golf Cottages	123	18.3	6.7	123	0
31	PH – Patio Homes	36	6.0	6.0	0	36
32	ES – Estate Lots	181	45.9	3.9	0	181
33	ES – Estate Lots	75	20.7	3.6	0	75
34	ES – Estate Lots	75	21.8	3.4	0	75
35	ES – Estate Lots	18	16.8	1.1	0	18
36	ES – Estate Lots	41	10.8	3.8	0	41
37	ES – Estate Lots	62	15.8	3.9	0	62
38	ES – Estate Lots	37	8.8	4.2	0	37
39	ES – Estate Lots	94	19.7	4.8	0	94
40	GC – Golf Cottages	9	1.3	6.7	0	9
Bella Vista	GC – Golf Cottages	62	12.2	5.1	62	0
Northern Parcel Subtotal	-	1,944	545.2	3.6	1,338	606
Southern Parcel Subtotal	-	1,127	422.6	2.7	905	222
Residential Grand Total	**-**	**3,071**	**967.8**	**3.2**	**2,243**	**828**

NON-RESIDENTIAL WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
Northern Parcel:						
Resort Complex	RC	3	1.9	3.3	3	0
Golf Facility	GF	-	20.7	-		
Community Roads	-	-	15.0	-		
Southern Parcel:						
Golf Course	-	-	162.5	-		
Community Roads	-	-	2.6			
Vista Blvd	-	-	21.0	-		
Non-Residential Grand Total		**3**	**223.7**		**3**	**0**

OPEN SPACE WINGFIELD SPRINGS MASTER PLAN						
Village	**Wingfield Springs Master Plan**	**Total Approved Units Per Village**	**Village Size**	**Village Density**	**Mapped Lots[1] (Jan. 2026)**	**Remaining Lots[1] (Jan. 2026)**
Name	**Designation**	**Units**	**Acres**	**(du/ac)**	**Lots/Units**	**Lots/Units**
Northern Parcel:						
-	Parks	-	10.0	-	-	-
-	Wetlands	-	41.1	-	-	-
-	Lakes	-	33.0	-	-	-
-	Other Open Space	-	37.0	-	-	-
Southern Parcel:						
-	Other Open Space	-	332.4	-		
Open Space Grand Total			**453.5**			

Notes:

1. *Mapped Villages were based on an analysis of the Washoe County Assessors Records on January 10, 2026. Remaining units/lots are based on the last recorded date of the Handbook.*

2. *Village 23. Village 23 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 23 is entitled for 20 total units. No additional units shall be final mapped in Village 23 without the express written consent of the Master Developer, Red Hawk Land Company.*

3. *Village 25. Village 25 is legally described as APN 520-020-39 and is owned by Red Hawk Land Company (formerly known as Loeb Enterprises Ltd.) as of September 18, 2009. Village 25 is entitled for 100 total units based on the following conditions: the land owner or its successors or assignees has immediate handbook entitlement rights for 75 units and the additional 25 units shall not be final mapped in Village 25 without first obtaining the express written consent of the Master Developer, Red Hawk Land Company.*

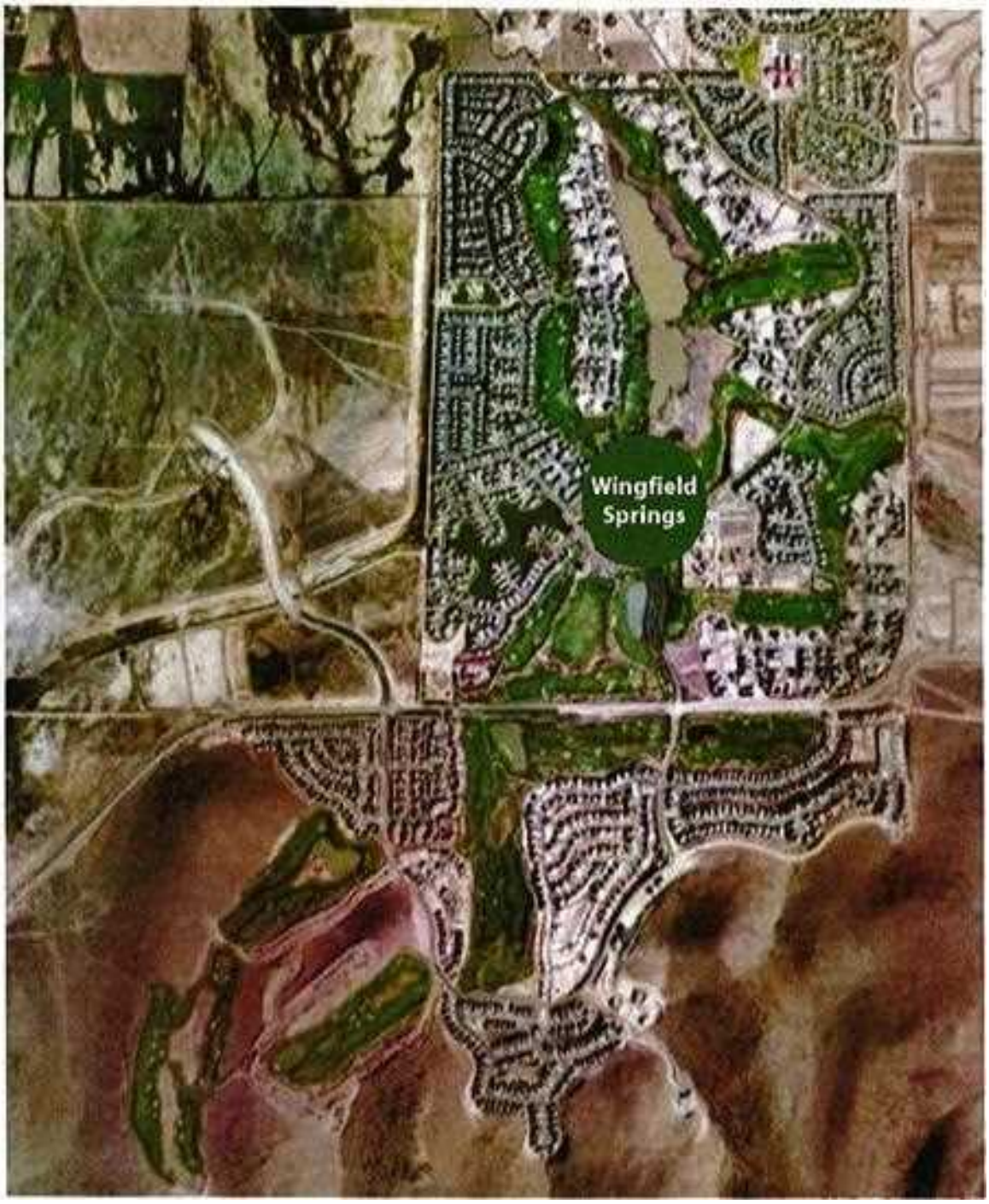


Figure 9: Context Map

COMPATIBILITY WITH SURROUNDING PROPERTIES

Surrounding properties to the north, south, east and west of Wingfield Springs are presently developed. A few single family residences are located in Baldwin Estates adjacent to the northerly property boundary of the Wingfield Springs project. The proposed Bighorn single family residential development is also located north of Wingfield Springs.

The Master Plan has been developed with sensitivity to the existing uses, as well as planned land use designations identified in the NSSOI. The relationship between the project Master Plan and the NSSOI are shown in Figure 9, which illustrates that the single family residential densities and open space connections around the perimeter of the property are in substantial compliance with the NSSOI. The Master Plan offers densities lower than those identified in the NSSOI and in addition provides 10 acres of parks and a 25-foot open space buffer along the westerly property line.

Commercial uses at the southwestern comer of the northern parcel and at the northwest comer of the southern parcel are also in compliance with the NSSOI.

The new Wingfield development will also provide important trail system linkages to adjacent properties, including equestrian, bicycle, and hiking trails.

PHASING STRATEGY

Initial phases of construction to facilitate development of the project are somewhat easier to identify and predict than later phases which will be dependent on market conditions, absorption rates, builder performance and construction logistics.

The first phase of development will involve master grading, construction of the entrance parkways, re-routing of the existing Spanish Springs Road through the northern parcel, and construction of the first 18 holes of the golf course and a temporary clubhouse facility on the northern parcel property, and development of the rough "development parcel pads" for the initial residential villages.

Grading of the golf course on the northern parcel will require borrow grading on the southern parcel. Grading of the northern parcel will create some conflicts and the relocation of Spanish Springs Road. Traffic detours and public information programs will be employed to minimize the inconvenience to residents both north and east of the project site. The final master grading plan will be approved by the City Engineer.

Prior to the opening of the golf course, Vista Boulevard will be extended from its present terminus, approximately 2 1/2 miles to the project entrance of Wingfield Springs. The extended roadway will be improved two travel lanes, which will be the first phase of the ultimate roadway as generally depicted in the Concept Financing Plan. Vista Boulevard from its present terminus to the project entrance is expected to be widened by the City

from two to four lanes when the volumes associated with this project exceed 12,080 Average Daily Trips (ADT). The developer will dedicate the ultimate right-of-way for Vista Boulevard that bisects the property to the City of Sparks and has dedicated 1/2 of the right-of-way for the continuation of the roadway which borders the easternmost boundary of its property.

Utilities including gas, electric and sewer will most likely be extended within the Vista Boulevard corridor to the project entrances. Water service from TMWA will also be provided during this phase.

Following the construction of the golf course, the Vista Boulevard extension, the entrance parkway to the northern parcel, the new collector road, and the phase one residential villages will be developed as the market demands.

The actual timeframes associated with buildout will depend on market forces. It is anticipated that individual lots may be sold in some of the residential villages for custom homes while other entire villages may be sold to individual builders. The resort complex and commercial areas are expected to be developed when justified to meet market demands and the service needs of the project residents, as well as nearby residents in Spanish Springs Valley.

A fire station is being considered at the community school site. The school would be remodeled into a fire station.

Residential amenities, including the equestrian trails and pedestrian and bicycle pathways will be developed with construction of the individual residential villages. Completion of the various parks will be tied to buildout thresholds to ensure the needs of the residents are met. The community park on the northern parcel site will be completed with construction of the Neighborhood Commercial Center. The pocket parks will be completed on or before the buildout of the residential villages adjacent to the specific parks.

Residential Construction Tax revenue collected in the interim and credits against future revenues will used by the developer to construct the parks in accordance with the City of Sparks Parks Department requirements. Upon completion, the parks will be dedicated to the City of Sparks.

FLEXIBILITY

The master plan and phasing strategy contained herein are intended to depict the general nature and relative intensity of residential and non-residential development at Wingfield Springs, while allowing sufficient flexibility to permit detailed planning and design at the time of actual development. The configuration of development parcels and phases may be altered from those shown on the master plan to accommodate detailed site conditions and revisions to the project's implementation strategy providing that the reconfiguration

does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook. Residential and non-residential density (including Patio Homes) may also be transferred between development parcels providing this transfer does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook.

Specific conditions which limit this flexibility include:

1. Total residential units shall not exceed 3,074 (1.87 dwelling units per acre).

2. Total commercial uses shall not exceed 275,000 GSF of freestanding commercial uses, and 175,000 GSF of golf club and related uses. The golf club, neighborhood commercial, and village commercial developments shall remain in the areas shown on the master plan identified herein although precise acreage and configuration may vary.
3. The total number of Patio Homes, Resort Condominiums, Cluster Court Homes, Multi-Family and Golf Cottages shall not exceed 984 lots.

SECTION IV - INFRASTRUCTURE AND PUBLIC SERVICES

INFRASTRUCTURE AND PUBLIC SERVICES

ACCESS AND CIRCULATION

Overall traffic impacts for the buildout of the SOI were analyzed by the Regional Transportation Commission (RTC) during the preparation of the master plan. Recommendations and policies regarding transportation in general are included in the NSSOI. Specific roadway development and transportation alternatives relating to the Wingfield Springs Community will conform to the NSSOI.

Traffic reports for the previously approved master plans which outlined overall trip generation and distribution and provided an analysis of off-site and on-site infrastructure requirements, have been submitted to the City of Sparks and are also provided in the technical supplement Appendix. Both the previous reports and the update, recommend continuous monitoring of the traffic situation as the project develops. An update to these traffic studies/reports is provided in Appendix C. Traffic monitoring will be completed at periodic intervals in accordance with these recommendations.

Access

Access to the project is presently provided by Vista Boulevard from the south (previously known as Spanish Springs Road) and Spanish Springs Road/La Posada Drive from the north.

Vista Boulevard has been extended to the project entry parkways located near the center of the northern and southern parcels. These parkways provide the entry statements into the communities and connect to the main collector roads of each project.

Upon development, several types of streets and pathway systems will provide access to and within the Wingfield Springs Community. Pedestrian and bicycle pathways will be included within the street right-of-ways, as well as within interior portions of the project. Equestrian trails and golf cart paths are also planned within the development. It is anticipated that in the future, bus service will most likely be provided to the area. The developer will work with the RTC and the Washoe County School District to identify future bus routes and stops.

The access and circulation aspects of the roadway and pathway/trail systems are as follows:

ROADWAY SYSTEM

The roadway system hierarchy includes arterial, parkway, collector and local streets as shown in Figures 10a and 10b.

According to the RTC, the proposed plan for Vista Boulevard is for the eventual buildout of a four lane major arterial within a six lane right-of-way to the main entrances to Wingfield Springs (northern and southern parcels). East of this dual project entry, the road is planned for four lanes with a transition to two lanes.

FIGURE 10a: VEHICULAR CIRCULATION PLAN NORTHERN PARCEL



Figure 10a: Vehicular Circulation Plan (Northern Parcel)

FIGURE 10b: VEHICULAR CIRCULATION PLAN SOUTHERN PARCEL

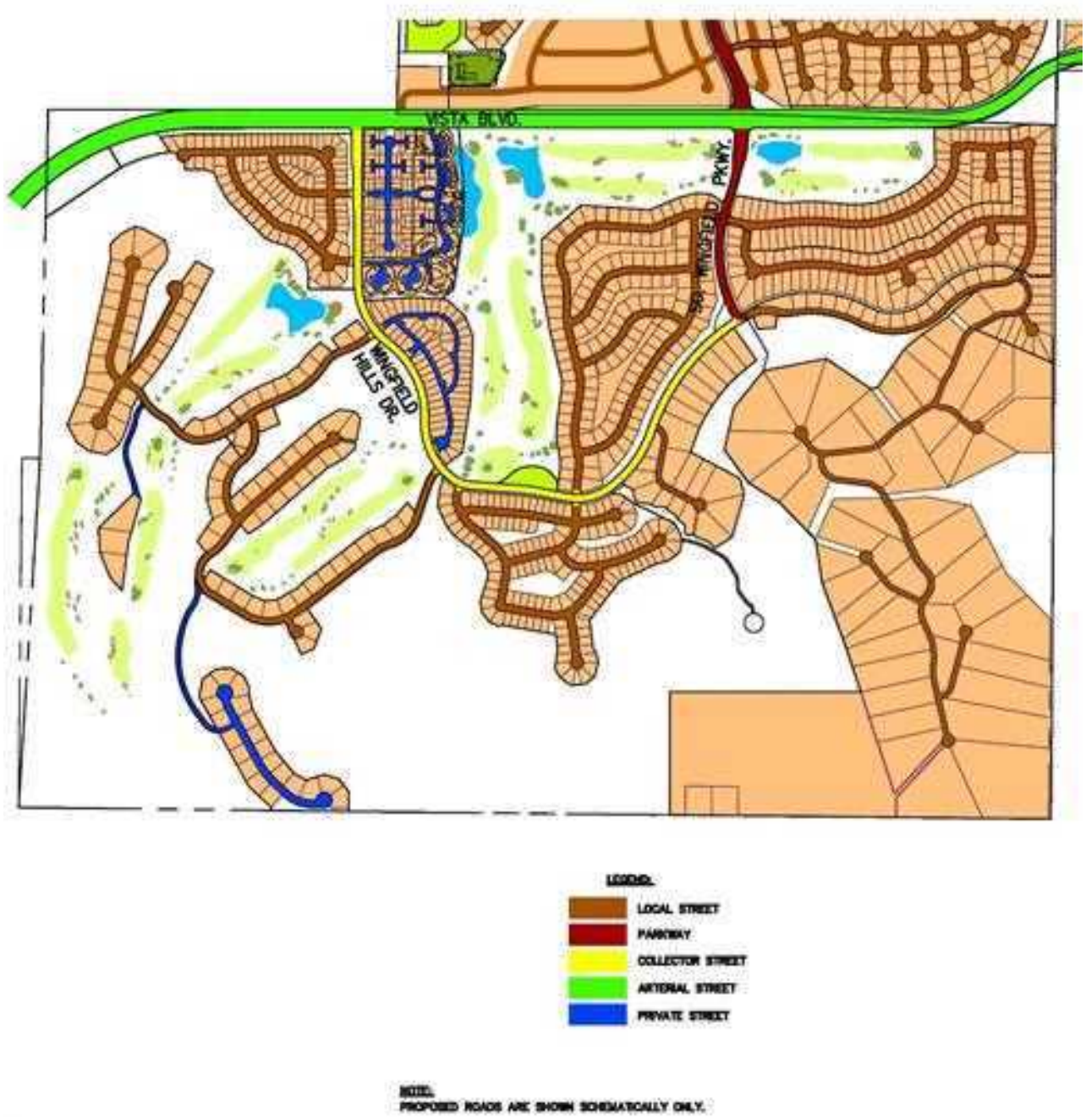


Figure 10b. Vehicular Circulation Plan (Southern Parcel)

The final design of street configurations, and intersections, shall be considered at the time of preliminary design, and shall be subject to the Public Works Director's and Fire Chiefs approval.

Conceptual roadway design sections consistent with the NSSOI are provided in Figures 11-14.

ARTERIAL STREETS

The design sections for arterials (Figure 11a and b) include a median and a separated pathway on one side of the street. Utilities will be accommodated within the right-of ways where possible. Where this is not feasible, Public Utility Easements (PUE's) shall be included adjacent to the right-of-way on each side of the street.

The NSSOI requires property owners adjacent to planned arterials to dedicate the right-of-way for the ultimate roadway widths. Development of a plan to determine the mechanisms for financing various public improvements including arterial roadways in the NSSOI was also required. The Northern Sparks Sphere of Influence financing concept plan was approved by the Sparks City Council on March 28, 1994.

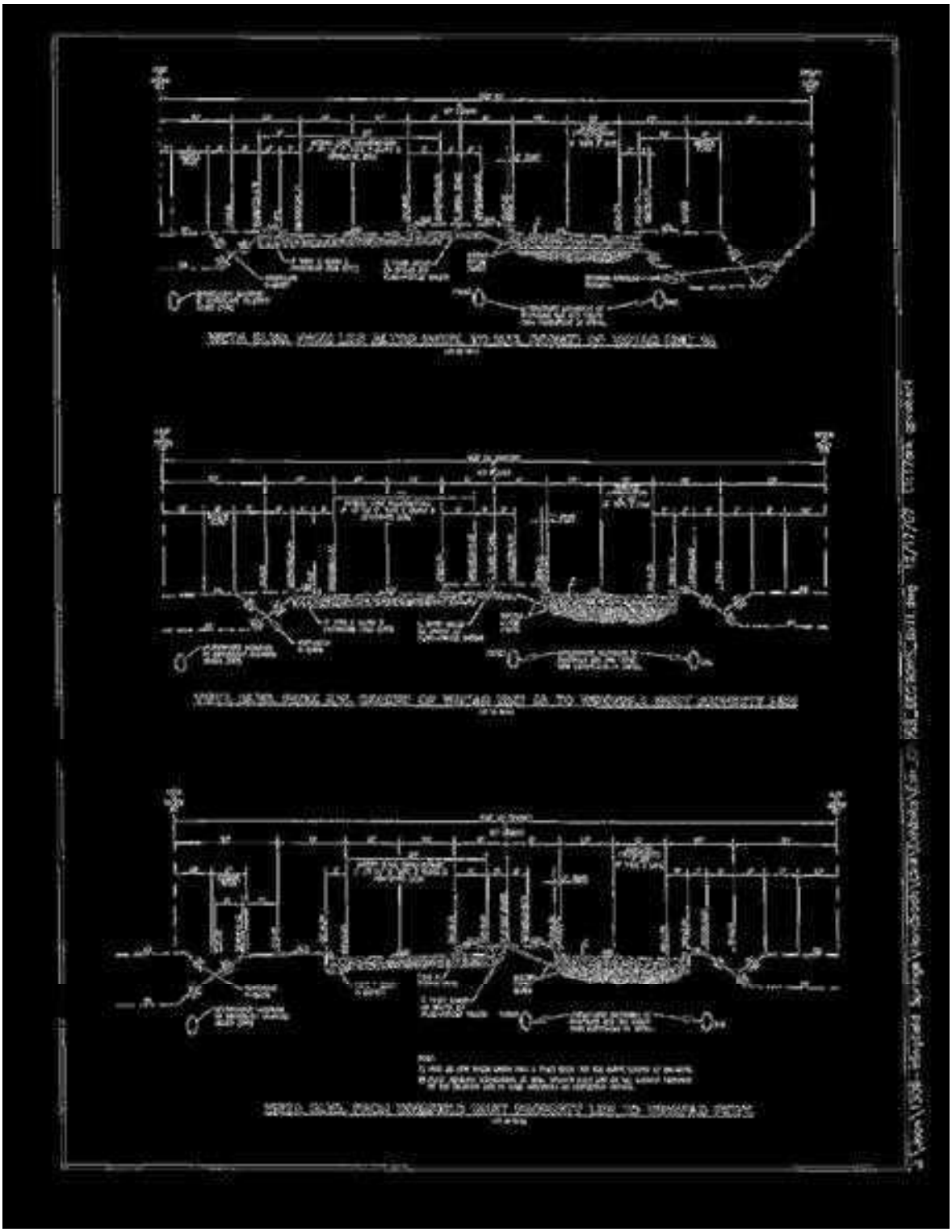
In conformance with the NSSOI, Red Hawk Land Company has dedicated one-half of the right-of-way for the ultimate arterial roadway width adjacent to each property. Two travel lanes of the Vista Boulevard extension were constructed from the previous end of the pavement at the Vistas to the main project entrances.

According to an updated traffic study (Reference Appendix C), the two lane improvement (Figure 11a) will serve an acceptable level for the entire development. Further improvements to this section of Vista will depend upon the ultimate buildout of the project. Periodic traffic reports may be provided to address internal circulation and to track the cumulative off-site traffic volumes on Vista Boulevard if reasonably requested by the City. The need for the creation of a signalized intersection at Vista Boulevard and the main project entrances will be based on the buildout of the project and the overall development activity in the area.

The Vista Boulevard extension is the only arterial street serving the project site. The ultimate street is anticipated to be constructed in general accordance with the NSSOI.

- Where feasible, Public Utility Corridors (PUC's) will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, Public Utility Easements (PUE's) shall be included adjacent to the right-of-way on each side of the street. (Refer to PUE's under Local Streets section)

- The right-of-way for the ultimate arterial roadway through and adjacent to the property shall be dedicated to the City of Sparks and if not previously constructed by others, two travel lanes (Figure 11a, 11b and c), shall be constructed by Red Hawk Land Company from the present end of the pavement at the Vistas to the main project entrance.



- If the Vista Boulevard extension is constructed solely by this developer, with acceptance of the two lane improvement (Figure I la), the project shall be assured future approvals up to a level of development that would generate 12,080 Average Daily Trips.

- Further extension and improvement of Vista Boulevard will be the responsibility of the Regional Transportation Commission (RTC) with funds raised from their infrastructure financing fees or other sources.

PARKWAYS

Entry parkways, north and south, will be developed as divided roadways connecting to interior collector streets. The right-of-way section for the parkways will vary with variation of the median widths with rights of way from 60 to 130 feet. Two travel lanes will be provided in each direction at the intersection with Vista then transition to a single lane in each direction on the Southern Parcel. Pedestrian paths and bicycle lanes are also planned on the parkway segments.

Typical street sections for the Parkways are provided in Figure 12.

- The main entrance roads north and south into the project will be constructed as divided parkways, with two travel lanes in each direction that will accommodate acceleration, deceleration, and turning movements within a variable right-of-way from Vista Boulevard.

- Where feasible, PUC's will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, PUE's shall be included adjacent to the right-of-way on each side of the street (Refer to PUE widths under Local Streets section).

- Access along these parkway streets shall be limited with no more than one shared direct access point to residential villages and no on-street parking permitted.

COLLECTOR STREETS

The collector street on the northern parcel is located on the east side of the existing lakes,

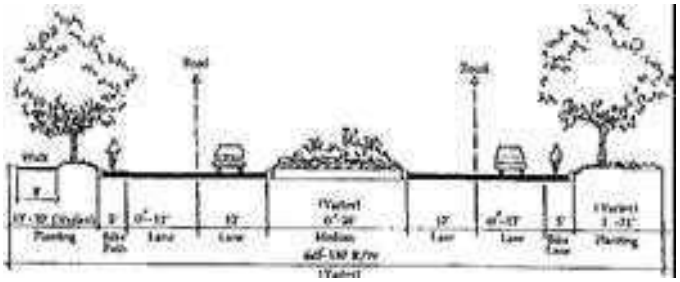


Figure 12: Entry Parkways (North & South Parcels)

connecting to the existing Spanish Springs Road north of the property and will be the only access to the north until the planned arterial portion of Vista Boulevard beyond the project entrances is extended by the City. The collector street on the southern parcel connects to Vista Boulevard at two locations, at the entry parkway and west of it.

The collector streets will be designed as two lane roadways within a 60-80 foot right-of-way with limited access points, no lots backing directly onto the street (except the hillside lots onto the south side of the collector on the southern parcel) and no on-street parking. Bicycle lanes, additional landscaping and separate pathways on one side of the street are also planned. The collector right-of-way may be designed to accommodate a landscape median wherever practical to encourage slower vehicular speeds.

Typical street sections for the Collector Streets are provided in Figures 13a through 13c.

- Collector streets include Springs Drive from the north parkway street to the north property line and Hills Drive from the south parkway street eastward to the equestrian center and westward to an intersection with Vista Boulevard.

- These collector streets shall be designed with limited access points, no on-street parking except for in front of the Hillside lots and limited direct access from a maximum of 40 residential lots on the south side of Hills Drive.

- The streets will be developed with two travel lanes and a separate pedestrian/bicycle pathway on one side within a 50 - 80 foot right-of-way.

- Springs Drive will include paving and traffic treatments to keep travel speeds slow.

- Where feasible, PUC's will be provided within the landscaped area of the right-of-way on each side of the street. Where this is not feasible, PUE's shall be included adjacent to the right-of-way on each side of the street (Refer to PUE widths under Local Streets section).

LOCAL STREETS

Due to the location and amenities associated with the Wingfield Springs Community, the residential villages are intended to portray a unique, high quality image beyond the standard urban subdivision appearance. The image will be created in part by the housing designs, lot sizes, fencing, setbacks, but also by the street sections. In terms of the local streets within the residential villages, the design will include one travel lane in each direction and landscape areas and separate sidewalks on each side of the street. Local streets serving Ridgetop Lots, shall not have on-street parking. Local streets serving Hillside, Executive and Amenity Lots shall provide on-street parking on one side of the street, except as provided herein. Local streets serving Builder Lots, Patio Homes or Golf Cottages may provide on-street parking on both sides of the street or provide off-street parking (either on-site or off-site as allowed by the Development Standards section of this handbook). These street sections are shown in Figures 14a-c.

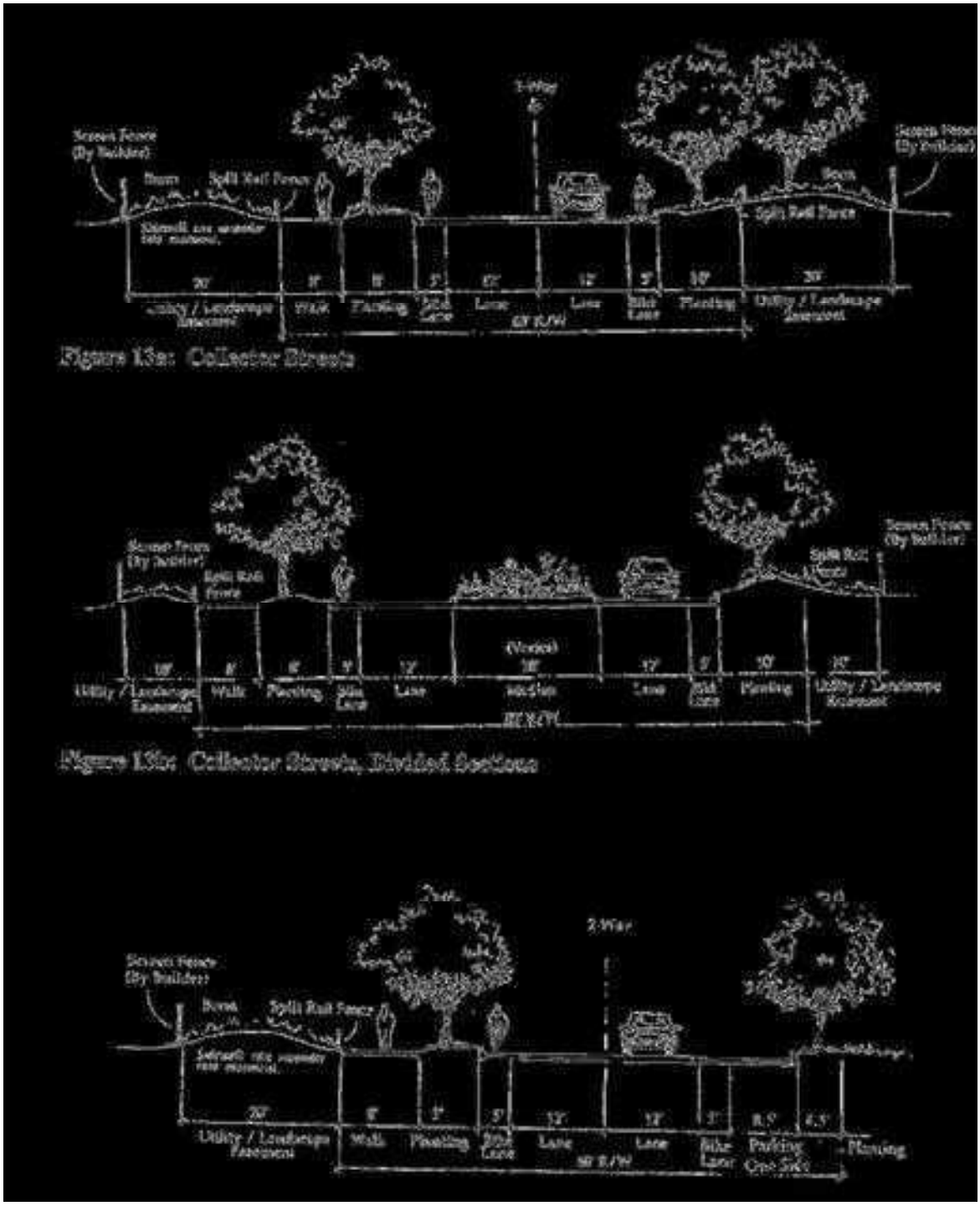


Figure 13c: Collector Streets with Lots Fronting Street

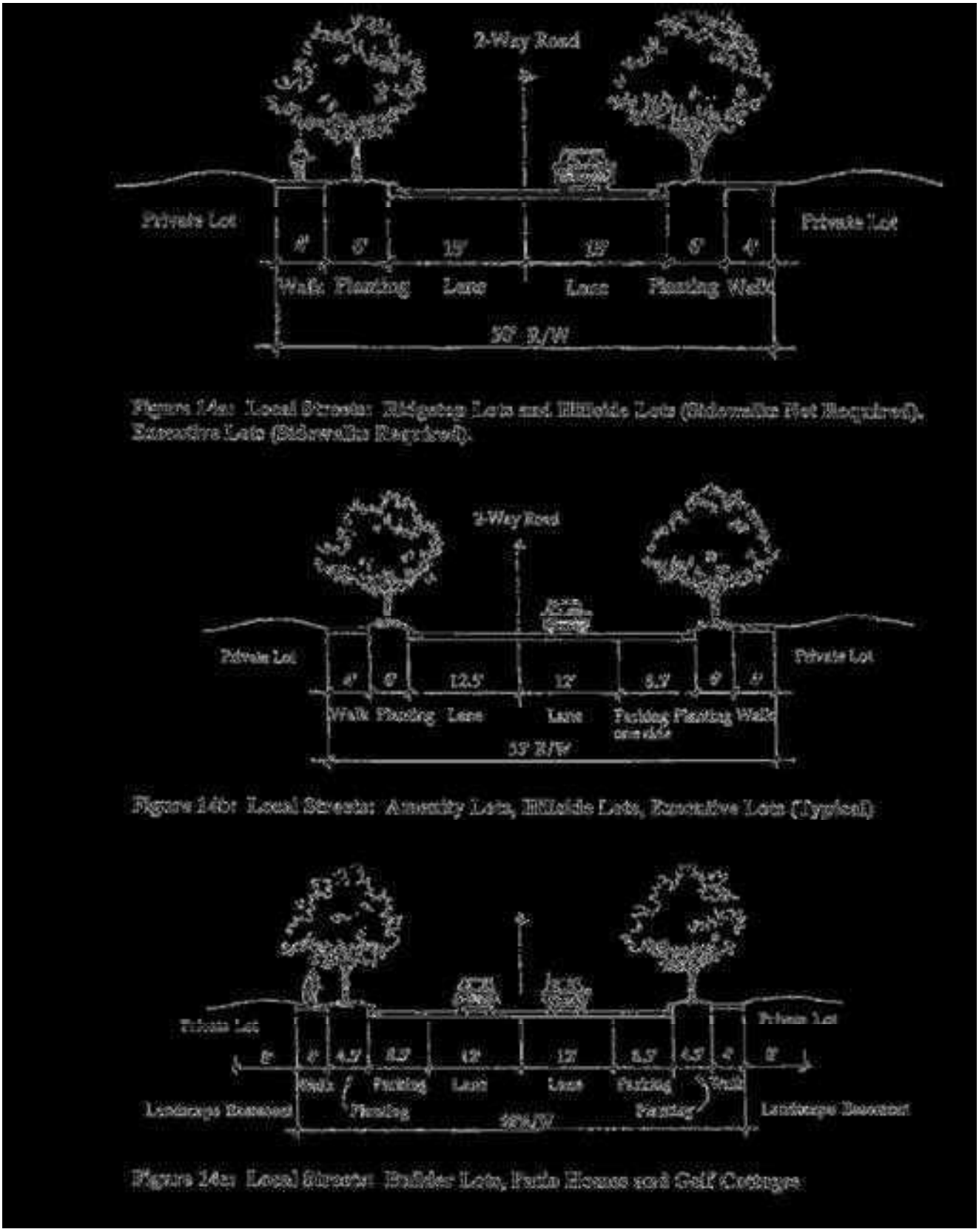


Figure 14a: Local Streets: Alleyway Lots and Hillside Lots (Sidewalks Not Required). Executive Lots (Sidewalks Required).

Figure 14b: Local Streets: Amenity Lots, Hillside Lots, Executive Lots (Typical)

Figure 14c: Local Streets: Builder Lots, Patio Homes and Golf Cottages

In a very few instances local streets within villages have been designed with cul-de-sacs having one direct access point. The purpose for such a design is either to create an exclusive setting or to limit street crossing disruptions between golf course fairways. In these situations where a second means of access is necessary, gated fire emergency access easements, with 29 feet of stabilized subsurface will be constructed.

With any of the options, a public improvement easement will be required adjacent to the street right-of-way on each side of the street.

Public Utility Easements on lots are as follows:

7.5' along front property line
2.5' on each side property line
5' along rear property line.

The individual builders or developers of each village will be required to present the selected street option and justification to the City of Sparks with the submittal of individual phase Development Plans. In certain situations (i.e. topography of the land, single loaded streets) a reduced street section may be used at the approval of the administrator.

Private streets may be desired by builders in certain villages. Street widths, adequate visitor parking and pedestrian access shall be addressed with each project.

PEDESTRIAN AND RECREATIONAL CIRCULATION SYSTEM

The pedestrian and recreational circulation system includes bicycle and pedestrian pathways within street right-of-ways, interior pathways, sidewalks, golf cart paths and equestrian trails.

Pathways, trails and residential village sidewalks shall generally be developed in accordance with the pedestrian circulation system as depicted in Figures I5a and I5b. It is understood, however, that as the project develops, path and trail locations may require modification. Pathways, trails and appropriate lighting will be reviewed by the City of Sparks with each subsequent Development Plan application.

A. Sidewalks

1. Sidewalks and meandering pathways will be provided within the street right-of-ways and throughout the interior portions of the project to provide links between the residential villages, parks, the open spaces areas, the clubhouse and commercial areas.
2. As designated in Figures 12, 13 and 14 sidewalks may be provided on one side of the street only on Arterial, Parkway and Collector Streets.
3. Sidewalks will be a minimum of four (4) feet width in residential areas and five (5) feet width in commercial areas and constructed of concrete. (Low impact development alternatives may be considered on a project by project basis).

4. Sidewalks shall be designed to connect to interior pathways and paths within street right-of-ways, where possible. Sidewalks will be maintained by the adjoining lot owners or the project's homeowners association.

B. Pedestrian/Bicycle Pathways

1. Bicycle lanes are primarily provided within the street right-of-ways. The provision of a linked pathway system will provide an alternative to automobile travel, as well as recreational enjoyment.
2. Pathways shall meander and widths shall vary between 4-10 feet depending on user type, traffic areas and sight distance considerations.
3. Paths within street right-of-ways shall be constructed of concrete.
4. Pathway crossings of streets will be made at intersections for safety purposes.
5. Potential pathway conflicts with golf cart paths, equestrian trails, village sidewalks and streets shall be minimized to the approval of the Public Works Director.
6. Interior paths shall be designed with connection points to paths and sidewalks within street right-of-ways.
7. Pathways shall be owned by the City of Sparks and maintained by adjoining lot owners or the project's homeowners association. Temporary pathways may be unpaved and unimproved.

C. Golf Cart Paths

1. Golf cart paths shall be independent of pedestrian/bicycle pathways throughout the project. Special treatment of any necessary crossings of pedestrian/bicycle pathways, village sidewalks, streets and equestrian trails shall be required.
2. Golf cart paths will be owned and maintained by the owner or operator of the golf course.
3. The existing lake crossing separating the upper and lower lakes will be used as a shared pedestrian, bicycle and golf cart crossing (see Figure 16).
4. Careful planning of the pathways will be required to minimize conflicts with golf cart paths and equestrian trails and provide for safe street crossings. Final design of the street and lake crossing will be approved by the Public Works Director.
5. Golf cart paths will be provided with the final golf course design and will be separated from the pedestrian/bicycle paths. It is anticipated that (I) grade-separated (tunnel) crossing will be used under the ultimate build-out section of Vista Boulevard with appropriate controlled, lighted, pedestrian access. Special paving treatment at the on-grade crossings may be used on the collector roads.

D. Multi-Use Trails

1. A multi-use trail network will be incorporated into the open space system identified in the NSSOI. These trails within the project have been

carefully planned to provide future connections to the overall network and prevent conflicts with the golf course, residential villages and wetlands areas.

2. Multi-use trails will accommodate horseback riding and off-road recreational bicycling and hiking. These trails are planned along the northerly property lines to provide connections from the Orr Ditch to properties to the east and west, on the southern parcel connecting the equestrian center of the property to the east and west.
3. Trails will be owned and maintained by the project's homeowners association.
4. Final design of any necessary crossings of streets, sidewalks or pathways shall be to the approval of the Public Works Director. Connections to the overall open space network identified in the NSSOI will also be provided.

FIGURE 15a: PEDESTRIAN CIRCULATION SYSTEM NORTHERN PARCEL



Figure 15a: Pedestrian Circulation System (Northern Parcel)

FIGURE 15b: PEDESTRIAN CIRCULATION SYSTEM SOUTHERN PARCEL

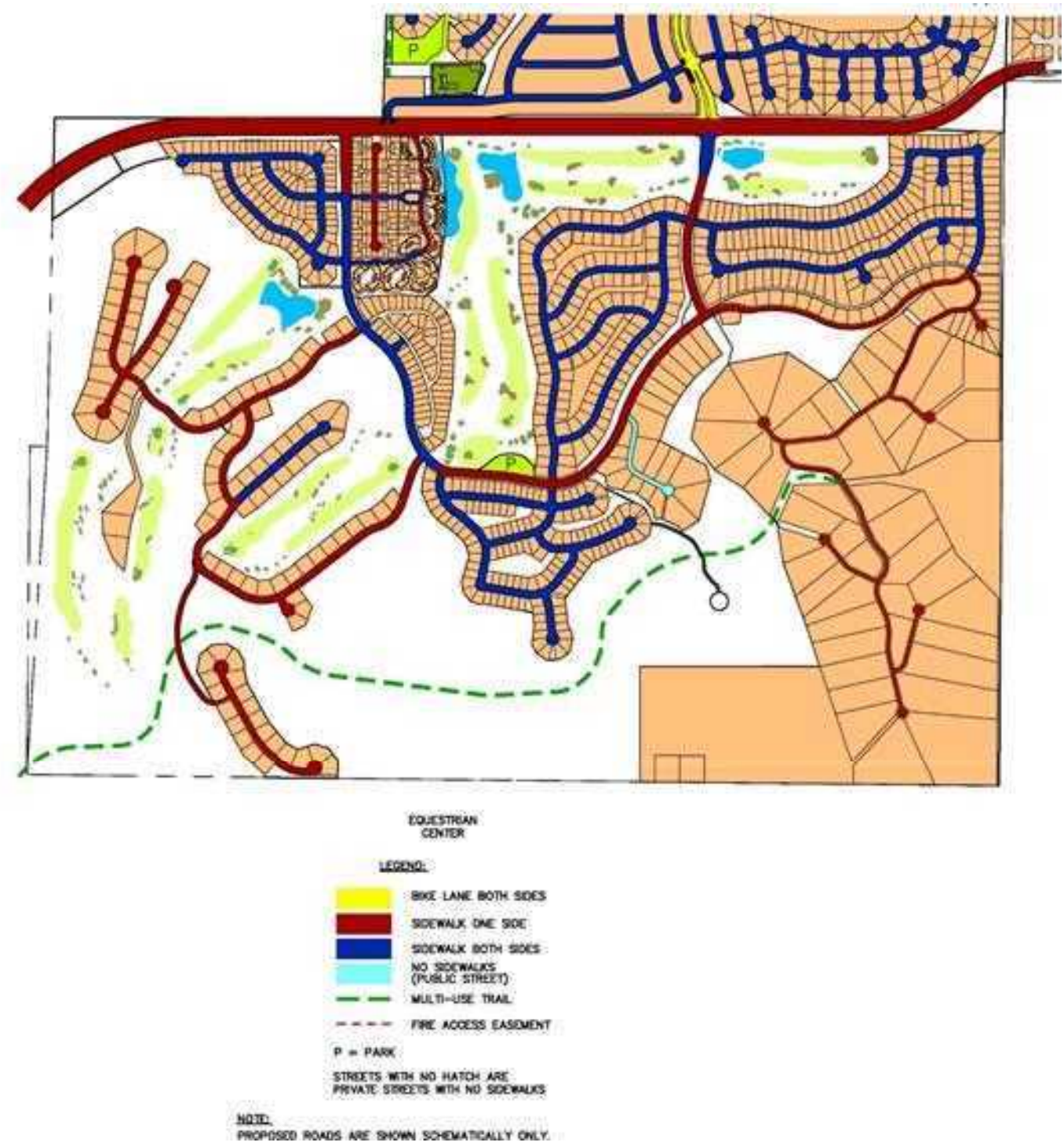


Figure 15b: Pedestrian Circulation System (Southern Parcel)

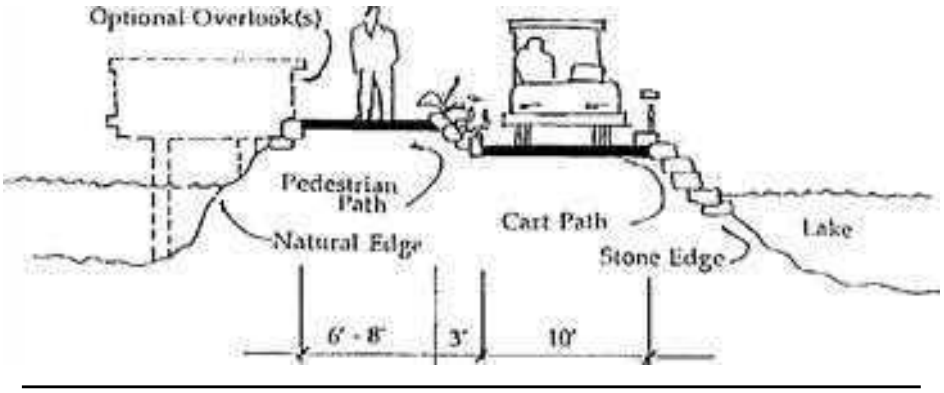


Figure 16: Preliminary Lake Crossing Detail (Looking West)

UTILITIES

Water Service

The water service provider for the Wingfield Springs Community is TMWA. TMWA currently holds the water franchise within the City of Sparks. The Public Service Commission of Nevada ("PSC") has approved the expansion of TMWA water service boundary to serve this project and the southern part of the Spanish Springs Valley.

Service to Wingfield Springs will require dedication of additional surface water rights to TMWA. The water system facilities plan and design, to and within the project, has been completed by TMWA, subject to the existing tariffs and rules approved by the PSC and execution of appropriate service agreements.

Estimated Project Water Demand

The estimated water demand for residential and commercial uses on the project is approximately 1415 acre feet per year. Considering the 58% drought year factor required by SPPCo, approximately 2,100 acre feet would have to be dedicated for the overall development. Demands for parks and open space are not included in this calculation. These estimates are based on the TMWA water demand sheet included in Appendix D. Such calculations may be revised if SPPCo's drought year yield is modified. Final calculations will be made with each phase of development.

Presently 138± acre feet of Truckee River surface water rights are appurtenant to the property. Certified groundwater rights consist of 637± acre feet from an existing well located on the

southeasterly side of the lower lake on the northern parcel and a second back up well currently being drilled.

The golf course and common areas will be irrigated with groundwater and groundwater rights from the existing on-site well. Treatment of the groundwater will not be necessary.

Surface water rights will be used to supplement groundwater resources and/or dedicated to TMWA for residential and non-residential uses. Additional water rights to serve the project as **it** progresses will be purchased and dedicated to TMWA.

Water meters will be required throughout the development. Water conservation concepts including the use of drought tolerant landscaping designs as well as the best available water conserving irrigation systems, fixtures and appliances shall be required.

Sanitary Sewer Service

The estimated sewage generation for the Master Plan is 1,035,200 gallons per day. The sewage generation worksheet estimate is in Appendix E.

The Wingfield Springs developer, Red Hawk Land Company, in conjunction with Bighorn Development II, Ltd. and Countryside Development, Inc. entered into a Development Agreement with the City of Sparks for construction of a trunk sanitary sewer facility to serve their projects.

Storm Drainage

Preliminary hydrology reports which addressed storm drainage for the previously approved projects were submitted to the City and are included in the Appendix. The golf course and open space areas will be designed as an integral part of the stormwater management plan for the project. Runoff, which is generated on-site will be transported via a series of catch basins, channels, and underground storm drainage systems to detention basins within the golf course or open space. The detention basins will serve to delay the arrival time of potential flood flows thereby eliminating any negative impact to downstream landowners. The existing lakes on the northern parcel will have standpipes and weirs installed so that during major storm events the water levels can be maintained at elevations below the existing or improved lake edges. The golf course will be designed to accommodate the storm drain system. The development shall contribute to the NSSOI storm drainage financing plan.

The routing of the 100-year storm event, generated off-site, is tentatively proposed to be accomplished by the construction of temporary "interceptor" channels along the north and east property lines of the northern parcel. These channels will capture the off-site flows as they enter the property providing conveyance to the golf course storm drainage system to the southwest. The channels will be abandoned when Vista Boulevard is extended adjacent to the east property line. Vista Boulevard will then serve to channel the runoff to the natural low point along the east property line and thence into the golf course storm drainage system. Culverts under Lake Springs Drive will be constructed to pass the 100-year recurrent storm event while allowing for all-weather access within the project.

Prior to development of the project, a final hydrology report, which includes an HEC-2 analysis for the northern parcel will be required to determine the most effective methods for intercepting and routing the I 00-year event through the project without adversely affecting downstream property owners. In conjunction with stormwater interception and routing plans, site grading will also be used to protect future residents from flooding. Building pads in the AO zone will most likely be raised above the base flood elevations. A FEMA Letter of Map Amendment will be obtained as required.

Natural Gas

Natural gas within the SOI shall be provided by SPPCo. A schematic distribution system is included in the PSSNOI. The ultimate natural gas distribution system outside of and within the project will be designed by Sierra Pacific Power Company. Natural gas shall be provided to every residential property.

Electrical Service

Electrical service for the SOI will be provided by SPPCo and is discussed in the NSSOI. It is anticipated that the SOI will be surrounded with backbone overhead electrical lines. Underground distribution feeders will then be installed within each individual project.

To serve the Wingfield Springs Community, three phase electrical service has been extended by SPPCo underground along the Vista Boulevard right-of-way from the intersection of Vista and Los Altos Parkway to the project's western-most property line as well as from overhead lines north of the project the underground to the project's northeast comer. The ultimate electrical distribution design, outside, as well as within the project will be provided by SPPCo.

FIRE PROTECTION

The Wingfield Springs Community is served by fire station Number 5 on Vista Boulevard in The Foothills project. Fire protection is governed by the Automatic Aid Development Agreement between the City of Sparks and Truckee Meadows Fire Protection District which ensures adequate fire protection for the area.

The site was proposed by the Master Developer to be located in The Foothills project on Vista Boulevard. The Master Developer constructed the station and entered into a Construction Credit Agreement with the City of Sparks.

The Infrastructure Financing Concept Plan for the NSSOI which addresses public facilities including fire protection has been adopted. The land set aside by this project for a public facility site shall be considered as a credit toward the fees required of this developer.

Fire prevention measures within the project shall require Class A roofing, excluding wood shake shingles, sprinklers in commercial buildings (where required by local codes), and emergency

access roads to provide secondary access. It should also be noted that the existing lakes and irrigated open space will act as fire breaks.

POLICE PROTECTION

As the property is within the City of Sparks, police protection will be provided by the Sparks Police Department.

SCHOOLS

A number of future school sites have been identified in the NSSOI Wingfield Springs residents are currently zoned for Beasley Elementary School, Mendive Middle School and Reed High School, all located within 4 miles of the project. An elementary school site had been approved for purchase/construction by the Washoe County School District at the northeastern corner of the Wingfield Springs site. This school will be shared by the Wingfield Springs and Cimarron projects. A new high school and middle school site has also been identified by the School District at the corner of Spanish Springs Road and Pyramid Highway (Eagle Canyon site).

PARKS

Parks shall be designed to meet city standards, including telephone lines to the parks ifrequired by the City Parks & Recreation Director. If water rights are provided for park usage by the City of Sparks, Red Hawk Land Company shall be given appropriate credit.

SECTION V - DEVELOPMENT STANDARDS

DEVELOPMENTSTANDARDS

INTRODUCTION

The Wingfield Springs Master Plan identifies a series of residential and non-residential development parcels. The configuration of development parcels and phases may be altered from those shown on the master plan or phasing strategy to accommodate detailed site conditions and revisions to the project's implementation strategy, providing that the reconfiguration does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook. Residential and non-residential density may also be transferred between development parcels providing this transfer does not conflict with the general intent or specific conditions of the Development Agreement and this Development Agreement Handbook.

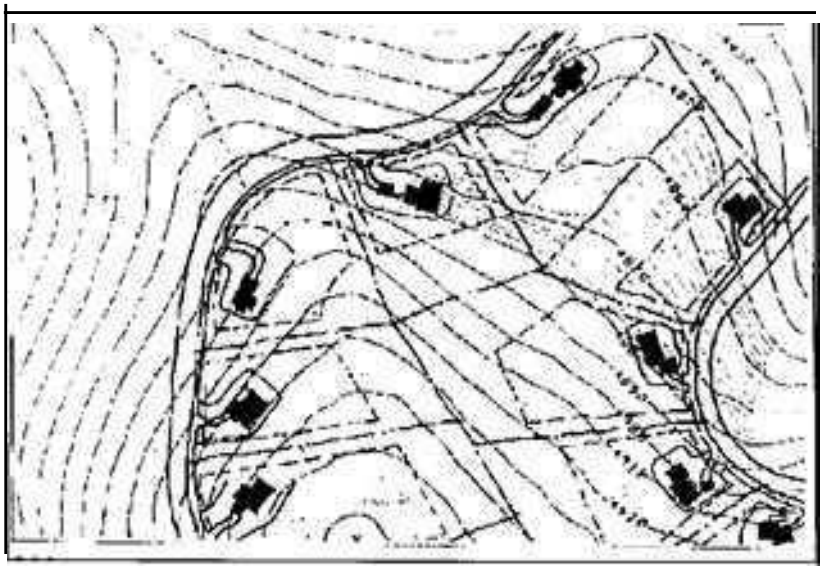
The following development standards are intended to direct the nature and intensity of residential and non-residential uses at Wingfield Springs. These standards shall be used by the Administrator in determining the acceptability of individual final development plans submitted for each phase of development. Where issues arise that are not covered by these standards, the City of Sparks Title 20 Zoning and Land Use Controls shall apply. The development standards contained in the Development Agreement and the Development Agreement Handbook may be amended at any time by mutual consent of Red Hawk Land Company, its representatives and assigns and the City of Sparks.

Accessory structures are permitted in each land use category as follows:

Accessory uses and buildings are permitted in all cases in which they are incidental to and do not alter the character of the premises in respect to uses permitted in the district. All accessory structures must be located within the lot's designated building envelope.

One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the projected roof area does not exceed 120 square feet do not require a building permit and may be located on the side and rear property lines. However, these accessory buildings may not encroach into the front and side yard setback areas from the main building or structure.

One-or-more-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, when the projected roof area exceeds 120 square feet, require a building permit. These accessory buildings may not encroach into the front yard setback, shall be a minimum of five feet from the side and rear property lines, and shall be a minimum of ten feet from the main building or structure.



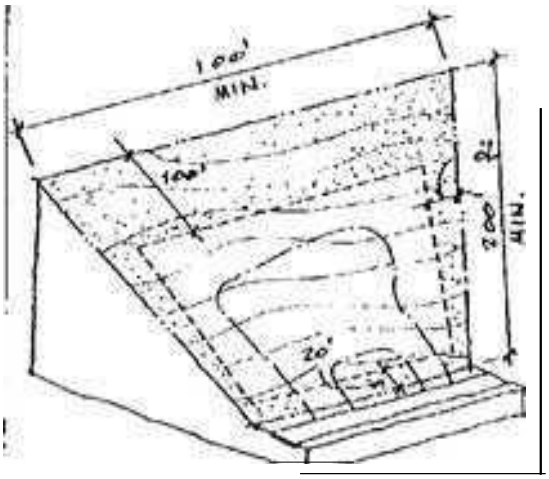
RIDGETOP LOTS

Description:
Ridgetop lots are very large lots to be located only in the ridge top area on the southern parcel overlooking the valley. Lots are irregular in size to conform to the varied and often steep topography.

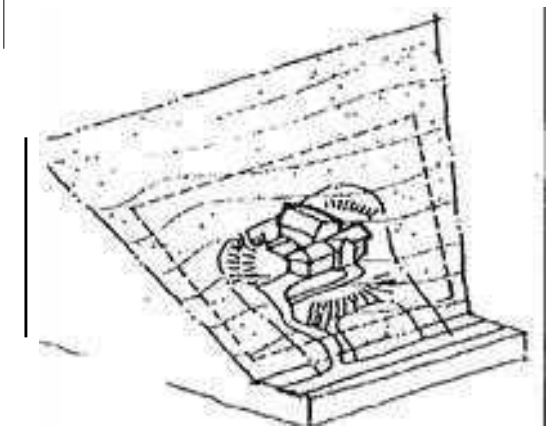
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Stables and corrals (maximum 2 horses per acre).
- Temporary sales offices and model homes.
- Recreational facilities (for the sole use of residents of the immediate neighborhood).
- In-home child care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Private recreation clubs.
- Bed and breakfast inns.
- Public utility structures.

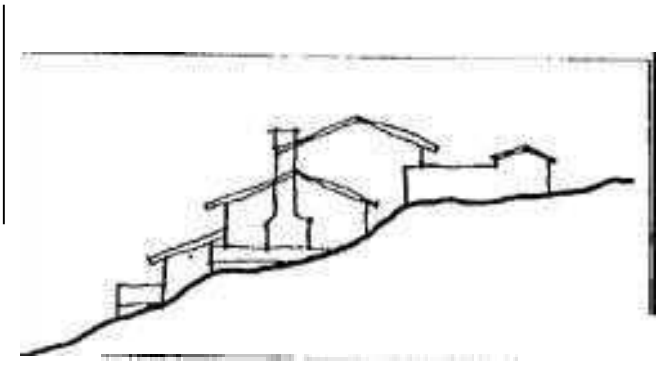
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



All Structures Within Building Envelope



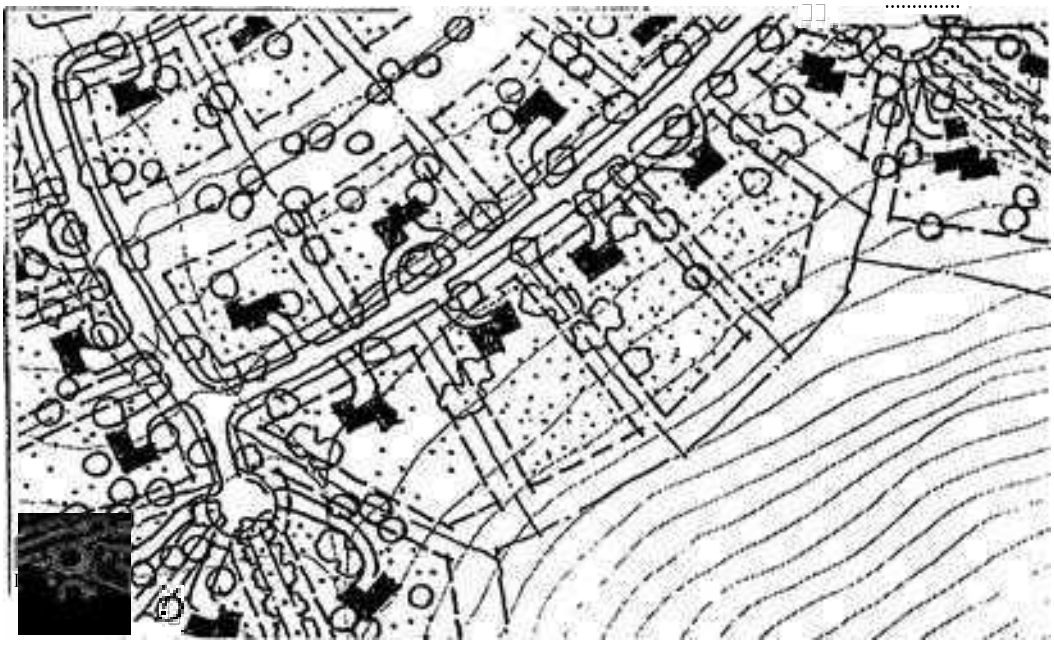
Houses Sized to be Compatible with Existing Topography

RIDGETOP LOTS

Lot Characteristics Minimum Lot Size: 43,560 Square feet
Minimum Lot Depth: I00 Feet
Minimum Lot Width: I00 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: I00 Feet (20 feet with Building Envelope)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: I0% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions:

- A building envelope shall be designated on every Ridgetop lot. All site disturbances (construction of buildings, site work, grading, etc.) must be contained within this envelope. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Houses and other structures shall be sited to minimize excessive grading and shall be compatible with existing topography as approved on Final Map. The placement of homes on or near ridges shall show a high degree of sensitivity to terrain and its visual impacts.
- All graded, sloped banks facing the street shall not exceed a 2:1 gradient, nor shall they exceed ten feet in height without a horizontal terrace. A series of terraces with rockery walls < 5 ft. tall are preferred over I or more acre cut slopes.
- Side or rear entry garages are encouraged wherever possible, garage doors should not directly face the street. Each lot shall have a maximum of two driveway cuts joining the street.
- Driveways shall provide sufficient area to accommodate up to 4 additional visiting vehicles.
- Residential fire sprinklers are required for each dwelling.



HILLSIDE LOTS

Description:
Hillside Lots are very large lots to be located along Hills Drive in the southern parcel with dramatic views to the valley below.

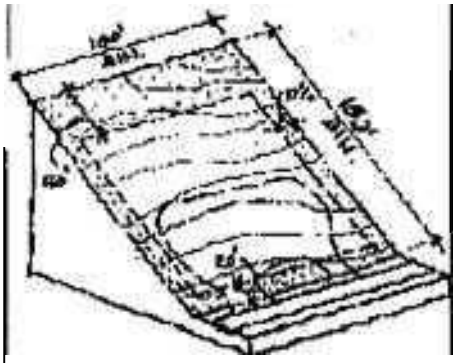
Principal Permitted Uses:
- Single family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home child care for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Bed and breakfast inns.
- Public utility structures.

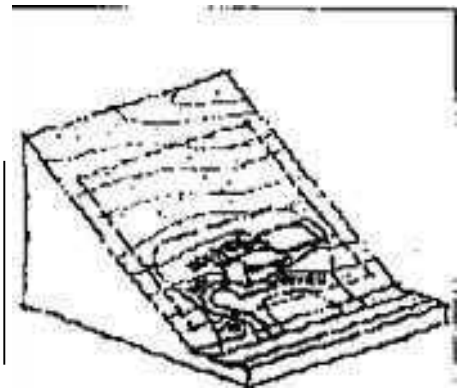
Prohibited Uses:
- All uses not specifically identified above.

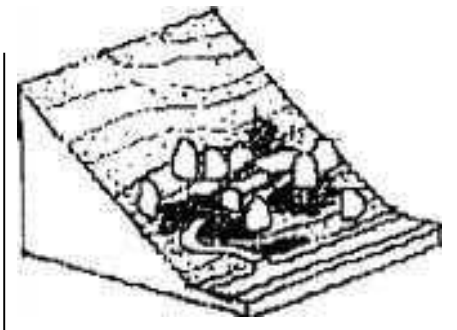
HILLSIDE LOTS

Lot Characteristics



Typical Lot

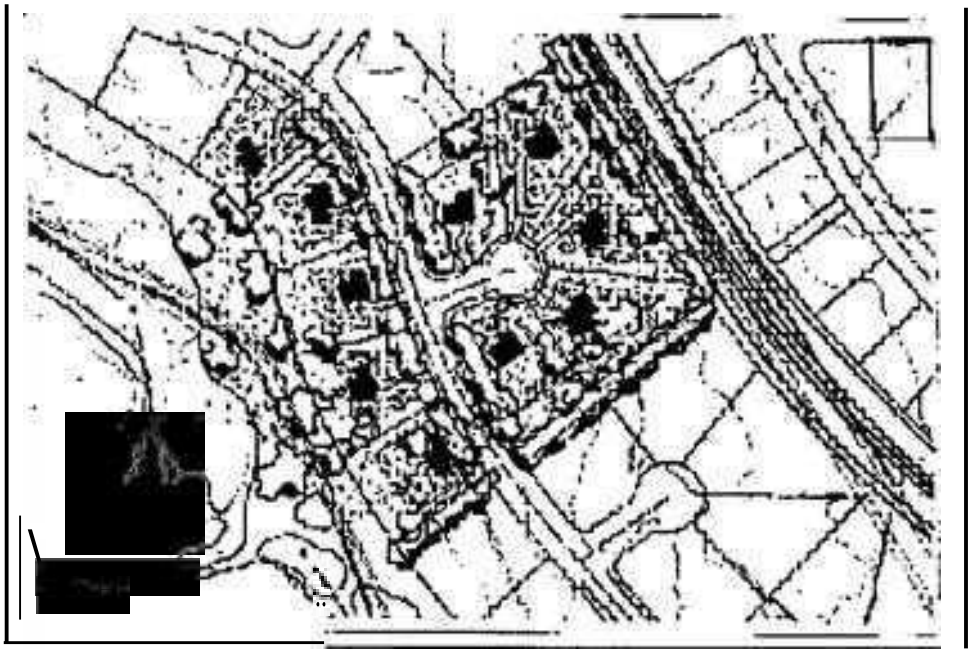




Minimum Lot Size: 20,000 Square feet
Minimum Lot Depth: 150 Feet
Minimum Lot Width: 100 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: 50 Feet (20 feet with Building Envelope)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 20% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions

- A building envelope shall be designated on every Hillside lot. All site disturbances (construction of buildings, sitework, grading, etc.) must be contained within this envelope. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Houses and other structures shall be sited to minimize excessive grading and shall be compatible with existing topography as approved in Final Map.
- All graded, sloped banks facing the street shall not exceed a 2:1 gradient, (if recommendation by a geotechnical engineer is obtained for 1.5:1 slopes they may be allowed, with approval from the engineering manager) nor shall they exceed ten feet in height without a horizontal terrace. A series of terraces with rockery walls 6 feet in maximum height are preferred over 1 acre cut slopes.
- Adjacent lots along Hills Drive shall have shared driveways wherever possible.
- Side or rear entry garages are encouraged wherever possible, garage doors should not directly face the street.
- Driveways shall provide sufficient area to accommodate up to 2 additional visiting vehicles.



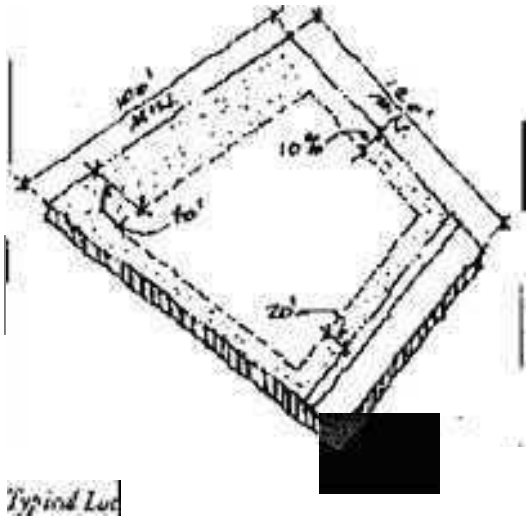
EXECUTIVE LOTS

Description:
Executive Lots are large lots many of which are oriented to site amenities such as the existing lakes, wetlands, golf course, parks and open space. These lots are anticipated to be sold to individuals or builders for custom home construction.

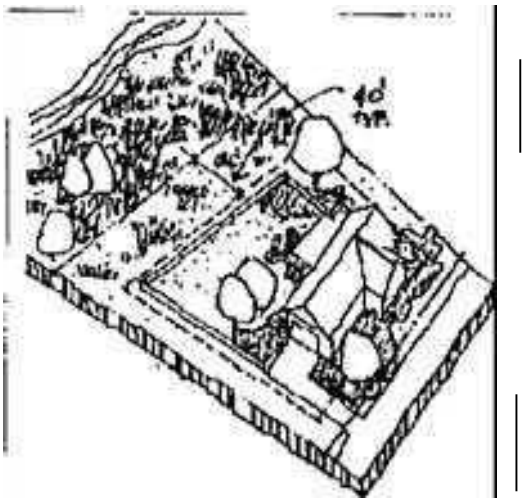
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Bed and breakfast inns.
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



Lots Fronting Lakes/Wetlands



Lots Fronting Golf Course

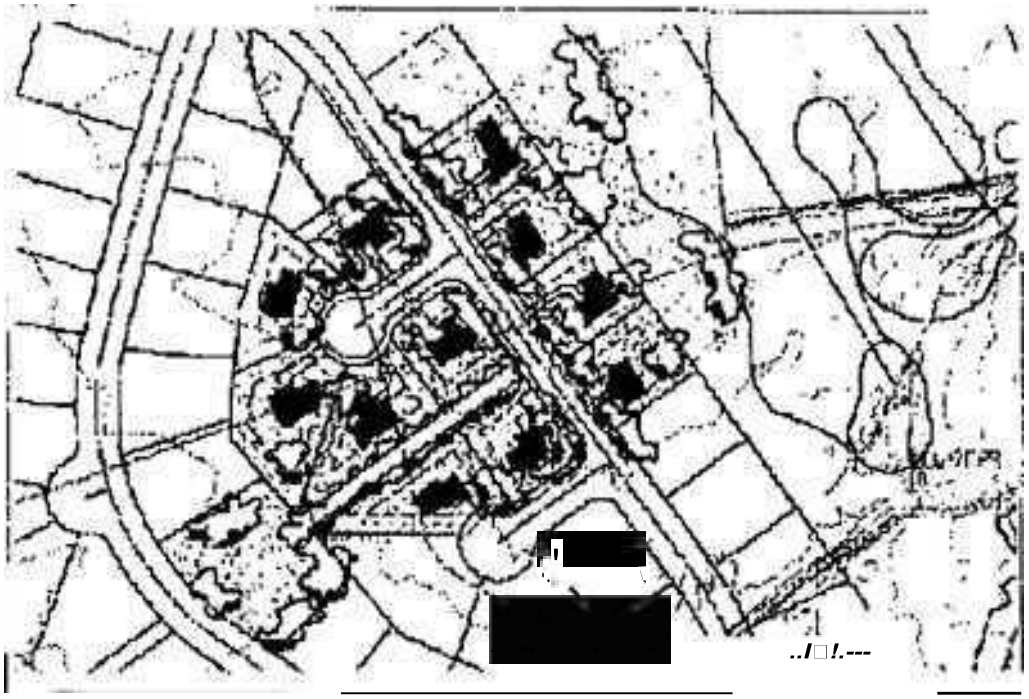
EXECUTIVE LOTS

Lot Characteristics

Minimum Lot Size: 15,000 Square feet
Minimum Lot Depth: 120 Feet
Minimum Lot Width: 100 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10% of Lot Width, Each Side
Rear Yard Setback: 40 Feet (10 Feet with Building Envelope).
Max. Building Height: 30 Feet (2 stories)
Executive Lots on northern-most property line of project are limited in height to 20' (1 story)
Max. Building Coverage: 30% of Lot Area
Minimum Size of Residence: 2,000 Square feet

Special Conditions

- The rear setback on lots directly fronting on the existing lakes/wetlands is subject to USACOE section 404 permit wetland buffer restrictions (40' buffer typical).
- A building envelope shall be located on every Executive lot directly fronting on the golf course. All houses, accessory structures, and hardscape improvements must be located within this area. Alternative envelopes shall be allowed if two or more lots are used for one single family dwelling.
- Executive lots located on hillside sites (with slopes averaging greater than 15%) shall also have a designated building envelope. All houses, accessory structures, and hardscape improvements must be located within this area.
- A minimum of 50% of all garages shall be side or rear entry. Garage doors shall not directly face the street.
- Driveways provide sufficient area to accommodate up to 2 additional visiting vehicles.



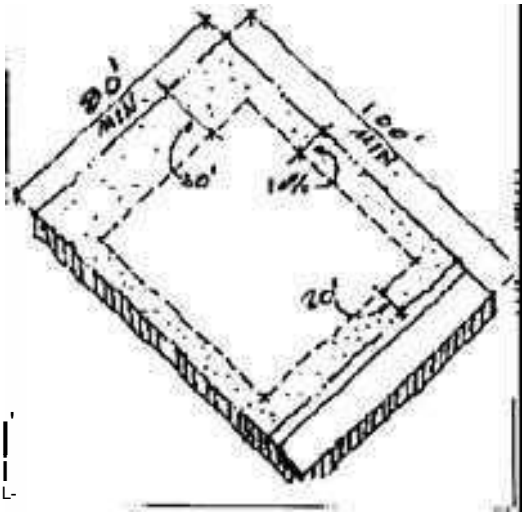
AMENITY LOTS

Description:
Amenity lots are large lots, many of which are oriented to site amenities such as the lakes, golf course, parks and open space.

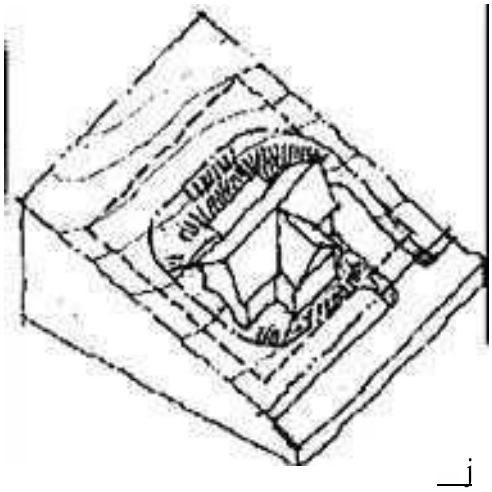
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

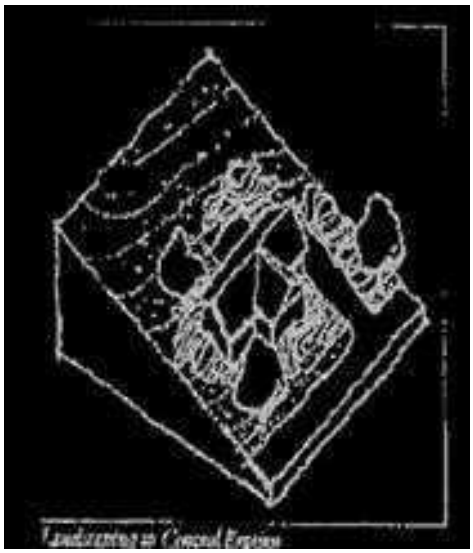
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot



All Structures Within Building Envelope



AMENITY LOTS

Lot Characteristics

Minimum Lot Size: 10,000 Square feet (except it may be 9,000 square feet for a maximum of25% of the lots in Unit 5)
Minimum Lot Depth: 100 Feet
Minimum Lot Width: 80 Feet
Minimum Lot Frontage: 40 Feet
Front Yard Setback: 20 Feet
Side Yard Setbacks: 10 Feet or 10% of Lot Width Each Side (whichever is greater)
Exterior side yard setback: 15 feet
Rear Yard Setback: 20 Feet (the rear yard setback may be reduced to 10 feet upon the recommendation of the Design Review Committee, taking into consideration the placement of the house on the lot, the type of amenity it abuts (at the rear) and the proximity of the golf course, if applicable)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 35% of Lot Area
Minimum Size of Residence: 1,600 Square feet

Special Conditions

- Amenity lots may have a designated building envelope to control the siting of structures on the lot when the lot abuts (at the rear) an amenity (golf course, lake, open landscape area, park, but not to include hedgerows).
- Comer lots shall be a minimum of 100' width.
- Houses and other structures must be sited to minimize excessive grading and shall be compatible with existing topography as approved on Final Development Plan.
- Amenity lots of 120' or greater width will have side or rear entry garages. Garage doors are encouraged to not directly face the street.
- Driveways shall provide sufficient area to accommodate up to 1 visiting vehicle.

ESTATES LOTS

Description:
Estates lots are medium sized lots anticipated to be sold to builders in parcels for their development. Estates lot parcels are generally located in the northern parcel with orientation to existing development and orientation to project amenities and open space where applicable. Estates lots will allow for the relocation of regional drainageways if necessary.

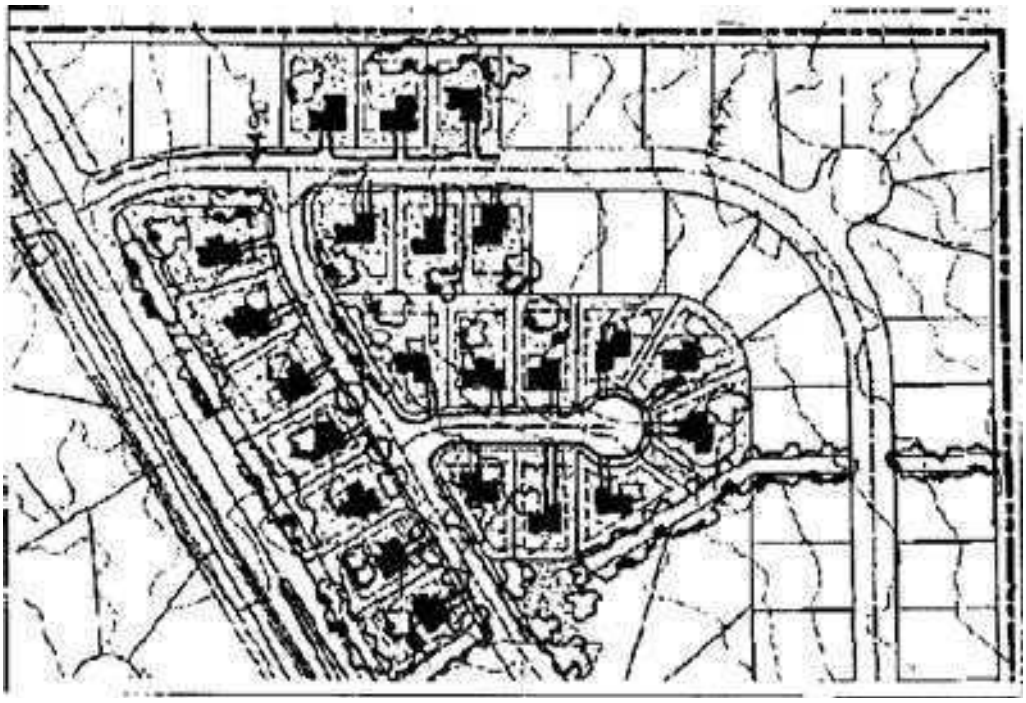
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.

Lot Characteristics
Minimum Lot Size: 6,000 Square feet
Lot Width: 60 Feet
Minimum Lot Frontage: 35 feet
Min. Front Yard Setback: 15 feet
Min. Garage/Carport: 20 feet
Min. Side Yard Setbacks: 5 feet
Min. Exterior Side Yard Setback: 10 feet
Min. Rear Yard Setback: 20 feet
Max. Building Height: 30 feet (2 stories)

Special Conditions
- Houses and other structures should be sited to minimize excessive grading and shall be compatible with existing topography.
- Garage doors are encouraged to have architectural detailing to help minimize their impact on the street frontage.



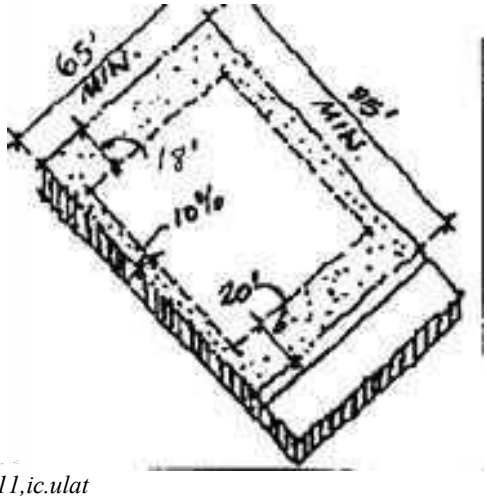
BUILDER LOTS

Description:
Builder lots are medium sized lots anticipated to be sold to builders in parcels for their development. Builder lot parcels are generally located around the perimeter of the project with less orientation to project amenities.

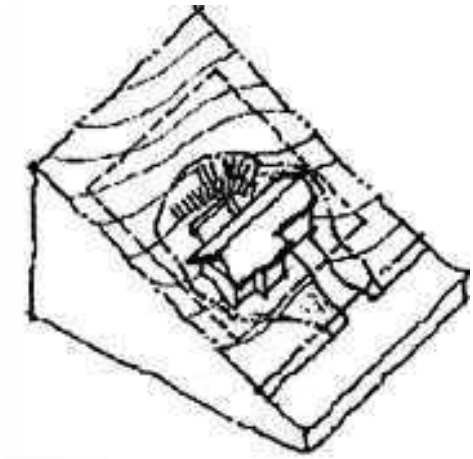
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

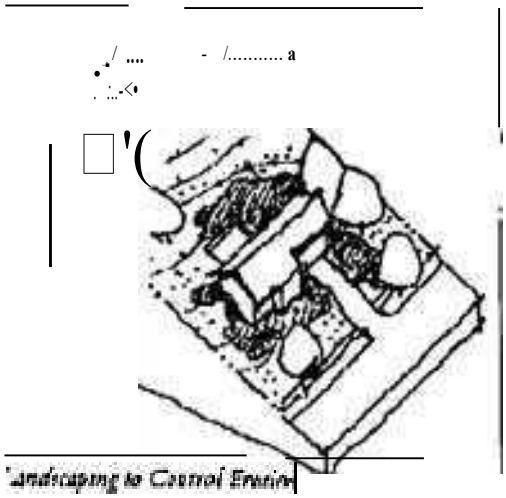
Prohibited Uses:
- All uses not specifically identified above.



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All Structures Within Building Envelope



Landscaping to Control Erosion

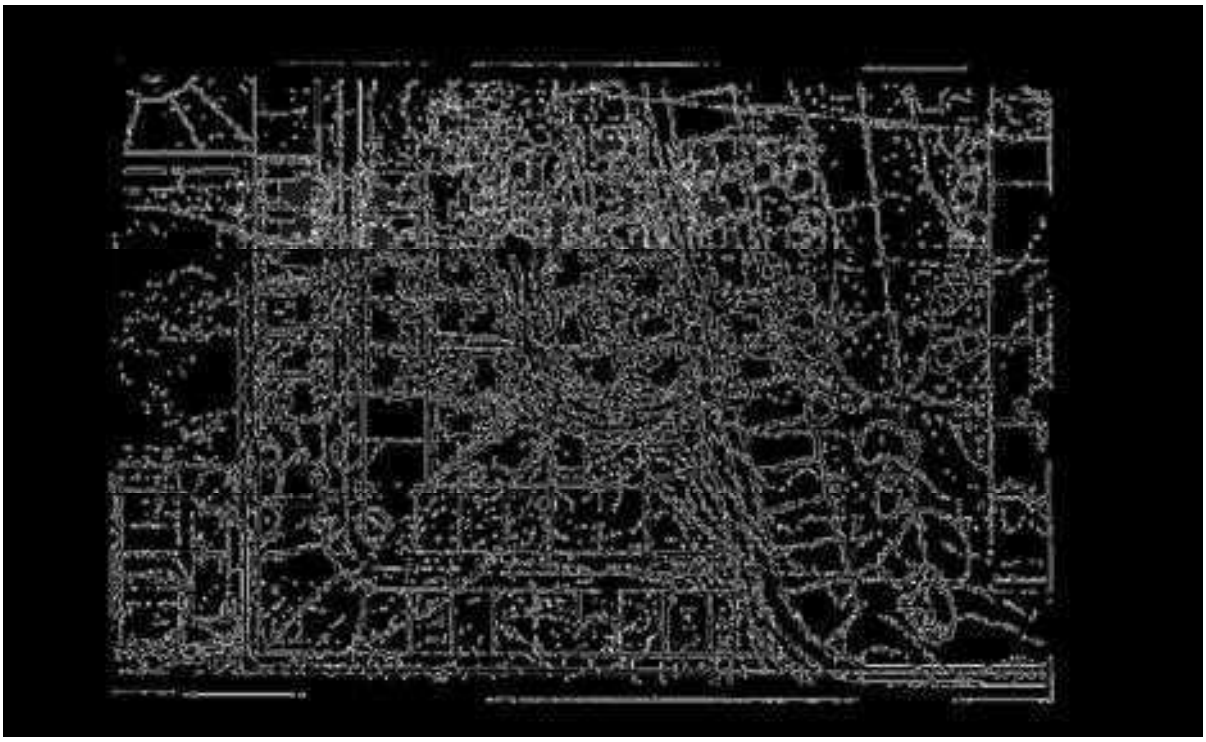
BUILDER LOTS

Lot Characteristics

Minimum Lot Size: 6,000 Square feet
Minimum Lot Depth: 85 Feet
Minimum Lot Width: 65 Feet
Minimum Lot Frontage: 40 Feet (30' with building envelope)
Front Yard Setback: 20 Feet; 15 Feet with a sideload garage.
Side Yard Setbacks: 7.5 feet minimum
Exterior Side Yard Setback: 7.5 Feet
Rear Yard Setback: 18 Feet (10 feet with building envelope abutting amenities)
Max. Building Height: 30 Feet (2 stories)
Max. Building Coverage: 45% of Lot Area
Minimum Size of Residence: 1,400 Square feet

Special Conditions

- Corner Lots shall be a minimum of 70' wide.
- Builder lots may have a designated building envelope to control the siting of structures on the lot when the lot abuts (at the rear) an amenity (golf course, lake, open landscape area, park, but not to include hedgerows) or lots located on hillside sites with slopes averaging greater than 15%.
- Houses and other structures should be sited to minimize excessive grading and shall be compatible with existing topography.
- Garage doors are encouraged to have architectural detailing to help minimize their impact on the street frontage.



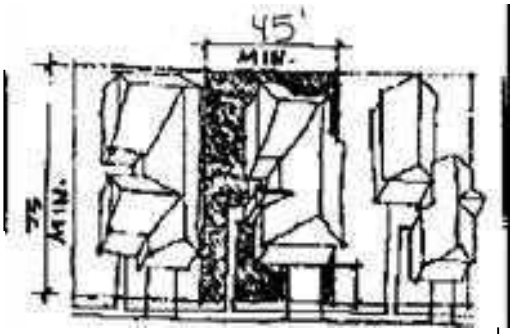
PATIO HOMES

Description:
Patio Homes are smaller individual lots which encourage unit clustering. Patio Home parcels will form more compact neighborhoods where zero lot line and other innovative siting techniques are encouraged. Patio home parcels must meet building code requirements for fire and safety.

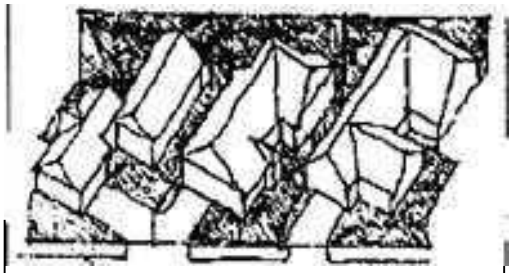
Principal Permitted Uses:
- Single Family dwellings of a permanent nature and accessory buildings.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- In-home childcare for the number of children one care giver may care for in accordance with the city's rules and regulations for childcare facilities.
- Accessory structures.

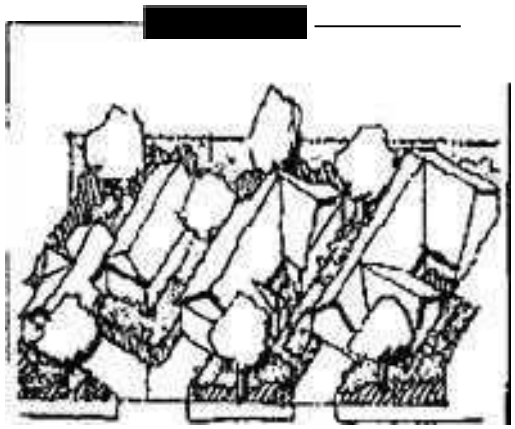
Uses Requiring a Conditional Use Permit:
- Public utility structures.

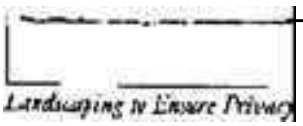
Prohibited Uses:
- All uses not specifically identified above.



Typical Lot Formation







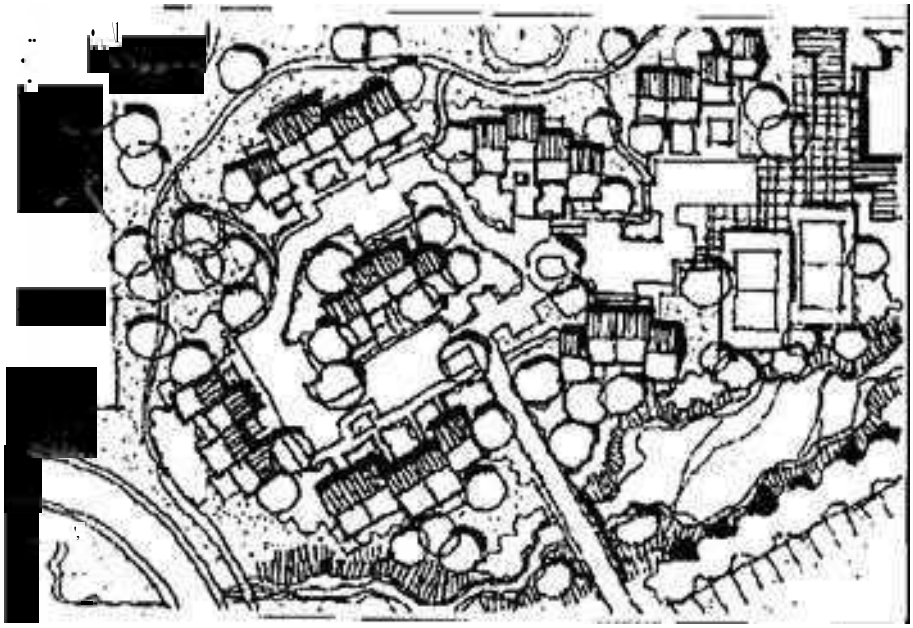
PATIO HOMES

Lot Characteristics

Minimum Lot Size: 4,000 Square feet
Minimum Lot Depth: 75 Feet
Minimum Lot Width: 45 Feet
Minimum Lot Frontage: 35 Feet (25 Feet Frontage allowed in 25% of lots within a Village)
Front Yard Setback: 15 feet from attached living area, 18 feet from front load garage, IO feet from side load garage or accessory structure if a courtyard is provided behind said structure with a minimum square footage equal to 550 square feet. The side load garage or accessory structure width may not exceed 50% of the Lot Width.
Side Yard Setbacks: (4 Feet) or (0 Feet, 8 Feet)
Rear Yard Setback: IO Feet
Max. Building Height: 30' Feet (2 stories)
Max. Building Coverage: 55% of Lot Area
Minimize Size of Residence: 1,250 Square feet
Exterior Side Yard Setback: IO Feet

Special Conditions

- Zero lot line conditions are acceptable between adjacent lots.
- All site disturbances, (house construction, sitework, grading, etc.) must be contained within the lot lines.
- Corner lots shall be a minimum of 50 feet wide.
- Special attention should be paid to providing architectural diversity and visual variety in the street scene.
- Side entry garages may be constructed within 15 feet of the front property line provided that there is sufficient room to allow vehicles to utilize the driveway into the garage. In addition, the proposed patio home garage must be large enough to allow for interior parking of vehicles.



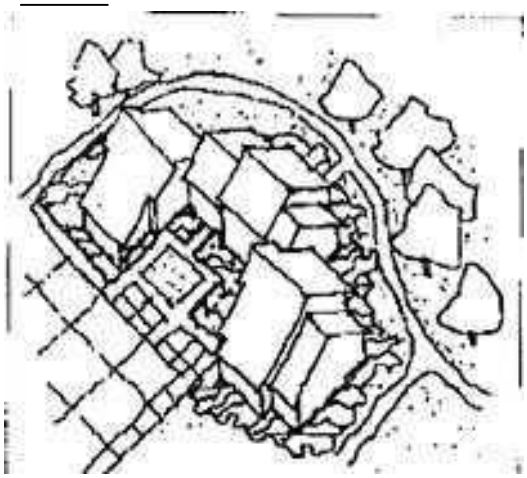
GOLF COTTAGES

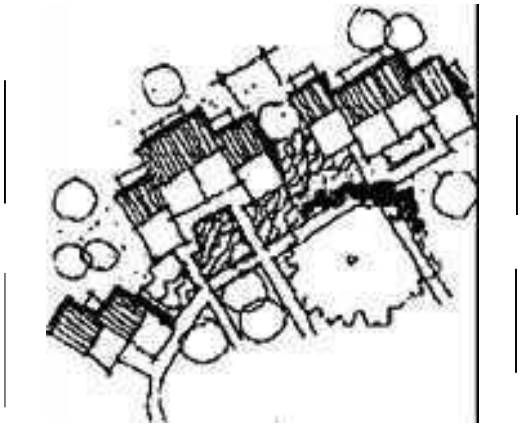
Description:
Golf Cottages are attached or detached townhouse or condominium units oriented toward the golf course. It is anticipated that the cottages will be constructed by multiple builders. Cottages located adjacent to the golf club will be allowed to restrict vehicular access to golf carts and maintenance vehicles providing that sufficient parking is available in the adjoining golf club/course parking lot. Golf cottages must meet building code requirements for fire and safety.

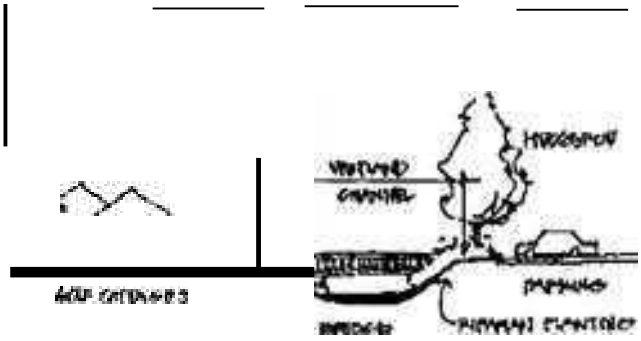
Principal Permitted Uses:
- Single or multiple family dwellings of a permanent nature and their accessory buildings and uses,
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Timeshare or interval ownership units.
- Accessory structures.

Uses Requiring a Special Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





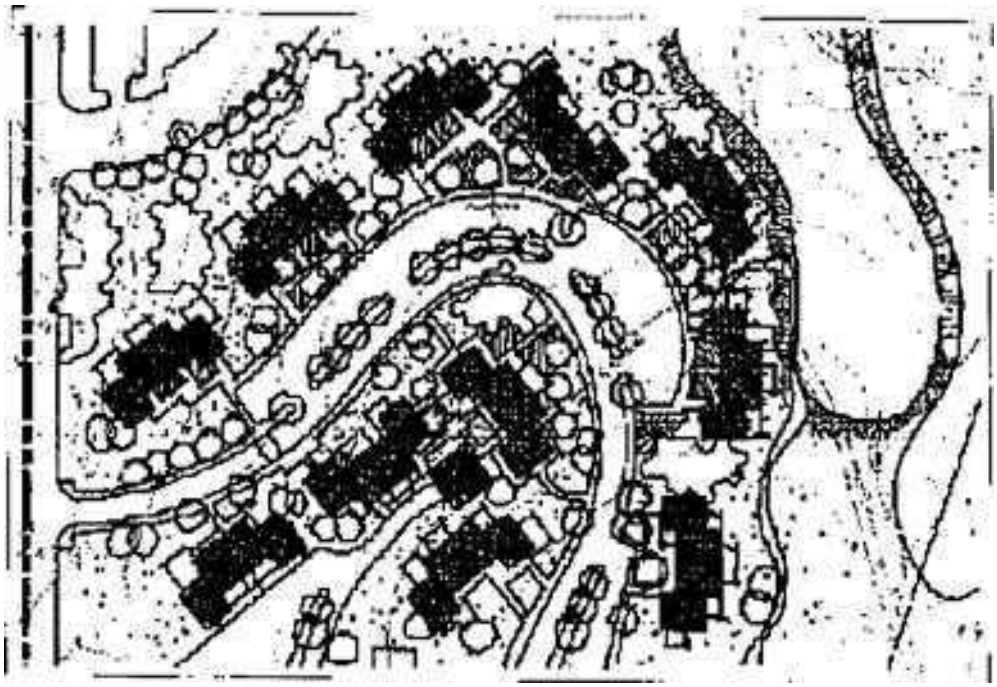


GOLF COTTAGES

Unit Characteristics
Maximum Density: 16 du/ac.
Maximum Impervious Coverage: 70% (project wide).
Front Setback: 15 Feet to living/5 Feet or greater than 20 Feet to front load garage/I0 Feet to parking.
Exterior Project Side Setback: 15 Feet
Side Setbacks: 0,5 feet (10 Feet Between Buildings)
Rear Setback: 5 Feet
Max. Building Height: 50 Feet (4 stories)
Max. Units per Bldg: 20Parking: one space per bedroom (minimum 1 per unit (provided on-site), the remainder may be shared with golf club/course parking requirements if applicable).

Special Conditions

- Vehicular access to golf cottages adjoining the golf club site may be restricted to golf carts, valet carts and maintenance vehicles, providing sufficient parking is provided in adjoining golf club/course parking area.
- Existing mature trees on site must be protected during construction to the maximum extent practical.
- Creative massing and siting techniques are required. Cottages shall be oriented with clear views of the golf course **(if** possible).
- Sustainable or "green" design features are encouraged.
- Parking may be provided within the footprint of the building.
- Ground floor units should have patios to provide outdoor space. Upper floor units should provide decks or balconies.
- Lots for Single family detached homes shall use the lot characteristics for Patio Homes.



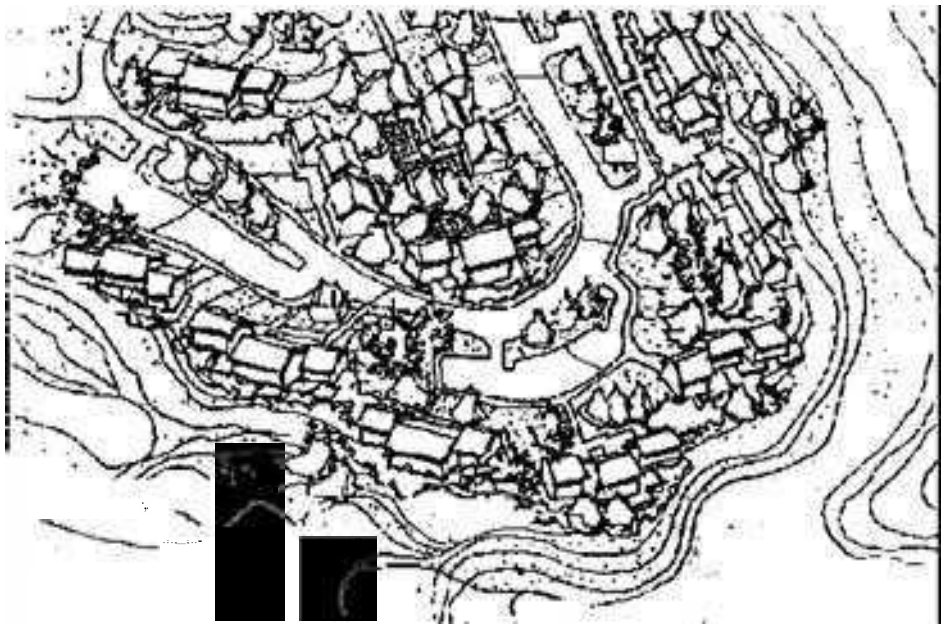
RESORT CONDOMINIUMS

Description:
Resort Condominiums are attached units located on the northern parcel with golf frontage. Units will be arranged in 4 story maximum buildings and will have access to both private and shared private open space. Resort condominiums are an alternative use to apartments should market conditions dictate.

Principal Permitted Uses:
- Multiple family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.
- Golf Cottages.

Uses Requiring a Special Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



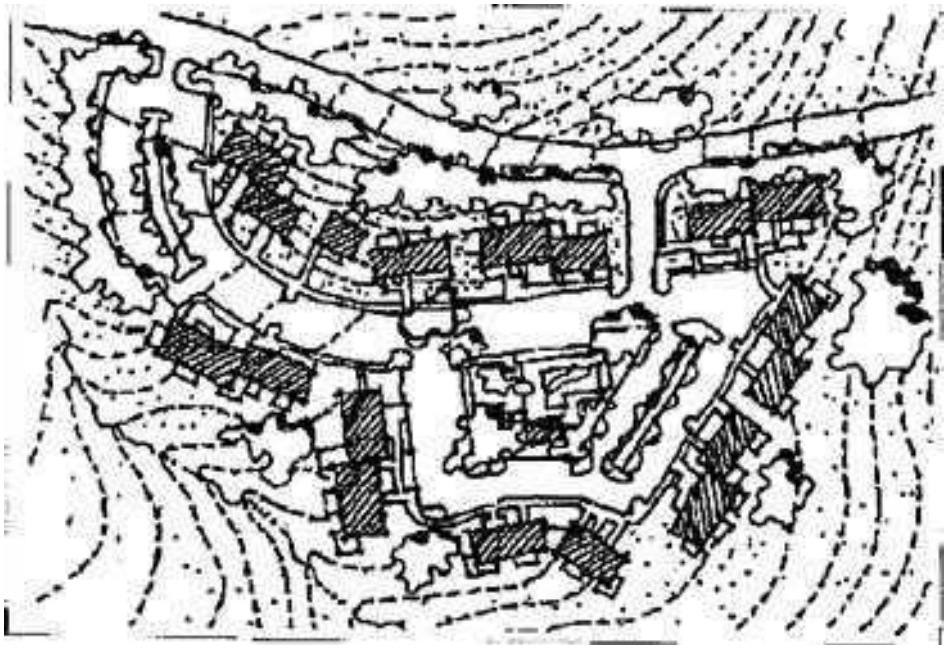
RESORT CONDOMINIUMS

Unit Characteristics

Maximum Density: 20 du/ac
Maximum Building Coverage: 50%plus 10% for covered parking, garages, separate storage space, etc.(Total project).
Maximum Impervious Coverage: 75% (Total Project).
Project Front Setback: 15 Feet (IO Feet to parking/5 Feet or greater than 20 Feet to front load garage).
Project Side Setbacks: 10 Feet
Setback Between Bldg: 10 Feet
Project Rear Setback: 5 Feet
Max. Building Height: 50 Feet (4 stories)
Max. Units per Building: 20
Parking: 1 space per bedroom (minimum 1 per unit provided on-site), the remainder may be shared with the Golf Facility parking.

Special Conditions

- Buildings shall respect ex1stmg drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Sustainable or "green" design features are encouraged.



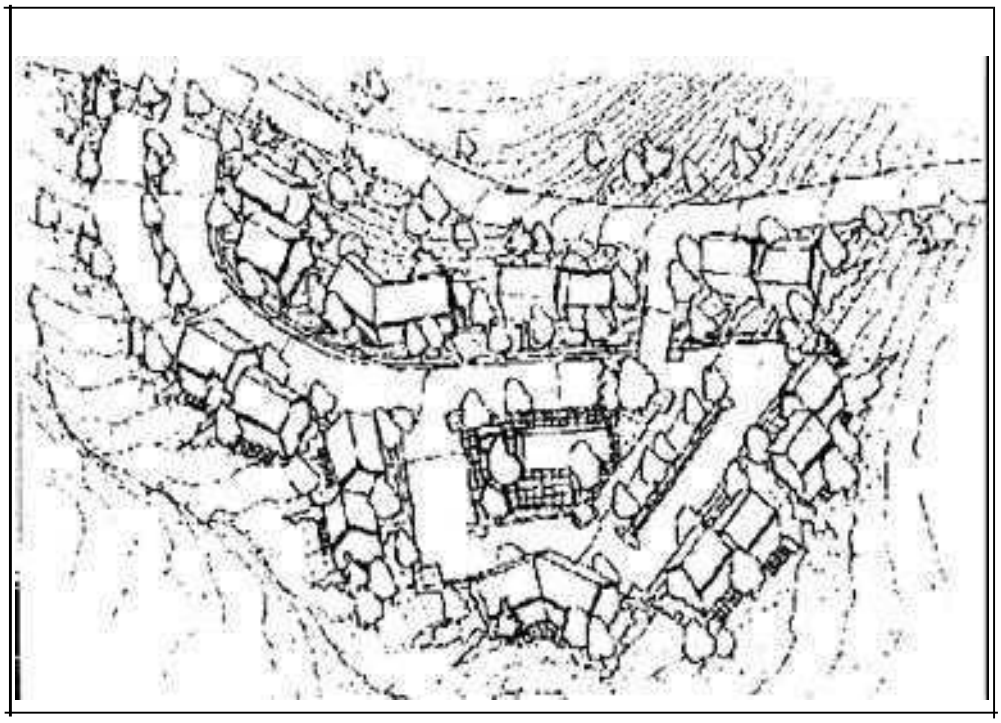
APARTMENTS

Description:
Apartments are attached units located on the southern parcel adjacent to the Village Center and Resort Complex. Units will be arranged in 4 story maximum buildings and will have access to shared private open space.

Principal Permitted Uses:
- Multiple family dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.



APARTMENTS

Characteristics
Maximum Density: 26 du/ac
Maximum Bldg. Coverage: 50% plus 10% for covered parking, garages, separate storage space, etc. (Total Project).
Maximum Impervious Coverage: 80%
Front Setback: 25 Feet (IO Feet from Parking)
Exterior Project Side Setback: 20 Feet (10 Feet Between Buildings)
Rear Yard Setback: 5 Feet
Maximum Building Height: 50 Feet (4 stories)
Maximum Units per Building: 40
Parking: I space per bedroom

Special Conditions:
- Buildings must respect existing drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Residential units must be buffered from adjoining commercial and hotel loading and service areas.

GOLF FACILITY

Description:



The Golf Club is located in the heart of the northern parcel within the mature Cottonwood trees surrounding the old Wingfield Ranch building. The Club and associated parking areas encompass approximately 11 acres and are located on the westerly side of the existing southern lake.
The clubhouse will be the focal point of the development where golf course play will begin and end. Architecture will be ranch style in character with views to the wetlands, lakes and the golf course.

Permitted Uses:

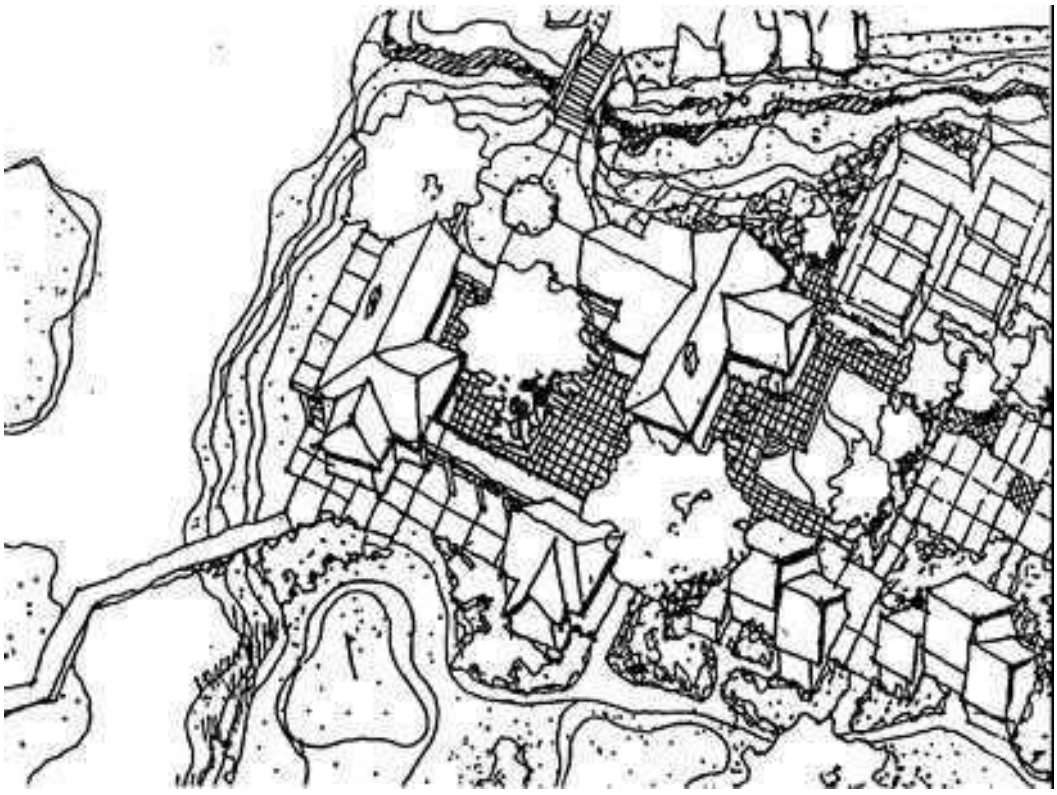
- Retail.
- Restaurant, cafes and food service facilities, including banquet and catering facilities.
- Bars, taverns, brew-pubs, lounges and cabarets.
- Temporary or permanent golf club with or without membership (For profit or non-profit including locker rooms, member's lounges, etc.) and its ancillary buildings and uses.
- Recreational facilities including tennis courts, swimming pool, spa, fitness center, salon, etc.
- Restricted gaming.
- Convention and meeting space.
- Integrated residential dwellings and their accessory buildings and uses within the golf club complex.
- Accessory structures.
- Childcare facilities requiring more than one caregiver.
- Professional/medical offices.
- Drive through facilities.
- Personal Services.
- Dry Cleaner.
- Bank branch offices with drive through.
- Grocery store or market.

Uses Requiring a Special Use Permit

- Public utility structures.
- Indoor tennis or skating rink structures.

Prohibited Uses:

- All uses not specifically identified above.



GOLF FACILITY

Characteristics
Maximum Building Coverage : 35%
Maximum Impervious Coverage: 75%
Exterior Front Setback: 15' (10' From Parking)
Exterior Side Setback: IO'
Setbacks between buildings: IO'
Rear Setback: 5 Feet
Maximum Bldg. Ht.: 40 Feet (3 stories)
Parking: Per City code.

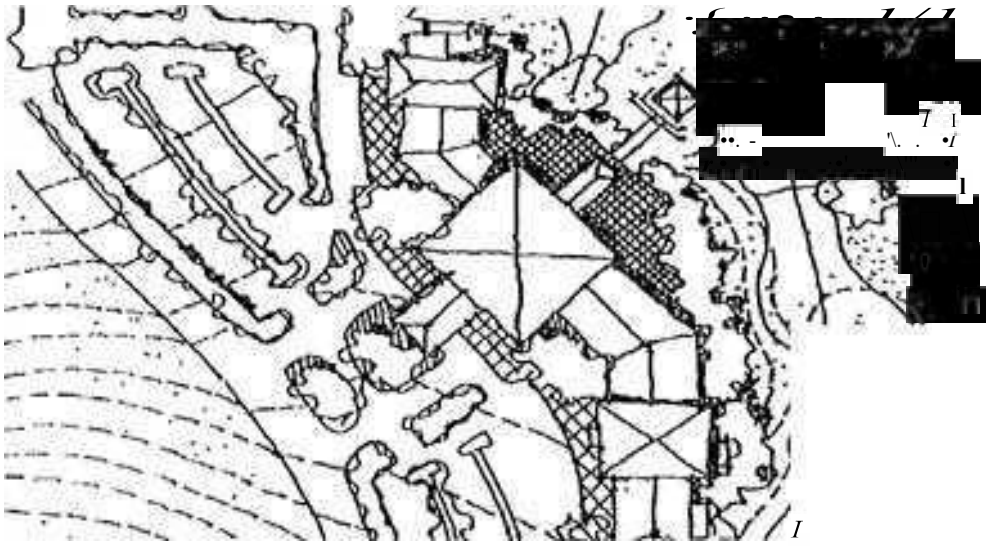
Special Conditions:
- Building massing and style should reflect the project's overall "ranch" theme.
- Club buildings and hardscape shall be sited to preserve existing trees to the maximum extent practical.
- Club service and loading facilities shall be completely screened from view from the club amenities, golf course, and nearby residential units.
- Creative massing and siting techniques are required.
- Building site plan shall respect existing wetlands surrounding the property.

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RESORT COMPLEX

Description:

The resort complex is oriented to the golf course and is intended to include recreation, retail, dining and entertainment facilities.

Principals Permitted Uses:

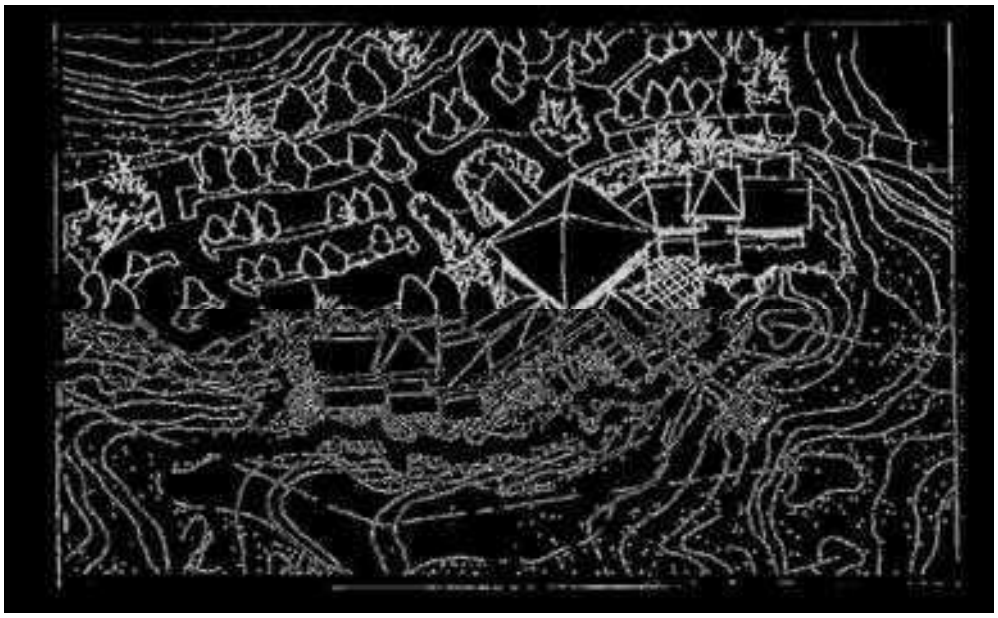
- Restaurant or cafe.
- Timeshare, interval ownership and lodging (Maximum number of units shall not exceed 43).
- Retail stores and offices.
- Bars, taverns and brew-pubs (with restricted gaming).
- Amusement and entertainment centers.
- Single and multiple family residential dwellings and their accessory buildings and uses.
- Golf halfway house including restaurant and food service facilities, bar or tavern, lockers, restrooms, retail specialty and golf related stores, pro-shop and related offices, concessions and shelters.
- Accessory structures.
- Resort Condominiums.
- Child care facilities requiring more than one caregiver.

Uses Requiring Conditional Use Permit:

- Clubs, lodges and social halls.
- Public utility structures.

Prohibited Uses:

- All uses not specifically identified above.



RESORT COMPLEX

Characteristics

Maximum Bldg. Coverage: 35%
Maximum Impervious Coverage: 7S%
Front Setback: SO Feet (10' from parking)
Side Setback: 20 Feet (1O' between bldg.)
Rear Setback: 20 Feet
Max. Building Height: SO Feet (4 stories)
Parking: I space per 300 square feet of net leasable retail floor area, and I space per I00 square feet of restaurant or bar floor area. Support facility parking may be shared with Resort Complex parking.

Special Conditions:

- Building should be sited with respect to existing drainage patterns of the site per approval of Final Map. Building massing shall step with the natural grade.
- Surface parking areas should be landscaped and terraced with the natural grade as necessary.

Wingfield Springs Development Agreement Handbook







GOLF COURSE

Parcel Characteristics

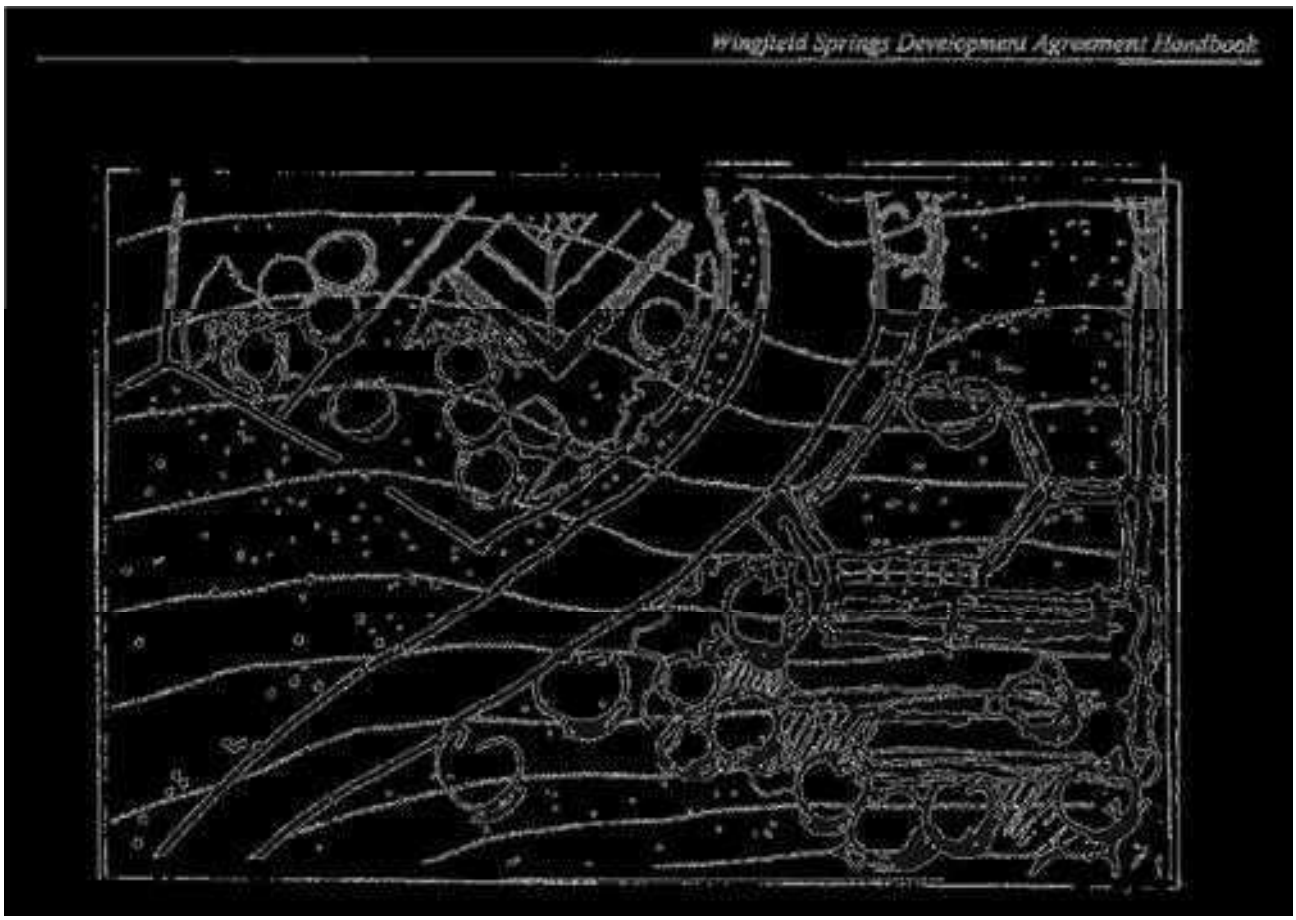
Setback for Buildings: 20 Feet from adjoining property or parcel boundary

Max. Building Height: 25 Feet

Parking: Not to exceed 428 permanent or overflow parking stalls

Special Conditions:

- Buildings, golf course, driving range and path should be sited with respect to existing drainage patterns per approval of Final Map.
- Building massing, golf course and driving range should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from adjacent uses.
- Golf maintenance buildings and service/equipment yards shall be completely screened with berming, fencing, walls and/or vegetation from view from adjoining residential units both within the project and off-site.

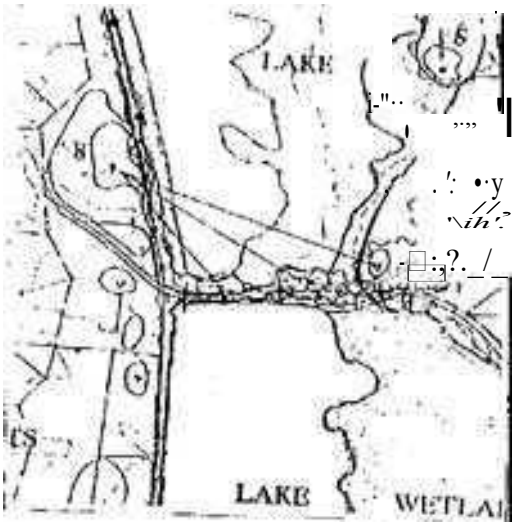


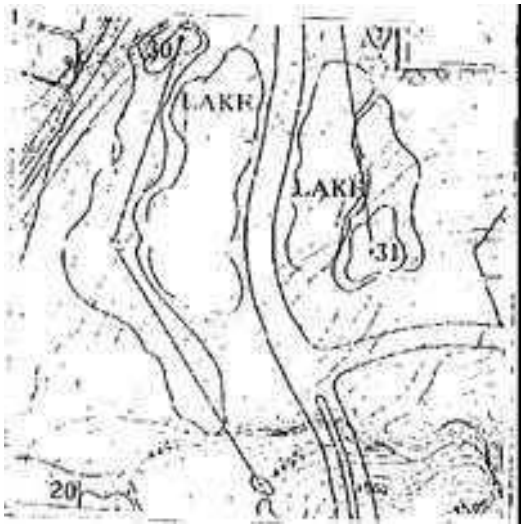
Description:
The golf course will include 18 holes of golf, a practice range, putting green(s) related restroom, shelter, concession and golf maintenance facilities.

Principal Permitted Uses:
- Golf course(s), practice range and putting greens.
- Golf learning center and temporary golf club house.
- Permanent and overflow parking-total stalls not to exceed 428.
- Restroom, concession and shelter facilities.
- Golf maintenance buildings, equipment storage, equipment and maintenance yards, equipment wash facilities, gasoline service, chemical storage facilities.
- Cart path and cart bridges.
- Retail specialty and golf-related stores (pro-shop).
- Caretaker's residence and caretaker's office.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





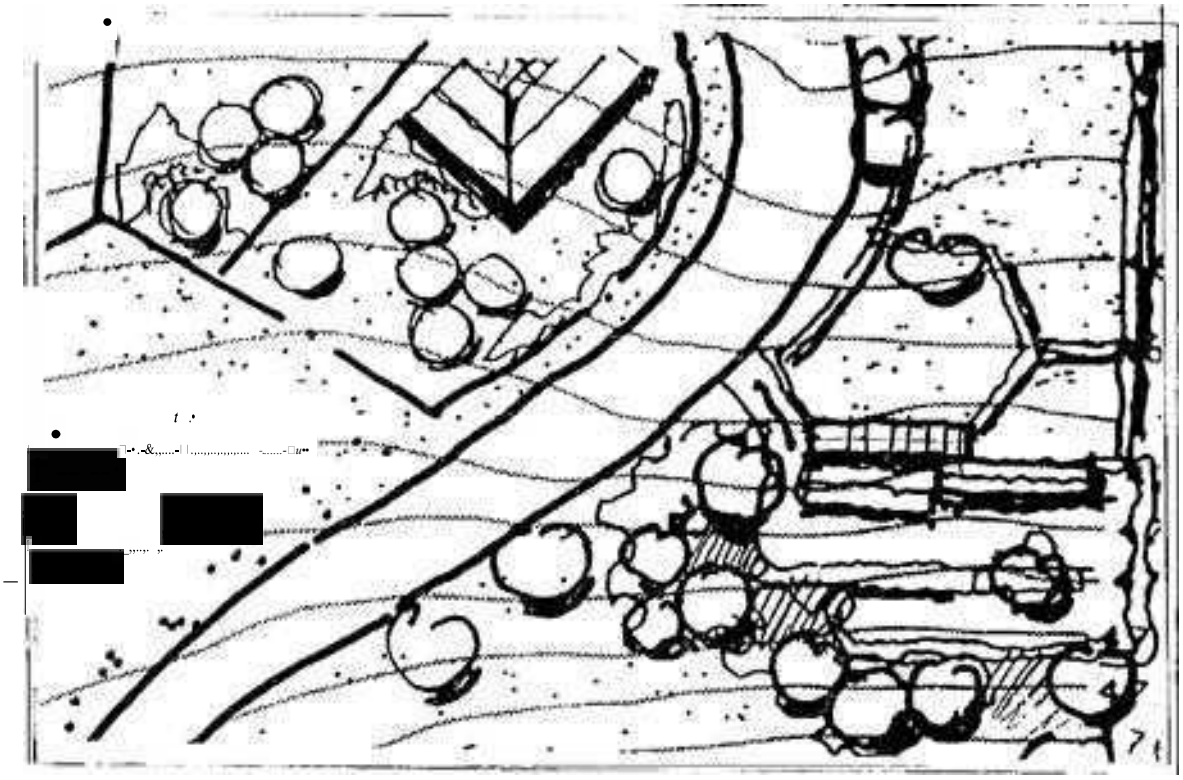


GOLF COURSE

Parcel Characteristics
Setback for Buildings: 20 Feet from adjoining property or parcel boundary
Max. Building Height: 25 Feet
Parking: Not to exceed 428 permanent or overflow parking stalls

Special Conditions:

- Buildings, golf course, driving range and path should be sited with respect to existing drainage patterns per approval of Final Map.
- Building massing, golf course and driving range should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from adjacent uses.
- Golf maintenance buildings and service/equipment yards shall be completely screened with henning, fencing, walls and/or vegetation from view from adjoining residential units both within the project and off-site.



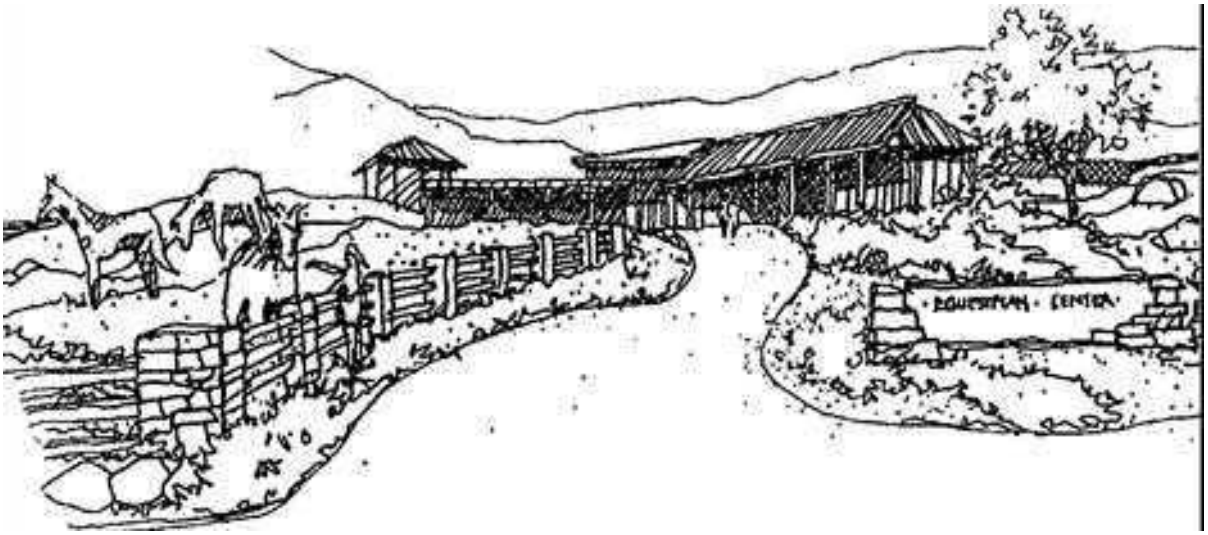
EQUESTRIAN CENTER

Description:
The Equestrian Center is located on the eastern edge of the southern parcel and is generally intended to include equestrian uses and related facilities to serve residents of the project who own or wish to board horses.

Principal Permitted Uses:
- Boarding and riding stables.
- Paddocks, pastures, and corrals.
- Equestrian related/retail.
- Caretaker's residence and caretaker's office.
- Restaurant, cafe or bar (with restricted gaming).
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Clubs, lodges, or social halls.
- Public utility structure.

Prohibited Uses:
- All uses not specifically identified above.



EQUESTRIAN CENTER

Parcel Characteristics
Setback for Buildings: 30 Feet from property or parcel boundary. 10 feet between paddock or corral fencing and property or parcel boundary.
Max. Building Height: 25 Feet, with special tower elements ofless than I00 square feet permitted to maximum 50 feet.
Parking: 0.7 spaces per horse stall.

Special Conditions:
- Building should be sited with respect to existing drainage patterns to approval of Final Map.
- Building massing and pastures should step with the natural grade.
- Service, loading and maintenance facilities shall be completely screened from roads and residents.
- Facility should be sited in respect to multi-use trail network.

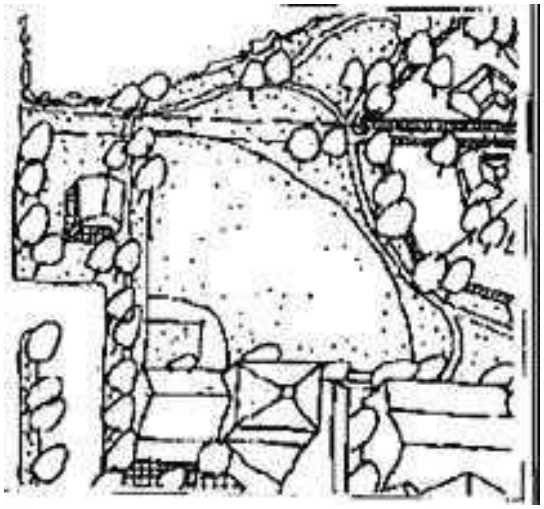


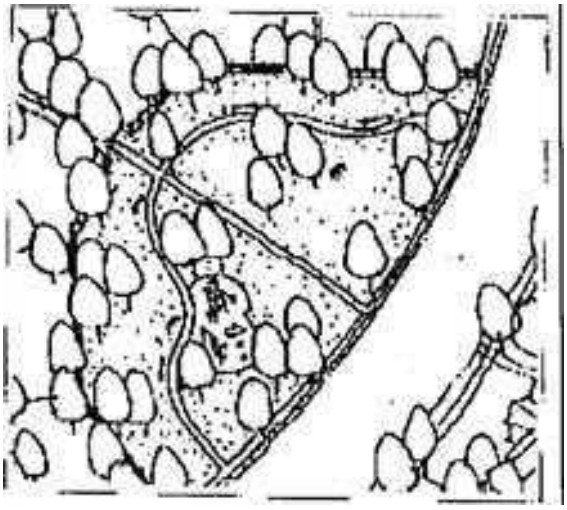
PARK & OPEN SPACE

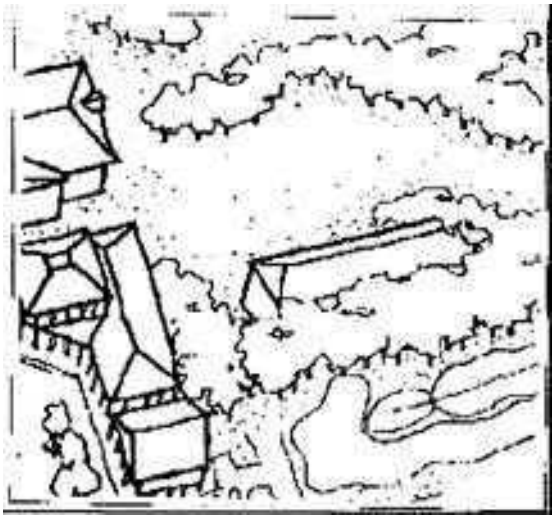
Description:
Areas within the project which are designated for parks and open space are intended to provide passive and active recreational opportunities for project residents. Parks and open space facilities include a community park, neighborhood parks, trail system, wetlands, hedgerows, and natural open space areas.

Principal Permitted Uses:
- Trails (pedestrian, bike, equestrian).
- Recreational facilities including playfields/tot lots, tennis courts, swimming pools, basketball courts, etc.
- One interpretative center including a maximum of 2,500 square feet of pavilion type space with associated boardwalks, signage, and viewing platforms.
- Restroom facilities, park structures, gazebos and pavilions.
- Accessory structures.

Prohibited Uses:
- All uses not specifically identified above.







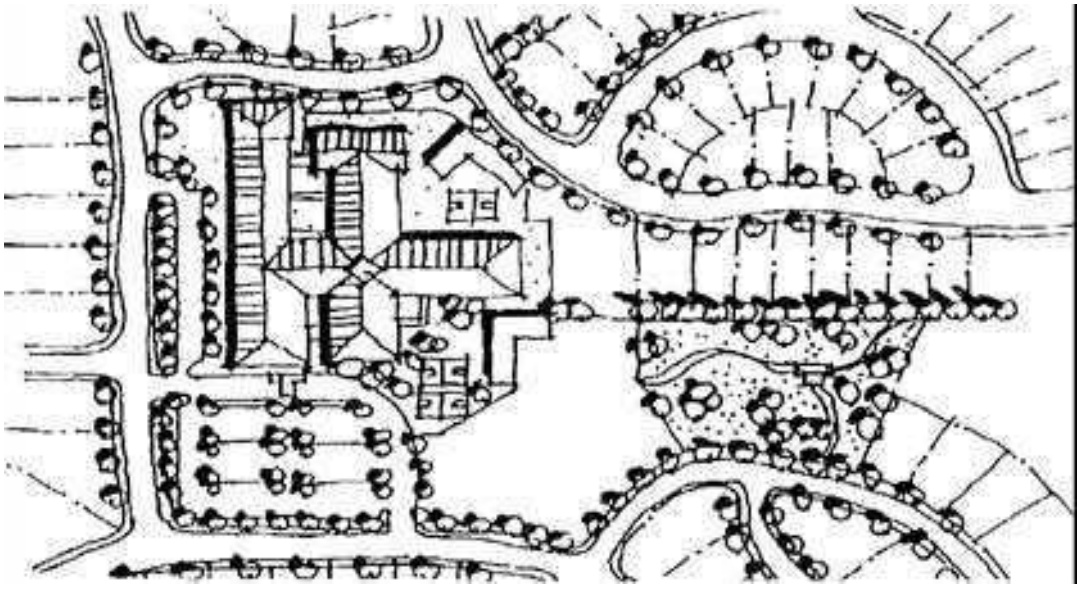
PARK & OPEN SPACE

Parcel Characteristics

Setback for Buildings/Fields/Play Equipment: 20 Feet
Max. Building Height: 25 Feet
Parking: (none required)

Special Conditions:

- Trails and play field should be sited with respect to existing drainage patterns, solar orientation and prevailing winds.
- Service and maintenance facilities shall be completely screened from adjacent uses.
- Site lighting should be low intensity and utilize cut-off luminaries to minimize glare and impacts to surrounding residential areas.
- Where appropriate, neighborhood parks should be sited adjacent to a local public street for clear visibility.



SCHOOL/ PARK SITE

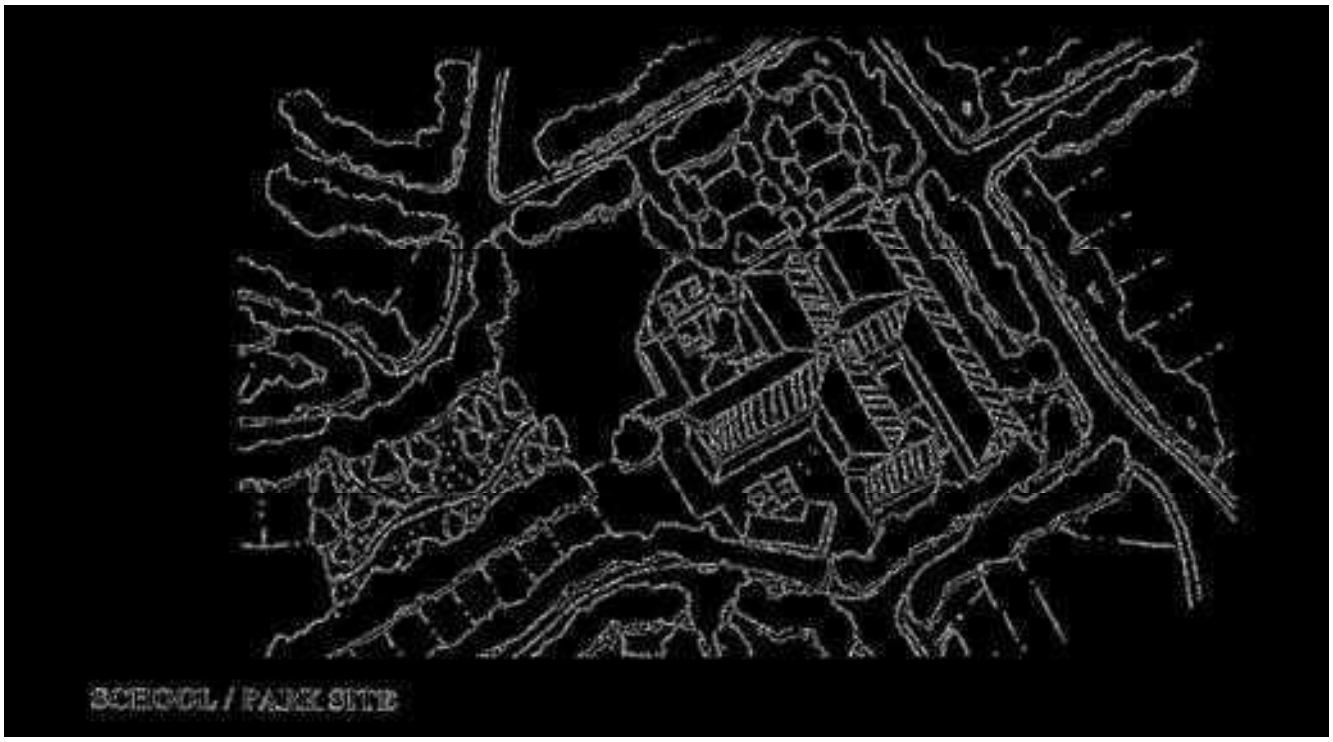
Description
The school / park site is located in the northeastern comer of the northern parcel allowing the facilities to service both Wingfield Springs and the Cimarron project to the north.

Principal Permitted Uses:
- Public school.
- Private school.
- Parks and recreational facilities, including playfields, tot lots, tennis courts, swimming pools, basketball courts, baseball diamonds, etc.
- Trails (pedestrian, bicycle and equestrian).
- Restroom facilities, park structures, gazebos and pavilions.
- Accessory structures.

Uses Requiring Conditional Use Permit:
- Clubs, lodges and social halls.
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.

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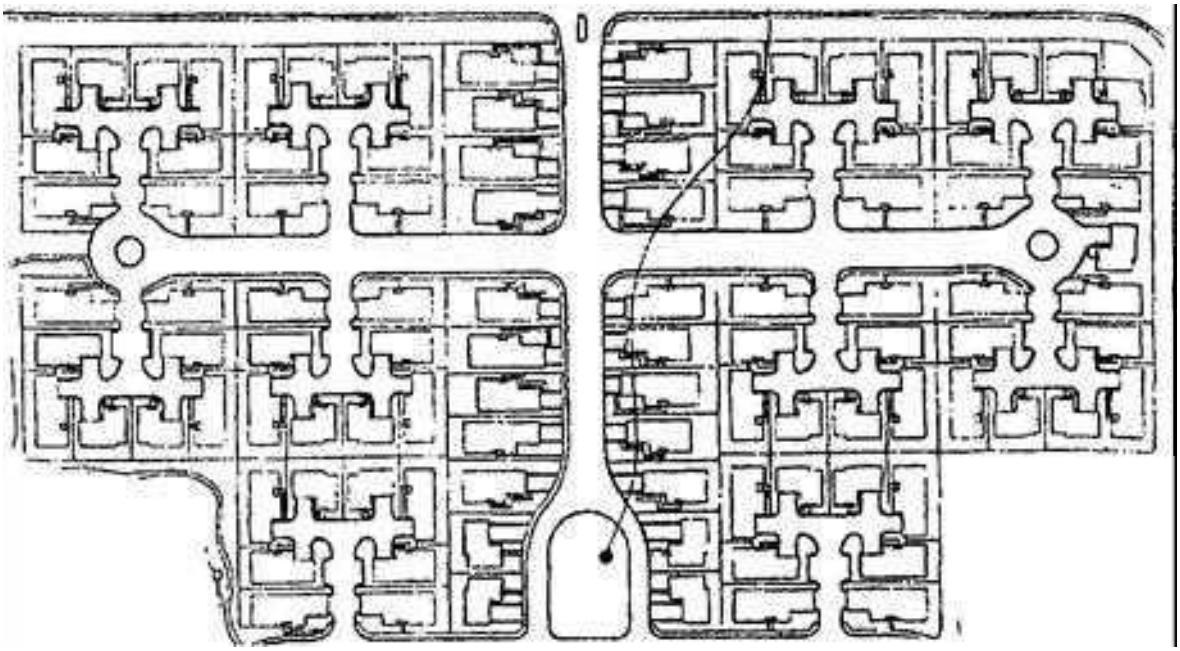


Characteristics

Setback for principal buildings: 20 feet
Setback for fencing, play equipment and accessory structures: IO feet
Maximum building height: 40 feet (3 stories)
Maximum building coverage: 40%
Maximum impervious coverage: 85%
Parking
For Park (none required)
For School (per current WCSD standards)

Special Conditions:

- School recreation facilities and park facilities should be designed for maximum joint use within the constraints of Washoe County School District (WCSD) and City of Sparks Park & Recreation Department criteria.
- If school is not developed by WCSD, developer may develop private school or allow school site (8.7 acres) to become park and return some or all of park site (1.9 acres) to residential use.
- All structures and recreational facilities should be sited with respect to existing drainage patterns, solar orientation and prevailing winds.
- Service and maintenance facilities shall be completely screened from adjacent uses.
- Site lighting should be low intensity and utilize cutoff luminaries to minimize glare and light overspill to surrounding residential areas.



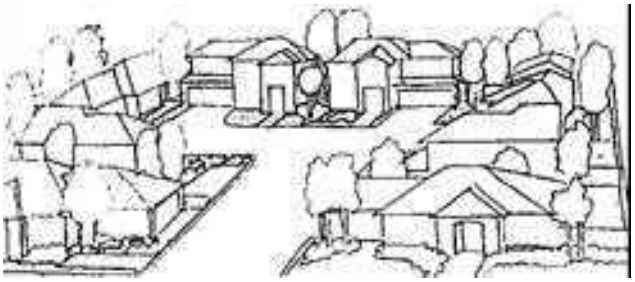
CLUSTER COURT HOMES

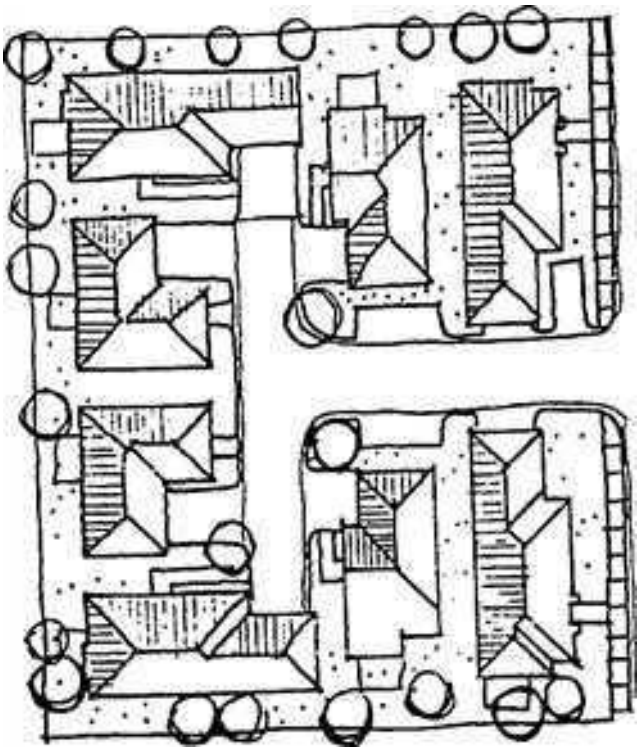
Description
Cluster Court Homes are smaller individual lots which encourage unit clustering. Cluster Court Home parcels will form more compact neighborhoods where innovative siting techniques are encouraged. Cluster Court Home parcels must meet building code requirements for fire safety.

Principal Permitted Uses:
- Single Family dwellings of a permanent nature and accessory buildings.
- Recreational facilities (for the sole use of the residents of the immediate neighborhood).
- Temporary sales offices and model homes.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





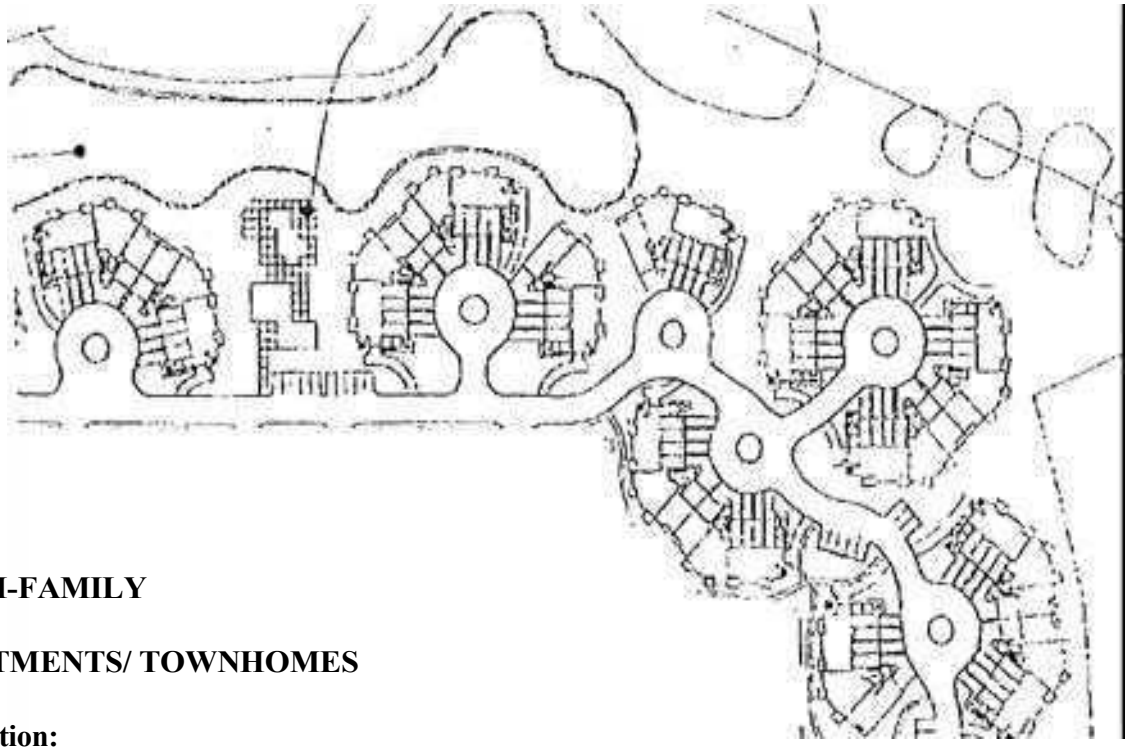
CLUSTER COURT HOMES

Lot Characteristics

Minimum Lot Size: 2650 Square feet
Minimum Lot Depth: 53 Feet
Minimum Lot Width: 35 Feet
Minimum Lot Frontage: 35 Feet (except that 25 Foot Frontage is allowed in 25% of lots within a Village).
Front Yard Setback:
Adjoining public (perimeter) street: 10 Feet (to House), 8 Feet (to Porch)
Adjoining private drive or court: 8 Feet (to House), 6 Feet (to Porch)
Setbacks vary depending on if building facade is passive (i.e. without doorway, patio or access to home) or active (i.e. with doorway, patio or access to home).
Side Yard Setbacks: 5 Feet
Rear Yard Setback: 14 Feet - House IO Feet - Fireplace/T.V. Ct.
Garage Setback: Apron at court entry= 4 Feet Drive at court= 18 Feet
Drive at perimeter street= 18 Feet
Maximum Building Height: 30' Feet (2 stories)
Maximum Building Coverage 50% of Lot Area
Minimum Size of Residence: 1100 Square feet
Parking: One (I) space per bedroom. Guest parking shall be provided in marked spaces outside travel lanes, not in common courts.

Special Conditions:

- All site disturbances, (house construction, sitework, grading, etc.) must be contained within comer lot lines.
- Corner lots shall be a minimum of 41 feet wide. Special attention shall be paid to providing architectural diversity and visual variety in the street scene
- Clusters shall be aligned so the access to the rear four lots is aligned for solar orientation (north/south).
  Clusters shall back up to either a perimeter landscape area or a hedgerow of not less than fifteen feet in width.
- Fencing shall be consistent with Wingfield Springs design guidelines except that side fencing may contain an extension of up to two feet in front of windows to provide privacy opportunities.
- Builder shall demonstrate participation in special financing programs to minimize the down payments for these units.



MULTI-FAMILY

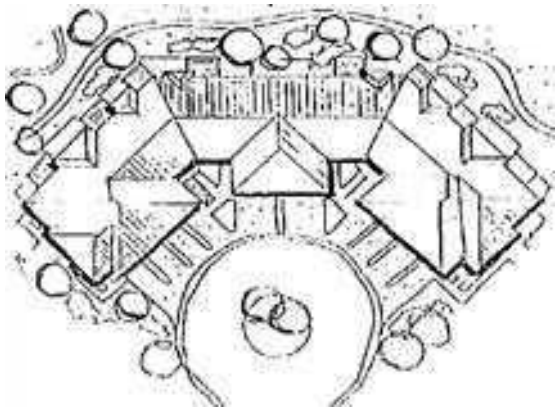
APARTMENTS/ TOWNHOMES

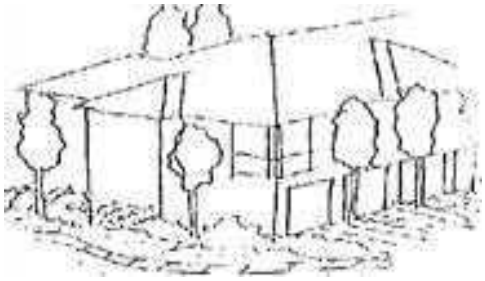
Description:
Apartment /Townhomes are multi-family dwellings in 6-14 unit buildings with access to both private and shared public open space. All dwellings shall be eligible for inclusion in a rental program established and maintained by the Developer concurrent with the construction of multi-family units. "Rent-to-own" and "Lease-to-own" programs shall be encouraged along with innovative financing plans to encourage use by both mobile and single-parent segments of the residential market.

Principal Permitted Uses:
- Multi-family (attached) dwellings of a permanent nature and their accessory buildings and uses.
- Recreational facilities (for the sole use by the residents of the immediate neighborhood).
- Temporary sales offices and model homes.
- Accessory structures.

Uses Requiring a Conditional Use Permit:
- Public utility structures.

Prohibited Uses:
- All uses not specifically identified above.





MULTI-FAMILY

APARTMENTS/ TOWNHOMES

Unit Characteristics
Maximum Density: 20 du/ac
Maximum Building Coverage: 60% plus 10% for covered parking, garages, separate storage space, etc.
Maximum Impervious Coverage: 75%
Front Setbacks: 10 Feet
Side Setbacks: 20 Feet Between Buildings
Rear Setbacks: 10 Feet
Max. Building Height: 40 Feet (3 stories)
Max. Units per Building: 12
Parking: 2.25 spaces per unit

Special Conditions
- Buildings shall respect existing drainage patterns. Building massing must step with the natural grade.
- Surface parking areas shall be landscaped and terraced with the natural grade.
- Landscaped outdoor common areas shall be incorporated into the site plan.
- Ground floor units should have patios to provide a private outdoor space. Upper floor units should have porches or balconies.
- Garages incorporated into the building massing are encouraged.
- Residential units must be buffered from adjoining commercial and hotel loading and service areas.
- Special construction techniques shall be incorporated to mitigate potential noise between attached or stacked units.
- Builder shall demonstrate participation in special financing programs to minimize the down payments for these units.

SECTION VI- DESIGN GUIDELINES

DESIGN GUIDELINES

INTRODUCTION

A design review committee (DRC) will be set up to review plans for the development of all lots and parcels in Wingfield Springs. The DRC may include one member from the City of Sparks, appointed by the City Manager and either the mayor or one member of the City Council appointed by the Council. DRC responsibilities will include the review of site plans, building plans, elevations, materials, colors, fencing, signage, lighting, landscaping and parking arrangements prior to permit submittal to the City of Sparks.

Specific responsibilities and standards will be further defined in the Declaration of Protective Covenants, Conditions and Restrictions (CC&R's) which will also serve Wingfield Springs. The DRC shall have sole authority in determining compliance with the CC&R's and design guidelines.

ARCHITECTURE

Wingfield Springs is not intended to be developed with one prevalent architectural style and variety in the architecture is encouraged. An emphasis, however, will be placed on consistency with the overall ranch theme including indigenous architectural styles, the use of quality materials and complementary relationships between building and site design features. Historic ranch styles are encouraged.

1. House scale and building heights shall relate to topography, lot sizes and setbacks. A mix of one and two story units in the single family neighborhoods will be encouraged. Custom homes on slope sensitive lots shall use hillside adaptive design techniques such as post and beam construction and daylight basements to minimize streetside and rear yard facade exposure. Building heights in multi-family neighborhoods and non-residential uses may be taller but should have a massing and scale compatible with adjoining residential uses.



A mix of one and two story homes with varying architectural styles.

2. A mix of housing styles and types is encouraged. Front yard setbacks shall vary wherever possible. No adjacent single family detached home will be permitted to have the same plan/elevation or color. Each single family village developed by a home builder shall have a minimum of four models each having three elevations and material change and wall/roof color variations.

3. Homes on Executive, Amenity, Hillside and Ridgetop lots shall be encouraged to have side or rear-entry garages (garage doors not directly facing the street) as provided for in Section V. Homes on smaller lots are encouraged to provide side or rear-entry garages if possible.

4. Private exterior living spaces such as decks and patios are required in the design of each unit in the multi-family neighborhoods.

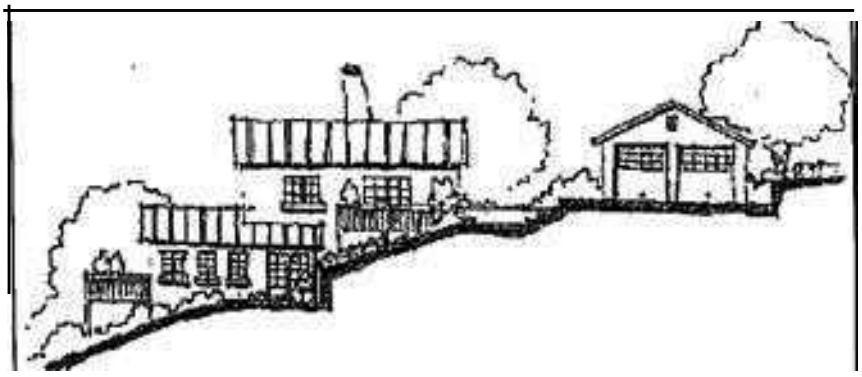
5. Roof pitch variations are preferred. No Flat roofs or rock covered roofs shall be permitted. Tile, concrete tile, architectural grade composition shingles, shake shingles or other materials approved by the DRC are permitted. Shake shingles shall be used only with the approval of the Fire Chief.

6. Passive solar designs are encouraged.

7. The use or incorporation of wood, stone and/or brick on exteriors is encouraged. Material changes, fenestration changes and variations of wall and window surface planes are also encouraged.

8. In order to avoid the appearance of a false applique, no material changes shall be allowed on comers or on facades which are visible from common areas. If material changes occur, they must occur at logical changes in building form.

9. Windows shall be sensitively placed to protect privacy of adjacent residences.



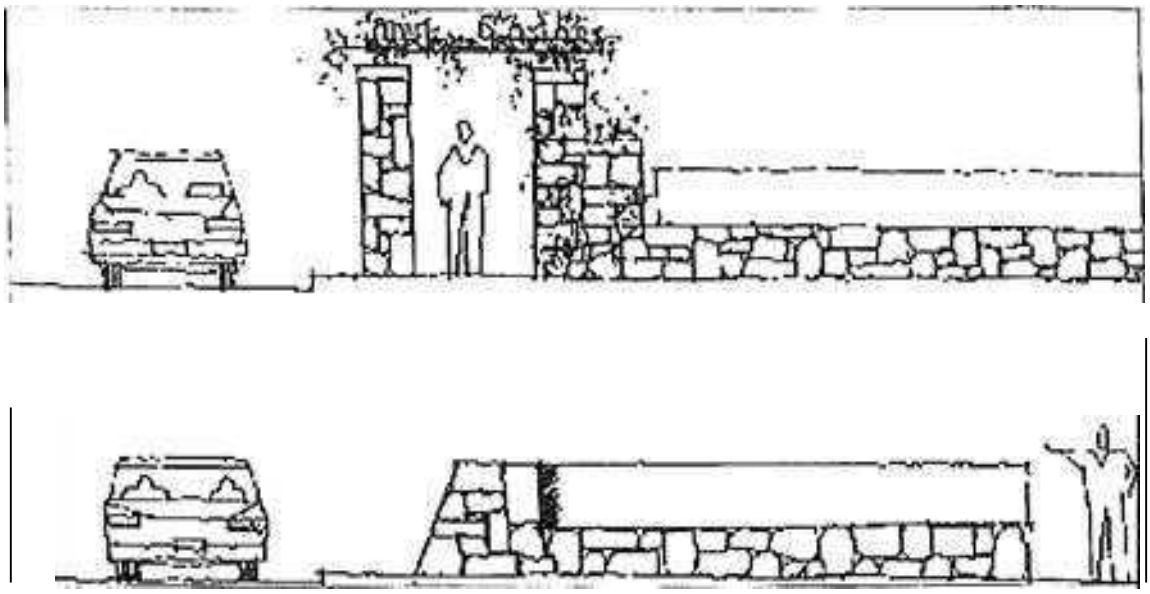
Homes on slope sensitive lots should use hillside adaptive design techniques to ***minimize facade exposure.***

10. View corridors are critical to and from all open spaces. The siting of buildings, accessory structures, fences, etc. and their impact on views and adjacent uses shall be carefully considered.

11. Mechanical equipment on roofs, above ground transformers, utility equipment and loading, service and storage areas shall be screened, enclosed or buried from view from the streets, pathways, public areas and adjacent uses. Trash enclosures and maintenance structures shall be designed to be compatible in style, materials and colors with the main building and shall be of masonry type construction.

12. Strong vertical elements (chimneys, multistory bays, etc.) should be used sparingly. Horizontal elements should dominate facades, in order to reduce the perceived height.

13. No reflective glass is permitted.

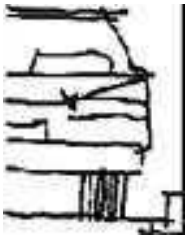


1:·mry Signag<' Options

SIGNAGE

The signage and graphics within Wingfield Springs will follow the overall "ranch" style theme and history of the project. Signage will further reinforce design concepts and provide identification for the residential villages and non-residential uses. Signage will also be provided for traffic control, along pathways and for public information purposes. 1n all cases, signs will be kept simple to reduce, not contribute, to visual clutter. Traffic control signage shall be approved by the City Public Works Director.

Signage throughout the project shall be consistent and compatible. Sizes, styles and configurations will vary dependent on the specific purpose, activity level, and building materials.





1. General

   a. The Wingfield Springs logo shall be used as appropriate throughout the project.
   b. Lighting and landscaping shall be considered an integral part of all signage proposals.
   c. Signs constructed of native stone, wood, and other natural materials with painted or relief cut letters are encouraged.
   d. Prohibited signs shall include:

      - Signs which constitute a hazard to traffic of pedestrians;
      - Signs located within any stream or drainage channel;
      - Mobile signs or portable signs except as provided in Sparks Municipal Code;
      - Inflatable signs except as provided in Sparks Municipal Code;
      - Signs which produce odor, sound, smoke, flame, or other emissions;
      - Signs which imitate or simulate official signs, or which use yellow or red blinking or intermittent lights resembling danger or warning signals;
      - Signs using strobe lights or individual light bulbs exceeding 75 watts;
      - Signs on public property or right-of-way or signs attached to utility poles, streetlights, fences, barns, sheds, or other similar structures; and
      - Roof signs.

   e. All signs shall be in accordance with the City of Sparks ordinances in effect at the time of use and subject to approval by the DRC and permitted by the City of Sparks.
   f. All house numbers shall be visible from street.

2. Identification signage

Identification signs will be provided at project entrances as part of the overall entry statement to Wingfield Springs. Each village shall have its own entry statement and signage theme or color combinations.

Monument signs, piers, walls, or freestanding monolith/pylons shall be used. Project identification entry signage shall not exceed 10' in height and 250 square feet total and may be provided on each side of the entry road. Residential identification signs shall not exceed 6 feet in height or 120 square feet in area and may be provided on each side of an entrance street. Lighting of project and village entrance identification signs shall be indirect with screened ground mounted or cove-mounted light sources.

3. Special purpose signs

a. Directional and informational signs for the golf club, golf course, and accessory uses shall not exceed 12 feet in height or 108 square feet in sign face area and shall be consistent and compatible throughout the project. The sign shall have a maximum 2 foot high stone veneer base with a maximum combined sign face height of 8 feet, excluding air space. An additional 1 foot of height may be added to the sign to allow for architectural embellishment. The signs are to be located beyond the right of way and a maximum of five directional and/or informational signs are permitted for the entire Wingfield Springs Development. Lighting of directional and information signs shall be indirect with screened ground mounted or cove mounted light sources. Color and materials are subject to approval of the DRC and the Administrator.

b. All temporary signs shall be in accordance with Sparks's ordinances and subject to approval by the DRC. Signs which are not located within the public right of way shall not create a visual barrier at street and driveway intersection and shall be approved by the City Public Works Director.



General character of direction and informational signage

LIGHTING

Lighting shall be functional and efficient, while keeping with the design themes of Wingfield Springs. Lighting will vary from larger scale illumination of major roadways to intimate lighting of pathways, building entries or residential lots. In general, to reduce light pollution in the high visibility desert development, overall lighting shall be minimized. Lighting guidelines are outlined below.

All lighting shall be in accordance with City of Sparks ordinances in effect at the time of site plan approval and subject to approval by the DRC.

1. Fixtures will be of a scale consistent with use.

2. Light fixture style, type and color shall be consistent and compatible throughout the project. The style of light standards along public streets shall be subject to the approval of the City of Sparks. However, if such light type is not consistent with city standards, the Homeowner's Association shall be responsible for the cost of repair and replacements.

3. In all cases, lighting shall not extend beyond its property line. Cut-off fixtures shall be used.

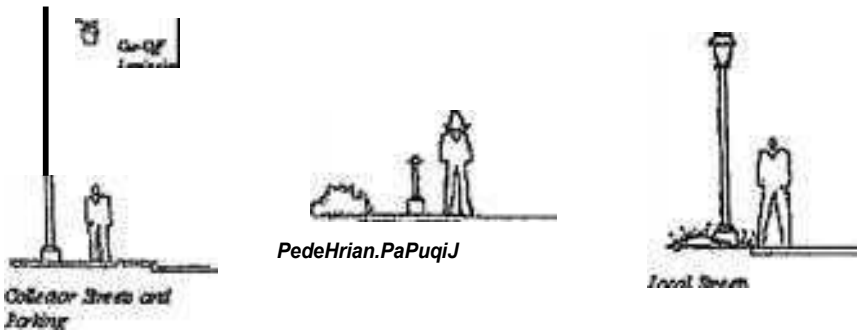
4. Illumination levels shall not be in excess of what is required. Lighting design shall address specific functions of activity areas. Site lighting shall be indirect in character.

5. If lighting for signage is provided, it shall relate to signage and graphics and shall heighten the visibility and appearance of signage.

6. Lighting fixtures shall be located as to minimize shadows and interference.

7. Spillover lighting shall not be permitted. Lighting shall reflect away from adjoining properties.

8. Energy consumption shall be considered in determining lighting fixtures.



FENCING

Fencing will be used for safety and security purposes, sound abatement, to control pets, enhance village themes, delineate uses and for screening. All fencing shall be approved by the DRC.

1. A consistent fencing theme will be required throughout each individual village and along Wingfield Springs Drive.

2. If fencing is desired on rear or side yards adjacent to the golf course, lakes, or other open space areas, open fencing such as buck and pole or split rail, or other transparent fencing approved by the DRC not to exceed 42" in height, shall be used to preserve vistas and maintain an open space feeling. Fencing in these areas may be replaced by additional landscaping, berming or in the case of owners with dogs, "invisible fencing."

3. Open fencing is generally encouraged to maximize views: however, solid fencing for safety, security and privacy purposes may be considered where lots are not adjacent to the golf course, lakes, or open space areas. Solid fencing shall be consistent in design, shall not exceed 6 feet in height and may be constructed of wood with stone or masonry accents.

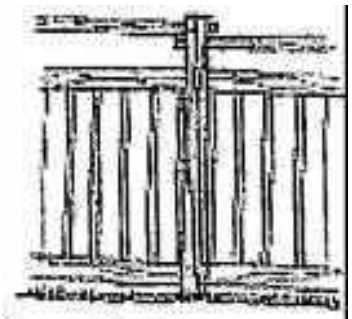
4. Fencing within the front yard shall be limited to low, transparent fences, not to exceed 48" in height. Within the front yard, walls or hedges shall not exceed 36 inches in height. Taller and more opaque rear and side yard fencing should terminate into the side wall of residential buildings at least 5 feet behind streetside facade(s). All sight triangles at intersections shall be maintained.

5. The use of chain link fence shall be restricted to pet and pool enclosures and tennis courts. Black vinyl coated chain link fence will be required when chain link fencing is necessary and approved by the DRC. Pet enclosures shall not be used as a property fence.

6. Adequate sight distance shall be maintained along roadways and intersections according to accepted engineering practices and roadway design speeds.



Split Rail Fence



Screen Fence

GOLF COURSE

The golf courses at Wingfield Springs are the central amenity of the project. Development parcel improvements should blend with the golf course improvements, including grading, landscaping, signage, roads, walls, fences and screening.

1. Development parcel configurations may require adjustment to accommodate the final golf course route to minimize cross traffic, protect individual homes, and encourage clear access from hole to hole.

2. To the greatest extent possible, the number oflots with fairway frontage shall be maximized.

3. Amenities such as water features, trees and topography shall be incorporated into the design.

4. Multiple tee placements to create various levels of difficulty of play shall be considered to accommodate beginners, as well as more accomplished players.

5. The golf course shall be designed to assist in stormwater control through functional grading. Where necessary, portions of fairways shall double as detention basins and/or allow for stormwater control as required by the final hydrology studies.

6. The golf course is one of the main elements of the project. As such, all signage and related facility construction such as restroom, concession and shelter structures shall be consistent with the overall development theme.

7. The golf cart paths will be independent of pedestrian pathways throughout the project to avoid conflict of purposes.

8. Golf cart access from the residential and resort villages shall be encouraged.

9. Landscaping and irrigation relating to the golf course shall be designed with an emphasis on water conservation and shall follow the guidelines outlined in the landscaping section of this document. A fertilizer management plan for the golf course shall also be prepared.

LANDSCAPE

Landscaping within Wingfield Springs shall integrate resource efficient design measures and environmentally compatible plants to ensure drought resistant and water conserving vegetation as an integral part of the design. All landscaping within the project shall be provided in accordance with the City of Sparks Landscaping Ordinance unless stricter requirements are

identified in this Development Agreement Handbook. Conformance review shall be conducted by the Design Review Committee prior to Building Permit Submittal.

1. Colors and textures of plant material should be consistent within the overall project common areas yet vary within the individual parcels in order to create unity in the common areas and variety in the individual villages.

2. The ultimate mature size of plants will be evaluated on maintenance, life span and functional requirements. In areas where screening is needed, plants shall be selected upon their form and branching density.

3. New plantings are encouraged to be informal and clustered to relate to the existing landscape.

4. Landscape design should encourage appropriate native plants; low, natural massings and no abrupt transitions of plant materials, especially on the hillsides and ridgetops.

S. A series of linear rows of trees, or "hedgerows," shall be planted in the non-hillside areas to help maintain the site's rural character and reduce the large scale of the residential villages. Hedgerow trees shall be columnar in growth habitat and shall be suitable to the desert climate.

6. Trees shall also be encouraged to shade paved surface areas and consequently minimize reflected solar heat.

7. All plant materials shall be evaluated in terms of how well they enhance the architecture, existing plant material, enclose spaces and link various activities within Wingfield Springs.

8. Climate influences shall be considered in order to get the maximum gain out of plant material. Evergreens along the north and west sides of buildings will be encouraged; as they will diffuse the winter winds. Deciduous plants adjacent to buildings will be recommended since they provide summer shade while allowing winter sun to enter the building. Special consideration shall be given to trees with tap roots and/or non-evasive root growth.

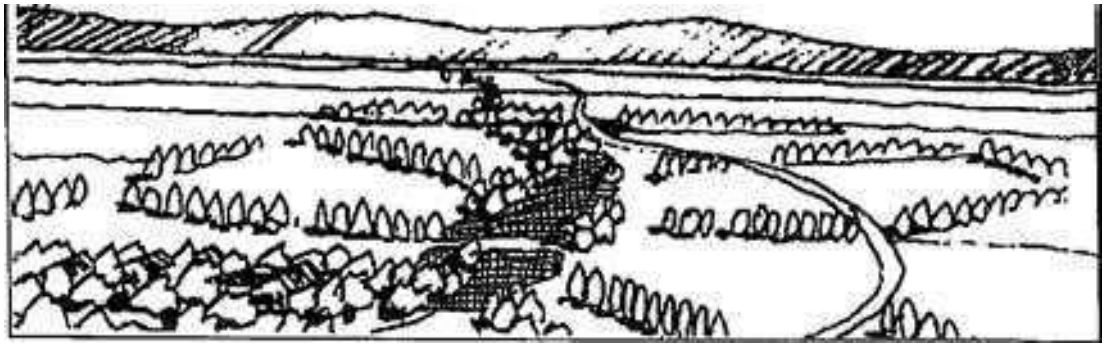
9. Drought tolerant principles shall be used when applicable. Plants selected shall be grouped and zoned according to water consumption rates and soil requirements. To aid in water conservation, plants should be confined to planting beds, and the use of mulches at a minimum of 1 inch depth is encouraged.

10. Native high desert plant materials are encouraged.

Wingfield Springs Development Agreement Handbook

11. Plants which require little maintenance should be favored over those which require constant spray and pruning. Special attention shall be given to appropriate plant spacings, as this will reduce unwarranted pruning.

12. Plant life cycle should be considered with plant materials. An appropriate mix of slow, medium and fast growth rates shall be encouraged. The result of a proper mix will be a long living, increased drought tolerant and disease resistant stand of vegetation.



Hedgerows are planned to define open spaces in the valley floor

13. Fire retardant and low fuel plants are encouraged within 30 feet of all buildings. A minimum of IO' vegetation clearance must be maintained around chimneys. Wetlands and their setbacks are excluded.

14. Proper turf management aids in soil erosion control, dust stabilization, temperature moderation and high groundwater recharge. The type and selection of turf areas should be selected in the same manner as all other plantings. Hydro mulching is permitted.

15. Existing trees over 6" in diameter should be preserved to the greatest extent possible. No grading shall occur within its dripline. Trees are to be protected during construction. (See Grading Guidelines, VI-I1.)

16. Irrigation is critical for healthy plant material with deep watering the best way to apply water. This promotes deeper roots which are not as susceptible to drought.

    a. All permanent systems are to be below ground and fully automatic. Use of water conserving systems including, but not limited to, drip irrigation and moisture sensors is strongly encouraged. Irrigation heads, where used, are to be adjusted to minimize permissible run-off. All irrigation heads adjacent to paved areas, curbs and in turf shall be of the pop-up type.

b. Backflow control devices are to be located so as to minimize their adverse visual impact. In addition, such control devices shall be screened by shrubs.

17. Undeveloped sites or portions of sites held in reserve for future development need not be irrigated or fully landscaped; however, these areas shall, at a minimum, be seeded with a drought resistant clover/wildflower mix to minimize weed growth and erosion. The use of temporary on-grade irrigation systems shall be permitted in these areas.

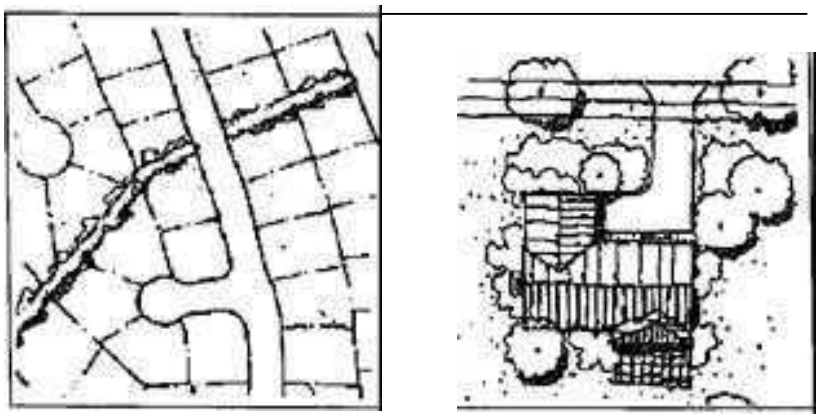
18. Landscaping adjacent to the golf course will be required to blend with the construction of the course. Yards shall open onto the course. A plant palette shall be created for the golf course perimeter which will be applicable to adjacent development.

19. Turf areas should be limited in size. Where used, turf shall be of a drought tolerant type.

20. Decomposed granite, stone, and gravel beddings are encouraged.

OPEN SPACE

The open space areas are an integral part of the development providing expansive vistas, windbreaks, wildlife habitat, and passive and active recreational opportunities and identity.



Open Space Guidelines

1. Any Future Neighborhood parks and recreational amenities shall be constructed with input from the City of Sparks.

2. Hedgerows will be required in designated areas.

3. Wetlands are to be protected and preserved on site according to local, state and federal regulations.

GRADING/REVEGETATION

Grading will be coordinated with the golf course design and storm drainage plans for the property. Detention basins and ponds will be constructed to delay storm water flows in some locations. Lots in many of the villages will be individually graded in a site sensitive manner to reduce impacts. Cut and fill slopes along roadways will be carefully designed to minimize visual impacts. Grading and revegetation guidelines are outlined below and shall comply with Washoe County Health Department and the City of Sparks requirements including Hillside Development Standards, and with Soil Conservation Services requirements.

1. All disturbed areas will be revegetated or restored, with proper erosion and dust control methods. Stockpiling, erosion and the loss of topsoil shall be minimized.

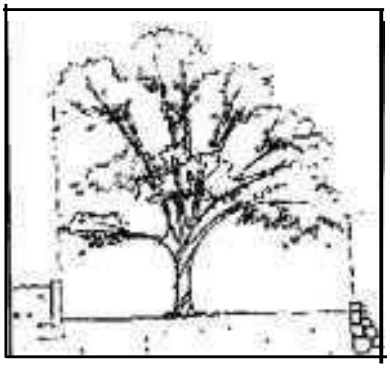
2. Seeding shall be done as soon as possible after finish grading has been completed.

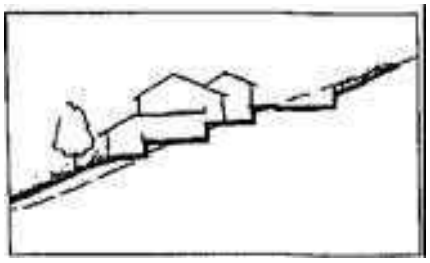
3. Topsoil that is removed shall be centrally located with respect to construction phasing. The stockpile shall be protected by seeding, watering, mulching or covering or by other method.

4. All grading shall follow the City of Sparks requirements. Slopes of 3: 1 or less are preferred with overall finish grades contoured and blending with natural land forms to the greatest extent possible. Slopes of 2:1 are permitted provided these slopes are revegetated with native seed mixes and erosion control matting (i.e. coconut matting or equal). 2:1 slopes shall also have temporary irrigation installed until native grasses/plants are substantially established. The Wingfield Springs Community Association shall retain a maintenance easement across all 2:1 slopes to allow for repair and replanting in case of future erosion. The use of custom retaining walls of native rock and landscaping to screen cut slopes and fill areas shall be encouraged.

5. Individual site sensitive grading, as well as appropriate hillside adaptive construction shall be provided on slope sensitive lots and shall be reviewed and approved by the DRC.

6. Detention basins will be developed in conjunction with other earthwork operations for use in sediment and drainage control during construction.





STORM DRAINAGE

Storm drainage will be accommodated through a combination of piping and surface drainage in accordance with the results of the final hydrology study.

1. A final hydrology study shall be prepared prior to development of each project phase/village.

2. Detention basins and ponds to be constructed shall be incorporated into the golf course and open space landscaping designs as project amenities. Drainage channels shall be natural in appearance, not concrete lined. Alternative designs to reduce erosion or improve downstream water quality may be approved by the Administrator.

3. Accumulated sediments shall be removed and maintenance performed as necessary by the City of Sparks, the project's homeowner's association or golf course operator, as established pursuant to further agreement.

4. Catch basins shall include oil/sand separators or other measures to provide for the pretreatment/removal of petrochemicals and silts.

FIRE PROTECTION/PREVENTION

A fire station and other public facility site will be provided within the neighborhood commercial center parcel. The design and construction of the fire station will be coordinated with the adjoining general store and related uses.

1. The developer shall contribute their fair share to the financing of the public facility in accordance with the Infrastructure Financing Concept Plan.

2. The development shall comply with all applicable fire codes and requirements for construction, including the provision of secondary access, hydrant locations, class A roofing, fire breaks, etc. The irrigated open spaces and golf course will act as fire breaks throughout the project. It is further anticipated that fire sprinklers shall be installed in residences on ridgetop lots and may be installed on other private residences.

WATER CONSERVATION

1. Water meters will be required for all uses within the project.

2. Resource efficient landscaping, water conservation irrigation systems and domestic water fixtures shall be required throughout the project in accordance with City of Sparks Ordinances.

3. Builders shall be encouraged to provide state-of-the-art water conserving fixtures and appliances in residential and non-residential developments.

4. If feasible in the future, the reuse of treated effluent may be considered for golf course irrigation.

ENERGY CONSERVATION

The Sierra Pacific Power Company (SPPCo.) in cooperation with the Builders Association of Northern Nevada participates in an energy-efficiency program known as "Good Cents." Good Cents is a nationwide program, introduced to Northern Nevada in 1989 to improve the energy

efficiency of homes. Homes built according to the program's guidelines are inspected and certified by Sierra Pacific representatives.

Features required for the Good Cents Home designation include added attic, wall and floor insulation, energy-efficient double-pane windows, moisture penetration barriers, high-efficiency heating and cooling systems and energy-saving water heaters.

1. Builders shall be encouraged to participate in the Good Cents program and construct homes to meet program requirements.

2. Passive solar designs and wind orientations shall be considered in single and multi-family residential designs.

ELECTRIC SERVICE

It is anticipated that electrical service will most likely be provided along Vista Boulevard with overhead service to the western boundary of the project and underground service along Vista Boulevard bisecting the site. The interior portions of the project shall be developed with underground electrical lines.

AIRQUALITY

The Wingfield Springs development is located within an air quality attainment area however the Regional Planning Governing Board adopted regulations for non-attainment in the SOI on June 10, 1993. Traffic reduction is encouraged within the project through the provision of an extensive pedestrian and bicycle pathway system. Guidelines relating to maintaining air quality within the project are provided below.

1. Parking spaces designated for "Park and Ride" purposes shall be provided within the neighborhood commercial center parcel.

2. The developer will work with the Washoe County School District and the Regional Transportation Commission to identify bus stop locations for future bus service to the project.

3. Wood burning devices shall comply with Environmental Protection Agency Standards in accordance with Washoe County District Health Department and City of Sparks regulations.

4. Dust control mitigation measures shall comply with Washoe County District Health Department Standards.

GEOTECHNICAL

A preliminary geotechnical report has been prepared for the project site. According to the report, there are no severe constraints which would prevent development of the property.

1. Final geotechnical reports shall be required prior to the construction of on and off-site infrastructure improvements, as well as for each specific development within the project. Reports shall address site preparation, excavation, cuts and fills, grading, foundation requirements and pavement section requirements.

2. Construction shall follow the requirements of the final geotechnical reports with testing required to verify compliance.

APPENDICES

APPENDIX A: GLOSSARY

ACCESSORY STRUCTURES	"Accessory Structures" means a detached building or structure which is subordinate to, and the use of which is incidental to that of the main building, structure, or use of the same parcel or lot of land, including mother in law quarters on Executive Lots or larger.
ADMINISTRATOR	See Procedures, Section 1, page 8.
APARTMENT HOUSE	"Apartment House" means a multiple dwelling, as that term is defined in this title.
AVERAGE DAILY TRAFFIC (ADT)	"Average Daily Traffic" (ADT) is the total volume of vehicles in both directions during a given time period (in whole days), greater than one day and less than one year, divided by the number of days within that time period.
BUILDING	"Building" means any structure having a roof supported by columns or walls used for the enclosure of persons, animals or chattel, but not including a trailer coach or mobile home.
BUILDING ENVELOPE	"Building Envelope" is a specified area of a lot or parcel of land with which may be coextensive with the setbacks required herein.
BUILDING FOOTPRINT	"Building Footprint" is the area encompassed by the exterior walls of a fully enclosed dwelling unit, garage, or other structure.
BUILDING HEIGHT	"Building Height" means vertical distance from the average level of the highest and lowest points of that portion of the lot covered by the building to the ceiling line of

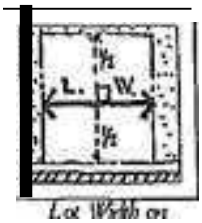
	the topmost floor.
BUILDING MASSING	"Building Massing' means that three-dimensional bulk and scale of a building.
BUILDING SETBACK	"Building Setback" means the distance between the property line and the nearest portion of the structure on the property.
BUILDING SETBACK PROJECTIONS	Projections into the building setbacks may be allowed under the following circumstances with the approval of the Design Review committee (DRC). Fireplaces, chimneys, greenhouses, window bays and wall pop-outs may project into the building setback. The encroachment into the setback shall not be more than 25 square feet and the depth of the encroachment may not be more than 2.5 feet. All encroachments shall comply with the Uniform Building Code requirements.
CHILD CARE FACILITY	"Child Dare Facility" means any place or home, institution or establishment in which children are received, cared for or maintained for an period of time with or without compensation.
CLUB	"Club" means a profit or nonprofit association of persons organized solely or primarily to render a service which is usually a commercial enterprise.
COMMON AREAS	"Common Areas" means those portions of the project site which do not fall within a residential or commercial parcel and will ultimately be owned in "common" by the Homeowners Association.
COMMUNITY FACILITY	"Community Facilities" means an office and/or meeting facility to conduct the business of the Homeowners Association. In addition, the facility could be used by

	residents of the community for games, meetings, exhibits, or other community resident activities.
DENSITY, GROSS	"Gross Density" means the ratio of total number of dwelling units to the total land area contained within the application.
DENSITY, NET	"Net Density" is the ratio of the total number of dwelling units or lots contained within privately held land to the amount of area within that privately held land.
DESIGN REVIEW COMMITTEE (DRC)	The "DRC" will consist of a committee of individuals appointed by the land owner or Homeowners Association to review issues of planning, architecture and landscape design related to this project.
DEVELOPMENT AGREEMENT	"Development Agreement" means the agreement entered into between the City of Sparks and Loeb Enterprises Limited Liability Company.
DWELLING	"Dwelling" means any building or portion thereof used exclusively for residential purposes, but shall not include hotels, clubs, boarding or rooming houses, fraternity or sorority houses, institutions or mobile homes.
DWELLING UNIT	"Dwelling Unit" means one or more rooms in a dwelling or multiple dwelling or apartment hotel used for occupancy by one family (including necessary employees of such family) for living or sleeping and having only one kitchen.
EASEMENT	"Easement" is the right of one party to use the land of another for a specified purpose or purposes.

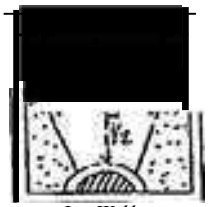
FINISHED GRADE	"Finished Grade" is the final elevation of the ground surface conforming to the approved grading plan.
FLOOR AREA, GROSS	"Gross Floor Area" is the sum of the gross horizontal areas of the several floors of a building, or portion thereof.
GAMING	"Gaming" includes all legally authorized activities consistent with the currently applicable NRS Ch. 463.
GARAGE,PRIVATE	"Private Garage" means the space intended for the use by the private vehicles of families' resident upon the lot.
GOLF COTTAGE	"Golf Cottages" are the attached *or detached* townhouse or condominium type units with views of the golf course and are in close proximity to the golf club.
HEDGEROW	"Hedgerow" means a linear public easement used for tree planting and pedestrian circulation.
LOT	"Lot" means a distinct part of a parcel of land divided with the intent to transfer ownership or for building purposes which abuts upon a means of access.
LOT DEPTH	"Lot Depth" means the distance between the front and rear lot lines.
LOT FRONTAGE	"Lot Frontage" means the narrowest lot dimension fronting on a street.

LOTWIDTH

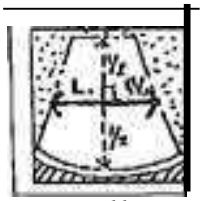
"Lot Width" means the distance between the side lot lines measured at right angles to the lot depth at the midpoint between the front and rear line. This is where minimum lot width is measured



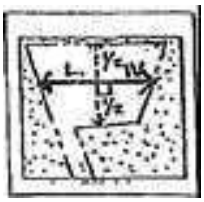
"Rectalinear" Lot



Lot Width on "Cul-de-Sac" Lot



Lot Width on "Wedge" Lot



Lot Width on "Flag" Lot

LOT LINES

"Lot Lines" are the property lines bounding the lot.

NATIVE VEGETATION

"Native Vegetation" means plant materials indigenous to the region surrounding Sparks, Nevada.

MULTIPLE-FAMILY DWELLING

"Multiple-Family Dwelling" means a building to be used to house three or more families living independently of each other, having their own kitchen facilities and including the necessary employees of each family including apartments, condominiums, and town homes.

NATURAL AREAS

"Natural Areas" are areas of untouched natural landscape, wetland, or desert areas.

NATURAL GRADE

"Natural Grade" is the slope of natural or undisturbed ground surface prior to any grading operation.

NET USABLE FLOOR AREA

"Net Usable Floor Area" means the sum of the gross floor area minus the following areas measured from the center of the inside walls: areas used for public corridors, interior stairways, public lobbies, interior courts, public rest rooms; mechanical

	equipment areas; elevators and elevator shafts and such other areas.
NONCONFORMING USE	"Nonconforming Use" is a building, structure or premises legally existing and/or used at the time of adoption of this Development Agreement Handbook or any amendment thereto, and which does not conform with the use regulations of the district in which located. Any such building, structure or premises conforming in respect to use but not in respect to height, area, yards, or courts, or distance requirement from more restricted districts or uses shall not be considered a nonconforming use.
OPEN SPACE	"Open Space" is the area of land which remains undeveloped for the purposes of maintaining existing character.
PARCEL OF LAND	"Parcel of Land" means any unit or contiguous units of land, in the possession of or recorded as the property of one owner.
PRINCIPAL PERMITTED USE	"Principal Permitted Use" means the main use of land buildings as distinguished from a subordinate or accessory use.
RECREATIONAL CLUB PRNATE	"Recreation club" means a group or association formed as a legal entity to provide recreational services to its members, either for profit or non-profit.
RECREATIONAL VEHICLE	"Recreational Vehicle" means a vehicular type unit primarily designed as temporary living quarters for travel, recreational, or camping use which may be driven or towed on a highway, and which may be self-propelled, mounted upon, or drawn by a motor vehicle. Recreational vehicle includes any travel trailer, camping trailer, motor home, pickup coach, or slide-in camper.

RIGHT-OF-WAY	"Right-of-Way" means land which by deed conveyance, dedication, or process of law is reserved for use by the general public for roadway improvements, drainage facilities, and other public utilities.
SINGLE-FAMILY DWELLING	"Single-Family Dwelling" means a building containing one kitchen designed or used or designed and used to house not more than one family, including necessary employees of such family.
SITE	"Site" means a parcel or combination of parcels or lots which share a common development plan or which are dependent upon one another for access, parking or utilities.
STREET	"Street" means a public or private thoroughfare which affords a primary means of access to a butting property.
STREET, ARTERIAL	"Arterial Streets" are thoroughfares used primarily for carrying fast and/or heavy traffic.
STREET,COLLECTOR	"Collector Streets" are thoroughfares used primarily for carrying traffic from minor streets to arterials.
STREET, CUL-DE-SAC	"Cul-de-Sac" is a dead-end street provided with a vehicular turn around at its terminus.
STREET, LOCAL	"Local Streets" are streets used exclusively for access to private lots.
STREET, PRIVATE	"Private Street" is any pare! Of land used for a street, road, lane or way or similar designation which is maintained by a private party or has not been officially accepted for perpetual maintenance on behalf of the

	public.
STRUCTURE	"Structure" means any construction except a tent, trailer, mobile home or vehicle.
USE	"Use" is the purpose for which land or a building thereon is designed, arranged or intended, or for which it is occupied or maintained, let or leased.
YARD	"Yard" means an open space on the same lot or parcel with the building, extending from the building to the nearest lot line.
YARD,FRONT	"Front Yard" means the yard lying between the front wall of the main building and the front property line and extending across the full width of the lot or parcel.
YARD,REAR	"Rear Yard" means the yard between the main building and the rear line and extending across the full width of the lot or parcel.
YARD, SIDE	"Side Yard" means the yard lying between the side lot line and the main building and extending from the front yard line to the rear yard line.
ZERO-LOT-LINE	"Zero-Lot-Line" means a property line where there is no minimum building setback requirement on an interior side yard, on two (2) interior side yards or on an interior side yard and rear yard.

APPENDIX B: PROJECT DESIGN TEAM

The project design team for the Wingfield Springs Development consists of the following members:

EDAW, lnc-

EDAW's responsibilities include development of the final site plans, landscape concepts and assemblage of the original Development Agreement Handbook.

ERA (Economics Research Associates)-

ERA has performed market studies for the project and has provided input into the site plans with regard to the golf course and product types and mixes.

Hale Irwin-

Hale Irwin is the professional golf course architect for The Hills Course on the southern parcel.

Huffman and Associates -

Huffman and Associates performed the wetlands delineation for the property and is responsible for coordinating with the U.S. Army Corps of Engineers as the project develops.

Kautz and Associates -

Kautz and Associates have performed archaeological investigations of the property and are responsible for coordinating with the Nevada Department of Conservation and Natural Resources.

Kleinfelder, Inc. -

Kleinfelder has performed preliminary geotechnical investigations on the property for the tentative map process, as well as a hydrologic study for planning purposes. Kleinfelder will be responsible for providing more in depth investigations with regard to geotechnical matters and groundwater as the project develops.

Lionel Sawyer and Collins -

Lionel Sawyer and Collins has provided legal counsel and coordination assistance through the permitting process.

Pyramid Engineers and Land Surveyors -

Pyramid Engineers and Land Surveyors has been involved in the project since its inception in A11gust of 1990 providing project coordination, governmental processing, planning, civil engineering, environmental engineering, mapping and surveying services.

Red Hawk Land Company-

Red Hawk Land Company has provided legal counsel, coordination assistance and assemblage of the Development Agreement Handbook.

Robert Trent Jones Jr. -

Robert Trent Jones Jr. is the professional golf course architect for The Lakes Course on the northern parcel

Rosaschi Construction Company, Inc. -

Rosaschi Construction has provided construction and cost estimate assistance as well as feasibility analysis.

Wood Rogers -

Wood Rogers has provided planning, civil engineering, environmental engineering, mapping and surveying services.