HURRICANE CITY
UTAH

Mayor Nanette Billings

City Manager Kaden DeMille

Planning Commission

Mark Sampson, Chair
Shelley Goodfellow, Alternate Chair
Ralph Ballard
Paul Farthing
Brad Winder
Kelby Iverson
Amy Werrett
Michelle Smith

Hurricane Planning Commission Meeting
Agenda

April 10, 2025
5:00 PM
Hurricane City Offices 147 N 870 W, Hurricane

Notice is hereby given that the Hurricane City Planning Commission will hold a Regular Meeting commencing at 5:00 p.m. at the Hurricane City Offices 147 N 870 W, Hurricane, UT.

Meeting link:
https://cityofhurricane.webex.com/cityofhurricane/j.php?MTID=me42b4eb65609e35eb0e0664c925c9dbc
Meeting number:2632 882 4836
Password:HCplanning
Host key:730111
Join by phone+1-415-655-0001 US Toll
Access code: 2632 882 4836
Host PIN: 9461
Details on these applications are available in the Planning Department at the City Office, 147 N. 870 West.

5:00 p.m. - Planning Commission Business:

1. Discussion on rockfall zones
2. Update on the 2025 Utah State Legislative Session

6:00 p.m. - Call to Order

Roll Call

Pledge of Allegiance

Prayer and/or thought by invitation

Declaration of any conflicts of interest

Public Hearings

1. A Zone Change Amendment request located at 2400 W and Liberty Way from M-1 and R1-10 (PDO) to R1-10 (PDO) and to update the overall PDO for BoN Gardens. Parcel H-3373-NP-BL.
2. A Land Use Code Amendment to Title 10 Chapter 28 regarding rockfall zone development standards.

3. A Land Use Code Amendment to Title 10 Chapter 3, 7, 12, and 14 regarding farm stands.

NEW BUSINESS

1. PP25-11: Discussion and consideration of a possible approval of a preliminary plat for Swiss Mesa, a five lot single family residential subdivision located at 300 N 2800 W. Swiss Seven, LLC, Applicant. Tony Carter, Agent.
2. AFSP25-01: Discussion and consideration of a possible approval of an amended final site plan for Glampers Inn, a commercial devlelopment, located at 505 S Sand Hollow Road. Blow Sand LLC, Applicant. Scott Nielson, Agent.
3. LUCA25-02: Discussion and consideration of recommendation to the City Council on a Land Use Code Amendment to Title 10 Chapter 28 regarding rockfall zone development standards. Hurricane City, Applicant.
4. LUCA25-03: Discussion and consideration of recommendation to the City Council on a Land Use Code Amendment to Title 10 Chapter 3, 7, 12, and 14 regarding farm stands. Hurricane City, Applicant.

Approval of Minutes:

1. January 9, 2025

Adjournment

Hurricane City
Application

Application Accepted Date: 03/21/2025

Type of Improvement: Subdivision (Preliminary Plat)

Description: 5 parcels that extend from The Paraiso Development

Tenant / Project Name: Swiss Mesa

Bldg. Address: Intersection of 2800 W & 2805 W

City: Hurricane City State: UT Zip: 84737

Subdivision: Swiss Mesa Phase: 1

Block: Lot #: 5 Parcel ID #: H-3-1-31-1104

Zone: R1-8

Property Owner: Swiss Seven, LLC

Permit Contact: Tony Carter P:(262) 408-7596

Email: submittals@alcsg.com

CONTACT INFORMATION

Engineer of Record: Tony Carter

Email: tony@alcsg.com P: (262) 408-7596

General Contractor: American Land Consulting & Engineering

License #: 12982989-2202 P: (262) 408-7596

Address: 1173 S 250 W Suite 504

City: St. George State: UT Zip: 84770

Email: Submittals@ALCSG.com

APPLICATION DETAILS

Valuation	$	0.00

PERMIT FEES

Planning Fee	$	150.00
Planning Fee	$	150.00
Sub Total:	**$**	**150.00**
Permit Total:	**$**	**150.00**
Amount Paid:	**$**	**150.00**
Remaining Due:	**$**	**0.00**

APPROVALS	DATE	INFO

Setbacks	Front:	Rear:	Left:	Right:
Min.				
Actual:				

APPLICATION NUMBER: PLANPP25-11

This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. I here-by certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be compiled with whether specified herein or not the granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction and that I make this statement under penalty of perjury. Maintenance Deposit is refundable after final inspection if: 1) site is kept clean 2) building is NOT occupied prior to final inspection and issuance of Certificate of Occupancy.

Applicant Name: Tony Carter

Signature of Applicant/Authorized Agent or Owner: Date:

Application Approved By: Date:

Application Issued By: Date:

Receipt #: 226505472-03/21/25

DRAFT

MEMORANDUM

To: Hurricane City

From: American Consulting & Engineering

Date: March 19, 2025

Re: Swiss Mesa Project Narrative

The proposed Swiss Mesa Development is a 1.59 acre portion of the 29 acre parcel located in Hurricane, UT at approximately 400 North and 2800 West in Section 31 Township 41 South Range 13 West Salt Lake Base & Meridian (SLB&M). The site will contain 5 single family residential lots.

Thank you,

American Consulting & Engineering

March 21, 2025

Hurricane City
Gary Cupp
127 N. 870 W.
Hurricane, UT 84737

Subject: Swiss Mesa

Gary,

The proposed Swiss Mesa development was part of the cost-sharing agreement that provided sewer main line extension to 2800 West in Hurricane. Due to this extension, there is sewer capacity for this project. The developers understand and agree that they will need to get plan approval for the sewer system.

After approval, they agree to pay all costs associated with construction and impact fees. Please let us know if you have any questions.

Sincerely,

Amber Gillette

Amber Gillette, P.E.
Engineer
Ash Creek Special Service District

1350 South Sandhollow Road, Hurricane, UT 84737
phone: 435.635.2348
email: ashcreek@infowest.com

WATER
HURRICANE CITY
UTAH

Ken Richins, Superintendent

March 21, 2025

To Whom It May Concern:

Swiss Seven, LLC (the "Developer") has requested a culinary water will serve letter for the subdivision known as **Swiss Mesa**, located at approximately **2800 W 300 N** in Hurricane, Utah (the "Project").

Infrastructure

The City currently has infrastructure to supply culinary water in the general vicinity of the Project. However, Developer will be responsible to connect the Project to the existing water infrastructure, including the installation of infrastructure in dedicated public streets and as otherwise required to meet City standards. A looped water system will be required. In addition, Developer may be required to obtain and supply a hydraulic water study to ensure the water system will deliver required fire flows and provide adequate storage.

Water Supply

As of the date of this letter, the City has adequate water to supply water to **5** residential connections within the Project. However, water within the City is a finite resource with limited supply. The ability of the City to supply water to previously approved projects, as well as continue to serve additional water customers, is contingent on water supplies being available from the Washington County Water Conservancy District (the "Conservancy District"). Therefore, the City's statements in this letter regarding the adequacy of water supply is (1) contingent on water being available from the Conservancy District and (2) shall expire one year from the date of this letter, after which a renewed will serve letter will be required for any property or lot that has not obtained a metered connection to the City's culinary water system. Developer is encouraged to obtain a guarantee of water from the Conservancy District.

General Requirements

In addition to the requirements and limitations described above, Developer shall be required to comply with all applicable laws, ordinances, policies, and construction and design standards. These requirements include, but are not limited to, secondary water system requirements and any obligations described in an applicable development agreement. The Water Department will withhold any approval of the proposed Project until all the requirements and conditions of this letter are met as determined by the Water Department.

Sincerely,

Ken Richins
Water Department Superintendent

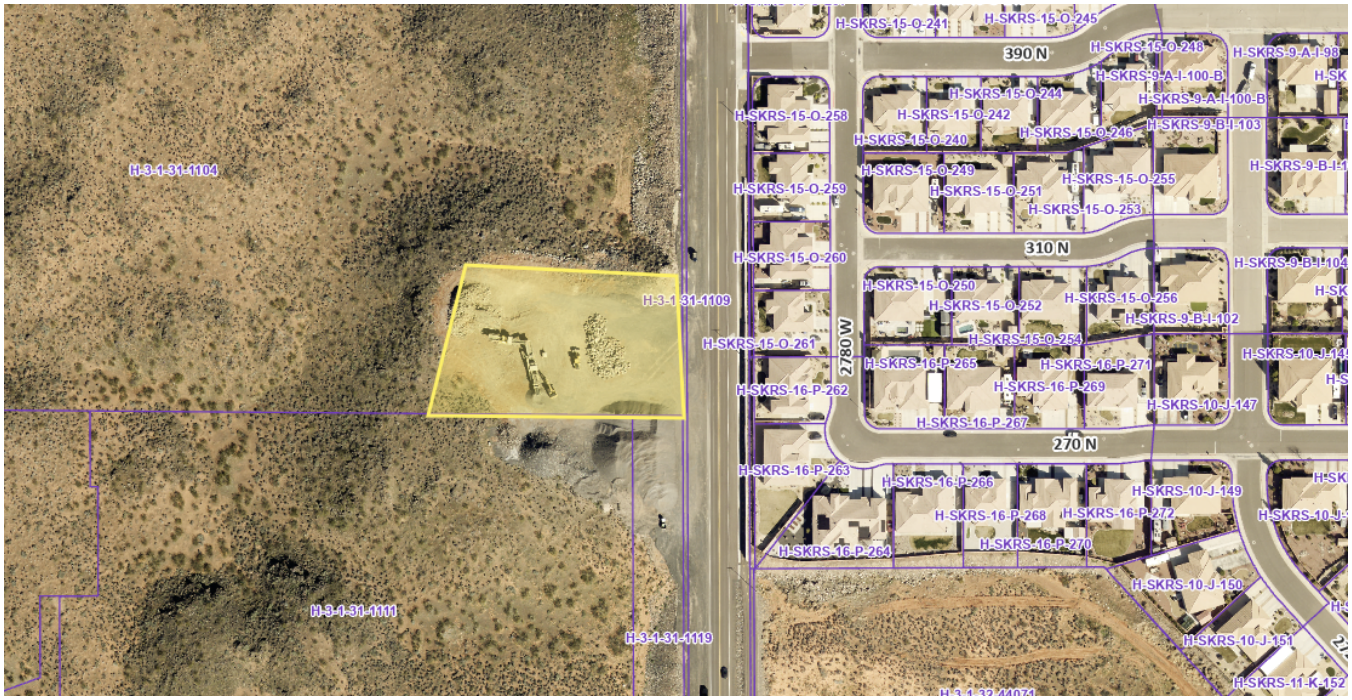
646 West 600 North • Hurricane, UT • 84737
Phone: (435) 635-9442 • Fax: (435) 635-2616
WEB: www.cityofhurricane.com

PLANNING & ZONING
HURRICANE CITY
UTAH

STAFF COMMENTS

Agenda Date:	**04/10/2025 - Planning Commission**
Application Number:	PP25-11
Type of Application:	Preliminary Plat
Action Type:	Administrative
Applicant:	Swiss Seven LLC
Agent:	Tony Carter
Request:	Approval of a Preliminary Plat.
Location:	300 N 2800 W
Zoning:	R1-8(PDO)
General Plan Map:	Planned Community
Recommendation:	Approve subject to staff and JUC comments.
Report Prepared by:	Fred Resch III

Discussion:
The applicant is seeking preliminary plat approval for a 5 lot residential subdivision located along 2800 W and north of the Paraiso subdivision. This property received zoning approval in 2022 as the Frei residential property. This subdivision will tie into the Paraiso property and 2800 W for utilities and access. The site is zoned Single Family Residential R1-8/PDO.



Map is approximate.

JUC Comments

The following items will need to be addressed:

1. **Public Works:** No comment.
2. **Fire:** Okay.
3. **Sewer:** Sewer will need to be extended west for this development. The plans show sewer east of the last manhole, so I'm assuming this project is the one extending the sewer.
4. **Water:** Use current city water notes. Complete waterline loop with this addition to 2805 W.
5. **Power:** This phase is subject to Paraiso Phase 7. Power will need to be on lot corners. Power application must be submitted to HCP. 15' power easement along 2800 W. 21' setbacks from transmission poles.
6. **Streets:** No comment.
7. **Cable:** [No comments received.]
8. **Engineering:** Where's the nearest survey monument (section or platted center line monument, HCC 10-39-7(B)(1))? The boundary of the subdivision should be shown and labeled (HCC 10-39-7(B)(2)). Remove the proposed storm drain. See HCS 3.4.2. The street's capacity won't be exceeded here and downstream facilities should be sufficient. If stormwater must depart from the roadway avoid crossing private property (i.e. use public corridors or common areas). (see also HCS 3.4.1(10th paragraph)). Existing conditions should be updated. Existing irrigation stub is south of the existing water stub. The proposed subdivision is dependent on the completion and acceptance of Paraiso Phase 7. A preconstruction meeting for phases 6-8 has been requested. Engineering can likely delay the traffic impact study required by the Swiss Seven Planned Development Overlay zone to the next preliminary plat(s) for the remainder of said development. However, obtaining traffic recommendations as early as possible is encouraged (see HCC 10-39-7(B)(3)). The proposed plat appears to make the rest of the development beholden to other developments for access.

The development is bisected by a pressure zone boundary of Hurricane City's water system. The need for information from the water network hydraulic analysis (HCS 3.6.9) required of the zone change is imminent. The remainder of the development may need another high pressure water stub. (HCS 2.1(bullet 2 & 3)). This proposed plat could limit available options.

9. **Washington County Water Conservancy District**: "Washington County Water Conservancy District hereby acknowledges that based on the information provided, the plans adequately mitigate interference with district facilities and property interests. The District reserves the right to rescind this acknowledgement if additional information becomes available. The district has not determined whether water will be available for this development and does not hereby make any guarantee of water availability.In addition, the development must conform with applicable district requirements, including but not limited to payment of fees."

Staff Comments: Preliminary Plat

1. Zoning is R1-8(PDO). All lots meet zoning standards and match the originally approved preliminary site plan.
2. The final plat will need to note that Lots 4 and 5 will not have driveway access to 2800 W.
3. A will serve letter from Hurricane City Water and Ash Creek Sewer District has been provided.
4. **Water use**: The Washington County Water Conservancy District has a county-wide tracking budget of approximately 75,000 units with approximately 25,000 units being located within Hurricane City. This would add an additional five lots to Hurricane City's totals.
5. The development is reliant upon Paraiso Phase 7 for access and water looping. Paraiso Phase 7 has signed construction drawings, a preconstruction meeting has been requested, and earlier phases of Paraiso are already under construction. Staff is comfortable allowing this application to proceed under the condition that off-site plans are provided if this development decides to develop before Paraiso Phase 7.

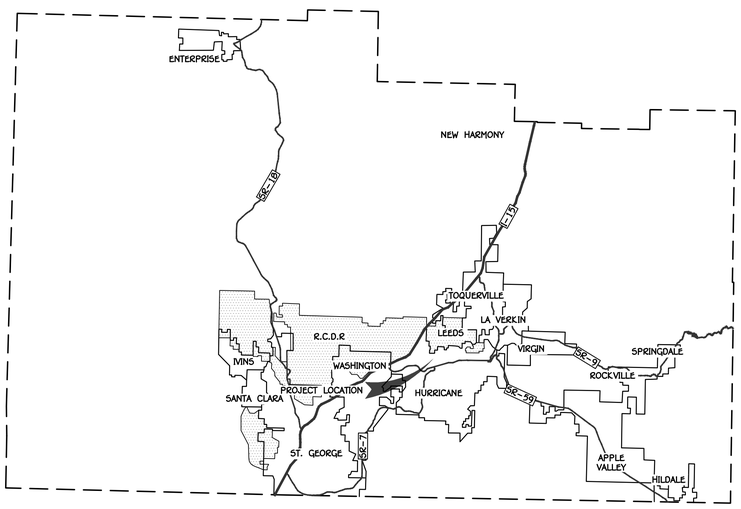
Recommendation: The Planning Commission should review this application based on standards within the Hurricane City Code. Staff recommends this item be approved subject to staff and JUC comments.

SWISS MESA

HURRICANE, UAH

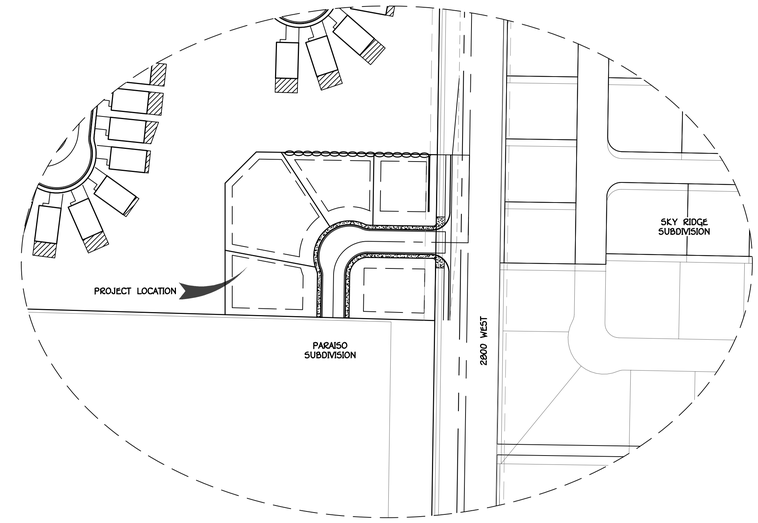
PRELIMINARY PLAT

MARCH 2025



WASHINGTON COUNTY

N.T.S.



VICINITY MAP

SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M

0 100' 200'

SCALE: 1" = 100'

SHEET INDEX		
#	SHEET	DESCRIPTION
1	P.1.1	COVER SHEET
2	P.1.2	SITE PLAN
3	P.1.3	GRADING PLAN
4	P.1.3	WATER, IRRIGATION, & SEWER
5	P.1.5	GAS - JUT PLAN
6	P.1.6	POWER PLAN

LEGAL DESCRIPTION

BEGINNING AT A POINT THAT LIES NORTH 88°56'23" WEST 358.02 FEET ALONG THE SECTION LINE, AND SOUTH 1,417.12 FEET FROM THE NORTHEAST CORNER OF SECTION 31, TOWNSHIP 41 SOUTH, RANGE 13 WEST, SALT LAKE BASE AND MERIDIAN; RUNNING THENCE NORTH 44°55'56" EAST 65.94 FEET; THENCE SOUTH 89°07'32" EAST 255.30 FEET TO A POINT ON THE WEST LINE OF 2800 WEST RIGHT-OF-WAY; THENCE SOUTH 00°53'13" WEST ALONG SAID WEST LINE OF 2800 WEST RIGHT-OF-WAY 236.00 FEET; TO THE NORTHWEST CORNER OF PARCEL H-3-1-31-1119, THENCE NORTH 88°25'14" WEST ALONG THE NORTH LINE OF SAID PARCEL 298.29 FEET; TO A POINT ON THE NORTH LINE OF PARCEL H-3-1-31-111, THENCE NORTH 184.97 FEET TO THE POINT OF BEGINNING.

CONTAINING 69,159 SQUARE FEET OR 1.59 ACRES.

PRELIMINARY PLAT SITE DATA

SWISS MESA	
CURRENT ZONING:	P.D.O.
PROJECT AREA	1.59 ACRES (69,159 S.F.)
NO. OF LOTS & DENSITY	5 LOTS (3.14 D.U./ACRE)
GARAGE PARKING	N/A
DRIVEWAY PARKING	N/A
OFF-STREET PARKING	N/A
TOTAL PARKING	N/A

PROPERTY OWNER

SWISS SEVEN, LLC
590 E ST. GEORGE. BLVD
ST. GEORGE, UT 84770
CONTACT: KENT FREI
PHONE: (435) 680-3090
EMAIL: KENTFREI@GMAIL.COM

GEOTECH ENGINEER

APPLIED GEOTECHNICAL (AGEC)
1420 S. 270 E.
ST. GEORGE, UT 84790
CONTACT: WAYNE ROGERS
PHONE: (435) 673-6050
EMAIL: rogers@agecinc.com

CIVIL ENGINEER

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W., SUITE #504
ST. GEORGE, UT 84770
CONTACT: AUSTIN CHAPPELL
PHONE: (435) 288-3330
EMAIL: austin@alcsg.com

APPLICANT-AGENT

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W., SUITE #504
ST. GEORGE, UT 84770
PRIMARY CONTACT: ADAM ALLEN
PHONE: (435) 288-3330
EMAIL: adam@alcsg.com

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER No. 12982989-2202 TYLER CARTER STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #504 ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

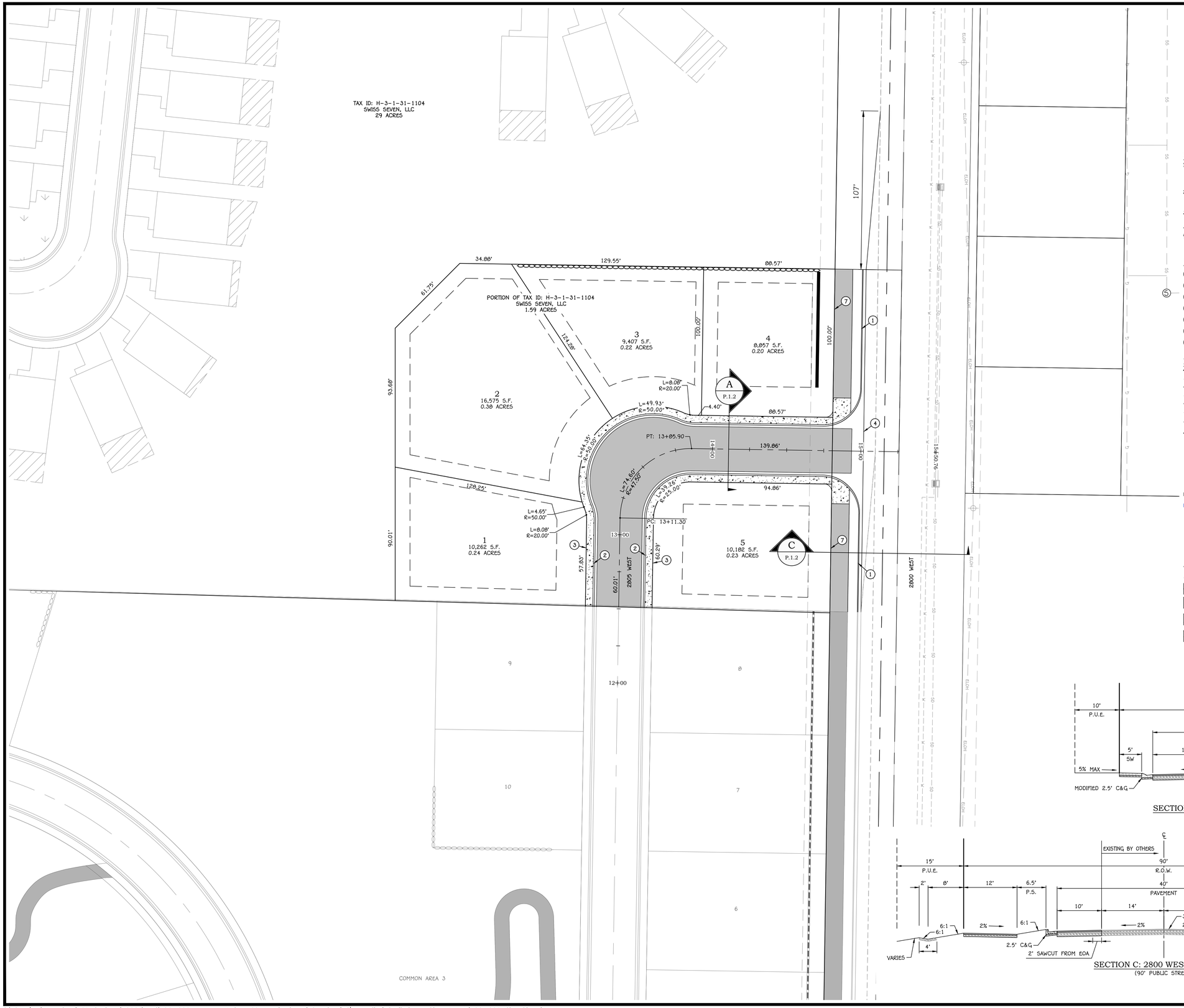
SWISS MESA
SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

COVER SHEET
PRELIMINARY PLAT

P.1.1

SHEET: 1 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 - Kent Frei - 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Cover.dwg



Blue Stakes of UTAH811
Bluestakes.org
Call Before You Dig!

0 30' 60'
SCALE: 1" = 30'

SITE PLAN NOTES:

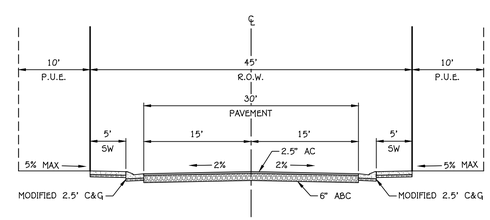
1. CONTRACTOR TO MATCH EXISTING CONDITIONS AT ALL TIE IN LOCATIONS. PROTECT IN PLACE ALL INFRASTRUCTURE TO REMAIN. SAWCUT EXISTING C&G AND ASPHALT WHERE APPROPRIATE TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO NEW.
2. CLASS I AND/OR CLASS II SURVEY MONUMENTS SHOWN ON THIS PLAN ARE FOR INFORMATION ONLY. FINAL LOCATIONS FOR ALL SURVEY MONUMENTS TO BE PROVIDED BY THE LICENSED SURVEYOR.
3. ALL FIELD DESIGN CHANGES MUST BE APPROVED BY THE ENGINEER AND CITY PRIOR TO PROCEEDING WITH PROPOSED FIELD DESIGN CHANGES.
4. ALL TRAILS SHALL BE CONTAINED WITHIN AN EASEMENT.
5. THE PROJECT IS SITUATED OUTSIDE THE DESERT TORTOISE TAKE AREA, AS INDICATED ON THE TAKE AREA 6 – LEEDS MAP.

KEY NOTES:

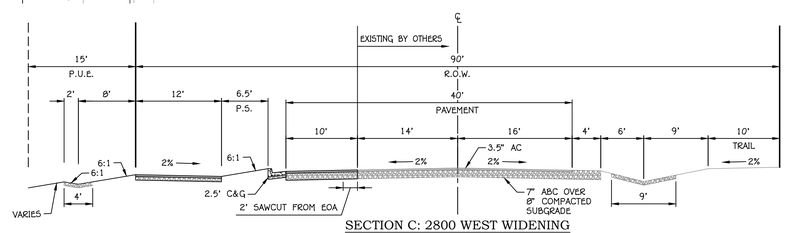
		DETAIL
1	STANDARD CURB & GUTTER (HB30-7)	CC 101
2	MODIFIED CURB & GUTTER (RU30)	CC 102
3	SIDEWALK DETAILS	CC 105
4	STANDARD 8' CROSS GUTTER	CG 100
5	PEDESTRIAN ACCESS RAMP	PED 107
6	(3) END OF ROADWAY MARKER	MUTCD OM4-3
7	10' TRAIL SECTION	WASH. DWG. 130

LEGEND:

	DETAIL
PROPOSED PARCEL BOUNDARY	
EXISTING/ADJACENT PARCEL BOUNDARY	
PROPOSED EASEMENT	
EXISTING EASEMENT	
PROPOSED CENTERLINE ALIGNMENT	
EXISTING CENTERLINE ALIGNMENT	
PROPOSED SETBACK LINE	
SURVEY SECTION LINE	
SURVEY SECTION CORNER MONUMENT	
CLASS I SURVEY MONUMENT	MON 100
CLASS II SURVEY MONUMENT	MON 101
PHASE LINE	
SHEET MATCH LINE	
CORNER PEDESTRIAN RAMP	PED 100
ADA PARKING SPACE	
STANDARD STREET SIGN WITH STANDARD STOP SIGN	SS 100-103
PROPOSED ROCK WALL (SEE GRADING PLANS)	
EXISTING ROCK RETAINING WALL	
PROPOSED INTERLOCKING GRAVITY BLOCK RETAINING WALL	
2.5" ASPHALT OVER 6" BASE PAVEMENT SECTION	
CONCRETE SURFACE	
OPEN SPACE/LANDSCAPE AREA	



SECTION A: RESIDENTIAL LOCAL
(45' PUBLIC STREET)



SECTION C: 2800 WEST WIDENING
(90' PUBLIC STREET)

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER No. 12982899-2202 TIMOTHY CARTER CARTER STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #500 ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

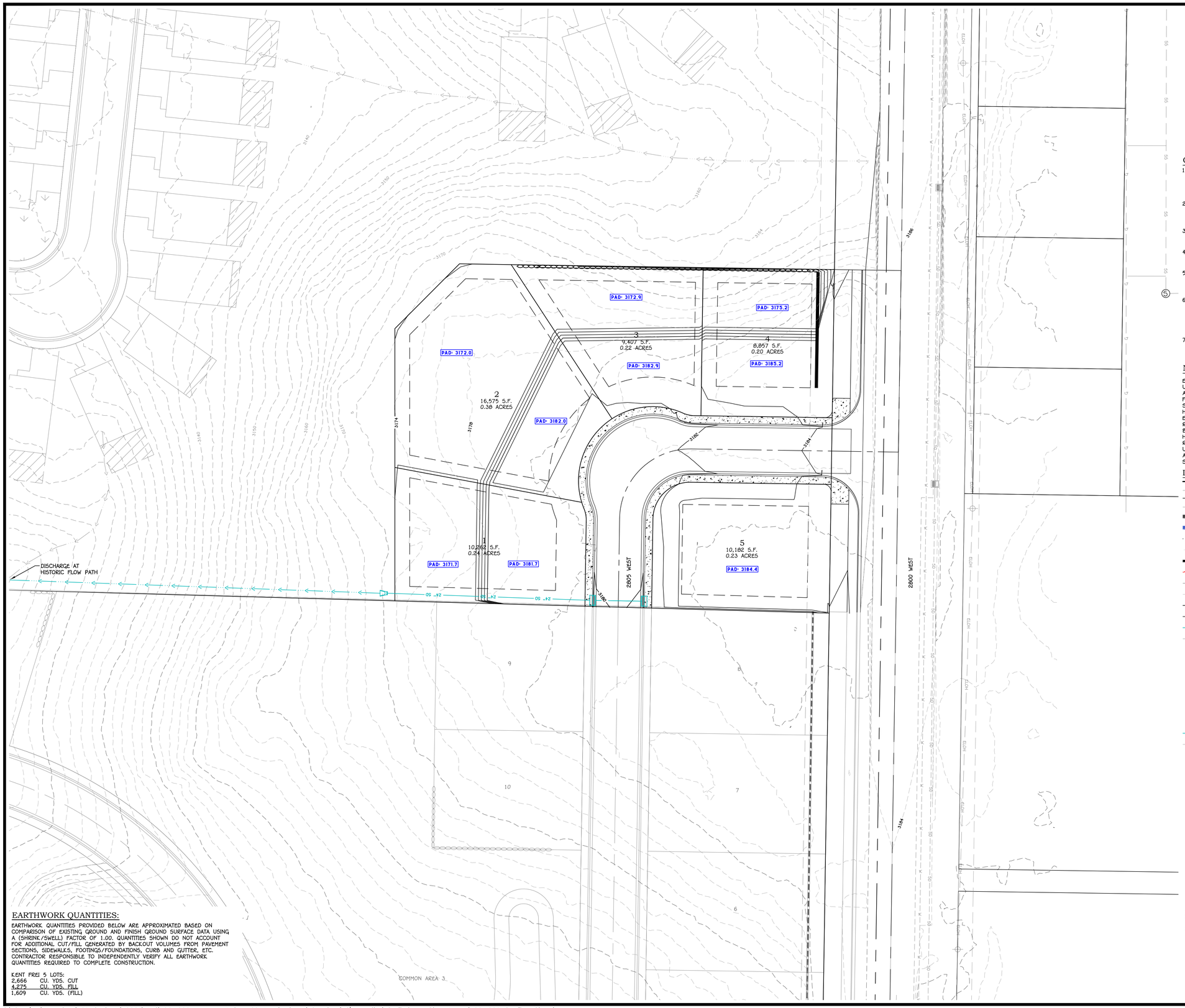
SWISS MESA
SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

SITE PLAN
PRELIMINARY PLAT

P.1.2

SHEET: 2 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 – Kent Frei – 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Site Plan.dwg



0 30' 60'
SCALE: 1" = 30'

Blue Stakes of UTAH811
Bluestakes.org
Call Before You Dig!

GRADING PLAN NOTES:

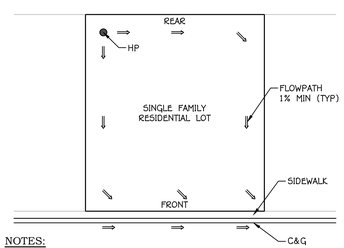
1. THE CONTRACTOR SHALL PROVIDE APPROPRIATE EQUIPMENT TO CONTROL DUST AND AIR POLLUTION CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ALSO PROVIDE APPROPRIATE MUD AND DIRT CONTAINMENT TO MAINTAIN THE WORK SITE, ACCESS ROADWAYS, AND ADJACENT PROPERTIES IN A CLEAN CONDITION.
2. ALL EXCAVATION AND GRADING SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS ALONG WITH APPENDIX J STANDARDS OF THE INTERNATIONAL BUILDING CODE 2018 EDITION OR NEWER AS ADOPTED BY THE STATE OF UTAH AND CITY.
3. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY IF THERE ARE ANY CONFLICTS BETWEEN THE REQUIREMENTS OF THE PLANS AND GEOTECHNICAL REPORT AND/OR GEOTECHNICAL FIELD OBSERVATIONS.
4. GEOTECHNICAL ENGINEER TO PROVIDE GRADING COMPLETION REPORT TO CONFRIM THAT WORK HAS BEEN PERFORMED IN CONFORMANCE WITH GEOTECHNICAL RECOMMENDATIONS.
5. RETAINING WALLS GREATER THAN 3' IN HEIGHT REQUIRE A PERMIT FROM THE CITY BUILDING DEPARTMENT. ALL ROCK RETAINING WALLS MUST BE CERTIFIED AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE CITY'S FINAL ACCEPTANCE.
6. IT IS THE PROPERTY OWNER'S RESPONSIBILITY (DEVELOPER, HOMEOWNER, HOA, ETC.) TO COMPLETE AND MAINTAIN THE FINAL GRADING ON THEIR PROPERTY IN ACCORDANCE WITH THE GRADING AND DRAINAGE PLAN ALONG WITH ALL RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEER. THE PROPERTY OWNER IS RESPONSIBLE IN PERPETUITY, FOR INSPECTING AND MAINTAINING PROPER DRAINAGE FOR THEIR PROPERTY.
7. ALL STORM DRAIN PIPE LENGTHS ARE GIVEN FROM AND TO THE CENTER OF EACH STRUCTURE. CONTRACTOR SHALL VERIFY THE ACTUAL LENGTHS REQUIRED PRIOR TO ORDERING PIPE MATERIALS.

NOTICE TO CONTRACTORS:

ENGINEER CAN NOT GUARANTEE THE ACCURACY OF THE EXISTING UNDERGROUND UTILITIES DEPICTED IN THESE PLANS. LOCATIONS SHOWN FOR ALL EXISTING UNDERGROUND UTILITIES IS BASED ON EXTERNAL INFORMATION FROM GIS MAPPING, PREVIOUS AS-BUILT RECORD DRAWINGS, BLUE STAKES SURFACE MARKINGS IN THE FIELD, OR COMBINATION THEREOF. THE ENGINEER HAS MADE EVERY EFFORT TO ACCURATELY DEPICT THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT BLUE STAKES OF UTAH AT LEAST TWO (2) BUSINESS DAYS PRIOR TO COMMENCING WITH EXCAVATION TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. CONTRACTOR ALSO REQUIRED TO TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UNDERGROUND UTILITIES BOTH SHOWN, AND NOT SHOWN, IN THESE PLANS. IF ANY UTILITY LOCATION DISCREPANCIES ARE FOUND IN THE FIELD, CONTRACTOR SHOULD NOTIFY THE ENGINEER IMMEDIATELY.

LEGEND:

	DETAIL
PROPOSED PARCEL BOUNDARY	
EXISTING/ADJACENT PARCEL BOUNDARY	
PROPOSED CENTERLINE ALIGNMENT	
EXISTING CENTERLINE ALIGNMENT	
PHASE LINE	
SHEET MATCH LINE	
PROPOSED ROCK RETAINING WALL	
EXISTING ROCK RETAINING WALL	
PROPOSED INTERLOCKING GRAVITY BLOCK RETAINING WALL (2'x2'). 4-FT MAX HEIGHT	
GRADING LIMITS OF DISTURBANCE	
3000 EXISTING GROUND MAJOR CONTOUR	
3001 EXISTING GROUND MINOR CONTOUR	
3000 FINISH GROUND MAJOR CONTOUR	
3001 FINISH GROUND MINOR CONTOUR	
50 PROPOSED STORM PIPE (SIZE PER PLAN)	
50 EXISTING STORM PIPE (SIZE PER PLAN)	
STANDARD CB BOX & FRAME SINGLE CURB INLET (BICYCLE SAFE)	SD 100 SD 102
STANDARD CB BOX & FRAME DOUBLE CURB INLET (BICYCLE SAFE)	SD 100 SD 103
50 TYPICAL STORM DRAIN MANHOLE	SD 108
FLARED END SECTION	
GRATE INLET AREA DRAIN BOX	
PROPOSED DRAINAGE SWALE/DITCH (SEE SECTIONS)	
EXISTING DRAINAGE SWALE/DITCH	



NOTES:
1. DRAIN AWAY FROM STRUCTURES AT 5% FOR 10' MINIMUM.
2. PROVIDE POSITIVE DRAINAGE FROM REAR OF LOT TO STREET.

TYPICAL LOT DRAINAGE
SCALE: 1" = 40'

EARTHWORK QUANTITIES:

EARTHWORK QUANTITIES PROVIDED BELOW ARE APPROXIMATED BASED ON COMPARISON OF EXISTING GROUND AND FINISH GROUND SURFACE DATA USING A (SHRINK/SWELL) FACTOR OF 1.00. QUANTITIES SHOWN DO NOT ACCOUNT FOR ADDITIONAL CUT/FILL GENERATED BY BACKOUT VOLUMES FROM PAVEMENT SECTIONS, SIDEWALKS, FOOTINGS/FOUNDATIONS, CURB AND GUTTER, ETC. CONTRACTOR RESPONSIBLE TO INDEPENDENTLY VERIFY ALL EARTHWORK QUANTITIES REQUIRED TO COMPLETE CONSTRUCTION.

KENT FREI 5 LOTS:
2,666 CU. YDS. CUT
4,275 CU. YDS. FILL
1,609 CU. YDS. (FILL)

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER
No. 12982899-2202
TRENT CARTER
STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #5W ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #:	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

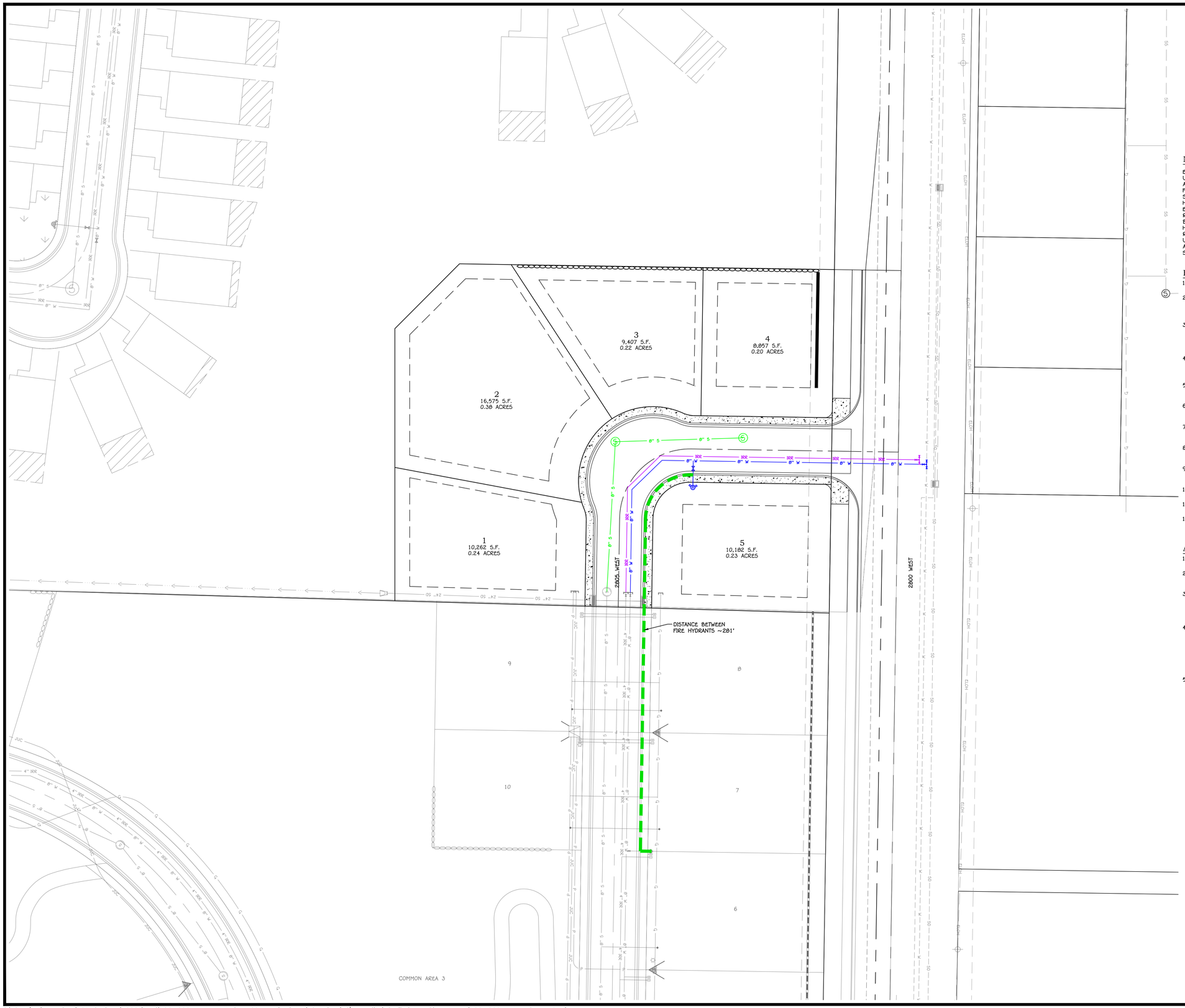
SWISS MESA
SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

GRADING PLAN
PRELIMINARY PLAT

P.1.3

SHEET: 3 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 - Kent Frei - 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Grading Plan.dwg



0 30' 60'
SCALE: 1" = 30'

Blue Stakes of UTAH811
Bluestakes.org
Call Before You Dig!

NOTICE TO CONTRACTORS:

ENGINEER CAN NOT GUARANTEE THE ACCURACY OF THE EXISTING UNDERGROUND UTILITIES DEPICTED IN THESE PLANS. LOCATIONS SHOWN FOR ALL EXISTING UNDERGROUND UTILITIES IS BASED ON EXTERNAL INFORMATION FROM GIS MAPPING, PREVIOUS AS-BUILT RECORD DRAWINGS, BLUE STAKES SURFACE MARKINGS IN THE FIELD, OR COMBINATION THEREOF. THE ENGINEER HAS MADE EVERY EFFORT TO ACCURATELY DEPICT THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT BLUE STAKES OF UTAH AT LEAST TWO (2) BUSINESS DAYS PRIOR TO COMMENCING WITH EXCAVATION TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. CONTRACTOR ALSO REQUIRED TO TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UNDERGROUND UTILITIES BOTH SHOWN, AND NOT SHOWN, IN THESE PLANS. IF ANY UTILITY LOCATION DISCREPANCIES ARE FOUND IN THE FIELD, CONTRACTOR SHOULD NOTIFY THE ENGINEER IMMEDIATELY.

HURRICANE CITY WATER NOTES:

1. ALL WATERLINE WORKS MUST BE INSTALLED BY A CONTRACTOR THAT HAS BEEN PRE-QUALIFIED BY THE CITY OF HURRICANE WATER DEPARTMENT.
2. ALL CONSTRUCTION SHALL CONFORM TO THE "CITY OF HURRICANE DESIGN STANDARD", "THE INTERNATIONAL PLUMBING CODE", AND THE "UNIFORM BUILDING CODE" LATEST EDITION AS ADMINISTERED BY THE CITY OF HURRICANE.
3. CONTRACTOR SHALL POTHOLE ALL PIPELINES AND VERIFY LOCATION AND DEPTH PRIOR TO PROCEEDING WITH ANY BUILDING OR PIPELINE CONSTRUCTION. IF THE IN FIELD CONDITION VARIES FROM DESIGN THE CONTRACTOR IS RESPONSIBLE FOR COSTS DUE TO CHANGES IN CONDITION. CITY MAPS ARE "BEST KNOWLEDGE" AND APPROXIMATE.
4. THE POTABLE WATER SUPPLY TO LAWN IRRIGATION SYSTEMS SHALL BE PROTECTED AGAINST BACKFLOW PER THE "INTERNATIONAL PLUMBING CODE (IPC)" SECTION 608.16.5 AND FIRE SPRINKLER SYSTEMS PER (IPC) 608.16.4.
5. ALL BACKFLOW ASSEMBLY INSTALLATION AND TEST REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HURRICANE CITY ORDINANCE SECTION 8-3-9.
6. 14 GAUGE WIRE SHALL BE TAPED TO ALL WATER LINES FOR LOCATING PURPOSES. THE WIRE SHALL ALSO BE BROUGHT UP AT EACH VALVE BOX AND HYDRANT.
7. THRUST RESTRAINT NEW PIPELINE AS REQUIRED. USE MEGA-LUG ON THE FITTINGS AND FIELD LOCK GASKETS ON THE REQUIRED LENGTH OF RESTRAINED PIPE.
8. ASPHALT REPLACED OVER THE PIPE TRENCHING IS TO MATCH EXISTING PAVEMENT DEPTHS WITH A 6' OVER CUT FROM EDGE OF THE TRENCH ON EACH SIDE OF THE TRENCH.
9. CONTRACTORS SHALL CUT OFF AND CAP (BACK AT THE WATER MAIN) ALL EXISTING SERVICE LINES OR UNUSED STUB LINES THAT WILL BE ABANDONED.
10. ANY CHANGES MADE IN THE FIELD MUST BE FIRST APPROVED AND DOCUMENTED BY THE HURRICANE CITY WATER SERVICES REPRESENTATIVE.
11. ALL NEW FIRE HYDRANTS SHALL BE INSTALLED AT THE CORRECT HEIGHT. RISERS WILL NOT BE ALLOWED.
12. RAISE ALL UTILITIES, SUCH AS MANHOLES, METER SETTERS, FIRE HYDRANTS, WATER VALVE LIDS, ETC. TO ROADWAY OR PROJECT FINISHED GRADE AS MAY BE APPLICABLE.

ASH CREEK SEWER DISTRICT:

1. SEWER IS TO MEET THE CURRENT ASH CREEK SPECIAL SERVICE DISTRICT (DISTRICT) CONSTRUCTION STANDARD.
2. PRIOR TO COMPLETION OF THE PROJECT PROVIDE A COPY OF THE GEOTECHNICAL REPORT AND THE COMPACTION TEST RESULTS TO THE DISTRICT.
3. PRIOR TO COMPLETION OF THE PROJECT PROVIDE A PDF AND A 2'X3' PLAN SHEET DRAWING OF RECORD TO THE DISTRICT. THE DRAWING OF RECORD SHOULD INCLUDE A DISTANCE FROM THE NEAR SIDE PROPERTY LINE TO THE SEWER LATERAL MARKER, ALSO INCLUDE ANY CHANGER TO SEWER MAIN LINE SLOPES AND DEPTHS.
4. THE CONTRACTOR WILL BE RESPONSIBLE TO CLEAN AND TEST THE SEWER LINES AFTER ALL UTILITIES HAVE BEEN INSTALLED BUT PRIOR TO ASPHALT PLACEMENT. THE FOLLOWING TESTS WILL NEED TO BE COMPLETED BY THE CONTRACTOR: MANDREL TEST, AIR TEST AND CLOSED-CIRCUIT CAMERA INSPECTION. CAMERA INSPECTION IF PROVIDED BY THE DISTRICT CAN BE SCHEDULED WITH THE DISTRICT REPRESENTATIVE. TUESDAYS OR THURSDAYS ARE GENERALLY WHEN THE DISTRICT CAN PERFORM THIS CAMERA WORK.
5. DURING CONSTRUCTION, ALL SEWER LINES WILL NEED TO BE CAPPED OR SEALED TO PROTECT THE SEWER SYSTEM FROM FLOODING OR RAIN EVENTS.

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER
No. 12982989-2202
TAYLOR C. CARTER
STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #5W ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

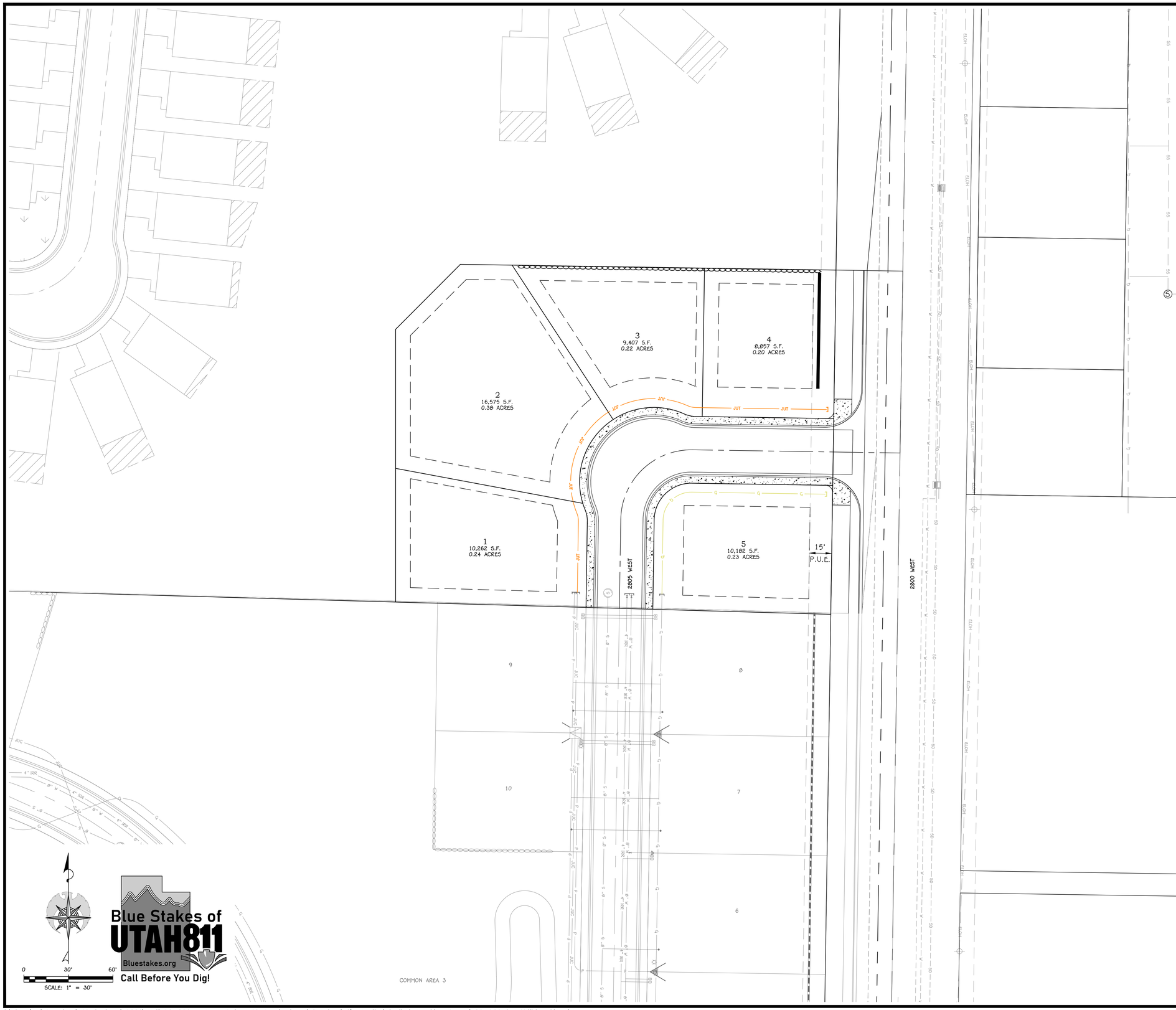
SWISS MESA
SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

WATER, IRRIGATION, & SEWER
PRELIMINARY PLAT

P.1.3

SHEET: 4 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 - Kent Frei - 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Water-Sewer-Irr.dwg



GAS, COMM, & CATV PLAN NOTES:

1. ENGINEER HAS MADE EVERY EFFORT TO ACCURATELY DEPICT THE LOCATIONS OF GAS, PHONE/COMM, CATV, AND OTHER JOINT UTILITY FACILITIES, HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SUCH FACILITIES IN ACCORDANCE WITH THE APPLICABLE CITY/AGENCY STANDARDS AND SPECIFICATIONS. IF THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE CITY/AGENCY STANDARDS THE CITY/AGENCY STANDARDS WILL SUPERSEDE THE PLANS.
2. GAS, PHONE/COMM, AND CATV DESIGN PROVIDED FOR INFORMATION ONLY. FINAL DESIGN TO BE COORDINATED WITH THE RESPECTIVE UTILITY SERVICE PROVIDER.

ENBRIDGE GAS NOTES:

1. DEVELOPER NEEDS TO CONTACT ENBRIDGE GAS PRECONSTRUCTION DEPARTMENT PRIOR TO BREAKING GROUND FOR GAS SIGN UP. DJ CAMBELL 435-674-6154.
2. DEVELOPER WILL BE RESPONSIBLE TO GET ALL COMPACTION TESTS DONE AT DEVELOPER'S EXPENSE.
3. IF CASINGS/CONDUITS ARE NEEDED, THEY ARE TO BE INSTALLED BY DEVELOPER AT THEIR COSTS. A MAP WILL BE AVAILABLE AT ENBRIDGE GAS FOR CASING LOCATIONS (1155 E 450 N - ST GEORGE).
4. ALL OF THE UTILITY EASEMENTS BACK OF SIDEWALK WILL BE GRADED TO WITHIN 6 INCHES OF TOP BACK OF CURB BEFORE GAS LINES WILL BE INSTALLED. **NO RETAINING, ROCK, OR BLOCK WALLS MAY BE CONSTRUCTED ON/IN A PUE **DEVELOPER WILL BE RESPONSIBLE FOR THE COSTS OF ANY GAS LINES TO BE LOWERED AND/OR RELOCATED AFTER INSTALLATION.**
5. ALL TRENCHES SHALL BE BACKFILLED AND ALL DEBRIS, CONSTRUCTION MATERIALS AND EXCESS DIRT PILES SHALL BE CLEARED AWAY.
6. PROPERTY LOT LINES, BACK OF CURB GRADE AND GAS RUNNING LINE MUST BE STAKED BY DEVELOPER BEFORE GAS WILL BE INSTALLED.
7. POWER, WATER, SEWER LINES, CULVERTS OR OTHER HAZARDS NOT CLEARLY NOTICEABLE SHALL BE STAKED BY DEVELOPER.
8. FAILURE TO COMPLY WITH THE ABOVE NOTES WILL RESULT IN DELAY OF THE GAS INSTALLATION TO THIS PROJECT.
9. CONTACT JC HALL, 435-210-0729, AT LEAST TWO (2) WEEKS PRIOR TO BEING READY, FOR SCHEDULING OF INSTALLATION.
10. **IMPORTANT NOTICE** GAS WILL BE PUT ON THE SCHEDULE FOR INSTALLATION WHEN POWER TRENCH IS BURIED, STREETS ARE WITHIN 6 INCHES OF SUB-GRADE AND 10' PUE UTILITY EASEMENT IS GRADED TO 6" OF TOP BACK OF CURB.
11. HIGH PRESSURE GAS NOTE: IF HIGH PRESSURE GAS LINE ARE LOCATED IN OR NEAR YOUR DIGGING AREA CONTRACTOR IS REQUIRED TO CALL HIGH PRESSURE DISPATCH AT (801)324-3370, AT LEAST 48 HOURS IN ADVANCE, BEFORE WORKING WITHIN 10 FEET OF A HIGH PRESSURE GAS LINE. THIS WILL SCHEDULE A DOMINION ENERGY HIGH PRESSURE INSPECTOR TO THE PROJECT SITE.

CENTURY LINK NOTES:

1. DEVELOPER TO PLACER CONDUIT IN ALL JUC TRENCH AND STUB UP AT ALL POWER LOCATIONS. CONTACT CENTURYLINK ENGINEER FOR PRINT IF NEEDED.
2. CENTURYLINK WILL PROVIDE ALL CONDUIT AND DELIVER TO JOB SITE. CALL 435-632-6553 SEVEN (7) DAYS PRIOR TO REQUIRING CONDUIT TO SCHEDULE DELIVERY.
3. CONTRACTOR SOT INSTALL CONDUIT AND PLACE PULL STINGS IN ALL CONDUIT TO VERIFY CONDUIT INTEGRITY.
4. ALL CONDUIT IS 2" UNLESS OTHERWISE NOTED.
5. ANY QUESTIONS TO JUC APPROVED PLANS PLEASE CONTACT CENTURYLINK ENGINEER ZACH MATHEWS AT 435-673-9639.
6. ANY CENTURYLINK FACILITY RELOCATIONS ASSOCIATED WITH PROJECT WILL BE BILLABLE TO OWNER/DEVELOPER. CENTURYLINK ENGINEER MUST BE CONTACTED A MINIMUM OF FOUR (4) WEEKS BEFORE RELOCATION IS REQUIRED.
7. DEVELOPER IS RESPONSIBLE TO PROVIDE ALL STREET NAMES AND ADDRESSES WITHIN THREE (3) WEEKS OF UTILITY PLAN APPROVAL. FAILURE TO PROVIDE ADDRESS WILL RESULT IN A DELAY OF SERVICE TO PROJECT.

INFOWEST NOTES:

1. DEVELOPER TO PROVIDE ALL REQUIRED TRENCHING WITHIN THE PROJECT.
2. ANY MODIFICATIONS REQUIRED TO FEED PROJECT WILL BE BILLED TO THE DEVELOPER.
3. INFOWEST WILL PROVIDE ALL CONDUITS. CALL 435-272-3559 OR EMAIL JUC@INFOWEST.COM FOR CONDUIT DELIVERY AT LEAST ONE WEEK PRIOR TO OPENING THE TRENCH.
4. FOR COMMERCIAL PROJECTS WITH AN MDF/COMM ROOM, DEVELOPER WILL INSTALL A 2" PVC RUN TO THE EXTERIOR OF THE BUILDING.
5. ANY QUESTIONS REGARDING SERVICE SHOULD BE DIRECTED TOWARDS GAB TREMBLAY, 435-272-3559 OR JUC@INFOWEST.COM
6. RELOCATION OF NEW OR EXISTING INFOWEST FACILITIES IS BILLABLE TO THE DEVELOPER. THE DEVELOPER WILL BE PROVIDED WITH AN ESTIMATE OF COSTS FOR WORK DONE.

TDS BROADBAND NOTES:

1. THE DEVELOPER WILL PROVIDE ALL REQUIRED TRENCH WITHIN THE PROJECT. ANY MODIFICATIONS ALONG THE PERIPHERY TO FEED THIS PROJECT WILL BE BILLED TO THE DEVELOPER.
2. TDS WILL PLACE CONDUITS IN AN OPEN/JOINT TRENCH. PLEASE CONTACT TDS ENGINEERING AT 435-288-1415 AT LEAST 3 WEEKS PRIOR TO OPENING TRENCH TO CREATE DESIGN AND SCHEDULE WORK.
3. CONTACT TDS PRIOR TO CONSTRUCTING BUILDINGS FOR PREWIRE OPTIONS FOR FIBER OPTIC SEDVICE. ANY OTHER QUESTIONS REGARDING CONSTRUCTION OF SERVICE SHOULD BE DIRECTED TO TDS ENGINEERING AT 435-288-1415.
4. RELOCATION OF NEW OR EXISTING TDS FACILITIES WILL BE BILLABLE TO THE DEVELOPER/CONTRACTOR
5. ANY MODIFICATIONS AFTER CONDUIT/CABLE PLACEMENT WILL BE BILLABLE TO THE DEVELOPER/CONTRACTOR AS WILL DAMAGES CAUSED BY OTHER CONTRACTORS WORKING FOR THE DEVELOPER ON THIS PROJECT.

NOTICE TO CONTRACTORS:

ENGINEER CAN NOT GUARANTEE THE ACCURACY OF THE EXISTING UNDERGROUND UTILITIES DEPICTED IN THESE PLANS. LOCATIONS SHOWN FOR ALL EXISTING UNDERGROUND UTILITIES IS BASED ON EXTERNAL INFORMATION FROM GIS MAPPING, PREVIOUS AS-BUILT RECORD DRAWINGS, BLUE STAKES SURFACE MARKINGS IN THE FIELD, OR COMBINATION THEREOF. THE ENGINEER HAS MADE EVERY EFFORT TO ACCURATELY DEPICT THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT BLUE STAKES OF UTAH AT LEAST TWO (2) BUSINESS DAYS PRIOR TO COMMENCING WITH EXCAVATION TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. CONTRACTOR ALSO REQUIRED TO TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UNDERGROUND UTILITIES BOTH SHOWN, AND NOT SHOWN, IN THESE PLANS. IF ANY UTILITY LOCATION DISCREPANCIES ARE FOUND IN THE FIELD, CONTRACTOR SHOULD NOTIFY THE ENGINEER IMMEDIATELY.

LEGEND:

- PROPOSED PARCEL BOUNDARY
- EXISTING/ADJACENT PARCEL BOUNDARY
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PHASE LINE
- SHEET MATCH LINE
- PROPOSED RETAINING WALL (SEE GRADING PLANS)
- EXISTING RETAINING WALL
- PROPOSED ROCK WALL (SEE GRADING PLANS)
- EXISTING ROCK WALL
- G — PROPOSED GAS LINE
- G — EXISTING GAS LINE
- JUT — PROPOSED JOINT UTILITY TRENCH
- JUT — EXISTING JOINT UTILITY TRENCH

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER No. 12982899-2202 TIM CARTER STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #5W ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

SWISS MESA

SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

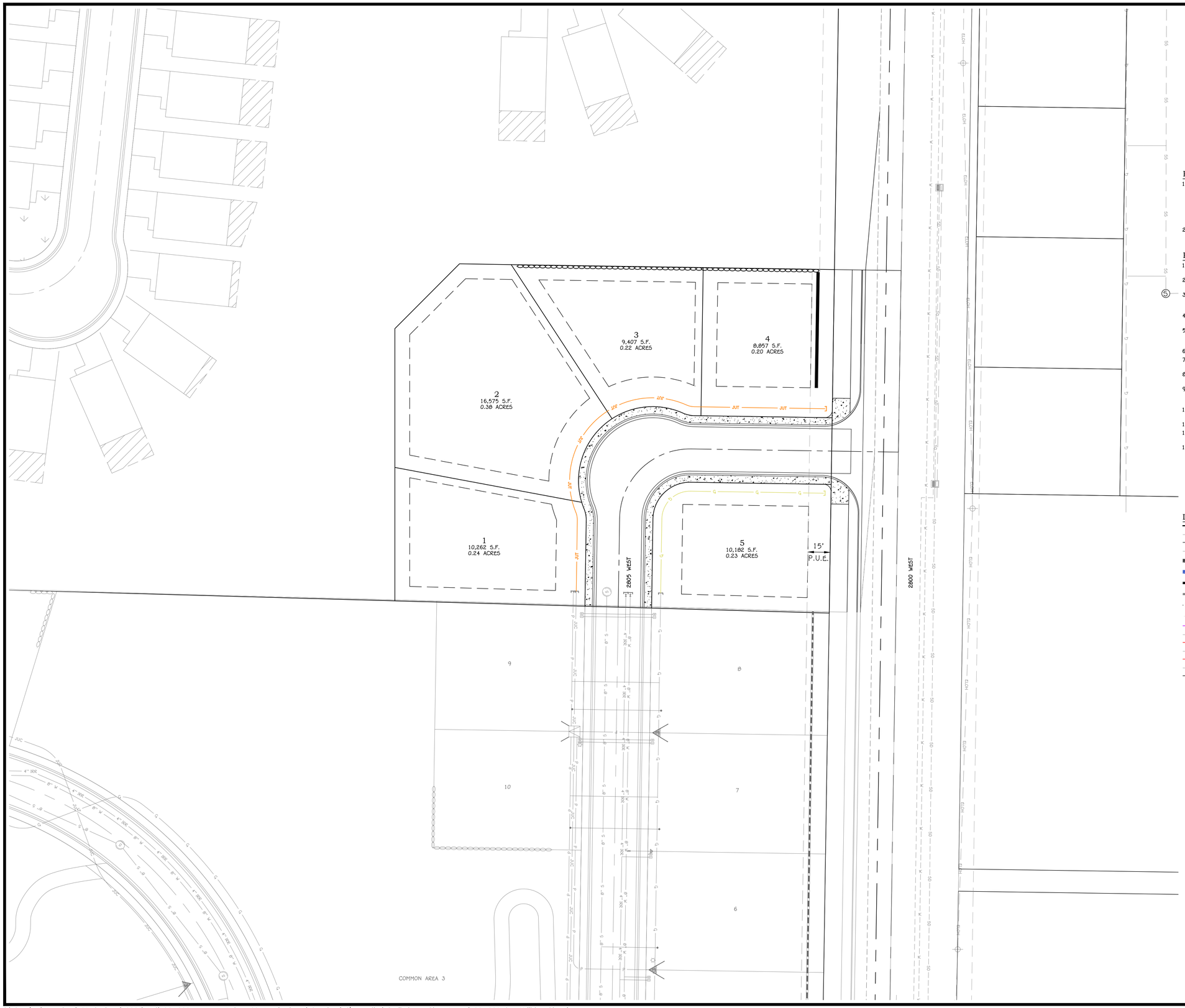
GAS - JUT PLAN

PRELIMINARY PLAT

P.1.5

SHEET: 5 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 - Kent Frei - 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Dry Utilities Plan.dwg



Blue Stakes of UTAH811
Bluestakes.org
Call Before You Dig!

POWER PLAN NOTES:

1. ENGINEER HAS MADE EVERY EFFORT TO ACCURATELY DEPICT THE LOCATIONS OF POWER BOXES, EQUIPMENT, AND OTHER POWER FACILITIES, HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SUCH FACILITIES IN ACCORDANCE WITH THE APPLICABLE CITY/AGENCY STANDARDS AND SPECIFICATIONS. IF THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE CITY/AGENCY STANDARDS THE CITY/AGENCY STANDARDS WILL SUPERSEDE THE PLANS.
2. POWER DESIGN PROVIDED FOR INFORMATION ONLY. FINAL DESIGN TO BE COORDINATED WITH THE POWER DEPARTMENT. SEE COVER SHEET FOR UTILITY CONTACT INFORMATION.

HURRICANE POWER NOTES:

1. DEVELOPER RESPONSIBLE FOR ALL COSTS, UNLESS OTHERWISE STATED ON PRINT.
2. ONLY A PRE-APPROVED CONTRACTOR TO WORK ON AND INSTALL ANY PART OF THE ELECTRICAL SYSTEM.
3. PRE-APPROVED CONTRACTOR TO GO OVER PRINTS WITH HURRICANE POWER BEFORE BEGINNING WORK. CONTACT HURRICANE POWER AT (435) 635-5536 FOR AN APPOINTMENT.
4. LINES ARE FOR SCHEMATIC PURPOSES ONLY. ALL EQUIPMENT AND PLACEMENT OF, TO BE TO HURRICANE POWER SPECS.
5. EASEMENTS TO BE SIGNED OVER TO HURRICANE CITY. IT IS THE DEVELOPERS RESPONSIBILITY TO MAKE SURE EASEMENTS ARE OBTAINED FROM ANY PROPERTIES THAT MAY BE AFFECTED.
6. NO RETAINING WALLS TO RUN INTO UTILITY EASEMENTS.
7. ALL CONDUITS TO BE FOAMED. ANY EMPTY STUB OUTS TO HAVE A TEMPORARY PLUG INSTALLED.
8. ANY CHANGES TO THE SIGNED SET OF PLANS MUST BE APPROVED BY HURRICANE POWER.
9. THE ENTIRE JUC TRENCH MUST BE BACKFILLED WITH 1" MINUS FROM THE BOTTOM TO THE TOP OF TRENCH. ALSO AROUND ELECTRICAL BOXES AND EQUIPMENT.
10. DEVELOPER WILL BE BILLED A TERMINATION FEE $99.00 DOLLARS PER PRIMARY ELBOW TERMINATIONS.
11. ALL STREET LIGHTS TO BE LED PER HURRICANE POWER SPECIFICATIONS.
12. THIS SUBDIVISION WAS DESIGNED WITH A MAXIMUM SERVICE SIZE OF 200 AMPS PER UNIT.
13. IMPACT FEES TO BE COLLECTED BY BUILDING DEPT. IMPACT FEES TO BE CHARGED PER METER/INDIVIDUAL BREAKER, CONTACT HURRICANE POWER REGARDING QUESTIONS ON THIS.

LEGEND:

- PROPOSED PARCEL BOUNDARY
- EXISTING/ADJACENT PARCEL BOUNDARY
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PHASE LINE
- SHEET MATCH LINE
- PROPOSED RETAINING WALL (SEE GRADING PLANS)
- EXISTING RETAINING WALL
- PROPOSED ROCK WALL (SEE GRADING PLANS)
- EXISTING ROCK WALL
- ABC — PROPOSED THREE PHASE POWER
- ABC — EXISTING THREE PHASE POWER
- OH — PROPOSED OVERHEAD POWER
- OH — PROPOSED OVERHEAD POWER
- P — PROPOSED MISCELLANEOUS POWER
- P — EXISTING MISCELLANEOUS POWER
- A — PROPOSED SINGLE PHASE POWER
- EXISTING SINGLE PHASE POWER
- POWER SERVICE
- PAD MOUNT SWITCHGEAR
- ELECTRIC VAULT
- ELECTRIC TRANSFORMER
- STREET LIGHT

REV.	DATE:	REVISION

REGISTERED PROFESSIONAL ENGINEER No. 12982989-2202 TYLER CARTER STATE OF UTAH

AMERICAN CONSULTING & ENGINEERING
1173 S. 250 W. #5W ST. GEORGE, UT 84770

DATE:	03/19/2025
JOB #	22-006
DRAWN BY:	SSA
CHECKED BY:	TC

SWISS MESA

SECTION 31 TOWNSHIP 41 S, RANGE 13 W, SLB&M
HURRICANE, UAH

POWER PLAN

PRELIMINARY PLAT

P.1.6

SHEET: 6 of 6

C:\Dropbox\American\03 Projects\2022\ALC\22-006 - Kent Frei - 29 Ac Hurricane\Drawings\Sheet Files\Preliminary Plat-5 Lots\22-006 Dry Utilities Plan.dwg

Hurricane City
Application

Application Accepted Date: 03/25/2025

Type of Improvement: Site Plan (Amended)

Description:

Tenant / Project Name: Site Plan - Glampers Inn

Bldg. Address: 505 S. Sand Hollow Road

City: Hurricane City State: UT Zip: 84737

Subdivision: Glampers Inn Phase:

Block: Lot #: Parcel ID #: H-GIP-1-GS1, H-GIP-2-GS1

Property Owner: Blow Sand LLC

Permit Contact: Scott T Nielson P:(435) 767-3607

Email: glampersinn@gmail.com

CONTACT INFORMATION

General Contractor: Nielson Development

License #: P: (435) 229-1673

City: State: Zip:

Email: operations@nielsondevelopment.com

APPLICATION DETAILS

Valuation	$	0.00

PERMIT FEES

Planning Fee	$	150.00
Planning Fee	$	150.00
Sub Total:	**$**	**150.00**
Permit Total:	**$**	**150.00**
Amount Paid:	**$**	**150.00**
Remaining Due:	**$**	**0.00**

APPROVALS	DATE	INFO

Setbacks	Front:	Rear:	Left:	Right:
Min.				
Actual:				

APPLICATION NUMBER: PLANAFSP25-01

This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. I here-by certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be compiled with whether specified herein or not the granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction and that I make this statement under penalty of perjury. Maintenance Deposit is refundable after final inspection if: 1) site is kept clean 2) building is NOT occupied prior to final inspection and issuance of Certificate of Occupancy.

Applicant Name: Scott Nielson

Signature of Applicant/Authorized Agent or Owner: Date:

Application Approved By: Date:

Application Issued By: Date:

Receipt #: 226422833-03/20/25

DRAFT

Executive Summary

SITE LOCATION

Glamper's Inn RV and Water Park is located on the southwest corner of the intersection of the Sand Hollow Road and Jellystone Road in Hurricane, Utah.

DEVELOPMENT DESCRIPTION

The existing development of Glamper's Inn has 249 RV spaces and a water park. A ropes course is under construction and is expected to open this year (2025). A fast-casual restaurant adjacent to the ropes course is expected to open by 2030. A clubhouse for the RV park is planned to be constructed in the future and opened by 2030.

RECOMMENDATIONS

Based on the analysis in this report, the existing conditions at Glamper's Inn will allow the study intersections to operate at an acceptable LOS when the water park has an occupancy of 1,641 people.

In the existing condition, it is recommended that:

- Any RV spaces used as parking for the water park be sectioned off and reserved for any event parking.
- The maximum occupancy of the water park be capped at 1,641 until the other Glamper's Inn uses are completed.

When the other uses planned at Glamper's Inn are completed and open, the LOS at the study intersections is expected to be unacceptable. If no improvements are made to the roadways, the maximum allowable occupancy is 495 people. However, improvements are planned for both study intersections. A signalized intersection at the intersection of Jellystone Road and Sand Hollow Road is expected to operate at an acceptable LOS with full buildout and an occupancy of 1,641 at the water park.

When Glamper's Inn is built out, it is recommended that the traffic from Glamper's Inn and the occupancy of the water park be reevaluated with consideration for the improvements at the study intersections.

Gary Cupp

From: Emily Andrus <emily.andrus@horrocks.com>
Sent: Wednesday, March 19, 2025 5:26 PM
To: Gary Cupp; Arthur Lebaron
Cc: scott Nielson; Aron Baker; Nanette Billings
Subject: Re: Glampers Inn-Jellystone Water Park traffic analysis

Gary and Arthur,
Thanks for your comments and questions. I like the way Arthur summarized it, but I have a few clarifications.

1. With the number of designated spaces that are available right now with the plans that the development has for parking (488 spaces), the occupancy is capped at 1,464 people-- unless some RV parking is designated for water park parking.
2. The LOS at Jellystone/Sand Hollow Road is acceptable up to the occupancy of 1,641 people/547 parking spaces.
3. The Gateway TIS from 2022 identified a signal at Jellystone/Sand Hollow Road to be built by 2032. So when this development is built out, approximately by 2030, if there is not a signal built yet, then the occupancy will need to be even lower. If the occupancy of the water park is to stay the same, then a signal will need to be built with the build out of this development. If the traffic increases on Jellystone with the construction of other Gateway projects, then it's likely a signal will be needed before then.

Hopefully this helps. Let me know what other questions you have.

Thanks,
Emily

Emily Andrus, P.E. (UT, ID)
Traffic Engineer

From: Gary Cupp <gary@hurricane.utah.gov>
Sent: Wednesday, March 19, 2025 4:54 PM
To: Arthur Lebaron <arthur@hurricane.utah.gov>; Emily Andrus <emily.andrus@horrocks.com>
Cc: scott Nielson <gocamping21@gmail.com>; Aron Baker <AronB@horrocks.com>; Nanette Billings <billings@hurricane.utah.gov>
Subject: RE: Glampers Inn-Jellystone Water Park traffic analysis

Emily,

Calculating occupancy

- The average household size in Hurricane, Utah, is 3.15, with 2.1 vehicles per household on average. If they take all cars to the park, it's about 1.5 people per car.
- Households might take one car for the trip, making the average closer to 3.15 people per car. This feels more realistic for amusement park visits.
- Given that, I'll go with 3 people per car as my assumption. It aligns with household sizes and typical group dynamics for such trips.

Local Considerations and Assumptions

- Given Hurricane, Utah's proximity to attractions like Jellystone Park Camp-Resort and Sand Hollow State Park, which offer water-based activities, visitors are likely to include local families and potentially tourists. The larger household size in Utah (3.22) suggests that when households travel together, the car occupancy could reflect this, potentially averaging 3 to 4 people per car. This is supported by an estimation from Disney World data, where, assuming 75% of 45,000 daily visitors (33,750 people) come by car and park in 11,000 spots, the average is about 3.07 people per car, adjusted for mixed transportation modes (Parking at Disney World [2025] (Parks, Hotels, Tips, Price)).
- The higher vehicle ownership in Utah, with an average of 2.1 cars per household (Utah | Data USA), could mean multiple cars are used for larger groups, potentially lowering per-car occupancy if split. However, for planning purposes, it's reasonable to assume that households often take one car for such outings, leading to an occupancy close to the household size, around 3 people.

Conclusion

Given the larger household sizes in Hurricane, Utah, and the tendency for families to carpool for amusement park visits, it is reasonable to assume an average of 3 people per car for trips to water parks in the area. This figure accounts for typical family groups and aligns with broader trends in recreational travel, though exact numbers may vary based on group composition and transportation choices.

Summer Occupancy is based on last summer and it's all that's anticipated for the percentage he'll have.

Please see PDF you need for the diagram. This PDF is worth 1000 words. Hope this helps you.

Sincerely,

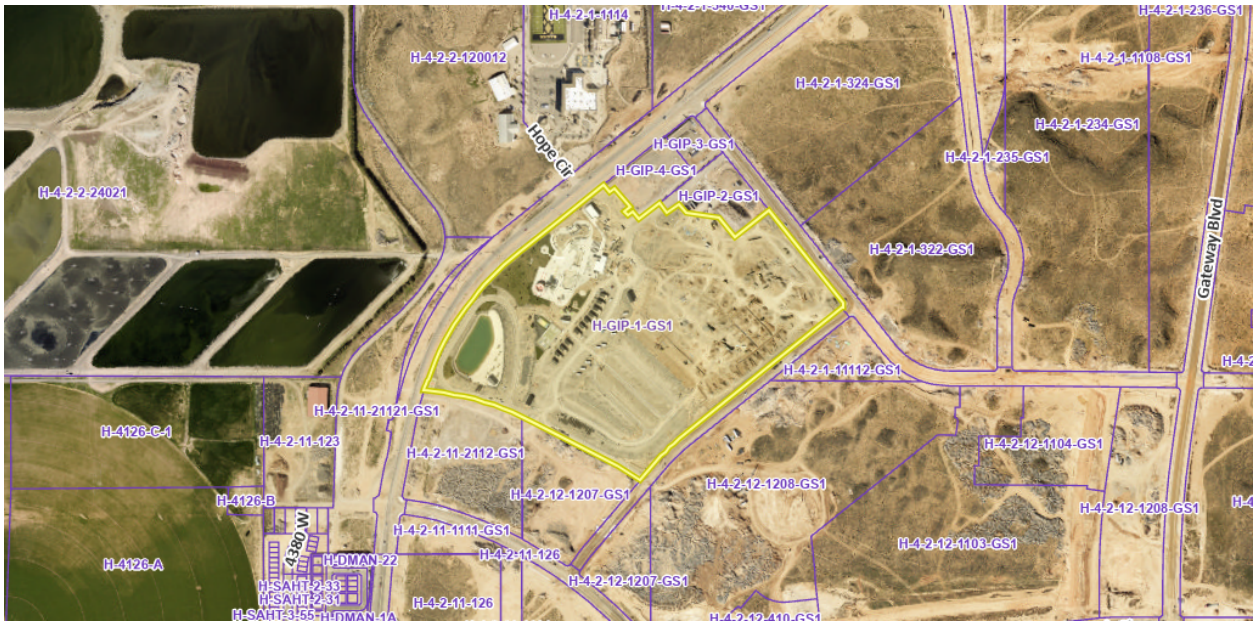
Karl Rasmussen, P.E. S.E. M.E.
Provalue Engineering, Inc.

PLANNING & ZONING
HURRICANE CITY
UTAH

STAFF COMMENTS

Agenda Date:	**04/10/2025 - Planning Commission**
Application Number:	AFSP25-01
Type of Application:	Final Site Plan Amendment
Action Type:	Administrative
Applicant:	Blow Sand LLC
Agent:	Scott Nielson
Request:	Change-in-use amendment to a Final Site Plan.
Location:	505 S Sand Hollow Road
Zoning:	Planned Commercial
General Plan Map:	Planned Community
Recommendation:	Approve subject to staff comments
Report Prepared by:	Fred Resch III

Discussion:
The owners and operators of the Glampers Inn/Jellystone RV Park development are seeking approval of an Amended Final Site Plan to allow additional uses of the facility that were not considered or approved under existing entitlements. Chiefly, the waterpark feature for Jellystone RV Park, which was approved as an amenity for the exclusive use of guests of the RV park, has recently been made available for paid day-use by customers who are not registered guests of the RV park. The waterpark has also been made available as a venue for large commercial events which have resulted in traffic disruptions at intersections on Sand Hollow Road. In addition to the impacts on area traffic, the change from the intended use of the waterpark as a guest amenity has significantly increased parking demands on the site. Accordingly, pursuant to the Hurricane City Code, the change in use described above required the applicant to file an application to amend the facility's final site plan and submit a traffic impact analysis and a parking study to determine if the increased patronage and expanded use of Jellystone RV Park can be reasonably accommodated.



Vicinity Map

Staff comments:

The waterpark was approved as a private amenity for the guests of the Jellystone RV park, but has since been opened for day-use by customers not staying at the park. Allowing the waterpark to be open to patrons who are not guests of the RV park changed the use category of the facility to that of "Outdoor Recreation and Entertainment." Outdoor recreation and entertainment uses must provide a detailed parking study to determine the parking needs for the project, as described below in Hurricane City Code (HCC) section 10-34-9(F)(1):

> *F. Parking space study. When a parking space study is required for a particular use shown in subsection 10-34-10A, table 10-34-1 of this chapter, or when an applicant requests a modification in the number of parking spaces required under section 10-34-6 of this chapter, a parking study shall be provided by the applicant which recommends an adequate number of parking spaces and sets forth the basis of the recommendation.*
>
> *1. The study shall provide:*
>
> *a. Planning and traffic engineering data, including estimates of parking demand based on recommendations from the Institute of Parking Engineers;*
>
> *b. Data collected from uses or combinations of uses that are the same or comparable to the proposed project as indicated by density, scale, bulk, area, type of activity, and location;*
>
> *c. The source of data used to develop the study's recommendations; and*
>
> *d. The name and qualifications of the persons who prepared the study.*
>
> *2. The Planning Commission shall determine the required number of parking spaces after:*
>
> *a. Considering the recommendations of the parking study and any recommendations from City staff; and*
>
> *b. Making the findings required under subsection D or E of this section.*

Accordingly, the applicants have submitted the required study with parking data based on similar uses, prepared by Horrocks Engineers, dated March 2025. Appendix A of the study is a Parking

Stall Plan that cites the maximum waterpark occupancy allowed by Health Department standards is 2,280 people and 760 cars. However, once the site is built out with a future ropes course, restaurants, and a clubhouse, the level of service for the Glampers/Jellystone facility is expected to cause cause significant traffic impacts to the adjacent road networks; therefore, ***the study limits the waterpark to the following:***

- **1,641 people** maximum occupancy.
- **547 parking spaces** dedicated for exclusive use of the waterpark.
- **A traffic signal shall be built** at the intersection of Jellystone Road and Sand Hollow Road prior to any further development at Glampers/Jellystone site including restaurants and the clubhouse.

Parking Modification:
Currently, there are only 191 stalls available to the waterpark; therefore, staff recommends that the Planning Commission approve a parking modification to allow the applicant to section off RV stalls to be used as parking for the waterpark as needed to make up the difference in order to meet the requirement of 547 spaces. The The Planning Commission may approve a parking modification based on the standards below:

HCC section 10-34-9(D) states:

> *D. Commercial, retail, office, and mixed use developments. The Planning Commission may modify the number of parking spaces required or allowed for commercial, retail, office, or mixed use developments after considering the following items and making a finding that adequate parking will be provided:*
> *1. Total number of spaces that would otherwise be required for each individual establishment in the development;*
> *2. Hours of operation for each business establishment located in the development, including peak business hours;*
> *3. Estimated tradeoff between businesses which are open when others are closed;*
> *4. Availability of approved on street or shared parking;*
> *5. Transportation alternatives, including proximity to transit stations; and*
> *6. Car or van pooling programs available to users of the development.*

Findings:

1. The applicant has provided a traffic analysis that states that the traffic and parking needs for the development will be mitigated if the occupancy is kept to the lower level.
2. The applicant has enough area available on site to meet the parking requirements for the waterpark use.
3. The parking modification to allow use of RV spaces for the waterpark and during special events is acceptable to meet the parking requirements.
4. Based on the project traffic report and on the recommendation of the City Engineer, development of further aspects of the Glampers/Jellystone project will require the installation of a traffic signal at the intersection of Jellystone Road and Sand Hollow Road.

Recommendation:

The Planning Commission should review the application based on standards within the Hurricane City Code. Staff recommends approval of the amended site plan and parking modification subject to staff comments and the findings in this report.

GLAMPER'S INN RV AND WATER PARK TRAFFIC IMPACT STUDY

Prepared For: Scott Nielson

Prepared By: Horrocks Engineers
555 South Bluff Street #200
St. George, UT, 84770

Date: March 2025

Table of Contents

Executive Summary....1
Site Location....1
Development Description....1
Recommendations....1
Introduction....2
Existing Traffic Conditions....2
Trip Generation....5
On-site Parking....5
Trip Distribution....7
Traffic Analysis....8
Scenario 1-Existing Conditions with Partial Occupancy....8
Queue Analysis....8
Scenario 2-Existing Conditions with Full Occupancy....10
Queue Analysis....11
Scenario 3-Full Occupancy at Buildout....13
Queue Analysis....17
Recommendations....17
Appendix A: Site Plan....18
Appendix B: Occupancy Notes and Average Transportation Calculations....19
Appendix C: Vistro Reports....20

List of Tables

Table 1-Intersection Level of Service 3
Table 2-Existing LOS Analysis 3
Table 3-Trip Generation for Existing Conditions with Water Park 7
Table 4-Trip Generation for Buildout Conditions with Water Park 7
Table 5-Existing Conditions with Partial Occupancy LOS Analysis 8
Table 6-Queue Length Analysis for Scenario 1 8
Table 7-Existing Conditions with Full Occupancy LOS Analysis 10
Table 8-Trip Generation for Buildout Conditions and Partial Occupancy of Water Park 10
Table 9-Existing Conditions with Reduced Full Occupancy LOS Analysis 11
Table 10-Queue Length Analysis for Scenario 2 11
Table 11- Trip Generation for Buildout Conditions and Reduced Occupancy of Water Park 13
Table 12-Buildout Conditions with Reduced Occupancy LOS Analysis 13
Table 13-Trip Generation for Buildout Conditions and Reduced Occupancy of Water Park 14
Table 14-Buildout Conditions with Partial Occupancy LOS Analysis 14
Table 15- Buildout Conditions with Full Occupancy and a Signal at Jellystone Road LOS Analysis 15
Table 16-Queue Length Analysis for 2032 with Development Traffic 17

List of Figures

Figure 1-Existing Traffic Counts 4
Figure 2-Diagram of Six Parking Spaces in each RV Space 6
Figure 3-Trip Distribution for Glamper's Inn 7
Figure 4-Existing Turning Movement Volumes with Partial Water Park Occupancy 9
Figure 5-Existing Turning Movement Volumes with Reduced Water Park Occupancy 12
Figure 6-Buildout Turning Movement Volumes with Reduced Water Park Occupancy 16

Executive Summary

SITE LOCATION

Glamper's Inn RV and Water Park is located on the southwest corner of the intersection of the Sand Hollow Road and Jellystone Road in Hurricane, Utah.

DEVELOPMENT DESCRIPTION

The existing development of Glamper's Inn has 249 RV spaces and a water park. A ropes course is under construction and is expected to open this year (2025). A fast-casual restaurant adjacent to the ropes course is expected to open by 2030. A clubhouse for the RV park is planned to be constructed in the future and opened by 2030.

RECOMMENDATIONS

Based on the analysis in this report, the existing conditions at Glamper's Inn will allow the study intersections to operate at an acceptable LOS when the water park has an occupancy of 1,641 people.

In the existing condition, it is recommended that:

- Any RV spaces used as parking for the water park be sectioned off and reserved for any event parking.
- The maximum occupancy of the water park be capped at 1,641 until the other Glamper's Inn uses are completed.

When the other uses planned at Glamper's Inn are completed and open, the LOS at the study intersections is expected to be unacceptable. If no improvements are made to the roadways, the maximum allowable occupancy is 495 people. However, improvements are planned for both study intersections. A signalized intersection at the intersection of Jellystone Road and Sand Hollow Road is expected to operate at an acceptable LOS with full buildout and an occupancy of 1,641 at the water park.

When Glamper's Inn is built out, it is recommended that the traffic from Glamper's Inn and the occupancy of the water park be reevaluated with consideration for the improvements at the study intersections.

Introduction

This report presents the findings of the traffic analysis performed for the Glamper's Inn RV Park in Hurricane, Utah. Glamper's Inn currently has 249 recreational-vehicle (RV) spaces and a water park. A ropes course is under construction and is expected to open this year (2025). A fast-casual restaurant adjacent to the ropes course is expected to open by 2030. A clubhouse for the RV park is planned to be constructed in the future and opened by 2030. The existing water park has become popular as a destination separately from the RV park, and the traffic to the water park, especially for special events, requires further analysis. A site plan is included in the appendix.

The City of Hurricane has asked Horrocks to analyze a weekend special event at the water park and the impact it has on the surrounding roadways.

Existing Traffic Conditions

Saturday turning movement counts from 12:00 to 2:00 PM were performed at the following intersections on March 1, 2025 and March 8, 2025:

- SR-9 (State Street) & 3700 West (Gateway Boulevard)
- Sand Hollow Road (3700 West) & Jellystone Road

Existing intersection geometry, control, and turn pocket lengths were obtained by field review. The existing turning movement counts are shown in Figure 1.

In order to quantify the traffic conditions currently exhibited in the study area, the roadway geometries and traffic data were input into the Vistro 2023 software package. Using the 7th edition of the Highway Capacity Manual (HCM) method of calculating intersection delay, a Level of Service (LOS) grade was assigned to the intersection for both the Saturday peak hour.

When the counts were taken, the RV park was in use but the water park was not open.

Level of Service (LOS) is a term used by the HCM to describe the traffic operations of an intersection, based on congestion and delay. LOS ranges from A (almost no congestion or delay) to F (traffic demand exceeds capacity and intersection experiences long queues and delay). In the Hurricane City TIS guidelines, "where the highway will operate a Level of Service 'C' or better without the development, the traffic impact of the development on the roadways, and intersections within the study area shall be mitigated to Level of Service 'C'. Mitigation to Level of Service 'D' may be acceptable with the concurrence of the City." The delay criteria used to assign a letter grade to an intersection for signalized and unsignalized intersections is shown below in Table 1. The full Vistro reports are included in the appendix.

Table 1-Intersection Level of Service

Level of Service	Average Control Delay (sec/veh)	
	Signalized	Un-signalized
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Table 2 shows the existing LOS conditions at the study intersections.

Table 2-Existing LOS Analysis

Intersection (Traffic Control)	Saturday Peak Hour
SR-9 & 3700 West (Signalized)	
Average Delay (sec/veh)	20.96
Level of Service	C
Sand Hollow Road & Jellystone Road (TWSC*)	
Average Delay (sec/veh)	11.12
Level of Service	B

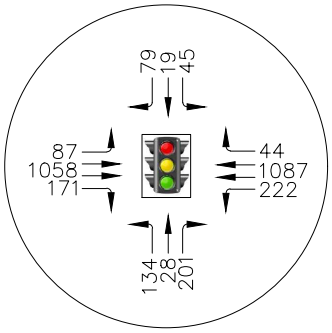
*Two-Way Stop-Controlled

The existing study intersections are currently operating at C or better.

SR-9 & 3700 WEST

1

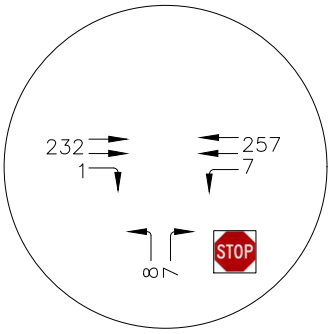
SATURDAY
PEAK HOUR



SAND HOLLOW RD & JELLYSTONE RD

2

SATURDAY PEAK
HOUR



Horrocks.
555 S. BLUFF ST, #200
ST. GEORGE, UT
(435) 986-7888

Glamper's Inn
Existing Traffic Counts
Saturday Peak Hour

FIGURE
1

SCALE:
N/A

DATE:
3/2025

TRIP GENERATION

The trip generation for a Saturday event at the water park was estimated based on the following assumptions:

- The number of available parking spaces will determine the number of vehicles that are able to enter the park.
- 85% of the vehicles will enter within an hour of the event beginning and exit within an hour of the event ending
- The entering and exiting trip generation volumes will be added to the peak Saturday hour as an "entering hour" and "exiting hour."

ON-SITE PARKING

The parking calculations for the water park were provided by ProValue Engineering and are included on the site plan in the appendix. The number of people allowed in water at any time (791) is governed by the health department. The number of total people allowed on site (2,280) is determined by the city inspector and the number and size of the accesses. To estimate the number of vehicles that would be needed to transport 2,280 people to the water park, it was assumed that the average vehicle would transport three people. With three people per vehicle, it was estimated that 2,280 people would require 760 vehicles. A detailed explanation of the occupancy and average transportation calculation is included in the appendix.

According to the site plan, there are 191 parking spaces directly available for the water park. From discussions with the owner, any empty lots like the restaurant and event center lots will be available for water park parking until they are opened in 2030. The restaurant lot will have 70 parking spaces until the restaurant is constructed. The clubhouse will have 157 parking spaces with additional space in the footprint of the building to park additional vehicles. Additionally, the owner is planning to remove 34 RV spaces replace them with approximately 70 parking spaces.

Any available RV spaces may also be used as parking for the water park. Figure 2 shows how an RV space could be used to park six vehicles visiting the park.

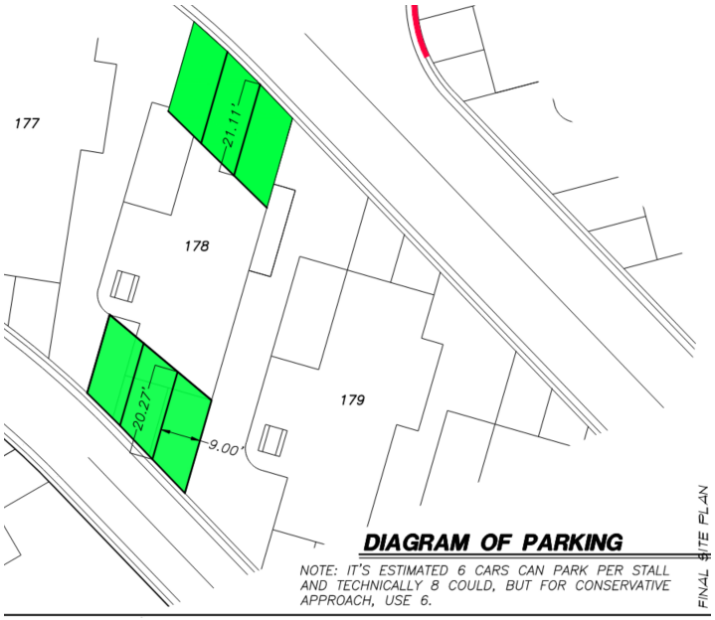


Figure 2-Diagram of Six Parking Spaces in each RV Space

To accommodate the various parking scenarios of the development, three trip generation scenarios will be analyzed:

- Scenario 1-Existing Conditions with Partial Occupancy
  - Parking available at the water park, overflow, future restaurant lot, future clubhouse lot, and new parking in RV location (488 parking spaces)
  - Parking not available in RV stalls
- Scenario 2- Existing Conditions with Full Occupancy
  - Parking available at the water park, overflow, future restaurant lot, future clubhouse lot, and new parking in RV location (488 parking spaces)
  - Parking available in RV stalls (272 spaces)
  - Maximum of 760 vehicles (2,280 people)
- Scenario 3-Buildout Conditions (2030) with Full Occupancy
  - Water park, RV park, ropes course, restaurant, and clubhouse uses all constructed and open for use
  - Parking available at the water park, overflow parking, and new parking in RV location (261 parking spaces)
  - Parking available in RV stalls or in other future parking lots (499 spaces)
  - Maximum of 760 vehicles (2,280 people)

Table 3 shows the estimated trip generation of the development in the existing conditions with the water park, and Table 4 shows the estimated trip generation of the development at buildout with the water park. The event center was not included in the trip generation—it is planned to act more as a clubhouse for the RV park, so all of the trips would be internal.

Table 3-Trip Generation for Existing Conditions with Water Park

Existing Water Park Trip Generation								
Scenario	Units		Start of Event (Peak Hour)			End of Event (Peak Hour)		
			In	Out	Total	In	Out	Total
Scenario 1-Existing with Partial Occupancy	488	Parking Spaces	415	0	415	0	415	415
Scenario 2-Existing with Full Occupancy	760	Parking Spaces	646	0	646	0	646	646

Table 4-Trip Generation for Buildout Conditions with Water Park

Scenario 3-Buildout Conditions (2030) with Full Occupancy								
Land Use	Units		Start of Event (Peak Hour)			End of Event (Peak Hour)		
			In	Out	Total	In	Out	Total
Water Park	760	Parking Spaces	646	0	646	0	646	646
Ropes Course	14	1000 sq ft	51	32	83	51	32	83
Restaurant	10	1000 sq ft	172	141	313	172	141	313
Event Center/Clubhouse	--	--	--	--	--	--	--	--
RV Park	68	RV Sites	17	11	28	17	11	28
Total			**887**	**183**	**1,070**	**241**	**829**	**1,070**

TRIP DISTRIBUTION

The new trips estimated to be generated from Glamper's Inn were distributed onto the roadway network based on the trip distribution used in the 2022 Gateway at Sand Hollow Traffic Impact Study and based on the existing counts.

Figure 3 shows the trip distribution in and out of the surrounding area.

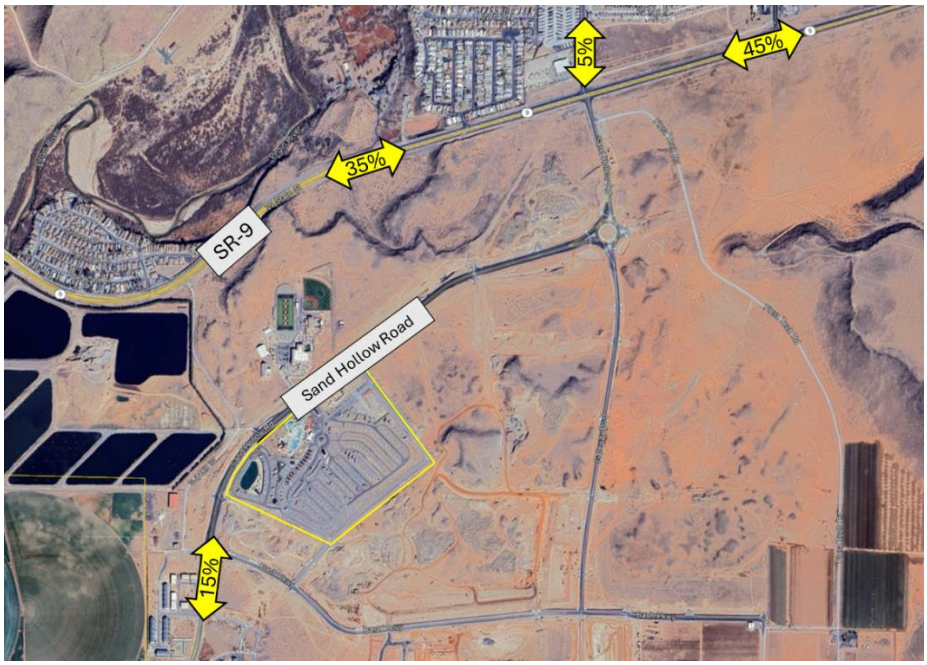


Figure 3-Trip Distribution for Glamper's Inn

Traffic Analysis

SCENARIO 1-EXISTING CONDITIONS WITH PARTIAL OCCUPANCY

This scenario is for an event at the water park in the existing conditions with partial occupancy at the water park. It assumes that there are 488 parking spaces available for the water park. The estimated turning movement counts for this scenario are shown in Figure 4.

Table 5 shows the LOS analysis for the existing conditions with partial occupancy at the water park.

Table 5-Existing Conditions with Partial Occupancy LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Signalized)		
Average Delay (sec/veh)	31.97	29.68
Level of Service	C	C
Sand Hollow Road & Jellystone Road (TWSC*)		
Average Delay (sec/veh)	29.53	11.47
Level of Service	D	B

*Two-Way Stop-Controlled

With the addition of the traffic from the water park, all of the study intersections are expected to operate at LOS D or better when an event would begin and when it would end.

QUEUE ANALYSIS

Queue lengths for the planned intersection were analyzed for the 95th percentile queue length to estimate the needed storage for each lane of the intersection during an event at the water park. The full queue analysis is included in the appendix with the Vistro reports. Table 6 gives the longest queue length and the movement where it occurs for the peak hours. Queue lengths under 20 feet typically mean that there is no queuing.

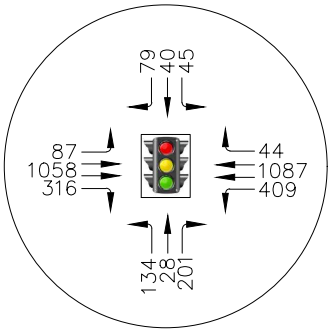
Table 6-Queue Length Analysis for Scenario 1

Intersection	Start of Event (Peak Hour)		End of Event (Peak Hour)	
	95th Percentile Queue Length	Movement with Longest Queue	95th Percentile Queue Length	Movement with Longest Queue
SR-9 & 3700 West	498	WBL	366	WBT
Sand Hollow Road & Jellystone Road	28	WBL	47	NBR

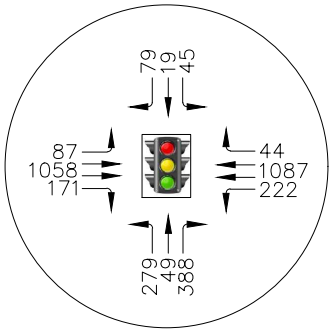
SR-9 & 3700 WEST

1

EVENT START PEAK HOUR



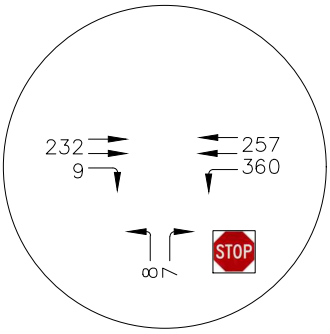
EVENT END PEAK HOUR



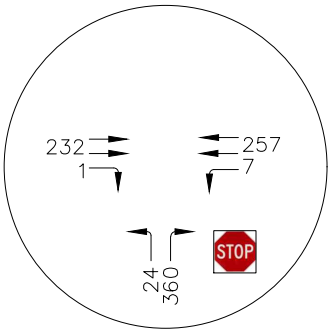
SAND HOLLOW RD & JELLYSTONE RD

2

EVENT START PEAK HOUR



EVENT END PEAK HOUR



Horrocks.
555 S. BLUFF ST, #200
ST. GEORGE, UT
(435) 986-7888

Glamper's Inn
Existing Turning Movement Volumes
with Partial Water Park Occupancy

FIGURE
4

SCALE:
N/A

DATE:
3/2025

SCENARIO 2-EXISTING CONDITIONS WITH FULL OCCUPANCY

This scenario is for an event at the water park in the existing conditions with full occupancy at the water park. It assumes that there are 760 parking spaces available for the water park.

Table 5 shows the LOS analysis for the existing conditions with full occupancy at the water park.

Table 7-Existing Conditions with Full Occupancy LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Signalized)		
Average Delay (sec/veh)	48.95	36.66
Level of Service	D	D
Sand Hollow Road & Jellystone Road (TWSC*)		
Average Delay (sec/veh)	64.91	14.85
Level of Service	F	B

*Two-Way Stop-Controlled

With the traffic from a full event at the water park, the intersection of Sand Hollow Road and Jellystone Road is expected to operate at LOS F at the start of the event.

To determine the maximum capacity of the water park that would allow the study intersections to operate at an acceptable LOS, the number of available parking spaces was reduced to the number of trips that would allow the study intersection to operate at LOS D. Using Vistro and stepping down the number of available parking spaces until the study intersections operate at LOS D, it was found that 547 parking spaces is the maximum available for the study intersection to operate acceptably.

Table 8 shows the trip generation if the available parking is limited to 547 spaces.

Table 8-Trip Generation for Buildout Conditions and Partial Occupancy of Water Park

Existing Water Park Trip Generation								
Scenario	Units		Start of Event (Peak Hour)			End of Event (Peak Hour)		
			In	Out	Total	In	Out	Total
Scenario 2-Existing with Full Occupancy	547	Parking Spaces	465	0	465	0	465	465

Figure 5Figure 4 shows the turning movement volumes with the reduced parking spaces. The 547 spaces allow for 488 spaces reserved for the water park and 59 additional spaces from the RV spaces or any future parking spaces. With 547 parking spaces the maximum occupancy of the water park would be 1,641 people. Table 9 shows the LOS analysis for the reduced water park occupancy.

Table 9-Existing Conditions with Reduced Full Occupancy LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Signalized)		
Average Delay (sec/veh)	34.89	30.98
Level of Service	C	C
Sand Hollow Road & Jellystone Road (TWSC*)		
Average Delay (sec/veh)	34.40	11.99
Level of Service	D	B

*Two-Way Stop-Controlled

QUEUE ANALYSIS

Queue lengths for the planned intersection were analyzed for the 95th percentile queue length to estimate the needed storage for each lane of the intersection during an event at the water park. The full queue analysis is included in the appendix with the Vistro reports. Table 10 gives the longest queue length and the movement where it occurs for the peak hours. Queue lengths under 20 feet typically mean that there is no queuing.

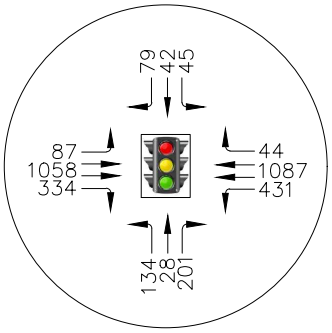
Table 10-Queue Length Analysis for Scenario 2

Intersection	Start of Event (Peak Hour)		End of Event (Peak Hour)	
	95th Percentile Queue Length	Movement with Longest Queue	95th Percentile Queue Length	Movement with Longest Queue
SR-9 & 3700 West	582	WBL	379	WBT
Sand Hollow Road & Jellystone Road	32	WBL	57	NBR

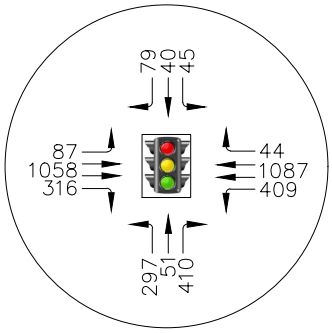
SR-9 & 3700 WEST

1

EVENT START PEAK HOUR



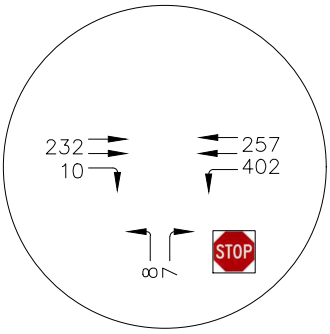
EVENT END PEAK HOUR



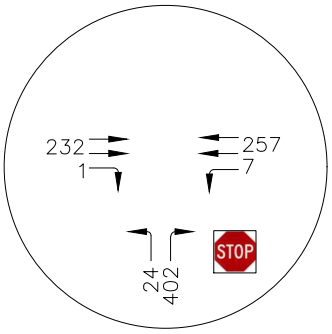
SAND HOLLOW RD & JELLYSTONE RD

2

EVENT START PEAK HOUR



EVENT END PEAK HOUR



Horrocks.
555 S. BLUFF ST, #200
ST. GEORGE, UT
(435) 986-7888

Glamper's Inn
Existing Turning Movement Volumes
with Reduced Water Park Occupancy

FIGURE
5

SCALE:
N/A

DATE:
3/2025

SCENARIO 3-FULL OCCUPANCY AT BUILDOUT

This scenario is for an event at the water park in the buildout condition with full occupancy at the water park. Because the full occupancy was reduced in the existing condition to improve the LOS, it assumes that there are 547 parking spaces available for the water park and that the other uses, the ropes course, restaurant, RV park, and clubhouse, have been completed and are open for use.

Table 11 shows the trip generation of the buildout condition with the reduced occupancy for the water park and with the other uses included.

Table 11- Trip Generation for Buildout Conditions and Reduced Occupancy of Water Park

Scenario 3-Buildout Conditions (2030) with Full Occupancy								
Land Use	Units		Start of Event (Peak Hour)			End of Event (Peak Hour)		
			In	Out	Total	In	Out	Total
Water Park	547	Parking Spaces	465	0	465	0	465	465
Ropes Course	14	1000 sq ft	51	32	83	51	32	83
Restaurant	10	1000 sq ft	172	141	313	172	141	313
Event Center/Clubhouse	--	--	--	--	--	--	--	--
RV Park	68	RV Sites	17	11	28	17	11	28
Total			**706**	**183**	**889**	**241**	**648**	**889**

To successfully analyze traffic conditions for the buildout scenario, the existing traffic was grown based on the projected growth in the surrounding area. The growth rate of seven percent per year that was used for the Gateway at Sand Hollow traffic study in 2022 was applied to Glamper's Inn RV and Water Park.

The Gateway at Sand Hollow traffic study recommended that a traffic signal be constructed by 2032. The Regional Transportation Plan identifies the intersection of SR-9 and 3700 West to be converted into an interchange by 2032. This analysis assumes that neither improvement has been built.

Table 12 shows the LOS analysis for the buildout conditions with the reduced occupancy at the water park.

Table 12-Buildout Conditions with Reduced Occupancy LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Signalized)		
Average Delay (sec/veh)	120.02	86.29
Level of Service	F	F
Sand Hollow Road & Jellystone Road (TWSC*)		
Average Delay (sec/veh)	146.17	23.82
Level of Service	F	C

*Two-Way Stop-Controlled

With the background growth expected on Sand Hollow Road, the additional uses at Glamper's Inn, and the traffic from a full event at the water park, both study intersections are expected to operate at LOS F

at the start of the event, and the intersection of SR-9 and 3700 West is expected to operate at LOS F at the end of the event.

To determine the maximum capacity of the water park that would allow the study intersections to operate at an acceptable LOS, the number of available parking spaces was reduced to the number of trips that would allow the intersection of Jellystone Road and Sand Hollow Road to operate at LOS D. Using Vistro and stepping down the number of available parking spaces until the study intersections operate at LOS D, it was found that 165 parking spaces is the maximum available for the intersection of Jellystone Road and Sand Hollow Road to operate acceptably. Table 13 shows the trip generation if the available parking is limited to 165 spaces.

Table 13-Trip Generation for Buildout Conditions and Reduced Occupancy of Water Park

Scenario 3-Buildout Conditions (2030) with Reduced Occupancy								
Land Use	Units		Start of Event (Peak Hour)			End of Event (Peak Hour)		
			In	Out	Total	In	Out	Total
Water Park	165	Parking Spaces	140	0	140	0	140	140
Ropes Course	14	1000 sq ft	51	32	83	51	32	83
Restaurant	10	1000 sq ft	172	141	313	172	141	313
Event Center/Clubhouse	--	--	--	--	--	--	--	--
RV Park	68	RV Sites	17	11	28	17	11	28
Total			**381**	**183**	**564**	**241**	**323**	**564**

Figure 6 shows the turning movement volumes with the reduced parking spaces. With 165 parking spaces the maximum occupancy of the water park would be 495 people. Table 14 shows the LOS analysis for the reduced water park occupancy.

Table 14-Buildout Conditions with Partial Occupancy LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Signalized)		
Average Delay (sec/veh)	76.10	72.45
Level of Service	E	F
Sand Hollow Road & Jellystone Road (TWSC*)		
Average Delay (sec/veh)	34.55	22.72
Level of Service	D	C

*Two-Way Stop-Controlled

If a signal is installed at the intersection of Jellystone Road and Sand Hollow Road, the intersection is expected to operate at LOS C or better. Table 15 shows the LOS at the intersection of Jellystone Road and Sand Hollow Road with a signal.

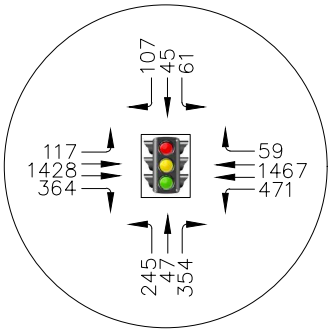
Table 15- Buildout Conditions with Full Occupancy and a Signal at Jellystone Road LOS Analysis

Intersection (Traffic Control)	Start of Event (Peak Hour)	End of Event (Peak Hour)
SR-9 & 3700 West (Grade-Separated Interchange)		
Average Delay (sec/veh)	--	--
Level of Service	--	--
Sand Hollow Road & Jellystone Road (Signalized)		
Average Delay (sec/veh)	12.63	20.08
Level of Service	B	C

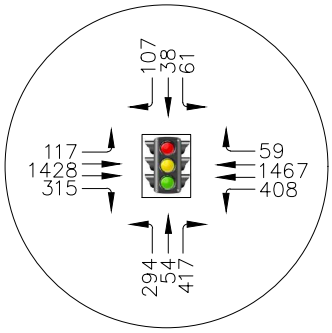
SR-9 & 3700 WEST

1

EVENT START PEAK HOUR



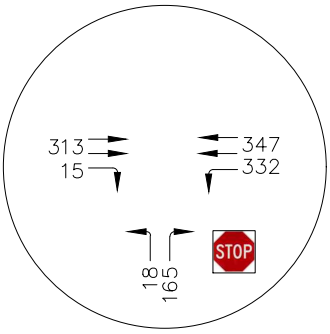
EVENT END PEAK HOUR



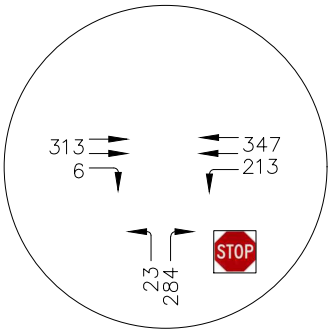
SAND HOLLOW RD & JELLYSTONE RD

2

EVENT START PEAK HOUR



EVENT END PEAK HOUR



Horrocks. 555 S. BLUFF ST, #200 ST. GEORGE, UT (435) 986-7888	Glamper's Inn Buildout Turning Movement Volumes with Reduced Water Park Occupancy	FIGURE 6	SCALE: N/A DATE: 3/2025

QUEUE ANALYSIS

Queue lengths for the planned intersection were analyzed for the 95th percentile queue length to estimate the needed storage for each lane of the intersection during an event at the water park. The full queue analysis is included in the appendix with the Vistro reports. Table 16 gives the longest queue length and the movement where it occurs for the peak hours. Queue lengths under 20 feet typically mean that there is no queuing.

Table 16-Queue Length Analysis for 2032 with Development Traffic

Intersection	Start of Event (Peak Hour)		End of Event (Peak Hour)	
	95th Percentile Queue Length	Movement with Longest Queue	95th Percentile Queue Length	Movement with Longest Queue
SR-9 & 3700 West	1,396	WBL	1,214	WBL
Sand Hollow Road & Jellystone Road	28	WBL	36	NBR

As discussed previously, the study intersections are expected to be improved by 2032 through previous traffic planning in the area. The interchange at the intersection of SR-9 and 3700 West and the signal at the intersection of Sand Hollow Road and Jellystone Road will improve the capacity of the area. It is likely that with those improvements, the traffic to Glamper's Inn with an event at the water park will easily be accommodated. It is recommended that the approved occupancy of the water park be reevaluated at the buildout of Glamper's Inn, with consideration for the improvements at the study intersections.

Recommendations

Based on the analysis in this report, the existing conditions at Glamper's Inn will allow the study intersections to operate at an acceptable LOS when the water park has an occupancy of 1,641 people.

In the existing condition, it is recommended that:

- Any RV spaces used as parking for the water park be sectioned off and reserved for any event parking.
- The maximum occupancy of the water park be capped at 1,641 until the other Glamper's Inn uses are completed.

When the other uses planned at Glamper's Inn are completed and open, the LOS at the study intersections is expected to be unacceptable. If no improvements are made to the roadways, the maximum allowable occupancy is 495 people. However, improvements are planned for both study intersections. A signalized intersection at the intersection of Jellystone Road and Sand Hollow Road is expected to operate at an acceptable LOS with full buildout and an occupancy of 1,641 at the water park.

When Glamper's Inn is built out, it is recommended that the traffic from Glamper's Inn and the occupancy of the water park be reevaluated with consideration for the improvements at the study intersections.

Appendix A: Site Plan

PARKING STALL PLAN FOR:
GLAMPERS INN JELLYSTONE PARK

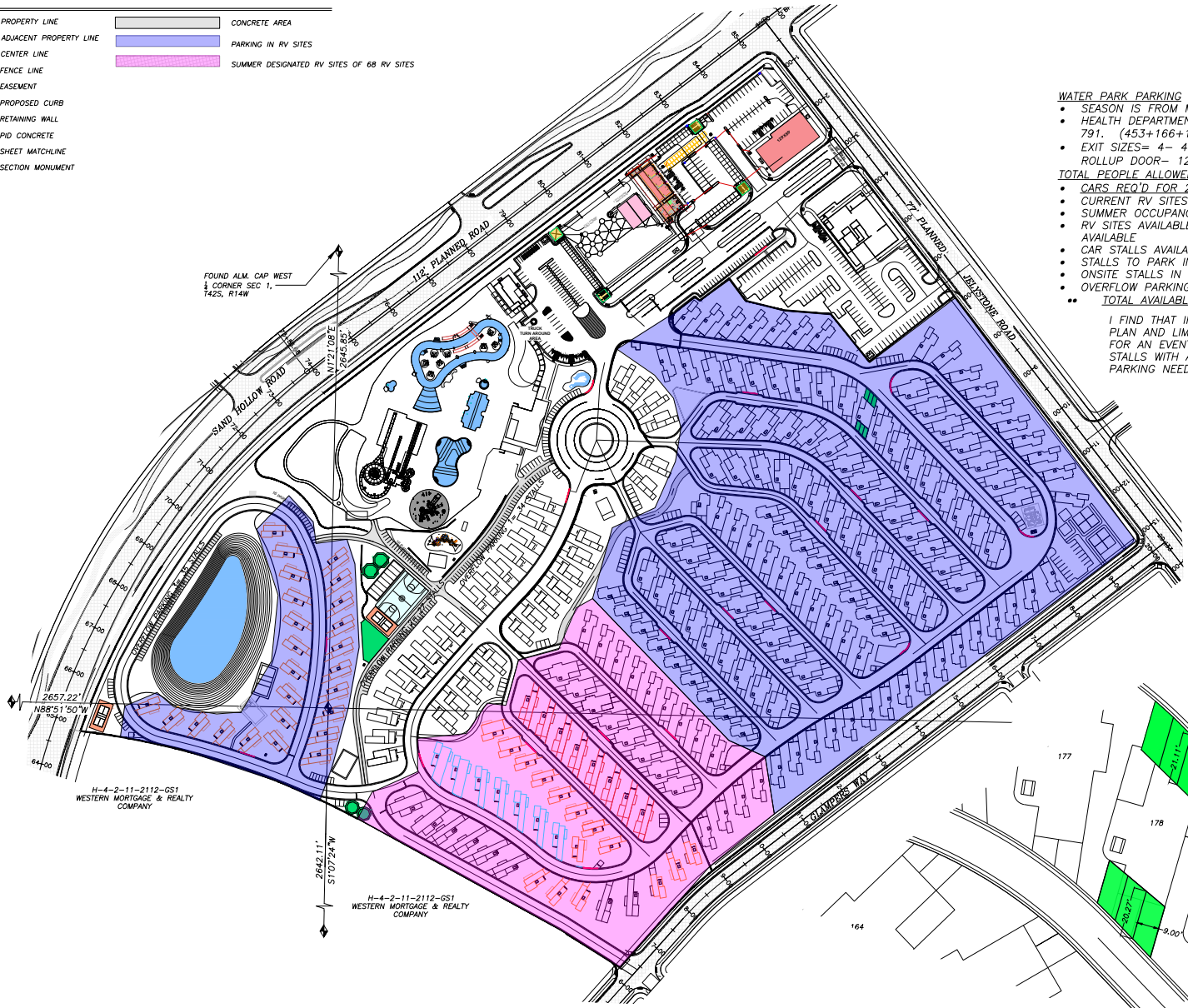
LOCATED IN SECTION 1, T42S, R14W, S.L.B.&M.
HURRICANE, WASHINGTON COUNTY, UTAH

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CENTER LINE
- FENCE LINE
- EASEMENT
- PROPOSED CURB
- RETAINING WALL
- PID CONCRETE
- SHEET MATCHLINE
- SECTION MONUMENT
- CONCRETE AREA
- PARKING IN RV SITES
- SUMMER DESIGNATED RV SITES OF 68 RV SITES

N
W E
S

100 0 100
SCALE IN FEET



WATER PARK PARKING

- SEASON IS FROM MEMORIAL DAY TO LABOR DAY
- HEALTH DEPARTMENT – PEOPLE ALLOWED IN WATER= 791. (453+166+126+46)
- EXIT SIZES= 4– 48" GATES + DRIVE THRU–144" + ROLLUP DOOR– 120"= 456" OF EXIT AVAILABLE.

TOTAL PEOPLE ALLOWED = 456/0.2 = 2,280 PEOPLE

- CARS REQ'D FOR 2,280 PEOPLE= 760 CARS
- CURRENT RV SITES= 249
- SUMMER OCCUPANCY= 27% = 68 RV SITES
- RV SITES AVAILABLE TO USE FOR PARKING = 181 SITES AVAILABLE
- CAR STALLS AVAILABLE PER RV SITE = 6
- STALLS TO PARK IN VACANT RV SITES = 1,086 STALLS
- ONSITE STALLS IN WATER PARK= 95 STALLS
- OVERFLOW PARKING (AREAS 1, 2 &3)= 96 STALLS
- TOTAL AVAILABLE PARKING= 1,277 STALLS

I FIND THAT IF GLAMPERS INN WILL STICK TO THIS PLAN AND LIMIT THE NUMBER OF PEOPLE TO 2,280 FOR AN EVENT, THERE SHALL BE ENOUGH PARKING STALLS WITH A RESERVE OF 517 TO FULFILL ANY PARKING NEEDS.

DIAGRAM OF PARKING

NOTE: IT'S ESTIMATED 6 CARS CAN PARK PER STALL AND TECHNICALLY 8 COULD, BUT FOR CONSERVATIVE APPROACH, USE 6.

FINAL SITE PLAN

COPYRIGHT © 2013 PROVALUE ENGINEERING, INC.

NO	DESCRIPTION	DATE	BY

REVISIONS

PROVALUE ENGINEERING, INC.
Engineers · Land Surveyors · Land Planners
32 South 600 West, Suite 1
St. George, Utah 84770
Phone: (435) 628-5587

No. 191090
KARL BRADLEY RASMUSSEN
11/8/25

PARKING STALL PLAN FOR:
GLAMPERS INN JELLYSTONE PARK
LOCATED IN SECTION 1, T42S, R14W, S.L.B.&M.
HURRICANE, WASHINGTON COUNTY, UTAH

DATE: 3/11/2025
SCALE: 1"=100'

JOB NO.
569-001

SHEET NO.
C1

Appendix B: Occupancy Notes and Average Transportation Calculations

Emily,

Calculating occupancy

- The average household size in Hurricane, Utah, is 3.15, with 2.1 vehicles per household on average. If they take all cars to the park, it's about 1.5 people per car.
- Households might take one car for the trip, making the average closer to 3.15 people per car. This feels more realistic for amusement park visits.
- Given that, I'll go with 3 people per car as my assumption. It aligns with household sizes and typical group dynamics for such trips.

Local Considerations and Assumptions

- Given Hurricane, Utah's proximity to attractions like Jellystone Park Camp-Resort and Sand Hollow State Park, which offer water-based activities, visitors are likely to include local families and potentially tourists. The larger household size in Utah (3.22) suggests that when households travel together, the car occupancy could reflect this, potentially averaging 3 to 4 people per car. This is supported by an estimation from Disney World data, where, assuming 75% of 45,000 daily visitors (33,750 people) come by car and park in 11,000 spots, the average is about 3.07 people per car, adjusted for mixed transportation modes (Parking at Disney World [2025] (Parks, Hotels, Tips, Price)).
- The higher vehicle ownership in Utah, with an average of 2.1 cars per household (Utah | Data USA), could mean multiple cars are used for larger groups, potentially lowering per-car occupancy if split. However, for planning purposes, it's reasonable to assume that households often take one car for such outings, leading to an occupancy close to the household size, around 3 people.

Conclusion

Given the larger household sizes in Hurricane, Utah, and the tendency for families to carpool for amusement park visits, it is reasonable to assume an average of 3 people per car for trips to water parks in the area. This figure accounts for typical family groups and aligns with broader trends in recreational travel, though exact numbers may vary based on group composition and transportation choices.

Summer Occupancy is based on last summer and it's all that's anticipated for the percentage he'll have.

Please see PDF you need for the diagram. This PDF is worth 1000 words. Hope this helps you.

Sincerely,

Karl Rasmussen, P.E. S.E. M.E.
Provalue Engineering, Inc.

Appendix C: Vistro Reports

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\Existing.pdf

Scenario 1 1 Existing
3/13/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	SB Right	0.580	21.0	C
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.013	11.1	B
5	Glampers Way & Jellystone Road	Two-way stop	HCM 7th Edition		0.000	0.0	

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	7	50	11	5	20	22	265	43	56	272	11
Total Analysis Volume [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	61	61	61	61	61	61	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	16	10	10	0	4	4	10	20	20	11	21	21
g / C, Green / Cycle	0.27	0.16	0.16	0.00	0.07	0.07	0.17	0.33	0.33	0.18	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.08	0.01	0.13	0.03	0.01	0.05	0.06	0.30	0.11	0.16	0.31	0.03
s, saturation flow rate [veh/h]	1718	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	475	293	249	0	126	107	313	1181	527	334	1205	538
d1, Uniform Delay [s]	18.10	22.25	25.09	0.00	27.06	28.19	22.71	19.57	15.42	24.40	19.41	13.86
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.05	2.38	0.00	0.20	3.65	0.18	1.03	0.13	0.85	1.07	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.10	0.81	10000.0	0.15	0.74	0.28	0.90	0.32	0.67	0.90	0.08
d, Delay for Lane Group [s/veh]	18.22	22.30	27.47	0.00	27.26	31.84	22.89	20.60	15.55	25.25	20.48	13.89
Lane Group LOS	B	C	C	F	C	C	C	C	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.31	0.31	2.66	0.00	0.26	1.19	0.96	5.73	1.44	2.69	5.87	0.33
50th-Percentile Queue Length [ft/ln]	32.71	7.81	66.45	0.00	6.43	29.81	24.00	143.31	35.89	67.37	146.83	8.32
95th-Percentile Queue Length [veh/ln]	2.36	0.56	4.78	0.00	0.46	2.15	1.73	9.66	2.58	4.85	9.85	0.60
95th-Percentile Queue Length [ft/ln]	58.88	14.05	119.61	0.00	11.58	53.66	43.20	241.48	64.61	121.27	246.20	14.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.22	22.30	27.47	0.00	27.26	31.84	22.89	20.60	15.55	25.25	20.48	13.89
Movement LOS	B	C	C	A	C	C	C	C	B	C	C	B
d_A, Approach Delay [s/veh]	23.66			21.21			20.10			21.05		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	20.96											
Intersection LOS	C											
Intersection V/C	0.580											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1139	1139	1953	1953
d_b, Bicycle Delay [s]	5.69	5.69	0.02	0.02
I_b,int, Bicycle LOS Score for Intersection	2.159	1.796	2.645	2.676
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	7	232	1	7	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	58	0	2	64
Total Analysis Volume [veh/h]	8	7	232	1	7	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.12	8.97	0.00	0.00	7.72	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.02	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	1.02	0.58	0.00	0.00	0.40	0.00
d_A, Approach Delay [s/veh]	10.11		0.00		0.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Glampers Way & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name		
Approach	Southbound	Eastbound
Lane Configuration	↱	↰
Turning Movement	Right	Left
Lane Width [ft]	12.00	12.00
No. of Lanes in Entry Pocket	0	0
Entry Pocket Length [ft]	100.00	100.00
No. of Lanes in Exit Pocket	0	0
Exit Pocket Length [ft]	0.00	0.00
Speed [mph]	30.00	25.00
Grade [%]	0.00	0.00
Crosswalk	No	No

Volumes

Name		
Base Volume Input [veh/h]	0	0
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	0	0
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0
Total Analysis Volume [veh/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Settings

Priority Scheme	Free	Free
Flared Lane		
Storage Area [veh]	0	0
Two-Stage Gap Acceptance		
Number of Storage Spaces in Median	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00
Movement LOS	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00
d_A, Approach Delay [s/veh]	0.00	0.00
Approach LOS	A	A
d_I, Intersection Delay [s/veh]	0.00	
Intersection LOS		

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\Existing.pdf

Scenario 1 1 Existing
3/13/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	134	28	201	45	19	79	87	1058	171	222	1087	44	3175

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	8	7	232	1	7	257	512

ID	Intersection Name	Southbound	Eastbound	Total Volume
		Right	Left	
5	Glampers Way & Jellystone Road	0	0	0

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\Existing.pdf

Scenario 1 1 Existing
3/13/2025

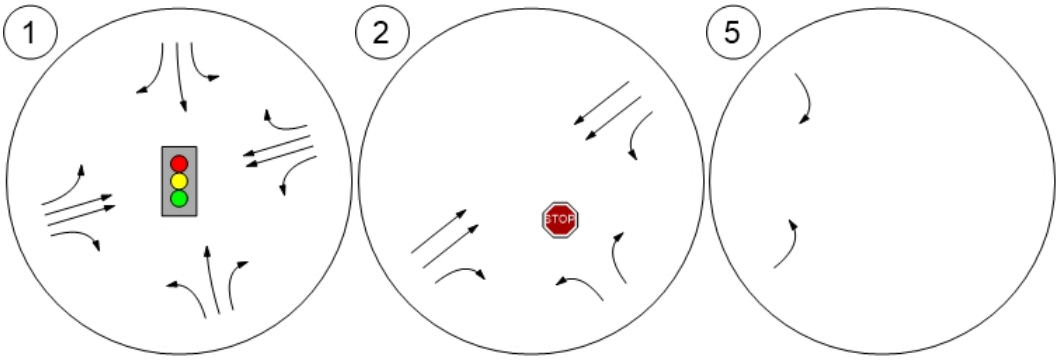
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**134**	**28**	**201**	**45**	**19**	**79**	**87**	**1058**	**171**	**222**	**1087**	**44**	**3175**

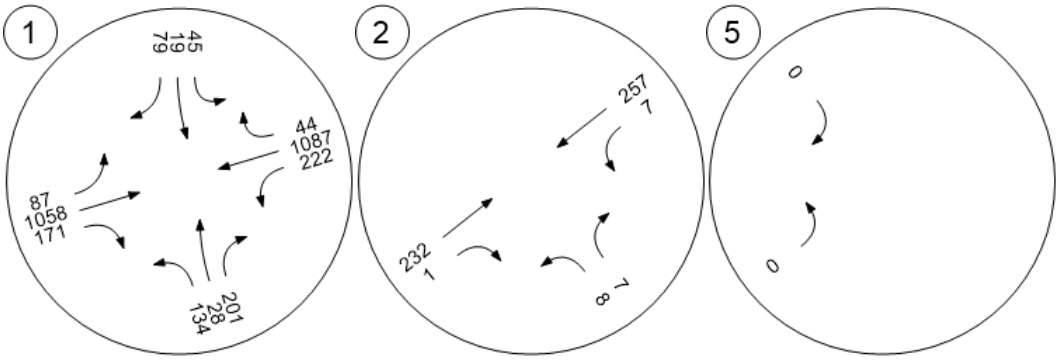
ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**8**	**7**	**232**	**1**	**7**	**257**	**512**

ID	Intersection Name	Volume Type	Southbound	Eastbound	Total Volume
			Right	Left	
5	Glampers Way & Jellystone Road	Final Base	0	0	0
		Growth Factor	1.00	1.00	-
		In Process	0	0	0
		Net New Trips	0	0	0
		Other	0	0	0
		Future Total	**0**	**0**	**0**

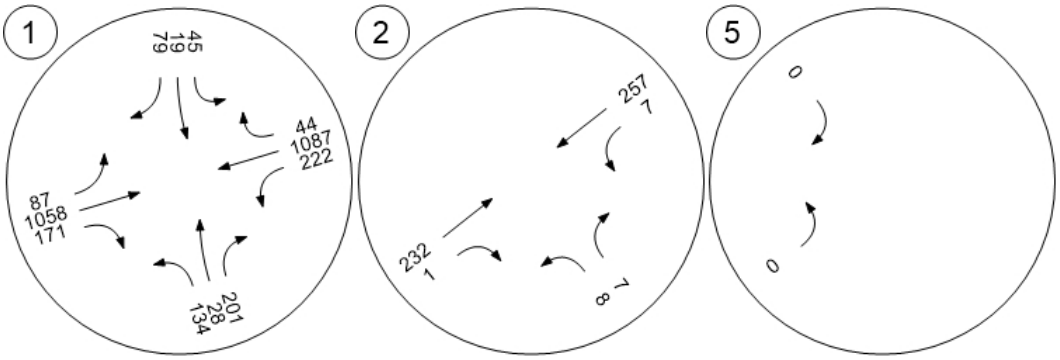
Lane Configuration and Traffic Control



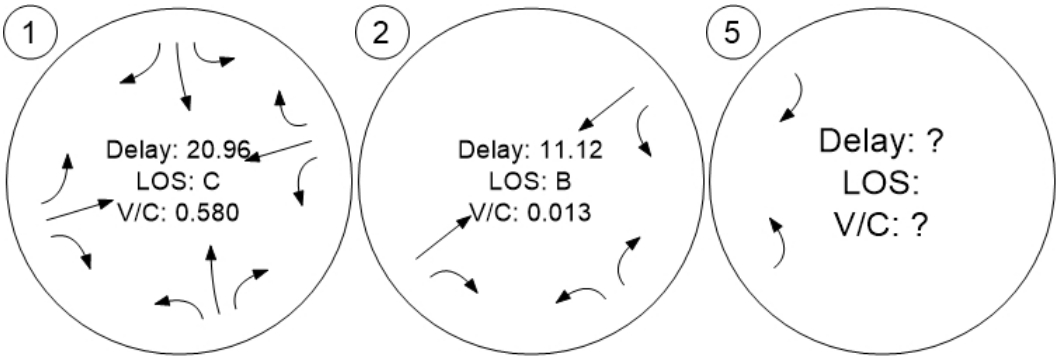
Traffic Volume - Base Volume



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\2-Event In Existing Partial.pdf

Scenario 2 Event IN: Existing with Partial Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.712	32.0	C
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.052	29.5	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	32.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	21	0	0	0	145	187	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	28	201	45	40	79	87	1058	316	409	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	7	50	11	10	20	22	265	79	102	272	11
Total Analysis Volume [veh/h]	134	28	201	45	40	79	87	1058	316	409	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	17	11	11	0	5	5	14	22	22	15	23	23
g / C, Green / Cycle	0.26	0.15	0.15	0.00	0.07	0.07	0.21	0.33	0.33	0.22	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.01	0.13	0.03	0.02	0.05	0.06	0.30	0.20	0.29	0.31	0.03
s, saturation flow rate [veh/h]	1697	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	434	289	246	0	134	114	357	1176	525	375	1195	533
d1, Uniform Delay [s]	21.14	24.79	27.95	0.00	30.09	30.99	22.95	21.81	19.13	28.01	21.71	15.51
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.05	2.55	0.00	0.46	2.82	0.13	1.08	0.41	72.82	1.18	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.10	0.82	10000.0	0.30	0.69	0.24	0.90	0.60	1.09	0.91	0.08
d, Delay for Lane Group [s/veh]	21.29	24.84	30.50	0.00	30.55	33.81	23.08	22.88	19.54	100.83	22.90	15.54
Lane Group LOS	C	C	C	F	C	C	C	C	B	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.54	0.36	3.04	0.00	0.62	1.31	1.03	6.71	3.48	13.08	6.91	0.39
50th-Percentile Queue Length [ft/ln]	38.62	8.96	76.00	0.00	15.45	32.79	25.85	167.64	87.06	327.08	172.63	9.79
95th-Percentile Queue Length [veh/ln]	2.78	0.64	5.47	0.00	1.11	2.36	1.86	10.95	6.27	19.90	11.21	0.70
95th-Percentile Queue Length [ft/ln]	69.51	16.12	136.80	0.00	27.81	59.02	46.53	273.82	156.70	497.58	280.37	17.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.29	24.84	30.50	0.00	30.55	33.81	23.08	22.88	19.54	100.83	22.90	15.54
Movement LOS	C	C	C	A	C	C	C	C	B	F	C	B
d_A, Approach Delay [s/veh]	26.66			23.74			22.17			43.38		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.97											
Intersection LOS	C											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1027	1027	1760	1760
d_b, Bicycle Delay [s]	8.07	8.07	0.49	0.49
I_b,int, Bicycle LOS Score for Intersection	2.159	1.830	2.765	2.830
Bicycle LOS	B	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	29.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	353	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	7	232	9	360	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	58	2	90	64
Total Analysis Volume [veh/h]	8	7	232	9	360	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.27	0.00
d_M, Delay for Movement [s/veh]	29.53	8.97	0.00	0.00	8.74	0.00
Movement LOS	D	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.02	0.00	0.00	1.11	0.00
95th-Percentile Queue Length [ft/ln]	4.05	0.58	0.00	0.00	27.79	0.00
d_A, Approach Delay [s/veh]	19.93		0.00		5.10	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.95					
Intersection LOS	D					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\2-Event In Existing Partial.pdf

Scenario 2 Event IN: Existing with Partial Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	134	28	201	45	40	79	87	1058	316	409	1087	44	3528

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	8	7	232	9	360	257	873

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\2-Event In Existing Partial.pdf

Scenario 2 Event IN: Existing with Partial Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	21	0	0	0	145	187	0	0	353
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**134**	**28**	**201**	**45**	**40**	**79**	**87**	**1058**	**316**	**409**	**1087**	**44**	**3528**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	8	353	0	361
		Other	0	0	0	0	0	0	0
		Future Total	**8**	**7**	**232**	**9**	**360**	**257**	**873**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\2-Event In Existing Partial.pdf

Scenario 2 Event IN: Existing with Partial Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	415	0	415	100.00
					Added Trips Total				**415**	**0**	**415**	**100.00**

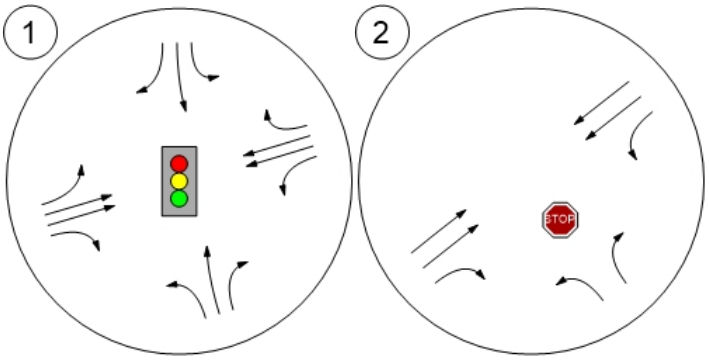
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\2-Event In Existing Partial.pdf

Scenario 2 Event IN: Existing with Partial Occupancy
3/14/2025

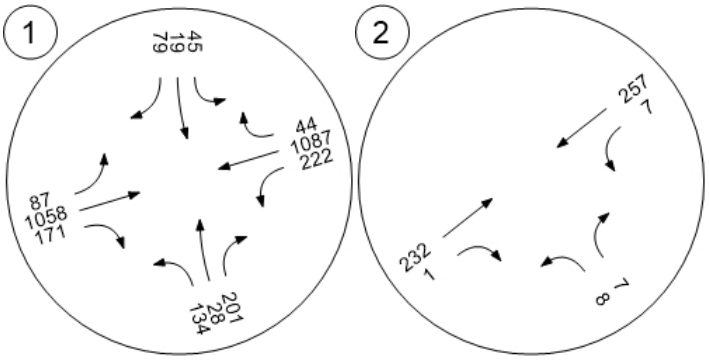
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	145	35.00	0
5: Gate	5.00	21	5.00	0
6: Gate	45.00	187	45.00	0
7: Gate	15.00	62	15.00	0
Total	**100.00**	**415**	**100.00**	**0**

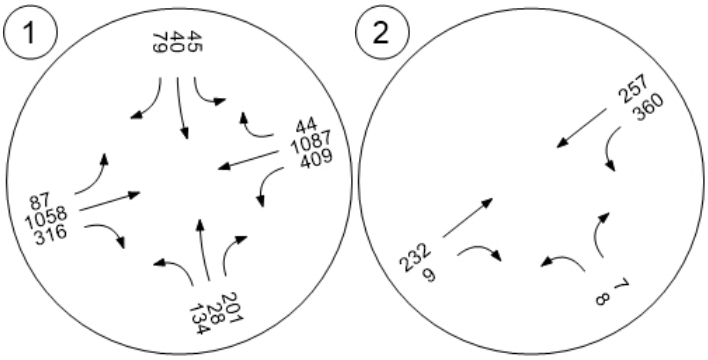
Lane Configuration and Traffic Control



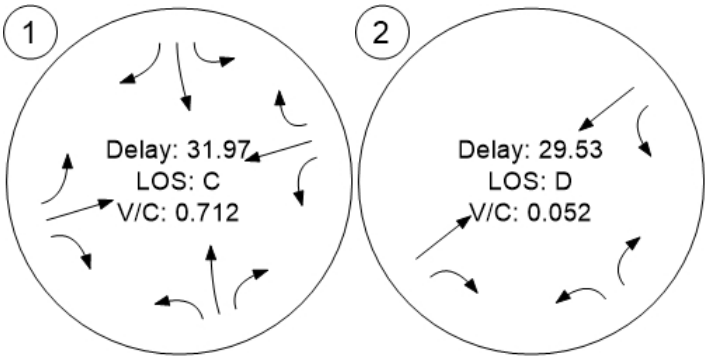
Traffic Volume - Base Volume



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\3-Event Out Existing Partial.pdf

Scenario 3 Event OUT: Existing with Partial Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	SB Right	0.698	29.7	C
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Right	0.394	11.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	145	21	187	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	279	49	388	45	19	79	87	1058	171	222	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	12	97	11	5	20	22	265	43	56	272	11
Total Analysis Volume [veh/h]	279	49	388	45	19	79	87	1058	171	222	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	30	23	23	0	6	6	14	28	28	15	28	28
g / C, Green / Cycle	0.35	0.27	0.27	0.00	0.07	0.07	0.16	0.32	0.32	0.18	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.16	0.03	0.24	0.03	0.01	0.05	0.06	0.30	0.11	0.16	0.31	0.03
s, saturation flow rate [veh/h]	1721	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	599	499	424	0	124	105	281	1147	512	299	1172	523
d1, Uniform Delay [s]	21.63	23.63	30.44	0.00	37.72	39.29	32.10	28.00	22.06	34.64	27.74	19.82
k, delay calibration	0.04	0.04	0.06	0.04	0.04	0.04	0.04	0.04	0.04	0.20	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.03	4.98	0.00	0.21	3.95	0.23	1.44	0.14	6.66	1.50	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.10	0.91	10000.0	0.15	0.75	0.31	0.92	0.33	0.74	0.93	0.08
d, Delay for Lane Group [s/veh]	21.84	23.66	35.43	0.00	37.93	43.24	32.33	29.44	22.20	41.31	29.24	19.84
Lane Group LOS	C	C	D	F	D	D	C	C	C	D	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.98	0.70	7.70	0.00	0.38	1.72	1.49	9.33	2.34	4.66	9.57	0.54
50th-Percentile Queue Length [ft/ln]	99.60	17.54	192.47	0.00	9.44	43.00	37.29	233.21	58.42	116.45	239.24	13.58
95th-Percentile Queue Length [veh/ln]	7.17	1.26	12.25	0.00	0.68	3.10	2.69	14.34	4.21	8.20	14.64	0.98
95th-Percentile Queue Length [ft/ln]	179.29	31.57	306.23	0.00	16.99	77.39	67.13	358.43	105.15	204.94	366.08	24.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.84	23.66	35.43	0.00	37.93	43.24	32.33	29.44	22.20	41.31	29.24	19.84
Movement LOS	C	C	D	A	D	D	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	29.33			28.93			28.69			30.91		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.68											
Intersection LOS	C											
Intersection V/C	0.698											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	819	819	1403	1403
d_b, Bicycle Delay [s]	14.92	14.92	3.80	3.80
I_b,int, Bicycle LOS Score for Intersection	2.741	1.796	2.645	2.676
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	353	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	360	232	1	7	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	90	58	0	2	64
Total Analysis Volume [veh/h]	24	360	232	1	7	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.39	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.29	11.47	0.00	0.00	7.72	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	1.90	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	3.14	47.42	0.00	0.00	0.40	0.00
d_A, Approach Delay [s/veh]	11.46		0.00		0.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.06					
Intersection LOS	B					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\3-Event Out Existing Partial.pdf

Scenario 3 Event OUT: Existing with Partial Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	279	49	388	45	19	79	87	1058	171	222	1087	44	3528

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	24	360	232	1	7	257	881

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\3-Event Out Existing Partial.pdf

Scenario 3 Event OUT: Existing with Partial Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	145	21	187	0	0	0	0	0	0	0	0	0	353
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**279**	**49**	**388**	**45**	**19**	**79**	**87**	**1058**	**171**	**222**	**1087**	**44**	**3528**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	16	353	0	0	0	0	369
		Other	0	0	0	0	0	0	0
		Future Total	**24**	**360**	**232**	**1**	**7**	**257**	**881**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\3-Event Out Existing Partial.pdf

Scenario 3 Event OUT: Existing with Partial Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	0	415	415	100.00
					Added Trips Total				**0**	**415**	**415**	**100.00**

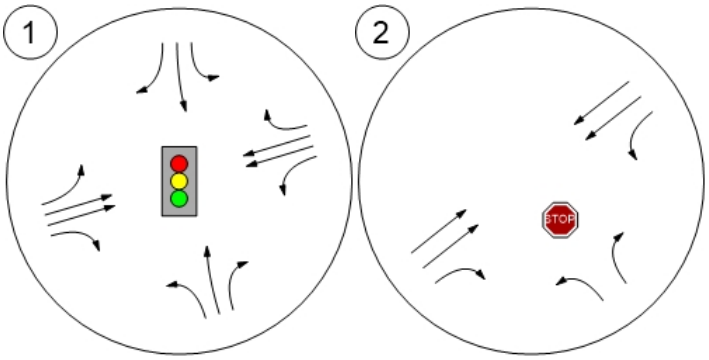
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\3-Event Out Existing Partial.pdf

Scenario 3 Event OUT: Existing with Partial Occupancy
3/14/2025

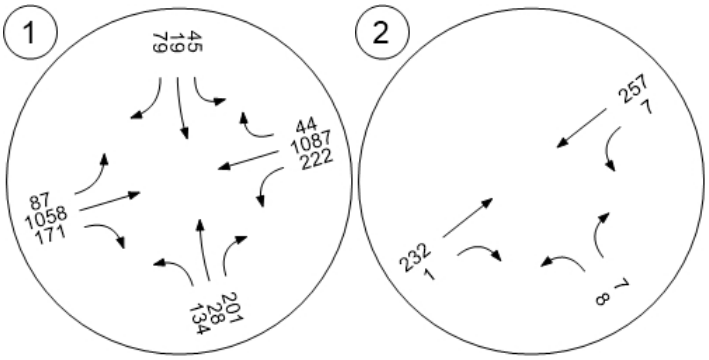
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	0	35.00	145
5: Gate	5.00	0	5.00	21
6: Gate	45.00	0	45.00	187
7: Gate	15.00	0	15.00	62
Total	**100.00**	**0**	**100.00**	**415**

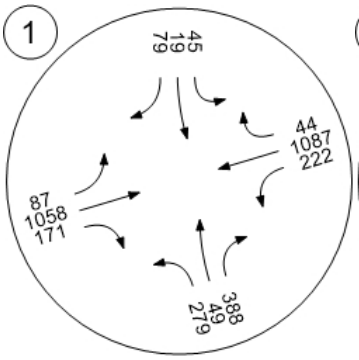
Lane Configuration and Traffic Control

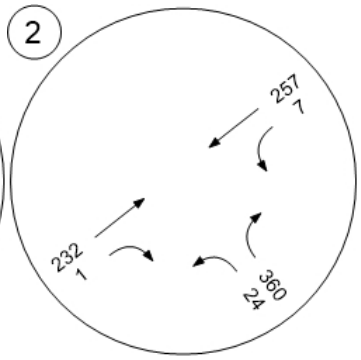


Traffic Volume - Base Volume

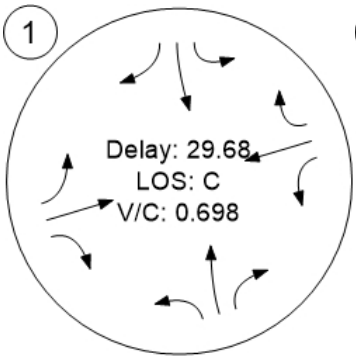


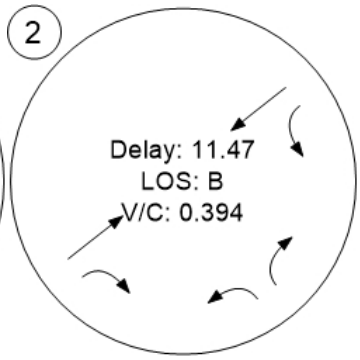
Traffic Volume - Future Total Volume





Traffic Conditions





Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\4-Event In Existing Full.pdf

Scenario 4 Event IN: Existing with Full Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.786	49.0	D
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.118	64.9	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	49.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.786

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	32	0	0	0	226	291	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	28	201	45	51	79	87	1058	397	513	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	7	50	11	13	20	22	265	99	128	272	11
Total Analysis Volume [veh/h]	134	28	201	45	51	79	87	1058	397	513	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	17	11	11	0	5	5	14	23	23	15	23	23
g / C, Green / Cycle	0.26	0.15	0.15	0.00	0.07	0.07	0.21	0.33	0.33	0.22	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.01	0.13	0.03	0.03	0.05	0.06	0.30	0.25	0.36	0.31	0.03
s, saturation flow rate [veh/h]	1691	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	431	289	246	0	137	116	358	1179	526	374	1194	533
d1, Uniform Delay [s]	21.27	24.83	28.00	0.00	30.22	30.94	22.96	21.79	20.41	28.07	21.75	15.54
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.05	2.56	0.00	0.63	2.59	0.13	1.05	0.83	182.76	1.18	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.10	0.82	10000.0	0.37	0.68	0.24	0.90	0.75	1.37	0.91	0.08
d, Delay for Lane Group [s/veh]	21.42	24.88	30.55	0.00	30.85	33.53	23.09	22.83	21.24	210.84	22.94	15.56
Lane Group LOS	C	C	C	F	C	C	C	C	C	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.55	0.36	3.05	0.00	0.79	1.31	1.04	6.70	4.72	24.51	6.92	0.39
50th-Percentile Queue Length [ft/ln]	38.72	8.98	76.16	0.00	19.87	32.65	25.88	167.62	117.88	612.73	173.06	9.82
95th-Percentile Queue Length [veh/ln]	2.79	0.65	5.48	0.00	1.43	2.35	1.86	10.95	8.28	37.88	11.24	0.71
95th-Percentile Queue Length [ft/ln]	69.70	16.16	137.08	0.00	35.76	58.77	46.59	273.78	206.91	947.00	280.93	17.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.42	24.88	30.55	0.00	30.85	33.53	23.09	22.83	21.24	210.84	22.94	15.56
Movement LOS	C	C	C	A	C	C	C	C	C	F	C	B
d_A, Approach Delay [s/veh]	26.75			24.12			22.44			81.37		
Approach LOS	C			C			C			F		
d_I, Intersection Delay [s/veh]	48.95											
Intersection LOS	D											
Intersection V/C	0.786											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1025	1025	1757	1757
d_b, Bicycle Delay [s]	8.11	8.11	0.50	0.50
I_b,int, Bicycle LOS Score for Intersection	2.159	1.848	2.832	2.916
Bicycle LOS	B	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	64.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.118

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	13	549	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	7	232	14	556	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	58	4	139	64
Total Analysis Volume [veh/h]	8	7	232	14	556	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.00	0.00	0.42	0.00
d_M, Delay for Movement [s/veh]	64.91	8.97	0.00	0.00	9.72	0.00
Movement LOS	F	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.02	0.00	0.00	2.14	0.00
95th-Percentile Queue Length [ft/ln]	9.52	0.58	0.00	0.00	53.58	0.00
d_A, Approach Delay [s/veh]	38.81		0.00		6.64	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	5.57					
Intersection LOS	F					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\4-Event In Existing Full.pdf

Scenario 4 Event IN: Existing with Full Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	134	28	201	45	51	79	87	1058	397	513	1087	44	3724

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	8	7	232	14	556	257	1074

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\4-Event In Existing Full.pdf

Scenario 4 Event IN: Existing with Full Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	32	0	0	0	226	291	0	0	549
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**134**	**28**	**201**	**45**	**51**	**79**	**87**	**1058**	**397**	**513**	**1087**	**44**	**3724**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	13	549	0	562
		Other	0	0	0	0	0	0	0
		Future Total	**8**	**7**	**232**	**14**	**556**	**257**	**1074**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\4-Event In Existing Full.pdf

Scenario 4 Event IN: Existing with Full Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	646	0	646	100.00
					Added Trips Total				**646**	**0**	**646**	**100.00**

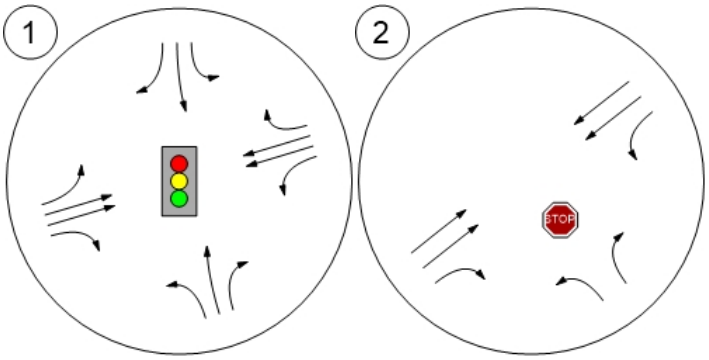
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\4-Event In Existing Full.pdf

Scenario 4 Event IN: Existing with Full Occupancy
3/14/2025

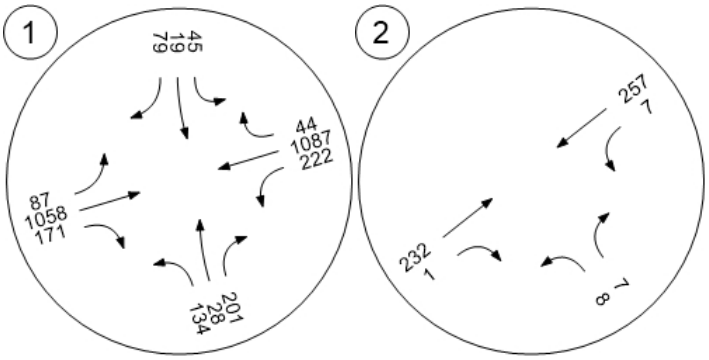
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	226	35.00	0
5: Gate	5.00	32	5.00	0
6: Gate	45.00	291	45.00	0
7: Gate	15.00	97	15.00	0
Total	**100.00**	**646**	**100.00**	**0**

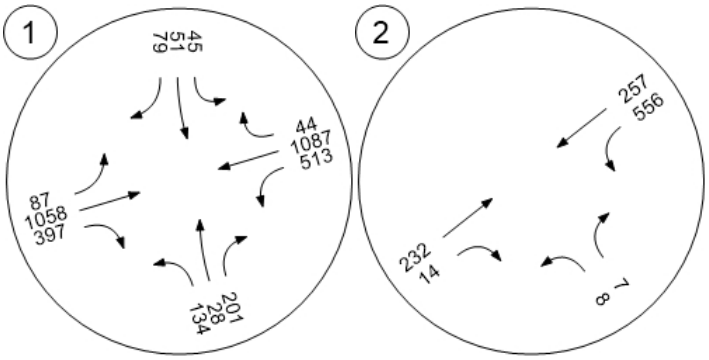
Lane Configuration and Traffic Control



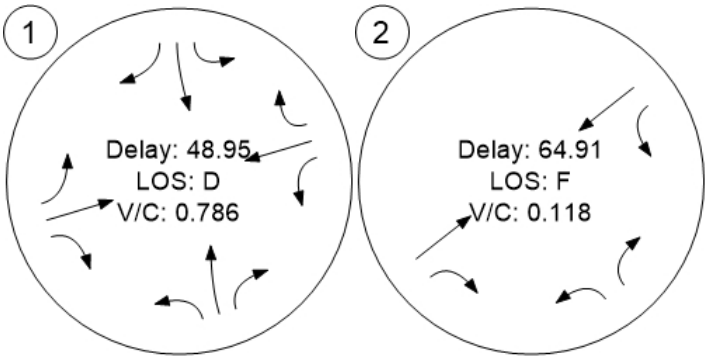
Traffic Volume - Base Volume



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\5-Event Out Existing Full.pdf

Scenario 5 Event OUT: Existing with Full Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.763	36.7	D
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Right	0.608	14.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	36.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	226	32	291	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	60	492	45	19	79	87	1058	171	222	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	15	123	11	5	20	22	265	43	56	272	11
Total Analysis Volume [veh/h]	360	60	492	45	19	79	87	1058	171	222	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	99	99	99	99	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	39	32	32	0	6	6	14	32	32	15	32	32
g / C, Green / Cycle	0.40	0.33	0.33	0.00	0.07	0.07	0.14	0.32	0.32	0.15	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.21	0.03	0.31	0.03	0.01	0.05	0.06	0.30	0.11	0.16	0.31	0.03
s, saturation flow rate [veh/h]	1726	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	683	611	520	0	122	104	241	1134	506	258	1160	518
d1, Uniform Delay [s]	22.75	23.24	32.57	0.00	43.81	45.63	39.30	32.80	25.83	42.49	32.48	23.20
k, delay calibration	0.06	0.04	0.29	0.04	0.04	0.04	0.04	0.04	0.04	0.30	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.03	19.59	0.00	0.22	4.23	0.34	1.67	0.14	19.75	1.74	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.10	0.95	10000.0	0.16	0.76	0.36	0.93	0.34	0.86	0.94	0.08
d, Delay for Lane Group [s/veh]	23.10	23.26	52.17	0.00	44.02	49.86	39.64	34.47	25.97	62.24	34.21	23.23
Lane Group LOS	C	C	D	F	D	D	D	C	C	E	C	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.96	0.93	13.50	0.00	0.45	2.02	1.85	11.37	2.85	6.52	11.66	0.66
50th-Percentile Queue Length [ft/ln]	148.99	23.32	337.50	0.00	11.15	50.56	46.25	284.16	71.18	162.91	291.61	16.56
95th-Percentile Queue Length [veh/ln]	9.96	1.68	19.53	0.00	0.80	3.64	3.33	16.90	5.12	10.70	17.27	1.19
95th-Percentile Queue Length [ft/ln]	249.08	41.97	488.15	0.00	20.07	91.00	83.25	422.39	128.12	267.57	431.64	29.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.10	23.26	52.17	0.00	44.02	49.86	39.64	34.47	25.97	62.24	34.21	23.23
Movement LOS	C	C	D	A	D	D	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	38.79			33.40			33.71			38.46		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	36.66											
Intersection LOS	D											
Intersection V/C	0.763											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	706	706	1210	1210
d_b, Bicycle Delay [s]	20.75	20.75	7.72	7.72
I_b,int, Bicycle LOS Score for Intersection	3.064	1.796	2.645	2.676
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	549	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	556	232	1	7	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	139	58	0	2	64
Total Analysis Volume [veh/h]	32	556	232	1	7	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.61	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.38	14.85	0.00	0.00	7.72	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	4.25	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	4.24	106.30	0.00	0.00	0.40	0.00
d_A, Approach Delay [s/veh]	14.66		0.00		0.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	8.00					
Intersection LOS	B					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\5-Event Out Existing Full.pdf

Scenario 5 Event OUT: Existing with Full Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	360	60	492	45	19	79	87	1058	171	222	1087	44	3724

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	32	556	232	1	7	257	1085

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\5-Event Out Existing Full.pdf

Scenario 5 Event OUT: Existing with Full Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	226	32	291	0	0	0	0	0	0	0	0	0	549
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**360**	**60**	**492**	**45**	**19**	**79**	**87**	**1058**	**171**	**222**	**1087**	**44**	**3724**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	24	549	0	0	0	0	573
		Other	0	0	0	0	0	0	0
		Future Total	**32**	**556**	**232**	**1**	**7**	**257**	**1085**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\5-Event Out Existing Full.pdf

Scenario 5 Event OUT: Existing with Full Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	0	646	646	100.00
					Added Trips Total				**0**	**646**	**646**	**100.00**

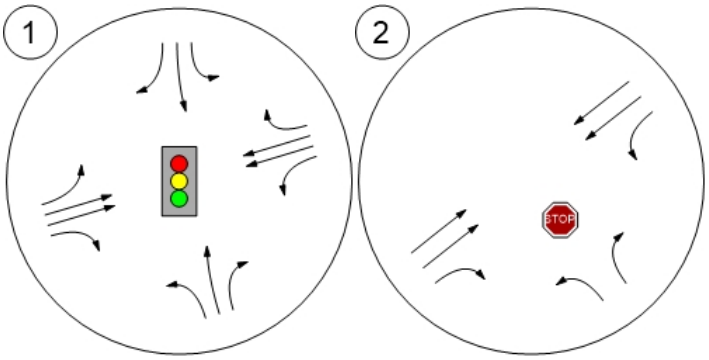
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\5-Event Out Existing Full.pdf

Scenario 5 Event OUT: Existing with Full Occupancy
3/14/2025

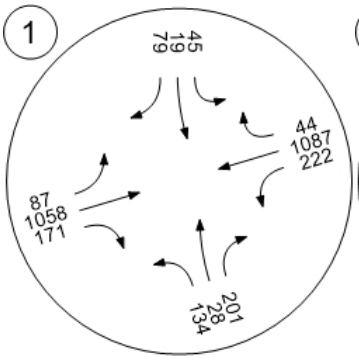
Trip Distribution summary

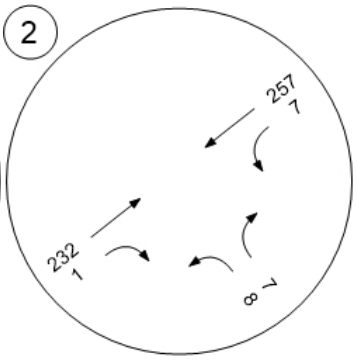
Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	0	35.00	226
5: Gate	5.00	0	5.00	32
6: Gate	45.00	0	45.00	291
7: Gate	15.00	0	15.00	97
Total	**100.00**	**0**	**100.00**	**646**

Lane Configuration and Traffic Control

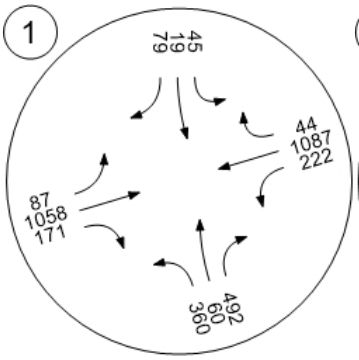


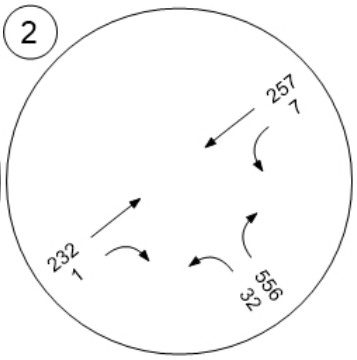
Traffic Volume - Base Volume



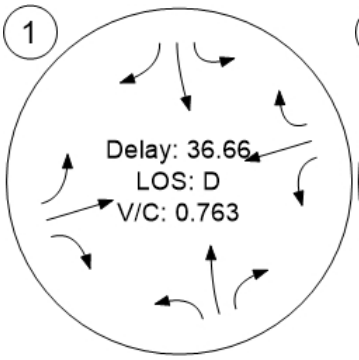


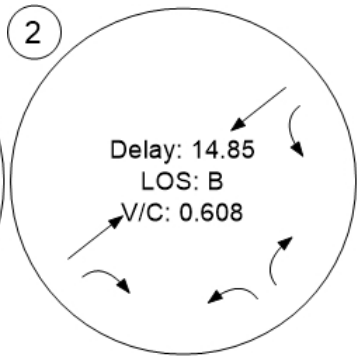
Traffic Volume - Future Total Volume





Traffic Conditions





Vistro File: \...\Jellystone Water Park analysis.vistro

Scenario 11 11 Copy of Event IN: Existing with Reduced Occupancy

Report File: \...\6-Event In Existing Reduced.pdf

3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.728	34.9	C
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.061	34.4	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	23	0	0	0	163	209	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	28	201	45	42	79	87	1058	334	431	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	7	50	11	11	20	22	265	84	108	272	11
Total Analysis Volume [veh/h]	134	28	201	45	42	79	87	1058	334	431	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	17	11	11	0	5	5	14	22	22	15	23	23
g / C, Green / Cycle	0.26	0.15	0.15	0.00	0.07	0.07	0.21	0.33	0.33	0.22	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.01	0.13	0.03	0.02	0.05	0.06	0.30	0.21	0.30	0.31	0.03
s, saturation flow rate [veh/h]	1696	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	433	289	246	0	134	114	357	1176	525	375	1195	533
d1, Uniform Delay [s]	21.17	24.79	27.96	0.00	30.12	30.98	22.95	21.80	19.40	28.02	21.72	15.52
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.05	2.55	0.00	0.49	2.77	0.13	1.07	0.48	93.79	1.18	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.10	0.82	10000.0	0.31	0.69	0.24	0.90	0.64	1.15	0.91	0.08
d, Delay for Lane Group [s/veh]	21.32	24.85	30.51	0.00	30.60	33.75	23.08	22.87	19.88	121.81	22.90	15.54
Lane Group LOS	C	C	C	F	C	C	C	C	B	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.55	0.36	3.04	0.00	0.65	1.31	1.03	6.71	3.74	15.27	6.91	0.39
50th-Percentile Queue Length [ft/ln]	38.64	8.96	76.03	0.00	16.25	32.76	25.86	167.64	93.47	381.63	172.72	9.80
95th-Percentile Queue Length [veh/ln]	2.78	0.65	5.47	0.00	1.17	2.36	1.86	10.95	6.73	23.29	11.22	0.71
95th-Percentile Queue Length [ft/ln]	69.55	16.13	136.86	0.00	29.25	58.97	46.54	273.81	168.25	582.26	280.49	17.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.32	24.85	30.51	0.00	30.60	33.75	23.08	22.87	19.88	121.81	22.90	15.54
Movement LOS	C	C	C	A	C	C	C	C	B	F	C	B
d_A, Approach Delay [s/veh]	26.68			23.81			22.21			49.99		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	34.89											
Intersection LOS	C											
Intersection V/C	0.728											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	1759	1759
d_b, Bicycle Delay [s]	8.08	8.08	0.49	0.49
I_b,int, Bicycle LOS Score for Intersection	2.159	1.834	2.780	2.848
Bicycle LOS	B	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	9	395	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	7	232	10	402	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	58	3	101	64
Total Analysis Volume [veh/h]	8	7	232	10	402	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.00	0.30	0.00
d_M, Delay for Movement [s/veh]	34.40	8.97	0.00	0.00	8.91	0.00
Movement LOS	D	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.02	0.00	0.00	1.30	0.00
95th-Percentile Queue Length [ft/ln]	4.84	0.58	0.00	0.00	32.42	0.00
d_A, Approach Delay [s/veh]	22.53		0.00		5.44	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.28					
Intersection LOS	D					

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\6-Event In Existing Reduced.pdf

Scenario 11 11 Copy of Event IN: Existing with Reduced Occupancy

3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	134	28	201	45	42	79	87	1058	334	431	1087	44	3570

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	8	7	232	10	402	257	916

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\6-Event In Existing Reduced.pdf

Scenario 11 11 Copy of Event IN: Existing with Reduced Occupancy

3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	23	0	0	0	163	209	0	0	395
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**134**	**28**	**201**	**45**	**42**	**79**	**87**	**1058**	**334**	**431**	**1087**	**44**	**3570**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	9	395	0	404
		Other	0	0	0	0	0	0	0
		Future Total	**8**	**7**	**232**	**10**	**402**	**257**	**916**

Vistro File: \...\Jellystone Water Park analysis.vistro

Scenario 11 11 Copy of Event IN: Existing with Reduced Occupancy

Report File: \...\6-Event In Existing Reduced.pdf

3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	465	0	465	100.00
					Added Trips Total				**465**	**0**	**465**	**100.00**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\6-Event In Existing Reduced.pdf

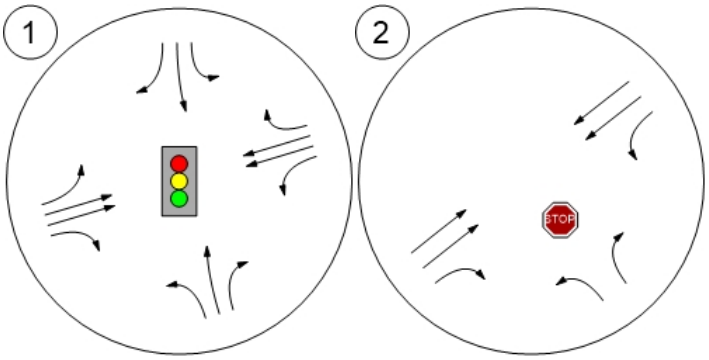
Scenario 11 11 Copy of Event IN: Existing with Reduced Occupancy

3/14/2025

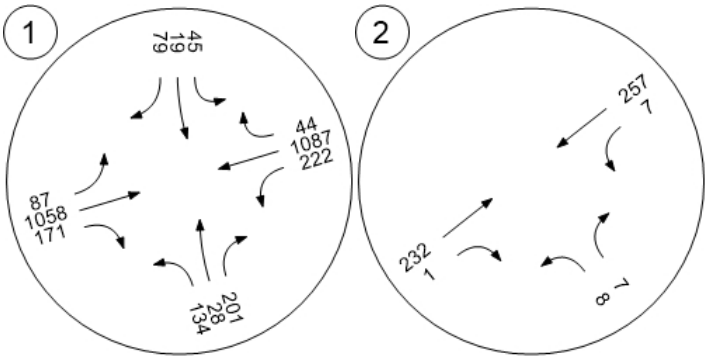
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	163	35.00	0
5: Gate	5.00	23	5.00	0
6: Gate	45.00	209	45.00	0
7: Gate	15.00	70	15.00	0
Total	**100.00**	**465**	**100.00**	**0**

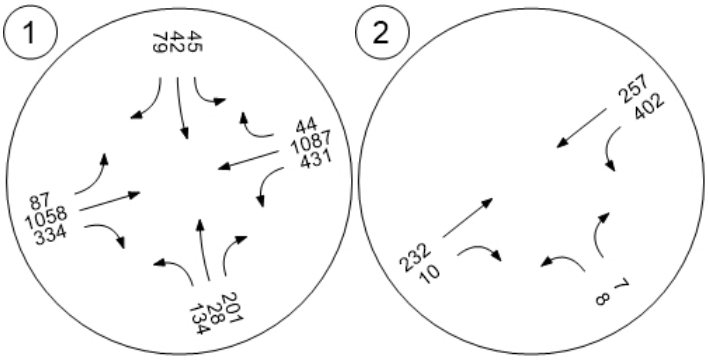
Lane Configuration and Traffic Control



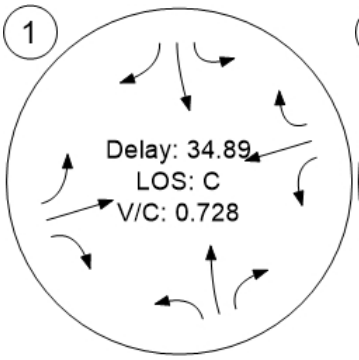
Traffic Volume - Base Volume

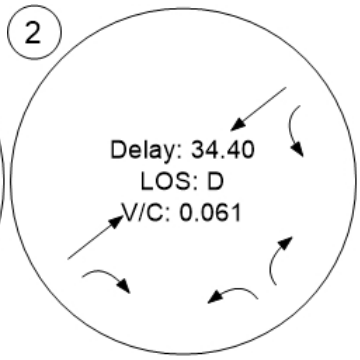


Traffic Volume - Future Total Volume



Traffic Conditions





Vistro File: \...\Jellystone Water Park analysis.vistro

Scenario 12 12 Copy of Event OUT: Existing with Reduced Occupancy

Report File: \...\7-Event Out Existing Reduced.pdf

3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	SB Right	0.712	31.0	C
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Right	0.440	12.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	23	209	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	51	410	45	19	79	87	1058	171	222	1087	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	13	103	11	5	20	22	265	43	56	272	11
Total Analysis Volume [veh/h]	297	51	410	45	19	79	87	1058	171	222	1087	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	88	88	88	88	88	88	88	88	88	88	88	88
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	32	25	25	0	6	6	14	28	28	15	29	29
g / C, Green / Cycle	0.36	0.28	0.28	0.00	0.07	0.07	0.16	0.32	0.32	0.17	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.17	0.03	0.26	0.03	0.01	0.05	0.06	0.30	0.11	0.16	0.31	0.03
s, saturation flow rate [veh/h]	1722	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	617	523	445	0	124	105	272	1144	511	290	1170	522
d1, Uniform Delay [s]	21.84	23.53	30.84	0.00	38.89	40.51	33.49	28.93	22.78	36.16	28.65	20.47
k, delay calibration	0.04	0.04	0.11	0.04	0.04	0.04	0.04	0.04	0.04	0.22	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.03	8.11	0.00	0.21	4.00	0.25	1.48	0.14	8.33	1.54	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.10	0.92	10000.0	0.15	0.75	0.32	0.92	0.33	0.76	0.93	0.08
d, Delay for Lane Group [s/veh]	22.06	23.56	38.95	0.00	39.10	44.51	33.74	30.41	22.92	44.49	30.19	20.49
Lane Group LOS	C	C	D	F	D	D	C	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.37	0.74	8.78	0.00	0.39	1.78	1.56	9.72	2.43	4.97	9.97	0.57
50th-Percentile Queue Length [ft/ln]	109.24	18.55	219.43	0.00	9.77	44.45	39.02	243.01	60.87	124.20	249.32	14.15
95th-Percentile Queue Length [veh/ln]	7.80	1.34	13.64	0.00	0.70	3.20	2.81	14.83	4.38	8.62	15.15	1.02
95th-Percentile Queue Length [ft/ln]	194.94	33.39	340.90	0.00	17.59	80.01	70.23	370.84	109.57	215.58	378.79	25.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.06	23.56	38.95	0.00	39.10	44.51	33.74	30.41	22.92	44.49	30.19	20.49
Movement LOS	C	C	D	A	D	D	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	31.30			29.79			29.65			32.22		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	30.98											
Intersection LOS	C											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	794	794	1362	1362
d_b, Bicycle Delay [s]	16.02	16.02	4.49	4.49
I_b,int, Bicycle LOS Score for Intersection	2.810	1.796	2.645	2.676
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	395	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	402	232	1	7	257
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	101	58	0	2	64
Total Analysis Volume [veh/h]	26	402	232	1	7	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.44	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.31	11.99	0.00	0.00	7.72	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.14	2.27	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	3.41	56.84	0.00	0.00	0.40	0.00
d_A, Approach Delay [s/veh]	11.95		0.00		0.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.59					
Intersection LOS	B					

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\7-Event Out Existing Reduced.pdf

Scenario 12 12 Copy of Event OUT: Existing with Reduced Occupancy

3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	297	51	410	45	19	79	87	1058	171	222	1087	44	3570

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	26	402	232	1	7	257	925

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\7-Event Out Existing Reduced.pdf

Scenario 12 12 Copy of Event OUT: Existing with Reduced Occupancy

3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	163	23	209	0	0	0	0	0	0	0	0	0	395
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**297**	**51**	**410**	**45**	**19**	**79**	**87**	**1058**	**171**	**222**	**1087**	**44**	**3570**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	18	395	0	0	0	0	413
		Other	0	0	0	0	0	0	0
		Future Total	**26**	**402**	**232**	**1**	**7**	**257**	**925**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\7-Event Out Existing Reduced.pdf

Scenario 12 12 Copy of Event OUT: Existing with Reduced Occupancy

3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	0	465	465	100.00
					Added Trips Total				**0**	**465**	**465**	**100.00**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\7-Event Out Existing Reduced.pdf

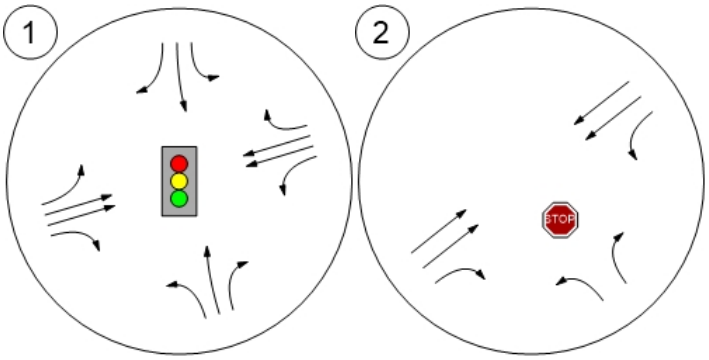
Scenario 12 12 Copy of Event OUT: Existing with Reduced Occupancy

3/14/2025

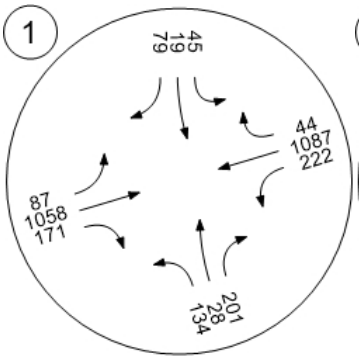
Trip Distribution summary

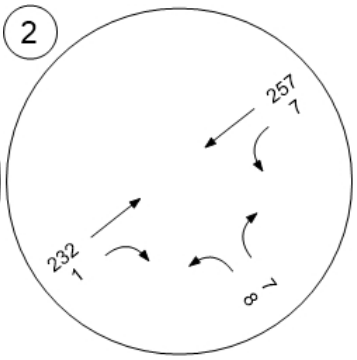
Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	0	35.00	163
5: Gate	5.00	0	5.00	23
6: Gate	45.00	0	45.00	209
7: Gate	15.00	0	15.00	70
Total	**100.00**	**0**	**100.00**	**465**

Lane Configuration and Traffic Control

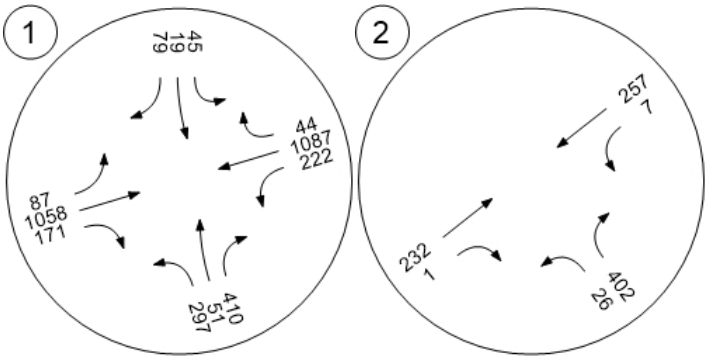


Traffic Volume - Base Volume

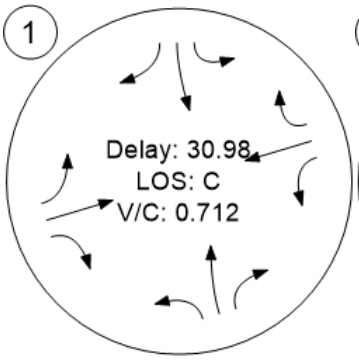


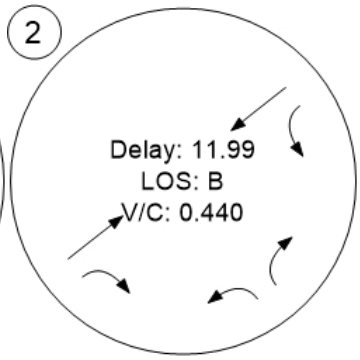


Traffic Volume - Future Total Volume



Traffic Conditions





Unmitigated

Number	2					
Intersection	Sand Hollow Road & Jellystone Road					
Control Type	Two-way stop					
Analysis Method	HCM 7th Edition					
Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	8	7	232	1	7	257
Total Analysis Volume [veh/h]	18	165	313	15	609	347

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Capacity Analysis

Calculated Rank	3	2	1	1	2	1
v_c, Conflicting Flow Rate	1705	157	0	0	328	0
v_c, Stage 1	313	157	0	0	328	0
v_c, Stage 2	1392	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	82	861	0	0	1228	0
c_p,x, Stage 1 [veh/h]	715	1162	0	0	1785	0
c_p,x, Stage 2 [veh/h]	196	1084	0	0	1622	0
c_m,x, Movement Capacity [veh/h]	42	861	100000	100000	1228	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	42	861	100000	100000	1228	100000

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.19	0.00	0.00	0.50	0.00
d_M, Delay for Movement [s/veh]	146.17	10.17	0.00	0.00	10.78	0.00
Movement LOS	F	B	A	A	B	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	1.51	0.71	0.00	0.00	2.85	0.00
95th-Percentile Queue Length [ft/ln]	37.85	17.63	0.00	0.00	71.13	0.00
d_A, Approach Delay [s/veh]	23.55		0.00		6.87	
Approach LOS	C		A		A	
V/C_I, Worst Movement V/C Ratio	0.43					
d_I, Worst Movement Control Delay [s/veh]	146.17					
d_I, Intersection Delay [s/veh]	7.41					
Intersection LOS	F					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\8-Event In Buildout Full.pdf

Scenario 6 Event IN: Buildout with Full Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	1.060	120.0	F
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.433	146.2	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	120.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.060

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	9	83	0	35	0	0	0	247	318	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	245	47	354	61	61	107	117	1428	478	618	1467	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	12	89	15	15	27	29	357	120	155	367	15
Total Analysis Volume [veh/h]	245	47	354	61	61	107	117	1428	478	618	1467	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	32	25	25	0	9	9	14	44	44	15	45	45
g / C, Green / Cycle	0.31	0.24	0.24	0.00	0.09	0.09	0.13	0.42	0.42	0.14	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.15	0.03	0.22	0.03	0.03	0.07	0.08	0.40	0.30	0.44	0.41	0.04
s, saturation flow rate [veh/h]	1658	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	483	451	383	0	160	136	225	1509	674	244	1539	687
d1, Uniform Delay [s]	31.57	31.04	38.93	0.00	45.42	47.11	43.48	29.13	24.95	46.41	28.82	17.60
k, delay calibration	0.04	0.04	0.12	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.04	10.39	0.00	0.55	3.72	0.69	1.57	0.52	702.89	1.76	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.10	0.92	10000.0	0.38	0.79	0.52	0.95	0.71	2.54	0.95	0.09
d, Delay for Lane Group [s/veh]	31.87	31.08	49.32	0.00	45.97	50.83	44.17	30.70	25.47	749.30	30.58	17.62
Lane Group LOS	C	C	D	F	D	D	D	C	C	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.77	0.90	9.56	0.00	1.52	2.87	2.77	15.57	8.84	53.72	16.02	0.77
50th-Percentile Queue Length [ft/ln]	119.27	22.49	239.07	0.00	38.10	71.72	69.24	389.30	220.92	1343.00	400.62	19.31
95th-Percentile Queue Length [veh/ln]	8.35	1.62	14.63	0.00	2.74	5.16	4.99	22.04	13.71	83.95	22.59	1.39
95th-Percentile Queue Length [ft/ln]	208.82	40.49	365.85	0.00	68.58	129.09	124.63	551.09	342.80	2098.82	564.74	34.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.87	31.08	49.32	0.00	45.97	50.83	44.17	30.70	25.47	749.30	30.58	17.62
Movement LOS	C	C	D	A	D	D	D	C	C	F	C	B
d_A, Approach Delay [s/veh]	41.38			35.99			30.24			237.39		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	120.02											
Intersection LOS	F											
Intersection V/C	1.060											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	667	1143	1143
d_b, Bicycle Delay [s]	23.32	23.32	9.63	9.63
I_b,int, Bicycle LOS Score for Intersection	2.626	1.937	3.229	3.328
Bicycle LOS	B	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	146.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	156	0	14	600	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	165	313	15	609	347
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	41	78	4	152	87
Total Analysis Volume [veh/h]	18	165	313	15	609	347
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.19	0.00	0.00	0.50	0.00
d_M, Delay for Movement [s/veh]	146.17	10.17	0.00	0.00	10.78	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	1.51	0.71	0.00	0.00	2.85	0.00
95th-Percentile Queue Length [ft/ln]	37.85	17.63	0.00	0.00	71.13	0.00
d_A, Approach Delay [s/veh]	23.55		0.00		6.87	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.41					
Intersection LOS	F					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\8-Event In Buildout Full.pdf

Scenario 6 Event IN: Buildout with Full Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	245	47	354	61	61	107	117	1428	478	618	1467	59	5042

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	18	165	313	15	609	347	1467

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\8-Event In Buildout Full.pdf

Scenario 6 Event IN: Buildout with Full Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	64	9	83	0	35	0	0	0	247	318	0	0	756
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**245**	**47**	**354**	**61**	**61**	**107**	**117**	**1428**	**478**	**618**	**1467**	**59**	**5042**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	7	156	0	14	600	0	777
		Other	0	0	0	0	0	0	0
		Future Total	**18**	**165**	**313**	**15**	**609**	**347**	**1467**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\8-Event In Buildout Full.pdf

Scenario 6 Event IN: Buildout with Full Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	706	183	889	100.00
					Added Trips Total				**706**	**183**	**889**	**100.00**

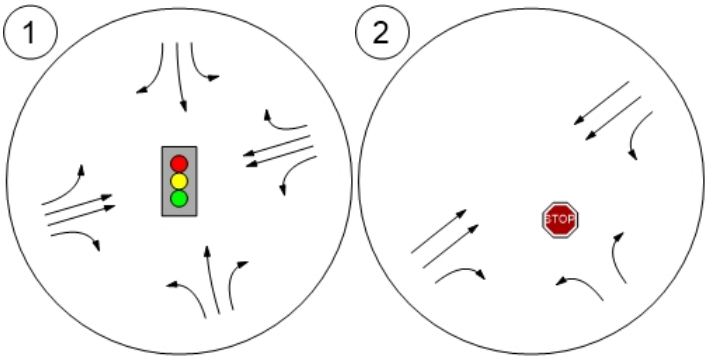
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\8-Event In Buildout Full.pdf

Scenario 6 Event IN: Buildout with Full Occupancy
3/14/2025

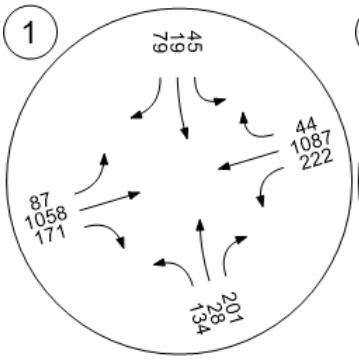
Trip Distribution summary

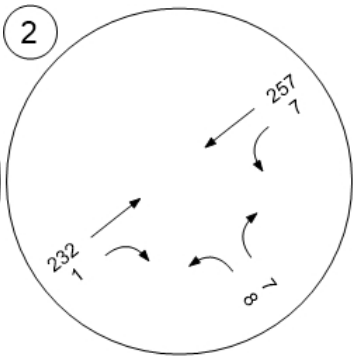
Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	247	35.00	64
5: Gate	5.00	35	5.00	9
6: Gate	45.00	318	45.00	83
7: Gate	15.00	106	15.00	27
Total	**100.00**	**706**	**100.00**	**183**

Lane Configuration and Traffic Control

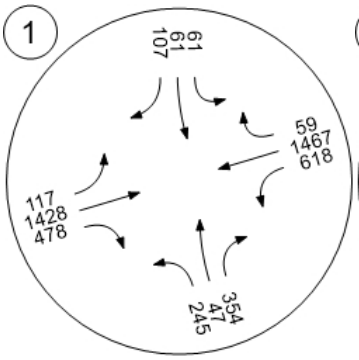


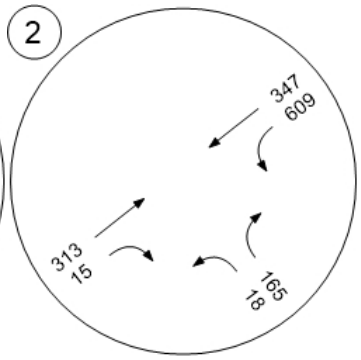
Traffic Volume - Base Volume



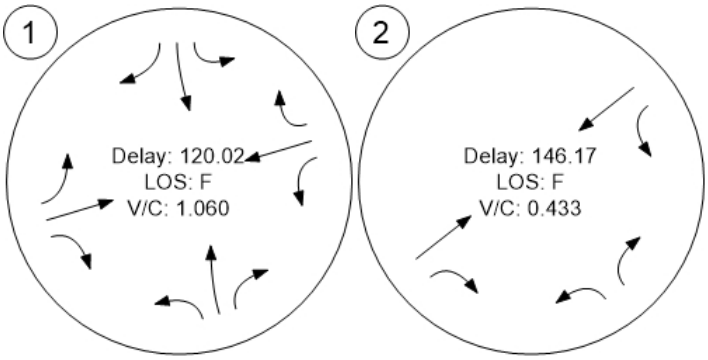


Traffic Volume - Future Total Volume





Traffic Conditions



Option 1: Signalized

Number	2					
Intersection	Sand Hollow Road & Jellystone Road					
Control Type	Signalized					
Analysis Method	HCM 7th Edition					
Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	8	7	232	1	7	257
Total Analysis Volume [veh/h]	35	560	313	6	213	347

Intersection Settings

Cycle Length [s]	60					
Active Pattern	Pattern 1					
Coordination Type	Time of Day Pattern Isolated					
Actuation Type	Fixed time					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive
Signal Group	7	0	6	0	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	5	0	10	0	5	10
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	32	0	19	0	9	28
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.47	0.47	0.25	0.25	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.10	0.00	0.19	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1144	3204
c, Capacity [veh/h]	748	668	801	358	553	1282
X, volume / capacity	0.05	0.84	0.39	0.02	0.38	0.27
d, Delay for Lane Group [s/veh]	8.84	26.06	20.14	17.03	14.73	12.63
Lane Group LOS	A	C	C	B	B	B

Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.25	7.97	1.71	0.06	1.89	1.34
50th-Percentile Queue Length [ft/ln]	6.19	199.15	42.73	1.56	47.28	33.62
95th-Percentile Queue Length [veh/ln]	0.45	12.59	3.08	0.11	3.40	2.42
95th-Percentile Queue Length [ft/ln]	11.14	314.86	76.91	2.81	85.11	60.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.84	26.06	20.14	17.03	14.73	12.63
Movement LOS	A	C	C	B	B	B
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	25.05		20.08		13.43	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	19.56					
Intersection LOS	B					
Intersection V/C	0.584					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\9-Event Out Buildout Full.pdf

Scenario 7 Event OUT: Buildout with Full Occupancy
3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	1.043	86.3	F
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.155	23.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	86.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.043

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	227	32	292	0	12	0	0	0	84	108	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	70	563	61	38	107	117	1428	315	408	1467	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	18	141	15	10	27	29	357	79	102	367	15
Total Analysis Volume [veh/h]	408	70	563	61	38	107	117	1428	315	408	1467	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	121	121	121	121	121	121	121	121	121	121	121	121
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	42	35	35	0	10	10	13	51	51	15	52	52
g / C, Green / Cycle	0.35	0.29	0.29	0.00	0.08	0.08	0.11	0.42	0.42	0.12	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.24	0.04	0.35	0.03	0.02	0.07	0.08	0.40	0.20	0.29	0.41	0.04
s, saturation flow rate [veh/h]	1676	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	573	542	460	0	157	134	193	1492	666	212	1526	681
d1, Uniform Delay [s]	35.00	31.68	42.93	0.00	51.75	54.36	52.20	34.04	25.43	54.28	33.55	20.48
k, delay calibration	0.26	0.04	0.50	0.04	0.04	0.04	0.05	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.95	0.04	118.55	0.00	0.29	4.16	1.31	1.95	0.19	432.34	2.08	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.13	1.22	10000.0	0.24	0.80	0.61	0.96	0.47	1.92	0.96	0.09
d, Delay for Lane Group [s/veh]	38.94	31.72	161.47	0.00	52.05	58.52	53.52	35.99	25.62	486.62	35.63	20.50
Lane Group LOS	D	C	F	F	D	E	D	D	C	F	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.34	1.48	28.29	0.00	1.09	3.35	3.37	18.86	6.12	31.75	19.35	0.93
50th-Percentile Queue Length [ft/ln]	258.55	37.00	707.31	0.00	27.35	83.81	84.20	471.45	152.93	793.67	483.81	23.32
95th-Percentile Queue Length [veh/ln]	15.62	2.66	41.59	0.00	1.97	6.03	6.06	25.98	10.17	50.06	26.57	1.68
95th-Percentile Queue Length [ft/ln]	390.41	66.60	1039.68	0.00	49.23	150.85	151.55	649.49	254.33	1251.55	664.17	41.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.94	31.72	161.47	0.00	52.05	58.52	53.52	35.99	25.62	486.62	35.63	20.50
Movement LOS	D	C	F	A	D	E	D	D	C	F	D	C
d_A, Approach Delay [s/veh]	104.73			40.00			35.34			130.31		
Approach LOS	F			D			D			F		
d_I, Intersection Delay [s/veh]	86.29											
Intersection LOS	F											
Intersection V/C	1.043											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	579	579	993	993
d_b, Bicycle Delay [s]	30.48	30.48	15.30	15.30
I_b,int, Bicycle LOS Score for Intersection	3.277	1.900	3.094	3.155
Bicycle LOS	C	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	551	0	5	204	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	560	313	6	213	347
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	140	78	2	53	87
Total Analysis Volume [veh/h]	35	560	313	6	213	347
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.65	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	23.82	16.60	0.00	0.00	8.51	0.00
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.54	4.93	0.00	0.00	0.62	0.00
95th-Percentile Queue Length [ft/ln]	13.44	123.29	0.00	0.00	15.51	0.00
d_A, Approach Delay [s/veh]	17.03		0.00		3.24	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.10					
Intersection LOS	C					

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\9-Event Out Buildout Full.pdf

Scenario 7 Event OUT: Buildout with Full Occupancy
3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	408	70	563	61	38	107	117	1428	315	408	1467	59	5041

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	35	560	313	6	213	347	1474

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\9-Event Out Buildout Full.pdf

Scenario 7 Event OUT: Buildout with Full Occupancy
3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	227	32	292	0	12	0	0	0	84	108	0	0	755
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**408**	**70**	**563**	**61**	**38**	**107**	**117**	**1428**	**315**	**408**	**1467**	**59**	**5041**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	24	551	0	5	204	0	784
		Other	0	0	0	0	0	0	0
		Future Total	**35**	**560**	**313**	**6**	**213**	**347**	**1474**

Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\9-Event Out Buildout Full.pdf

Scenario 7 Event OUT: Buildout with Full Occupancy
3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	241	648	889	100.00
					Added Trips Total				**241**	**648**	**889**	**100.00**

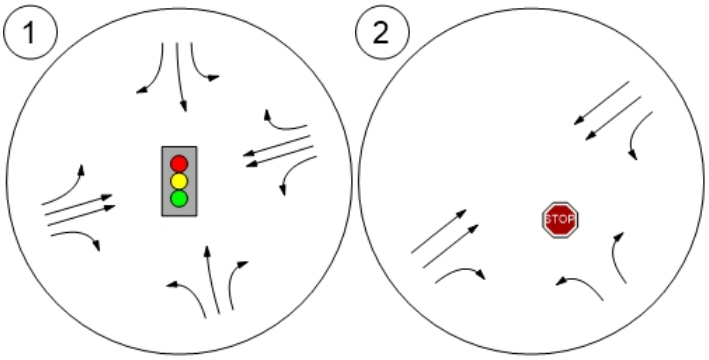
Vistro File: \...\Jellystone Water Park analysis.vistro
Report File: \...\9-Event Out Buildout Full.pdf

Scenario 7 Event OUT: Buildout with Full Occupancy
3/14/2025

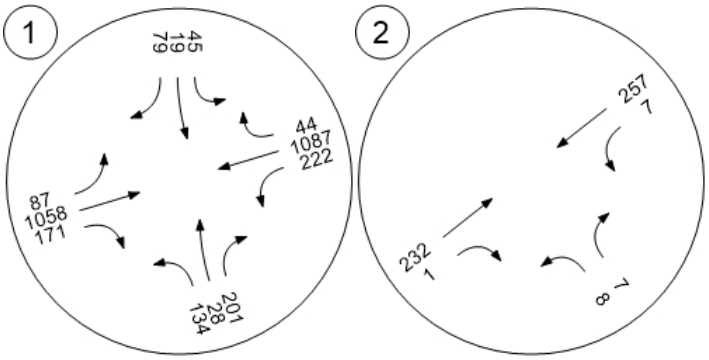
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	84	35.00	227
5: Gate	5.00	12	5.00	32
6: Gate	45.00	108	45.00	292
7: Gate	15.00	36	15.00	97
Total	**100.00**	**240**	**100.00**	**648**

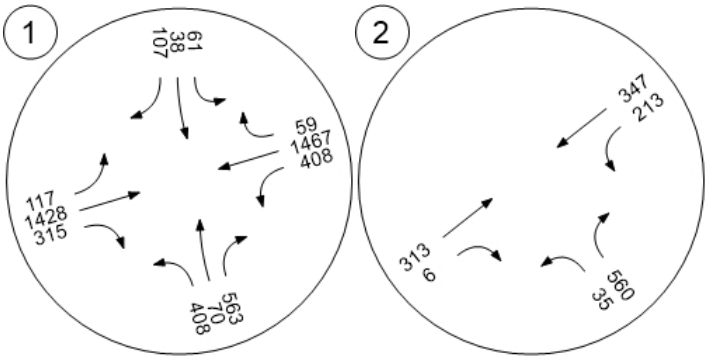
Lane Configuration and Traffic Control



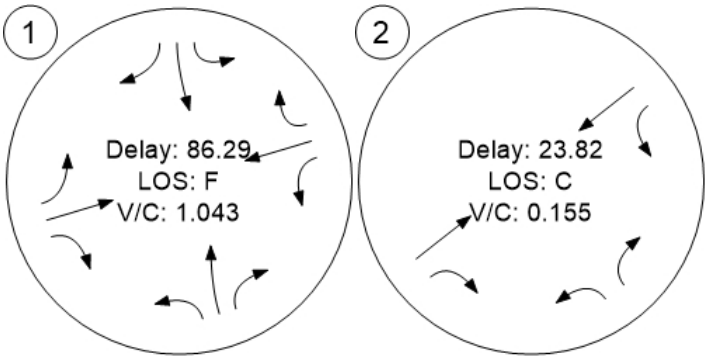
Traffic Volume - Base Volume



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: \...\Jellystone Water Park analysis.vistro

Scenario 13 13 Copy of Event IN: Buildout with Reduced Occupancy

Report File: \...\10-Event In Buildout Reduced.pdf

3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.956	76.1	E
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.129	34.5	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	76.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.956

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	9	83	0	19	0	0	0	133	171	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	245	47	354	61	45	107	117	1428	364	471	1467	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	12	89	15	11	27	29	357	91	118	367	15
Total Analysis Volume [veh/h]	245	47	354	61	45	107	117	1428	364	471	1467	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	32	25	25	0	9	9	14	44	44	15	45	45
g / C, Green / Cycle	0.31	0.24	0.24	0.00	0.09	0.09	0.13	0.42	0.42	0.14	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.15	0.03	0.22	0.03	0.02	0.07	0.08	0.40	0.23	0.33	0.41	0.04
s, saturation flow rate [veh/h]	1663	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	495	451	383	0	160	136	225	1506	672	244	1539	687
d1, Uniform Delay [s]	31.09	30.96	38.84	0.00	44.95	47.04	43.43	29.14	22.64	46.29	28.75	17.56
k, delay calibration	0.04	0.04	0.12	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.29	0.04	10.30	0.00	0.35	3.82	0.69	1.63	0.25	432.23	1.76	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.10	0.92	10000.0	0.28	0.79	0.52	0.95	0.54	1.93	0.95	0.09
d, Delay for Lane Group [s/veh]	31.38	31.00	49.13	0.00	45.31	50.85	44.12	30.77	22.89	478.52	30.51	17.58
Lane Group LOS	C	C	D	F	D	D	D	C	C	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.75	0.90	9.53	0.00	1.11	2.87	2.76	15.56	6.08	35.46	15.98	0.77
50th-Percentile Queue Length [ft/ln]	118.85	22.43	238.21	0.00	27.74	71.65	69.10	389.10	151.90	886.55	399.38	19.25
95th-Percentile Queue Length [veh/ln]	8.33	1.62	14.59	0.00	2.00	5.16	4.98	22.03	10.12	55.87	22.53	1.39
95th-Percentile Queue Length [ft/ln]	208.25	40.38	364.77	0.00	49.94	128.97	124.39	550.84	252.96	1396.80	563.26	34.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.38	31.00	49.13	0.00	45.31	50.85	44.12	30.77	22.89	478.52	30.51	17.58
Movement LOS	C	C	D	A	D	D	D	C	C	F	C	B
d_A, Approach Delay [s/veh]	41.08			35.12			30.08			135.79		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	76.10											
Intersection LOS	E											
Intersection V/C	0.956											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	668	668	1146	1146
d_b, Bicycle Delay [s]	23.21	23.21	9.55	9.55
I_b,int, Bicycle LOS Score for Intersection	2.626	1.911	3.135	3.207
Bicycle LOS	B	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.129

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	156	0	14	323	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	165	313	15	332	347
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	41	78	4	83	87
Total Analysis Volume [veh/h]	18	165	313	15	332	347
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.19	0.00	0.00	0.27	0.00
d_M, Delay for Movement [s/veh]	34.55	10.17	0.00	0.00	9.01	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.43	0.71	0.00	0.00	1.10	0.00
95th-Percentile Queue Length [ft/ln]	10.79	17.63	0.00	0.00	27.51	0.00
d_A, Approach Delay [s/veh]	12.57		0.00		4.41	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.45					
Intersection LOS	D					

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\10-Event In Buildout Reduced.pdf

Scenario 13 13 Copy of Event IN: Buildout with Reduced Occupancy

3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	245	47	354	61	45	107	117	1428	364	471	1467	59	4765

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	18	165	313	15	332	347	1190

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\10-Event In Buildout Reduced.pdf

Scenario 13 13 Copy of Event IN: Buildout with Reduced Occupancy

3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	64	9	83	0	19	0	0	0	133	171	0	0	479
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**245**	**47**	**354**	**61**	**45**	**107**	**117**	**1428**	**364**	**471**	**1467**	**59**	**4765**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	7	156	0	14	323	0	500
		Other	0	0	0	0	0	0	0
		Future Total	**18**	**165**	**313**	**15**	**332**	**347**	**1190**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\10-Event In Buildout Reduced.pdf

Scenario 13 13 Copy of Event IN: Buildout with Reduced Occupancy

3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	380	183	563	100.00
					Added Trips Total				**380**	**183**	**563**	**100.00**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\10-Event In Buildout Reduced.pdf

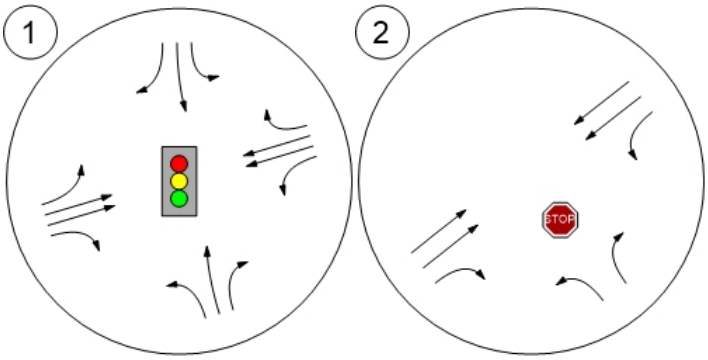
Scenario 13 13 Copy of Event IN: Buildout with Reduced Occupancy

3/14/2025

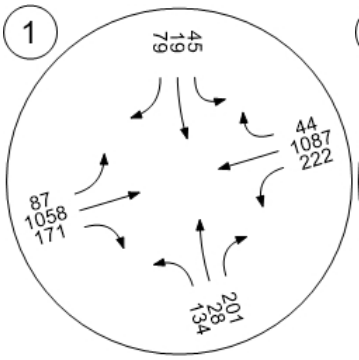
Trip Distribution summary

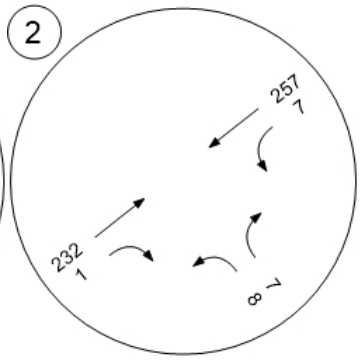
Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	133	35.00	64
5: Gate	5.00	19	5.00	9
6: Gate	45.00	171	45.00	83
7: Gate	15.00	57	15.00	27
Total	**100.00**	**380**	**100.00**	**183**

Lane Configuration and Traffic Control

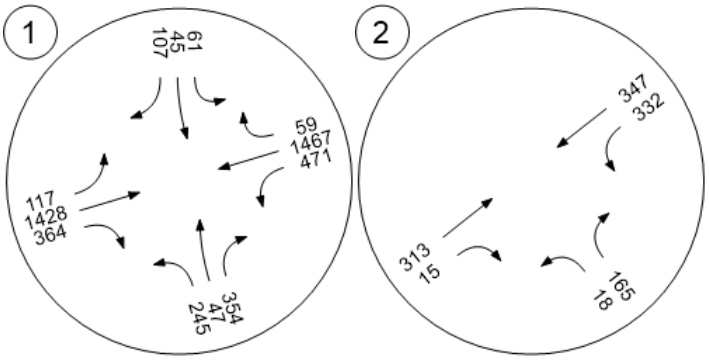


Traffic Volume - Base Volume

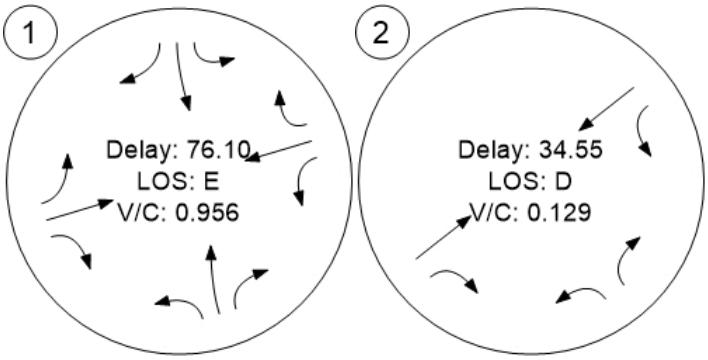




Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: \...\Jellystone Water Park analysis.vistro

Scenario 14 14 Copy of Event OUT: Buildout with Reduced Occupancy

Report File: \...\11-Event Out Buildout Reduced.pdf

3/14/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Signalized	HCM 7th Edition	WB Left	0.951	72.4	E
2	Sand Hollow Road & Jellystone Road	Two-way stop	HCM 7th Edition	NB Left	0.102	22.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SR-9 (State Street) & 3700 West (Sand Hollow Road)

Control Type:	Signalized	Delay (sec / veh):	72.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	600.00	100.00	600.00	520.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	700.00	0.00	0.00	700.00
Speed [mph]	45.00			30.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	134	28	201	45	19	79	87	1058	171	222	1087	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	113	16	146	0	12	0	0	0	84	108	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	294	54	417	61	38	107	117	1428	315	408	1467	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	14	104	15	10	27	29	357	79	102	367	15
Total Analysis Volume [veh/h]	294	54	417	61	38	107	117	1428	315	408	1467	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	15	0	5	15	0
Maximum Green [s]	0	35	0	0	35	0	15	60	0	15	60	0
Amber [s]	0.0	4.9	0.0	0.0	4.9	0.0	4.6	5.0	0.0	5.1	5.6	0.0
All red [s]	0.0	2.0	0.0	0.0	1.8	0.0	2.1	1.5	0.0	1.7	1.5	0.0
Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Vehicle Extension [s]	0.0	1.7	0.0	0.0	1.4	0.0	0.6	1.8	0.0	1.8	1.8	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.7	0.0	4.7	4.5	0.0	4.8	5.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	116	116	116	116	116	116	116	116	116	116	116	116
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	0.00	6.70	6.70	6.70	6.50	6.50	6.80	7.10	7.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.90	4.90	0.00	4.70	4.70	4.70	4.50	4.50	4.80	5.10	5.10
g_i, Effective Green Time [s]	39	32	32	0	10	10	13	49	49	15	50	50
g / C, Green / Cycle	0.34	0.28	0.28	0.00	0.08	0.08	0.11	0.42	0.42	0.13	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.18	0.03	0.26	0.03	0.02	0.07	0.08	0.40	0.20	0.29	0.41	0.04
s, saturation flow rate [veh/h]	1675	1870	1589	1781	1870	1589	1417	3560	1589	1417	3560	1589
c, Capacity [veh/h]	552	519	441	0	157	133	200	1497	668	220	1531	684
d1, Uniform Delay [s]	32.53	31.32	41.24	0.00	49.96	52.48	49.87	32.69	24.42	52.15	32.21	19.67
k, delay calibration	0.05	0.04	0.29	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.03	21.42	0.00	0.29	4.24	1.01	1.83	0.19	402.36	1.95	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.10	0.94	10000.0	0.24	0.80	0.58	0.95	0.47	1.86	0.96	0.09
d, Delay for Lane Group [s/veh]	32.93	31.36	62.65	0.00	50.26	56.72	50.88	34.52	24.61	454.51	34.16	19.69
Lane Group LOS	C	C	E	F	D	E	D	C	C	F	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.36	1.11	13.82	0.00	1.05	3.23	3.20	17.94	5.82	30.79	18.41	0.89
50th-Percentile Queue Length [ft/ln]	159.01	27.65	345.51	0.00	26.27	80.65	79.93	448.54	145.57	769.74	460.14	22.19
95th-Percentile Queue Length [veh/ln]	10.50	1.99	19.92	0.00	1.89	5.81	5.75	24.89	9.78	48.56	25.44	1.60
95th-Percentile Queue Length [ft/ln]	262.42	49.76	497.94	0.00	47.28	145.18	143.87	622.21	244.50	1214.00	636.04	39.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.93	31.36	62.65	0.00	50.26	56.72	50.88	34.52	24.61	454.51	34.16	19.69
Movement LOS	C	C	E	A	D	E	D	C	C	F	C	B
d_A, Approach Delay [s/veh]	49.02			38.73			33.87			122.40		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	72.45											
Intersection LOS	E											
Intersection V/C	0.951											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	601	601	1031	1031
d_b, Bicycle Delay [s]	28.48	28.48	13.68	13.68
I_b,int, Bicycle LOS Score for Intersection	2.822	1.900	3.094	3.155
Bicycle LOS	C	A	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	5	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Sand Hollow Road & Jellystone Road

Control Type:	Two-way stop	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	8	7	232	1	7	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3500	1.3500	1.3500	1.3500	1.3500	1.3500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	275	0	5	204	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	284	313	6	213	347
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	71	78	2	53	87
Total Analysis Volume [veh/h]	23	284	313	6	213	347
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.33	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	22.72	11.22	0.00	0.00	8.51	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	1.45	0.00	0.00	0.62	0.00
95th-Percentile Queue Length [ft/ln]	8.38	36.18	0.00	0.00	15.51	0.00
d_A, Approach Delay [s/veh]	12.08		0.00		3.24	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.66					
Intersection LOS	C					

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\11-Event Out Buildout Reduced.pdf

Scenario 14 14 Copy of Event OUT: Buildout with Reduced Occupancy

3/14/2025

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	294	54	417	61	38	107	117	1428	315	408	1467	59	4765

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	23	284	313	6	213	347	1186

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\11-Event Out Buildout Reduced.pdf

Scenario 14 14 Copy of Event OUT: Buildout with Reduced Occupancy

3/14/2025

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	SR-9 (State Street) & 3700 West (Sand Hollow Road)	Final Base	134	28	201	45	19	79	87	1058	171	222	1087	44	3175
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	113	16	146	0	12	0	0	0	84	108	0	0	479
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**294**	**54**	**417**	**61**	**38**	**107**	**117**	**1428**	**315**	**408**	**1467**	**59**	**4765**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Sand Hollow Road & Jellystone Road	Final Base	8	7	232	1	7	257	512
		Growth Factor	1.35	1.35	1.35	1.35	1.35	1.35	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	12	275	0	5	204	0	496
		Other	0	0	0	0	0	0	0
		Future Total	**23**	**284**	**313**	**6**	**213**	**347**	**1186**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\11-Event Out Buildout Reduced.pdf

Scenario 14 14 Copy of Event OUT: Buildout with Reduced Occupancy

3/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Zone					0.000	50.00	50.00	0.00	241	323	564	100.00
					Added Trips Total				**241**	**323**	**564**	**100.00**

Vistro File: \...\Jellystone Water Park analysis.vistro

Report File: \...\11-Event Out Buildout Reduced.pdf

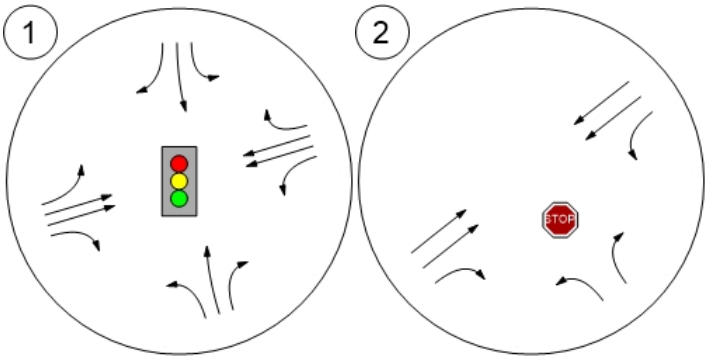
Scenario 14 14 Copy of Event OUT: Buildout with Reduced Occupancy

3/14/2025

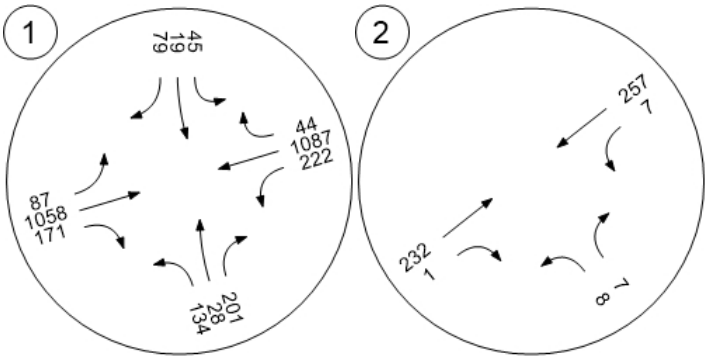
Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
4: Gate	35.00	84	35.00	113
5: Gate	5.00	12	5.00	16
6: Gate	45.00	108	45.00	146
7: Gate	15.00	36	15.00	48
Total	**100.00**	**240**	**100.00**	**323**

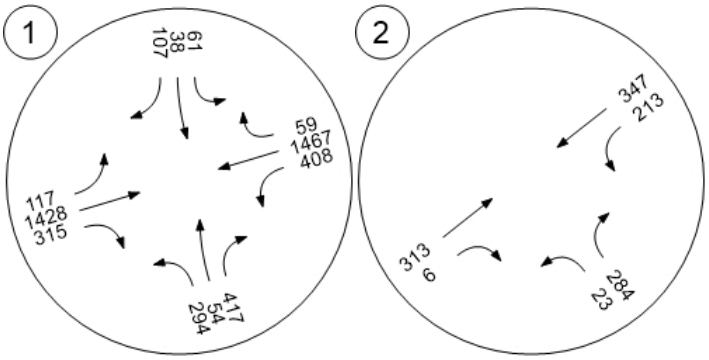
Lane Configuration and Traffic Control



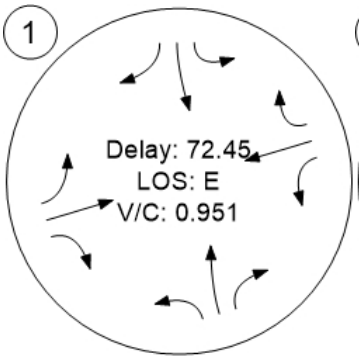
Traffic Volume - Base Volume

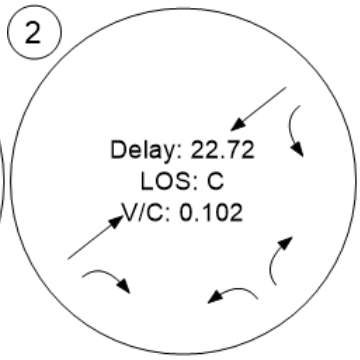


Traffic Volume - Future Total Volume



Traffic Conditions





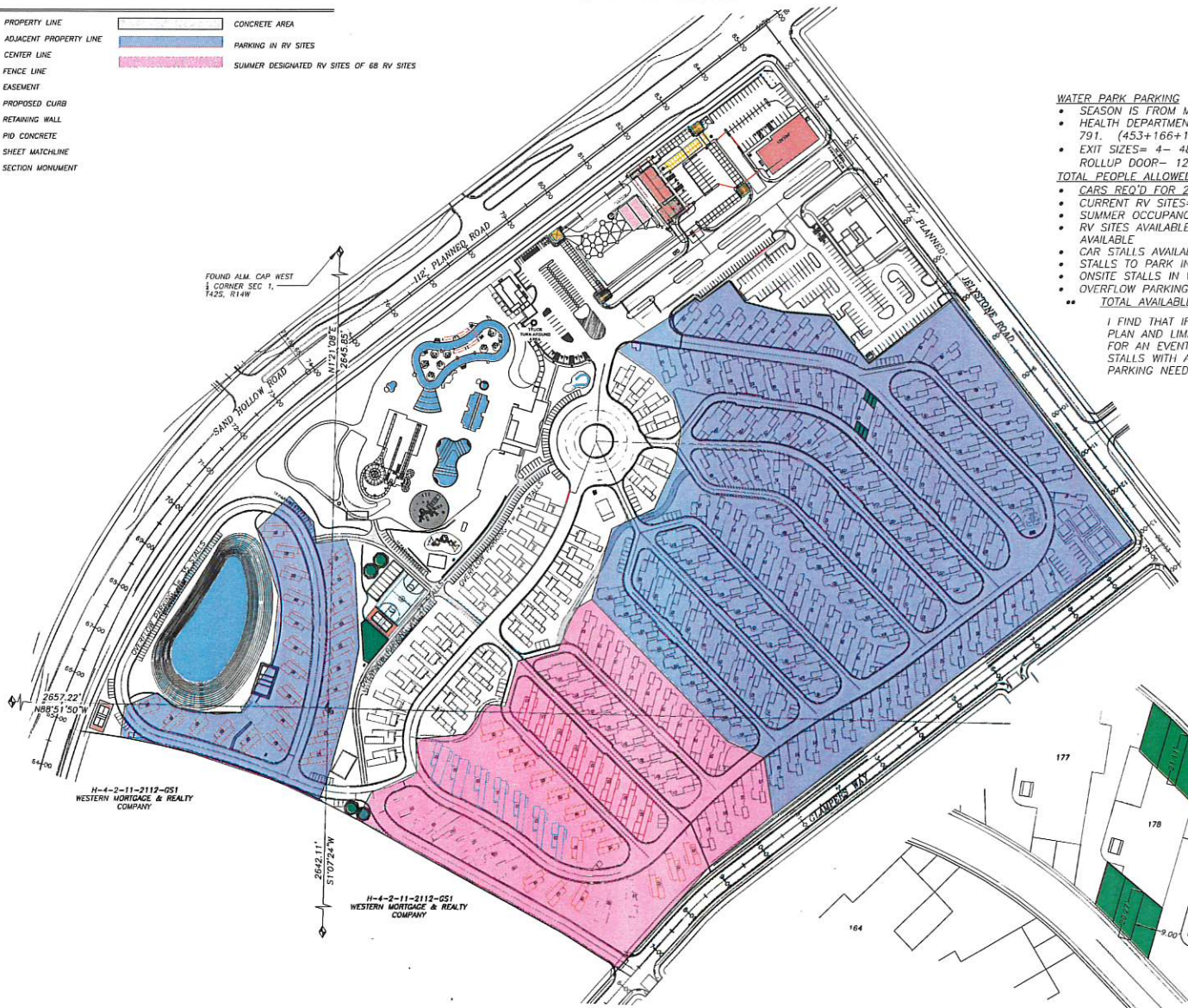
Entrance onto the Jellystone Park™ located in Hurricane,Utah campground property constitutes permission for the management of Yogi Bear's Jellystone Park™ Camp-Resort of Zion, Utah to photograph a visitor while on the premises and to use any resulting pictures for any lawful purpose without compensation to the visitor. We also reserve the right to remove any trouble makers) without refund. The guest assumes all risks & danger incidental to the activity of camping in a rustic outdoors environment including specifically (but not exclusively), the danger of being injured by insects or other animals, of being injured while participating in recreational activities, such as hiking or swimming at the Camp-Resort or of being injured as a result of inclement weather conditions, and agrees that the Camp-Resort and its owners, agents and employees are not liable for injuries or property damages resulting from such causes.

PARKING STALL PLAN FOR:
GLAMPERS INN JELLYSTONE PARK

LOCATED IN SECTION 1, T42S, R14W, S.L.B.&M.
HURRICANE, WASHINGTON COUNTY, UTAH

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CENTER LINE
- FENCE LINE
- EASEMENT
- PROPOSED CURB
- RETAINING WALL
- PID CONCRETE
- SHEET MATCHLINE
- SECTION MONUMENT
- CONCRETE AREA
- PARKING IN RV SITES
- SUMMER DESIGNATED RV SITES OF 68 RV SITES



N
W E
S

100 0 100
SCALE IN FEET

WATER PARK PARKING

- SEASON IS FROM MEMORIAL DAY TO LABOR DAY
- HEALTH DEPARTMENT – PEOPLE ALLOWED IN WATER= 791. (453+166+126+46)
- EXIT SIZES= 4– 48" GATES + DRIVE THRU–144" + ROLLUP DOOR– 120"= 456" OF EXIT AVAILABLE.

TOTAL PEOPLE ALLOWED = 456/0.2 = 2,280 PEOPLE

- CARS REQ'D FOR 2,280 PEOPLE= 760 CARS
- CURRENT RV SITES= 249
- SUMMER OCCUPANCY= 27% = 68 RV SITES
- RV SITES AVAILABLE TO USE FOR PARKING = 181 SITES AVAILABLE
- CAR STALLS AVAILABLE PER RV SITE = 6
- STALLS TO PARK IN VACANT RV SITES = 1,086 STALLS
- ONSITE STALLS IN WATER PARK= 95 STALLS
- OVERFLOW PARKING (AREAS 1, 2 &3)= 96 STALLS
- •• TOTAL AVAILABLE PARKING= 1,277 STALLS

I FIND THAT IF GLAMPERS INN WILL STICK TO THIS PLAN AND LIMIT THE NUMBER OF PEOPLE TO 2,280 FOR AN EVENT, THERE SHALL BE ENOUGH PARKING STALLS WITH A RESERVE OF 517 TO FULFILL ANY PARKING NEEDS.

DIAGRAM OF PARKING

NOTE: IT'S ESTIMATED 6 CARS CAN PARK PER STALL AND TECHNICALLY 8 COULD, BUT FOR CONSERVATIVE APPROACH, USE 6.

FINAL SITE PLAN

COPYRIGHT © 2023 WESTWALL LANDSCAPING INC.

REVISIONS			
NO	DESCRIPTION	DATE	BY

PROVALUE ENGINEERING, INC.
Engineers · Land Surveyors · Land Planners
32 South Bluff Street, Suite 1
St. George, Utah 84770
Phone: (435) 628-0267

No. 191050
KARL BRADLEY RASMUSSEN
11/8/23

PARKING STALL PLAN FOR:
GLAMPERS INN JELLYSTONE PARK
LOCATED IN SECTION 1, T42S, R14W, S.L.B.&M.
HURRICANE, WASHINGTON COUNTY, UTAH

DATE: 3/1/2023
SCALE: 1"=100'
JOB NO. 563-2021
SHEET NO: C1

PLANNING & ZONING
HURRICANE CITY
UTAH

STAFF COMMENTS

Agenda Date:	**04/10/2025 - Planning Commission**
Application Number:	LUCA25-02
Type of Application:	Land Use Code Amendment
Action Type:	Legislative
Applicant:	Hurricane City
Agent:	N/A
Request:	Amend Title 10, Chapters 28 regarding development standards in rockfall hazard zones.
Recommendation:	Recommend approval to the City Council.
Report Prepared By:	Gary Cupp

Discussion: This is an amendment to the recently updated development standards for construction in rockfall zones.

Discussion: On November 21, 2024, the City Council approved an update to Title 10, Chapter 28 that established geotechnical and geological reporting requirements in order to develop within rockfall hazard zones mapped by the Utah Geological Survey. Subsequent to a joint work meeting with the Planning Commission and City Council, it was requested that Chapter 28 be further updated to allow a property owner to indemnify the city against any claims, damages, or liabilities resulting from a rockfall event affecting their property in lieu of the required geotechnical/geological reporting. Accordingly, staff proposes that section 10-28-2(C)(4) be amended to read as follows:

> *"For any development proposed in a rock fall hazard zone as determined by Utah Geological Survey Special Study 127, a geotechnical engineering report shall acknowledge the existence of the hazard and identify where the proposed development is located within the rockfall hazard zone. Platted developments must depict the rockfall hazard zone boundary with a notice to property owners on the recorded plat. Prior to receiving building permit approval on properties within a rockfall hazard zone, the property owner shall record a waiver of liability, in a form approved by the City Attorney, that acknowledges the existence of the rockfall hazard and indemnifies the City against any claims, damages, or liabilities resulting from or related to the rockfall hazard zone, any development therein, and any rockfall event affecting the property at any level of severity."*

Recommendation: Staff recommends that the Planning Commission send a recommendation of approval to the City Council.

CHAPTER 28. DEVELOPMENT IN AREAS OF SPECIAL CONSIDERATION

Sec. 10-28-1. Purpose.

To further the health, safety, and welfare of the inhabitants of the City and developers of project within the City, development in areas of special consideration shall be undertaken in accordance with the requirements of this chapter to minimize danger to persons and property and to ensure development of lasting value.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-2. Natural hazards and adverse construction conditions.

A. *Report required.*

1. A geotechnical report shall be prepared by a state licensed professional engineer who is trained and experienced in the practice of geotechnical engineering whenever a proposed building permit in an area that has not been reviewed under this chapter or a development project is located on land which falls within any of the identified natural hazards or adverse construction conditions shown on the maps associated with the Geologic Hazards and Adverse Construction Conditions, St. George—Hurricane Metropolitan Area, Washington County, Utah, 2008, by William R. Lund, Tyler R. Knudsen, Garrett S. Vice, and Lucas M. Shaw, Special Study 127 Utah Geological Survey, a division of the Utah Department of Natural Resources.

B. *Report requirements.* The geotechnical report shall include the following:

1. *Conditions and features.* A general description of the topography, drainage conditions and surface vegetation. The report shall include surface features such as rock outcroppings, existing structures, debris, and unstable or wet conditions.
2. *Location map.* A location map showing the footprints of the planned improvements and the exploration locations with elevations.
3. *Subsurface condition evaluation.* An evaluation of the subsurface conditions, including a complete record of the explorations, laboratory test results, and the elevation of the water table, if encountered.
4. *Potential geotechnical constraints.* Identification of potential geotechnical constraints on the project site (such as expansive rock and soil, collapsible soil, shallow bedrock and caliche, gypsiferous rock and soil, potentially unstable rock or soil units, shallow groundwater, and windblown sand), and recommendations for their mitigation.
5. *Springs and seeps.* The locations of any springs and seeps on the project site, and recommendations concerning the effects of the springs and seeps on the proposed development.
6. *Geotechnical recommendations.* Specific geotechnical recommendations for the design and construction of the proposed project, which shall include the following:
    a. A general assessment of the requirements needing to be met to develop the proposed site.
    b. Site preparation and grading, and the suitability of the on site soils for use as structural fill.
    c. Stable cut and fill slopes, including recommendations concerning the effects of material removal and the introduction of water, both on and off site.

d. Recommendations for foundation type and design criteria, including, but not limited to, bearing capacity of natural or compacted soils, provisions to mitigate the effects of expansive, compressible or collapsible soils, differential settlement and varying soil strength, and the effects of adjacent loads.

e. Anticipated total and differential settlement.

f. Special design and construction considerations, as necessary, such as the excavation and replacement of unsuitable materials, excavation difficulties, stabilization, or special foundation provisions for problem soil conditions.

g. Design criteria for restrained and unrestrained retaining walls.

h. Soil corrosion.

i. Moisture protection and surface drainage.

7. *Design recommendations for walls and fill slopes.* Detailed design recommendations for any planned rockery walls, mechanically stabilized earth (MSE) walls, and/or reinforced fill slopes.

8. *Slope stability analysis.* A detailed slope stability analysis may be required if potentially unstable rock or soil units or slope creep has been identified on the site. The analysis should include, but not be limited to, a determination of shear strength and in some instances residual shear strength, soil saturation, and treatment methods required to provide a minimum safety factor of 1.5 for any slope within the project boundary.

9. *Inspection and certification.* It is strongly recommended that the geotechnical firm for the project also provide inspection, testing, and verification services for all grading, foundations, pavement sections, retaining structures, utility line placement, and backfill and any other construction relating to geotechnical aspects of the development. For real property for which development has proceeded on the basis of a geologic or geotechnical report which has been accepted by the City, no final inspection of a subdivision or other improvements shall be completed or certificate of occupancy issued or performance bond released until the engineering geologist or geotechnical engineering firm who prepared and approved the report provides a letter of compliance, in writing, that the completed improvements and structures conform to the descriptions and requirements contained in said report including any approved revisions.

10. *Geology report.* The Geologic Hazards and Adverse Construction Conditions, St. George—Hurricane Metropolitan Area Washington County, Utah document and maps prepared by the Utah Geological Survey (current edition) shall be reviewed when considering a site for development. A state licensed professional engineering geologist or a state licensed professional engineer who is trained and experienced in the practice of geotechnical engineering shall prepare the geology report. The geology report may be included in the geotechnical report, and shall include the following:

    a. The location and boundaries of the project site and its general geologic setting.

    b. A description of the specific geologic conditions at the site.

    c. Identification of potential geologic hazards (such as faults, landslides, rockfall, flooding and liquefaction).

    d. Conclusions and recommendations regarding the effects of the geologic conditions and any potential hazards on the proposed development, and recommendations to minimize any hazard to life or property, or any adverse impact on the natural environment.

C. *Development standards.* The following minimum standards shall apply to minimize the effect of geologic hazards:

1. No structures shall be built on or within ten feet of any known fault line, or such distance as may be recommended by a licensed engineering geologist.

2. No structure or improvement shall be allowed on any area known to be within an active landslide area.

3. Problems associated with development on or near perched groundwater and shallow groundwater shall be mitigated.

4. For any development proposed in a rock fall hazard zone ~~No structure shall be allowed in any rockfall zone~~ as determined by Utah Geological Survey Special Study 127, a geotechnical engineering report shall acknowledge the existence of the hazard and identify where the proposed development is located within the rockfall hazard zone. ~~unless a site-specific study as outlined in subsections A and B above finds that the proposed structure is not located in a rockfall zone. The site-specific study may redefine the rockfall zone boundary. The adequacy, implementation, and acceptance of the site-specific study shall be determined by the City Engineer or designee.~~ Platted developments must depict the rockfall hazard zone boundary with a notice to property owners on the recorded plat. Prior to receiving building permit approval on properties within a rockfall hazard zone, the property owner shall record a waiver of liability, in a form approved by the City Attorney, that acknowledges the existence of the rockfall hazard and indemnifies~~y~~ the City against any claims, damages, or liabilities resulting from or related to the rockfall hazard zone, any development therein, and any rockfall event affecting the property at any level of severity. ~~should a rockfall event affect the property at any level of severity.~~ ~~as may be amended pursuant to this paragraph, on the recorded plat.~~

5. ~~A~~ In addition to the foregoing, a waiver of liability shall be signed by the property owner and recorded with the county recorder in a form approved by the City Attorney, for any parcel where the geotechnical report identifies the potential existence of any of the above hazards.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-3. Floodplains and streams.

A. *Floodplain study required.* Whenever a proposed building permit or development project is located within 200 feet of Frog Hollow Wash an engineering analysis shall be prepared which identifies the effect of the 100-year flood or floodway on the building or project site. This 100-year identification shall not be required when a flood study has previously been completed for the area by a licensed civil engineer, and when said study clearly identifies the 100-year flood elevations and floodway for the area and project site.

B. *Habitable floor elevation.* Building permits and development plans found to be located within a 100-year floodplain shall be conditioned to require the location of the ground floor of any building a minimum of one foot above the identified 100-year flood. Prior to issuance of final occupancy of any building, a certification shall be prepared by a licensed surveyor or civil engineer, providing the elevation of the lowest habitable floor, noting that the lowest habitable floor is at least one foot above the identified 100-year flood. No buildings shall be allowed within an identified floodway.

C. *Special flood hazard areas.* Development within a special flood hazard area or within 150 feet of a special flood hazard area without an identified floodway as identified on an official flood insurance rate map issued by the Federal Emergency Management Agency shall be required to meet all the requirements of chapter 40, flood damage prevention, of this title.

D. *Prohibited activities.* No person shall disturb, remove, fill, dredge, clear, destroy or alter any stream corridor or identified floodway, except as may be expressly allowed by a valid stream channel alteration permit issued by the state department of natural resources.

E. *Required setbacks.* Setbacks for any building, structure or improvement located within or adjacent to a stream corridor shall comply with the most restrictive setback requirements of either the zoning district in which it is located, the requirements of the state department of natural resources, or the requirements of the U.S. Army Corps of Engineers.

F. *Runoff controls.* All construction and development projects located adjacent to any stream corridor shall apply best management practices as may be required by a federal or state agency with jurisdiction.

G. *Management recommendations.* The City Council, Planning Commission, or Zoning Administrator, as applicable, may request recommendations from any federal, state, or local agencies, or other professionals, prior to deciding on an application required for any permit or approval.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-4. Wetlands.

A. *Applicant responsibility.* The applicant shall be responsible to contact the U.S. Army Corps of Engineers to determine if a project site contains any wetlands, and obtain necessary permits and meet permit specified requirements as may be necessary. A copy of the permit shall be provided to the Zoning Administrator prior to issuance of a notice to proceed.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-5. Important archaeological sites.

The intent of this requirement is to avoid the unnecessary or inadvertent disturbance of prehistoric or historic human remains and to preserve important archaeological site locations wherever possible. Density transfer and/or including the site in an open space set aside are encouraged as a way to avoid disturbance of important sites.

Location of known important archaeological sites is on file with the City Planning Department. Local landowners are likely aware of substantial sites on their land and should include these in the planning process for a parcel.

(Ord. 2014-6, 5-1-2014)

CHAPTER 28. DEVELOPMENT IN AREAS OF SPECIAL CONSIDERATION

Sec. 10-28-1. Purpose.

To further the health, safety, and welfare of the inhabitants of the City and developers of project within the City, development in areas of special consideration shall be undertaken in accordance with the requirements of this chapter to minimize danger to persons and property and to ensure development of lasting value.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-2. Natural hazards and adverse construction conditions.

A. *Report required.*

1. A geotechnical report shall be prepared by a state licensed professional engineer who is trained and experienced in the practice of geotechnical engineering whenever a proposed building permit in an area that has not been reviewed under this chapter or a development project is located on land which falls within any of the identified natural hazards or adverse construction conditions shown on the maps associated with the Geologic Hazards and Adverse Construction Conditions, St. George—Hurricane Metropolitan Area, Washington County, Utah, 2008, by William R. Lund, Tyler R. Knudsen, Garrett S. Vice, and Lucas M. Shaw, Special Study 127 Utah Geological Survey, a division of the Utah Department of Natural Resources.

B. *Report requirements.* The geotechnical report shall include the following:

1. *Conditions and features.* A general description of the topography, drainage conditions and surface vegetation. The report shall include surface features such as rock outcroppings, existing structures, debris, and unstable or wet conditions.
2. *Location map.* A location map showing the footprints of the planned improvements and the exploration locations with elevations.
3. *Subsurface condition evaluation.* An evaluation of the subsurface conditions, including a complete record of the explorations, laboratory test results, and the elevation of the water table, if encountered.
4. *Potential geotechnical constraints.* Identification of potential geotechnical constraints on the project site (such as expansive rock and soil, collapsible soil, shallow bedrock and caliche, gypsiferous rock and soil, potentially unstable rock or soil units, shallow groundwater, and windblown sand), and recommendations for their mitigation.
5. *Springs and seeps.* The locations of any springs and seeps on the project site, and recommendations concerning the effects of the springs and seeps on the proposed development.
6. *Geotechnical recommendations.* Specific geotechnical recommendations for the design and construction of the proposed project, which shall include the following:
    a. A general assessment of the requirements needing to be met to develop the proposed site.
    b. Site preparation and grading, and the suitability of the on site soils for use as structural fill.
    c. Stable cut and fill slopes, including recommendations concerning the effects of material removal and the introduction of water, both on and off site.

d. Recommendations for foundation type and design criteria, including, but not limited to, bearing capacity of natural or compacted soils, provisions to mitigate the effects of expansive, compressible or collapsible soils, differential settlement and varying soil strength, and the effects of adjacent loads.

e. Anticipated total and differential settlement.

f. Special design and construction considerations, as necessary, such as the excavation and replacement of unsuitable materials, excavation difficulties, stabilization, or special foundation provisions for problem soil conditions.

g. Design criteria for restrained and unrestrained retaining walls.

h. Soil corrosion.

i. Moisture protection and surface drainage.

7. *Design recommendations for walls and fill slopes.* Detailed design recommendations for any planned rockery walls, mechanically stabilized earth (MSE) walls, and/or reinforced fill slopes.

8. *Slope stability analysis.* A detailed slope stability analysis may be required if potentially unstable rock or soil units or slope creep has been identified on the site. The analysis should include, but not be limited to, a determination of shear strength and in some instances residual shear strength, soil saturation, and treatment methods required to provide a minimum safety factor of 1.5 for any slope within the project boundary.

9. *Inspection and certification.* It is strongly recommended that the geotechnical firm for the project also provide inspection, testing, and verification services for all grading, foundations, pavement sections, retaining structures, utility line placement, and backfill and any other construction relating to geotechnical aspects of the development. For real property for which development has proceeded on the basis of a geologic or geotechnical report which has been accepted by the City, no final inspection of a subdivision or other improvements shall be completed or certificate of occupancy issued or performance bond released until the engineering geologist or geotechnical engineering firm who prepared and approved the report provides a letter of compliance, in writing, that the completed improvements and structures conform to the descriptions and requirements contained in said report including any approved revisions.

10. *Geology report.* The Geologic Hazards and Adverse Construction Conditions, St. George—Hurricane Metropolitan Area Washington County, Utah document and maps prepared by the Utah Geological Survey (current edition) shall be reviewed when considering a site for development. A state licensed professional engineering geologist or a state licensed professional engineer who is trained and experienced in the practice of geotechnical engineering shall prepare the geology report. The geology report may be included in the geotechnical report, and shall include the following:

    a. The location and boundaries of the project site and its general geologic setting.

    b. A description of the specific geologic conditions at the site.

    c. Identification of potential geologic hazards (such as faults, landslides, rockfall, flooding and liquefaction).

    d. Conclusions and recommendations regarding the effects of the geologic conditions and any potential hazards on the proposed development, and recommendations to minimize any hazard to life or property, or any adverse impact on the natural environment.

C. *Development standards.* The following minimum standards shall apply to minimize the effect of geologic hazards:

1. No structures shall be built on or within ten feet of any known fault line, or such distance as may be recommended by a licensed engineering geologist.

2. No structure or improvement shall be allowed on any area known to be within an active landslide area.
3. Problems associated with development on or near perched groundwater and shallow groundwater shall be mitigated.
4. For any development proposed in a rock fall hazard zone as determined by Utah Geological Survey Special Study 127, a geotechnical engineering report shall acknowledge the existence of the hazard and identify where the proposed development is located within the rockfall hazard zone. Platted developments must depict the rockfall hazard zone boundary with a notice to property owners on the recorded plat. Prior to receiving building permit approval on properties within a rockfall hazard zone, the property owner shall record a waiver of liability, in a form approved by the City Attorney, that acknowledges the existence of the rockfall hazard and indemnifies the City against any claims, damages, or liabilities resulting from or related to the rockfall hazard zone, any development therein, and any rockfall event affecting the property at any level of severity.
5. In addition to the foregoing, a waiver of liability shall be signed by the property owner and recorded with the county recorder in a form approved by the City Attorney, for any parcel where the geotechnical report identifies the potential existence of any of the above hazards.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-3. Floodplains and streams.

A. *Floodplain study required.* Whenever a proposed building permit or development project is located within 200 feet of Frog Hollow Wash an engineering analysis shall be prepared which identifies the effect of the 100-year flood or floodway on the building or project site. This 100-year identification shall not be required when a flood study has previously been completed for the area by a licensed civil engineer, and when said study clearly identifies the 100-year flood elevations and floodway for the area and project site.

B. *Habitable floor elevation.* Building permits and development plans found to be located within a 100-year floodplain shall be conditioned to require the location of the ground floor of any building a minimum of one foot above the identified 100-year flood. Prior to issuance of final occupancy of any building, a certification shall be prepared by a licensed surveyor or civil engineer, providing the elevation of the lowest habitable floor, noting that the lowest habitable floor is at least one foot above the identified 100-year flood. No buildings shall be allowed within an identified floodway.

C. *Special flood hazard areas.* Development within a special flood hazard area or within 150 feet of a special flood hazard area without an identified floodway as identified on an official flood insurance rate map issued by the Federal Emergency Management Agency shall be required to meet all the requirements of chapter 40, flood damage prevention, of this title.

D. *Prohibited activities.* No person shall disturb, remove, fill, dredge, clear, destroy or alter any stream corridor or identified floodway, except as may be expressly allowed by a valid stream channel alteration permit issued by the state department of natural resources.

E. *Required setbacks.* Setbacks for any building, structure or improvement located within or adjacent to a stream corridor shall comply with the most restrictive setback requirements of either the zoning district in which it is located, the requirements of the state department of natural resources, or the requirements of the U.S. Army Corps of Engineers.

F. *Runoff controls.* All construction and development projects located adjacent to any stream corridor shall apply best management practices as may be required by a federal or state agency with jurisdiction.

G. *Management recommendations.* The City Council, Planning Commission, or Zoning Administrator, as applicable, may request recommendations from any federal, state, or local agencies, or other professionals, prior to deciding on an application required for any permit or approval.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-4. Wetlands.

A. *Applicant responsibility.* The applicant shall be responsible to contact the U.S. Army Corps of Engineers to determine if a project site contains any wetlands, and obtain necessary permits and meet permit specified requirements as may be necessary. A copy of the permit shall be provided to the Zoning Administrator prior to issuance of a notice to proceed.

(Ord. 2014-6, 5-1-2014)

Sec. 10-28-5. Important archaeological sites.

The intent of this requirement is to avoid the unnecessary or inadvertent disturbance of prehistoric or historic human remains and to preserve important archaeological site locations wherever possible. Density transfer and/or including the site in an open space set aside are encouraged as a way to avoid disturbance of important sites.

Location of known important archaeological sites is on file with the City Planning Department. Local landowners are likely aware of substantial sites on their land and should include these in the planning process for a parcel.

(Ord. 2014-6, 5-1-2014)

PLANNING & ZONING
HURRICANE CITY
UTAH

STAFF COMMENTS

Agenda Date:	**04/10/2025 - Planning Commission**
Application Number:	LUCA25-03
Type of Application:	Land Use Code Amendment
Action Type:	Legislative
Applicant:	Hurricane City
Agent:	N/A
Request:	Amend Title 10, Chapters 3, 7, 12, and 14 regarding farm stand regulations.
Recommendation:	Recommend approval to the City Council.
Report Prepared By:	Gary Cupp

Discussion: This is ordinance revision is being prepared at the request of the City Council to expand the definition of a farm stand to include the sale of commercially packaged handicrafts or commercially processed or packaged food stuffs, which is currently prohibited by the city code. The proposed code update would allow the sale of such goods in a farm stand as a conditional use in agricultural zones upon approval of a conditional use permit.

Recommendation:

Staff recommends the Planning Commission consider the proposed ordinance and any comments made at the public hearing. Staff recommends the Planning Commission make a recommendation of approval to the City Council.

Sec. 10-3-4. Definitions of words and phrases.

As used in this title, the words and phrases defined in this section shall have the following meanings unless the context clearly indicates a contrary meaning. Words not included herein but defined in the building code shall be construed as defined therein.

. . .

Farm stand means a structure from which fruits, vegetables, flowers, herbs, plants, or other agriculture products are sold. This use may also include accessory sales of other unprocessed or home-processed foodstuffs such as canned goods, baked goods, and may also include homemade handicrafts. Additionally:

A. The area of the structure devoted to the sale~~s~~ of accessory items shall not exceed 50 percent of the structure's total sales area.

B. The sale of commercially packaged handicrafts or commercially processed or packaged food stuffs ~~is not permitted~~ shall require approval of a conditional use permit.

C. Only one such structure is allowed per legal lot or parcel.

. . .

Mineral extraction means removal of sand, gravel, dirt, or other materials by grading~~,~~ excavating, drilling, or other methods. ~~or excavating.~~

. . .

Sec. 10-7-9. Conditional use permit.

A. *Purpose.* This section sets forth procedures for considering and approving conditional use permits.

B. *Authority.*

1. The Planning Commission is authorized to issue conditional use permits for the following uses:

   Agricultural industry.

   Agritourism activities.

   Animal specialties.

   Assisted living facility.

   Farm stands selling commercially packaged handicrafts or commercially processed or packaged food stuffs.

   Greater heights than permitted by this Code in all zones except residential and residential agricultural zones.

   Greater size than permitted by this Code in all zones except residential and residential agricultural zones.

   Metal building in commercial and residential zones.

   Multi family in commercial zones.

   Public stable.

   Reception center.

   Recreation and entertainment, outdoor.

   Fences or walls of greater height.

2. The Zoning Administrator is authorized to issue conditional use permits for the following uses:

   Animals and fowl for recreation and family food production.

   Greater size accessory buildings than permitted by this Code in residential zones.

   Greater size accessory buildings than permitted by this Code in residential and residential agricultural zones.

   Greater height accessory buildings than permitted by this Code in residential and residential agricultural zones.

C. *Initiation.* A property owner, or the owner's agent, may request a conditional use permit as provided in subsection D1 of this section.

D. *Procedure.* An application for a conditional use permit shall be considered and processed as provided in this subsection.

1. A complete application shall be submitted to the office of the Zoning Administrator in a form established by the administrator along with any fee established by the City's schedule of fees. The application shall include at least the following information:
    a. The name, address and telephone number of the applicant and the applicant's agent, if any;
    b. The address and parcel identification of the subject property;
    c. The zone, zone boundaries and present use of the subject property;
    d. A description of the proposed conditional use;
    e. A plot plan showing the following:
        (1) Applicant's name;
        (2) Site address;
        (3) Property boundaries and dimensions;
        (4) Layout of existing and proposed buildings, parking, landscaping, and utilities; and
        (5) Adjoining property lines and uses within 100 feet of the subject property.
    f. Traffic impact analysis, if required by the City Engineer or the Planning Commission;
    g. A statement by the applicant demonstrating how the conditional use permit request meets the approval standards for the conditional use desired; and
    h. Such other and further information or documentation as the Zoning Administrator may deem necessary for proper consideration and disposition of a particular application.
2. After the application is determined to be complete, the Zoning Administrator shall schedule a public meeting before the Planning Commission as provided in section 10-7-4 of this chapter or shall review the application to determine if it meets the standards for an administrative conditional use permit.
3. A staff report evaluating the application shall be prepared by the Zoning Administrator for a conditional use permit that will be reviewed by the Planning Commission.
4. The Planning Commission shall hold a public meeting and shall thereafter approve, approve with conditions, or deny the application pursuant to the standards set forth in subsection E of this section. A conditional use shall be approved if reasonable conditions are proposed or can be imposed to mitigate the reasonably anticipated detrimental effects of the proposed use in accordance with applicable standards. If the reasonably anticipated detrimental effects of a proposed conditional use cannot be substantially mitigated by the proposal or the imposition of reasonable conditions to achieve compliance with the applicable standards, the conditional use may be denied.

5. After the Planning Commission or Zoning Administrator makes a decision, the Zoning Administrator shall give the applicant written notice of the decision.

6. A record of all conditional use permits shall be maintained in the office of the Zoning Administrator.

E. *Approval standards.* The following standards shall apply to the issuance of a conditional use permit:

1. A conditional use permit may be issued only when the proposed use is shown as conditional in the zone where the conditional use will be located, or by another provision of this title.

2. Standards for each use must be reviewed. Specific standards are set forth for each use in subsections E2a through E2g of this section:

a. *Standards for a reception center.*

(1) Hours of operation must be compatible with adjoining uses and comply with City noise regulations.

(2) Parking shall be contained onsite.

(3) The center must have an approved site plan.

(4) If beer, wine, or other alcoholic beverages are served, the center must be licensed by the state alcohol control board.

(5) Reception center use must be secondary to any agricultural use on the property.

(6) Property shall be a minimum of five acres.

(7) In RA zoning, reception center shall only be used a maximum of five days a month.

(8) Building must meet the fire code and be inspected by the fire marshal or their representative prior to the approval of the conditional use permit.

(9) The applicant shall provide an emergency access plan that shall be approved by the fire marshal prior to the approval of the conditional use permit.

b. *Standards for an agricultural industry.*

(1) Adequate fencing and/or enclosures must be provided to ensure animals and fowl are confined safely and in conformance with acceptable animal husbandry standards.

(2) Applicant must provide a plan for how manure will be handled to prevent it becoming a nuisance and must follow the plan.

(3) Evidence must be provided on how the applicant will maintain control of flies and vermin.

(4) Animal enclosures used for intensive animal feeding operations must be at least 25 feet from any adjacent parcel that, at the time the applicant first seeks the conditional use, is zoned residential or residential-agricultural pursuant to chapters 13 or 14 of this title.

c. *Standards for a public stable.*

(1) Adequate fencing and/or enclosures must be provided to ensure horses are confined safely and in conformance with acceptable animal husbandry standards.

(2) Applicant must provide a plan for how manure will be handled to prevent it becoming a nuisance and must follow the plan.

(3) Evidence must be provided on how the applicant will maintain control of flies and vermin.

(4) Site must contain adequate off street parking for customers. All trailers must be contained on site.

(5) Barns must be located at least 30 feet from any adjacent parcel that, at the time the applicant first seeks a conditional use permit, is zoned residential or residential-agricultural.

d. *Standards for an assisted living facility.*

(1) The facility shall comply with building, safety, and health regulations applicable to similar structures.

(2) The facility shall be licensed by the state.

(3) A site plan shall be approved for the facility to ensure adequate parking and landscaping are installed.

e. *Standards for greater heights than permitted by this Code.*

(1) The height may not be greater than two stories or one and one-half times the average height of the immediately adjacent buildings, whichever is greater and the building must be of compatible architecture with immediately adjacent buildings.

(2) A greater height conditional use permit may not be issued for a flag lot if the proposed structure is higher than the average height of all residential structures within a 300-foot radius of the proposed structure.

(3) A greater height accessory building must be set back a minimum of five feet from side and rear property lines when the adjoining property is zoned or used for single family residential use.

(4) In no event shall a building exceed 55 feet in height.

f. *Standards for greater size than permitted by this Code.*

(1) The greater size building desired must be of compatible architecture with immediately adjacent buildings.

(2) At least 50 percent of the lot on which the building is located must remain free of buildings.

(3) The building must be for a use permitted in the zone in which it is located.

g. *Standards for animals and fowl for recreation and family food production.*

(1) Adequate fencing must be provided to ensure animals and fowl are confined safely.

(2) Applicant must provide a plan for how manure will be handled to prevent it becoming a nuisance and must follow the plan.

(3) Evidence must be provided on how the applicant will maintain control of flies and vermin.

(4) The number of fowl will be limited by the point system used in section 10-37-15 of this title.

(5) Livestock numbers may be limited at the administrator's discretion based on the size of the lot and the facilities available to contain and protect the animals.

h. *Standards for metal buildings.*

(1) In residential (R-1) zones the height and size may not be greater than permitted in the zone.

(2) The building must meet the following design standards:

(A) Exterior building materials shall be durable, require low maintenance, and be of the same or higher quality as surrounding developments.

(B) Details of proposed colors and materials, including color chips, samples, and colored building elevations, shall be shown on building plans when a development project application is submitted. Colors shall be compatible with surrounding structures.

(C) Reflective surfaces or colors which may produce excessive reflections or glare that may create a potential safety problem are prohibited.

(D) In a commercial zone the faces of the building visible from nearby streets must include architectural relief items of non-metal materials including wood, stone, or stucco.

i. *Standards for animal specialties.*

(1) Adequate fencing and/or enclosures must be provided to ensure animals are confined safely and in conformance with acceptable animal husbandry standards.

(2) Applicant must provide a plan for how manure will be handled to prevent it becoming a nuisance and must follow the plan.

(3) Evidence must be provided on how the applicant will maintain control of flies and vermin.

(4) Animal enclosures used for intensive animal feeding operations must be at least 25 feet from any adjacent parcel that, at the time the applicant first seeks the conditional use, is zoned residential or residential agricultural pursuant to chapters 13 or 14 of this title.

j. *Standards for agritourism activities.*

(1) Hours of operation must be compatible with adjoining uses and comply with City noise regulations.

(2) On-site parking must be provided.

(3) The use of on street parking to provide up to 40 percent of the required parking may be permitted if adjoining uses are not residential uses and the street is fully improved.

(4) In agricultural zones, this use must be accessory to an established agricultural use.

k. *Standards for multi-family residential.* In order to promote and preserve commercial growth and to allow infill development of empty and vacant lots in the area designated as downtown on the general map, vacant parcels zoned for commercial uses as listed in this title may, as a conditional use, be allowed for multi-family residential use if the following criteria are met:

(1) No habitable building has been on the parcel for the previous three years.

(2) The land use on at least two sides of the property are residential use at the time of application. Property on the opposite side of a public road or right-of-way shall be considered adjacent for this criteria. Properties that do not meet this criteria may be approved for mix-use development as listed below.

(3) Mix use is allowed. If the proposed development is a mix of commercial use and residential use, then residential units shall be placed on a floor above the commercial use, or in a way to allow commercial buildings to front onto the public roadways. If mixed use, the commercial shall comply with the commercial zoning standards and housing shall comply with RM-3 zoning standards.

(4) Homes in the downtown area shall have the front of buildings face public roadways. The only exception for this requirement is for mix use developments and for parcels that would allow development of units behind units that front the public right-of-way. Every effort should be made to ensure the frontage of roadways are faced with the frontage of buildings.

Walls, fences, and the rear of buildings fronting on to public right-of-way should be avoided.

(5) Dwelling units and sites shall comply with RM-3 zoning standards and density. RM-3 minimum required area shall not apply.

l. *Standards for multiple accessory dwelling units in a residential, agriculture, or commercial zone.*

(1) Multiple accessory dwelling units may be permitted based on the lot area of the property at a rate in the table below assuming all other conditions for an accessory dwelling unit are met.

Lot area	Number of accessory dwelling units
0.79 acres or smaller	1
0.8 acres and greater	2

(2) Fifty percent of the land area on the lot must be free of buildings.

(3) A parking plan must be provided that shows adequate off street parking on the lot at a rate of one space per bedroom.

(4) A landscape plan must be provided that shows how buildings will be shielded from other residential lots.

(5) Occupancy plan: no more than ten people can stay in one building.

(6) Only one accessory dwelling unit can be used as a short-term rental. All others must be for long term occupancy or as a guesthouse for non-paying guests.

(7) Separate conditional use permits must be received for every accessory building that does not meet the height or size requirements of section 10-13-4.

m. *Standards for a fence or wall of greater height.*

(1) Except for fences or walls surrounding public utility facilities, the fence or wall may not be located in the front yard of the property, but must be located in the rear or side yard;

(2) The fence or wall may not exceed ten feet in height;

(3) Except for fences or walls surrounding public utility facilities, the topography of the subject property and surrounding properties must be of such a unique or unusual character that a wall of greater height is necessary for the typical quiet enjoyment of the property;

(4) The fence or wall shall comply with all other provisions of this title.

n. *Standards for commercial kennels.*

(1) Facilities shall be designed and operated so that noise generated from resident animals shall not exceed 50 decibels (50 dBA), as measured from the nearest property line. Flexibility in noise abatement design, such as solid wooden, metal, or masonry walls, is permitted to achieve the required decibel level.

(2) Outdoor dog runs shall be designed to reduce barking provocation. Dogs shall only be allowed in outdoor kennels between sunrise and sunset each day.

(3) Animal waste shall be collected daily and managed and properly disposed of for all animals on the property. Disposal shall be according to an approved waste disposal plan.

(4) The parts of a building where animals are boarded shall be fully enclosed and sufficiently insulated to provide both noise mitigation and climate control shelter for the animals.

(5) Outdoor facilities, including outdoor runs and exercise areas, shall not be located within 150 feet of any single-family zoning district.

(6) All lighting must comply with section 10-33-7 of this Code.

(7) All requirements of any applicable public health agencies and/or other regulatory agencies shall be met, and all necessary permits shall be obtained.

(8) All animals maintained in kennels shall be confined on the premises or trained or exercised or bred under the owner's control and shall be enclosed in a secure shelter during the hours of darkness, except when they are shown, tried, worked, or hunting under the owner's control.

o. Standards for farm stands selling commercially packaged handicrafts or commercially processed or packaged foods.

(1) The farm stand is located on an agriculturally zoned parcel not less than 5 acres in size.

(2) Merchandise sold in the farm stand shall comply with the following conditions:

- All merchandise sold at the farm stand shall conform to the farm stand definition in Section 10-3-4.
- 50 percent of the structure's total sales area shall be devoted to the sale of farm products grown or produced on the property on which the farm stand is located.
- Commercially packaged items shall not exceed 50 percent of the structure's total sales area, including accessory sales of unprocessed or home-processed foodstuffs such as canned goods, baked goods, or homemade handicrafts.

(4) Commercially processed or packaged foods must be fully labeled for retail sale pursuant to applicable State and Local health regulations.

(5) Only one such structure not exceeding 500 square feet in size is allowed per legal lot or parcel.

(6) The height may not be greater than permitted in the associated zoning district.

(7) Structure must comply with all setbacks of the associated zoning district.

(8) Use must be accessory to an established agricultural use.

(9) The conditional use shall be discontinued if the size of the lot or parcel is reduced in area to less than 5 acres by subdivision or any other land-dividing activity.

(10) Operation of the farm stand requires a business license pursuant to Title 3 of the Hurricane City Code.

Commented [1]: There are no accessory building size limits for farm stands that don't sell commercially packaged items. For the proposed use permit, I suggest we limit the size of farm stands that do sell such items so that we don't end up with something resembling a grocery store. I suggest 500sf, but I'm open to another suggestion if 500 isn't reasonable.

F. *Appeal of decision.* Any person adversely affected by a decision of the Planning Commission regarding the transfer, issuance, or denial of a conditional use permit may appeal such decision to the Appeals Board by filing written notice of appeal stating the grounds therefor within 14 days from the date of such decision.

G. *Appeal of decision by Zoning Administrator.* Any decision of the Zoning Administrator regarding the issuance or denial of a conditional use permit, shall, upon request by the applicant within ten days after a determination by the Zoning Administrator, be submitted for a de novo review and decision by the Planning Commission at their next available meeting.

H. *Effect of approval.* A conditional use permit shall not relieve an applicant from obtaining any other authorization or permit required under this title or any other title of this Code.

1. A conditional use permit may be transferred so long as the use conducted thereunder conforms to the terms of the permit.

2. Unless otherwise specified by the Planning Commission and subject to the provisions relating to amendment, revocation or expiration of a conditional use permit, a conditional use permit shall be of indefinite duration and shall run with the land.

I. *Amendment.* The procedure for amending any conditional use permit shall be the same as the original procedure set forth in this section.

J. *Revocation.* A conditional use permit may be revoked as provided in section 10-9-6 of this title.

1. In addition to the grounds set forth in section 10-9-6 of this title, any of the following shall be grounds for revocation:

a. The use for which a permit was granted has ceased for one year or more;

b. The holder or user of a permit has failed to comply with the conditions of approval or any City, state, or federal law governing the conduct of the use;

c. The holder or user of the permit has failed to construct or maintain the site as shown on the approved site plan, map, or other approval materials; or

d. The operation of the use or the character of the site has been found to be a nuisance or a public nuisance by a court of competent jurisdiction in any civil or criminal proceeding.

2. No conditional use permit shall be revoked against the wishes of the holder or user of the permit without first giving such person an opportunity to appear before the Planning Commission and show cause as to why the permit should not be revoked or the conditions amended. Revocation of a permit shall not limit the City's ability to initiate or complete other legal proceedings against the holder or user of the permit.

K. *Expiration.* A conditional use permit shall expire and have no further force or effect if the building, activity, construction, or occupancy authorized by the permit is not commenced within one year after approval.

(Ord. 2016-11, 11-17-2016; Ord. 2017-14, 8-17-2017; Ord. 2017-16, 11-16-2017; Ord. 2018-04, 4-5-2018; Ord. 2018-12, 10-18-2018; Ord. 2018-14, 12-20-2018; Ord. 2019-10, 9-19-2019; Ord. 2020-03, 2-6-2020; Ord. No. 2021-05, 6-3-2021; Ord. No. 2022-10, 5-19-2022; Ord. No. 2022-21, 7-7-2022; Ord. No. 2022-61, 2-2-2023; Ord. No. 2023-17, 9-21-2023; Ord. No. 2024-06, 6-6-2024)

Sec. 10-12-3. Uses allowed.

A. *Permitted and conditional uses.* Permitted and conditional uses allowed within agricultural zones shall be as set forth in table 10-12-1 of this section. Permitted and conditional uses are indicated by a "P" or "C," respectively, in the appropriate column. Uses not permitted are indicated by "N." Any use not shown on table 10-12-1 of this section shall be prohibited unless the Zoning Administrator determines the use is substantially the same as a permitted or conditional use as provided in subsection 10-7-18E4 of this title.

TABLE 10-12-1
PERMITTED AND CONDITIONAL USES ALLOWED IN AGRICULTURAL ZONES

Use	Zones				
	A-40	A-20	A-10	A-5	A-1
Agricultural uses:					
Accessory building	P	P	P	P	P
Agricultural business	P	P	P	P	P
Agricultural industry	P	P	P	P	C
Agriculture	P	P	P	P	P
Agritourism	P	P	P	P	C
Animal specialties	P	P	P	P	C
Animals and fowl for recreation and family food production	P	P	P	P	P
Stable, private	P	P	P	P	P
Residential uses:					
Assisted living facility	P	P	P	P	N
Building, accessory	P	P	P	P	P
Dwelling, earth sheltered	P	P	P	P	P
Dwelling, single-family	P	P	P	P	P
Dwelling, single-family with single accessory dwelling unit	P	P	P	P	P
Dwelling, temporary	P	P	P	P	P
Guesthouse for family members and non-paying guests	P	P	P	P	P
Home base business	P	P	P	P	P
Manufactured home	P	P	P	P	P
Residential facility for elderly persons[1]	P	P	P	P	N
Residential facility for persons with a disability[1]	P	P	P	P	P
Residential facility for troubled youth	N	N	N	N	N
Short term rental	N	N	N	N	P
Public and civic uses:					
Auditorium or stadium	N	N	N	N	N

Cemetery	P	P	P	P	P
Church or place of worship	P	P	P	P	P
Club or service organization	P	P	P	P	P
Convalescent care facility	N	N	N	N	N
Cultural service	P	P	P	P	P
Golf course	N	N	N	N	N
Hospital	N	N	N	N	N
Park	P	P	P	P	P
Protective service	P	P	P	P	P
Reception center	C	C	C	C	C
Stable, public	P	P	P	P	C
Utility, minor	P	P	P	P	P
Utility substation	P	P	P	P	P
Commercial uses:					
Agricultural sales and service	P	P	C	C	N
Agritourism activities	P	P	P	P	C
Animal hospital	P	P	P	P	P
Bed and breakfast, home	P	P	P	P	P
Child care center	N	N	N	N	N
Farm stand[3]	P	P	P	P	P
Garden center	P	P	P	P	P
Kennel, residential	P	P	P	P	P
Licensed family child care[2]	P	P	P	P	P
Media service	N	N	N	N	N
Personal care service, home based[2]	P	P	P	P	P
Personal instruction service, home based[2]	P	P	P	P	P
Produce stand	P	P	P	P	P
Recreation and entertainment, outdoor	C	C	C	C	N
Residential certificate child care facility[2]	P	P	P	P	N
Vehicle repair, limited	N	N	N	N	N
Veterinary service	P	P	P	P	P
Wireless telecommunication facility	See section 10-50-5, table 10-50-1 of this title				

Notes:

1. See chapter 46 of this title.
2. See chapter 42 of this title.
3. The sale of commercially packaged handicrafts or commercially processed or packaged food shall require approval of a conditional use permit pursuant to Sec. 10-7-9.

B. *Accessory uses.* Permitted and conditional uses set forth in table 10-12-1 of this section shall be deemed to include accessory uses and activities that are necessarily and customarily associated with and incidental and subordinate to such uses.

1. Accessory uses shall be subject to the same regulations that apply to permitted and conditional uses in the same zone except as otherwise expressly provided in this title.
2. No accessory use, building, or structure shall be allowed on a lot unless a permitted or conditional use has been established.
3. Accessory uses in agricultural zones shall include, but are not limited to, the following:
    a. Garage sales, subject to applicable standards of chapter 48, Temporary Uses, of this title.
    b. Garages, carports, and off street parking areas, subject to applicable standards of chapter 34, Off Street Parking and Loading, of this title.
    c. Hobby activities when conducted by an occupant of the premises solely for personal enjoyment, amusement, or recreation and which does not conflict with any applicable provision of this Code.
    d. Home based businesses, subject to applicable standards of chapter 42, Home Based Businesses, of this title.
    e. Household pets.
    f. Keeping of machinery, livestock, and farming equipment as needed for agricultural use.
    g. Nurseries and greenhouses.
    h. Playhouses, patios, porches, gazebos, and incidental storage buildings.
    i. Produce stands.
    j. Swimming pools and hot tubs for use by residents and their guests.
    k. Temporary real estate offices, subject to applicable standards of chapter 48, Temporary Uses, of this title.

(Ord. 03-5-1, 5-1-2003, eff. 6-1-2003; Ord. 2009-01, 2-5-2009; Ord. 2016-11, 11-17-2016; Ord. 2017-03, 1-19-2017; Ord. 2018-04, 4-5-2018; Ord. 2020-03, 2-6-2020; Ord. No. 2022-61, 2-2-2023; Ord. No. 2024-06, 6-6-2024; Ord. No. 2024-12, 8-15-2024)

Sec. 10-14-3. Uses allowed.

A. *Permitted and conditional uses.* Permitted and conditional uses allowed within residential agriculture zones shall be as set forth in table 10-14-1 of this section. Permitted and conditional uses are indicated by a "P" or "C," respectively, in the appropriate column. Uses not permitted are indicated by "N." Any use not shown on table 10-14-1 of this section shall be prohibited unless the Zoning Administrator determines the use is substantially the same as a permitted or conditional use as provided in subsection 10-7-18E4 of this title.

TABLE 10-14-1
PERMITTED AND CONDITIONAL USES ALLOWED IN
RESIDENTIAL AGRICULTURE ZONES

Use	Zones	
	RA-1	RA- 0.5
Agricultural uses:		
Agricultural business	P	N
Agricultural industry	N	N
Agriculture	P	P
Animal specialties	P	P
Animals and fowl for recreation and family food production	P	P[3]
Stable, private	P	P
Residential uses:		
Assisted living facility	P	P
Boarding house	N	N
Building, accessory	P	P
Dwelling, earth sheltered	P	P
Dwelling, multiple-family	N	N
Dwelling, single-family	P	P
Dwelling, single-family with single accessory dwelling unit	P	P
Dwelling, temporary	P	P
Dwelling, two-family	N	N
Guesthouse	P	P
Manufactured home	P	P
Manufactured/mobile home park	N	N
Manufactured/mobile home subdivision	N	N
Protective housing facility	P	P
Residential facility for elderly persons[1]	P	P
Residential facility for persons with a disability[1]	P	P
Residential facility for troubled youth	C	C
Short term rental[4]	N	N
Public and civic uses:		

Auditorium or stadium	N	N
Cemetery	P	P
Church or place of worship	P	P
Club or service organization	N	N
Convalescent care facility	N	N
Cultural service	P	P
Golf course	P	P
Hospital	N	N
Park	P	P
Protective service	P	P
Reception center	C	C
Stable, public	P	N
Utility, minor	P	P
Utility substation	P	P
Commercial uses:		
Agricultural sales and service	N	N
Animal hospital	P	P
Bed and breakfast, home	P	P
Bed and breakfast inn	N	N
Child care center	N	N
Farm stand[5]	P	P
Garden center	N	N
Kennel, residential	P	P
Licensed family child care[2]	P	P
Media service	N	N
Personal care service, home based[2]	P	P
Personal instruction service, home based[2]	P	P
Produce stand	P	P
Recreational vehicle park	N	N
Residential certificate child care facility[2]	P	P
Residential hosting facility	P	P
Temporary trailer	P	P
Veterinary service	N	N
Warehouse, self-service storage	N	N
Wireless telecommunication facility	See section 10-50-5, table 10-50-1 of this title	

Notes:

1. See chapter 46 of this title.
2. See chapter 42 of this title.

3. See section 10-37-15 of this title for permitted animals and fowl.

4. Whole home vacation rentals in residential zones are a nonconforming use pursuant to Ordinance No. 2023-20. See licensing and operations requirements in title 10, chapter 51 of this Code.

5. The sale of commercially packaged handicrafts or commercially processed or packaged food shall require approval of a conditional use permit pursuant to Sec. 10-7-9.

B. *Accessory uses.* Permitted and conditional uses set forth in table 10-14-1 of this section shall be deemed to include accessory uses and activities that are necessarily and customarily associated with and incidental and subordinate to such uses.

1. Accessory uses shall be subject to the same regulations that apply to permitted and conditional uses in the same zone except as otherwise expressly provided in this title.

2. No accessory use, building, or structure shall be allowed on a lot unless a permitted or conditional use has been established.

3. Accessory uses in residential agriculture zones shall include, but not be limited to, the following:

   a. Garage sales, subject to applicable standards of chapter 48, Temporary Uses, of this title.
   b. Garages and off street parking areas, subject to applicable standards of chapter 34, Off Street Parking and Loading, of this title.
   c. Hobby activities when conducted by an occupant of the premises solely for personal enjoyment, amusement, or recreation and which does not conflict with any other City ordinance.
   d. Home based businesses, subject to applicable standards of chapter 42, Home Based Businesses, of this title.
   e. Household pets.
   f. Nurseries and greenhouses.
   g. Playhouses, patios, porches, gazebos, and incidental storage buildings.
   h. Swimming pools and hot tubs for use by residents and their guests.

(Ord. 03-5-1, 5-1-2003, eff. 6-1-2003; Ord. 2009-01, 2-5-2009; Ord. 2016-11, 11-17-2016; Ord. 2017-03, 1-19-2017; Ord. 2018-04, 4-5-2018; Ord. No. 2022-61, 2-2-2023; Ord. No. 2023-20, 12-7-2023; Ord. No. 2024-06, 6-6-2024; Ord. No. 2024-12, 8-15-2024)

Hurricane Planning Commission
Meeting Minutes
January 9, 2025

Minutes of the Hurricane City Planning Commission meeting held on January 9, 2025, at 6:00 p.m. in the City Council Chambers located at 147 N. 870 West Hurricane UT, 84737

Members Present: Mark Sampson, Paul Farthing, Shelley Goodfellow, Ralph Ballard, Rebecca Bronemann, Michelle Cloud, Brad Winder, and Kelby Iverson (joined at 6:19pm).

Members Excused:

Staff Present: Planning Director Gary Cupp, City Planner Fred Resch III, City Attorney Dayton Hall, Planning Technician Brienna Spencer, City Engineer Representative Jeremy Pickering, City Water Dept. Representative Kory Wright, and City Power Dept. Representative Scott Hughes.

6:00 p.m. - Call to Order

Roll Call

Pledge of Allegiance led by Shelley Goodfellow.

Prayer and/or thought by invitation given by Rebecca Bronemann.

Paul Farthing motioned to approve the agenda as presented. Rebecca Bronemann seconded the motion. Unanimous.

Declaration of any conflicts of interest – none declared.

Public Hearings

~~1. A Zone Change Amendment request to amend the approved site plan for Pecan Valley to allow for a residential treatment facility located at 5147 W and 5159 W 2200 S.~~ ***This application has been withdrawn***

2. A Zone Change Amendment request located at 808 S 920 W from RA-1, residential agriculture one unit per acre, to RA-0.5, residential agriculture one unit per half acre to allow for a lot split.
No comments.

OLD BUSINESS

1. PSP24-36 PP24-34: Discussion and consideration of a possible approval of a preliminary site plan and preliminary plat for BASH Mancaves, a mixed-use development consisting of 14

mancaves, 42 residential units, and office/retail space located at west of Marla at Elim Valley. Western Mortgage and Realty Co - Tim Tippett, Applicant. Karl Rasmussen, Agent.
Karl Rasmussen stated that they would like to table this. After meeting with public works, they have some issues that need to be worked through before bringing it back for discussion.

Ralph Ballard motioned to table PSP24-36 and PP24-34. Rebecca Bronemann seconded the motion. Unanimous.

2. PSP24-37: Discussion and consideration of a possible approval of a preliminary site plan for Luisa's Corner, a commercial development located at the southwest corner of Sand Hollow Road and Bash Parkway. Brent Moser, Applicant. Karl Rasmussen, Agent.
Fred Resch III shared that this was tabled last time because the use of the property was vague and it needed to be clarified. There are still some things that need to be worked through but staff feels comfortable moving forward with it. No comments or concerns from the commissioners.

Rebecca Bronemann motioned to approve PSP24-37 subject to staff and JUC comments. Michelle Cloud seconded the motion. Unanimous.

NEW BUSINESS

1. ZC25-01 Discussion and consideration of a recommendation to the City Council on a zone change amendment request located at 808 S 920 W from RA-1, residential agriculture one unit per acre, to RA-0.5, residential agriculture one unit per half acre to allow for a lot split.
Gary Cupp shared that they have an updated recommendation for approval. Karl Rasmussen stated the property owner wants to build two houses and this is needed to do that. Ralph Ballard asked if this will be the only one in the neighborhood at half acre. Mr. Rasmussen shared that there are a few other properties that are half acre. Mark Sampson asked what the plan for 920 W is. Fred Resch III stated that it is a minor collector and the applicant will be required to put in the roadway improvements along their portion of the property. Mr. Sampson asked what the width of a minor collector is. Jeremy Pickering stated that it is 60'.

Brad Winder motioned a recommendation of approval of ZC25-01 to the City Council subject to staff and JUC comments. Paul Farthing seconded the motion. All ayes except Kelby Iverson who abstained. Motion carries.

2. PP24-35: Discussion and consideration of a possible approval of a preliminary plat for Copper Meadows, a 121-lot single family residential subdivision, located at the southeast corner of Jellystone Road and Gateway Blvd. Western Mortgage and Realty Co – Tim Tippett, Applicant. Karl Rasmussen, Agent.
Karl Rasmussen shared that they didn't ask for preliminary plat approval last meeting because they needed a zone change which was seen at the commission meeting in December and it was approved by Council. It's an R1-8 with a PDO. Michelle Cloud asked engineering what the concerns are on this plat. Jeremy Pickering shared that most of them are directed at the applicant and that there are a lot of possibilities that could occur. The preliminary plat is the first opportunity for comments to be presented to the applicant and the commissioners. Mark Sampson asked about it being isolated. Karl Rasmussen shared that it is no longer isolated and can be accessed from multiple roadways that are now there.

Paul Farthing motioned to approve PP24-35 subject to staff and JUC comments. Shelley Goodfellow seconded the motion. Unanimous.

DRAFT

Karl Rasmussen requested to continue item #7.

3. CUP25-01: Discussion and consideration of a possible approval of a conditional use permit for a building of greater height and size located at 3665 W 2540 S. Greg Higgs, Applicant. Cole Spinks, Agent.

Cole Spinks shared that the property owner wants a big RV garage to store his recreational toys and some extra storage. It'll look nice and match his existing home.

Rebecca Bronemann motioned to approve CUP25-01 subject to staff and JUC comments with the findings that it will blend with the existing home and not be a detriment to the community. Michelle Cloud seconded the motion. Unanimous.

4. PP25-01: Discussion and consideration of a possible approval of a preliminary plat for Firerock Phase 4, a 23-lot single family subdivision located at 400 N Firerock Way. Sky Mountain Holdings LLC, Applicant. Pratt Engineering, Agent.

Fred Resch III shared that in 2018, they applied for a preliminary plat for the entire Firerock subdivision. For some reason, the Council only approved phases 1-2 for reasons that were unclear. This did not come to our attention until they tried to apply for construction drawings on phase 4. They will need to apply for a preliminary plat on phases 5 & 6. Mark Sampson asked how they got phase 3 approved if only phase 1-2 were approved. Mr. Resch III stated that we had a different planning director in 2018 than we did when phase 3 had construction drawings approved and was recorded. It met the city standards, we just missed that the preliminary plat was not approved. Mr. Sampson asked why the developer would want to plat all the phases differently. Dayton Hall shared that it could be financing or a number of reasons. Jed Christensen shared that they were originally going to do the remainder of the project in two phases but decided to do it in smaller phases. Part of that was because of funding for infrastructure. They do know they will need to finish the roadway to the north. They felt it would be best to put the road in with phase 5 because that is where the road will tie in, the connectivity will just be better at that point. They know phase 5 will not be approved without showing the roadways. Shelley Goodfellow asked about the comment that states that they should be required to put in 2170 W at this time and if this is made subject to staff and JUC comments, will that require them to put it in? Mr. Resch III shared that his intent was for the commission to clarify in their motion on if that would be required at this time or not. Mrs. Goodfellow shared that to her, as long as there is a plan for the road to go in, they are okay to move forward.

Shelley Goodfellow motioned to approve PP25-01 subject to staff and JUC comments with the code being met in ph 5 with tying in 2170 W at that time. Rebecca Bronemann seconded the motion. Unanimous.

5. PSP25-01: Discussion and consideration of a possible approval of a preliminary site plan for Southwest Vision, a medical office located at 83 S 2600 W. DGR Holdings LLC, Applicant. CivilScience-Brandee Walker, Agent.

Brandee Walker shared that they are proposing a building on this corner of state street and 2600 W. The parking lot will be reconfigured and the utilities are stubbed there already because it was planned for. No comments or concerns from the commission.

Michelle Cloud motioned to approve PSP25-01 subject to staff and JUC comments. Paul Farthing seconded the motion. Unanimous.

6. FSP25-01: Discussion and consideration of a possible approval of a final site plan for Gateway to Zion (Neil Detox),a rehabilitation center, located at 860 N State St. Brandon Neil, Applicant. CivilScience-Brandee Walker, Agent.

DRAFT

Mark Sampson asked when this was last here. Fred Resch III shared that it was a couple months ago. Dayton Hall asked if the power box will be relocated or will they build around it? Brandee Walker shared that power is moving behind the current curb and gutter, it'll all be in conformance with the roadway they are putting in. Further easements will need to be granted as well. Rebecca Bronemann is concerned about the proximity to the cliff and bridge but that isn't part of this process. No further comments.

Paul Farthing motioned to approve FSP25-01 subject to staff and JUC comments. Brad Winder seconded the motion. Unanimous.

7. PP25-02: Discussion and consideration of a possible approval of a preliminary plat for The Orchards at Elim Valley, a 63-lot single family subdivision located east of 3400 W between Jellystone Road and Bash Parkway. Western Mortgage and Realty Co - Tim Tippett, Applicant. Karl Rasmussen, Agent.

Paul Farthing motioned to continue PP25-02. Rebecca Bronemann seconded the motion. Unanimous.

8. FSP25-02: Discussion and consideration of a possible approval of a final site plan for Applebees, a restaurant located at 980 W State St. Danwick LLC (Wick Gubler), Applicant. Gerold Pratt, Agent.

Mark Sampson asked what has been worked out with the lot behind this location. Jeremy Pickering shared that this is all just one large property. Applebees will be cutting the driveway on 100 N but it'll just be gravel until we get the next higher use on the shed sales site. Mr. Sampson asked about the parking for the entire site. Fred Resch shared that they have more than enough. Paul Farthing feels there will be a lot of traffic on that driveway to 100 N and feels it should be paved.

Shelley Goodfellow motioned to approve FSP25-02 subject to staff and JUC comments. Rebecca Bronemann seconded the motion. Unanimous.

9. FSP25-03: Discussion and consideration of a possible approval of a final site plan for Black Ridge Ph 1A, a 20-townhome development located at 500 S 1760 W. Austin Overman, Applicant. Rob Reid, Agent.

Rob Reid shared that this is a 20 unit multifamily subdivision. The density meets the development agreement and we have been through all the required reviews, this is the last step. Paul Farthing asked if there was an issue with the power. Scott Hughes shared that there are not any issues with this phase. Kelby Iverson asked if the neighbor's concerns about a retaining wall had been resolved? Mr. Reid shared that there is a retaining wall on the north east side that he thinks has addressed those concerns. Mr. Iverson asked if Wasatch Builders owns all the property to the south and if they are planning to finish it all out. Austin Overman shared that they own all the property to 1300 south.

Rebecca Bronemann motioned to approve FSP25-03 subject to staff and JUC comments. Michelle Cloud seconded the motion. Unanimous.

10. Training on the Open and Public Meetings Act

Fred Resch III shared that an 8 minute video needs to be watched in order to meet the state Open and Public meeting Act year training requirements.

Michelle Cloud motioned to adjourn. Rebecca Bronemann seconded the motion. Unanimous.

Adjournment at 7:41PM

DRAFT