# REGULAR MEETING AGENDA 

## City of Black Hawk City Council

 211 Church Street, Black Hawk, COMarch 25, 2020
3:00 p.m.
BLACK HAWK

## The City of Black Hawk is hosting Virtual City Council meetings in Zoom in response to the Coronavirus COVID-19 until further notice. There are no physical meetings at this time.

Join from a PC, Mac, iPad, iPhone, or Android device:
Please click this URL to join. https://zoom.us/i/710218854
Or join by phone:

888-475-4499 (Toll-Free)
Webinar ID: 710218854
International numbers available: https://zoom.us/u/aekAkAaLfF

Phone commands using your phone's dial pad while in a Zoom meeting:
*6 - Toggle mute/unmute
*9 - Raise your hand to make a public comment or to speak for or against a Public Hearing matter

Public Comment:
If you wish to make a public comment during the meeting,
please go to:
https://www.cityofblackhawk.org/comment signup
and provide your Name, Email address, and Telephone.
During the Public comment section of the meeting, the host will go in order of sign up to ask for comments from those who have signed up

## Public Hearing:

During the meeting, Mayor Spellman will ask for all of those who are in support of the project to raise their
hand in Zoom. After everyone has had the opportunity to speak in support of the Public Hearing, the Mayor will then ask for those in opposition to raise their hand, and they will have a chance to speak.

1. CALL TO ORDER:
2. ROLL CALL \& PLEDGE OF ALLEGIANCE:
3. AGENDA CHANGES:
4. CONFLICTS OF INTEREST: (Council disclosures are on file w/City Clerk \& Sec. of State)
5. PUBLIC COMMENT: Please limit comments to 5 minutes
6. APPROVAL OF MINUTES: March 11, 2020 Regular Meeting

March 18, 2020 Special Meeting
7. PUBLIC HEARINGS:
A. Resolution 25-2020, A Resolution Making Certain Findings of Fact Regarding the Proposed Annexation of Parcels of Land to the City of Black Hawk, Colorado, Known as the Lake Gulch Whiskey Resort Annexation
B. CB2, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 1, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
C. CB3, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 2, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
D. CB4, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 3, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
E. CB5, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 4, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
F. CB6, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 5, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
G. CB7, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 6, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
H. CB8, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 7, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation
I. CB9, A Bill for an Ordinance Zoning Certain Property Within the City of Black Hawk to Commercial/Business Services (C/BS) Zoning District and a Planned Unit Development (PUD) Overlay Known as the Lake Gulch Whiskey Resort Planned Unit Development, and Amending the City's Zoning Map to Conform Therewith
J. Resolution 26-2020, A Resolution Approving a Minor Subdivision Creating Two Lots at 211-221 Gregory Street and 201 Selak Street (Continued to May 13, 2020)
K. Resolution 27-2020, A Resolution Approving a Certificate of Architectural Compatibility for the Renovation of a Building at 211-221 Gregory Street (Continued to May 13, 2020)
8. ACTION ITEMS:
A. Resolution 28-2020, A Resolution Consenting To and Extending the Order Declaring a Local Disaster Emergency In and For the City of Black Hawk, Colorado
B. Resolution 29-2020, A Resolution Approving the 2020 Fireworks Production Contract Between the City of Black Hawk and Western Enterprises, Inc.
9. CITY MANAGER REPORTS:
10. CITY ATTORNEY:
11. EXECUTIVE SESSION:
12. ADJOURNMENT:

## City of Black Hawk <br> City Council

## March 11, 2020

## MEETING MINUTES

Fire Lieutenant Chris Reid rang the bell to open the meeting.

1. CALL TO ORDER: The regular meeting of the City Council was called to order on Wednesday, March 11, 2020, at 3:00 p.m. by Mayor Spellman.
2. ROLL CALL: Present were: Mayor Spellman, Aldermen Armbright, Bennett, Johnson, Moates, and Torres.

Excused Absence: Alderman Midcap.
Staff present: City Attorney Hoffmann, City Manager Cole, Police Chief Lloyd, Finance Director Hillis, City Clerk/Administrative Services Director Greiner, Public Works Director Isbester, Public Works Superintendent Jackson, Senior Civil Engineers Ford and Reed, Fire Lieutenant Reid, Community Planning \& Development Director Linker, and Deputy City Clerk Martin.

PLEDGE OF
ALLEGIANCE:
Mayor Spellman led the meeting in the recitation of the Pledge of Allegiance.
3. AGENDA CHANGES: Deputy City Clerk Martin confirmed there were no changes to the agenda.
4. CONFLICTS OF INTEREST:

City Attorney Hoffmann asked Council to declare any Conflicts of Interest on any issue appearing on the agenda this afternoon other than those previous disclosures and conflicts that have already been disclosed and are on file with the City Clerk and Secretary of State. No conflicts were noted from City Council.

City Attorney Hoffmann asked the audience if there were any objections to any member of Council voting on any issue on the agenda this afternoon. The audience had no objections.
5. PUBLIC COMMENT: Deputy City Clerk Martin confirmed no one had signed up to speak.
6. APPROVAL OF

MINUTES: February 26, 2020
MOTION TO
APPROVE

MOTION PASSED
Alderman Bennett MOVED and was SECONDED by Alderman Johnson to approve the Minutes as presented.

There was no discussion, and the motion passed unanimously.
7. PUBLIC HEARINGS:

None
8. ACTION ITEMS:
A. Resolution 22-2020, A Resolution Approving Amendment No. 5 to the Construction Manager/General Contractor Agreement Executed on February 27, 2019 Between the City of Black Hawk and Roche Constructors, Inc., Increasing the Guaranteed Maximum Price (GMP) by $\$ 297,700$ for the Purpose of Installing Rock Slope Stabilization Measures Along the North Side of the Gregory Street Plaza

Mayor Spellman read the title.
Senior Civil Engineer Reed introduced this item. He explained that during the excavation of the northern edge of the project behind the McAfee, Woodbury, and Norton Houses exposed a raw, untreated rock slope. The City called in their on-call Geotechnical Consultant Terracon to evaluate the area. He said this amendment is for those recommendations from Terracon, which includes about 80 rock bolts of various sizes and new narrow-gauge wire mesh to be installed to stabilize this area. He added that the wire mesh would be powdercoated brown to blend in and confirmed they will perform a locate on utilities.

MOTION TO APPROVE

Alderman Torres MOVED and was SECONDED by Alderman Moates to approve Resolution 22-2020, a Resolution approving Amendment No. 5 to the Construction Manager/General Contractor Agreement executed on February 27, 2019 between the City of Black Hawk and Roche Constructors, Inc., increasing the Guaranteed Maximum Price (GMP) by $\$ 297,700$ for the purpose of installing rock slope stabilization measures along the north side of the Gregory Street Plaza.

## MOTION PASSED

9. CITY MANAGER REPORTS:

10. CITY ATTORNEY:

## 11. EXECUTIVE SESSION:

City Manager Cole had provided a memorandum to Council regarding the City's strategic plan for the Coronavirus COVID-19. He wanted to ensure that Council knew staff was on top of it and working through it.

City Attorney Hoffmann had nothing to report.

## City Attorney Hoffmann recommended items number 2 and 5 for

 Executive Session for specific legal issues related to intergovernmental relations and potential legislation.Before breaking for Executive Session, Mayor Spellman wanted to mention that at the last meeting he announced that he had invited Commissioner Ron Engels to the Public Hearing on March 25 to see if the County Commissioners would speak in support of the annexation in the Lake Gulch area; he is pleased to announce that Commissioner Engels did get back to him and stated that he did talk to his two fellow Commissioners and they certainly thought it was appropriate that he come to the meeting on March 25 to speak in support of the annexation in the Lake Gulch area. Mayor Spellman said this was good news that the Commissioners are looking out for the best interest of the County and what this project would mean to the County as far as the additional revenue, a good positive, he said.

Mayor Spellman said he then talked to Commissioner Engels, who also sits on the Board of Directors for the Central City Opera House Association, and asked him if he would like to get approval to speak on behalf of the Central City Opera House Association, or if someone else could attend from the Association to also speak in support of the project because he believes there is a relationship that could be built between Proximo Spirits and the Central City Opera House Association in the future. Commissioner Engels said he would ask and get back to him, but in the meantime, he has confirmed that the Commissioners are in support of the annexation, and he plans to attend the Public Hearing on March 25 to state their support. Mayor Spellman thought it was important to have that in the record.

MOTION TO ADJOURN INTO EXECUTIVE SESSION

MOTION PASSED
Alderman Bennett MOVED and was SECONDED by Alderman Johnson to adjourn into Executive Session at 3:08 p.m. to hold a conference with the City's attorney to receive legal advice on specific legal questions, pursuant to C.R.S. § 24-6-402(4)(b), and to determine positions relative to matters that may be subject to negotiations, develop a strategy for negotiations, and/or instruct negotiators, pursuant to C.R.S. § 24-6-402(4)(e).

There was no discussion, and the motion PASSED unanimously.

MOTION TO
ADJOURN

MOTION PASSED
12. ADJOURNMENT: Mayor Spellman declared the Regular Meeting of the City Council closed at 4:45 p.m.
Alderman Bennett MOVED and was SECONDED by Alderman Johnson to adjourn the Executive Session at 4:45 p.m.

There was no discussion, and the motion PASSED unanimously.

Melissa A. Greiner, CMC
City Clerk

David D. Spellman
Mayor

## City of Black Hawk <br> City Council

March 18, 2020

## SPECIAL MEETING MINUTES

1. CALL TO ORDER: A special meeting of the City Council was called to order on Wednesday, March 18, 2020, at 3:00 p.m. by Mayor Spellman.
2. ROLL CALL: Physically Present: Mayor Spellman

Virtually Present: Aldermen Armbright, Bennett, Johnson, Midcap, and Moates.

Excused Absence: Alderman Torres
Virtual/Present Staff: City Attorney Hoffmann, City Manager Cole, Police Chief Lloyd, Finance Director Hillis, City Clerk/Administrative Services Director Greiner, Public Works Director Isbester, Senior Civil Engineer Ford, Community Planning \& Development Director Linker, and Deputy City Clerk Martin.

## PLEDGE OF

 ALLEGIANCE:3. CONFLICTS OF INTEREST:

City Attorney Hoffmann asked Council to declare any Conflicts of Interest on any issue appearing on the agenda this afternoon other than those previous disclosures and conflicts that have already been disclosed and are on file with the City Clerk and Secretary of State. No conflicts were noted from City Council.

City Attorney Hoffmann asked the virtual and present audience if there were any objections to any member of Council voting on any issue on the agenda this afternoon. Both audiences had no objections.
5. PUBLIC COMMENT: Deputy City Clerk Martin confirmed no one had physically or virtually signed up to speak.
A. Resolution 23-2020, A Resolution Approving a Telephonic Participation Policy for City Council Meetings

Mayor Spellman read the title.
City Manager Cole explained this was the formal approval needed to have a policy in place to hold these electronic meetings for both nonemergency as well as emergency situations. He said that one item to note was that all votes should be conducted by a roll call.

MOTION TO
APPROVE

MOTION PASSED
Alderman Johnson MOVED and was SECONDED by Alderman Bennett to approve Resolution 23-2020, a Resolution approving a Telephonic Participation Policy for City Council Meetings.

There was no discussion, and the motion PASSED unanimously.

## B. Resolution 24-2020, A Resolution Forgiving Certain Device Taxes for the Month of March 2020, Payable in April of 2020

Mayor Spellman read the title.
Mayor Spellman provided the background on this item. He said because the casinos have a mandatory closure through an executive order by the Governor, the City has determined that it is in the best interest of our industry that we also forgive the casinos by waiving their device fees for this period of time, and the total amount to be waived is $\$ 695,331.00$. Mayor Spellman asked each Council member if they had any comments. They were all in agreement and thought it was a fantastic idea, and we need to do everything we can to help.

## MOTION TO

APPROVE
Alderman Armbright MOVED and was SECONDED by Alderman Johnson to approve Resolution 24-2020, a Resolution forgiving certain device taxes for the month of March 2020, payable in April of 2020.

MOTION PASSED
There was no discussion, and the motion PASSED unanimously.

## 7. EXECUTIVE SESSION:

City Attorney Hoffmann recommended item number 2 only for Executive Session for potential litigation.

## MOTION TO <br> ADJOURN INTO

EXECUTIVE SESSION

MOTION PASSED MOTION TO ADJOURN

MOTION PASSED
8. ADJOURNMENT: Mayor Spellman declared the Regular Meeting of the City Council closed at 3:30 p.m.
Alderman Bennett MOVED and was SECONDED by Alderman Johnson to adjourn into Executive Session at 3:08 p.m. to hold a conference with the City's attorney to receive legal advice on specific legal questions, pursuant to C.R.S. § 24-6-402(4)(b).

There was no discussion, and the motion PASSED unanimously.
Alderman Bennett MOVED and was SECONDED by Alderman Johnson to adjourn the Executive Session at 3:30 p.m.

There was no discussion, and the motion PASSED unanimously.

David D. Spellman<br>Mayor

Melissa A. Greiner, CMC
City Clerk

## RESOLUTION 25-2020 A RESOLUTION MAKING CERTAIN FINDINGS OF FACT REGARDING THE PROPOSED ANNEXATION OF PARCELS OF LAND TO THE CITY OF BLACK HAWK, COLORADO, KNOWN AS THE LAKE GULCH WHISKEY RESORT ANNEXATION

# STATE OF COLORADO <br> COUNTY OF GILPIN CITY OF BLACK HAWK 

Resolution No. 25-2020

## TITLE: A RESOLUTION MAKING CERTAIN FINDINGS OF FACT REGARDING THE PROPOSED ANNEXATION OF PARCELS OF LAND TO THE CITY OF BLACK HAWK, COLORADO, KNOWN AS THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, seven (7) Petitions in Annexation were filed with the City Clerk on January 3, 2020, requesting the annexation of certain unincorporated territory located in the County of Gilpin, State of Colorado, otherwise known as the Lake Gulch Whiskey Resort Annexation, and described in the attached Exhibit A;

WHEREAS, said Petitions in Annexation were forwarded by the City Clerk to the City Council;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution passed on February 12, 2020, found substantial compliance of said Petitions with C.R.S. § 31-12107(1);

WHEREAS, the City Council of the City of Black Hawk, Colorado, conducted a public hearing on March 25, 2020, as required by law to determine if the proposed annexation complies with C.R.S. §§ 31-12-104 and 31-12-105 to establish eligibility for annexation of that property described in Exhibit A;

WHEREAS, public notice of such public hearing was published once a week for four (4) consecutive weeks and notice by registered mail was given to the Clerk of the Board of County Commissioners, the County Attorney, the school district and to any special district having territory in the area to be annexed as required by law;

WHEREAS, the public hearing on said annexation Petitions was conducted in accordance with the requirements of the law; and

WHEREAS, pursuant to C.R.S. § 31-12-110, the City Council, sitting as the governing body of the City of Black Hawk, Colorado, is required to set forth its findings of fact and its conclusion as to the eligibility for annexation to the City of Black Hawk of the property described in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, COLORADO, THAT:

Section 1. With regard to the annexation of the territory described in Exhibit A, attached hereto and incorporated herein, the applicable provisions of C.R.S. § 31-12-104 have been met, including specifically Section 31-12-104(1)(a) permitting annexation of one or more parcels in a series, in that not less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the existing boundaries of the City; and therefore, because of such contiguity, a community of interest exists between the territory proposed to be annexed and the City; the territory proposed to be annexed is urban or will be urbanized in the near future, and the territory proposed to be annexed is integrated or is capable of being integrated with the City.

Section 2. The applicable provisions of C.R.S. § 32-12-105 have been met in that no land held in identical ownership has been divided or included without written consent of the owner thereof; that no annexation proceedings have been commenced by another municipality; that the annexation will not result in the detachment of area from a school district; that the annexation will not result in the extension of a municipal boundary more than three (3) miles; that the City has in place a plan for said three-mile area; and that in establishing the boundaries of the area to be annexed the entire width of any street or alley is included within the area annexed.

Section 3. An annexation election is not required under C.R.S. § 31-12-107(2) and that no additional terms or conditions are to be imposed upon the area to be annexed other than as contained in the Annexation Agreement, a copy of which is attached hereto and incorporated herein as Exhibit B.

Section 4. The Annexation Agreement between the City of Black Hawk, RSM, LLC, and its contract purchaser, Proximo Distillers, LLC, is hereby approved and the Mayor and City Clerk are authorized and directed to execute the same.

Section 5. The property described in the attached Exhibit A is eligible for annexation to the City of Black Hawk and all requirements of law have been met for such annexation, including the requirements of C.R.S. §§ 31-12-104 and 31-12-105, as amended.

Section 6. A series of ordinances annexing to the City of Black Hawk that property described in the attached Exhibit A shall be considered by this City Council pursuant to C.R.S. § 31-12-111.

Section 7. Effective Date. This Resolution shall take effect upon adoption by the City Council. However, by operation of C.R.S. § 31-12-113(2), the annexation will not become effective until the City Clerk completes the filings required by statute.

David D. Spellman, Mayor

## ATTEST:

$\overline{\text { Melissa A. Greiner, CMC, City Clerk }}$

## Exhibit A

Lake Gulch Whiskey Resort Annexation No. 1
Legal Description
A parcel of land located in Sections 17 \& 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime}$ E a distance of 3,617.79 feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.

Thence $S 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Lode a distance of 296.23 feet to the point of intersection with line 3-2 of the Blow Out Lode, US Mineral Survey No. 18776;
thence N $19^{\circ} 46^{\prime} 26^{\prime \prime}$ E along said line 3-2 of said Blow Out Lode a distance of 361.74 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 208.47 feet to the point of intersection with line 1-2 of the Great Britian Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 29^{\circ} 18^{\prime} 00^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Great Britian Lode a distance of 353.67 feet to corner No. 2 of said Great Britian Lode;
thence $\mathrm{S} 46^{\circ} 17^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-3 of said Great Britian Lode a distance of 131.10 feet to the point of intersection with line $4-1$ of said Williams Crossing Lode;
thence $\mathrm{S} 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line $4-1$ of said Williams Crossing Lode a distance of 149.95 feet to the point of intersection with line 6-7 of said Great Britian Lode;
thence $\mathrm{N} 46^{\circ} 22^{\prime} 45^{\prime \prime}$ E along said line 6-7 of said Great Britian Lode a distance of 142.56 feet to corner No. 7 of said Great Britian Lode;
thence $\mathrm{N} 29^{\circ} 19^{\prime} 49^{\prime \prime} \mathrm{E}$ along line $7-8$ of said Great Britian Lode a distance of 461.80 feet to the point of intersection with said east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 474.24 feet to the point of intersection with line 16-15 of the Gold Tunnel No. 21 Lode, US Mineral Survey No. 4589;
thence $\mathrm{S} 43^{\circ} 56^{\prime} 47^{\prime \prime} \mathrm{W}$ along said line $16-15$ of the Gold Tunnel No. 21 Lode a distance of 81.81 feet to corner No. 15 of the said Gold Tunnel No. 21 Lode;
thence $S 46^{\circ} 21^{\prime} 54^{\prime \prime}$ E along line 15-14 of the said Gold Tunnel No. 21 Lode, a distance of 150.01 feet to corner no. 14 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{N} 43^{\circ} 56^{\prime} 15^{\prime \prime} \mathrm{E}$ along line $14-13$ of the said Gold Tunnel No. 21 Lode, a distance of 227.88 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 1040.34 feet to the N 1/16th corner of Sections 17 and 18;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along the east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 165.11 feet to the point of intersection with line 3-2 of said East Williams Lode, US Mineral Survey No. 588;
thence $\mathrm{S} 47^{\circ} 19^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 3-2 of the East Williams Lode a distance of 204.89 feet to
corner No. 2 of said East Williams Lode;
thence $\mathrm{S} 42^{\circ} 44^{\prime} 49^{\prime \prime}$ E along line 2-1 of said East Williams Lode a distance of 152.37 feet to corner No. 1 of said East Williams Lode;
thence $\mathrm{N} 47^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{E}$ along line $1-4$ of said East Williams Lode a distance of 385.62 feet to the point of intersection with said east-west centerline of the NW $1 / 4$ of said Section 17 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NW $1 / 4$ of said Section 17 and City of Black Hawk Patented Boundary a distance of 906.14 feet to the NW $1 / 16$ th corner of said Section 17;
thence $\mathrm{N} 01^{\circ} 02^{\prime} 29 " \mathrm{~W}$ along the north-south centerline of said NW $1 / 4$ of said Section 17 and along the City of Black Hawk Patented Boundary a distance of 164.47 feet to the point of intersection with line 1-2 of the Mary Miller Lode, US Mineral Survey No. 969;
thence $\mathrm{N} 44^{\circ} 28^{\prime} 35^{\prime \prime}$ E along said line 1-2 of said Mary Miller Lode a distance of 60.92 feet to the point of intersection with said City of Black Hawk Patented Boundary;
thence $\mathrm{N} 88^{\circ} 00^{\prime} 45^{\prime \prime}$ E along said City of Black Hawk Patented Boundary a distance of 96.85 feet;
thence $\mathrm{N} 00^{\circ} 18^{\prime} 42^{\prime \prime} \mathrm{W}$ along said City of Black Hawk Patented Boundary a distance of 91.93 feet to the point of intersection with line 6-5 of the Morgan Placer US Mineral Survey No. 226;
thence $S 42^{\circ} 19^{\prime} 52^{\prime \prime}$ E along said line $6-5$ of said Morgan Placer a distance of 92.75 feet to corner No. 5 of said Morgan Placer;
thence S $41^{\circ} 03^{\prime} 33^{\prime \prime} \mathrm{E}$ along Colorado Department of Transportation deed recorded at Reception No. 141956 Gilpin County Records a distance of 12.42 feet to a CDOT $31 / 4$ " aluminum cap;
thence $S 49^{\circ} 47^{\prime} 21^{\prime \prime}$ E continuing along said Reception No. 141956 a distance of 43.07 feet to the point of intersection with line 3-4 of said Mary Miller Lode;
thence $\mathrm{S} 44^{\circ} 27^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 3-4 of
said Mary Miller Lode a distance of 340.78 feet to the north-south centerline of said NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 980.96 feet to corner No. 3 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 45^{\circ} 33^{\prime} 27^{\prime \prime} \mathrm{W}$ along line 3-2 of said Little Mattie Lode a distance of 149.96 feet to corner No. 2 of said Little Mattie Lode;
thence S $44^{\circ} 28^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 2-1 of said Little Mattie Lode a distance of 1499.34 feet to corner No. 1 of said Little Mattie Lode;
thence $S 45^{\circ} 17^{\prime} 32^{\prime \prime}$ E along line 1-4 of said Little Mattie Lode a distance of 149.75 feet to corner No. 4 of said Little Mattie Lode;
thence S $27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 938.48 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18;
thence N $88^{\circ} 20^{\prime} 50{ }^{\prime \prime} \mathrm{W}$ a distance of 663.62 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 31.99 feet;
2. $\mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.64 feet;
3. N $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 33.14 feet;
4. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.32 feet;
5. N $53^{\circ} 47^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
6. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.56 feet;
7. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.90 feet;
8. $\mathrm{S} 89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
9. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
10. N $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 33.32 feet;
11. $\mathrm{N} 83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 32.67 feet;
12. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.68 feet;
13. N $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.81 feet;
14. N $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.44 feet;
15. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
16. $\mathrm{N} 85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
17. N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.60 feet;
18. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 29.15 feet;
19. $\mathrm{N} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.55 feet;
20. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.11 feet;
21. N $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.60 feet;
22. $\mathrm{N} 69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.58 feet;
23. $\mathrm{N} 69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
24. $\mathrm{N} 69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.04 feet;
25. $\mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.55 feet;
26. $\mathrm{N} 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.25 feet;
27. $\mathrm{N} 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
28. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 25.03 feet;
29. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.04 feet;
30. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.20 feet;
31. $\mathrm{N} 61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
32. $N 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 25.01 feet to a point on line 1-4 of Washingtons Day Lode, US Mineral Survey 11885;
thence along said line $1-4 \mathrm{~N} 39^{\circ} 23^{\prime} 17^{\prime \prime} \mathrm{E} \mathrm{a}$ distance of 633.47 feet to corner No. 4 of said Washingtons Day Lode;
thence along line 4-3 of said Washingtons Day Lode N $45^{\circ} 12^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 150.58 feet to corner No. 3 of said Washingtons Day Lode; thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of $1,096.94$ feet;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{E}$ a distance of 320.86 feet;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 314.68 feet; thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 710.26 feet to the Point of Beginning,

EXCEPT the Denver Lode, US Mineral Survey 745 , total parcel containing 100.5 acres gross, 95.35 acres net more or less.

## Lake Gulch Whiskey Resort Annexation No. 2 <br> Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime}$ E a distance of 3,617.79 feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.

Thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 710.26 feet; thence $\mathrm{N} 47^{\circ} 00^{\prime} 48^{\prime \prime}$ E a distance of 314.68 feet; thence $S 42^{\circ} 58^{\prime} 23^{\prime \prime}$ E a distance of 169.95 feet; thence $\mathrm{S} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 320.86 feet; thence $\mathrm{S} 40^{\circ} 53^{\prime} 21^{\prime \prime}$ " E a distance of 1096.94 feet to corner No. 3 of the Washingtons Day Lode, US Mineral Survey 11885;
thence along line 3-2 of said Washingtons Day Lode S $39^{\circ} 23^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 664.25 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge the following 42 courses:

1. $\quad \mathrm{N} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 24.56 feet;
2. $\quad \mathrm{N} 50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
3. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 25.59 feet;
4. $\quad \mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 33.90 feet;
5. $\quad \mathrm{N} 52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.19 feet;
6. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
7. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
8. $\quad \mathrm{N} 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
9. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.24 feet;
10. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.49 feet;
11. $\mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.13 feet;
12. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 27.54 feet;
13. $\mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 25.88 feet;
14. $\mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.46 feet;
15. $\mathrm{N} 37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 28.83 feet;
16. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
17. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.96 feet;
18. $\mathrm{N} 45^{\circ} 20^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of 27.74 feet;
19. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 26.55 feet;
20. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
21. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 29.16 feet;
22. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.52 feet;
23. N $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.59 feet;
24. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 26.42 feet;
25. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.70 feet;
26. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.32 feet;
27. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 24.48 feet;
28. $\mathrm{N} 29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 27.32 feet;
29. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
30. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
31. $\mathrm{N} 46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
32. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 35.15 feet;
33. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.08 feet;
34. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 31.28 feet;
35. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.10 feet;
36. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.61 feet;
37. $\mathrm{N} 41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.31 feet;
38. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.65 feet;
39. N $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.71 feet;
40. $\mathrm{N} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 26.51 feet;
41. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.58 feet;
42. $\mathrm{N} 44^{\circ} 25^{\prime} 34$ " W a distance of 5.81 feet to the point of intersection with line 4-3 of the Tariff Lode, US Mineral Survey No. 966;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{E}$ along said line $4-3$ of said Tariff Lode a distance of 1068.76 feet to corner No. 3 of said Tariff Lode;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ along line 3-2 of said Tariff Lode a distance of 149.95 feet to corner No. 2 of said Tariff lode;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ along line 2-1 of said Tariff Lode a distance of 367.57 feet to the point of intersection with line 2-3 of the Williams Lode, US Mineral Survey No. 15824;
thence $\mathrm{N} 47^{\circ} 53^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 2-3 of said Williams Lode a distance of 660.81 feet to the point of intersection with line 6-5 of the East Clay County Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 17^{\circ} 31^{\prime} 51^{\prime \prime} \mathrm{W}$ along said line $6-5$ of said East Clay County Lode a distance of 88.60 feet to the point of intersection with line 3-2 of the Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{N} 51^{\circ} 26^{\prime} 36^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Clay County Lode a distance of 26.56 feet to corner No. 4 of said Clay County Lode, US Mineral Survey No. 360;
thence $\mathrm{N} 52^{\circ} 11^{\prime} 23^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Clay County Lode, US Mineral Survey No. 360 a distance of 114.49 feet to corner No. 2 of said Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{S} 37^{\circ} 28^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-1 of said Clay County Lode, US Mineral Survey No. 329A a distance of 547.96 feet to the point of intersection with line 4-1 of the Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{N} 54^{\circ} 01^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 4-1 of the Clay County Lode, US Mineral Survey No. 329B a distance of 109.70 feet to corner No. 1 of said Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{S} 50^{\circ} 08^{\prime} 44^{\prime \prime} \mathrm{W}$ along line $1-2$ of said

Clay County Lode, US Mineral Survey No. 329B a distance of 172.25 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 12 courses:

1. $\mathrm{N} 52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 4.07 feet;
2. N $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
3. $\mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.84 feet;
4. $\quad \mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 29.52 feet;
5. $\quad \mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 32.08 feet;
6. $\quad \mathrm{N} 38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.04 feet;
7. $\mathrm{N} 34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 32.85 feet;
8. $\quad \mathrm{N} 32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
9. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
10. N $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 37.67 feet;
11. $\mathrm{N} 28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.05 feet;
12. $\mathrm{N} 28^{\circ} 12^{\prime} 54 \mathrm{C}$ W a distance of 1.33 feet to the point of intersection with line 1-2 of the Caledonia Lode, US Mineral Survey No. MS 519;
thence $\mathrm{N} 49^{\circ} 29^{\prime} 47^{\prime \prime} \mathrm{E}$ along said line 1-2 of said Caledonia Lode a distance of 724.79 feet to the point of intersection with line 6-5 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence $N 31^{\circ} 43^{\prime} 33^{\prime \prime} \mathrm{W}$ along said line $6-5$ of said Golden Gad Lode a distance of 50.45 feet to the point of intersection with the east-west centerline of said NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary; thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline of the NW $1 / 4$ and along the City of Black Hawk Patented Boundary a distance of 258.49 feet to the N 1/16th corner on the northsouth centerline of said Section 18; thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along the east-west centerline of the NE $1 / 4$ of said Section 18 and along the City of Black Hawk Patented Boundary a distance of 246.17 feet to the point of intersection with line 3-4 of the Clay County Lode, US Mineral Survey No. 360; thence $\mathrm{S} 27^{\circ} 50^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 3-4 of
said Clay County Lode a distance of 157.91 feet to the point of intersection with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824, the Point of Beginning, containing 29.21 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 3 Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12$ " E, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime}$ E along the east line of the NE $1 / 4$ of said Section 13 a distance of 876.53 feet to the point of intersection with the northerly and easterly edge of Lake Gulch Road, County Road 6 . Thence along said northerly and easterly edge of Lake Gulch Road the following 66 courses:

1. $S 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 13.72 feet;
2. $\quad \mathrm{S} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 35.41 feet;
3. $\quad S 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
4. $\quad \mathrm{S} 85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 32.03 feet;
5. $\quad$ S $86^{\circ} 21^{\prime} 19 " \mathrm{E}$ a distance of 31.14 feet;
6. $\quad \mathrm{S} 87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.82 feet;
7. $\quad \mathrm{S} 88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 29.18 feet;
8. $\quad \mathrm{S} 88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 34.66 feet;
9. $\quad \mathrm{S} 88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 25.20 feet;
10. $\mathrm{S} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.97 feet;
11. $\mathrm{S} 89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 35.02 feet;
12. $\mathrm{N} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 36.59 feet;
13. $\mathrm{N} 87^{\circ} 31^{\prime} 19 " \mathrm{E}$ a distance of 26.26 feet;
14. $\mathrm{N} 85^{\circ} 29^{\prime} 19^{\prime \prime}$ E a distance of 27.58 feet;
15. $\mathrm{N} 84^{\circ} 48^{\prime} 46^{\prime \prime}$ E a distance of 29.08 feet;
16. $\mathrm{N} 84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.85 feet;
17. $\quad \mathrm{N} 82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 28.00 feet;
18. N $78^{\circ} 58^{\prime} 54^{\prime \prime}$ E a distance of 26.68 feet;
19. N $76^{\circ} 54^{\prime} 40^{\prime \prime}$ E a distance of 25.60 feet;
20. N $77^{\circ} 08^{\prime} 36^{\prime \prime}$ E a distance of 25.55 feet;
21. $N 78^{\circ} 10^{\prime} 02^{\prime \prime}$ E a distance of 25.48 feet;
22. $N 78^{\circ} 39^{\prime} 54^{\prime \prime}$ E a distance of 37.64 feet;
23. N $79^{\circ} 54^{\prime} 14^{\prime \prime}$ E a distance of 26.32 feet;
24. $\quad \mathrm{N} 80^{\circ} 28^{\prime} 29^{\prime \prime}$ E a distance of 26.01 feet;
25. $\mathrm{N} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{E}$ a distance of 25.64 feet;
26. $\quad \mathrm{N} 82^{\circ} 00^{\prime} 47^{\prime \prime}$ E a distance of 25.87 feet;
27. $\quad \mathrm{N} 83^{\circ} 11^{\prime} 19{ }^{\prime \prime} \mathrm{E}$ a distance of 25.72 feet;
28. $\quad \mathrm{N} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{E}$ a distance of 25.51 feet;
29. $N 80^{\circ} 36^{\prime} 50^{\prime \prime}$ E a distance of 36.86 feet;
30. N $77^{\circ} 53^{\prime} 04^{\prime \prime}$ E a distance of 25.17 feet;
31. N $76^{\circ} 30^{\prime} 21^{\prime \prime}$ E a distance of 26.42 feet;
32. $N 74^{\circ} 45^{\prime} 56^{\prime \prime}$ E a distance of 26.43 feet;
33. $N 73^{\circ} 10^{\prime} 29^{\prime \prime}$ E a distance of 27.05 feet;
34. $N 71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.52 feet;
35. $\quad \mathrm{N} 69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 29.17 feet;
36. $\quad \mathrm{N} 68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 28.70 feet;
37. $N 68^{\circ} 11^{\prime} 55^{\prime \prime}$ E a distance of 28.34 feet;
38. $N 68^{\circ} 11^{\prime} 21^{\prime \prime}$ E a distance of 28.58 feet;
39. N $70^{\circ} 17^{\prime} 29^{\prime \prime}$ E a distance of 27.99 feet;
40. $\quad \mathrm{N} 72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
41. $N 72^{\circ} 28^{\prime} 10^{\prime \prime}$ E a distance of 26.21 feet;
42. $\quad \mathrm{N} 68^{\circ} 41^{\prime} 24^{\prime \prime}$ E a distance of 27.08 feet;
43. $N 71^{\circ} 51^{\prime} 48^{\prime \prime}$ E a distance of 27.85 feet;
44. N $74^{\circ} 45^{\prime} 31^{\prime \prime}$ E a distance of 27.76 feet;
45. N $75^{\circ} 42^{\prime} 50$ " E a distance of 28.93 feet;
46. $N 77^{\circ} 13^{\prime} 39^{\prime \prime}$ E a distance of 29.52 feet;
47. $\mathrm{N} 78^{\circ} 51^{\prime} 11$ " E a distance of 28.58 feet;
48. $N 78^{\circ} 32^{\prime} 38^{\prime \prime}$ E a distance of 26.85 feet;
49. $N 76^{\circ} 41^{\prime} 51^{\prime \prime}$ E a distance of 25.03 feet;
50. $\quad \mathrm{N} 79^{\circ} 17{ }^{\prime} 59^{\prime \prime}$ E a distance of 29.12 feet;
51. $\mathrm{N} 78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 5.49 feet;
52. $\mathrm{N} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 34.79 feet;
53. $\mathrm{N} 77^{\circ} 18^{\prime} 33^{\prime \prime}$ E a distance of 34.86 feet;
54. $N 76^{\circ} 11^{\prime} 24$ " E a distance of 34.36 feet;
55. N $76^{\circ} 19^{\prime} 36^{\prime \prime}$ E a distance of 34.21 feet;
56. N $75^{\circ} 55^{\prime} 53$ " E a distance of 32.92 feet;
57. $\mathrm{N} 75^{\circ} 45^{\prime} 56^{\prime \prime}$ E a distance of 33.64 feet;
58. N $77^{\circ} 56^{\prime} 07{ }^{\prime \prime}$ E a distance of 54.90 feet;
59. N $79^{\circ} 21^{\prime} 17{ }^{\prime \prime}$ E a distance of 32.59 feet;
60. N $79^{\circ} 51^{\prime} 30^{\prime \prime}$ E a distance of 30.19 feet;
61. $N 81^{\circ} 04^{\prime} 54 " E$ a distance of 30.69 feet;
62. $N 82^{\circ} 42^{\prime} 42^{\prime \prime}$ E a distance of 26.71 feet;
63. $\mathrm{N} 85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.83 feet;
64. $N 87^{\circ} 30^{\prime} 36^{\prime \prime}$ E a distance of 25.59 feet;
65. $\mathrm{N} 89^{\circ} 45^{\prime} 47^{\prime \prime}$ E a distance of 26.85 feet;
66. S $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 21.27 feet to the point of intersection with line 3-2 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{N} 39^{\circ} 31^{\prime} 27^{\prime \prime}$ E along said line 3-2 of said St. Anthony Lode a distance of 246.50 feet to the point of intersection with line 1-6 of the SusanMary Lode, US Mineral Survey No. 694;
thence $\mathrm{S} 19^{\circ} 06^{\prime} 00^{\prime \prime} \mathrm{E}$ along said line 1-6 of said Susan-Mary Lode a distance of 35.27 feet to corner No. 6 of said Susan-Mary Lode;
thence $\mathrm{N} 70^{\circ} 54^{\prime} 00^{\prime \prime}$ E along line 6-5 of said Susan-Mary Lode a distance of 224.97 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18, the City of Black Hawk Patented Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Patented Boundary a distance of 553.67 feet to the point of intersection with line 4-3 of the Golden Gad

Lode, US Mineral Survey No. 13048;
thence $\mathrm{S} 49^{\circ} 45^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line $4-3$ of said Golden Gad Lode a distance of 340.06 feet to corner No. 3 of said Golden Gad Lode;
thence S $63^{\circ} 17^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 3-2 of said Golden Gad Lode a distance of 259.61 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 178 courses:
79. S $47^{\circ} 36^{\prime} 27^{\prime \prime}$ E a distance of 20.45 feet; 80. S $37^{\circ} 01^{\prime} 46^{\prime \prime}$ E a distance of 33.69 feet; 81. S $31^{\circ} 20^{\prime} 23^{\prime \prime}$ E a distance of 35.62 feet; 82. S $29^{\circ} 21^{\prime} 33^{\prime \prime}$ E a distance of 35.80 feet; 83. S $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 35.14 feet; 84. S $28^{\circ} 15^{\prime} 54$ " E a distance of 26.48 feet; 85. S $28^{\circ} 12^{\prime} 54$ " E a distance of 25.97 feet; 86. S $28^{\circ} 29^{\prime} 34 "$ E a distance of 25.05 feet; 87. S $29^{\circ} 02^{\prime} 31$ " E a distance of 37.67 feet; 88. S $30^{\circ} 53^{\prime} 344^{\prime \prime} \mathrm{E}$ a distance of 33.92 feet; 89. S $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 28.92 feet; 90. S $34^{\circ} 37^{\prime} 33^{\prime \prime}$ E a distance of 32.85 feet; 91. S $38^{\circ} 27^{\prime} 56^{\prime \prime}$ E a distance of 34.04 feet; 92. S $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 32.08 feet; 93. S $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 29.52 feet; 94. S $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 31.84 feet; 95. S $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet; 96. S $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 32.15 feet; 97. S $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet; 98. S $51^{\circ} 16^{\prime} 35^{\prime \prime}$ E a distance of 28.26 feet; 99. S $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.81 feet; 100. S $54^{\circ} 36^{\prime} 48^{\prime \prime}$ E a distance of 27.25 feet; 101. S $54^{\circ} 32^{\prime} 13^{\prime \prime}$ E a distance of 32.80 feet; 102. S $57^{\circ} 04^{\prime} 544^{\prime \prime} \mathrm{E}$ a distance of 26.24 feet; 103. S $58^{\circ} 48^{\prime} 15^{\prime \prime}$ E a distance of 27.12 feet;
104. S $58^{\circ} 36^{\prime} 20^{\prime \prime}$ E a distance of 29.13 feet; 105. S $57^{\circ} 16^{\prime} 49^{\prime \prime}$ E a distance of 30.45 feet; 106. S $57^{\circ} 52^{\prime} 07{ }^{\prime \prime} \mathrm{E}$ a distance of 29.57 feet; 107. S $57^{\circ} 47^{\prime} 48^{\prime \prime}$ E a distance of 29.54 feet; 108. S $58^{\circ} 32^{\prime} 09^{\prime \prime}$ E a distance of 30.64 feet; 109. S $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 31.93 feet; 110. S $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 32.05 feet; 111. S $64^{\circ} 12^{\prime} 09^{\prime \prime}$ E a distance of 30.05 feet; 112. S $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 31.36 feet; 113. S $64^{\circ} 57^{\prime} 544^{\prime \prime} \mathrm{E}$ a distance of 31.74 feet; 114. S $66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 30.74 feet; 115. S $62^{\circ} 36^{\prime} 41^{\prime \prime}$ E a distance of 31.24 feet; 116. S $56^{\circ} 45^{\prime} 33^{\prime \prime}$ E a distance of 32.71 feet; 117. S $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 34.02 feet; 118. S $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 35.06 feet; 119. S $46^{\circ} 14^{\prime} 32^{\prime \prime}$ E a distance of 33.54 feet; 120. S $46^{\circ} 05^{\prime} 49^{\prime \prime}$ E a distance of 31.95 feet; 121. S $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 33.28 feet; 122. S $46^{\circ} 33^{\prime} 23^{\prime \prime}$ E a distance of 34.15 feet; 123. S $45^{\circ} 20^{\prime} 144^{\prime \prime} \mathrm{E}$ a distance of 34.73 feet; 124. S $45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 33.04 feet; 125. S $45^{\circ} 18^{\prime} 29^{\prime \prime}$ E a distance of 32.28 feet; 126. $S 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 31.87 feet; 127. S $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 32.58 feet; 128. S $44^{\circ} 56^{\prime} 55^{\prime \prime}$ E a distance of 26.51 feet; 129. $S 42^{\circ} 17^{\prime} 50 "$ E a distance of 25.71 feet; 130. $S 41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 35.65 feet; 131. S $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 32.31 feet; 132. S $41^{\circ} 30^{\prime} 58^{\prime \prime}$ E a distance of 32.61 feet; 133. S $39^{\circ} 40^{\prime} 26^{\prime \prime}$ E a distance of 30.10 feet; 134. S $43^{\circ} 51^{\prime} 36^{\prime \prime}$ E a distance of 31.28 feet; 135. $S 47^{\circ} 25^{\prime} 27^{\prime \prime}$ E a distance of 31.08 feet; 136. $S 47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 35.15 feet;
137. $\mathrm{S} 46^{\circ} 02^{\prime} 34^{\prime \prime}$ E a distance of 25.97 feet;
138. S $38^{\circ} 52^{\prime} 14^{\prime \prime}$ E a distance of 38.09 feet;
139. S $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.44 feet;
140. S $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 27.32 feet;
141. S $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 24.48 feet;
142. S $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 31.32 feet;
143. S $49^{\circ} 29^{\prime} 24^{\prime \prime}$ E a distance of 26.70 feet;
144. S $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
145. S $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of 33.59 feet;
146. S $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 33.52 feet;
147. S $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 29.16 feet;
148. S $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.06 feet;
149. S $49^{\circ} 06^{\prime} 25^{\prime \prime}$ E a distance of 26.55 feet;
150. $S 45^{\circ} 20^{\prime} 47^{\prime \prime}$ E a distance of 27.74 feet;
151. S $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 27.96 feet;
152. S $42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 30.25 feet;
153. S $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.83 feet;
154. S $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 30.46 feet;
155. S $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 25.88 feet;
156. $\mathrm{S} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 27.54 feet;
157. $\mathrm{S} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 28.13 feet;
158. S $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 27.49 feet;
159. S $47^{\circ} 37^{\prime} 34^{\prime \prime}$ E a distance of 28.24 feet;
160. S $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 28.91 feet;
161. S $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
162. S $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 30.55 feet;
163. S $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 28.19 feet;
164. S $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{E}$ a distance of 33.90 feet;
165. S $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 25.59 feet;
166. S $50^{\circ} 23^{\prime} 24^{\prime \prime}$ E a distance of 26.25 feet;
167. S $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 27.86 feet;
168. S $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 29.88 feet;
169. S $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
170. S $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
171. S $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 31.05 feet;
172. S $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 25.85 feet;
173. S $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 27.06 feet;
174. S $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
175. S $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.20 feet;
176. S $54^{\circ} 58^{\prime} 57{ }^{\prime \prime}$ E a distance of 28.04 feet;
177. S $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 25.03 feet;
178. S $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 29.46 feet;
179. S $68^{\circ} 24^{\prime} 20^{\prime \prime}$ E a distance of 27.25 feet;
180. S $67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 31.55 feet;
181. S $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 30.04 feet;
182. S $69^{\circ} 23^{\prime} 51^{\prime \prime}$ E a distance of 31.51 feet;
183. S $69^{\circ} 16^{\prime} 06^{\prime \prime}$ E a distance of 30.58 feet;
184. S $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 29.60 feet;
185. S $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 28.11 feet;
186. S $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
187. S $76^{\circ} 41^{\prime} 49^{\prime \prime}$ E a distance of 29.15 feet;
188. S $81^{\circ} 25^{\prime} 50$ " E a distance of 28.60 feet;
189. S $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.17 feet;
190. S $85^{\circ} 57^{\prime} 08^{\prime \prime}$ E a distance of 28.99 feet;
191. S $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 29.44 feet;
192. $\mathrm{S} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 25.81 feet;
193. S $82^{\circ} 55^{\prime} 20^{\prime \prime}$ E a distance of 27.68 feet;
194. S $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 32.67 feet;
195. S $85^{\circ} 25^{\prime} 50$ " E a distance of 33.32 feet;
196. S $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 30.91 feet;
197. N $89^{\circ} 52^{\prime} 43^{\prime \prime}$ E a distance of 27.50 feet;
198. S $85^{\circ} 37^{\prime} 54^{\prime \prime}$ E a distance of 30.90 feet;
199. S $75^{\circ} 08^{\prime} 144^{\prime \prime} \mathrm{E}$ a distance of 35.56 feet;
200. S $53^{\circ} 47^{\prime} 50$ " E a distance of 29.23 feet;
201. S $38^{\circ} 37^{\prime} 56^{\prime \prime}$ E a distance of 34.32 feet;
202. S $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 33.14 feet;
203. S $07^{\circ} 44^{\prime} 55^{\prime \prime}$ E a distance of 32.64 feet; 204. S $04^{\circ} 13^{\prime} 02^{\prime \prime}$ E a distance of 31.99 feet; 205. S $00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 31.57 feet; 206. S $01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.44 feet; 207. S $00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 32.16 feet;
208. S $02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
209. S $06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 38.26 feet;
210. S $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 37.16 feet;
211. S $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
212. $S 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 45.06 feet;
213. S $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
214. $\mathrm{S} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 30.05 feet;
215. $\mathrm{S} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 38.41 feet;
216. S $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 34.91 feet;
217. S $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 32.47 feet;
218. S $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 32.66 feet;
219. S $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 35.71 feet;
220. S $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 32.11 feet;
221. S $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
222. S $19^{\circ} 00^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 35.03 feet;
223. S $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
224. S $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.35 feet;
225. S $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 27.80 feet;
226. S $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 47.10 feet;
227. S $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.86 feet;
228. S $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 15.92 feet;
229. S $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 30.16 feet;
230. S $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
231. S $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 31.40 feet;
232. S $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.62 feet;
233. S $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 25.34 feet;
234. S $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 19.58 feet;
235. S $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 7.58 feet;
236. S $32^{\circ} 05^{\prime} 32^{\prime \prime}$ E a distance of 27.59 feet;
237. $S 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{E}$ a distance of 29.13 feet;
238. S $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 27.04 feet;
239. S $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 25.73 feet;
240. S $54^{\circ} 46^{\prime} 58^{\prime \prime}$ E a distance of 26.38 feet;
241. $S 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 30.82 feet;
242. S $59^{\circ} 18^{\prime} 04^{\prime \prime}$ E a distance of 25.17 feet;
243. S $63^{\circ} 19^{\prime} 05^{\prime \prime}$ E a distance of 29.27 feet;
244. S $60^{\circ} 16^{\prime} 48^{\prime \prime}$ E a distance of 30.28 feet;
245. S $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 33.01 feet;
246. S $61^{\circ} 28^{\prime} 38^{\prime \prime}$ E a distance of 33.37 feet;
247. S $55^{\circ} 46^{\prime} 17{ }^{\prime \prime}$ E a distance of 29.95 feet;
248. S $56^{\circ} 17^{\prime} 05^{\prime \prime}$ E a distance of 38.86 feet;
249. S $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 57.67 feet;
250. S $48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{E}$ a distance of 91.48 feet;
251. S $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 48.20 feet; 252. S $43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 41.87 feet; 253. S $45^{\circ} 38^{\prime} 04^{\prime \prime}$ E a distance of 24.91 feet; 254. S $49^{\circ} 36^{\prime} 04^{\prime \prime}$ E a distance of 29.00 feet; 255. S $53^{\circ} 53^{\prime} 44^{\prime \prime}$ E a distance of 30.11 feet;
256. S $58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 15.49 feet to the point of intersection with the south line of the $\mathrm{SE} 1 / 4$ of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along said south line of said SE $1 / 4$ of said Section 18 a distance of 39.68 feet to the point of intersection with the westerly and southerly edge of said Lake Gulch Road;
thence along said westerly and southerly edge of said Lake Gulch Road the following 259 courses:

1. $\mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 14.21 feet;
2. $\mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.59 feet;
3. $N 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
4. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.82 feet;
5. N $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 47.21 feet;
6. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 90.36 feet;
7. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 56.22 feet;
8. $\mathrm{N} 56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
9. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 28.96 feet;
10. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
11. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.24 feet;
12. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
13. $\mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
14. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.18 feet;
15. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.69 feet;
16. $\mathrm{N} 54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
17. N $54^{\circ} 37^{\prime} 49{ }^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
18. $\mathrm{N} 52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
19. $\mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 32.98 feet;
20. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.58 feet;
21. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 16.35 feet;
22. $\mathrm{N} 11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 28.47 feet;
23. $\mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.32 feet;
24. N $11^{\circ} 03^{\prime} 12 " \mathrm{E}$ a distance of 31.96 feet;
25. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.10 feet;
26. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet;
27. $\mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.89 feet;
28. $\mathrm{N} 13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 16.19 feet;
29. N $11^{\circ} 455^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 30.01 feet;
30. N $14^{\circ} 06^{\prime} 12 " \mathrm{E}$ a distance of 47.47 feet;
31. N $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 27.77 feet;
32. N $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.78 feet;
33. N $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 33.77 feet;
34. N $19^{\circ} 00^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 35.82 feet;
35. $\mathrm{N} 20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
36. N $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 33.26 feet;
37. N $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 37.09 feet;
38. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 34.81 feet;
39. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 34.41 feet;
40. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.10 feet;
41. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet;
42. $\mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 28.32 feet;
43. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 28.10 feet;
44. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 43.15 feet;
45. $\mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.96 feet;
46. N $16^{\circ} 17{ }^{\prime} 42^{\prime \prime}$ E a distance of 33.64 feet;
47. $\mathrm{N} 06^{\circ} 12^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of 35.66 feet;
48. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 27.09 feet;
49. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 31.86 feet;
50. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
51. $\mathrm{N} 00^{\circ} 41^{\prime} 588^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
52. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 30.37 feet;
53. N $07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
54. $\mathrm{N} 18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 27.17 feet;
55. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.41 feet;
56. N $53^{\circ} 47^{\prime} 50$ " W a distance of 22.16 feet;
57. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 29.40 feet;
58. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 28.02 feet;
59. S $89^{\circ} 52^{\prime} 43 \prime \mathrm{~W}$ a distance of 27.21 feet;
60. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.81 feet;
61. N $85^{\circ} 25^{\prime} 50$ " W a distance of 33.93 feet;
62. N $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 33.15 feet;
63. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.67 feet;
64. $\quad \mathrm{N} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.38 feet;
65. N $85^{\circ} 10^{\prime} 50{ }^{\prime \prime} \mathrm{W}$ a distance of 29.07 feet;
66. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.87 feet;
67. N $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 29.04 feet;
68. N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
69. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.74 feet;
70. N $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
71. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet;
72. N $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.91 feet;
73. N $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.63 feet;
74. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.56 feet;
75. N $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
76. $\mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet;
77. $N 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.25 feet;
78. $N 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 31.29 feet;
79. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 26.50 feet;
80. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.22 feet;
81. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 28.94 feet;
82. N $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 31.12 feet;
83. $\mathrm{N} 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 26.08 feet;
84. N $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
85. N $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
86. N $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.17 feet;
87. N $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.94 feet;
88. N $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.51 feet;
89. N $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 27.58 feet;
90. N $50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 25.21 feet;
91. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 24.95 feet;
92. $\mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 34.13 feet;
93. $\mathrm{N} 52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.67 feet;
94. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.14 feet;
95. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 31.07 feet;
96. N $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.28 feet;
97. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.86 feet;
98. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.28 feet;
99. $\quad \mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.69 feet;
100. N $42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.59 feet;
101. N $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 27.43 feet;
102. N $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
103. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
104. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
105. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.46 feet;
106. N $45^{\circ} 20^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 26.75 feet;
107. N $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet; 108. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 23.97 feet; 109. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.27 feet; 110. $\mathrm{N} 61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.19 feet; 111. $\mathrm{N} 61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.99 feet; 112. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet; 113. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 30.84 feet; 114. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 115. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 26.10 feet; 116. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.77 feet; 117. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet; 118. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.74 feet; 119. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 24.23 feet; 120. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 121. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.87 feet; 122. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 32.77 feet; 123. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet; 124. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.25 feet; 125. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 126. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.49 feet; 127. N $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet; 128. $\mathrm{N} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 25.56 feet; 129. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.68 feet; 130. $\mathrm{N} 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 131. N $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.15 feet; 132. $\mathrm{N} 45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet; 133. $\mathrm{N} 45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 34.45 feet; 134. N $46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 33.75 feet; 135. N $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.36 feet; 136. N $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 32.17 feet; 137. $\mathrm{N} 46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet; 138. $\mathrm{N} 47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
108. N $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 32.26 feet; 140. N $56^{\circ} 45^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 30.70 feet;
109. N $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.38 feet;
110. $\mathrm{N} 66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
111. N $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 31.64 feet;
112. N $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
113. N $64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 31.24 feet;
114. N $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
115. N $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.37 feet;
116. N $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 30.86 feet;
117. N $57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.66 feet;
118. N $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
119. N $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.31 feet;
120. N $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
121. $\mathrm{N} 58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 27.42 feet;
122. N $57^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.06 feet;
123. N $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.27 feet;
124. N $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
125. N $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 27.45 feet;
126. N $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.72 feet;
127. N $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 29.69 feet;
128. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
129. N $50^{\circ} 32^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 30.76 feet;
130. N $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
131. N $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
132. $\mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 33.97 feet;
133. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 36.03 feet;
134. N $34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.03 feet;
135. N $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.64 feet;
136. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
137. N $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 38.14 feet;
138. N $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
139. $\mathrm{N} 28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.03 feet;
140. N $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.41 feet;
141. N $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.93 feet; 174. N $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.27 feet; 175. N $31^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 34.15 feet; 176. N $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 30.56 feet; 177. N $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet; 178. N $55^{\circ} 33^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet; 179. N $61^{\circ} 36^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.13 feet; 180. N $63^{\circ} 34^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 26.32 feet; 181. $\mathrm{N} 64^{\circ} 31^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet; 182. $\mathrm{N} 67^{\circ} 22^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet; 183. N $69^{\circ} 56^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet; 184. N $71^{\circ} 44^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.36 feet; 185. N $73^{\circ} 18^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 30.03 feet; 186. N $77^{\circ} 37^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet; 187. $\mathrm{N} 82^{\circ} 16^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 26.04 feet; 188. $\mathrm{N} 88^{\circ} 32^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 28.15 feet; 189. S $89^{\circ} 07^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 25.28 feet; 190. S $87^{\circ} 57^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 28.75 feet; 191. S $89^{\circ} 11^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.08 feet; 192. S $89^{\circ} 11^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 25.02 feet; 193. N $89^{\circ} 16^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet; 194. N $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 29.71 feet; 195. S $89^{\circ} 45^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 26.33 feet; 196. S $87^{\circ} 30^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 24.87 feet; 197. S $85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet; 198. $\mathrm{S} 82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 25.77 feet; 199. S $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.14 feet; 200. S $79^{\circ} 51^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 29.85 feet; 201. S $79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.22 feet; 202. S $77^{\circ} 56^{\prime} 07{ }^{\prime \prime} \mathrm{W}$ a distance of 54.21 feet; 203. S $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet; 204. S $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
142. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.26 feet;
143. $S 76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
144. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.14 feet;
145. S $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 34.96 feet;
146. S $78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet;
147. S $79^{\circ} 17^{\prime} 59{ }^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
148. S $76^{\circ} 41^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 24.88 feet;
149. $\mathrm{S} 78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 27.26 feet;
150. S $78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 28.33 feet;
151. S $77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
152. S $75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.46 feet;
153. $\mathrm{S} 74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 27.02 feet;
154. S $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
155. S $68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.19 feet;
156. S $72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 26.92 feet;
157. S $72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
158. S $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
159. S $68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
160. S $68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 28.31 feet;
161. S $68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 28.95 feet;
162. S $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.75 feet;
163. S $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
164. S $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.76 feet;
165. S $74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.07 feet;
166. S $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 27.01 feet;
167. S $77^{\circ} 53^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.96 feet;
168. S $80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 37.64 feet;
169. S $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
170. S $83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.74 feet;
171. S $82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.30 feet;
172. S $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
173. $\mathrm{S} 80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
174. S $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
175. S $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 37.31 feet;
176. S $78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 25.19 feet;
177. S $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 25.31 feet;
178. S $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
179. S $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.66 feet;
180. S $82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
181. S $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.37 feet;
182. $\mathrm{S} 84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
183. S $85^{\circ} 29^{\prime} 19 " \mathrm{~W}$ a distance of 28.10 feet;
184. S $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 26.80 feet;
185. $\mathrm{S} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 37.12 feet;
186. N $89^{\circ} 43^{\prime} 04 " \mathrm{~W}$ a distance of 35.66 feet;
187. N $88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 37.23 feet;
188. N $88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
189. N $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 34.65 feet;
190. N $88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.41 feet;
191. N $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.21 feet;
192. N $86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 31.47 feet;
193. N $85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 32.34 feet;
194. N $84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{W}$ a distance of 33.73 feet;
195. N $85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 35.41 feet;
196. N $84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 11.88 feet to the point of intersection with the east line of said NE $1 / 4$ of said Section 13;
thence $\mathrm{N} 00^{\circ} 14^{\prime} 12{ }^{\prime \prime} \mathrm{E}$ along said east line of said NE $1 / 4$ of said Section 13 a distance of 22.08 feet to the Point of Beginning containing 8.03 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 4 Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch Road, being the Point of Beginning.

Thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S 1/16th corner of Sections 17 and 18;
thence $\mathrm{S} 00^{\circ} 00^{\prime} 33^{\prime \prime} \mathrm{W}$ along the east line of the SE $1 / 4$ of said Section 18 a distance of 1312.03 feet to the SE corner of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along the south line of the SE $1 / 4$ of said Section 18 a distance of 387.79 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 15.49 feet;
2. $\mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 30.11 feet;
3. N $49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 29.00 feet;
4. $\quad \mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 24.91 feet;
5. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.87 feet;
6. N $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 48.20 feet;
7. $\quad \mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 91.48 feet;
8. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 57.67 feet;
9. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.86 feet;
10. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 29.95 feet;
11. N $61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 33.37 feet;
12. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.01 feet;
13. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
14. N $63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.27 feet;
15. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.17 feet;
16. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 30.82 feet;
17. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 26.38 feet;
18. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
19. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
20. N $44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 29.13 feet;
21. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 27.59 feet;
22. $\mathrm{N} 33^{\circ} 47^{\prime} 37{ }^{\prime \prime} \mathrm{W}$ a distance of 7.58 feet;
23. N $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 19.58 feet;
24. N $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.34 feet;
25. N $11^{\circ} 03^{\prime} 12 " \mathrm{E}$ a distance of 31.62 feet;
26. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.40 feet;
27. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet;
28. $\mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.16 feet;
29. N $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 15.92 feet;
30. $\mathrm{N} 11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.86 feet;
31. $\mathrm{N} 14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.10 feet;
32. N $13^{\circ} 41^{\prime} 03{ }^{\prime \prime} \mathrm{E}$ a distance of 24.47 feet to the point of intersection with line 2-3 of the Rickard Lode, US Mineral Survey No. 16283;
thence $\mathrm{N} 67^{\circ} 02^{\prime} 38^{\prime \prime}$ E along said line 2-3 of said Rickard Lode a distance of 945.51 feet to corner No. 3 of said Rickard Lode;
thence $\mathrm{N} 23^{\circ} 02^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $3-4$ of said Rickard Lode a distance of 150.08 feet to corner No. 4 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Rickard Lode a distance of 153.49 feet to the point of intersection with line 3-4 of the Olivia Lode, US Mineral Survey No. 13916;
thence $S 29^{\circ} 39^{\prime} 14 " E$ along said line 3-4 a distance of 131.02 feet to corner No. 4 of said Olivia Lode;
thence $\mathrm{S} 60^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Olivia Lode a distance of 150.24 feet to corner No. 1 of said Olivia Lode;
thence $\mathrm{N} 29^{\circ} 41^{\prime} 13{ }^{\prime \prime} \mathrm{W}$ along line 1-2 of said Olivia Lode a distance of 148.78 to the point of intersection with said line 4-1 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along said line $4-1$ of said Rickard Lode a distance of 497.85 feet to the point of intersection with the easterly line of said Lake Gulch Road;
thence along said easterly edge of said Lake Gulch Road the following 14 courses:
33. $\mathrm{N} 31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 20.73 feet;
34. $\mathrm{N} 37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 32.47 feet;
35. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 34.91 feet;
36. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.41 feet;
37. $\quad \mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet;
38. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 30.28 feet;
39. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 45.06 feet;
40. $\quad \mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
41. N $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 37.16 feet;
42. $\mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 38.26 feet;
43. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 28.30 feet;
44. $\mathrm{N} 00^{\circ} 03^{\prime} 20{ }^{\prime \prime} \mathrm{W}$ a distance of 32.16 feet;
45. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.44 feet;
46. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 31.57 feet to the Point of Beginning, containing 20.72 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 5
Legal Description
A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $37^{\circ} 49^{\prime} 49^{\prime \prime}$ E a distance of $1,154.79$ feet to the intersection of line 3-4 of the Annex

Lode, US Mineral Survey No. 7799 with the easterly and northerly edge of Lake Gulch Road, County Road 6 being the Point of Beginning.

Thence $N 61^{\circ} 53^{\prime} 31^{\prime \prime}$ E along said line 3-4 of said Annex Lode a distance of 1064.95 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary; thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline of said NW $1 / 4$ and City of Black Hawk Patented Boundary a distance of 227.43 feet to the point of intersection with line 1-4 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{S} 39^{\circ} 30^{\prime} 42^{\prime \prime} \mathrm{W}$ along said line 1-4 of said St. Anthony Lode a distance of 328.85 feet to the point of intersection with said easterly and northerly edge of Lake Gulch Road;
thence along said easterly and northerly edge of Lake Gulch Road the following 8 courses:

1. $\mathrm{S} 79^{\circ} 21^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 10.12 feet;
2. $\quad \mathrm{S} 77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.90 feet;
3. $\quad \mathrm{S} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.64 feet;
4. $\quad \mathrm{S} 75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 32.92 feet;
5. $\quad \mathrm{S} 76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.21 feet;
6. S $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.36 feet;
7. $\quad \mathrm{S} 77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.86 feet;
8. $\quad \mathrm{S} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.75 feet to the point of intersection with line 1-2 of the Elizabeth Lode, US Mineral Survey No. 15894;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 46^{\prime \prime}$ E along said line 1-2 of said Elizabeth Lode a distance of 249.88 feet to the point of intersection with line 3-2 of the Black Diamond Lode, US Mineral Survey No. 17634;
thence $\mathrm{S} 63^{\circ} 58^{\prime} 12^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Black Diamond Lode a distance of 827.46 feet to the point of intersection with said easterly and northerly edge of said Lake Gulch Road;
thence along said easterly and northerly edge of said Lake Gulch Road the following 5 courses:
9. $\mathrm{S} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 18.54 feet;
10. $\quad \mathrm{S} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.51 feet;
11. $\quad \mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.72 feet;
12. $\quad \mathrm{S} 82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.87 feet;
13. $\quad \mathrm{S} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 22.34 feet to the Point of Beginning containing 2.58 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 6

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $20^{\circ} 56^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 997.85 feet to the point of intersection of line 3-4 of the Dale Lode, US Mineral Survey No. 13338 with line 21 of the Notaway Extension Lode, US Mineral Survey No. 9722 being the Point of Beginning.
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime} \mathrm{E}$ along said line 2-1 of said Notaway Extension Lode a distance of 105.93 feet to the point of intersection with line 1-5 of the Gulch Lode, US Mineral Survey No. 12784;
thence $\mathrm{N} 36^{\circ} 25^{\prime} 58^{\prime \prime}$ E along said line 1-5 of said Gulch Lode a distance of 382.53 feet to corner No. 5 of said Gulch Lode;
thence $\mathrm{N} 52^{\circ} 39^{\prime} 02^{\prime \prime} \mathrm{W}$ along line $5-4$ of said Gulch Lode a distance of 83.36 feet to the point of intersection with said Line 2-1 of said Notaway Extension Lode;
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime}$ E along said Line 2-1 of said Notaway Extension Lode a distance of 36.99 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline and City of Black Hawk Patented Boundary a distance of 756.52 feet to the point
of intersection with line 1-2 of the Annex Lode, US Mineral Survey No. 7799;
thence $\mathrm{S} 61^{\circ} 53^{\prime} 31^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Annex Lode a distance of 776.77 feet to the point of intersection with line 7-6 of said Dale Lode, US Mineral Survey No. 13338;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 00^{\prime \prime}$ E along said line 7-6 of said Dale Lode a distance of 409.81 feet to corner No. 6 of said Dale Lode;
thence $\mathrm{N} 50^{\circ} 28^{\prime} 19^{\prime \prime} \mathrm{W}$ along line 6-5 of said Dale Lode a distance of 74.00 feet to corner No. 5 of said Dale Lode;
thence $\mathrm{N} 89^{\circ} 24^{\prime} 17^{\prime \prime} \mathrm{W}$ along line 5-4 of said Dale Lode a distance of 97.24 feet to corner No. 4 of said Dale Lode;
thence S $39^{\circ} 23^{\prime} 43^{\prime \prime} \mathrm{W}$ along line $4-3$ of said Dale Lode a distance of 624.77 feet to the Point of Beginning containing 2.35 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 7 Legal Description

A parcel of land located in Sections 17 and 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence S $77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of 5,336.50 feet to a point on the easterly edge of Lake Gulch Road;
thence $\mathrm{S} 88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S $1 / 16$ th corner of Sections 17 and 18 being the Point of Beginning.
Thence N $27^{\circ} 33^{\prime} 11^{\prime \prime}$ W along the City of Black Hawk Boundary a distance of 938.48 feet to corner No. 4 of the Little Mattie Lode, US

Mineral Survey No. 970;
thence $\mathrm{N} 44^{\circ} 29^{\prime} 09^{\prime \prime}$ E along line 4-3 of said Little Mattie Lode a distance of 1500.03 feet to corner No. 3 of said Little Mattie Lode;
thence $\mathrm{N} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{E}$ along the City of Black Hawk Boundary a distance of 980.96 feet to the north-south centerline of the NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 01^{\circ} 03^{\prime} 00^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 1273.98 feet to the W $1 / 16$ th corner on the east-west centerline of said NW $1 / 4$ of Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 111.85 feet to the point of intersection with line 1-2 of the Mascot Lode, US Mineral Survey No. 845;
thence $\mathrm{S} 55^{\circ} 22^{\prime} 15^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Mascot Lode a distance of 100.62 feet to corner No. 2 of said Mascot Lode;
thence $\mathrm{S} 34^{\circ} 54^{\prime} 36^{\prime \prime} \mathrm{E}$ along line 2-3 of said Mascot Lode a distance of 146.65 feet to the point of intersection with the north-south centerline of the SW $1 / 4$ of said Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said SW $1 / 4$ of said Section 17 a distance of 1034.62 feet to the SW $1 / 16$ th corner of said Section 17;
thence $\mathrm{S} 88^{\circ} 35^{\prime} 30^{\prime \prime} \mathrm{W}$ along the east-west centerline of the SW $1 / 4$ of said Section 17 a distance of 1307.15 feet to the $S 1 / 16$ th corner of Sections 17 and 18, the Point of Beginning containing 63.62 acres more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 2 \\
\text { ORDINANCE 2020-2 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 1, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

# STATE OF COLORADO <br> COUNTY OF GILPIN <br> CITY OF BLACK HAWK 

## COUNCIL BILL NUMBER: CB2

ORDINANCE NUMBER: 2020-02

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 1, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of
$\qquad$

David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

Lake Gulch Whiskey Resort Annexation No. 1

## Legal Description

A parcel of land located in Sections 17 \& 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime \prime} 48^{\prime \prime}$ E a distance of 3,617.79 feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.

Thence S $47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Lode a distance of 296.23 feet to the point of intersection with line 3-2 of the Blow Out Lode, US Mineral Survey No. 18776;
thence N $19^{\circ} 46^{\prime} 26^{\prime \prime}$ E along said line 3-2 of said Blow Out Lode a distance of 361.74 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the $\mathrm{NE} 1 / 4$ and City of Black Hawk Patented Boundary a distance of 208.47 feet to the point of intersection with line 1-2 of the Great Britian Lode, US Mineral Survey No. 18776;
thence S $29^{\circ} 18^{\prime} 00^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Great Britian Lode a distance of 353.67 feet to corner No. 2 of said Great Britian Lode;
thence $\mathrm{S} 46^{\circ} 17^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-3 of said Great Britian Lode a distance of 131.10 feet to the point of intersection with line $4-1$ of said Williams Crossing Lode;
thence $S 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line $4-1$ of said Williams Crossing Lode a distance of 149.95 feet to the point of intersection with line 6-7 of said Great Britian Lode;
thence $\mathrm{N} 46^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ along said line 6-7 of said Great Britian Lode a distance of 142.56 feet to corner No. 7 of said Great Britian Lode;
thence $\mathrm{N} 29^{\circ} 19^{\prime} 49^{\prime \prime}$ E along line 7-8 of said Great Britian Lode a distance of 461.80 feet to the point of intersection with said east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence N $89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 474.24 feet to the point of intersection with line 16-15 of the Gold Tunnel No. 21 Lode, US Mineral Survey No. 4589;
thence $S 43^{\circ} 56^{\prime} 47^{\prime \prime} \mathrm{W}$ along said line $16-15$ of the Gold Tunnel No. 21 Lode a distance of 81.81 feet to corner No. 15 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{S} 46^{\circ} 21^{\prime} 54$ " E along line $15-14$ of the said Gold Tunnel No. 21 Lode, a distance of 150.01 feet to corner no. 14 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{N} 43^{\circ} 56^{\prime} 15{ }^{\prime \prime} \mathrm{E}$ along line $14-13$ of the said Gold Tunnel No. 21 Lode, a distance of 227.88 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence N $89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented

Boundary a distance of 1040.34 feet to the N $1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime}$ E along the east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 165.11 feet to the point of intersection with line 3-2 of said East Williams Lode, US Mineral Survey No. 588;
thence S $47^{\circ} 19^{\prime} 59^{\prime \prime}$ W along said line 3-2 of the East Williams Lode a distance of 204.89 feet to corner No. 2 of said East Williams Lode;
thence $\mathrm{S} 42^{\circ} 44^{\prime} 49^{\prime \prime}$ E along line 2-1 of said East Williams Lode a distance of 152.37 feet to corner No. 1 of said East Williams Lode;
thence $\mathrm{N} 47^{\circ} 20^{\prime} 23^{\prime \prime}$ E along line 1-4 of said East Williams Lode a distance of 385.62 feet to the point of intersection with said east-west centerline of the NW $1 / 4$ of said Section 17 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime}$ E along said east-west centerline of the NW $1 / 4$ of said Section 17 and City of Black Hawk Patented Boundary a distance of 906.14 feet to the NW 1/16th corner of said Section 17;
thence $\mathrm{N} 01^{\circ} 02^{\prime} 29^{\prime \prime} \mathrm{W}$ along the north-south centerline of said $\mathrm{NW} 1 / 4$ of said Section 17 and along the City of Black Hawk Patented Boundary a distance of 164.47 feet to the point of intersection with line 1-2 of the Mary Miller Lode, US Mineral Survey No. 969;
thence $\mathrm{N} 44^{\circ} 28^{\prime} 35^{\prime \prime}$ E along said line 1-2 of said Mary Miller Lode a distance of 60.92 feet to the point of intersection with said City of Black Hawk Patented Boundary;
thence $\mathrm{N} 88^{\circ} 00^{\prime} 45^{\prime \prime} \mathrm{E}$ along said City of Black Hawk Patented Boundary a distance of 96.85 feet;
thence $\mathrm{N} 00^{\circ} 18^{\prime} 42^{\prime \prime} \mathrm{W}$ along said City of Black Hawk Patented Boundary a distance of 91.93 feet to the point of intersection with line 6-5 of the Morgan Placer US Mineral Survey No. 226;
thence $S 42^{\circ} 19^{\prime} 52^{\prime \prime}$ E along said line $6-5$ of said Morgan Placer a distance of 92.75 feet to corner No. 5 of said Morgan Placer;
thence S $41^{\circ} 03^{\prime} 33^{\prime \prime}$ E along Colorado Department of Transportation deed recorded at Reception No. 141956 Gilpin County Records a distance of 12.42 feet to a CDOT $31 / 4$ " aluminum cap;
thence $S 49^{\circ} 47^{\prime} 21^{\prime \prime}$ E continuing along said Reception No. 141956 a distance of 43.07 feet to the point of intersection with line 3-4 of said Mary Miller Lode;
thence S $44^{\circ} 27^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Mary Miller Lode a distance of 340.78 feet to the north-south centerline of said NW $1 / 4$ of said Section 17;
thence S $42^{\circ} 07^{\prime} 27^{\prime \prime}$ W a distance of 980.96 feet to corner No. 3 of the Little Mattie Lode, US Mineral Survey No. 970;
thence N $45^{\circ} 33^{\prime} 27^{\prime \prime} \mathrm{W}$ along line 3-2 of said Little Mattie Lode a distance of 149.96 feet to corner No. 2 of said Little Mattie Lode;
thence S $44^{\circ} 28^{\prime} 40^{\prime \prime}$ W along line 2-1 of said Little Mattie Lode a distance of 1499.34 feet to corner No. 1 of said Little Mattie Lode;
thence S $45^{\circ} 17^{\prime} 32^{\prime \prime}$ E along line 1-4 of said Little Mattie Lode a distance of 149.75 feet to corner No. 4 of said Little Mattie Lode;
thence $\mathrm{S} 27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 938.48 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18 ;
thence $\mathrm{N} 88^{\circ} 20^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 663.62 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 31.99 feet;
2. $\mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.64 feet;
3. $\quad \mathrm{N} 18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 33.14 feet;
4. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.32 feet;
5. N $53^{\circ} 47^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
6. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.56 feet;
7. $\mathrm{N} 85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.90 feet;
8. $\quad \mathrm{S} 89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
9. $\mathrm{N} 87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
10. N $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 33.32 feet;
11. $\mathrm{N} 83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 32.67 feet;
12. $\mathrm{N} 82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.68 feet;
13. $\mathrm{N} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.81 feet;
14. $\mathrm{N} 85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.44 feet;
15. $\mathrm{N} 85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
16. $\mathrm{N} 85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
17. $\mathrm{N} 81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.60 feet;
18. $\mathrm{N} 76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 29.15 feet;
19. $\mathrm{N} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.55 feet;
20. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.11 feet;
21. N $69^{\circ} 40^{\prime} 34{ }^{\prime \prime} \mathrm{W}$ a distance of 29.60 feet;
22. N $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.58 feet;
23. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
24. $\mathrm{N} 69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.04 feet;
25. N $67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.55 feet;
26. N $68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.25 feet;
27. N $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
28. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 25.03 feet;
29. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.04 feet;
30. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.20 feet;
31. $\mathrm{N} 61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
32. $\mathrm{N} 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 25.01 feet to a point on line $1-4$ of Washingtons Day Lode, US Mineral Survey 11885;
thence along said line $1-4 \mathrm{~N} 39^{\circ} 23^{\prime} 17{ }^{\prime \prime}$ E a distance of 633.47 feet to corner No. 4 of said Washingtons

## Day Lode;

thence along line 4-3 of said Washingtons Day Lode N $45^{\circ} 12^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 150.58 feet to corner No. 3 of said Washingtons Day Lode;
thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of $1,096.94$ feet;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18{ }^{\prime \prime} \mathrm{E}$ a distance of 320.86 feet;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 314.68 feet;
thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 710.26 feet to the Point of Beginning,
EXCEPT the Denver Lode, US Mineral Survey 745, total parcel containing 100.5 acres gross, 95.35 acres net more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 3 \\
\text { ORDINANCE 2020-3 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 2, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

STATE OF COLORADO<br>COUNTY OF GILPIN CITY OF BLACK HAWK

## COUNCIL BILL NUMBER: CB3

ORDINANCE NUMBER: 2020-03

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 2, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of
$\qquad$

David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 2

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $11 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12$ " E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime}$ E a distance of 3,617.79 feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.
Thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 710.26 feet;
thence N $47^{\circ} 00^{\prime} 48^{\prime \prime}$ E a distance of 314.68 feet;
thence $\mathrm{S} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 320.86 feet;
thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E a distance of 1096.94 feet to corner No. 3 of the Washingtons Day Lode, US Mineral Survey 11885;
thence along line 3-2 of said Washingtons Day Lode S $39^{\circ} 23^{\prime} 18^{\prime \prime}$ W a distance of 664.25 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge the following 42 courses:

1. $\mathrm{N} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 24.56 feet;
2. $\mathrm{N} 50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
3. $\mathrm{N} 53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 25.59 feet;
4. N $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 33.90 feet;
5. $\mathrm{N} 52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.19 feet;
6. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
7. $\mathrm{N} 49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
8. $\quad \mathrm{N} 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
9. $\quad \mathrm{N} 47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.24 feet;
10. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.49 feet;
11. $\mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.13 feet;
12. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 27.54 feet;
13. $\mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 25.88 feet;
14. $\mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.46 feet;
15. $\mathrm{N} 37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 28.83 feet;
16. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
17. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.96 feet;
18. $\mathrm{N} 45^{\circ} 20^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 27.74 feet;
19. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 26.55 feet;
20. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
21. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 29.16 feet;
22. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.52 feet;
23. $\mathrm{N} 61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.59 feet;
24. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 26.42 feet;
25. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.70 feet;
26. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.32 feet;
27. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 24.48 feet;
28. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 27.32 feet;
29. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
30. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
31. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
32. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 35.15 feet;
33. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.08 feet;
34. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 31.28 feet;
35. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.10 feet;
36. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.61 feet;
37. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.31 feet;
38. $\mathrm{N} 41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.65 feet;
39. N $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.71 feet;
40. $\mathrm{N} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 26.51 feet;
41. $\mathrm{N} 47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.58 feet;
42. $\quad \mathrm{N} 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet to the point of intersection with line $4-3$ of the Tariff Lode, US Mineral Survey No. 966;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime}$ E along said line 4-3 of said Tariff Lode a distance of 1068.76 feet to corner No. 3 of said Tariff Lode;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ along line 3-2 of said Tariff Lode a distance of 149.95 feet to corner No. 2 of said Tariff lode;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ along line 2-1 of said Tariff Lode a distance of 367.57 feet to the point of intersection with line 2-3 of the Williams Lode, US Mineral Survey No. 15824;
thence $\mathrm{N} 47^{\circ} 53^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 2-3 of said Williams Lode a distance of 660.81 feet to the point of
intersection with line 6-5 of the East Clay County Lode, US Mineral Survey No. 18776;
thence S $17^{\circ} 31^{\prime} 51^{\prime \prime}$ W along said line $6-5$ of said East Clay County Lode a distance of 88.60 feet to the point of intersection with line 3-2 of the Clay County Lode, US Mineral Survey No. 329A;
thence N $51^{\circ} 26^{\prime} 36^{\prime \prime}$ W along said line 3-2 of said Clay County Lode a distance of 26.56 feet to corner No. 4 of said Clay County Lode, US Mineral Survey No. 360;
thence N $52^{\circ} 11^{\prime} 23^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Clay County Lode, US Mineral Survey No. 360 a distance of 114.49 feet to corner No. 2 of said Clay County Lode, US Mineral Survey No. 329A;
thence S $37^{\circ} 28^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-1 of said Clay County Lode, US Mineral Survey No. 329A a distance of 547.96 feet to the point of intersection with line $4-1$ of the Clay County Lode, US Mineral Survey No. 329B;
thence N $54^{\circ} 01^{\prime} 59^{\prime \prime}$ W along said line 4-1 of the Clay County Lode, US Mineral Survey No. 329B a distance of 109.70 feet to corner No. 1 of said Clay County Lode, US Mineral Survey No. 329B;
thence S $50^{\circ} 08^{\prime} 44^{\prime \prime} \mathrm{W}$ along line 1-2 of said Clay County Lode, US Mineral Survey No. 329B a distance of 172.25 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 12 courses:
43. $\mathrm{N} 52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 4.07 feet;
44. N $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
45. $\mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.84 feet;
46. $\quad \mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 29.52 feet;
47. $\mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 32.08 feet;
48. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.04 feet;
49. $\mathrm{N} 34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 32.85 feet;
50. $\quad \mathrm{N} 32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
51. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
52. N $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 37.67 feet;
53. $\mathrm{N} 28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.05 feet;
54. $\mathrm{N} 28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 1.33 feet to the point of intersection with line $1-2$ of the Caledonia Lode, US Mineral Survey No. MS 519;
thence N $49^{\circ} 29^{\prime} 477^{\prime \prime}$ E along said line 1-2 of said Caledonia Lode a distance of 724.79 feet to the point of intersection with line 6-5 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence N $31^{\circ} 43^{\prime} 33^{\prime \prime} \mathrm{W}$ along said line $6-5$ of said Golden Gad Lode a distance of 50.45 feet to the point of intersection with the east-west centerline of said NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence S $89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline of the NW $1 / 4$ and along the City of Black Hawk Patented Boundary a distance of 258.49 feet to the $\mathrm{N} 1 / 16$ th corner on the north-south centerline of said Section 18;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along the east-west centerline of the $\mathrm{NE} 1 / 4$ of said Section 18 and along the City of Black Hawk Patented Boundary a distance of 246.17 feet to the point of intersection with line 3-4 of the Clay County Lode, US Mineral Survey No. 360;
thence S $27^{\circ} 50^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Clay County Lode a distance of 157.91 feet to the point
of intersection with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824, the Point of Beginning, containing 29.21 acres more or less.

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\begin{gathered}
\text { COUNCIL BILL } 4 \\
\text { ORDINANCE 2020-4 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 3, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
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STATE OF COLORADO<br>COUNTY OF GILPIN CITY OF BLACK HAWK

## COUNCIL BILL NUMBER: CB4

ORDINANCE NUMBER: 2020-04

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 3, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by
statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this ___ day of , 2020.

David D. Spellman, Mayor

## ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 3

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E along the east line of the $\mathrm{NE} 1 / 4$ of said Section 13 a distance of 876.53 feet to the point of intersection with the northerly and easterly edge of Lake Gulch Road, County Road 6 . Thence along said northerly and easterly edge of Lake Gulch Road the following 66 courses:

1. $S 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 13.72 feet;
2. $\quad \mathrm{S} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 35.41 feet;
3. $S 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
4. $\quad \mathrm{S} 85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 32.03 feet;
5. $\quad \mathrm{S} 86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
6. $\quad \mathrm{S} 87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.82 feet;
7. $S 88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 29.18 feet;
8. $\quad S 88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 34.66 feet;
9. $\quad \mathrm{S} 88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 25.20 feet;
10. $S 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.97 feet;
11. $S 89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 35.02 feet;
12. $\mathrm{N} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 36.59 feet;
13. N $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 26.26 feet;
14. N $85^{\circ} 29^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 27.58 feet;
15. N $84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.08 feet;
16. N $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.85 feet;
17. $\mathrm{N} 82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 28.00 feet;
18. N $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 26.68 feet;
19. N $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 25.60 feet;
20. $\mathrm{N} 77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 25.55 feet;
21. N $78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 25.48 feet;
22. N $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 37.64 feet;
23. N $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 26.32 feet;
24. $\quad \mathrm{N} 80^{\circ} 28^{\prime} 29^{\prime \prime}$ E a distance of 26.01 feet;
25. $\quad \mathrm{N} 80^{\circ} 13^{\prime} 10^{\prime \prime}$ E a distance of 25.64 feet;
26. $\mathrm{N} 82^{\circ} 00^{\prime} 47{ }^{\prime \prime}$ E a distance of 25.87 feet;
27. $\quad \mathrm{N} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 25.72 feet;
28. $\quad \mathrm{N} 81^{\circ} 54^{\prime} 30^{\prime \prime}$ E a distance of 25.51 feet;
29. $N 80^{\circ} 36^{\prime} 50^{\prime \prime}$ E a distance of 36.86 feet;
30. N $77^{\circ} 53^{\prime} 04$ " E a distance of 25.17 feet;
31. N $76^{\circ} 30^{\prime} 21^{\prime \prime}$ E a distance of 26.42 feet;
32. N $74^{\circ} 45^{\prime} 56^{\prime \prime}$ E a distance of 26.43 feet;
33. $N 73^{\circ} 10^{\prime} 29^{\prime \prime}$ E a distance of 27.05 feet;
34. $N 71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.52 feet;
35. N $69^{\circ} 29^{\prime} 32^{\prime \prime}$ E a distance of 29.17 feet;
36. $N 68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 28.70 feet;
37. $N 68^{\circ} 11^{\prime} 55^{\prime \prime}$ E a distance of 28.34 feet;
38. $N 68^{\circ} 11^{\prime} 21^{\prime \prime}$ E a distance of 28.58 feet;
39. N $70^{\circ} 17^{\prime} 29^{\prime \prime}$ E a distance of 27.99 feet;
40. $\quad \mathrm{N} 72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
41. $\quad \mathrm{N} 72^{\circ} 28^{\prime} 10^{\prime \prime}$ E a distance of 26.21 feet;
42. $\quad \mathrm{N} 68^{\circ} 41^{\prime} 24^{\prime \prime}$ E a distance of 27.08 feet;
43. N $71^{\circ} 51^{\prime} 48^{\prime \prime}$ E a distance of 27.85 feet;
44. $\quad \mathrm{N} 74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 27.76 feet;
45. $N 75^{\circ} 42^{\prime} 50^{\prime \prime}$ E a distance of 28.93 feet;
46. N $77^{\circ} 13^{\prime} 39^{\prime \prime}$ E a distance of 29.52 feet;
47. $N 78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 28.58 feet;
48. $N 78^{\circ} 32^{\prime} 38^{\prime \prime}$ E a distance of 26.85 feet;
49. N $76^{\circ} 41^{\prime} 51^{\prime \prime}$ E a distance of 25.03 feet;
50. $N 79^{\circ} 17{ }^{\prime} 59^{\prime \prime}$ E a distance of 29.12 feet;
51. $N 78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 5.49 feet;
52. $N 77^{\circ} 38^{\prime} 35^{\prime \prime}$ E a distance of 34.79 feet;
53. $\mathrm{N} 77^{\circ} 18^{\prime} 33^{\prime \prime}$ E a distance of 34.86 feet;
54. N $76^{\circ} 11^{\prime} 24^{\prime \prime}$ E a distance of 34.36 feet;
55. N $76^{\circ} 19^{\prime} 36^{\prime \prime}$ E a distance of 34.21 feet;
56. N $75^{\circ} 55^{\prime} 53^{\prime \prime}$ E a distance of 32.92 feet;
57. $\quad \mathrm{N} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 33.64 feet;
58. N $77^{\circ} 56^{\prime} 07^{\prime \prime}$ E a distance of 54.90 feet;
59. N $79^{\circ} 21^{\prime} 17{ }^{\prime \prime}$ E a distance of 32.59 feet;
60. N $79^{\circ} 51^{\prime} 30^{\prime \prime}$ E a distance of 30.19 feet;
61. $N 81^{\circ} 04^{\prime} 54^{\prime \prime}$ E a distance of 30.69 feet;
62. $N 82^{\circ} 42^{\prime} 42^{\prime \prime}$ E a distance of 26.71 feet;
63. $N 85^{\circ} 59^{\prime} 16^{\prime \prime}$ E a distance of 29.83 feet;
64. $N 87^{\circ} 30^{\prime} 36^{\prime \prime}$ E a distance of 25.59 feet;
65. $\mathrm{N} 89^{\circ} 45^{\prime} 47^{\prime \prime}$ E a distance of 26.85 feet;
66. S $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 21.27 feet to the point of intersection with line 3-2 of the St.

Anthony Lode, US Mineral Survey No. 19174;
thence N $39^{\circ} 31^{\prime} 27^{\prime \prime}$ E along said line $3-2$ of said St. Anthony Lode a distance of 246.50 feet to the point of intersection with line 1-6 of the Susan-Mary Lode, US Mineral Survey No. 694;
thence $S 19^{\circ} 06^{\prime} 00^{\prime \prime}$ E along said line 1-6 of said Susan-Mary Lode a distance of 35.27 feet to corner No. 6 of said Susan-Mary Lode;
thence $N 70^{\circ} 54^{\prime} 00^{\prime \prime}$ E along line $6-5$ of said Susan-Mary Lode a distance of 224.97 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18, the City of Black Hawk Patented Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Patented Boundary a distance of 553.67 feet to the point of intersection with line $4-3$ of the Golden Gad Lode, US Mineral Survey No. 13048;
thence $S 49^{\circ} 45^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line $4-3$ of said Golden Gad Lode a distance of 340.06 feet to corner No. 3 of said Golden Gad Lode;
thence $\mathrm{S} 63^{\circ} 17^{\prime} 40^{\prime \prime} \mathrm{W}$ along line $3-2$ of said Golden Gad Lode a distance of 259.61 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 178 courses:
79. S $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 20.45 feet;
80. S $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
81. S $31^{\circ} 20^{\prime} 23^{\prime \prime}$ E a distance of 35.62 feet;
82. S $29^{\circ} 21^{\prime} 33^{\prime \prime}$ E a distance of 35.80 feet;
83. S $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 35.14 feet;
84. S $28^{\circ} 15^{\prime} 54^{\prime \prime}$ E a distance of 26.48 feet;
85. S $28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 25.97 feet;
86. S $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 25.05 feet;
87. S $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 37.67 feet;
88. S $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 33.92 feet;
89. S $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 28.92 feet;
90. S $34^{\circ} 37^{\prime} 33^{\prime \prime}$ E a distance of 32.85 feet;
91. S $38^{\circ} 27^{\prime} 56^{\prime \prime}$ E a distance of 34.04 feet;
92. S $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 32.08 feet;
93. S $48^{\circ} 19^{\prime} 15^{\prime \prime}$ E a distance of 29.52 feet;
94. S $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 31.84 feet;
95. S $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet;
96. S $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 32.15 feet;
97. S $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet;
98. S $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.26 feet;
99. S $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.81 feet;
100. S $54^{\circ} 36^{\prime} 48^{\prime \prime}$ E a distance of 27.25 feet;
101. S $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
102. S $57^{\circ} 04^{\prime} 54^{\prime \prime}$ E a distance of 26.24 feet;
103. S $58^{\circ} 48^{\prime} 15^{\prime \prime}$ E a distance of 27.12 feet;
104. S $58^{\circ} 36^{\prime} 20^{\prime \prime}$ E a distance of 29.13 feet;
105. S $57^{\circ} 16^{\prime} 49$ " E a distance of 30.45 feet;
106. S $57^{\circ} 52^{\prime} 07^{\prime \prime}$ E a distance of 29.57 feet;
107. S $57^{\circ} 47^{\prime} 48^{\prime \prime}$ E a distance of 29.54 feet;
108. S $58^{\circ} 32^{\prime} 09^{\prime \prime}$ E a distance of 30.64 feet;
109. S $58^{\circ} 55^{\prime} 55^{\prime \prime}$ E a distance of 31.93 feet;
110. S $60^{\circ} 47^{\prime} 03^{\prime \prime}$ E a distance of 32.05 feet;
111. S $64^{\circ} 12^{\prime} 09^{\prime \prime}$ E a distance of 30.05 feet;
112. S $66^{\circ} 59^{\prime} 32^{\prime \prime}$ E a distance of 31.36 feet;
113. S $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 31.74 feet;
114. S $66^{\circ} 27^{\prime} 41^{\prime \prime}$ E a distance of 30.74 feet;
115. S $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 31.24 feet;
116. S $56^{\circ} 45^{\prime} 33^{\prime \prime}$ E a distance of 32.71 feet;
117. S $52^{\circ} 10^{\prime} 05^{\prime \prime}$ E a distance of 34.02 feet;
118. S $47^{\circ} 33^{\prime} 12^{\prime \prime}$ E a distance of 35.06 feet;
119. S $46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 33.54 feet;
120. S $46^{\circ} 05^{\prime} 49^{\prime \prime}$ E a distance of 31.95 feet;
121. S $47^{\circ} 24^{\prime} 34^{\prime \prime}$ E a distance of 33.28 feet;
122. S $46^{\circ} 33^{\prime} 23^{\prime \prime}$ E a distance of 34.15 feet;
123. S $45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 34.73 feet;
124. S $45^{\circ} 05^{\prime} 49$ " E a distance of 33.04 feet;
125. S $45^{\circ} 18^{\prime} 29^{\prime \prime}$ E a distance of 32.28 feet;
126. $S 44^{\circ} 25^{\prime} 34^{\prime \prime}$ E a distance of 31.87 feet;
127. S $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 32.58 feet;
128. $S 44^{\circ} 56^{\prime} 55^{\prime \prime}$ E a distance of 26.51 feet;
129. $S 42^{\circ} 17^{\prime} 50^{\prime \prime}$ E a distance of 25.71 feet;
130. S $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 35.65 feet;
131. S $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 32.31 feet;
132. S $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 32.61 feet;
133. $S 39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 30.10 feet;
134. $S 43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 31.28 feet;
135. $S 47^{\circ} 25^{\prime} 27^{\prime \prime}$ E a distance of 31.08 feet;
136. $S 47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 35.15 feet;
137. $S 46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 25.97 feet;
138. $\mathrm{S} 38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet;
139. $\mathrm{S} 33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.44 feet;
140. S $29^{\circ} 24^{\prime} 22^{\prime \prime}$ E a distance of 27.32 feet;
141. S $30^{\circ} 56^{\prime} 40^{\prime \prime}$ E a distance of 24.48 feet;
142. $\mathrm{S} 37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 31.32 feet;
143. $S 49^{\circ} 29^{\prime} 24^{\prime \prime}$ E a distance of 26.70 feet;
144. S $59^{\circ} 21^{\prime} 59^{\prime \prime}$ E a distance of 26.42 feet;
145. S $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of 33.59 feet;
146. S $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 33.52 feet;
147. S $59^{\circ} 58^{\prime} 24^{\prime \prime}$ E a distance of 29.16 feet;
148. $S 51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.06 feet;
149. S $49^{\circ} 06^{\prime} 25^{\prime \prime}$ E a distance of 26.55 feet;
150. $S 45^{\circ} 20^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 27.74 feet;
151. S $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 27.96 feet;
152. $S 42^{\circ} 43^{\prime} 23^{\prime \prime}$ E a distance of 30.25 feet;
153. S $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.83 feet;
154. $\mathrm{S} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 30.46 feet;
155. $S 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 25.88 feet;
156. $S 42^{\circ} 12^{\prime} 45^{\prime \prime}$ E a distance of 27.54 feet;
157. $\mathrm{S} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 28.13 feet;
158. S $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 27.49 feet;
159. S $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 28.24 feet;
160. $S 48^{\circ} 21^{\prime} 34^{\prime \prime}$ E a distance of 28.91 feet;
161. S $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
162. S $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 30.55 feet;
163. S $52^{\circ} 37^{\prime} 45^{\prime \prime}$ E a distance of 28.19 feet;
164. S $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{E}$ a distance of 33.90 feet;
165. S $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 25.59 feet;
166. S $50^{\circ} 23^{\prime} 24^{\prime \prime}$ E a distance of 26.25 feet;
167. $S 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 27.86 feet;
168. S $48^{\circ} 55^{\prime} 48^{\prime \prime}$ E a distance of 29.88 feet;
169. S $51^{\circ} 44^{\prime} 53^{\prime \prime}$ E a distance of 28.55 feet;
170. S $56^{\circ} 10^{\prime} 53^{\prime \prime}$ E a distance of 31.14 feet;
171. S $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 31.05 feet;
172. S $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 25.85 feet;
173. S $66^{\circ} 40^{\prime} 06 " \mathrm{E}$ a distance of 27.06 feet;
174. S $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
175. S $57^{\circ} 56^{\prime} 49^{\prime \prime}$ E a distance of 30.20 feet;
176. S $54^{\circ} 58^{\prime} 57^{\prime \prime}$ E a distance of 28.04 feet;
177. S $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 25.03 feet;
178. S $62^{\circ} 37^{\prime} 03^{\prime \prime}$ E a distance of 29.46 feet;
179. S $68^{\circ} 24^{\prime} 20^{\prime \prime}$ E a distance of 27.25 feet;
180. S $67^{\circ} 48^{\prime} 40^{\prime \prime}$ E a distance of 31.55 feet;
181. S $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 30.04 feet;
182. S $69^{\circ} 23^{\prime} 51 " \mathrm{E}$ a distance of 31.51 feet;
183. S $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 30.58 feet;
184. S $69^{\circ} 40^{\prime} 34 " \mathrm{E}$ a distance of 29.60 feet;
185. S $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 28.11 feet;
186. S $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
187. S $76^{\circ} 41^{\prime} 49^{\prime \prime}$ E a distance of 29.15 feet;
188. S $81^{\circ} 25^{\prime} 50$ " E a distance of 28.60 feet;
189. S $85^{\circ} 477^{\prime \prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.17 feet;
190. S $85^{\circ} 57^{\prime} 08^{\prime \prime}$ E a distance of 28.99 feet;
191. $\mathrm{S} 85^{\circ} 10^{\prime} 500^{\prime \prime} \mathrm{E}$ a distance of 29.44 feet;
192. S $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 25.81 feet;
193. S $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 27.68 feet;
194. S $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 32.67 feet;
195. S $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 33.32 feet;
196. S $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 30.91 feet;
197. N $89^{\circ} 52^{\prime} 43^{\prime \prime}$ E a distance of 27.50 feet;
198. S $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 30.90 feet;
199. S $75^{\circ} 08^{\prime} 14^{\prime \prime}$ E a distance of 35.56 feet;
200. S $53^{\circ} 47^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 29.23 feet;
201. S $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 34.32 feet;
202. S $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 33.14 feet;
203. S $07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 32.64 feet;
204. S $04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 31.99 feet;
205. S $00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 31.57 feet;
206. S $01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.44 feet;
207. S $00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 32.16 feet;
208. S $02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
209. S $06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 38.26 feet;
210. S $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 37.16 feet;
211. S $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
212. S $28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 45.06 feet;
213. S $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
214. $\mathrm{S} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 30.05 feet;
215. S $43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 38.41 feet;
216. S $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 34.91 feet;
217. S $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 32.47 feet;
218. S $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 32.66 feet;
219. S $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 35.71 feet;
220. S $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 32.11 feet;
221. S $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
222. S $19^{\circ} 00^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 35.03 feet;
223. S $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
224. S $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.35 feet;
225. S $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 27.80 feet;
226. S $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 47.10 feet;
227. S $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.86 feet;
228. $\mathrm{S} 13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 15.92 feet;
229. S $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 30.16 feet;
230. S $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
231. S $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 31.40 feet;
232. $\mathrm{S} 11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.62 feet;
233. S $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 25.34 feet;
234. S $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 19.58 feet;
235. S $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 7.58 feet;
236. S $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 27.59 feet;
237. $S 44^{\circ} 08^{\prime} 01{ }^{\prime \prime} \mathrm{E}$ a distance of 29.13 feet;
238. S $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 27.04 feet;
239. S $54^{\circ} 37^{\prime} 49^{\prime \prime}$ E a distance of 25.73 feet;
240. S $54^{\circ} 46^{\prime} 58^{\prime \prime}$ E a distance of 26.38 feet;
241. S $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 30.82 feet;
242. S $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 25.17 feet;
243. $S 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 29.27 feet;
244. S $60^{\circ} 16^{\prime} 48^{\prime \prime}$ E a distance of 30.28 feet;
245. S $61^{\circ} 399^{\prime \prime} 09^{\prime \prime}$ a distance of 33.01 feet;
246. S $61^{\circ} 28^{\prime} 38$ " E a distance of 33.37 feet;
247. S $55^{\circ} 46^{\prime} 17{ }^{\prime \prime}$ E a distance of 29.95 feet;
248. S $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 38.86 feet;
249. S $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 57.67 feet;
250. S $48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{E}$ a distance of 91.48 feet;
251. S $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 48.20 feet;
252. S $43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 41.87 feet;
253. S $45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 24.91 feet;
254. S $49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.00 feet;
255. S $53^{\circ} 53^{\prime} 444^{\prime \prime} \mathrm{E}$ a distance of 30.11 feet;
256. S $58^{\circ} 27^{\prime} 45^{\prime \prime}$ E a distance of 15.49 feet to the point of intersection with the south line of the $\mathrm{SE} 1 / 4$ of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along said south line of said SE $1 / 4$ of said Section 18 a distance of 39.68 feet to the point of intersection with the westerly and southerly edge of said Lake Gulch Road;
thence along said westerly and southerly edge of said Lake Gulch Road the following 259 courses:

1. $\mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 14.21 feet;
2. $\mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.59 feet;
3. $\mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
4. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.82 feet;
5. $\quad \mathrm{N} 45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 47.21 feet;
6. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 90.36 feet;
7. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 56.22 feet;
8. $\quad \mathrm{N} 56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
9. $\mathrm{N} 55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 28.96 feet;
10. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
11. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.24 feet;
12. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
13. $\mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
14. N $59^{\circ} 18^{\prime} 04 " \mathrm{~W}$ a distance of 26.18 feet;
15. N $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.69 feet;
16. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
17. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
18. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
19. $\mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 32.98 feet;
20. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.58 feet;
21. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 16.35 feet;
22. $N 11^{\circ} 08^{\prime} 36^{\prime \prime}$ E a distance of 28.47 feet;
23. $\quad \mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime}$ E a distance of 25.32 feet;
24. $\mathrm{N} 11^{\circ} 03^{\prime} 12$ " E a distance of 31.96 feet;
25. N $11^{\circ} 50^{\prime} 43^{\prime \prime}$ E a distance of 31.10 feet;
26. $\quad \mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime}$ E a distance of 29.84 feet;
27. $\quad \mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime}$ E a distance of 30.89 feet;
28. N $13^{\circ} 18^{\prime} 52^{\prime \prime}$ E a distance of 16.19 feet;
29. N $11^{\circ} 45^{\prime} 46^{\prime \prime}$ E a distance of 30.01 feet;
30. $N 14^{\circ} 06^{\prime} 12$ " E a distance of 47.47 feet;
31. $N 13^{\circ} 41^{\prime} 03 "$ E a distance of 27.77 feet;
32. $N 13^{\circ} 56^{\prime} 52^{\prime \prime}$ E a distance of 28.78 feet;
33. N $15^{\circ} 53^{\prime} 59{ }^{\prime \prime} \mathrm{E}$ a distance of 33.77 feet;
34. N $19^{\circ} 00^{\prime} 54^{\prime \prime}$ E a distance of 35.82 feet;
35. $\mathrm{N} 20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
36. N $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 33.26 feet;
37. N $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 37.09 feet;
38. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 34.81 feet;
39. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 34.41 feet;
40. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.10 feet;
41. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet;
42. $\mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 28.32 feet;
43. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 28.10 feet;
44. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 43.15 feet;
45. $\mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.96 feet;
46. N $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 33.64 feet;
47. $\mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 35.66 feet;
48. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 27.09 feet;
49. $\quad \mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 31.86 feet;
50. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
51. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
52. $\quad \mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 30.37 feet;
53. $\mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
54. N $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 27.17 feet;
55. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.41 feet;
56. N $53^{\circ} 47^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 22.16 feet;
57. $\mathrm{N} 75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 29.40 feet;
58. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 28.02 feet;
59. $\mathrm{S} 89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.21 feet;
60. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.81 feet;
61. N $85^{\circ} 25^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 33.93 feet;
62. N $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 33.15 feet;
63. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.67 feet;
64. N $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.38 feet;
65. N $85^{\circ} 10^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 29.07 feet;
66. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.87 feet;
67. N $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 29.04 feet;
68. N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
69. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.74 feet;
70. N $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
71. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet;
72. $\mathrm{N} 69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.91 feet;
73. $\mathrm{N} 69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.63 feet;
74. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.56 feet;
75. N $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
76. N $67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet;
77. $\mathrm{N} 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.25 feet;
78. $\mathrm{N} 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 31.29 feet;
79. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 26.50 feet;
80. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.22 feet;
81. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 28.94 feet;
82. N $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 31.12 feet;
83. N $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 26.08 feet;
84. $\mathrm{N} 66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
85. N $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
86. N $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.17 feet;
87. N $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.94 feet;
88. N $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.51 feet;
89. N $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 27.58 feet;
90. N $50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 25.21 feet;
91. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 24.95 feet;
92. $\mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 34.13 feet;
93. N $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.67 feet;
94. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.14 feet;
95. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 31.07 feet;
96. N $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.28 feet;
97. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.86 feet;
98. N $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.28 feet;
99. N $43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.69 feet;
100. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.59 feet;
101. $\mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 27.43 feet;
102. $\mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
103. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
104. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
105. N $43^{\circ} 58^{\prime} 04 " \mathrm{~W}$ a distance of 27.46 feet;
106. $\mathrm{N} 45^{\circ} 20^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of 26.75 feet;
107. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
108. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 23.97 feet;
109. N $59^{\circ} 58^{\prime} 24^{\prime \prime}$ W a distance of 27.27 feet;
110. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.19 feet;
111. N $61^{\circ} 44^{\prime} 13 " \mathrm{~W}$ a distance of 33.99 feet;
112. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet;
113. $\mathrm{N} 49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 30.84 feet;
114. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet;
115. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 26.10 feet;
116. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.77 feet;
117. $\mathrm{N} 33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet;
118. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.74 feet;
119. $\mathrm{N} 46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 24.23 feet;
120. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet;
121. N $47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.87 feet;
122. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 32.77 feet;
123. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
124. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.25 feet;
125. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
126. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.49 feet;
127. $\mathrm{N} 42^{\circ} 17^{\prime} 50 \prime \mathrm{~W}$ a distance of 25.12 feet;
128. N $44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 25.56 feet;
129. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.68 feet;
130. $\mathrm{N} 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
131. $\mathrm{N} 45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.15 feet;
132. N $45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
133. N $45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 34.45 feet;
134. N $46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 33.75 feet;
135. $\mathrm{N} 47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.36 feet;
136. $\mathrm{N} 46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 32.17 feet;
137. N $46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet;
138. $\mathrm{N} 47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
139. N $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 32.26 feet;
140. N $56^{\circ} 45^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 30.70 feet;
141. $\mathrm{N} 62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.38 feet;
142. $\mathrm{N} 66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
143. N $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 31.64 feet;
144. N $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
145. $\mathrm{N} 64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 31.24 feet;
146. $\mathrm{N} 60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
147. N $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.37 feet;
148. N $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 30.86 feet;
149. $\mathrm{N} 57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.66 feet;
150. N $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
151. $\mathrm{N} 57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.31 feet;
152. N $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
153. N $58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 27.42 feet;
154. N $57^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.06 feet;
155. N $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.27 feet;
156. $\mathrm{N} 54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
157. N $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 27.45 feet;
158. N $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.72 feet;
159. N $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 29.69 feet;
160. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
161. $\mathrm{N} 50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.76 feet;
162. $\mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
163. $\mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
164. $\mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 33.97 feet;
165. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 36.03 feet;
166. $\mathrm{N} 34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.03 feet;
167. $\mathrm{N} 32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.64 feet;
168. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
169. $\mathrm{N} 29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 38.14 feet;
170. $\mathrm{N} 28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
171. N $28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.03 feet;
172. N $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.41 feet;
173. N $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.93 feet;
174. N $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.27 feet;
175. N $31^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 34.15 feet;
176. N $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 30.56 feet;
177. N $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
178. N $55^{\circ} 33^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
179. N $61^{\circ} 36^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.13 feet;
180. N $63^{\circ} 34^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 26.32 feet;
181. $\mathrm{N} 64^{\circ} 31^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet;
182. N $67^{\circ} 22^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
183. N $69^{\circ} 56^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet;
184. N $71^{\circ} 44^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.36 feet;
185. N $73^{\circ} 18^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 30.03 feet;
186. N $77^{\circ} 37^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet;
187. $\mathrm{N} 82^{\circ} 16^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 26.04 feet;
188. $\mathrm{N} 88^{\circ} 32^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 28.15 feet;
189. S $89^{\circ} 07^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 25.28 feet;
190. S $87^{\circ} 57^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 28.75 feet;
191. $\mathrm{S} 89^{\circ} 11^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.08 feet;
192. S $89^{\circ} 11^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 25.02 feet;
193. N $89^{\circ} 16^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
194. N $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 29.71 feet;
195. S $89^{\circ} 45^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 26.33 feet;
196. S $87^{\circ} 30^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 24.87 feet;
197. S $85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
198. $\mathrm{S} 82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 25.77 feet;
199. S $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.14 feet;
200. S $79^{\circ} 51^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 29.85 feet;
201. S $79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.22 feet;
202. S $77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.21 feet;
203. S $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet;
204. S $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
205. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.26 feet;
206. S $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
207. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.14 feet;
208. S $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 34.96 feet;
209. S $78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet;
210. S $79^{\circ} 17^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
211. S $76^{\circ} 41^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 24.88 feet;
212. S $78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 27.26 feet;
213. S $78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 28.33 feet;
214. S $77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
215. S $75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.46 feet;
216. $S 74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 27.02 feet;
217. S $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
218. S $68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.19 feet;
219. S $72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 26.92 feet;
220. $S 72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
221. S $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
222. S $68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
223. S $68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 28.31 feet;
224. S $68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 28.95 feet;
225. S $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.75 feet;
226. S $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
227. S $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.76 feet;
228. $\mathrm{S} 74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.07 feet;
229. S $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 27.01 feet;
230. S $77^{\circ} 53^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.96 feet;
231. S $80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 37.64 feet;
232. S $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
233. S $83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.74 feet;
234. S $82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.30 feet;
235. S $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
236. S $80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
237. S $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
238. S $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 37.31 feet;
239. $\mathrm{S} 78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 25.19 feet;
240. S $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 25.31 feet;
241. S $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
242. S $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.66 feet;
243. S $82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
244. S $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.37 feet;
245. $\mathrm{S} 84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
246. S $85^{\circ} 29^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 28.10 feet;
247. S $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 26.80 feet;
248. S $88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 37.12 feet;
249. N $89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 35.66 feet;
250. $\mathrm{N} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 37.23 feet;
251. N $88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
252. N $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 34.65 feet;
253. N $88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.41 feet;
254. N $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.21 feet;
255. N $86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 31.47 feet;
256. N $85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 32.34 feet;
257. N $84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{W}$ a distance of 33.73 feet;
258. N $85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 35.41 feet;
259. $\mathrm{N} 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 11.88 feet to the point of intersection with the east line of said NE $1 / 4$ of said Section 13;
thence $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$ along said east line of said $\mathrm{NE} 1 / 4$ of said Section 13 a distance of 22.08 feet to the Point of Beginning containing 8.03 acres more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 5 \\
\text { ORDINANCE 2020-5 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 4, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

# STATE OF COLORADO <br> COUNTY OF GILPIN <br> CITY OF BLACK HAWK 

## COUNCIL BILL NUMBER: CB5

ORDINANCE NUMBER: 2020-05

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 4, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of , 2020.

David D. Spellman, Mayor

## ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 4

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of 5,336.50 feet to a point on the easterly edge of Lake Gulch Road, being the Point of Beginning.

Thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{S} 00^{\circ} 00^{\prime} 33^{\prime \prime} \mathrm{W}$ along the east line of the $\mathrm{SE} 1 / 4$ of said Section 18 a distance of 1312.03 feet to the SE corner of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ along the south line of the $\mathrm{SE} 1 / 4$ of said Section 18 a distance of 387.79 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 15.49 feet;
2. N $53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 30.11 feet;
3. N $49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 29.00 feet;
4. $\quad \mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 24.91 feet;
5. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.87 feet;
6. $\quad \mathrm{N} 45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 48.20 feet;
7. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 91.48 feet;
8. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 57.67 feet;
9. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.86 feet;
10. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 29.95 feet;
11. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 33.37 feet;
12. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.01 feet;
13. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
14. $\mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.27 feet;
15. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.17 feet;
16. N $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 30.82 feet;
17. $\mathrm{N} 54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 26.38 feet;
18. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
19. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
20. $\mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 29.13 feet;
21. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 27.59 feet;
22. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 7.58 feet;
23. $\quad \mathrm{N} 11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 19.58 feet;
24. $\quad \mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.34 feet;
25. $\mathrm{N} 11^{\circ} 03^{\prime} 12$ " E a distance of 31.62 feet;
26. N $11^{\circ} 50^{\prime} 43^{\prime \prime}$ E a distance of 31.40 feet;
27. $\quad \mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime}$ E a distance of 30.12 feet;
28. $\quad \mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.16 feet;
29. N $13^{\circ} 18^{\prime} 52^{\prime \prime}$ E a distance of 15.92 feet;
30. $N 11^{\circ} 45^{\prime} 46^{\prime \prime}$ E a distance of 29.86 feet;
31. $N 14^{\circ} 06^{\prime} 12$ " E a distance of 47.10 feet;
32. $N 13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 24.47 feet to the point of intersection with line 2-3 of the Rickard Lode, US Mineral Survey No. 16283;
thence $\mathrm{N} 67^{\circ} 02^{\prime} 38^{\prime \prime}$ E along said line $2-3$ of said Rickard Lode a distance of 945.51 feet to corner No. 3 of said Rickard Lode;
thence $\mathrm{N} 23^{\circ} 02^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $3-4$ of said Rickard Lode a distance of 150.08 feet to corner No. 4 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along line 4-1 of said Rickard Lode a distance of 153.49 feet to the point of intersection with line 3-4 of the Olivia Lode, US Mineral Survey No. 13916;
thence $\mathrm{S} 29^{\circ} 39^{\prime} 14^{\prime \prime}$ E along said line 3-4 a distance of 131.02 feet to corner No. 4 of said Olivia Lode;
thence $\mathrm{S} 60^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Olivia Lode a distance of 150.24 feet to corner No. 1 of said Olivia Lode;
thence $\mathrm{N} 29^{\circ} 41^{\prime} 13^{\prime \prime} \mathrm{W}$ along line 1-2 of said Olivia Lode a distance of 148.78 to the point of intersection with said line 4-1 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along said line $4-1$ of said Rickard Lode a distance of 497.85 feet to the point of intersection with the easterly line of said Lake Gulch Road;
thence along said easterly edge of said Lake Gulch Road the following 14 courses:
33. $\mathrm{N} 31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 20.73 feet;
34. $\mathrm{N} 37^{\circ} 13^{\prime} 45^{\prime \prime}$ E a distance of 32.47 feet;
35. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 34.91 feet;
36. $\quad \mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.41 feet;
37. $\quad \mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet;
38. $\mathrm{N} 34^{\circ} 24^{\prime} 43^{\prime \prime}$ E a distance of 30.28 feet;
39. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime}$ E a distance of 45.06 feet;
40. $\quad \mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
41. $\mathrm{N} 16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 37.16 feet;
42. $\mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 38.26 feet;
43. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 28.30 feet;
44. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 32.16 feet;
45. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.44 feet;
46. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 31.57 feet to the Point of Beginning, containing 20.72 acres more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 6 \\
\text { ORDINANCE 2020-6 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 5, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

STATE OF COLORADO<br>COUNTY OF GILPIN CITY OF BLACK HAWK

## COUNCIL BILL NUMBER: CB6

ORDINANCE NUMBER: 2020-06

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 5, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of
$\qquad$

David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 5

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13 , T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N 00¹4'12" E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $37^{\circ} 49^{\prime} 49^{\prime \prime}$ E a distance of $1,154.79$ feet to the intersection of line 3-4 of the Annex Lode, US Mineral Survey No. 7799 with the easterly and northerly edge of Lake Gulch Road, County Road 6 being the Point of Beginning.

Thence N $61^{\circ} 53 \prime 31^{\prime \prime}$ E along said line 3-4 of said Annex Lode a distance of 1064.95 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline of said NW $1 / 4$ and City of Black Hawk Patented Boundary a distance of 227.43 feet to the point of intersection with line 1-4 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{S} 39^{\circ} 30^{\prime} 42^{\prime \prime} \mathrm{W}$ along said line $1-4$ of said St. Anthony Lode a distance of 328.85 feet to the point of intersection with said easterly and northerly edge of Lake Gulch Road;
thence along said easterly and northerly edge of Lake Gulch Road the following 8 courses:

1. $\mathrm{S} 79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 10.12 feet;
2. $\quad \mathrm{S} 77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.90 feet;
3. $\quad \mathrm{S} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.64 feet;
4. $\quad \mathrm{S} 75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 32.92 feet;
5. $\quad \mathrm{S} 76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.21 feet;
6. $\quad \mathrm{S} 76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.36 feet;
7. $S 77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.86 feet;
8. $\quad \mathrm{S} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.75 feet to the point of intersection with line 1-2 of the Elizabeth Lode, US Mineral Survey No. 15894;
thence N $39^{\circ} 23^{\prime} 46^{\prime \prime}$ E along said line $1-2$ of said Elizabeth Lode a distance of 249.88 feet to the point of intersection with line 3-2 of the Black Diamond Lode, US Mineral Survey No. 17634;
thence $\mathrm{S} 63^{\circ} 58^{\prime} 12^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Black Diamond Lode a distance of 827.46 feet to the point of intersection with said easterly and northerly edge of said Lake Gulch Road;
thence along said easterly and northerly edge of said Lake Gulch Road the following 5 courses:
9. $\quad \mathrm{S} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 18.54 feet;
10. $\quad \mathrm{S} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.51 feet;
11. $\quad \mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.72 feet;
12. $\quad \mathrm{S} 82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.87 feet;
13. $\quad \mathrm{S} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 22.34 feet to the Point of Beginning containing 2.58 acres more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 7 \\
\text { ORDINANCE 2020-7 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 6, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

STATE OF COLORADO<br>COUNTY OF GILPIN CITY OF BLACK HAWK

## COUNCIL BILL NUMBER: CB7

ORDINANCE NUMBER: 2020-07

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 6, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of
$\qquad$

David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 6

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $20^{\circ} 56^{\prime} 43^{\prime \prime}$ E a distance of 997.85 feet to the point of intersection of line 3-4 of the Dale Lode, US Mineral Survey No. 13338 with line 2-1 of the Notaway Extension Lode, US Mineral Survey No. 9722 being the Point of Beginning.
thence N $24^{\circ} 10^{\prime} 55^{\prime \prime}$ E along said line 2-1 of said Notaway Extension Lode a distance of 105.93 feet to the point of intersection with line 1-5 of the Gulch Lode, US Mineral Survey No. 12784;
thence N $36^{\circ} 25^{\prime} 58^{\prime \prime}$ E along said line $1-5$ of said Gulch Lode a distance of 382.53 feet to corner No. 5 of said Gulch Lode;
thence N $52^{\circ} 39^{\prime} 02^{\prime \prime} \mathrm{W}$ along line $5-4$ of said Gulch Lode a distance of 83.36 feet to the point of intersection with said Line 2-1 of said Notaway Extension Lode;
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime}$ E along said Line 2-1 of said Notaway Extension Lode a distance of 36.99 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence S $89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Patented Boundary a distance of 756.52 feet to the point of intersection with line 1-2 of the Annex Lode, US Mineral Survey No. 7799;
thence $\mathrm{S} 61^{\circ} 533^{\prime} 31^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Annex Lode a distance of 776.77 feet to the point of intersection with line 7-6 of said Dale Lode, US Mineral Survey No. 13338;
thence N $39^{\circ} 23^{\prime} 00^{\prime \prime}$ E along said line $7-6$ of said Dale Lode a distance of 409.81 feet to corner No. 6 of said Dale Lode;
thence $\mathrm{N} 50^{\circ} 28^{\prime} 19^{\prime \prime} \mathrm{W}$ along line $6-5$ of said Dale Lode a distance of 74.00 feet to corner No. 5 of said Dale Lode;
thence $\mathrm{N} 89^{\circ} 24^{\prime} 17^{\prime \prime} \mathrm{W}$ along line $5-4$ of said Dale Lode a distance of 97.24 feet to corner No. 4 of said Dale Lode;
thence S $39^{\circ} 23^{\prime} 43^{\prime \prime} \mathrm{W}$ along line 4-3 of said Dale Lode a distance of 624.77 feet to the Point of Beginning containing 2.35 acres more or less.

$$
\begin{gathered}
\text { COUNCIL BILL } 8 \\
\text { ORDINANCE 2020-8 } \\
\text { A BILL FOR AN } \\
\text { ORDINANCE APPROVING } \\
\text { AND ACCOMPLISHING } \\
\text { THE ANNEXATION OF } \\
\text { PARCEL NO. 7, } \\
\text { CONSISTING OF } \\
\text { CONTIGUOUS } \\
\text { UNINCORPORATED } \\
\text { TERRITORY IN GILPIN } \\
\text { COUNTY ALSO KNOWN } \\
\text { AS A PORTION OF THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT ANNEXATION }
\end{gathered}
$$

# STATE OF COLORADO <br> COUNTY OF GILPIN CITY OF BLACK HAWK 

## COUNCIL BILL NUMBER: CB8

ORDINANCE NUMBER: 2020-08

## TITLE: A BILL FOR AN ORDINANCE APPROVING AND ACCOMPLISHING THE ANNEXATION OF PARCEL NO. 7, CONSISTING OF CONTIGUOUS UNINCORPORATED TERRITORY IN GILPIN COUNTY ALSO KNOWN AS A PORTION OF THE LAKE GULCH WHISKEY RESORT ANNEXATION

WHEREAS, pursuant to the laws of the State of Colorado, there was presented to and filed with the City Council of the City of Black Hawk, Colorado, written petition(s) for annexation to and by the City of Black Hawk, Colorado, of that property described in attached Exhibit A, being contiguous unincorporated territory, situated, lying and being in the County of Gilpin, State of Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has conducted a public hearing on March 25, 2020, as required by law to determine the eligibility for annexation of that property described in attached Exhibit A;

WHEREAS, the City Council of the City of Black Hawk, Colorado, has satisfied itself concerning the eligibility for annexation of that property described in attached Exhibit A and concerning the conformance of the proposed annexation to the applicable law in the annexation policy of the City of Black Hawk, Colorado;

WHEREAS, the City Council of the City of Black Hawk, Colorado, by resolution determined that the applicable parts of C.R.S. §§ 31-12-104 and 31-12-105 have been met, that an election is not required under C.R.S. §31-12-107(2), and that no additional terms and conditions are to be imposed;

WHEREAS, it is the opinion of the City Council that it is desirable and necessary that the property described in the attached Exhibit A be annexed to the City; and

WHEREAS, it is in the best interest of the City and its citizens to annex said parcel.
BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. The City Council finds that the property described in the attached Exhibit A is part of the serial annexation of a larger parcel of land.

Section 2. The annexation by and to the City of Black Hawk, State of Colorado, of that property described in attached Exhibit A, situated, lying and being in the County of Gilpin, State of Colorado, meets all requirements of law and the annexation policy of the City of Black Hawk, and therefore, said annexation is hereby approved and made effective.

Section 3. The owner(s) of more than fifty percent (50\%) of the area of the property described in attached Exhibit A, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.

Section 4. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, have been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.

Section 5. Upon the effective date of this Annexation Ordinance, all lands within the area to be annexed shall become subject to the Municipal Laws of the State of Colorado pertaining to towns and to all ordinances, resolutions, rules and regulations of the City of Black Hawk.

Section 6. Considering all of the foregoing, and based on the conviction that annexation of this property to the City of Black Hawk will serve the best interests of the City of Black Hawk and the owner(s) of the territory to be annexed, the unincorporated territory described in Exhibit A, which is attached hereto and made a part hereof, is hereby annexed to the City of Black Hawk, Colorado.

Section 7. The City Clerk shall file for recording one (1) certified copy of the Annexation Ordinance and one (1) copy of the Annexation Map with the Clerk and Recorder of the County of Gilpin, State of Colorado.

Section 8. The Annexation Map showing the boundaries of the newly annexed territory as above described shall be kept on file in the office of the Gilpin County Clerk and Recorder.

Section 9. The City Clerk shall file two certified copies of the Annexation Ordinance and two certified copies of the Annexation Map for the Real Property with the Clerk and Recorder of the County of Gilpin, State of Colorado, for such Clerk and Recorder's filing with the Division of Local Governments of the Department of Local Affairs and the Department of Revenue.

Section 10. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 11. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 12. Effective Date. By operation of C.R.S. § 31-12-113(2), the annexation and this Ordinance will not become effective until the City Clerk completes the filings required by statute. For the purpose of general taxation, this Ordinance shall become effective on January 1st of the next succeeding year following its passage.

READ, PASSED AND ORDERED POSTED this __ day of
$\qquad$

David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 7

## Legal Description

A parcel of land located in Sections 17 and 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S 13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of 5,336.50 feet to a point on the easterly edge of Lake Gulch Road;
thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18 being the Point of Beginning.

Thence N $27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{W}$ along the City of Black Hawk Boundary a distance of 938.48 feet to corner No. 4 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 44^{\circ} 29^{\prime} 09^{\prime \prime}$ E along line 4-3 of said Little Mattie Lode a distance of 1500.03 feet to corner No. 3 of said Little Mattie Lode;
thence N $42^{\circ} 07^{\prime} 27^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 980.96 feet to the northsouth centerline of the NW $1 / 4$ of said Section 17;
thence $S 01^{\circ} 03^{\prime} 00^{\prime \prime}$ E along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 1273.98 feet to the W $1 / 16$ th corner on the east-west centerline of said NW $1 / 4$ of Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 111.85 feet to the point of intersection with line 1-2 of the Mascot Lode, US Mineral Survey No. 845;
thence $\mathrm{S} 55^{\circ} 22^{\prime} 15^{\prime \prime} \mathrm{W}$ along said line $1-2$ of said Mascot Lode a distance of 100.62 feet to corner No. 2 of said Mascot Lode;
thence S $34^{\circ} 54^{\prime} 36^{\prime \prime}$ E along line 2-3 of said Mascot Lode a distance of 146.65 feet to the point of intersection with the north-south centerline of the SW $1 / 4$ of said Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said $\mathrm{SW} 1 / 4$ of said Section 17 a distance of 1034.62 feet to the SW 1/16th corner of said Section 17;
thence $\mathrm{S} 88^{\circ} 35^{\prime} 30^{\prime \prime} \mathrm{W}$ along the east-west centerline of the SW $1 / 4$ of said Section 17 a distance of 1307.15 feet to the S $1 / 16$ th corner of Sections 17 and 18, the Point of Beginning containing 63.62 acres more or less.

## CITY OF BLACK HAWK <br> REQUEST FOR COUNCIL ACTION

SUBJECT: To consider a resolution and ordinances accomplishing the approval of Lake Gulch Whiskey Resort Annexation No. 1, Lake Gulch Whiskey Resort Annexation No. 2, Lake Gulch Whiskey Resort Annexation No. 3, Lake Gulch Whiskey Resort Annexation No .4, Lake Gulch Whiskey Resort Annexation No. 5, Lake Gulch Whiskey Resort Annexation No. 6, and Lake Gulch Whiskey Resort Annexation No. 7, and annexing said territory shown on the maps thereof into the City of Black Hawk, Colorado.

RECOMMENDATION: Staff recommends the following motion to the Mayor and Board of Aldermen:

MOTION TO APPROVE Resolution 25-2020, A Resolution Making Certain Findings of Fact Regarding the Proposed Annexation of Parcels of Land to the City of Black Hawk, Colorado, Known as the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 2, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 1, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 3, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 2, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 4, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 3, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 5, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 4, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 6, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 5, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 7, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 6, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 8, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 7, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation.

## SUMMARY AND BACKGROUND OF SUBJECT MATTER:

The City of Black Hawk has received seven petitions for annexation of property in unincorporated Gilpin County. The petitions are from RSM Partners LLC, landowner, and cover approximately 221.86 acres of land south of Miners Mesa and north/east of Lake Gulch Road. The petitions were accepted and found substantially complete on February 12, 2020 by Resolution 10-2020.

## AGENDA DATE:

WORKSHOP DATE:

## FUNDING SOURCE:

## DEPARTMENT DIRECTOR APPROVAL:

STAFF PERSON RESPONSIBLE:

DOCUMENTS ATTACHED:

RECORD:

## CITY ATTORNEY REVIEW:

SUBMITTED BY:

March 25, 2020
N/A
N/A
[X]Yes [ ]No
Cynthia L. Linker CP\&D Director

Resolution 25-2020
Council Bills 2 through 9, inclusive Staff Report

## REVIEWED BY:

 $\frac{\text { Stuphen N. Coh }}{\text { Stephen N. Cole, City Manager }}$

Vincent Harris, AICP, Baseline Corporation

## Staff Report

STAFF REPORT: Lake Gulch Whiskey Resort Annexations

For:
Project:
Property Address:
Applicants:

Zoning:
Prepared by: Approved by:
Reviewed by:

City Council
P-20-01a Lake Gulch Whiskey Resort Annexations 1 through 7
Various - Lake Gulch Road on Miners Mesa
Troy Tengwall, Coburn Architecture o/b/o Proximo Distillers, LLC (developer)
RSM Partners LLC (petitioner)
Gilpin County
Ethan Watel, AICP - Baseline Corporation
Vincent Harris, AICP - Baseline Corporation Vintidas
Cynthia Linker, CP\&D Director


## BACKGROUND:

On January 3, 2020 RSM Partners LLC (RSM) submitted seven petitions for the annexation of land in unincorporated Gilpin County into the City of Black Hawk. The proposed annexations cover approximately 221.9 acres of land. The annexations consist of a portion of the property known as the "Richest Square Mile" located north and east of Lake Gulch Road and south of Miners Mesa and adjacent to the southern city limits.

Proximo Distillers, LLC (Proximo) is under contract to purchase the properties from RSM. Proximo plans to purchase the property with the purpose of developing a distillery for the Tincup whiskey brand. The development is proposed to include a distillery, barrelhouses, a visitor's center, a predominance of residential uses so long as the impacts of such residential development can be offset, guesthouse and cabins, a restaurant, event space, retail, parking and outdoor activities.

Troy Tengwall of Coburn Architecture is the applicant on behalf of Proximo and RSM. An application for initial zoning was submitted, recently re-submitted, and is covered in the staff report for Case No. P-20-01b.

The seven Lake Gulch Whiskey Resort Annexations were reviewed and processed in accordance with the City of Black Hawk Municipal Code and the Colorado Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq.(the "Annexation Act"), and other applicable sections of Colorado Revised Statutes and the Colorado Constitution.

On February 12, 2020 the City of Black Hawk City Council adopted Resolution 10-2020 finding the seven annexation petitions "substantially complete" and setting March 25, 2020 as the date of the public hearing.

## ZONING:

The property lies outside the city limits and Gilpin County does not maintain an accessible official zoning map. Concurrent with the annexation, the applicants are requesting approval of an initial zoning
to the Commercial/Business Services (C/BS) and Planned Unit Development (PUD) overlay zoning districts.

Figure 1: Vicinity Map


Shaded areas indicate current Black Hawk city limits. Red outlines are the boundaries of the proposed annexations.

Figure 2: Vicinity Map


## REQUEST:

RSM Partners LLC (petitioners) request the annexation of Lake Gulch Whiskey Resort Annexation No. 1, Lake Gulch Whiskey Resort Annexation No. 2, Lake Gulch Whiskey Resort Annexation No. 3, Lake Gulch Whiskey Resort Annexation No. 4, Lake Gulch Whiskey Resort Annexation No. 5, Lake Gulch Whiskey Resort Annexation No. 6, and Lake Gulch Whiskey Resort Annexation No. 7 into the City of Black Hawk, Colorado.

# Applicable Colorado State Statutes 

Excerpts from:

Title 31. Government - Municipal<br>Article 12. Annexation - Consolidation - Disconnection<br>Part 1. Municipal Annexation Act of 1965

## § 31-12-104. Eligibility for annexation

(1) No unincorporated area may be annexed to a municipality unless one of the conditions set forth in section 30 (1) of article II of the state constitution first has been met. An area is eligible for annexation if the provisions of section 30 of article II of the state constitution have been complied with and the governing body, at a hearing as provided in section 31-12-109, finds and determines:
(a) That not less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the annexing municipality. Contiguity shall not be affected by the existence of a platted street or alley, a public or private right-of-way, a public or private transportation right-of-way or area, public lands, whether owned by the state, the United States, or an agency thereof, except county-owned open space, or a lake, reservoir, stream, or other natural or artificial waterway between the annexing municipality and the land proposed to be annexed. Subject to the requirements imposed by section 31-12-105 (1) (e), contiguity may be established by the annexation of one or more parcels in a series, which annexations may be completed simultaneously and considered together for the purposes of the public hearing required by sections 31-12-108 and 31-12-109 and the annexation impact report required by section 31-12-108.5.
Staff Comment: Each of the seven proposed Lake Gulch Whiskey Resort annexations meets the onesixth contiguity requirement, processed in a series.
(b) That a community of interest exists between the area proposed to be annexed and the annexing municipality; that said area is urban or will be urbanized in the near future; and that said area is integrated with or is capable of being integrated with the annexing municipality. The fact that the area proposed to be annexed has the contiguity with the annexing municipality required by paragraph (a) of this subsection (1) shall be a basis for a finding of compliance with these requirements...
Staff Comment: A community of interest exists between the City of Black Hawk and the area proposed to be annexed. The property is within the Future Growth Area identified in the Comprehensive Plan of the City of Black Hawk. The property is directly adjacent to the City.

## § 31-12-105. Limitations

(1) Notwithstanding any provisions of this part 1 to the contrary, the following limitations shall apply to all annexations:
(e)
(I) Except as otherwise provided in this paragraph (e), no annexation may take place that would have the effect of extending a municipal boundary more than three miles in any direction from any point of such municipal boundary in any one year. ... Prior to completion of any annexation within the three-mile area, the municipality shall have in place a plan for that area that generally describes the proposed location, character, and extent of streets, subways, bridges, waterways, waterfronts, parkways, playgrounds, squares, parks, aviation fields, other public
ways, grounds, open spaces, public utilities, and terminals for water, light, sanitation, transportation, and power to be provided by the municipality and the proposed land uses for the area. Such plan shall be updated at least once annually. ...
Staff Comment: The Comprehensive Plan of the City of Black Hawk is adopted as the Three-Mile Plan. The Comprehensive Plan identifies the area of the proposed annexation as a future growth area.
(f) In establishing the boundaries of any area proposed to be annexed, if a portion of a platted street or alley is annexed, the entire width of said street or alley shall be included within the area annexed.
Staff Comment: Lake Gulch Road - the full 22 -foot-wide Gilpin County referenced right-of-way - is included in the proposed annexations.

## § 31-12-107. Petitions for annexation and for annexation elections

(1) Petition for annexation in accordance with section 30 (1)(b) of article II of the state constitution:
(a) Persons comprising more than fifty percent of the landowners in the area and owning more than fifty percent of the area, excluding public streets and alleys and any land owned by the annexing municipality, meeting the requirements of sections 31-12-104 and 31-12-105 may petition the governing body of any municipality for the annexation of such territory.
(b) The petition shall be filed with the clerk.
(c) The petition shall contain the following:
(I) An allegation that it is desirable and necessary that such area be annexed to the municipality;
(II) An allegation that the requirements of sections 31-12-104 and 31-12-105 exist or have been met;
(III) An allegation that the signers of the petition comprise more than fifty percent of the landowners in the area and own more than fifty percent of the area proposed to be annexed, excluding public streets and alleys and any land owned by the annexing municipality;
(IV) A request that the annexing municipality approve the annexation of the area proposed to be annexed;
(V) The signatures of such landowners;
(VI) The mailing address of each such signer;
(VII) The legal description of the land owned by such signer;
(VIII) The date of signing of each signature; and
(IX) The affidavit of each circulator of such petition, whether consisting of one or more sheets, that each signature therein is the signature of the person whose name it purports to be.
(d) Accompanying the petition shall be four copies of an annexation map containing the following information:
(I) A written legal description of the boundaries of the area proposed to be annexed;
(II) A map showing the boundary of the area proposed to be annexed;
(III) Within the annexation boundary map, a showing of the location of each ownership tract in unplatted land and, if part or all of the area is platted, the boundaries and the plat numbers of plots or of lots and blocks;
(IV) Next to the boundary of the area proposed to be annexed, a drawing of the contiguous boundary of the annexing municipality and the contiguous boundary of any other municipality abutting the area proposed to be annexed.
(e) No signature on the petition is valid if it is dated more than one hundred eighty days prior to the date of filing the petition for annexation with the clerk. All petitions which substantially comply with the requirements set forth in paragraphs (b) to (d) of this subsection (1) shall be deemed sufficient. No person signing a petition for annexation shall be permitted to withdraw his signature from the petition after the petition has been filed with the clerk, except as such right of withdrawal is otherwise set forth in the petition.
(f) The clerk shall refer the petition to the governing body as a communication. The governing body, without undue delay, shall then take appropriate steps to determine if the petition so filed is substantially in compliance with this subsection (1).
(g) If the petition is found to be in substantial compliance with this subsection (1), the procedure outlined in sections 31-12-108 to 31-12-110 shall then be followed. If it is not in substantial compliance, no further action shall be taken.
Staff Comment: The annexation petitions and accompanying maps and other information meet the requirements of the Municipal Annexation Act. The City Council adopted Resolution 10-2020 on February 12, 2020 accepting the petitions and setting the public hearing date on March 25, 2020.

## § 31-12-108. Setting hearing date - notice given

(2) The clerk shall give notice as follows: A copy of the resolution or the petition as filed (exclusive of the signatures) together with a notice that, on the given date and at the given time and place set by the governing body, the governing body shall hold a hearing upon said resolution of the annexing municipality or upon the petition for the purpose of determining and finding whether the area proposed to be annexed meets the applicable requirements of section 30 of article II of the state constitution and sections 31-12-104 and 31-12-105 and is considered eligible for annexation. Said notice shall be published once a week for four successive weeks in some newspaper of general circulation in the area proposed to be annexed. The first publication of such notice shall be at least thirty days prior to the date of the hearing. The proof of publication of the notice and resolution or petition, or the summary thereof, shall be returned when the publication is completed, the certificate of the owner, editor, or manager of the newspaper in which said notice is published shall be proof thereof, and a hearing shall then be held as provided in said notice. A copy of the published notice, together with a copy of the resolution and petition as filed, shall also be sent by registered mail by the clerk to the board of county commissioners and to the county attorney of the county wherein the territory is located and to any special district or school district having territory within the area to be annexed at least twenty-five days prior to the date fixed for such hearing. The notice required to be sent to the special district or school district by this subsection (2) shall not confer any right of review in addition to those rights provided for in section 31-12-116.
Staff comment: Notice was published in the Weekly Register-Call on February 20, February 27, March 5, March 12, and March 19, 2020. Notice was mailed via registered mail and hand delivered to the Gilpin County Board of County Commissioners, the Gilpin County Attorney, Gilpin County RE-1 School District, and Timberline Fire Protection District on February 27 and 28, 2020.

## § 31-12-108.5. Annexation impact report - requirements

(1) The municipality shall prepare an impact report concerning the proposed annexation at least twenty-five days before the date of the hearing established pursuant to section 31-12-108 and shall file one copy with the board of county commissioners governing the area proposed to be annexed within five days thereafter. Such report shall not be required for annexations of ten acres or less in total area or
when the municipality and the board of county commissioners governing the area proposed to be annexed agree that the report may be waived. ...
Staff comment: An annexation impact report was prepared by the City of Black Hawk in accordance with state statutes and filed with the Gilpin County Board of County Commissioners on March 5, 2020.

## § 31-12-110. Findings

(1) Upon the completion of the hearing, the governing body of the annexing municipality, by resolution, shall set forth its findings of fact and its conclusion based thereon with reference to the following matters:
(a) Whether or not the requirements of the applicable provisions of section 30 of article II of the state constitution and sections 31-12-104 and 31-12-105 have been met;
(b) Whether or not an election is required under section 30 (1)(a) of article II of the state constitution and section 31-12-107 (2).
(2) The governing body shall also determine whether or not additional terms and conditions are to be imposed.
(3) A finding that the area proposed for annexation does not comply with the applicable provisions of section 30 of article II of the state constitution or sections 31-12-104 and 31-12-105 shall terminate the annexation proceeding.
Staff comment: See "Findings" section of this staff report, below on pages 9 and 10.

## Colorado Constitution

## Article II

## Section 30. Right to vote or petition on annexation - enclaves

(1) No unincorporated area may be annexed to a municipality unless one of the following conditions first has been met:
(a) The question of annexation has been submitted to the vote of the landowners and the registered electors in the area proposed to be annexed, and the majority of such persons voting on the question have voted for the annexation; or
(b) The annexing municipality has received a petition for the annexation of such area signed by persons comprising more than fifty percent of the landowners in the area and owning more than fifty percent of the area, excluding public streets, and alleys and any land owned by the annexing municipality; or
(c) The area is entirely surrounded by or is solely owned by the annexing municipality.

Staff Comment: The City has received a petition for annexation signed by the owner of more than $50 \%$ of the landowners in the area and owning $100 \%$ of the area, excluding public streets.

# Applicable City of Black Hawk Regulations 

Excerpts from:

City of Black Hawk<br>Zoning Code<br>Chapter 16 - Zoning

Sec. 16-365. Rezoning procedures, amendments to zoning ordinance and special review use permits.
Sec. 16-365 (b) All territory annexed to the City shall be zoned in accordance with the zoning classifications established by this Chapter and in accordance with the procedures in this Section for rezoning. All annexed land shall be zoned at the time of annexation as required by this Chapter.
Staff Comment: The initial zoning of the property is addressed in a separate staff report, case no. P-2001b.

## City of Black Hawk <br> Home Rule Charter <br> Article VIII: Miscellaneous

## Section 8. Annexation and Zoning.

In all proceedings for the annexation of territory to the City, the City Council shall require concurrent zoning of the same.
Staff Comment: The initial zoning of the property is addressed in a separate staff report, case no. P-2001b.

## STAFF SUMMARY:

The annexation petitions were received on January 3, 2020. City of Black Hawk staff and its consultants began reviewing the petitions and accompanying application materials. On February 12, 2020 the City Council passed Resolution 10-2020 accepting the petitions and establishing March 25, 2020 as the date of the public hearing.

Staff from Baseline Corporation has evaluated the information provided by the petitioners and the applicants for this project. Annexations have been processed and reviewed in accordance with City of Black Hawk Municipal Code and the Annexation Act, and other applicable sections of Colorado Revised Statutes and Colorado Constitution. The Intergovernmental Agreement between Black Hawk, Central City, Gilpin County, and the Black Hawk-Central City Sanitation District dated September 29, 1999 (the "Growth IGA") also contains specific provisions pertaining to annexations.

The Municipal Code is silent on annexations because it is a matter of statewide concern, with the exception of the requirement to zone the property concurrently with the annexation. The applicants are requesting initial zoning to the Commercial/Business Services (C/BS) and Planned Unit Development (PUD) overlay zoning districts.

The properties are proposed to be annexed into Black Hawk through a serial annexation process. In these types of annexations, a series of annexation plats completes the process. Each annexation must meet state standards for one-sixth contiguity to the city boundary. The perimeter of each annexation must border the City limits by a ratio of at least $1: 6$. Serial annexations are completed by separate ordinances, in order. Each proposed annexation meets the one-sixth contiguity requirements by attaching to an existing city boundary for the City.

The Lake Gulch Whiskey Resort Annexations will be processed in a series of seven (7) annexations:
Lake Gulch Whiskey Resort Annexation No. $1=95.35$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $2=29.21$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $3=8.03$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $4=20.72$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $5=2.58$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $6=2.35$ acres more or less
Lake Gulch Whiskey Resort Annexation No. $7=63.62$ acres more or less

## Total area annexed $\mathbf{= 2 2 1 . 8 6}$ acres (more or less)

Upon the City Council finding substantial compliance and setting the hearing date of March 25, 2020, a number of notices and reports were prepared according to State Statutes. Excerpts from these regulations are cited above.

The following notices were provided:
Per § 31-12-108

- Notice published in the Weekly Register-Call on February 20, February 27, March 5, March 12, and March 19, 2020.
- Notice mailed via registered mail (M) and hand delivered (H) to:
- Gilpin County Board of County Commissioners - Feb. 28, 2020 (M \& H)
- Gilpin County Attorney - Feb. 28, 2020 (M \& H)
- Gilpin County RE-1 School District - Feb. 28, 2020 (M) \& Feb. 27, 2020 (H)
- Timberline Fire Protection District - Feb. 28, 2020 (M) \& Feb 27,2020 (H)

Per 1999 Growth IGA

- Notice was hand delivered on February 4, 2020 to Gilpin County, City of Central, and Black Hawk-Central City Sanitation District

The petitioner, the applicant, and the City of Black Hawk intend to enter into an Annexation Agreement. The terms of the agreement address the terms and conditions to annexation to the City, and specifically also address how the developer of the site will offset the impacts of any residential development, including impacts to the Gilpin County RE-1 School District.

A portion of Lake Gulch Road is proposed to be annexed (reference LGWR Annexation \#3). Lake Gulch Road (a.k.a. Gilpin County Road 6) is currently designated as an unadjudicated County Road, but is nonetheless a public road. Upon annexation, the portions of the road that are annexed into the City of Black Hawk will become the responsibility of the City.

With respect to the 1999 Growth IGA, the proposed annexation is wholly within the Black Hawk Growth Area. The property only makes up a portion of the Growth Area. The terms of the Gold Mountain Development Plan referenced in the Growth IGA are addressed in the proposed zoning of the property.

Upon annexation and initial zoning of the property, there will be City land use processes that will be required before development may commence. The design of the project will need to be reviewed and approved through processes such as Site Development Plans, subdivision plats, Certificates of Architectural Compatibility, and building permits among others. The proposed Lake Gulch Whiskey Resort Planned Unit Development plan would control the land use on the property.

In summary, in accordance with Colorado State Statutes and Black Hawk regulations, Staff recommends that City Council adopt a resolution and pass ordinances accomplishing the approval of Lake Gulch Whiskey Resort Annexation No. 1, Lake Gulch Whiskey Resort Annexation No. 2, Lake Gulch Whiskey Resort Annexation No. 3, Lake Gulch Whiskey Resort Annexation No. 4, Lake Gulch Whiskey Resort Annexation No. 5, Lake Gulch Whiskey Resort Annexation No. 6, and Lake Gulch Whiskey Resort Annexation No. 7 and annexing said territory shown on the maps thereof into the City of Black Hawk, Colorado and approving the annexation agreement.

## FINDINGS:

City Council may approve, conditionally approve, or deny a request to annex territory into the City of Black Hawk. To support this proposal, the following findings can be used:

1. The annexation by and to the City of Black Hawk, State of Colorado meets all requirements of law and the annexation policy of the City of Black Hawk.
2. The owner(s) of more than fifty percent (50\%) of the area of the property, exclusive of public streets and alleys, petitioned for annexation with the City by filing a Petition for Annexation, together with four (4) copies of the annexation map, as required by law, on January 3, 2020.
3. The City Council, by resolution at a properly-noticed meeting on February 12, 2020, accepted said Petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, et seq., as amended, had been met and further determined that an election was not required under the Act and that no additional terms and conditions were to be imposed upon said annexation.
4. The applicable provisions of C.R.S. § 31-12-104 have been met, including specifically Section 31-12-104(1)(a) permitting annexation of one or more parcels in a series, in that not less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the existing boundaries of the City; and therefore, because of such contiguity, a community of interest exists between the territory proposed to be annexed and the City; the territory proposed to be annexed is urban or will be urbanized in the near future, and the territory proposed to be annexed is integrated or is capable of being integrated with the City.
5. The applicable provisions of C.R.S. § 32-12-105 have been met in that no land held in identical ownership has been divided or included without written consent of the owner thereof; that no annexation proceedings have been commenced by another municipality; that the annexation will not result in the detachment of area from a school district; that the annexation will not result in
the extension of a municipal boundary more than three (3) miles; that the City has in place a plan for said three-mile area; and that in establishing the boundaries of the area to be annexed the entire width of any street or alley is included within the area annexed.

## RECOMMENDATION:

Staff recommends the following motions to the Mayor and Board of Aldermen:
MOTION TO APPROVE Resolution 25-2020, A Resolution Making Certain Findings of Fact Regarding the Proposed Annexation of Parcels of Land to the City of Black Hawk, Colorado, Known as the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 2, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 1, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 3, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 2, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 4, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 3, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 5, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 4, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 6, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 5, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 7, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 6, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation; AND

MOTION TO APPROVE Council Bill 8, A Bill for an Ordinance Approving and Accomplishing the Annexation of Parcel No. 7, Consisting of Contiguous Unincorporated Territory in Gilpin County Also Known as a Portion of the Lake Gulch Whiskey Resort Annexation.

## ATTACHMENTS:

- Overall Annexation exhibit
- Lake Gulch Whiskey Resort Annexation No. 1 Map
- Lake Gulch Whiskey Resort Annexation No. 2 Map
- Lake Gulch Whiskey Resort Annexation No. 3 Map
- Lake Gulch Whiskey Resort Annexation No. 4 Map
- Lake Gulch Whiskey Resort Annexation No. 5 Map
- Lake Gulch Whiskey Resort Annexation No. 6 Map
- Lake Gulch Whiskey Resort Annexation No. 7 Map
- Annexation Petitions
- Resolution 10-2020
- Land Use Application and Checklist
- Letter of Authorization
- RSM Partners LLC Certificate of Corporate Resolution
- Application Cover Letter/Narrative
- Annexation Impact Report
- Copy of notice published in Weekly Register-Call
- Copy of 1999 Growth IGA notice
- Copy of notice mailed to Gilpin County, Gilpin County RE-1 School District, and Timberline Fire Protection District
- Gilpin County School District Resolution
- Annexation Agreement


## Applicant's Submittal

## LAKE GULCH WHISKEY RESORT

## ANNEXATION EXHIBIT TO THE CITY OF BLACK HAWK

A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M
COUNTY OF GILPIN, STATE OF COLORADO


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## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO． 1 TO THE CITY OF BLACK HAWK

## A PART OF SECTIONS 17 \＆ 18 ，TOWNSHIP 3 SOUTH，RANGE 72 WEST OF THE 6TH P．M．，

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## LAKE GULCH WHISKEY RESORT

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 2 TO THE CITY OF BLACK HAWK
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M., COUNTY OF GILPIN, STATE OF COLORADO

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## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO. 3 TO THE CITY OF BLACK HAWK

A PART OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M
COUNTY OF GILPIN, STATE OF COLORADO




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## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO. 3 TO THE CITY OF BLACK HAWK

A PART OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO






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## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO. 4 TO THE CITY OF BLACK HAWK

A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
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COUNTY OF GILPIN, STATE OF COLORADO


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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 5 TO THE CITY OF BLACK HAWK
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A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M
COUNTY OF GILPIN, STATE OF COLORADO


## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO. 6 TO THE CITY OF BLACK HAWK

A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.
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## LAKE GULCH WHISKEY RESORT

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A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO


## LAKE GULCH WHISKEY RESORT

## ANNEXATION NO. 7 TO THE CITY OF BLACK HAWK






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COBURN


His Consultants, Inc 720-273-9940

T\|NCUP
DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 7 TO THE CITY OF BLACK HAWK
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO


COBURN


His Consultants, In Lakewood, Colorado
$720-273-9940$


TINCUP
DISTILLERY PROJECT Black Hawk, Colorado


## PETITION FOR ANNEXATION

## PEUTION FOR ANNEXATION TO THE CITY OF BLACK HAWK, COLORADO

THE UNDERSIGNED, being a "Landowner" as defined in C.R.S, § 31-12-103(6), hereby Petitions the City of Black Hawk (the "City") for amexation for the following described property and further states:

1. The legal description of the lanid which Landowner requests to be annexed to the City is attached hereto as Exhibit A, hereinaflet referred to as the "Property."
2. It is desirable and necessary that the Property be amexed to the City.
3. The requirements of Article II Section 30 of the Colorado Constitution have been met.
4. The following requirements of C.R.S. § 31-12-104 exist or have been met:
a. Not less than one-sixth $\left(1 / 6^{\text {th }}\right)$ of the perimeter of the Property is contiguous with the City.
b. A community of interest exists between the Property and the City. The Property is urban or will be urbanized in the near future; and the Property is capable of being integrated into the City.
5. None of the limitations provided in C.R.S. \& 31-12-105 are applicable and the requirements of that statute have been met because of the following:
a. The annexation of the Property will not result in the Property being divided into separate parts or parcels under identical ownership;
b. No land area within the Property is held in identical ownership, whether consisting of one tract or purcel of real estate or two or more contiguous tracts or parcels of real estate comprising 20 aores or more and having a valuation for assessment in excess of $\$ 200,000$ for ad valorem tax purposes has been included in the area of the Property to be annexed without the written consent of the landowners thereof:
Q. No annexation proceedings have been commenced for annexation of any part of the Property by any other municipality;
d. The entife width of all streets and alleys to be included within the area annexed are incladed;
e. The annexation of the Property will not result in the detachment of area from any school district or the attachment of same to another school district;
f. Annexation by the City of the Property will not have the effect of, and sill not result in, the denial of reasonable access to landowners, owners of an easement, or
owners of a franchise adjoining a platted street or alley which has been annexed by the City but is not bounded on both sides by the City.
6. The annexation of the Property will not have the effect of extending a boundary of the City more than three miles in any direction from any point of the municipal boundary in the past 12 months.
7. The Landowner comprises the owner in fee of 100 percent of the area of the Property, exclusive of public streets and alleys, and comprises 100 percent of the landowners of the Property. The legal description of the land owned by the signer of this petition is shotyn on Exhibit $\mathbf{A}$.
8. The Landowner requests that the City approve the annexation of the Property.
9. This Petition is accompanied by four copies of an annexation boundary map in the form required by C.R.S. \& 31-12-102(1)(d) and attached Exhibit B.
10. This instrument may be executed in one or more counterparts, all of which taken together shall constitute the same document.

## LANDOWNER

RSM Partners LLC, a Colorado Limited Liability Company

## By: Caus Meddends <br> Carl Deddens

Its: President and Aufhorized Agent
Mailing Address:
950 S. Cherry St., Ste. 1220
Denver, CO 80246


Subscribed and sworn to before me this ? day of $^{\text {nd }}$ danvany, 2020, by Carl Deddens.

Witness my hand and ofticial seal.
My conmission expires: $8 / 29 / 2023$


## AFFIDAVIT OF CIRCULATOR IN SUPPORT OF PETITION

state of Texas
county of Brazos
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a. I have circulated the Petition for Annexation to the City of Black Hawk set forth herein;
b. I know the person whose name is subscribed to the foregoing Petition on bela af of the Landowner.
c. The signature on the foregoing Petition was affixed in my presence and the signature is a true, genuine and correct signature of the person it purports to be.
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CIRCULATOR


Carl Deadens


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ANNEXATION NO. 1 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTIONS 17 \& 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO

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LAKE GULCH WHISKEY RESORT
ANNEXATION NO. 1 TO THE CITY OF BLACK HAWK - Exhibit B


## PETITION FOR ANNEXATION

## PEUTION FOR ANNEXATION TO THE CITY OF BLACK HAWK, COLORADO

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LAKE GULCH WHISKEY RESORT
ANNEXATION No. 2 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTION 18 , TOWNSHP 3 SOUTH, RANGE 72 WEST OF THE GTH P.M..
COUNY OF GILPIN. STATE FF COLORADO



## PETITION FOR ANNEXATION

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LAKE GULCH WHISKEY RESORT



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## By: Caus Meddends <br> Carl Deddens

Its: President and Aufhorized Agent
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LAKE GULCH WHISKEY RESORT
ANNEXATION NO. 4 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE TH P.M.,
COUTY OF GIPIN, STATE OF COLORADO


DISTILLERY PROJECT




A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M..,
COUNTY OF GILPIN, STATE OF COLORADO



## PETITION FOR ANNEXATION

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[^1]

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THE UNDERSIGNED, being a "Landowner" as defined in C.R.S, § 31-12-103(6), hereby Petitions the City of Black Hawk (the "City") for amexation for the following described property and further states:

1. The legal description of the lanid which Landowner requests to be annexed to the City is attached hereto as Exhibit A, hereinaflet referred to as the "Property."
2. It is desirable and necessary that the Property be amexed to the City.
3. The requirements of Article II Section 30 of the Colorado Constitution have been met.
4. The following requirements of C.R.S. § 31-12-104 exist or have been met:
a. Not less than one-sixth $\left(1 / 6^{\text {th }}\right)$ of the perimeter of the Property is contiguous with the City.
b. A community of interest exists between the Property and the City. The Property is urban or will be urbanized in the near future; and the Property is capable of being integrated into the City.
5. None of the limitations provided in C.R.S. \& 31-12-105 are applicable and the requirements of that statute have been met because of the following:
a. The annexation of the Property will not result in the Property being divided into separate parts or parcels under identical ownership;
b. No land area within the Property is held in identical ownership, whether consisting of one tract or purcel of real estate or two or more contiguous tracts or parcels of real estate comprising 20 aores or more and having a valuation for assessment in excess of $\$ 200,000$ for ad valorem tax purposes has been included in the area of the Property to be annexed without the written consent of the landowners thereof:
Q. No annexation proceedings have been commenced for annexation of any part of the Property by any other municipality;
d. The entife width of all streets and alleys to be included within the area annexed are incladed;
e. The annexation of the Property will not result in the detachment of area from any school district or the attachment of same to another school district;
f. Annexation by the City of the Property will not have the effect of, and sill not result in, the denial of reasonable access to landowners, owners of an easement, or
owners of a franchise adjoining a platted street or alley which has been annexed by the City but is not bounded on both sides by the City.
6. The annexation of the Property will not have the effect of extending a boundary of the City more than three miles in any direction from any point of the municipal boundary in the past 12 months.
7. The Landowner comprises the owner in fee of 100 percent of the area of the Property, exclusive of public streets and alleys, and comprises 100 percent of the landowners of the Property. The legal description of the land owned by the signer of this petition is shotyn on Exhibit $\mathbf{A}$.
8. The Landowner requests that the City approve the annexation of the Property.
9. This Petition is accompanied by four copies of an annexation boundary map in the form required by C.R.S. \& 31-12-102(1)(d) and attached Exhibit B.
10. This instrument may be executed in one or more counterparts, all of which taken together shall constitute the same document.

## LANDOWNER

RSM Partners LLC, a Colorado Limited Liability Company

## By: Caus Meddends <br> Carl Deddens

Its: President and Aufhorized Agent
Mailing Address:
950 S. Cherry St., Ste. 1220
Denver, CO 80246


Subscribed and sworn to before me this ? day of $^{\text {nd }}$ danvany, 2020, by Carl Deddens.

Witness my hand and ofticial seal.
My conmission expires: $8 / 29 / 2023$


## AFFIDAVIT OF CIRCULATOR IN SUPPORT OF PETITION

state of Texas
county of Brazos
I, Carl Deddens, being first duly sworn state as follows:
a. I have circulated the Petition for Annexation to the City of Black Hawk set forth herein;
b. I know the person whose name is subscribed to the foregoing Petition on bela af of the Landowner.
c. The signature on the foregoing Petition was affixed in my presence and the signature is a true, genuine and correct signature of the person it purports to be.
d. To the best of my knowledge and belief, the person whose name is affixed to the foregoing Petition is authorized to sign such document on behalf of Petitioner.

CIRCULATOR


Carl Deadens


Subscribed and sworn to before me this 2 day of $\int$ anvang 2020, by Carl Deddens.
Witness my hand and official seal.
My commission expires: $8 / 29 / 2023$



[^3]


# STATE OF COLORADO <br> COUNTY OF GILPIN CITY OF BLACK HAWK 

Resolution No. 10-2020


#### Abstract

TITLE: A RESOLUTION ACCEPTING THE PETITIONS FOR ANNEXATION AND ESTABLISHING MARCH 25, 2020 AS THE DATE OF PUBLIC HEARING ON THE REQUESTED ANNEXATION OF PARCELS OF UNINCORPORATED TERRITORY LOCATED IN THE COUNTY OF GILPIN (LAKE GULCH WHISKEY RESORT ANNEXATIONS)


WHEREAS, the owner of unincorporated territory, comprising more than fifty percent (50\%) of the area proposed for annexation pursuant to C.R.S. § 31-12-107, have filed seven (7) petitions for annexation of a certain unincorporated property to the City (collectively referred to as the "Petitions"), which territory is more particularly described in Exhibit A, attached to each Petition;

WHEREAS, C.R.S. § 31-12-108 requires that the City accept the Petitions and establish a date, time and place that the City Council will hold a public hearing to consider the annexation and the various requirements of Title 31, Article 12, C.R.S.;

WHEREAS the City Council, at its regular meeting on February 12, 2020, reviewed the Petitions and various documents submitted in support of the Petitions;

WHEREAS, the City Council has examined the record in this case and the various exhibits; has considered the request, the Comprehensive Plan, and the recommendations of the staff; and based upon the record which has been made concerning the request, has arrived at its decision; and

WHEREAS, it has been found and determined that the applicant has substantially complied with all of the procedural requirements as provided in Title 31, Article 12, C.R.S., in connection with the Petitions.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, COLORADO, THAT:

Section 1. The Petitions are hereby accepted and found to be in substantial compliance with the requirements of Title 31, Article 12, C.R.S.

Section 2. That a public hearing to consider the Petitions is scheduled for March 25, 2020, at 3:00 p.m., at the Council Chambers of the City of Black Hawk, which is located at 211 Church Street, Black Hawk, Colorado, 80422, to determine if the proposed annexations comply with C.R.S. $\S \S 31-12-104$ and 31-12-105 or such part thereof as may be required to establish eligibility under the terms of Title 31, Article 12, Part 1, as amended, known as the Municipal

Annexation Act of 1965, and the Constitution of the State of Colorado, Article II, Section 30, as amended.

Section 3. Any person living within the area proposed to be annexed, any landowner of lands thereof, any resident of the municipality to which the area is proposed to be annexed, any municipality located within one mile of the proposed annexation, or the Board of County Commissioners of Gilpin County, may appear at such hearing and present evidence upon any matter to be determined by the City Council.

RESOLVED AND PASSED this $12^{\text {th }}$ day of February, 2020.


Melissa A. Greiner, CMC, City Clerk


## LAND USE APPLICATION FORM

City of Black Hawk
Community Planning and Development
211 Church Street, P.O. Box $68 \quad$ Phone: $303-582-0615$

Black Hawk, CO 80422 Fax: 303-582-2239
www.cityofblackhawk.org
DATE: $\underline{1 / 3 / 2020}$
APPLICANT NAME: COBURN ARCHITECTURE on behalf of PROXIMO DISTILLERS, LLC
APPLICANT ADDRESS: 2560 28th STREET, BOULDER, COLORADO 80501
APPLICANT MAILING ADDRESS: SAME
APPLICANT CONTACT NUMBER: 303.442 .3351 X1125 EMAIL ADDRESS: ttengwall@coburnpartners.com
PROPERTY OWNER NAME: RSM PARTNERS, LLC
PROPERTY OWNER ADDRESS: 950 SOUTH CHERRY STREEET, \#1220, DENVER, COLORADO 80246
PROPERTY OWNER MAILING ADDRESS: SAME
PROPERTY OWNER CONTACT NUMBER: 201-306-7100 EMAIL ADDRESS: $\underline{\text { cdeddens@maplewoodadvisors.com }}$
PROJECT NAME: LAKE GULCH WHISKEY RESORT
PROJECT ADDRESS: TBD
PROJECT DESCRIPTION: NEW DISTILLERY AND VISITOR'S CENTER FOR TINCUP WHISKEY
IS PROPERTY WITHIN CITY LIMITS: YES $\square$ NO $\square$
PRESENT ZONING: __ CURRENT USE: VACANT LAND
NAME OF EXISTING PLANNED UNIT DEVEOPMENT (IF APPLICABLE): N/A

NAME OF EXISTING SUBDIVISION PLAT (IF APPLICABLE): N/A
GILPIN COUNTY ASSESSOR'S I.D. NO.(S): VARIOUS_EXISTING PROPERTY SIZE: 2
(PLEASE ATTACH A COPY OF SURVEY/PLAT.)
EXISTING BUILDING SIZE: N/A
SQ. FT. AND/OR NUMBER OF EXISTING RESIDENTIAL UNITS: 0

## APPLICANT HAS READ AND ACKNOWLEDGES THE FOLLOWING:

For informational purposes, the Black Hawk Adopted Fee Schedule and Section 16-370 of the Black Hawk Municipal Code establishes the requirement for applicants to pay fees to cover the costs the City may incur by having City approved consultants evaluate and process applications.

## APPLICANT AGREES TO THE FOLLOWING CERTIFICATION STATEMENT AND AFFIDAVIT:

I, as the applicant, hereby certify that I believe to the best of my knowledge that all information supplied with this application is true and accurate and that consent of the property owner listed above, without which the requested action cannot lawfully be accomplished, has been granted. Permission is also hereby granted to the City of Black Hawk staff and their consultants to physically enter upon and inspect the subject property and take photographs as necessary for preparation of the case. In addition, I have read and understand the Black Hawk Adopted Fee Schedule and Section 16-370 of the Black Hawk Municipal Code, and by signing this application I am agreeing that I am authorized to sign on behalf of the property owner, or businessowner, or applicant and commit and agree to the payment of any and all fees associated with processing this application and further agree to pay City of Black Hawk invoices associated with the processing of this application.
The application may be submitted electronically to the CP\&D office by emailing Cynthia Linker at CLinker@cityofblackhawk.org with a copy to Janice Beecher at JBeecher@cityofblackhawk.org. Hard copy submittals may be required after the initial review of the electronic submittal. A receipt of application fee payment must accompany the application. Application fees may be paid online at: http://www.cityofblackhawk.org/city-departments/community-planning-development/

SIGNATURE OF APPLICANT: $\qquad$


DATE: 1/3/2020

LAND USE APPLICATION CHECKLIST
City of Black Hawk • Community Planning and Development - www.cityofblackhawk.org 211 Church Street • P.O. Box 68 • Black Hawk, CO 80422 • 303-582-2231

DATE: ${ }^{1 / 3 / 2020}$ PROJECT NUMBER: 2020-01

PROJECT NAME: LAKE GULCH WHISKEY RESORT
Public Hearing Required with City Council? Yes $\square$ No $\square \quad$ Administrative Approval: Yes $\square$ No $\square$ APPLICATION TYPE

| ANNEXATION | $\square$ | BOUNDARY LINE AGREEMENT |
| :--- | :--- | :--- |
| ZONING/REZONING | $\square$ | FLOOD PLAIN DEVELOPMENT PERMIT |
| PLANNED UNIT DEVELOPMENT or AMENDMENT | $\square$ | CLOMR/LOMR |
| SUBDIVISION PLAT | $\square$ | ROADWAY EASEMENT |
| SITE DEVELOPMENT PLAN | $\square$ | TEMPORARY CONSTRUCTION EASEMENT |
| SPECIAL REVIEW USE | $\square$ | TEMPORARY USE |
| CERTIFICATE OF APPROPRIATENESS | $\square$ | VACATION |
| CERTIFICATE OF ARCHITECTURAL COMPATIBILITY | $\square$ | VARIANCE |
| COMPREHENSIVE SIGN PLAN/STD SIGN PLAN | $\square$ | BOARD OF APPEALS |
| LICENSE AGREEMENT | $\square$ | $\square$ |

## REQUIRED SUBMITTAL MATERIALS

One legible copy of the recorded Warranty Deed(s), or other such recorded documents, reflecting current ownership and
If dedications to the City are to be made, one legible copy of the recorded Deed(s) of Trust, mortgage(s) and/or assignments to any and all lending agencies or individuals, including recorded legible copies of any document(s)
If the applicant is someone other than the current owner, a notarized letter of authorization empowering the applicant to act on behalf of the owner.
A title commitment guaranteeing clear title, including legible, recorded copies of all documents referenced within the title commitment by book and page or reception number. The title commitment must have an "Effective date" no earlier than two weeks prior to the date of the Land Use Pre-Planning Application is submitted.
If the owner or lender is a corporation, a joint venture, or a partnership, an authorization of signatures (official verification that the signatures are authorized to sign up on behalf of the corporation, joint venture or partnership) will be required in the form of:

- A copy of the Articles of Incorporation and/or Corporate Bylaws, or a copy of the Partnership or Operating agreement, which identifies by proper name and title those authorized to sign on the corporation, joint venture or partnership's behalf, or
- A certified corporate resolution by the board of directors specifically identifying and authorizing the signatories.
A detailed written description of the request. Include Structures location, size and general design.
Annexation Petition.
Annexation Plat.
Site Development Plan: prepared in accordance with the Black Hawk Zoning Ordinance.
Planned Unit Development (PUD): prepared in accordance with the Black Hawk Zoning Ordinance or conceptual site plan for rezoning proposals to a standard City zone district.
Preliminary Map: prepared in accordance with the Black Hawk Subdivision Ordinance.
Final Plat: prepared in accordance with the Black Hawk Subdivision Ordinance.
ALTA Survey of property showing the property dimensions, existing structures, vegetation, adjacent roadways, etc.
Lot Line Adjustment Plat: prepared in accordance with the Black Hawk Subdivision Ordinance.
Traverse Closure Sheets which include the external boundary and all internal lots, and street centerlines.
Preliminary Drainage Report: prepared in accordance with the Black Hawk Regulations.
Final Drainage Report: prepared in accordance with the Black Hawk Regulations.
Geological Report: prepared in accordance with the Black Hawk Subdivision Ordinance.
Traffic Study: prepared in accordance with the Black Hawk Transportation Regulations.
Final Grading and Erosion Control Plan; prepared in conformance with the Black Hawk Regulations.
Preliminary Plans for public improvements.
Final Plans for public improvements.
Quantities Estimates for Public Improvements including an 8-1/2 x 11" location map.
Subdivision Agreement (SA) Information Sheet.
A written legal description prepared by a registered land surveyor if property is not part of an approved Subdivision.
Storm Water Management Plan (SWAMP).
Other/Additional Requirements: Annex Aareement TBD with Citv and applicant //II/I/I Conceptual Site Plan


# RSI PARTNERS LLD <br> 950 S. Cherry Street, \#1220 <br> Denver, CO 80246 <br> (201) 306-7100 <br> cdeddens emarlewoodadvisors.com 

December 19, 2019

```
CITY OF BLACK HAWK
Community Planning and Development
211 Church Street
P.O. Box }6
Black Hawk, CO }8042
(303) 582-0615
```


## RE: Letter of Authorization for Proximo Distillers LLC

Sirs:
Please accept this Letter of Authorization on behalf of RSM Partners LLC, as official notice to you that Proximo Distillers, LLC, has the power and authority to pursue the annexation of RSM Partners LLC's property, within Gilpin County, Colorado, and within the Black Hawk annexation area.

If you have any questions, comments or concerns regarding this matter, please do not hesitate to contact me. Thank you very much.

STATE OF $\qquad$

County Of


ROM PARTNERS LLD


Carl DFddens, Authorized Agent and President Signal ure and Date

The foregoing Letter of Authorization was acknowledged before me on this
2019 by Carl Deddens, Authorized Agent and President of RSi.) Partners LLC.

My Commission Expires: $8-29-2023$


## CERTIFICATE OF CORPORATE RESOLUTION OF RSM PARTNERS LLD AUTHORIZING PROXIMO DISTILLERS LLC TO PROCEED WITH ANNEXATION APPLICATION

1, Carl Deadens, President of RSM PARTNERS LLC, organized and existing under the Laws of the State of Colorado, and having its principal place of business at 950 S. Cherry Street, \#1220, Denver, CO 80246, hereby certify that the following is a true copy of a resolution adopted by the RSM Partners LLC (hereinafter the "Company"), and that such resolution is now in full force and effect, and is in accordance with the Operating Agreement of the Company.

RESOLVED, that the Company approves of Proximo Distillers, LLC's right and authority to proceed with an Annexation Application with the City of Black Hawk, for the Company's property located within Gilpin County, Colorado, and within the Black Hawk annexation area; and,

RESOLVED, that Carl Deddens, acting as the Company's President, may sign this Resolution and any other documents necessary to assist Proximo Distillers, LLC's annexation application and/or to complete the purpose of this Resolution.

I further certify that the Company is duly organized and existing under the laws of Colorado, and has the power to take the actions called for by the foregoing Resolution.

REM PARTNERS LLD


Carl Deadens, President
Signature and Date


The foregoing Letter of Authorization was acknowledged before me on this 20 day of December, 2019 by Carl Deadens, President of RSM Partners LLC.

My Commission Expires: $8-27-2023$
 Notary Public

Witness my Bifid and Official Seal


Frascona, Joimer, Goodman and Greensteim, P.C.<br>Oliver E. Frascoma (1947-2014)<br>Jonathan A. Goodman<br>Gregg A. Greensteim<br>Cimithia M. Manzano<br>Jonathan H. Sargent<br>Michael A. Smeenk<br>Jordan C. May<br>Attorneys at Law<br>A $\mathbb{P}_{\text {rof }}$ fessional Corporation<br>4750 Table Mesa Drive, Boulder, Colorado 80305-554i<br>Telephome (305) 494-3000 Facsimile (305) 494m6309<br>www.frascoma.com emmail: harmom@frascoma.com<br>January 3, 2020<br>Cynthia Linker<br>Community Planning and Development Administrator<br>211 Church Street<br>Black Hawk, CO 80422<br>Re: Black Hawk Case No. 2020-01A, Lake Gulch Annexations<br>Black Hawk Case No. 2020-01B, Lake Gulch Whiskey Resort PUD<br>\[ \begin{aligned} \& \quad of Counsel<br>\& Gary S. Joimer<br>\& Jamice H. Loudlen<br>\& G. Roger Bock<br>\& Karen J. Radakovich<br>\& Jesse H. Witt<br>\& T. Damien Zumbremmen<br>\& Britmey BeallaEder<br>\& Harmon W. Zuckerman<br>\& Zachary A. Grey<br>\& C. Amdrew Meyer<br>\& Brittamey D. MeGinnis<br>\& Phillip M. Khallife<br>\& Carolime B. Veltri<br>\& Benjamin J. Daniells \end{aligned} \]

Dear Ms. Linker:
This law firm represents Proximo Spirits, a major producer and importer of distilled spirits. Proximo owns Tincup Whiskey and numerous other established national brands and has a strong presence in local distilling as the owner of Stranahan's Colorado Whiskey in Denver. We are pleased to present the City of Black Hawk with an Annexation Petition and a Planned Unit Development (PUD) application, which, if approved, would support the development in Black Hawk of a bespoke distillery for the Tincup brand. We are also grateful for the attention, coordination, and collaboration that the City and its consultant, Baseline, have extended to us in the development of these materials.

Proximo's vision is to create a great, authentic whiskey in a great, authentic place by building a new, state-of-the-art whiskey distillery in the mountains of Colorado. To that end, Proximo has negotiated the purchase of the Richest Square Mile Ranch ("RSM"), an approximately 330 -acre property located below Miner's Mesa. Pursuant to annexation and the approval of the PUD, Proximo would expect to close on the purchase of the RSM, and soon after that would begin the development of the distillery.

The portion of the RSM that is within Black Hawk's Growth Area (and which is subject to the annexation and PUD) comprises 221.9 acres. Proximo's development plan and program involve a distillery to produce and bottle Tincup Whiskey, several barrelhouses, a visitor's center, guesthouse and cabins, a restaurant, event space, retail, parking, and an array of outdoor activities focused on both active and passive recreation. The project is envisioned to be completed in phases, with the distillery and the visitor's center highlighting the first phase. At completion, the project is expected to result in over 40 direct net-new full-time equivalent jobs and over $\$ 50,000,000$ in capital investment.

The distillery would be a destination attraction and would benefit Black Hawk by identifying it as the home of the brand. Visitors would be welcomed both to observe the

Frascoma, Joiner, Goodman and Greensteim, P.C.
January 3, 2020
Page 2 of 4
production and enjoy the product, and the distillery and visitor experience would bring in a unique tourism target group. It is anticipated that a high percentage of visitors would visit Black Hawk's other attractions before or after the distillery. We believe that the project would complement and diversify Black Hawk's economy, contribute to the community's achievement of its planning goals, and fit with the rugged image, mountain lifestyle, and mining heritage of the area.

To fit in with its surroundings, the project would always hew to the philosophy of Distilling in Place. Distilling in Place is a way to create authenticity through the relationship between the whiskey and where it is made. One way to cement that relationship is through the use of compelling architecture that respects and furthers the architectural heritage of Black Hawk. Some concept examples of the future Tincup distillery and visitor's center are below:


Frascona, Joimer, Goodman and Greenstein, P.C.

January 3, 2020
Page 3 of 4

Another way for the project to complement its surroundings is by respecting the natural landscape as shown in the photograph below:


As is evident from the conceptual site plan below, the majority of the RSM is intended to remain in its natural state:


Frascona, Joiner, Goodman and Greensteim, P.C.
January 3, 2020
Page 4 of 4

The Tincup distillery project is a labor of love for Proximo. There is an ample supply of light industrial property in the Front Range with easy access, more cooperative weather, and ready utilities. Nonetheless, we have focused on the RSM location for the past 18 months, performing exhaustive title analysis, survey work, utility design exercises, architecture and planning, cost estimation, and a host of other due diligence tasks. We are dedicated to completing this project in this location, and to creating a one-of-a-kind destination and production facility that would represent Colorado, and Black Hawk, proudly within the portfolio of Proximo's brands. ${ }^{1}$

We believe that our Annexation Petition and PD application are complete, compliant with the Municipal Code, and supportive of the policies and principles embodied in the Black Hawk Comprehensive Plan. As to the Comp Plan, the proposed project would improve the sustainability of the area through expansion of recreational and non-gaming activities (see Policy EST-3.1), significant improvements in utility infrastructure (see Policies EST-4.1 and 4.2), and contribution to the overall health and vitality of Black Hawk (see Policies LU-2.1 through 2.3). The project would support a multitude of Comp Plan principles, including PRINCIPLE LU-4: Encourage the orderly annexation of the land within the Black Hawk Growth Area.

Based on the foregoing, Proximo respectfully requests that Black Hawk approve Case Nos. 2020-01A and 2020-01B and permit the proposed annexation and PUD project.

Sincerely yours,
Frascona, Jøiner, Gogdman and Greenstein, P.C.

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# N. <br> black hAwk 

City of Black Hawk

# Lake Gulch Whiskey Resort <br> Annexations 1-7 <br> Annexation Impact Report 

March 5, 2020

Report Prepared by:

## Introduction

RSM Partners, LLC, has submitted a petition (dated January 3, 2020) to annex property consisting of approximately 222 acres (more or less) into the City of Black Hawk. The proposed area is generally vacant and will include numerous parcels to the south of a geographical area of the City commonly referred to as Miners Mesa. Seven annexation petitions have been submitted. See Exhibits A and B for maps of the area. Lake Gulch Whiskey Resort Annexation \#1 will extend the southern city boundary down to a portion of Lake Gulch Road. Annexation \#2 includes a portion between Lake Gulch Road and the newly annexed land. Annexation \#3 includes another portion along Lake Gulch Road, along with the right-of-way for the road itself. Annexation \#4 extends the boundary to the furthest southern edge along Lake Gulch Road. Annexations \#5 and \#6 include portions of the remaining strip between the north side of Lake Gulch Road and the existing southern city boundary. Annexation \#7 includes the eastern-most portion of the property.

The proposed annexation consists of large portions of both Sections 17 and 18, Township 3 South, Range 72 West of the $6^{\text {th }}$ Principal Meridian. The property proposed to be annexed is generally bounded to the south and west by Gilpin County Road 6 (Lake Gulch Road), to the north by Miner's Mesa Road and the existing Black Hawk city limits, and finally to the south and east by the extent of RSM Partners, LLC property. The 22 feet of public road (Lake Gulch Road) within Black Hawk's growth boundary will also be included in this annexation (as part of Annexation \#3). See Exhibits A and B in the Appendix for existing and proposed city boundaries.

A map showing the present streets and utilities in the vicinity of the proposed annexation is included in Exhibit F.

Lake Gulch Whiskey Resort Annexation 1-7
Annexation Impact Report


Shaded area indicated existing City of Black Hawk City Limits

## Gas

The property to be annexed lies within the service area of Public Service Company of Colorado dba Xcel Energy. At the time of development, costs to extend gas services will be financed by the petitioner or its assigns.

## Electricity

The property to be annexed lies within the service area of Public Service Company of Colorado dba Xcel Energy. At the time of development, costs to extend electrical services will be financed by the petitioner or its assigns.

## Water

The City of Black Hawk has a water distribution system to serve its community. The City of Black Hawk Water Department has existing water lines in the area and new main line extension and taps and private service lines can be accommodated. At the time of development, costs to extend water services will be financed by the petitioner or its assigns.

## Fire Protection

The property to be annexed is currently within the Timberline Fire Protection District. The existing boundaries of Timberline are shown in Exhibit C. Once annexed to the City of Black Hawk, the City's Fire Department will assume the property into its own service area for fire response services. The City of Black Hawk and the petitioner, or assigns, will work with Timberline Fire Protection District to have the lands withdrawn from the district.

## Sewer

The property to be annexed is not within the boundaries of a sanitation district. The petitioner has indicated its intent to annex all or a portion of its property into the Black Hawk Central City Sanitation District (BHCCSD). The existing boundaries of BHCCSD are shown in Exhibit D. A letter from BHCCSD indicating its availability to service the property is provided in Exhibit E .

At the time of development, costs to extend sewer services will be financed by the petitioner or its assigns. BHCCSD has indicated that the landowner will be able to annex the property into the District and the District will be able to provide sanitation services.

## Streets

The existing 22-foot wide public road (Lake Gulch Rd.) included with this proposed annexation (see Exhibit B) and shown on the annexation plats shall be maintained by the City of Black Hawk. See Exhibit F.

## School District

The subject property lies within the Gilpin County RE-1 School District. The specific impacts will be determined during review of future phases which may contain any residential development. Such reviews may include subdivision platting and/or site development plans. At this time the number of potential residential units is not known. It is anticipated that the school district will receive additional property tax revenue over time with the land improvements.

## Districts

Taxing districts that currently cover the Lake Gulch Whiskey Resort Annexation properties include the following:

- Timberline Fire Protection District
- Gilpin County RE-1 School District


## DRAFT Annexation Agreement

A copy of the DRAFT annexation agreement is attached. See Exhibit G.

## Requirements

This annexation impact report for the proposed Lake Gulch Whiskey Resort Annexations to the City of Black Hawk, Colorado has been prepared as required by the Colorado Municipal Annexation Act of 1965, as amended, and the City of Black Hawk Municipal Code.

## Appendix

- Exhibit A - Existing City Boundary Map
- Exhibit B - Proposed City Boundary Map
- Exhibit C - Timberline Fire Protection District Boundary Map
- Exhibit D - Black Hawk Central City Sanitation District Boundary Map
- Exhibit E - Black Hawk Central City Sanitation District Availability of Sanitary Service
- Exhibit F - Existing Utility \& Street Map
- Exhibit G - DRAFT Annexation Agreement

Exhibit A
Existing City Boundary


Exhibit B
Proposed City Boundaries


## Exhibit C



Timberline Fire Protection District

## Legend

VID District Boundary
This alistrict boundary-includes
US Forest Service land's whtoh US Forest Sen


Exhibit D



Substantial efforts have been made to accurately compile GIS data and documentation. Accuracy is not guaranteed. This product is for reference purposes only and is not to be construed as a legal document or survey instrument.

Black Hawk / Central City Sanitation District (December 2009)

Township and Range
Sections
Highways

Black Hawk / Central City SANITATION DISTRICT


Black Hawk/Central City Sanitation District P.O. Box 362, Black Hawk, CO 80422 (303) 582-3422 Office (303) 582-3424 Fax

## Exhibit E

Black Haike/ Cemtral City Sanitahon District

Ploks $313-582-3122$ a Fix $303-5 \times 2-3424$


February 21, 2020

Troy Tengwall
Coburn Architecture
Via email: ttengwall@coburnpartners.com
Regarding: Availability of Sanitary Sewer Service - Lake Gulch Whiskey Resort
Dear Troy:
As of this date, the Black Hawk/Central City Sanitation District has sufficient capacity to serve the Lake Gulch Whiskey Resort based on the stated flows of 60,000 gallons of wastewater per day.

Sincerely,
BLACK HAWK/CENTRAL CITY SANITATION DISTRICT


Lynn M. Hillary
District Administrator
/lmh
Cc: Black Hawk Planning Department

Exhibit F


Exhibit G<br>DRAFT Annexation Agreement

## ANNEXATION AGREEMENT

THIS AGREEMENT is made and entered into as of the $\qquad$ day of , 2020, by and between RSM, LLC, and its contract purchaser, PROXIMO DISTILLERS LLC hereinafter collectively referred to as ("Property Owner"), and the CITY OF BLACK HAWK, a home rule municipal corporation of the State of Colorado, (hereinafter referred to the "City").
A. The Property Owner is the owner of certain real property (the "Property") situated in the County of Gilpin, State of Colorado, which Property is described in Exhibit A, attached hereto and made a part hereof.
B. The Property Owner desires to have the Property annexed to the City.
C. The City wishes to annex the Property in a series of annexations, and zone the Property into the City, and shall consider the annexation petitions and zoning application for the Property upon the condition that this Agreement is approved by the City and is executed by the City and the Property Owner.

NOW, THEREFORE, in consideration of the foregoing recitals, mutual covenants, and promises set forth below, the receipt and sufficiency of which are mutually acknowledged, the City and the Property Owner hereby agree as follows:

1. Annexation. The annexation of the Property shall be in accordance with the Colorado Municipal Annexation Act of 1965, as amended.
2. Purpose. The purpose of this Agreement is to set forth the terms, conditions, and fees to be paid by the Property Owner upon annexation and initial development of the Property. Unless otherwise expressly provided to the contrary herein, all conditions contained herein are in addition to any and all requirements of the City of Black Hawk Zoning Ordinance and Subdivision Regulations, as amended, any and all state statutes, and the City of Black Hawk Home Rule Charter and the ordinances of the City of Black Hawk.
3. Definitions. As used in this Agreement, the following terms shall have the meanings indicated:
a. Annexation Ordinance(s), An ordinance or ordinances of the City annexing the Property, or any portion thereof to the City.
b. Effective Date of Annexation. As set forth in Section 5 hereof.
c. Legal Challenge. For purposes of this Agreement, either of the following will constitute a Legal Challenge: (i) any third party commences any legal proceeding, request for reconsideration pursuant to § 31-12-116, C.R.S. or other action that directly or indirectly challenges (A) this Agreement, (B) the annexation and/or initial zoning of the Property; or (ii) any third party submits a petition for a referendum or other challenge seeking to reverse or nullify any such ordinances or actions.
d. Zoning Ordinance. An ordinance or ordinances zoning the Property, or uny portion thereof.

## 4. Zoning and Development.

a. Zoning. The Property Owner is entering into this Agreement and is undertaking the obligations imposed upon the Property Owner herein in reliance upon the City's adoption of certain ordinances annexing the Property into the City and the taking of the following additional actions more particularly deseribed in subsection 4.b. regarding the permitted development of the Property.
b. Permitted Development. The Property Owner shall develop the Property in accordance with this Agreement, City ordinances and regulations, and applicable state and federal law and regulations. The Property Owner specifically agrees that the design, improvement, construction, development and use of the Property shall be in conformance with, and that the Property Owner shall comply with, all the City ordinances and resolutions, including, without limitation, ordinances and resolutions pertaining to annexation, subdivision, zoning, storm drainage, utilities and flood control, The City shall allow and permit the development of the Property upon submission of proper application and payment of fees imposed by City ordinances and regulations. In the case of conflict between City ordinances and regulations and the terms of this Agreement, this Agreement shall control. Specifically, the Parties agree that the Property shall be developed in accordance with the Lake Gulch Whiskey Resort Planned Unit Development (the "Lake Gulch Whiskey Resort PUD"), approved by the City by ordinance concurrently with the approval of this Annexation and the Annexation Agreement.
5. Effective Date of Annexation. The annexation of the Property to the City shall become effective upon the filing of the Arnexation Ordinance and map(s) with the Gilpin County Clerk \& Recorder pursuant to C.R.S. §31-12-113(2). The City shall make such filing upon the lust to occur of the following, and not otherwise:
a. Final approval of the Annexation Ordinance(s);
b. Final upproval of the Zoning Ordinance; and
c. Expiration of the time for a Legal Challenge to the Anmexation Ordinance (s) or the Zoning Ordinance.

## 6. City Fees.

a. Administrative Fee. The Property Owner hereby agrees to pay the City the actual cost plus fiffeen percent ( $15 \%$ ) to defray the administrative and reyiew expenses of the City, and for planning, engineering, surveying, and legal services rendered in connection with the review of the annexation of the Property, which costs shall be defermined by the City Manager. In addition, the Property Owner shall reimburse the City for the actual cost of making corrections or additions to the official City Map, with a fee for recording such map, if necessary, and accompanying documents with the County Clerk and Recorder.
b. Impact Fees. The Property Owner shall pay the impact fees as established by City ordinances in effect at the time this Agreement is executed. The City as an inducement to the annexation of the Property hereby waives the imposition of the City's Parking Impact Eee otherwise required by Article Vl of Chapter 4 of the Black Hawk Municipal Code, and further waives the imposition of the Fire and Police Protection Impact Fee otherwise required by Article VII of Chapter 4 of the Black Hawk Municipal Code.
c. Enforcement: Amendment. The City may withhold any plat approval or withhold the issuance of any permits for construction or occupancy for failure to pay City fees as provided herein. All fees recited in this Agreement shall be subject to amendment by the City Council by ordinance so Iong as any amendment is City-wide. Any amendment to such fees shall be incorporated into this Agreement as if originally set forth herein.
7. Summary Exhibit Depicting Land Exchange. Rights of Way, and Water Line Improvements. The Parties agree that Exhibit B, attached hereto and incorporated herein by this reference, depicts the land exchange more particularly described in Section 8, the right-of-way obligations described in Section 9, and the water line construction obligations more particularly described on Section 10 of this Agreement.
8. Land Exchange. The City and the Property Owner agree to exchange the property goned by the Property Owner as depieted on Exhibit B and more particularly described on Exhibit C, attached hereto and incorporated hereby by reference (the "New City Property"), in exchange for the City conveying the property more particularly described in Exhibit D, attached hereto and incorporated herein by this reference (the "New Whiskey Gulch Resort Property") to the Property Owner. The property exchange described herein shall be in lieu of any open space dedication otherwise required by the City as a condition of annexation or subdivision of the Property.

## 9. Rights of Way.

a. Subject to the rembursement provisions set forth in Section 11.b.i., the Property Owner shall be required to design and construct with City approval, at the Property Owner's sole cost and expense, the road generally depicted on Exhibit B and identified as the Miner's Mesa Road Extension No. 2 ("Miner's Mesa Road Extension No. 2"), which Miner's Mesa Road Extension No. 2 shall connect Lake Gulch Road to the Miner's Mesa Road Extension No. 1 as depicted on Exhibit B, and which Miner's Mesa Road Extension No. 2 shall connect to Lake Gulch Road with a roundabout as depieted on Exhibit B.
b. To the extent Miner's Mesa Road Extension No. 2 includes property not owned by the Property Owner, it shall be the City's obligation to acquire the necessary property interests for Miner's Mesa Road Extension No. 2, and the Property Owner shall not be obligated to construct Miner's Mesa Road Extension No. 2 until the City acquires the necessary property interests to cause the construction of Miner's Mesa Road Extension No. 2.
c. The Property Owner shall also be required to design and construct to the City's road standards set forth in subsection e of this Section 9 that portion of Lake Gulch Road more particularly deseribed on Exhibit B (the "Lake Gulch Road Improvements"). The City
agrees to reimburse as more particularly deseribed in Section 11.b.i. that portion of the Lake Gulch Road Improvements, excluding the 0.45 miles of the Lake Gulch Road Improvements more particularly depieted in Exhibit B.
d. The City agrees, al the City's sole cost and expense, that it shall design and construct the Miners's Mesa Road Extension No, 1 are more particularly described in Exhibit B, consisting of approximately 0.32 miles of right-of-way, and the City's design and construction of Miner's Mesa Road Extension No. 1 shall include à roundabout at the westernmost location of Miner's Mesa Road Extension No. I as depicted on Exhibit B.
e. Road Standards. The Property Owner shall construct Miner's Mesa Road Extension No. 2 and the Lake Gulch Road Improvements to include a fifty (50) foot right-of-way, consisting of forty-two (42) feet of pavement with two (2) fifteen (15) foot lanes and two six (6) foot shoulders, and shall include drainage, streetlights and undergrounded utilities as described in Section 10, subsection d, of this Agreement. In addition, to the extent Property Owner is obligated to construct additional public roadways to serve the Property. the Property Owner shall be obligated to construct such public roadways to the fifty (50) foot template described in this subsection d,

## 10. Utilities.

a. Water Service. Upon amexation, the City shall provide municipal domestic water service to the Property in accordance with the uses authorized by the City's approval of the Lake Gulch Whiskey Resort PUD.
b. Sewer Service. The Property Owner shall be required to apply to the Black HawkCentral City Sanitation District (the "Sanitation District") for inclusion into the Sanitation District's service area and corresponding service by the Sanitation District in accordance with the Rules, Regulations, and Resolutions in effect for the Sanitation District in effect for the entire Sanitation District at the time of application.
c Water Tap and System Development Fees. Based on the proposed uses for the Property in accordance with the Lake Gulch Whiskey Resort PUD, the Property Owner shall require an appropriately sized water tap, which water tap size may be expanded as more particularly described in the water tap schedule attached hereto as Exhibit C, and incorporated herein by this reference, and shall further require a twelve (12) inch water line in the locations depicted on Exhibit B. The Property Owner shall design and construct, in accordance with City water standards including necessary pressure reducing valves and meter vaults, approximately Four Thousand Two Hundred and Sixty $(4,260)$ lineal feet of the twelve (12) inch water line in the location depicted on Exhibit B. The Property Ownet shall be required to pay the tap fee and system development fees for the water tap and water line described herein; provided, however, the City agrees it shall rebate the system development fee to the Property Owner to remburse the Property Owner for the actual cost of design and construction of the twelve (12) inch water line located within Lake Gulch Road and Miners Mesa Road Extension No. 2, In addition, in the event the amount of the system development fee paid by Property Owner exceeds the cost of the design and construction of the twelve (12) inch water line located within Lake Gulch Road and Miners

Mesa Road Extension No. 2, the City ngrees that it shall use the temainder of the system development fees paid by Property Owner to pay for additional extensions of water lines necessary to service Property Owner's future development so long as such future development occurs within ten (10) years of the issuance of the first building permit issued for the Property,
d. Undergrounding of Utilities. Property Owner shall be obligated to construct underground all utilities constructed pursuant to this Agreement and necessary to serve the Property.
e. Easements. The Property Owner agrees to dedicate to the City by plat all utility easements within the Property and elsewhere as necessary to provide for the location of water distribution, collection and transmission lines and related facilities.

## 11. Other Terms and Condition of Annexation.

a. Gregory Street Presence. The Parties agree that no later than four (4) years after the issuance of the first Certificate of Occupancy for the first phase of development on the Property, Property Owner shall establish a tasting room or other presence on Gregory Street within the City of Black Hawk.
b. Use Tax Rebates. In order to assist Property Owner in the costs of public infrustructure associated with the development of the Property, the City agrees to reimburse Property Owner with use tax rebates as follows:
f. The City shall reimburse Property Owner for the actual costs of design and construction of the approximately 0.46 miles of the Miners Mesa Road Extension No. 2 and that portion of the Lake Gulch Road depicted on Exhibit B. The reimbursement of the actual costs of design and construction shall be in the form of a use tax rebate of the use taxes paid by Property Owner for the construction materials, furniture, fixtures, and equipment paid by Property Owner for the first phase of development on the Property.
ii. In addition to the reimbursement for use tax on construction materials and furniture, fixtures, and equipment paid by Property Owner set forth in Section I1.b,i above, the City shall consider additional rebates in future phases of the Property's development upon agreement between the parties regarding bottle labeling and marketing and other negotiations the Parties deem appropriate, In order to be eligible for potential future use tax rebates, such an agreement regarding bottle labeling and marketing shall be finalized prior to the issuance of the first Certificate of Oecupancy for the first phase of development on the Property. In any event, no use tax reimbursement agreement shall extend beyond the date of ten (10) years from the issuance of the first Certificate of Occupancy for the first phase of development on the Property.
c. Exclusion from Timberline Fire Protection District. Within thirty (30) days of the Effective Date, Property Owner shall commence proceedings to exclude the Property from the boundaries of the Timberline Fire Protection District.
e. Residential Component of the Lake Gulch Whiskey Resort PUD. To the extent the Lake Guich Whiskey Resort PUD contains the residential component of the Gold Mountain Development Plan as more particularly described in Section 5 of that Intergovernmental Agreement dated September 29, 1999 between the City of Central, the City of Black Hawk, the County of Gilpin and the Black Hawk-Central City Sanitation District (the "Growth 1GA"), the City and Property Owner agree as follows:
i. The City's reimbursement obligations set forth in this Section 11, and any other obligations of the City in Section 9 of this Agreement shall only be obligations of the City if Property Owner constructs the commercial and industrial land uses set forth in the incentives set forth in the Lake Gulch Whiskey Resort PUD. The Property Owner shall not be eligible for any reimbursement in the event the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD as more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD.
ii. Notwithstanding the provisions of Section 10.c. of this Agreement, in the event the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD us more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD, the City shall not be obligated to use the system development fee paid by the Property Owner to pay for the design and construction of the twelve (12) inch water line, nor shall the City have any additional obligations to use such system development fees for any purpose.
iii. In order to address the public health, safety and welfare of the citizens of the City, if the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD as more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD, Property Owner shall be required to dedicate property for and construct (A) a new City of Black Hawk Fire Station including space for an additional ambulance; and (B) a Police Station Annex to address the needs caused by the additional residential uses on the Property. In addition, Property Owner shall, be required to pay for any personnel costs incurred by the City for a period of ten (10) years from the date of the first Certificate of Occupancy for such Fire and Police facilities for the residential uses more particularly described in the Gold Mountain Development Plan.

## 12. Vested Rights.

a. Waiver. The Property Owner waives any prior vested property rights acquired in Gilpin County so long as the Property remains annexed into the City.
b. Vested Rights Created. Consistent with the purpose of this Agrement, the Parties hereby agree that the Annexation and Zoning Ordinances shall constitute a "site specific development plan" as defined in C.R.S. 824-68-102(4); that certain rights shail be vested property rights as provided in this Agreement; and that Property Owner and its designated successors and assigns shall have a vested property right to undertake and complete development and use of the Property as provided in this Agreement, The rights and
abligations under this Agreement shall vest in the Property Owner and its designated successors and assigns as benefits and burdens to the land and which shall run with title to the land.
c. Rights Which are Vested. Only the rights which are identified herein shall constitute vested property rights under this Agreement. These rights are as follows:
i. The right to be protected against the City initiating any zoning action to reduce the zoning entitlements granted upon annexation of the Property all as more particularly described in Section 4;
ii: The right to develop the Property and engage in land uses in the mamer and to the extent set forth on the terms and conditions set forth herein:
iii. The right to continue and complete development of the Property with conditions, standards, dedications, und requirements which are no more onerous than those then being imposed by the City on other developers within the City's municipal boundaries on a reasonably uniform and consistent basis, except to the extent such conditions, standards, dedications, and requirements conflict with the terms and conditions of this Agreement, in which event this Agreement shall control; and
iv, The right to be protected against the City approving a special or metropolitan taxing district which includes within its boundaries all or any portion of the Property, without the written consent of the Property Owner first being obtained in each instance, except that this provision shall not apply if the boundaries of the taxing district include the entire municipal boundaries of the City and if the creation of such a taxing district is approved by the entire electorate of the City.
d. Term of Vested Rights. The City by rights identified in this Section shall continue and have a duration until three (3) years after the date hereof. Extension of this period of vesting may be granted by the City in its sole discretion, upon request of the Property Owner or its designated successors and assigns.
e. Compliance with General Regulations. The establishment of the rights vested under this Agreement shall not preclude the application of City regulations of gencral applicability including, but not limited to, the application of local improvement districts, building, fire, plumbing, engineering electrical and mechanical codes, or the application of regional, state or federal regulations, as all of the foregoing exist on the date of this Agreement or may be enacted of amended after the date hereof, except as otherwise provided herein. The Property Owner does not waive its rights to oppose adoption of any such regulations.

## 13. Remedies.

a. The Property Owner's remedies against the City for the City's breach of this Agreement include: (i) breach of contract claims; and (ii) specific performance of the nonlegislative obligations of the City as set forth herein.
b. The City's remedies under this Agreement include, the following:
i. The refusal to issue any building permit or certificate of occupancy;
ii. A demand that the security given for the completion of the public improvements be paid or honored; and
iii. Any other remedy avallable at law:
c. Rights to Cure. Should either Party fail to comply with the terms of this Agreement, the other Party shall give written notice of breach or default and a period of thinty (30) days after receipt of said notice in which to cure any such breach or default; provided, however, if the breach or defnult is not reasonably susceptible of cure within such thirty (30) day period, there shall be given an additional period of time as may be reasonably necessary to complete the cure provided that the Party commences to cure the breach or default within such thirty (30) day period and thereafter diligently pursuc the same to completion. Should the breaking Party fail to cure any such breach or default, the other Party shall have the right to pursue all equitable remedies.
14. Authority of the City. Nothing contained in this Agreement shall constitute or be interpreted as a repeal of existing codes or ordinances or as a waiver or abrogation of the City's legislative, governmental, or police powers to promote and protect the health, safety and general welfare of the City or its inhabitants; nor shall this Agreement prohibit the enactment by the City of any tax or fee that is of uniform or general application, all in conformance with Colorado Revised Statutes.
15. Force Majeure - Development Restrictions or Delays. In the event of the unavailability of water and sewer taps necessary for the development and use of the Property as contemplated herein, or in the event of the imposition of any moratorium or other ordinance or action by the City or any other governmental or quasi-govermmental authority which materially prevents or delays development or use of the Property, the Property Owner's obligations hereunder to pay fees or to construct or convey to the City improvements shall be suspended for a period of time equal to the time period in which such described events either delay or prevent development or use of the Property. The term "material" as ased herein means the inability of the Property Owner to obtain plat approval, building permits or certificates of occupancy,
16. Construction of Public Streets. As specified and limited by Section 9, the Property Owner agrees to design, construct, pave, improve, and provide signage, lighting and signalizafion for all public streets and other public ways within or adjacent to the Property in accordance with City ordinances and resolutions and other applicable standards, subject to any reimbursement which may be provided for in such ordinances, resolutions and standards, and to make such other improvements as required by City ordinances and resolutions, to guarantee construction of all required improvements. If requested by the City, the Property Owner agrecs to enter into an agreement pertaining to such improyements and other matters prior to any development of the Property.
17. Severability. The Parties agree that if any part, term, portion or provision of this Agreement is held by a court of competent junstiction to be illegal ot in conflet with any law of
the State of Colorado, the validity of the remaining parts, terms, portions or provisions shall not be affected, and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular part, term, portion or provision held to be invalid.
18. Municipal Services. The City agrees to make available to the Property all of the usual municipal services in accordance with the ordinances and policies of the City. The Property Owner acknowledges that City services do not include, as of the date of the execution of this Agreement, sanitary sewer services, which are provided by the Sanitation District.
19. Amendments. This Agreement may be amended by the City and the Property Owner. Such amendments shall be in writing, shall be recorded with the County Clerk of Gilpin County, Colorado, shall be covenants running with the land, and shall be binding upon all persons or entaties having an interest in the Property subject to the amendment unless otherwise specified in the amendment. Except as otherwise provided herein, this Agreement shall not be amended unless approved in writing by all Parties hereto.
20. Entire Agreement. This Agreement embodies the entire agreement of the Parties. There are no promises, terms, conditions or obligations other than those contained herein; and this Agreement supersedes all previous communications, representations or agreements, either verbal or written, between the Parties.
21. Indemnification. The Property Owner agrees to indemnify and hold harmless the City and the City's officers, employees, agents and contractors from and against all liability, claims and demands, including attorneys' fees and court costs, which arise out of or are in any manner connected with the annexation of the Property, or other action by the City in order to effectuate the annexation of the Property, or which are in any manner connected with the City's enforcement of this Agreement, with the exception of enforcement of this Agreement against the Property Owner if the Property Owner substantially prevails. The Property Owner further agrees to investigate, handle, respond to and to provide defense for and defend against or, at the City's option; to pay the attorncys' fees for defense counsel of the City's choice for any such liability, claims or demands.
22. Assignment. As used in this Agreement, the term "Property Owner" shall include any of the heirs, transferees, successors or assigns of the Property Owner, and all such parties shall have the right to enforce this Agreement, and shall be subject to the terms of this Agreement, as if they were the original parties thereto.
23. Effect of City Ordinances and Resolutions. As used in this Agrement unless otherwise specifically provided herein, any reference to any provision of any City ordinance, resolution or policy is intended to refer to any subsequent amendments or revisions to such ordinance, resolution or policy and the Parties agree that such amendments or revisions shall be binding upon the Property Owner.
24. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the hers, transferees, successors and assigns hereot, and shall constitute covenants running with the land. This Agrement shall be recorded with the County Clerk of Gilpin County, Colorsdo, at the Property Owner's expense. Subject to the conditions precedent herein, this Agreement may be
enforced in any court of competent jurisdiction. In the event this Agreement is terminated as permitted herein, and the Property is not annexed, the City agrees to execute a sufficient release for recording.
25. Legislative Discretion. The Property Owner acknowledges that the annexation and zoning of the Property are subject to the legislative discretion of the City Council of the City of Black Hawk. No assurances of annexation or zoning have been made or relied upon by the Property Owner. In the event that, in the exercise of its legislative discretion, any action with respect to the Property herein contemplated is not taken, then the sole and exclusive remedy for the breach hereof accompanied by the exercise of such discretion, shall be the withdrawal of the petition for annexation by the Property Owner, or disconnection from the City in accordance with state law, as may be appropriate.
26. Recordation of Agreement. This Agreement shall be recorded with the Clerk and Recorder of Gilpin County, Colorado, shall run with the land, and shall be binding upon and shall inure to the benefit of the heirs, successors, and permitted assigns of the Parties hereto.
27. Effective Date. This Agreement shall be effective and binding upon the Parties immediately upon execution by both of the Parties.
28. Governing Law. The laws of the State of Colorado shall govern the validity, performance and enforcement of this Agreement. Should either Party institute legal suit or action for enforcement of any obligation contained herein, it is agreed that venue of such suit or action shall be in Gilpin County, Colorado.
29. Notice. All notice required under this Agreement shall be in writing and shall be hand-delivered or sent by registered or certified mail, return-receipt requested, postage prepaid, to the addresses of the parties herein set forth. All notices so given shall be considered effective on the earlier of actual receipt or seventy-two (72) hours after deposit in the United States Mail with the proper address as set forth below. Either Party by notice so given may change the address to which future notices shall be sent.

To the City:

With copy to:

To the Property Owner:

With copies to:

IN WITNESS WHEREOF, the Parties to this Agreement have set their hands and seals the day and year first written above.

# CITY OF BLACK HAWK, COLORADO 

## By:

David D. Spellman, Mayor

## ATTEST:

Melissa A. Greiner, CMC, City Clerk

## PROPERTY OWNER RSM LLC

By:


The above and foregoing signature of $\qquad$ was subscribed and sworn to before me this $\qquad$ day of $\qquad$ 2020.

Witness my hand and official seal.
My commission expires: $\qquad$

Notary Public

CONTRACT PURCHASER PROXIMO DISTILLERS, LLC
$B y$ : $\qquad$

STATE OF COLORADO )
) ss.
COUNTY OF $\qquad$ )

The above and foregoing signature of $\qquad$ was subscribed and sworn to before me this $\qquad$ day of $\qquad$ , 2020.

Witness my hand and official seal.
My commission expires: $\qquad$

Notary Public

## EXHIBIT A

## Legal Description of the Property

## Public Notices \& Legals cont'd

NOTICE OF PUBLIC HEARING ON PROPOSED ANNEXATION
Notice is hereby given that the Black Hawk City Council shall hold a public hearing upon Resolution No. 102020 for the purpose of determining and finding whether the area proposed to be annexed meets the applicable requirements of section 30 of article II of the state constitution and Colorado Revised Statutes sections 31-12-104 and 31-12-105, and is considered eligible for annexation.
The public hearing is to be held before the Black Hawk City Council on March 25, 2020, at 3:00 p.m., or as soon as possible thereafter. The public hearing shall be held in the City of Black Hawk City Council Chambers located at 211 Church Street, Black Hawk, Colorado 80422.
ALL INTERESTED PARTIES MAY ATTEND.
A complete copy of Resolution No. 10-2020 including a legal description of the proposed property to be annexed is set forth in full below:

## STATE OF COLORADO

COUNTY OF GILPIN CITY OF BLACK HAWK
Resolution No. 10-2020
TITLE: A RESOLUTION ACCEPTING THE PETITIONS FOR ANNEXATIONAND ESTABLISHING MARCH 25, 2020 AS THE DATE OF PUBLIC HEARING ON THE REQUESTED ANNEXATION OF PARCELS OF UNINCORPORATED TERRITORY LOCATED IN THE COUNTY OF GILPIN (LAKE GULCH WHISKEY RESORT ANNEXATIONS)
WHEREAS, the owner of unincorporated territory, comprising more than fifty percent ( $50 \%$ ) of the area proposed for annexation pursuant to C.R.S. § 31-12-107, have filed seven (7) petitions for annexation of a certain unincorporated property to the City (collectively referred to as the "Petitions"), which territory is more particularly described in Exhibit A, attached to each Petition;
WHEREAS, C.R.S. § 31-12-108 requires that the City accept the Petitions and establish a date, time and place that the City Council will hold a public hearing to consider the annexation and the various requirements of Title 31, Article 12, C.R.S.;
WHEREAS the City Council, at its regular meeting on February 12, 2020, reviewed the Petitions
and various documents submitted in support of the Petitions;
WHEREAS, the City Council has examined the record in this case and the various exhibits; has considered the request, the Comprehensive Plan, and the recommendations of the staff; and based upon the record which has been made concerning the request, has arrived at its decision; and
WHEREAS, it has been found and determined that the applicant has substantially complied with all of the procedural requirements as provided in Title 31, Article 12, C.R.S., in connection with the Petitions.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, COLORADO, THAT:
Section 1. The Petitions are hereby accepted and found to be in substantial compliance with the requirements of Title 31, Article 12, C.R.S.
Section 2. That a public hearing to consider the Petitions is scheduled for March 25, 2020, at 3:00 p.m., at the Council Chambers of the City of Black Hawk, which is located at 211 Church Street, Black Hawk, Colorado, 80422, to determine if the proposed annexations comply with C.R.S. §§ 31-12-104 and 31-12-105 or such part thereof as may be required to establish eligibility under the terms of Title 31, Article 12, Part 1 , as amended, known as the Municipal Annexation Act of 1965, and the Constitution of the State of Colorado, Article II, Section 30, as amended.
Section 3. Any person living within the area proposed to be annexed, any landowner of lands thereof, any resident of the municipality to which the area is proposed to be annexed, any municipality located within one mile of the proposed annexation, or the Board of County Commissioners of Gilpin County, may appear at such hearing and present evidence upon any matter to be determined by the City Council.
RESOLVED AND PASSED this 12th day of February, 2020.
/s/ David D. Spellman, Mayor ATTEST:
/s/ Melissa A. Greiner, CM, City Clerk
Name of Publication:
Weekly Register-Call
First Publication: 2/20/2020
Last Publication: 3/19/2020
EXHIBIT A
LEGAL DESCRIPTION
Lake Gulch Whiskey Resort Annexation No. 1

A parcel of land located in Sections 17 \& 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}, \quad$ a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence $\mathrm{N} 69^{\circ} 30^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of $3,617.79$ feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.
thence $\mathrm{S} 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Lode a distance of 296.23 feet to the point of intersection with line 3-2 of the Blow Out Lode, US Mineral Survey No. 18776;
thence N $19^{\circ} 46^{\prime} 26^{\prime \prime}$ E along said line 3-2 of said Blow Out Lode a distance of 361.74 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along said east-west centerline of the NE $1 / 4 \mathrm{a}$ distance of 208.47 feet to the point of intersection with line 1-2 of the Great Britian Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 29^{\circ} 18^{\prime} 00^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Great Britian Lode a distance of 353.67 feet to corner No. 2 of said Great Britian Lode;
thence $\mathrm{S} 46^{\circ} 17^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-3 of said Great Britian Lode a distance of 131.10 feet to the point of intersection with line 4-1 of said Williams Crossing Lode;
thence S $47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Crossing Lode a distance of 149.95 feet to the point of intersection with line 6-7 of said Great Britian Lode;
thence $\mathrm{N} 46^{\circ} 22^{\prime} 45^{\prime \prime}$ E along said line 6-7 of said Great Britian Lode a distance of 142.56 feet to corner No. 7 of said Great Britian Lode;
thence N $29^{\circ} 19^{\prime} 49^{\prime \prime}$ E along line $7-8$ of said Great Britian Lode a distance of 461.80 feet to the point of intersection with said east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4 \mathrm{a}$ distance of 474.24 feet to the point of intersection with line 16-15 of
the Gold Tunnel No. 21 Lode, US Mineral Survey No. 4589;
thence $\mathrm{S} 43^{\circ} 56^{\prime} 47^{\prime \prime} \mathrm{W}$ along said line 16-15 of the Gold Tunnel No. 21 Lode a distance of 81.81 feet to corner No. 15 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{S} 46^{\circ} 21^{\prime} 54^{\prime \prime} \mathrm{E}$ along line 15-14 of the said Gold Tunnel No. 21 Lode, a distance of 150.01 feet to corner no. 14 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{N} 43^{\circ} 56^{\prime} 15^{\prime \prime}$ E along line 14-13 of the said Gold Tunnel No. 21 Lode, a distance of 227.88 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4 \mathrm{a}$ distance of 1040.34 feet to the N $1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along the east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 165.11 feet to the point of intersection with line 3-2 of said East Williams Lode, US Mineral Survey No. 588;
thence $\mathrm{S} 47^{\circ} 19^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 3-2 of the East Williams Lode a distance of 204.89 feet to corner No. 2 of said East Williams Lode; thence $S 42^{\circ} 44^{\prime} 49^{\prime \prime}$ E along line 2-1 of said East Williams Lode a distance of 152.37 feet to corner No. 1 of said East Williams Lode; thence $\mathrm{N} 47^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{E}$ along line 1-4 of said East Williams Lode a distance of 385.62 feet to the point of intersection with said east-west centerline of the NW $1 / 4$ of said Section 17;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 906.14 feet to the NW $1 / 16$ th corner of said Section 17;
thence $\mathrm{N} 01^{\circ} 02^{\prime} 29^{\prime \prime} \mathrm{W}$ along the north-south centerline of said NW $1 / 4$ of said Section 17 and along the City of Black Hawk boundary a distance of 164.47 feet to the point of intersection with line 1-2 of the Mary Miller Lode, US Mineral Survey No. 969;
thence $\mathrm{N} 44^{\circ} 28^{\prime} 35^{\prime \prime}$ E along said line 1-2 of said Mary Miller Lode a distance of 60.92 feet to the point of intersection with said City of Black Hawk boundary;
thence $\mathrm{N} 88^{\circ} 00^{\prime} 45^{\prime \prime}$ E along said City of Black Hawk boundary a distance of 96.85 feet;
thence $\mathrm{N} 00^{\circ} 18^{\prime} 42^{\prime \prime} \mathrm{W}$ along said City of Black Hawk boundary a distance of 91.93 feet to the point of intersection with line 6-5 of the Morgan Placer US Mineral Survey No. 226;
thence $\mathrm{S} 42^{\circ} 19^{\prime} 52^{\prime \prime} \mathrm{E}$ along said line 6-5 of said Morgan Placer a distance of 92.75 feet to corner No.

5 of said Morgan Placer;
thence S $41^{\circ} 03^{\prime} 33^{\prime \prime} \mathrm{E}$ along Colorado Department of Transportation deed recorded at Reception No. 141956 Gilpin County Records a distance of 12.42 feet to a CDOT $31 / 4$ " aluminum cap;
thence $S 49^{\circ} 47^{\prime} 21^{\prime \prime}$ E continuing along said Reception No. 141956 a distance of 43.07 feet to the point of intersection with line 3-4 of said Mary Miller Lode;
thence $\mathrm{S} 44^{\circ} 27^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Mary Miller Lode a distance of 340.78 feet to the north-south centerline of said NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 980.96 feet to corner No. 3 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 45^{\circ} 33^{\prime} 27^{\prime \prime} \mathrm{W}$ along line 3-2 of said Little Mattie Lode a distance of 149.96 feet to corner No. 2 of said Little Mattie Lode;
thence $\mathrm{S} 44^{\circ} 28^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 2-1 of said Little Mattie Lode a distance of 1499.34 feet to corner No. 1 of said Little Mattie Lode;
thence $\mathrm{S} 45^{\circ} 17^{\prime} 32^{\prime \prime} \mathrm{E}$ along line 1-4 of said Little Mattie Lode a distance of 149.75 feet to corner No. 4 of said Little Mattie Lode;
thence $\mathrm{S} 27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 938.48 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{N} 88^{\circ} 20^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 663.62 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 31.99 feet;
2. $\mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.64 feet;
3. $\mathrm{N} 18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 33.14 feet;
4. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.32 feet;
5. N $53^{\circ} 47^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
6. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.56 feet;
7. $\mathrm{N} 85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.90 feet;
8. S $89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
9. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
10. N $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 33.32 feet;
11. N $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 32.67 feet;
12. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.68 feet;
13. $\mathrm{N} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.81 feet;
14. $\mathrm{N} 85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.44 feet;
15. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of
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28.99 feet;
16. N $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
17. $\mathrm{N} 81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.60 feet;
18. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
29.15 feet;
19. N $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of
28.55 feet;
20. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.11 feet;
21. N $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.60 feet;
22. N $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.58 feet;
23. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
24. $\mathrm{N} 69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.04 feet;
25. N $67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.55 feet;
26. N $68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of
27.25 feet;
27. N $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
28. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 25.03 feet;
29. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.04 feet;
30. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.20 feet;
31. N $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
32. N $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 25.01 feet to a point on line 1-4 of Washingtons Day Lode, US Mineral Survey 11885;
thence along said line $1-4 \mathrm{~N} 39^{\circ}$ $23^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 633.47 feet to corner No. 4 of said Washingtons Day Lode;
thence along line 4-3 of said Washingtons Day Lode N $45^{\circ} 12^{\prime}$ $18^{\prime \prime} \mathrm{W}$ a distance of 150.58 feet to corner No. 3 of said Washingtons Day Lode;
thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of $1,096.94$ feet;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{E}$ a distance of 320.86 feet;
thence N $42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 314.68 feet;
thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 710.26 feet to the Point of Beginning,

EXCEPT the Denver Lode, US Mineral Survey 745, total parcel containing 95.35 acres more or less.
Lake Gulch Whiskey Resort Annexation No. 2

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a

US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of $3,617.79$ feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.
thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 710.26 feet;
thence N $47^{\circ} 00^{\prime} 48^{\prime \prime}$ E a distance of 314.68 feet;
thence S $42^{\circ} 58^{\prime} 23^{\prime \prime}$ E a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 320.86 feet;
thence $\mathrm{S} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 1096.94 feet to corner No. 3 of the Washingtons Day Lode, US Mineral Survey 11885;
thence along line 3-2 of said Washingtons Day Lode S $39^{\circ} 23^{\prime}$ $18^{\prime \prime} \mathrm{W}$ a distance of 664.25 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge the following 42 courses:

1. $\mathrm{N} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 24.56 feet;
2. $\mathrm{N} 50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
3. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 25.59 feet;
4. $\mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 33.90 feet;
5. N $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.19 feet;
6. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
7. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
8. N $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
9. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.24 feet;
10. N $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.49 feet;
11. N $43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.13 feet;
12. N $42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 27.54 feet;
13. N $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 25.88 feet;
14. N $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.46 feet;
15. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 28.83 feet;
16. N $42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
17. N $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.96 feet;
18. $\mathrm{N} 45^{\circ} 20^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of
27.74 feet;
19. N $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 26.55 feet;
$20 . \mathrm{N} 51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
20. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 29.16 feet;
21. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.52 feet;
22. $\mathrm{N} 61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.59 feet;
23. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of
26.42 feet;
24. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.70 feet;
25. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.32 feet;
26. $\mathrm{N} 30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 24.48 feet;
27. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 27.32 feet;
28. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
29. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
30. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
31. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 35.15 feet;
32. N $47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.08 feet;
33. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 31.28 feet;

35 . N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.10 feet;
36. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.61 feet;
37. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of
32.31 feet;
38. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.65 feet;
39. N $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.71 feet;
40. N $44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 26.51 feet;
41. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.58 feet;

42 . N $44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet to the point of intersection with line 4-3 of the Tariff Lode, US Mineral Survey No. 966; thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime}$ E along said line 4-3 of said Tariff Lode a distance of 1068.76 feet to corner No. 3 of said Tariff Lode;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ along line
3-2 of said Tariff Lode a distance of 149.95 feet to corner No. 2 of said Tariff lode;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ along line 2-1 of said Tariff Lode a distance of 367.57 feet to the point of intersection with line 2-3 of the Williams Lode, US Mineral Survey No. 15824;
thence $\mathrm{N} 47^{\circ} 53^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 2-3 of said Williams Lode a distance of 660.81 feet to the point of intersection with line 6-5 of the East Clay County Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 17^{\circ} 31^{\prime} 51^{\prime \prime} \mathrm{W}$ along said
line 6-5 of said East Clay County
Lode a distance of 88.60 feet to the point of intersection with line 3-2
of the Clay County Lode, US Mineral Survey No. 329A;
thence N $51^{\circ} 26^{\prime} 36^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Clay County Lode a distance of 26.56 feet to corner No. 4 of said Clay County Lode, US Mineral Survey No. 360; thence $\mathrm{N} 52^{\circ} 11^{\prime} 23^{\prime \prime} \mathrm{W}$ along line 4-1 of said Clay County Lode, US Mineral Survey No. 360 a distance of 114.49 feet to corner No. 2 of said Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{S} 37^{\circ} 28^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-1 of said Clay County Lode, US Mineral Survey No. 329A a distance of 547.96 feet to the point of intersection with line 4-1 of the
Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{N} 54^{\circ} 01^{\prime} 59 " \mathrm{~W}$ along said line 4-1 of the Clay County Lode, US Mineral Survey No.
329B a distance of 109.70 feet to corner No. 1 of said Clay County Lode, US Mineral Survey No. 329B;
thence S $50^{\circ} 08^{\prime} 44^{\prime \prime} \mathrm{W}$ along line
1-2 of said Clay County Lode, US
Mineral Survey No. 329B a dis-
tance of 172.25 feet to the point of
intersection with the easterly edge
of Lake Gulch Road;
thence along said easterly edge of
Lake Gulch Road the following 12 courses:

1. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of

### 4.07 feet;

2. $\mathrm{N} 50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of
30.12 feet;
3. $\mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of

### 31.84 feet;

4. $\mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of
29.52 feet;
5. N $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of
32.08 feet;
6. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
34.04 feet;
7. N $34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 32.85 feet;
8. N $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
9. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
$10 . \mathrm{N} 29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 37.67 feet;
10. N $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.05 feet;
11. N $28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
1.33 feet to the point of intersection with line 1-2 of the Caledonia
Lode, US Mineral Survey No. MS 519;
thence $\mathrm{N} 49^{\circ} 29^{\prime} 47{ }^{\prime \prime}$ E along said line 1-2 of said Caledonia Lode a distance of 724.79 feet to the point of intersection with line 6-5 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence N $31^{\circ} 43^{\prime} 33^{\prime \prime} \mathrm{W}$ along said line 6-5 of said Golden Gad Lode a distance of 50.45 feet to the point of intersection with the eastwest centerline of said NW $1 / 4$ of said Section 18;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NW $1 / 4$ and along the City of Black Hawk Boundary a distance of 258.49 feet to the $\mathrm{N} 1 / 16$ th corner on the north-south centerline of said Section 18;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along the east-west centerline of the $\mathrm{NE} 1 / 4$ of said Section 18 and along the City of Black Hawk Boundary a distance of 246.17 feet to the point of intersection with line 3-4 of the Clay County Lode, US Mineral Survey No. 360;
thence $\mathrm{S} 27^{\circ} 50^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Clay County Lode a distance of 157.91 feet to the point of intersection with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824, the Point of Beginning, containing 29.21 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 3
A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}, \quad$ a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description feet; thence N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$ along the east line of the NE $1 / 4$ of said Section 13 a distance of 876.53 feet to the point of intersection with the northerly and easterly edge of Lake Gulch Road, County Road 6 . thence along said northerly and easterly edge of Lake Gulch Road the following 66 courses:

1. $\mathrm{S} 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 13.72 feet;
2. $\mathrm{S} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 35.41 feet;
3. $\mathrm{S} 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
4. $\mathrm{S} 85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 32.03 feet;
5. $\mathrm{S} 86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
6. S $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.82 feet;
7. $\mathrm{S} 88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 29.18 feet;
8. S $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 34.66 feet;
9. S $88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 25.20 feet;
10. S $88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.97 feet;
11. S $89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 35.02 feet;

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12. $\mathrm{N} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of
36.59 feet;
13. $\mathrm{N} 87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 26.26 feet;
14. N $85^{\circ} 29^{\prime} 19{ }^{\prime \prime} \mathrm{E}$ a distance of 27.58 feet;
15. N $84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.08 feet;
16. N $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.85 feet;
17. $\mathrm{N} 82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 28.00 feet;
18. $\mathrm{N} 78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 26.68 feet;
19. N $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 25.60 feet;
20. N $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of
25.55 feet;
21. $\mathrm{N} 78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 25.48 feet;
22. $\mathrm{N} 78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 37.64 feet;
23. N $79^{\circ} 54^{\prime} 14{ }^{\prime \prime} \mathrm{E}$ a distance of
26.32 feet;
24. $\mathrm{N} 80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 26.01 feet;
25. N $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{E}$ a distance of 25.64 feet;
26. $\mathrm{N} 82^{\circ} 00^{\prime} 477^{\prime \prime} \mathrm{E}$ a distance of 25.87 feet;
27. $\mathrm{N} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of
25.72 feet;
28. N $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{E}$ a distance of
25.51 feet;
29. $\mathrm{N} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of
36.86 feet;
30. N $77^{\circ} 53^{\prime} 04 " \mathrm{E}$ a distance of 25.17 feet;
31. N $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
32. $\mathrm{N} 74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 26.43 feet;
33. N $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 27.05 feet;
34. N $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.52 feet;
35. N $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of
29.17 feet;
36. N $68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of
28.70 feet;
37. N $68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of
28.34 feet;
38. N $68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 28.58 feet;
39. N $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 27.99 feet;
40. N $72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
41. N $72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{E}$ a distance of 26.21 feet;
42. N $68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 27.08 feet;
43. N $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.85 feet;
44. $\mathrm{N} 74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 27.76 feet;
45. N $75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 28.93 feet;
46. N $77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{E}$ a distance of 29.52 feet;
47. N $78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 28.58 feet;
48. N $78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{E}$ a distance of
26.85 feet;
49. N $76^{\circ} 41^{\prime} 51$ " E a distance of 25.03 feet;
50. N $79^{\circ} 17^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 29.12 feet;
51. N $78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 5.49 feet;
52. N $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of
34.79 feet;
53. N $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 34.86 feet;
54. N $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 34.36 feet;
55. N $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 34.21 feet;
56. N $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 32.92 feet;
57. N $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 33.64 feet;
58. N $77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{E}$ a distance of
54.90 feet;
59. N $79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
60. N $79^{\circ} 51^{\prime} 30^{\prime \prime} \mathrm{E}$ a distance of 30.19 feet;
61. N $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 30.69 feet;
62. N $82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 26.71 feet;
63. N $85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.83 feet;
64. N $87^{\circ} 30^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 25.59 feet;
65. N $89^{\circ} 45^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 26.85 feet;
66. S $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 21.27 feet to the point of intersection with line 3-2 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{N} 39^{\circ} 31^{\prime} 37^{\prime \prime}$ E along said
line 3-2 of said St. Anthony Lode a distance of 246.50 feet to the point of intersection with line 1-6 of the Susan-Mary Lode, US Mineral Survey No. 694;
thence $\mathrm{S} 19^{\circ} 06^{\prime} 00^{\prime \prime}$ E along said line 1-6 of said Susan-Mary Lode a distance of 35.27 feet to corner No. 6 of said Susan-Mary Lode;
thence $\mathrm{N} 70^{\circ} 54^{\prime} 00^{\prime \prime} \mathrm{E}$ along line 6-5 of said Susan-Mary Lode a distance of 224.97 feet ot the point of intersection with the east-west centerline of the NW $1 / 4$ of said
Section 18, the City of Black Hawk Boundary;
thence S $89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Boundary a distance of 553.67 feet to the point of intersection with line 4-3 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence $\mathrm{S} 49^{\circ} 45^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 4-3 of said Golden Gad Lode a distance of 340.06 feet to corner No. 3 of said Golden Gad Lode; thence S $63^{\circ} 17^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 3-2 of said Golden Gad Lode a distance of 259.61 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 177 courses:
67. S $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 20.45 feet;
68. S $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
69. S $31^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 35.62 feet;
70. S $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 35.80 feet;
71. S $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 35.14 feet;
72. S $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of
26.48 feet;
73. S $28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of
25.97 feet;
74. S $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of
25.05 feet;
75. S $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of
37.67 feet;
76. S $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of

### 33.92 feet;

89. S $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 28.92 feet;
90. S $34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 32.85 feet;
91. S $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 34.04 feet;
92. S $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 32.08 feet;
93. S $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of
29.52 feet;
94. S $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of
31.84 feet;
95. S $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of
30.12 feet;
96. S $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of
32.15 feet;
97. S $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet;
98. S $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of
28.26 feet;
99. S $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.81 feet;
100. S $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.25 feet;
101. S $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of
32.80 feet;
102. S $57^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 26.24 feet;
103. S $58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of
27.12 feet;
104. S $58^{\circ} 36^{\prime} 20^{\prime \prime}$ E a distance of
29.13 feet;
105. S $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.45 feet;
106. S $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{E}$ a distance of
29.57 feet;
107. S $57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 29.54 feet;
108. S $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 30.64 feet;
109. S $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of
31.93 feet;
110. S $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of
32.05 feet;
111. S $64^{\circ} 12^{\prime} 09^{\prime \prime}$ E a distance of
30.05 feet;
112. S $66^{\circ} 59^{\prime} 32^{\prime \prime}$ E a distance of 31.36 feet;
113. S $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 31.74 feet;
114. S $66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 30.74 feet;
115. S $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 31.24 feet;
116. S $56^{\circ} 45^{\prime} 33^{\prime \prime}$ E a distance of 32.71 feet;
117. S $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 34.02 feet;
118. S $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of
35.06 feet;
119. S $46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of
33.54 feet;
120. S $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of
31.95 feet;
121. S $47^{\circ} 24^{\prime} 34^{\prime \prime}$ E a distance of
33.28 feet;
122. S $46^{\circ} 33^{\prime} 23^{\prime \prime}$ E a distance of
34.15 feet;
123. S $45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of
34.73 feet;
124. S $45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of
33.04 feet;
125. S $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of
32.28 feet;
126. S $44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of
31.87 feet;
127. S $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of
32.58 feet;
128. S $44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of
26.51 feet;
129. S $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of
25.71 feet;
130. S $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of
35.65 feet;
131. S $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of
32.31 feet;
132. $\mathrm{S} 41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of
32.61 feet;
133. S $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of
30.10 feet;
134. S $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of
31.28 feet;
135. S $47^{\circ} 25^{\prime} 27^{\prime \prime}$ E a distance of
31.08 feet;
136. S $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of
35.15 feet;
137. S $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of

### 25.97 feet;

138. S $38^{\circ} 52^{\prime} 14^{\prime \prime}$ E a distance of
38.09 feet;
139. S $33^{\circ} 48^{\prime} 48^{\prime \prime}$ E a distance of
27.44 feet;
140. S $29^{\circ} 24^{\prime} 22^{\prime \prime}$ E a distance of

### 27.32 feet;

141. S $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of
24.48 feet;
142. S $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 31.32 feet;
143. S $49^{\circ} 29^{\prime} 24^{\prime \prime}$ E a distance of
26.70 feet;
144. S $59^{\circ} 21^{\prime} 59^{\prime \prime}$ E a distance of
26.42 feet;
145. S $61^{\circ} 44^{\prime} 13 \prime \prime$ E a distance of
33.59 feet;
146. S $61^{\circ} 25^{\prime} 24^{\prime \prime}$ E a distance of
33.52 feet;
147. S $59^{\circ} 58^{\prime} 24^{\prime \prime}$ E a distance of
29.16 feet;
148. S $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.06 feet;
149. S $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of
26.55 feet;
150. S $45^{\circ} 20^{\prime} 477^{\prime \prime} \mathrm{E}$ a distance of
27.74 feet;
151. S $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 27.96 feet;
152. S $42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of
30.25 feet;
153. S $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.83 feet;
154. S $34^{\circ} 08^{\prime} 31^{\prime \prime}$ E a distance of 30.46 feet;
155. S $38^{\circ} 01^{\prime} 46^{\prime \prime}$ E a distance of 25.88 feet;
156. S $42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 27.54 feet;
157. S $43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of
28.13 feet;
158. S $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of
27.49 feet;
159. S $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of
28.24 feet;
160. S $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of
28.91 feet;
161. S $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
162. S $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 30.55 feet;
163. S $52^{\circ} 37^{\prime} 45^{\prime \prime}$ E a distance of 28.19 feet;
164. S $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{E}$ a distance of 33.90 feet;
165. S $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of
25.59 feet;
166. S $50^{\circ} 23^{\prime} 24^{\prime \prime}$ E a distance of
26.25 feet;
167. S $48^{\circ} 28^{\prime} 12^{\prime \prime}$ E a distance of 27.86 feet;
168. S $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of
29.88 feet;
169. S $51^{\circ} 44^{\prime} 53^{\prime \prime}$ E a distance of 28.55 feet;
170. S $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
171. S $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 31.05 feet;
172. S $66^{\circ} 41^{\prime} 03^{\prime \prime}$ E a distance of 25.85 feet;
173. S $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 27.06 feet;
174. S $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
175. S $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.20 feet;
176. S $54^{\circ} 58^{\prime} 577^{\prime \prime}$ E a distance of 28.04 feet;
177. S $58^{\circ} 52^{\prime} 53^{\prime \prime}$ E a distance of 25.03 feet;
178. S $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 29.46 feet;
179. S $68^{\circ} 24^{\prime} 20^{\prime \prime}$ E a distance of 27.25 feet;
180. S $67^{\circ} 48^{\prime} 40^{\prime \prime}$ E a distance of 31.55 feet;
181. S $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 30.04 feet;
182. S $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 31.51 feet;
183. S $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 30.58 feet;
184. S $69^{\circ} 40^{\prime} 34^{\prime \prime}$ E a distance of 29.60 feet;
185. S $70^{\circ} 53^{\prime} 21^{\prime \prime}$ E a distance of 28.11 feet;
186. S $73^{\circ} 08^{\prime} 35^{\prime \prime}$ E a distance of 28.55 feet;
187. S $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 29.15 feet;
188. S $81^{\circ} 25^{\prime} 50^{\prime \prime}$ E a distance of 28.60 feet;
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continued from page 21
189. S $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.17 feet;
190. S $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{E}$ a distance of 28.99 feet;
191. S $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 29.44 feet;
192. S $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 25.81 feet;
193. S $82^{\circ} 55^{\prime} 20^{\prime \prime}$ E a distance of
27.68 feet;
194. S $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of
32.67 feet;
195. S $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 33.32 feet;
196. S $87^{\circ} 06^{\prime} 51^{\prime \prime}$ E a distance of
30.91 feet;
197. N $89^{\circ} 52^{\prime} 43^{\prime \prime}$ E a distance of 27.50 feet;
198. S $85^{\circ} 37^{\prime} 54^{\prime \prime}$ E a distance of 30.90 feet;
199. S $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of
35.56 feet;
200. S $53^{\circ} 47^{\prime} 50^{\prime \prime}$ E a distance of 29.23 feet;
201. S $38^{\circ} 37^{\prime} 56^{\prime \prime}$ E a distance of 34.32 feet;
202. S $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 33.14 feet;
203. S $07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 32.64 feet;
204. S $04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of
31.99 feet;
205. S $00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of
31.57 feet;
206. S $01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.44 feet;
207. S $00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of
32.16 feet;
208. S $02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
209. S $06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 38.26 feet;
210. S $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 37.16 feet;
211. S $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
212. S $28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of
45.06 feet;
213. S $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of
30.28 feet;
214. S $40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
30.05 feet;
215. S $43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 38.41 feet;
216. S $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 34.91 feet;
217. S $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 32.47 feet;
218. S $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 32.66 feet;
219. S $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 35.71 feet;
220. S $24^{\circ} 24^{\prime} 12^{\prime \prime}$ W a distance of
32.11 feet;
221. S $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
222. S $19^{\circ} 00^{\prime} 54 " \mathrm{~W}$ a distance of 35.03 feet;
223. S $15^{\circ} 53^{\prime} 59 " \mathrm{~W}$ a distance of 32.80 feet;
224. S $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of
28.35 feet;
225. S $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 27.80 feet;
226. S $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of
47.10 feet;
227. S $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.86 feet;
228. $\mathrm{S} 13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of

### 15.92 feet;

229. S $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of
30.16 feet;
230. S $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of
30.12 feet;
231. S $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of
31.40 feet;
232. S $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of
31.62 feet;
233. S $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 25.34 feet;
234. S $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
19.58 feet;
235. S $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of
7.58 feet;
236. S $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of
27.59 feet;
237. S $44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{E}$ a distance of
29.13 feet;
238. S $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of
27.04 feet;
239. S $54^{\circ} 37^{\prime} 49^{\prime \prime}$ E a distance of
25.73 feet;
240. S $54^{\circ} 46^{\prime} 58^{\prime \prime}$ E a distance of 26.38 feet;
241. S $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of
30.82 feet;
242. S $59^{\circ} 18^{\prime} 04^{\prime \prime}$ E a distance of
25.17 feet;
243. S $63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of
29.27 feet;
244. S $60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of
30.28 feet;
245. S $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 33.01 feet;
246. S $61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{E}$ a distance of 33.37 feet;
247. S $55^{\circ} 46^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of 29.95 feet;
248. S $56^{\circ} 17^{\prime} 05^{\prime \prime}$ E a distance of 38.86 feet;
249. S $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 57.67 feet;
250. S $48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{E}$ a distance of 91.48 feet;
251. S $45^{\circ} 53^{\prime} 24^{\prime \prime}$ E a distance of 48.20 feet;
252. S $43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of
41.87 feet;
253. S $45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of
24.91 feet;
254. S $49^{\circ} 36^{\prime} 04{ }^{\prime \prime} \mathrm{E}$ a distance of 29.00 feet;
255. S $53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 30.11 feet;
256. S $58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 15.49 feet to the point of intersection with the south line of the $\mathrm{SE} 1 / 4$ of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along said south line of said SE $1 / 4$ of said Section 18 a distance of 39.68 feet to the point of intersection with the westerly and southerly edge of said Lake Gulch Road;
thence along said westerly and southerly edge of said Lake Gulch Road the following 260 courses: 1. N $53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 14.21 feet;
257. $\mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.59 feet;
258. $\mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
259. $\mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.82 feet;
260. N $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 47.21 feet;
261. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 90.36 feet;
262. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of
56.22 feet;
263. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
264. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 28.96 feet;
$10 . \mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
265. N $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.24 feet;
266. N $60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
267. N $63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
268. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of
26.18 feet;
269. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of
31.69 feet;
270. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
271. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
26.25 feet;
272. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
29.05 feet;
273. N $44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 32.98 feet;
274. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of
29.58 feet;
275. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of
16.35 feet;
276. N $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of
28.47 feet;
277. $\mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of
25.32 feet;
278. N $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of
31.96 feet;
279. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of
31.10 feet;
280. N $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of
29.84 feet;
281. N $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.89 feet;
282. N $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 16.19 feet;
283. N $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 30.01 feet;
284. N $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.47 feet;
285. N $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of
27.77 feet;
286. N $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.78 feet;
287. N $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of
33.77 feet;
288. N $19^{\circ} 00^{\prime} 544^{\prime \prime} \mathrm{E}$ a distance of
35.82 feet;
289. N $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
290. N $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 33.26 feet;
291. N $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 37.09 feet;
292. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of
34.81 feet;
293. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of
34.41 feet;
294. N $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of
36.10 feet;
295. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of
38.09 feet;
296. N $40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of
28.32 feet;
297. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of
28.10 feet;
298. N $28^{\circ} 41^{\prime} 22^{\prime \prime}$ E a distance of
299. N ${ }^{\circ} 4^{\prime \prime}$ E a distance of
300. N $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of
301. N $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of
33.64 feet;
302. $\mathrm{N} 06^{\circ} 12^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of

### 35.66 feet;

48. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of
27.09 feet;
49. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of
31.86 feet;
50. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of
32.59 feet;
51. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of
30.52 feet;
52. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of
53. N $07^{\circ} 44^{\prime} 55^{\prime \prime}$ W a distance of

### 29.96 feet;

54. N $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of
27.17 feet;
$55 . \mathrm{N} 38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
27.41 feet;
55. N $53^{\circ} 47^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of
22.16 feet;
56. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of
29.40 feet;
57. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
28.02 feet;
58. S $89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of

### 27.21 feet;

60. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of

### 1.81 feet,

$61 . \mathrm{N} 85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of
33.93 feet;
62. N $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of
33.15 feet;
63. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of
27.67 feet;
64. N $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of
25.38 feet;
65. N $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of
29.07 feet;
66. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of
28.87 feet;
67. N $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of

### 29.04 feet;

68 . N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of

### 0.35 feet

69. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
30.74 feet;
70. N $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of
29.67 feet;
71. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of
28.78 feet;
72. N $69^{\circ} 40^{\prime} 34{ }^{\prime \prime} \mathrm{W}$ a distance of
29.91 feet;
73. $\mathrm{N} 69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of
30.63 feet;
74. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of
31.56 feet;
75. N $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of
30.35 feet;
76. $\mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of
31.66 feet;
77. N $68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.25 feet;
78. N $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of
31.29 feet;
79. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of
26.50 feet;

80 . N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of
28.22 feet;
81. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
28.94 feet;
82. N $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of
31.12 feet;
83. N $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 26.08 feet;
84. N $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of
26.69 feet;
85. N $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
86. N $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of
33.17 feet;
87. N $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of
29.94 feet;
88. N $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of
30.51 feet;
89. N $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of
27.58 feet;

90 . N $50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of
25.21 feet;
91. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 24.95 feet;
92. N $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 34.13 feet;
93. N $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.67 feet;
94. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of
31.14 feet;
95. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of
31.07 feet;
96. N $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of
29.28 feet;
97. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of
28.86 feet;
98. N $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of
28.28 feet;
99. N $43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.69 feet;
100. N $42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of
28.59 feet;
101. N $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 27.43 feet;
102. N $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of
30.52 feet;
103. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of
27.18 feet;
104. N $42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of
29.05 feet;
105. N $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.46 feet;
106. N $45^{\circ} 20^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of
26.75 feet;
107. N $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
108. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 23.97 feet;
109. N $59^{\circ} 58^{\prime} 24$ " W a distance of 27.27 feet;
110. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.19 feet;
111. N $61^{\circ} 44^{\prime} 13{ }^{\prime \prime} \mathrm{W}$ a distance of
33.99 feet;

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112. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet;
113. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of
30.84 feet;
114. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet;
115. N $30^{\circ} 56^{\prime} 40^{\prime \prime}$ W a distance of 26.10 feet;
116. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.77 feet;
117. N $33^{\circ} 48^{\prime} 48^{\prime \prime}$ W a distance of 25.62 feet;
118. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.74 feet;
119. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 24.23 feet;
120. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet;
121. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.87 feet;
122. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 32.77 feet;
123. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
124. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.25 feet;
125. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
126. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.49 feet;
127. $\mathrm{N} 42^{\circ} 17^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet;
128. N $44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 25.56 feet;
129. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.68 feet;
130. N $44^{\circ} 25^{\prime} 34^{\prime \prime}$ W a distance of 32.24 feet;
131. N $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of
32.15 feet;
132. N $45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
133. N $45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 34.45 feet;
134. N $46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 33.75 feet;
135. N $47^{\circ} 24^{\prime} 34^{\prime \prime}$ W a distance of 33.36 feet;
136. N $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
32.17 feet;
137. $\mathrm{N} 46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of

### 33.26 feet;

138. N $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
139. N $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 32.26 feet;
140. N $56^{\circ} 45^{\prime} 33^{\prime \prime}$ W a distance of 30.70 feet;
141. N $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.38 feet;
142. N $66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
143. N $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 31.64 feet;
144. N $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
$145 . \mathrm{N} 64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 31.24 feet;
145. N $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
146. N $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of
32.37 feet;
147. N $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of
30.86 feet;
148. N $57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.66 feet;
$150 . \mathrm{N}^{5} 57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of
29.67 feet;
149. N $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of
30.31 feet;
150. N $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of
28.84 feet;
151. N $58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of
27.42 feet;
152. N $57^{\circ} 04^{\prime} 54 " \mathrm{~W}$ a distance of
27.06 feet;
153. N $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of
33.27 feet;
154. N $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of
27.44 feet;
155. N $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 27.45 feet;
156. N $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of
28.72 feet;
157. N $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of

### 29.69 feet;

160. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of
32.27 feet;
161. N $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of
30.76 feet;
162. N $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of
32.27 feet;
163. N $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of
30.25 feet;
164. N $44^{\circ} 59^{\prime} 11{ }^{\prime \prime} \mathrm{W}$ a distance of
33.97 feet;
165. N $38^{\circ} 27^{\prime} 56^{\prime \prime}$ W a distance of
36.03 feet;
166. N $34^{\circ} 37^{\prime} 33^{\prime \prime}$ W a distance of
34.03 feet;
167. N $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of
29.64 feet;
168. N $30^{\circ} 53^{\prime} 34^{\prime \prime}$ W a distance of
34.55 feet;
169. N $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of
38.14 feet;
170. N $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of
25.20 feet;
171. N $28^{\circ} 12^{\prime} 54 " \mathrm{~W}$ a distance of
26.03 feet;
172. N $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
26.41 feet;
173. N $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of
34.93 feet;
174. N $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of
35.27 feet;
175. N $31^{\circ} 20^{\prime} 23^{\prime \prime}$ W a distance of
34.15 feet;
176. N $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of
30.56 feet;
177. N $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
178. N $55^{\circ} 33^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of
30.91 feet;
179. N $61^{\circ} 36^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of
25.13 feet;
180. N $63^{\circ} 34^{\prime} 32^{\prime \prime}$ W a distance of
26.32 feet;
181. N $64^{\circ} 31^{\prime} 22^{\prime \prime}$ W a distance of
25.12 feet;
182. N $67^{\circ} 22^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of
26.00 feet;
183. N $69^{\circ} 56^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of
31.66 feet;
184. N $71^{\circ} 44^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of
26.36 feet;
185. N $73^{\circ} 18^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 30.03 feet;
186. N $77^{\circ} 37^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet;
187. N $82^{\circ} 16^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 26.04 feet;
188. N $88^{\circ} 32^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of
28.15 feet;
189. S $89^{\circ} 07^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of
25.28 feet;
190. S $87^{\circ} 57^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of
28.75 feet;
191. S $89^{\circ} 11^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of
28.08 feet;
192. S $89^{\circ} 11^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of
25.02 feet;
193. N $89^{\circ} 16^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of
25.73 feet;
194. N $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of
29.71 feet;
195. S $89^{\circ} 45^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of
26.33 feet;
196. $\mathrm{S} 87^{\circ} 30^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
24.87 feet;
197. S $85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of
28.91 feet;
198. S $82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of
25.77 feet;
199. S $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
30.14 feet;
200. S $79^{\circ} 51^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of

### 29.85 feet;

201. S $79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of
32.22 feet;
202. S $77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of
54.21 feet;
203. S $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
33.26 feet;
204. S $75^{\circ} 55^{\prime} 53 \prime \mathrm{~W}$ W a distance of
33.03 feet;
205. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
34.26 feet;
206. S $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of
34.55 feet;
207. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of
35.14 feet;
208. S $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of

### 34.96 feet;

209. S $78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of

### 5.81 feet;

210. S $79^{\circ} 17^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of
28.84 feet;
211. S $76^{\circ} 41^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of
24.88 feet;
212. S $78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of
27.26 feet;
213. S $78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of
28.33 feet;
214. S $77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{W}$ a distance of
28.92 feet;
215. S $75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of
28.46 feet;
216. S $74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of

### 27.02 feet;

217. S $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of

### 26.69 feet;

218. S $68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of

### 27.19 feet;

219. S $72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of
26.92 feet;
220. S $72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of
26.00 feet;
221. S $70^{\circ} 17^{\prime} 299^{\prime \prime} \mathrm{W}$ a distance of
27.18 feet;
222. S $68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of
28.17 feet;
223. S $68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of
28.31 feet;
224. S $68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of
28.95 feet;
225. S $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of
29.75 feet;
226. S $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of
$0^{\prime} 29^{\prime \prime}$ W a distance of
227. S $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of
228. S $74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
27.07 feet;
229. S $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of
27.01 feet;
230. S $77^{\circ} 53^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of
25.96 feet;
231. S $80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of
37.64 feet;
232. S $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of
26.00 feet;
233. S $83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of
25.74 feet;
234. S $82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of
25.30 feet;
235. S $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of
25.35 feet;
236. S $80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of
25.95 feet;
237. S $79^{\circ} 54^{\prime} 14{ }^{\prime \prime} \mathrm{W}$ a distance of
25.97 feet;
238. S $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
37.31 feet;
239. S $78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of
25.19 feet;
240. S $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
25.31 feet;
241. S $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of
25.95 feet;
242. S $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of
27.66 feet;
243. S $82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of
28.99 feet;
244. S $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of
29.37 feet;
245. S $84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of
29.34 feet;
246. S $85^{\circ} 29^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of
28.10 feet;
247. S $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of
26.80 feet;
248. S $88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of
37.12 feet;
249. N $89^{\circ} 43^{\prime} 04^{\prime \prime}$ W a distance of

### 5.66 feet;

$250 . \mathrm{N} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of

### 37.23 feet;

$251 . \mathrm{N}^{2} 8^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of
25.20 feet;
252. N $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of
34.65 feet;
253. N $88^{\circ} 23^{\prime} 53 " \mathrm{~W}$ a distance of
29.41 feet;
254. N $87^{\circ} 13^{\prime} 04{ }^{\prime \prime} \mathrm{W}$ a distance of
30.21 feet;
255. N $86^{\circ} 21^{\prime} 19{ }^{\prime \prime} \mathrm{W}$ a distance of
31.47 feet;
256. N $85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of
32.34 feet;
257. N $84^{\circ} 42^{\prime} 28^{\prime \prime}$ W a distance of
33.73 feet;
$258 . \mathrm{N} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of
35.41 feet;
259. N $84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of
11.88 feet to the point of intersec-
tion with the east line of said NE $1 / 4$ of said Section 13;
260. $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$ along said east line of said NE $1 / 4$ of said Section 13 a distance of 22.08 feet to the Point of Beginning containing 8.03 acres more or less.
Lake Gulch Whiskey Resort Annexation No. 4
A parcel of land located in Section 18, Township 3 South,
Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this descrip-
tion; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch
Road, being the Point of Beginning.
thence $\mathrm{S} 88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S $1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{S} 00^{\circ} 00^{\prime} 33^{\prime \prime} \mathrm{W}$ along the east line of the $\mathrm{SE} 1 / 4$ of said Section 18 a distance of 1312.03 feet to the SE corner of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along the south line of the SE $1 / 4$ of said Section 18 a distance of 387.79 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 15.49 feet;
2. N $53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 30.11 feet;
3. $\mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 29.00 feet;
4. $\mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 24.91 feet;
5. $\mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of
41.87 feet;
6. N $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 48.20 feet;
7. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 91.48 feet;
8. N $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 57.67 feet;
9. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.86 feet;
10. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 29.95 feet;
11. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 33.37 feet;

# Public Notices \& Legals cont'd 

continued from page 23

12. N $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.01 feet;
13. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
14. N $63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.27 feet;
15. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.17 feet;
16. N $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 30.82 feet;
17. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 26.38 feet;
18. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
19. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of
27.04 feet;
20. N $44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 29.13 feet;
21. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 27.59 feet;
22. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 7.58 feet;
23. N $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 19.58 feet;
24. N $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.34 feet;
25. N $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 31.62 feet;
26. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.40 feet;
27. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of
30.12 feet;
28. N $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.16 feet;
29. N $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 15.92 feet;
30. N $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.86 feet;
31. $\mathrm{N} 14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.10 feet;
32. N $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 24.47 feet to the point of intersection with line 2-3 of the Rickard Lode, US Mineral Survey No. 16283;
thence $\mathrm{N} 67^{\circ} 02^{\prime} 38^{\prime \prime} \mathrm{E}$ along said line 2-3 of said Rickard Lode a distance of 945.51 feet to corner No. 3 of said Rickard Lode;
thence $\mathrm{N} 23^{\circ} 02^{\prime} 09^{\prime \prime} \mathrm{W}$ along line 3-4 of said Rickard Lode a distance of 150.08 feet to corner No. 4 of said Rickard Lode;
thence S $67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Rickard Lode a distance of 153.49 feet to the point of intersection with line 3-4 of the Olivia Lode, US Mineral Survey No. 13916;
thence S $29^{\circ} 39^{\prime} 14^{\prime \prime}$ E along said line 3-4 a distance of 131.02 feet to corner No. 4 of said Olivia Lode;
thence $\mathrm{S} 60^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ along line 4-1 of said Olivia Lode a distance of 150.24 feet to corner No. 1 of said Olivia Lode;
thence $\mathrm{N} 29^{\circ} 41^{\prime} 13^{\prime \prime} \mathrm{W}$ along line 1-2 of said Olivia Lode a distance of 148.78 to the point of intersection with said line 4-1 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along said line 4-1 of said Rickard Lode a distance of 497.85 feet to the point of intersection with the easterly line of said Lake Gulch Road;
thence along said easterly edge of said Lake Gulch Road the following 14 courses:
33. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 20.73 feet;
34. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 32.47 feet;
35. N $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 34.91 feet;
36. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.41 feet;
37. $\mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet;
38. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 30.28 feet;
39. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 45.06 feet;
40. N $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
41. N $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 37.16 feet;
42. $\mathrm{N} 06^{\circ} 12^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of 38.26 feet;
43. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 28.30 feet;
44. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 32.16 feet;
45. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.44 feet;
46. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 31.57 feet to the Point of Beginning, containing 20.72 acres more or less.
Lake Gulch Whiskey Resort Annexation No. 5

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $37^{\circ} 49^{\prime} 49^{\prime \prime}$ E a distance of $1,154.79$ feet to the intersection of line 3-4 of the Annex Lode, US Mineral Survey No. 7799 with the easterly and northerly edge of Lake Gulch Road, County Road 6 being the Point of Beginning.
thence $\mathrm{N} 61^{\circ} 53^{\prime} 31{ }^{\prime \prime} \mathrm{E}$ along said line 3-4 of said Annex Lode a distance of 1064.95 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline of said NW $1 / 4$ a distance of 227.43 feet to the point of intersection with line 1-4 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence S $39^{\circ} 30^{\prime} 42^{\prime \prime} \mathrm{W}$ along said line 1-4 of said St. Anthony Lode a distance of 328.85 feet to the point of intersection with said easterly and northerly edge of Lake Gulch Road;
thence along said easterly and northerly edge of Lake Gulch Road the following 8 courses:

1. S $79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 10.12 feet;
2. S $77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.90 feet;
3. $\mathrm{S} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of
33.64 feet;
4. S $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of

### 32.92 feet;

5. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of

S $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.36 feet;
7. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.86 feet;
8. S $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.75 feet to the point of intersection with line 1-2 of the Elizabeth Lode, US Mineral Survey No. 15894;
thence N $39^{\circ} 23^{\prime} 46^{\prime \prime}$ E along said line 1-2 of said Elizabeth Lode a distance of 249.88 feet to the point of intersection with line 3-2 of the Black Diamond Lode, US Mineral Survey No. 17634;
thence $\mathrm{S} 63^{\circ} 58^{\prime} 12^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Black Diamond Lode a distance of 827.46 feet to the point of intersection with said easterly and northerly edge of said Lake Gulch Road;
thence along said easterly and northerly edge of said Lake Gulch Road the following 5 courses:

1. $\mathrm{S} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 18.54 feet;
2. $\mathrm{S} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.51 feet;
3. $\mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.72 feet;
4. $\mathrm{S} 82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.87 feet;
5. $\mathrm{S} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 22.34 feet to the Point of Beginning containing 2.58 acres more or less.
Lake Gulch Whiskey Resort Annexation No. 6

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13,
being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $20^{\circ} 56^{\prime} 43$ " E a distance of 997.85 feet to the point of intersection of line 3-4 of the Dale Lode, US Mineral Survey No. 13338 with line 2-1 of the Notaway Lode, US Mineral Survey No. 9722 being the Point of Beginning.
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime} \mathrm{E}$ along said line 2-1 of said Notaway Lode a distance of 105.93 feet to the point of intersection with line 1-5 of the Gulch Lode, US Mineral Survey No. 12784;
thence N $36^{\circ} 25^{\prime} 58^{\prime \prime}$ E along said line 1-5 of said Gulch Lode a distance of 382.53 feet to corner No. 5 of said Gulch Lode;
thence $\mathrm{N} 52^{\circ} 39^{\prime} 02^{\prime \prime} \mathrm{W}$ along line 5-4 of said Gulch Lode a distance of 83.36 feet to the point of intersection with said Line 2-1 of said Notaway Lode;
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime} \mathrm{E}$ along said Line 2-1 of said Notaway Lode a distance of 36.99 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Boundary;
thence S $89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 756.52 feet to the point of intersection with line 1-2 of the Annex Lode, US Mineral Survey No. 7799;
thence $\mathrm{S} 61^{\circ} 53^{\prime} 31^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Annex Lode a distance of 776.77 feet to the point of intersection with line 7-6 of said Dale Lode, US Mineral Survey No. 13338;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 00^{\prime \prime}$ E along said line 7-6 of said Dale Lode a distance of 409.81 feet to corner No. 6 of said Dale Lode;
thence N $50^{\circ} 28^{\prime} 19^{\prime \prime} \mathrm{W}$ along line 6-5 of said Dale Lode a distance of 74.00 feet to corner No. 5 of said Dale Lode;
thence $\mathrm{N} 89^{\circ} 24^{\prime} 17^{\prime \prime} \mathrm{W}$ along line 5-4 of said Dale Lode a distance of 97.24 feet to corner No. 4 of said Dale Lode;
thence S $39^{\circ} 23^{\prime} 43^{\prime \prime} \mathrm{W}$ along line 4-3 of said Dale Lode a distance of 624.77 feet to the Point of Beginning containing 2.35 acres more or less.
Lake Gulch Whiskey Resort Annexation No. 7

A parcel of land located in Sections 17 and 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a

US BLM standard brass cap, stamped "T3S R73W R72W 1/4 S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime}$ E, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch Road;
thence $\mathrm{S} 88^{\circ} 20^{\prime} 50^{\prime \prime} \mathrm{E}$ along the City of Black Hawk Boundary a distance of 663.62 feet to the S $1 / 16$ th corner of Sections 17 and 18 being the Point of Beginning.
thence $\mathrm{N} 27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{W}$ along the City of Black Hawk Boundary a distance of 938.48 feet to corner No. 4 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 44^{\circ} 29^{\prime} 09^{\prime \prime}$ E along line 4-3 of said Little Mattie Lode a distance of 1500.03 feet to corner No. 3 of said Little Mattie Lode;
thence $\mathrm{N} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{E}$ along the City of Black Hawk Boundary a distance of 980.96 feet to the north-south centerline of the NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 01^{\circ} 03^{\prime} 00^{\prime \prime}$ E along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 1273.98 feet to the W 1/16th corner on the east-west centerline of said NW $1 / 4$ of Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 111.85 feet to the point of intersection with line 1-2 of the Mascot Lode, US Mineral Survey No. 845; thence $\mathrm{S} 55^{\circ} 22^{\prime} 15^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Mascot Lode a distance of 100.62 feet to corner No. 2 of said Mascot Lode;
thence S $34^{\circ} 54^{\prime} 36^{\prime \prime}$ E along line 2-3 of said Mascot Lode a distance of 146.65 feet to the point of intersection with the north-south centerline of the SW $1 / 4$ of said Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said SW $1 / 4$ of said Section 17 a distance of 1034.62 feet to the SW $1 / 16$ th corner of said Section 17;
thence $\mathrm{S} 88^{\circ} 35^{\prime} 30^{\prime \prime} \mathrm{W}$ along the east-west centerline of the SW $1 / 4$ of said Section 17 a distance of 1307.15 feet to the S $1 / 16$ th corner of Sections 17 and 18, the Point of Beginning containing 63.62 acres more or less.

## Call Today for your FREE

 Business Listing in...Call 303-258-7509

February 4, 2020

Abel Montoya, County Manager<br>County of Gilpin<br>203 Eureka Street<br>P.O. Box 429<br>Central City, Colorado 80427<br>(Via Hand Delivery)<br>Daniel R. Miera, MPA, City Manager<br>City of Central<br>141 Nevada Street<br>P.O. Box 249<br>Central City, Colorado 80427<br>(Via Hand Delivery)<br>Lynn Hillary, District Administrator<br>Black Hawk-Central City Sanitation District<br>135 Clear Creek Street, $2^{\text {nd }}$ Floor<br>P.O. Box 362<br>Black Hawk, Colorado 80422<br>(Via Hand Delivery)

Re: Notice of Proposed Annexation Pursuant to Intergovernmental Agreement, Dated September 29, 1999

## Ladies and Gentlemen:

While not explicitly required under that Intergovernmental Agreement, dated September 29, 1999 (hereafter, the "Growth IGA") between the City of Central, Colorado ("Central"), the City of Black Hawk, Colorado ("Black Hawk"), the County of Gilpin, Colorado (the "County"), and the Black Hawk-Central City Sanitation District (the "District"), the purpose of this correspondence is to provide notice to Central, the County and the District of a proposed annexation of property in a series to Black Hawk pursuant to Sections 2, 5 and 8 of the Growth IGA.

A legal description of the property proposed to be annexed (the "Annexation Property") is attached to this correspondence for your review. Please note the Annexation Property encompasses a portion of the property referenced as the "Gold Mountain Annexation" property under the Growth IGA. A proposed
preliminary proposal for Planned Unit Development Zoning under the Black Hawk Municipal Code is provided with this Notice.

Please note that the Gold Mountain Development Plan referenced in Section 5 of the Growth IGA is no longer applicable. More particularly, the proposed owner/developer of the Annexation Property at the time of the execution of the Growth IGA no longer owns the Annexation Property, and the proposed "Predominant Land Uses" as described in the Gold Mountain Conceptual Development Plan attached as Exhibit I to the Growth IGA are no longer viable. However, please be aware that the proposed Planned Unit Development Zoning for the Annexation Property contains less density, more open space, and significantly less school district impacts than those uses set forth in Exhibit I.

In addition, because the Annexation Property is not within the Black Hawk/Gilpin Joint Planning Area described in Section 8 of the Growth IGA, this notice is provided as a courtesy to you, notwithstanding the fact that the Annexation Property is not within the above referenced Black Hawk/Gilpin Joint Planning Area, and thus not subject to the provisions of C.R.S. § 29-20-105(2) referenced in the Growth IGA as the mutually binding and enforceable comprehensive development plan set forth therein.

Black Hawk welcomes any comments that the District, County and Central may have regarding the Annexation Property and the proposed annexation, and further recognizes that the owner of the Annexation Property will be responsible for addressing its sanitation service needs with the District in the event the annexation is approved by Black Hawk.

Please contact the undersigned City Manager Steve Cole and/or Black Hawk's planning consultant Vince Harris, Planning Director of Baseline Engineering Corporation with any questions or comments.

Very truly yours,


Stephen N. Cole
City Manager

Attachment: Annexation maps with legal descriptions

c: Marcus A. McAskin, Central City Attorney<br>Bradford Benning, County Attorney<br>Kim J. Seter, Attorney for the Black Hawk-Central City Sanitation District<br>Vincent Harris, Baseline Engineering Corporation



INCORPORATED 1864

Administrative Services
201 Selak Street
P.O. Box 68

Black Hawk, CO 80422
www.cityofblackhawk.org
303-582-2293 Office
303-582-0429 Fax
Mayor
David D. Spellman

## Aldermen

Linda Armbright Paul G. Bennett Hal Midcap
Jim Johnson
Greg Moates
Benito Torres
City Attorney
Corey Y. Hoffmann
City Manager
Stephen N. Cole
City Clerk /
Administrative Services Director
Melissa A. Greiner

## Finance Director

Lance R. Hillis
Fire Chief / Emergency Manager
Christopher K. Woolley

## Police Chief

Kenneth E. Lloyd

## Public Works Director

Thomas Isbester

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Community Planning \& Development Director
Cynthia L. Linker
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## COLORADO'S SECOND OLDEST MUNICIPAL CORPORATION

February 27, 2020
Board of County Commissioners
County of Gilpin
203 Eureka Street
P.O. Box 366

Central City, Colorado 80427
(Via Registered Mail and Hand Delivery)
Bradford Benning, County Attorney
County of Gilpin
203 Eureka Street
P.O. Box 366

Central City, Colorado 80427
(Via Registered Mail and Hand Delivery)

Dr. David S. MacKenzie, PhD

Gilpin County RE-1 School District
10595 Highway 119
Black Hawk, Colorado 80422
(Via Registered Mail and Hand Delivery)
Jennifer Hinderman, Business Manager
Timberline Fire Protection District
660 Highway 46
Black Hawk, Colorado 80422
(Via Registered Mail and Hand Delivery)

## Re: Notice of Proposed Annexation Pursuant to Colorado Revised Statutes

Ladies and Gentlemen:
Pursuant to Colorado Revised Statute § 31-12-108(2) attached are copies of the published notice, together with a copy of the resolution, and petitions as filed concerning proposed annexation to the City of Black Hawk.

Very truly yours,


Melissa Greiner
City Clerk/Administrative Services Director
c: Black Hawk City Council
Stephen N. Cole, City Manager
Corey Y. Hoffmann, City Attorney
Ethan Watel, Baseline Engineering

# GILPIN COUNTY SCHOOL DISTRICT Board of Education <br> *10595 CO 119*Black Hawk, CO 80422*(303)582-3444* 

## Home of the Eagles!

RESOLUTION
WHEREAS, the Gilpin County School Board of Education strongly supports adequate and equitable funding to ensure high quality public education is available for all Gilpin County students; and

WHEREAS, the State of Colorado funding to Gilpin County School students and families has been reduced by the "negative factor," also known as the budget stabilization (BS) factor, by more than $\$ 5$ million since 2009;

WHEREAS, reduced State funding created a deficit of funding, negatively impacting Gilpin students and families, which could have been used to recruit and retain teachers and staff; to improve student and staff safety and security; to expand student and staff technology; and, to address deferred building maintenance and facility improvements;

WHEREAS, reduced State funding threatens the financial viability of Gilpin County School, and, to that end, threatens the existence of a school operated and managed by the local Board of Education, and financial instability causes Gilpin County School to be consolidated into another existing school district;

WHEREAS, the City of Black Hawk annexation of parcels of unincorporated territory located in the County of Gilpin, (Lake Gulch Whiskey Resort Annexations) would provide increased property assessed valuation and generate additional revenue for Gilpin County School District students;

WHEREAS, the City of Black Hawk Lake Gulch Whiskey Resort Annexations would provide additional patronage to Black Hawk businesses and increase the revenue generated by the $1.5 \%$ sales tax on food, beverage, and lodging, generating additional revenue for Gilpin County School District students;

NOW, THEREFORE, BE IT RESOLVED that the Gilpin County RE-1 Board of Education officially supports the request of annexation of parcels of unincorporated territory located in the County of Gilpin (Lake Gulch Whiskey Resort Annexations) for Gilpin County School District students.

ADOPTED AND APPROVED this 17th day of March, 2020.

Steve Boulter, President<br>Sarah Swanson, Vice President<br>Cherokee Blake, Member at Large<br>Tracy Krug, Member at Large<br>Joe Marr, Member at Large

## ANNEXATION AGREEMENT

THIS AGREEMENT (this "Agreement") is made and entered into as of the $\qquad$ day of , 2020, by and between RSM, LLC, and its contract purchaser, PROXIMO DISTILLERS, LLC (hereinafter collectively referred to as the "Property Owner"), and the CITY OF BLACK HAWK, a home rule municipal corporation of the State of Colorado (hereinafter referred to as the "City" and, collectively with the Property Owner, as the "Parties").
A. The Property Owner is the owner of certain real property (the "Property") situated in the County of Gilpin, State of Colorado, which Property is described in Exhibit A, attached hereto and made a part hereof.
B. The Property Owner desires to have the Property annexed to the City.
C. The City wishes to annex the Property in a series of annexations, and zone the Property into the City, and shall consider the annexation petitions and zoning application for the Property upon the condition that this Agreement is approved by the City and is executed by the City and the Property Owner.

NOW, THEREFORE, in consideration of the foregoing recitals, and the mutual covenants and promises set forth below, the receipt and sufficiency of which are mutually acknowledged, the City and the Property Owner hereby agree as follows:

1. Annexation. The annexation of the Property shall be in accordance with the Colorado Municipal Annexation Act of 1965, as amended.
2. Purpose. The purpose of this Agreement is to set forth the terms, conditions, and fees to be paid by the Property Owner upon annexation and initial development of the Property. Unless otherwise expressly provided to the contrary herein, all conditions contained herein are in addition to any and all requirements of the City of Black Hawk Zoning Ordinance and Subdivision Regulations, as amended, any and all state statutes, and the City of Black Hawk Home Rule Charter and the ordinances of the City.
3. Definitions. As used in this Agreement, the following terms shall have the meanings indicated:
a. Annexation Ordinance(s). An ordinance or ordinances of the City annexing the Property, or any portion thereof, to the City.
b. Effective Date of Annexation. As set forth in Section 5 hereof.
c. Legal Challenge. For purposes of this Agreement, either of the following will constitute a Legal Challenge: (i) any third party commences any legal proceeding, request for reconsideration pursuant to C.R.S. § 31-12-116, or other action that directly or indirectly challenges (A) this Agreement or (B) the annexation and/or initial zoning of
the Property; or (ii) any third party submits a petition for a referendum or other challenge seeking to reverse or nullify any such ordinances or actions.
d. Zoning Ordinance. An ordinance or ordinances zoning the Property, or any portion thereof.

## 4. Zoning and Development.

a. Zoning. The Property Owner is entering into this Agreement and is undertaking the obligations imposed upon the Property Owner herein in reliance upon the City's adoption of certain ordinances annexing the Property into the City and the taking of the following additional actions more particularly described in Section 4.b. regarding the permitted development of the Property.
b. Permitted Development. All development of the Property shall be conducted in accordance with this Agreement, City ordinances and regulations, and applicable state and federal law and regulations. The Property Owner specifically agrees that the design, improvement, construction, development, and use of the Property shall be in conformance with, and that the Property Owner shall comply with, all City ordinances and resolutions, including, without limitation, ordinances and resolutions pertaining to annexation, subdivision, zoning, storm drainage, utilities, and flood control. The City shall allow and permit the development of the Property upon submission of proper application and payment of fees imposed by City ordinances and regulations. In the case of conflict between City ordinances and regulations and the terms of this Agreement, this Agreement shall control. Specifically, the Parties agree that all development of the Property shall be conducted in accordance with the Lake Gulch Whiskey Resort Planned Unit Development (the "Lake Gulch Whiskey Resort PUD"), approved by the City by ordinance concurrently with the approval of the annexation of the Property and this Agreement.
5. Effective Date of Annexation. The annexation of the Property to the City shall become effective upon the filing of the Annexation Ordinance(s) and map(s) with the Clerk \& Recorder of Gilpin County, Colorado, pursuant to C.R.S. § 31-12-113(2). The City shall make such filing upon the last to occur of the following, and not otherwise:
a. Final approval of the Annexation Ordinance(s);
b. Final approval of the Zoning Ordinance; and
c. Expiration of the time for a Legal Challenge to the Annexation Ordinance(s) or the Zoning Ordinance.

## 6. City Fees.

a. Administrative Fee. The Property Owner hereby agrees to pay the City the actual cost plus fifteen percent (15\%) to defray the administrative and review expenses of the City, and for planning, engineering, surveying, and legal services rendered in connection with the review of the annexation of the Property, which costs shall be the City's
reasonable and documented actual costs, not including any costs incurred before January 3, 2020, and which will be invoiced to the Property Owner on a monthly basis by the City Manager. In addition, the Property Owner shall reimburse the City for the actual cost of making corrections or additions to the official City Map, with a fee for recording such map, if necessary, and accompanying documents with the Clerk \& Recorder of Gilpin County, Colorado.
b. Impact Fees/Cash in Lieu of Land Dedication. The City as an inducement to the annexation of the Property hereby waives the imposition of the City's Parking Impact Fee otherwise required by Article VI of Chapter 4 of the Black Hawk Municipal Code, and further waives the imposition of the Fire and Police Protection Impact Fee otherwise required by Article VII of Chapter 4 of the Black Hawk Municipal Code. Provided however, the Property Owner shall pay the amount of Eleven Thousand Dollars ( $\$ 11,000.00$ ) per residential unit, whether single family, or multi-family, to offset the impacts to the Gilpin County School District RE-1, based on the calculations set forth in Exhibit G to that Intergovernmental Agreement dated September 29, 1999 between the City of Central, the City of Black Hawk, the County of Gilpin and the Black HawkCentral City Sanitation District (the "Growth IGA"). This obligation shall not apply to the single caretaker residence or any lodging as defined in the Black Hawk Municipal Code included within the commercial and industrial component of the Lake Gulch Whiskey Resort PUD, but shall otherwise apply to the residential components.
c. Enforcement; Amendment. The City may withhold any plat approval or withhold the issuance of any permits for construction or occupancy for failure to pay City fees as provided herein. All fees recited in this Agreement shall be subject to amendment by the City Council by ordinance so long as any amendment is City-wide and generally applicable. Any amendment to such fees shall be incorporated into this Agreement as if originally set forth herein.
7. Summary Exhibit Depicting Land Exchange, Rights of Way, and Water Line Improvements. The Parties agree that Exhibit B, attached hereto and incorporated herein by this reference, depicts the land exchange more particularly described in Section 8, the right-of-way obligations described in Section 9, and the water line construction obligations more particularly described on Section 10 of this Agreement.
8. Land Exchange. The City and the Property Owner agree to exchange the property owned by the Property Owner as depicted on Exhibit B and more particularly described on Exhibit C, attached hereto and incorporated herein by this reference, as the "New City Property", in exchange for the City conveying the property more particularly described in Exhibit D, attached hereto and incorporated herein by this reference, as the "New Whiskey Gulch Resort Property", to the Property Owner. The property exchange described herein shall be in lieu of any open space dedication otherwise required by the City as a condition of annexation or subdivision of the Property. The Parties recognize the potential for discrepancy between the City's mapping based on Gilpin County Assessor records and actual title ownership vested in the Property Owner, and therefore the Parties agree that the Property Owner shall only be obligated to transfer the property in Section 13 within the City boundaries depicted on Exhibit B to the extent that it legally owns and can transfer such property.

## 9. Rights of Way.

a. Miner's Mesa Road Extension No. 2. Subject to the reimbursement provisions set forth in Section 11.b.i., the Property Owner shall be required to design and construct with City approval, at the Property Owner's sole cost and expense, the road generally depicted on Exhibit B and identified as the Miner's Mesa Road Extension No. 2 ("Miner's Mesa Road Extension No. 2"), which Miner's Mesa Road Extension No. 2 shall connect Lake Gulch Road to the Miner's Mesa Road Extension No. 1 as depicted on Exhibit B, and which Miner's Mesa Road Extension No. 2 shall connect to Lake Gulch Road with a roundabout as depicted on Exhibit B.
b. Additional Property Acquisitions. To the extent Miner's Mesa Road Extension No. 2 includes property not owned by the Property Owner, it shall be the City's obligation to acquire the necessary property interests for Miner's Mesa Road Extension No. 2, and the Property Owner shall not be obligated to construct Miner's Mesa Road Extension No. 2 until the City acquires the necessary property interests to cause the construction of Miner's Mesa Road Extension No. 2.
c. Lake Gulch Road Improvements. The Property Owner shall also be required to design and construct to the City's road standards set forth in subsection e. of this Section 9 that portion of Lake Gulch Road more particularly described on Exhibit B (the "Lake Gulch Road Improvements"). The City agrees to reimburse as more particularly described in Section 11.b.i. that portion of the Lake Gulch Road Improvements, excluding the 0.45 miles of the Lake Gulch Road Improvements more particularly depicted in Exhibit B.
d. Miner's Mesa Road Extension No. 1. The City agrees, at the City's sole cost and expense, that it shall design and construct the Miner's Mesa Road Extension No. 1 are more particularly described in Exhibit B, consisting of approximately 0.32 miles of right-of-way, and the City's design and construction of Miner's Mesa Road Extension No. 1 shall include a roundabout at the westernmost location of Miner's Mesa Road Extension No. 1 as depicted on Exhibit B.
e. Road Standards. To the extent possible within the Black Hawk Growth Area under the Growth IGA (defined in Section 11.d. below), the Property Owner shall construct Miner's Mesa Road Extension No. 2 and the Lake Gulch Road Improvements to include a fifty (50) foot right-of-way, including thirty-six (36) feet of pavement with two (2) twelve (12) foot lanes and two six (6) foot shoulders, and shall include drainage, and undergrounded utilities as described in Section 10.d. of this Agreement. The Property Owner shall also at a minimum be required to install conduit for streetlights, and the necessity and extent of installed streetlights shall be determined at the time of approval of the subdivision and/or site plan of the Property. In addition, to the extent the Property Owner is obligated to construct additional public roadways to serve the Property, the Property Owner shall be obligated to construct such public roadways to the fifty (50) foot template described in this subsection e.

## 10. Utilities.

a. Water Service. Upon annexation, the City shall provide municipal domestic water service to the Property in accordance with the uses authorized by the City's approval of the Lake Gulch Whiskey Resort PUD and the water service needs of such uses at full build-out of such PUD.
b. Sewer Service. The Property Owner shall be required to apply to the Black Hawk-Central City Sanitation District (the "Sanitation District") for inclusion into the Sanitation District's service area and corresponding service by the Sanitation District in accordance with the Rules, Regulations, and Resolutions in effect for the Sanitation District in effect for the entire Sanitation District at the time of application.
c. Water Tap and System Development Fees. Based on the proposed uses for the Property in accordance with the Lake Gulch Whiskey Resort PUD, the Property Owner shall require an appropriately sized water tap, which water tap size may be expanded as more particularly described in the water tap schedule attached hereto as Exhibit C, and incorporated herein by this reference, and shall further require a twelve (12) inch water line in the locations depicted on Exhibit B. The Property Owner shall design and construct, in accordance with City water standards including necessary pressure reducing valves and meter vaults, approximately four thousand two hundred and sixty $(4,260)$ lineal feet of the twelve (12) inch water line in the location depicted on Exhibit B. The Property Owner shall be required to pay the tap fee and system development fees for the water tap and water line described herein; provided, however, the City agrees it shall rebate the system development fees to the Property Owner to reimburse the Property Owner for the actual cost of design and construction of the twelve (12) inch water line located within Lake Gulch Road and Miners Mesa Road Extension No. 2. In addition, in the event the amount of the system development fees paid by the Property Owner exceed the cost of the design and construction of the twelve (12) inch water line located within Lake Gulch Road and Miners Mesa Road Extension No. 2, the City agrees that it shall use the remainder of the system development fees paid by the Property Owner to pay for additional extensions of water lines necessary to service the Property Owner's future development so long as such future development is within the City's municipal boundaries and occurs within ten (10) years of the issuance of the first Certificate of Occupancy for the first phase of development on the Property. Furthermore, the Property Owner intends to construct the Lake Gulch Whiskey Resort PUD in several phases. In the event that the cost of the design and construction of the twelve (12) inch water line that is to be paid in the first phase exceeds the amount of the system development fees paid by the Property Owner in such phase, system development fees paid by the Property Owner in future phases shall be reimbursed to the Property Owner until the cost of the design and construction of the twelve (12) inch water line has been covered.
d. Undergrounding of Utilities. The Property Owner shall be obligated to construct underground all utilities constructed pursuant to this Agreement and necessary to serve the Property.
e. Easements. The Property Owner agrees to dedicate to the City by plat all utility easements within the Property and elsewhere as necessary to provide for the location of water distribution, collection, and transmission lines and related facilities.
11. Other Terms and Condition of Annexation.
a. Gregory Street Presence. The Parties agree that no later than four (4) years after the issuance of the first Certificate of Occupancy for the first phase of development on the Property or the substantial completion and occupation of the Gregory Street HARD District, whichever comes last, the Property Owner shall use commercially reasonable efforts to establish a tasting room or other presence, the nature of which presence shall be determined in the reasonable discretion of the Property Owner, on Gregory Street within the City (the "Gregory Street Presence"). The Property Owner agrees that it shall not establish another tasting room featuring the brand referenced in Section 11.b.ii. within thirty (30) miles’ driving distance of the Property, other than the Gregory Street Presence and on the Property.
b. Use Tax Rebates. In order to assist the Property Owner in the costs of public infrastructure associated with the development of the Property, the City agrees to reimburse the Property Owner with use tax rebates as follows:
i. The City shall reimburse the Property Owner for the actual costs of design and construction of the approximately 0.46 miles of the Miners Mesa Road Extension No. 2 and that portion of Lake Gulch Road depicted on Exhibit B. The reimbursement of the actual costs of design and construction shall be in the form of a use tax rebate of the use taxes paid by the Property Owner for the construction materials, furniture, fixtures, and equipment paid by the Property Owner for the first phase of development on the Property.
ii. In addition to the reimbursement for use tax on construction materials and furniture, fixtures, and equipment paid by the Property Owner set forth in Section 11.b.i. above, the City shall reimburse the Property Owner for the actual costs of design and construction of roads and other public infrastructure in future phases of the Property's development, in the form of use tax rebates of the use taxes paid by the Property Owner for the construction materials, furniture, fixtures, and equipment paid by the Property Owner for such future phases of development on the Property, in the event that (A) the Property Owner elects by written notice to the City to display on all commercially available 375 ml or larger bottles of Tincup American Whiskey (or such other brand of distilled spirits as is principally identified with the Property in the Property Owner's advertising and marketing materials from time to time) containing distilled spirits principally distilled on the Property, for a period of twenty-five (25) years after the date of the first use of the words "BLACK HAWK" as set forth in this clause (A), the words "BLACK HAWK" with at least the same relative prominence as the words "JESS GRABER" or "ROCKY MOUNTAIN WATER" are displayed on the bottle of Tincup American Whiskey as of the date of this Agreement, and in the event that the Property Owner receives such use tax rebates pursuant to this clause (A) and thereafter ceases to satisfy such requirements prior to the date that is twenty-five (25) years after the date of
the first use of the words "BLACK HAWK" as set forth in this clause (A), the City shall be entitled to recover the unamortized portions of such use tax rebates (amortized on a straight-line basis commencing upon their respective payment dates) as its sole remedy, or (B) the Parties reasonably agree upon other bottle design, labeling or other advertising and marketing activities of the Property Owner having substantially equivalent value to the City. The bottle design set forth in the foregoing clause (A), if elected by the Property Owner, shall commence no later than the bottling of the first distilled spirits principally distilled on the Property, and shall be in addition to the reference (which shall be included to the extent accurate) on the bottle that the spirits are distilled in Black Hawk, Colorado. In any event, no use tax reimbursement agreement shall extend beyond the date that is ten (10) years after the issuance of the first Certificate of Occupancy for the first phase of development on the Property.
c. Exclusion from Timberline Fire Protection District. Within thirty (30) days after the Effective Date of Annexation, the Property Owner shall commence proceedings to exclude the Property from the boundaries of the Timberline Fire Protection District.
d. Residential Component of the Lake Gulch Whiskey Resort PUD. To the extent the Lake Gulch Whiskey Resort PUD contains the residential component of the Gold Mountain Development Plan as more particularly described in Section 5 of the Growth IGA, the City and the Property Owner agree as follows:
i. The City's reimbursement obligations set forth in this Section 11, and any other obligations of the City in Section 9 of this Agreement, shall only be obligations of the City to the extent that the Property Owner constructs the corresponding commercial and industrial land uses set forth in the Lake Gulch Whiskey Resort PUD. The Property Owner shall not be eligible for any reimbursement in the event the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD as more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD, and the Parties agree that none of the incentives set forth in this Agreement shall apply in the event that the Property Owner elects to develop such residential component of the Lake Gulch Whiskey Resort PUD.
ii. Notwithstanding the provisions of Section 10.c. of this Agreement, in the event the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD as more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD, the City shall not be obligated to use the system development fees paid by the Property Owner to pay for the design and construction of the twelve (12) inch water line, nor shall the City have any additional obligations to use such system development fee for any purpose.
iii. In order to address the public health, safety, and welfare of the citizens of the City, if the Property Owner constructs the residential component of the Lake Gulch Whiskey Resort PUD as more particularly described as the Gold Mountain Development Plan, and incorporated into the Lake Gulch Whiskey Resort PUD, the Property Owner shall be required to dedicate property for and construct (A) a new City of Black Hawk Fire Station including space for an additional ambulance; and (B) a Police Station Annex
to address the needs caused by the additional residential uses on the Property. In addition, in such event, the Property Owner shall be required to pay for any personnel costs incurred by the City for a period of ten (10) years after the date of the first Certificate of Occupancy for such Fire Station and Police Station Annex facilities for the residential uses more particularly described in the Gold Mountain Development Plan.
e. Participation Agreements. The City will require that new users that connect within ten (10) years after the date of completion of construction to public water improvements constructed by the Property Owner sign participation agreements. Such agreements will require that such new users pay their pro rata share of the cost of such improvements. The City will collect any such pro rata shares and pay same to the Property Owner to the extent that the cost of the design and construction of the twelve (12) inch water line has not been covered by system development fee reimbursement.
f. Additions to the PUD. In the event that the Property Owner obtains title to property adjacent to the Lake Gulch Whiskey Resort PUD and annexes such additional property into the City, the zoning for such additional property shall be similar in all material aspects to the zoning approved with the Lake Gulch Whiskey Resort PUD, subject to the limitation that no additional residential units shall be allowed without amendment of this Agreement.
g. Further Cooperation. The City will support the Property Owner in any endeavor to consolidate lots within the Property, adjust boundary lines within the Property, and establish easements for access and utilities as necessary.
h. ESTIP Rebate. The City will rebate to the Property Owner twenty-five percent (25\%) of taxes collected on the Property under the Enhanced Sales Tax Incentive Program for the purpose of assisting the Property Owner in operation of shuttle service to bring guests to and from the Property to shuttle stops located in the City, should the Property Owner elect to operate such service at any time. The Parties specifically agree that the City may declare a breach of the Agreement implementing the Enhanced Sales Tax Incentive Program in the event the Property Owner breaches any obligations undertaken pursuant to Section 11.b.ii. of this Agreement.

## 12. Vested Rights.

a. Waiver. The Property Owner waives any prior vested property rights acquired in Gilpin County so long as the Property remains annexed into the City.
b. Vested Rights Created. Consistent with the purpose of this Agreement, the Parties hereby agree that the Annexation and Zoning Ordinances shall constitute a "site specific development plan" as defined in C.R.S. §24-68-102(4); that certain rights shall be vested property rights as provided in this Agreement; and that the Property Owner and its designated successors and assigns shall have a vested property right to undertake and complete development and use of the Property as provided in this Agreement. The rights and obligations under this Agreement shall vest in the Property Owner and its designated
successors and assigns as benefits and burdens to the land and shall run with title to the land.
c. Rights That are Vested. Only the rights that are identified herein shall constitute vested property rights under this Agreement. These rights are as follows:
i. The right to be protected against the City initiating any zoning action to reduce the zoning entitlements granted upon annexation of the Property all as more particularly described in Section 4;
ii. The right to develop the Property and engage in land uses in the manner and to the extent set forth on the terms and conditions set forth herein;
iii. The right to continue and complete development of the Property with conditions, standards, dedications, and requirements that are no more onerous than those then being imposed by the City on other developers within the City's municipal boundaries on a reasonably uniform and consistent basis, except to the extent such conditions, standards, dedications, and requirements conflict with the terms and conditions of this Agreement, in which event this Agreement shall control;
iv. The right to be protected against the City approving a special or metropolitan taxing district that includes within its boundaries all or any portion of the Property, without the written consent of the Property Owner first being obtained in each instance, except that this provision shall not apply if the boundaries of the taxing district include the entire municipal boundaries of the City and if the creation of such a taxing district is approved by the entire electorate of the City; and
v. The City will support the Property Owner's establishment of a metropolitan district, implementation of a public improvement fee, and/or application for any state or federal incentive programs, including, but not limited to, private activity bonds.
d. Term of Vested Rights. The City by rights identified in this Section shall continue and have a duration until three (3) years after the date hereof. Extension of this period of vesting may be granted by the City in its sole discretion, upon request of the Property Owner or its designated successors and assigns.
e. Compliance with General Regulations. The establishment of the rights vested under this Agreement shall not preclude the application of City regulations of general applicability including, but not limited to, building, fire, plumbing, engineering, electrical, and mechanical codes, or the application of regional, state, or federal regulations, as all of the foregoing exist on the date of this Agreement or may be enacted or amended after the date hereof, except as otherwise provided herein. The Property Owner does not waive its rights to oppose adoption of any such regulations and shall expressly not be obligated to annex into or otherwise submit to the authority of any local improvement districts.

## 13. Remedies.

a. The Property Owner's remedies against the City for the City's breach of this Agreement include: (i) breach of contract claims; and (ii) specific performance of the non-legislative obligations of the City as set forth herein.
b. The City's remedies against the Property Owner for the Property Owner's breach of this Agreement include:
i. The refusal to issue any building permit or certificate of occupancy;
ii. A demand that the security given for the completion of the public improvements be paid or honored; and
iii. Any other remedy available at law, with the exception of specific performance to compel the Property Owner to develop, construct, maintain, or operate all or any portion of the Lake Gulch Whiskey Resort PUD, or damages for the Property Owner's failure to do so, to the extent that the Property Owner determines in its sole discretion that such development, construction, maintenance, or operation is not commercially practicable.
c. Rights to Cure. Should any Party fail to comply with the terms of this Agreement, the other Party or Parties shall give written notice of breach or default and a period of thirty (30) days after receipt of said notice in which to cure any such breach or default; provided, however, if the breach or default is not reasonably susceptible of cure within such thirty (30) day period, there shall be given an additional period of time as may be reasonably necessary to complete the cure provided that the breaching or defaulting Party commences to cure the breach or default within such thirty (30) day period and thereafter diligently pursue the same to completion. Should the breaching or defaulting Party fail to cure any such breach or default, the other Party or Parties shall have the right to pursue all equitable remedies.
14. Authority of the City. Nothing contained in this Agreement shall constitute or be interpreted as a repeal of existing codes or ordinances or as a waiver or abrogation of the City's legislative, governmental, or police powers to promote and protect the health, safety, and general welfare of the City or its inhabitants; nor shall this Agreement prohibit the enactment by the City of any tax or fee that is of uniform or general application, all in conformance with Colorado Revised Statutes.
15. Force Majeure - Development Restrictions or Delays. In the event of the unavailability of water and sewer taps necessary for the development and use of the Property as contemplated herein, or in the event of the imposition of any moratorium or other ordinance or action by the City or any other governmental or quasi-governmental authority that materially prevents or delays development or use of the Property, the Property Owner's obligations hereunder to pay fees or to construct or convey to the City improvements shall be suspended for a period of time equal to the time period in which such described events either delay or prevent development or use of the Property. The term "material" as used herein means the inability of the Property Owner to obtain plat approval, building permits, or certificates of occupancy.
16. Construction of Public Streets. As specified and limited by Section 9, the Property Owner agrees to design, construct, pave, improve, and provide signage, lighting (or conduit to support future construction of lighting to be decided at the time of approval of the subdivision and/or site development plan of the Property), and signalization for all public streets and other public ways within or adjacent to the Property in accordance with City ordinances and resolutions and other applicable standards except as modified pursuant to the approval of the Lake Gulch Whiskey Resort PUD, subject to any reimbursement which may be provided for in such ordinances, resolutions, and standards, and to make such other improvements as required by City ordinances and resolutions, to guarantee construction of all required improvements. If requested by the City, the Property Owner agrees to enter into an agreement reasonably satisfactory to the Property Owner pertaining to such improvements and other matters prior to any development of the Property.
17. Severability. The Parties agree that if any part, term, portion, or provision of this Agreement is held by a court of competent jurisdiction to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining parts, terms, portions, or provisions shall not be affected, and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular part, term, portion, or provision held to be invalid.
18. Municipal Services. The City agrees to make available to the Property all of the usual municipal services in accordance with the ordinances and policies of the City. The Property Owner acknowledges that City services do not include, as of the date of the execution of this Agreement, sanitary sewer services, which are provided by the Sanitation District.
19. Amendments. This Agreement may be amended by the City and the Property Owner. Such amendments shall be in writing, shall be recorded with the Clerk \& Recorder of Gilpin County, Colorado, shall be covenants running with the land, and shall be binding upon all persons or entities having an interest in the Property subject to the amendment unless otherwise specified in the amendment. Except as otherwise provided herein, this Agreement shall not be amended unless approved in writing by all Parties.
20. Entire Agreement. This Agreement embodies the entire agreement of the Parties. There are no promises, terms, conditions, or obligations other than those contained herein; and this Agreement supersedes all previous communications, representations, or agreements, either verbal or written, between the Parties.
21. Indemnification. The Property Owner agrees to indemnify and hold harmless the City and the City's officers, employees, agents, and contractors from and against all liability, claims, and demands, including attorneys' fees and court costs, that arise out of action by the City in order to enforce this Agreement, with the exception of enforcement of this Agreement against the Property Owner if the Property Owner substantially prevails. The Property Owner further agrees to investigate, handle, respond to, provide defense for and defend against or, at the City's option, to pay the reasonable and documented attorneys' fees for defense counsel of the City's choice for, any such liability, claims, or demands.
22. Assignment. As used in this Agreement, the term "Property Owner" shall include any of the heirs, transferees, successors or assigns of the Property Owner, and all such parties
shall have the right to enforce this Agreement, and shall be subject to the terms of this Agreement, as if they were the original parties thereto; provided that the term "Property Owner" shall not include RSM, LLC after the transfer of its interests in the Property to Proximo Distillers, LLC or any other person or entity.
23. Effect of City Ordinances and Resolutions. As used in this Agreement, unless otherwise specifically provided herein, any reference to any provision of any City ordinance, resolution, or policy is intended to refer to any subsequent amendments or revisions to such ordinance, resolution, or policy, and the Parties agree that such amendments or revisions shall be binding upon the Property Owner.
24. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the heirs, transferees, successors, and assigns of each Party, and shall constitute covenants running with the land. Subject to the conditions precedent herein, this Agreement may be enforced in any court of competent jurisdiction. In the event this Agreement is terminated as permitted herein, and the Property is not annexed, the City agrees to execute a sufficient release for recording.
25. Legislative Discretion. The Property Owner acknowledges that the annexation and zoning of the Property are subject to the legislative discretion of the City Council of the City of Black Hawk. No assurances of annexation or zoning have been made or relied upon by the Property Owner. In the event that, in the exercise of its legislative discretion, any action with respect to the Property herein contemplated is not taken, then the sole and exclusive remedy for the breach hereof accompanied by the exercise of such discretion, shall be the withdrawal of the petition for annexation by the Property Owner, or disconnection from the City in accordance with state law, as may be appropriate.
26. Business Discretion. Notwithstanding anything to the contrary set forth in this Agreement, neither this Agreement nor any other documents provided by any Party in connection with the annexation or zoning of the Property shall be deemed to create any obligation of the Property Owner to commence or continue the development, construction, maintenance, or operation of the Property or to conduct any other activities on the Property, and the Property Owner shall be entitled to terminate such activities in its sole discretion at any time.
27. Recordation of Agreement. This Agreement shall be recorded with the Clerk \& Recorder of Gilpin County, Colorado, at the Property Owner's expense, shall run with the land, and shall be binding upon and shall inure to the benefit of the heirs, successors, and permitted assigns of the Parties.
28. Effective Date. This Agreement shall be effective and binding upon the Parties immediately upon execution by all of the Parties.
29. Governing Law. The laws of the State of Colorado shall govern the validity, performance and enforcement of this Agreement. Should any Party institute legal suit or action for enforcement of any obligation contained herein, it is agreed that venue of such suit or action shall be in Gilpin County, Colorado.
30. Notice. All notices required under this Agreement shall be in writing and shall be hand-delivered or sent by registered or certified mail, return-receipt requested, postage prepaid, to the addresses of the parties herein set forth. All notices so given shall be considered effective on the earlier of actual receipt or seventy-two (72) hours after deposit in the United States Mail with the proper address as set forth below. Any Party by notice so given may change the address to which future notices shall be sent.

| To the City: | Stephen N. Cole, City Manager <br> P. O. Box 68 <br> Black Hawk, Colorado 80422 |
| :--- | :--- |
| With copy to: | Corey Y. Hoffmann, Esq. <br> Hoffmann, Parker, Wilson \& Carberry, P.C. <br> 511 16th Street, Suite 610 <br> Denver, Colorado 80202 |
| To the Property Owner: | Proximo Distillers, LLC <br> Attn: Dean Mades, General Counsel <br> 333 Washington Street, 4 |
|  | Jersey City, NJ 07302 |
| With copy to: | Frascona, Joiner, Goodman \& Greenstein, P.C. <br> Attn: Harmon Zuckerman, Esq. <br> 4750 Table Mesa Drive |
| Boulder, CO 80305 |  |

31. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement. A signed copy of this Agreement delivered by facsimile, e-mail, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.

IN WITNESS WHEREOF, the Parties to this Agreement have set their hands and seals the day and year first written above.

# CITY OF BLACK HAWK, COLORADO 

By:
David D. Spellman, Mayor
ATTEST:

Melissa A. Greiner, CMC, City Clerk

## PROPERTY OWNER REM LDC

By


STATE OF TEXAS )
county of Brazos) ss.
The above and foregoing mingus of Carvel Dedden $s$ was subscribed and sworn to before me this it day of Posen 2020.

Witness my hand and official seal



STATE OF NEW JERSEY )

## county of HuDson)

The above and foregoing somme of
Michael Keven was subscribed and sworn to before me this 17 day of 1 HLCXI 320

Witness my hand and official seal

Notary Public


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## LAKE GULCH WHISKEY RESORT

ANNEXATION EXHIBIT TO THE CITY OF BLACK HAWK
A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M.


His Consultants, In Lakewood,
$720-273-9940$


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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 1 TO THE CITY OF BLACK HAWK - Exhibit A

A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO

## Legal oescription






































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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 1 TO THE CITY OF BLACK HAWK - Exhibit B
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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 2 TO THE CITY OF BLACK HAWK - Exhibit A

A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.
COUNTY OF GILPIN, STATE OF COLORADO

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His Consultants, Inc $720-273-9940$

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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

A PART OF SECTION 18 , TUWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M..
COUNTY OF GILPIN, STATE OF COLORADO


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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 3 TO THE CITY OF BLACK HAWK - Exhibit A


A PART OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M..,

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Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 3 TO THE CITY OF BLACK HAWK - Exhibit B, 1 of 3
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His Consultants, In $\underset{720-273-9940}{\text { Lakewood, }}$




SURVEYOR'S CERTIFCATE


Couclas L. Howell


## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 3 TO THE CITY OF BLACK HAWK - Exhibit B, 2 of 3
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO

COBURN


His Consultants, Inc Lakewood, Colorado
$720-273-9940$

T\|NCUP
DISTILLERY PROJECT Black Hawk, Colorado



3 of 4
ANNEXATION PLAT \#3

## LAKE GULCH WHISKEY RESORT

ANNEXATION NO 3 TO THE CITY OF BLACK HAWK - Exhibit B 3 of 3

A PART OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M..

| Parcel Line Toble |  |  |
| :---: | :---: | :---: |
| Lin \# |  | Direction |
| 1590 | 25.59 |  |
| L591 | 33.90 |  |
| L992 | 28.19 |  |
| L993 | 30.55 |  |
| $\stackrel{5}{4}$ | 30.52 | s49 32 |
| L595 | 28.9 |  |
| $\underline{506}$ | 28.24 |  |
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| L998 | 28.13 | S45 31 |
| L999 | 27.5 |  |
| 1600 | 25.88 | s38 or |
| L601 | 30.46 | 534.08 37\% |
| 1602 | 28.83 | S37 4 |
| 1603 | 33.25 |  |
| L04 | 27.96 | S43: 58 Ofe |
| $\underline{1605}$ | 27.7 | $545^{20}$ |
| 1608 | 22.55 | S49.966 $25^{25}$ |
| 1607 | 20.08 |  |
| 1608 | 29.16 | S59. $58.24 \mathrm{~F}^{\text {E }}$ |
| $\underline{169}$ | 33.52 | $\mathrm{ScF}^{25}$ |
| 1690 | 33.59 |  |
|  | 26.42 | S592 2 |
| L612 | 26.70 |  |
| $\stackrel{1613}{ }$ | 31.32 |  |
| L614 | 24.48 | s50.55' |
| 1615 | 27.32 | 529 |
| 166 | 27.4 | ${ }^{535} 3^{44^{2}}$ |
| L617 | 38.09 | 538. 51 |
| L618 | 2597 |  |
| L69 | 35.15 |  |
| 1620 | 31.08 | St7 $22^{25} 27 \mathrm{E}$ |
| L621 | 31.28 |  |
| ${ }^{1622}$ | 30.10 |  |
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| 1624 | 3231 | S4+2 2 |
| 1625 | 3565 | 54t 52 5 |
| 1626 | 25.71 |  |
| ${ }^{1627}$ | 2.55 |  |
| 1628 | 32.58 | $5475^{16}$ |
| 168 | 31.87 | $5442^{25}$ |
| 1680 | 3228 | St5 $18.298{ }^{29 \mathrm{E}}$ |
| - 681 | ${ }^{33,04}$ |  |
| ${ }^{1632}$ | ${ }^{3473}$ |  |
| 1633 | 34.15 | St6 33 $33^{25^{25}}$ |
| 1634 | 3328 | S47 $24.344^{\text {E }}$ |
| $\underline{L 635}$ | 31.95 | Stios |
| L636 | ${ }^{33.54}$ | St6 14 |
| L687 | 3506 | ${ }^{547} 7^{43^{3} 122^{12}}$ |
| L688 | 34.02 |  |
| $\underline{L}$ | 32.71 | S56. $45.35{ }^{\text {3 }}$ |
| $\underline{L} 60$ | 31.24 | ${ }_{562} 35^{\prime \prime}$ |
| L641 | 30.74 | s66 27 |
| 1642 | 31.74 | 564 575 |
| $\stackrel{L}{164}$ | ${ }^{1.36}$ | S66. 59. $32^{4} \mathrm{E}$ |
| 1644 | 30.05 | S64 $12^{2096 E}$ |
| 1645 | 3205 |  |
| 166 | 31.93 | $555^{555} 55^{5}$ |
| L647 | 30.64 |  |
| L648 | 2.95 |  |
| 1649 | 2, 2.5 | S57 51 |
| 1650 | 30.4 |  |
| $\stackrel{1651}{L 652}$ | 29.13 |  |
| 1682 | 27.12 | S88 $488^{155^{15 \%}}$ |
| 1663 | 26.24 |  |
| 1654 | ${ }^{3280}$ | S54 $32^{1 / 13^{\prime \prime E}}$ |
| L655 | 27.25 |  |
| 1658 | 26.81 | 553 32 $2^{166^{16}}$ |
| $\underline{1657}$ | 29.6 |  |
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| 659 | 36.03 | ${ }^{\text {N38 }}{ }^{27}$ |


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| Line \# |  | Diection |
| 660 | 33,9 |  |
| 1661 | 3025 | N888 |
|  | 3227 |  |
|  | 30.76 | Nso |
|  | 28.26 | s51 |
| 1665 | 29.8 | sst |
| 166 | 3215 | s52 0 |
| 1667 | 30.12 | s50 $32^{1720}$ |
| 1668 | 31.84 |  |
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| ${ }^{1224}$ | 25.28 | s89 or or oow |
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| 1229 | 26.36 | NT74422 |
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| 1241 | 26.41 | N28 15 |
| ${ }^{2} 42$ | 26.03 | N28 $2^{12}$ |
| $\stackrel{L 24}{ }$ | 25.20 |  |
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| ${ }^{124}$ | 28.92 | $532^{2 r}$ |
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| ${ }^{1249}$ | $137.67$ | 529 |
| $\stackrel{L 250}{ }$ | ${ }_{2505}^{2509}$ | S28822 |
| $\stackrel{125}{ }$ | 26.48 | $528{ }^{\text {S }}$ |
| $\underline{L 255}$ | 35.14 |  |
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| $\frac{1256}{1257}$ | 20.45 | ${ }_{5}^{577}$ |
| L274 | 21.27 | 589 |
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| ${ }^{1276}$ | 22.59 | N87> $30 \cdot 3$ |
| $\stackrel{L 27}{ }$ | 29.83 | Nes |
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| $\underline{L 20}$ | 29.12 | N9947 179 |
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| 508 | 26.43 |  |
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Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 4 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO

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    12.N 61' 39' O9"W W distonce of 33.01 teel
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    18.N 54 37' 49" Wo distonce of 25.73 feet;
    19.N52" 04 35" Wa distonce of 27.04 feet
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    22.N 33'47' 47" W a distonce of 7.58 feet;
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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 4 TO THE CITY OF BLACK HAWK - Exhibit B
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.
COUNTY OF GILPIN, STATE OF COLORADO

COBURN


His Consultants, Inc Lakewood, Colorad
$720-273-9940$


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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 5 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.
COUNTY OF GILPIN, STATE OF COLORADO

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## LAKE GULCH WHISKEY RESORT



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ANNEXATION NO. 5 TO THE CITY OF BLACK HAWK - Exhibit B
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO
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His Consultants, In Lakewood, Colorado
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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 6 TO THE CITY OF BLACK HAWK - Exhibit A
A PART OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,

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## LAKE GULCH WHISKEY RESORT


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ANNEXATION NO. 6 TO THE CITY OF BLACK HAWK - Exhibit B
A PART OF SECTION 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
COUNTY OF GILPIN, STATE OF COLORADO
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DISTILLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 7 TO THE CITY OF BLACK HAWK - Exhibit A

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## LAKE GULCH WHISKEY RESORT

ANNEXATION NO. 7 TO THE CITY OF BLACK HAWK - Exhibit B
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,


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$720-273-9940$

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DISTILLERY PROJECT Black Hawk, Colorado

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| ENTITYNAME | CLAIM NUMBER | Ownership | Account | GIS_Acres |
| :--- | :--- | :--- | :--- | ---: |
| EVENING STAR | 4975 | RSM Partners LLC | NO02557 | 0.18 |
| EVENING STAR | 4975 | RSM Partners LLC | NO02557 | 0.39 |
| EVENING STAR | 4975 | RSM Partners LLC | N002557 | 0.40 |
| EVENING STAR | 4975 | RSM Partners LLC | N002557 | 0.32 |
| GOLDEN EAGLE | 606 | RSM Partners LLC | N000227 | 4.42 |
| GOLDEN FLEECE | 671 | RSM Partners LLC | NO00947 \& N001045 | 1.76 |
| HUMBOLDT | 173 | RSM Partners LLC | N000948 | 0.56 |
| KATIE | 15318 | RSM Partners LLC | N000949 | 0.20 |
| KATIE | 15318 | RSM Partners LLC | NO00949 | 1.01 |
| KATIE | RSM Partners LLC | NO00950 | 0.73 |  |
| KING SOLOMON | RSM Partners LLC | N000946 | 2.47 |  |
| KING SOLOMON | 4975 | RSM Partners LLC | N000946 | 1.09 |



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\begin{gathered}
\text { COUNCIL BILL } 9 \\
\text { ORDINANCE 2020-9 } \\
\text { A BILL FOR AN ORDINANCE } \\
\text { ZONING CERTAIN } \\
\text { PROPERTY WITHIN THE } \\
\text { CITY OF BLACK HAWK TO } \\
\text { COMMERCIAL/BUSINESS } \\
\text { SERVICES (C/BS) ZONING } \\
\text { DISTRICT AND A PLANNED } \\
\text { UNIT DEVELOPMENT (PUD) } \\
\text { OVERLAY KNOWN AS THE } \\
\text { LAKE GULCH WHISKEY } \\
\text { RESORT PLANNED UNIT } \\
\text { DEVELOPMENT, AND } \\
\text { AMENDING THE CITY'S } \\
\text { ZONING MAP TO } \\
\text { CONFORM THEREWITH }
\end{gathered}
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STATE OF COLORADO
COUNTY OF GILPIN
CITY OF BLACK HAWK

## COUNCIL BILL NUMBER: CB9

ORDINANCE NUMBER: 2020-09

## TITLE: A BILL FOR AN ORDINANCE ZONING CERTAIN PROPERTY WITHIN THE CITY OF BLACK HAWK TO COMMERCIAL/BUSINESS SERVICES (C/BS) ZONING DISTRICT AND A PLANNED UNIT DEVELOPMENT (PUD) OVERLAY KNOWN AS THE LAKE GULCH WHISKEY RESORT PLANNED UNIT DEVELOPMENT, AND AMENDING THE CITY'S ZONING MAP TO CONFORM THEREWITH

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, GILPIN COUNTY:

Section 1. Findings of Fact.
a. On February 12, 2020, the City Council approved a Resolution determining that certain annexation petitions submitted in a series for the real property described in attached Exhibit A (collectively, the "Real Property"), substantially complies with the requirements of C.R.S. § 31-12-107(1)(a) and set a public hearing for March 25, 2020, on the eligibility of the Real Property to be annexed into the City as provided by state law.
b. The City thereafter instituted the procedure for the initial zoning of the Real Property.
c. An application was submitted for initially zoning the Real Property to Commercial/Business Services (C/BS) with a Planned Unit Development (PUD) overlay district, pursuant to the City of Black Hawk Zoning Ordinance.
d. Public notice has been given of such zoning by one publication in a newspaper of general circulation within the City and the official newspaper of the City at least fifteen (15) days before the public hearing of such amendment.
e. Notice of such proposed hearing was posted on the Real Property for fifteen (15) consecutive days prior to said hearing.
f. A need exists for zoning the Real Property pursuant to Section 16-361 of the City of Black Hawk Zoning Ordinance as follows:
i. A need does exist for the zoning, and the PUD will implement the objectives of the City of Black Hawk Zoning Ordinance;
ii. The proposal for rezoning conforms with and is not inconsistent with the Comprehensive Plan;
iii. Additional growth opportunities and placemaking in the City of Black Hawk have changed and the proposal warrants new uses on the property;
iv. Adequate circulation exists in the area to support the initial zoning, and infrastructure will be constructed and extended to accommodate full build-out of the proposed project; and
v. Any additional cost for municipal-related services resulting from the proposal will not be incurred by the City, and are addressed in the Annexation Agreement to be approved concurrently herewith.
g. A need further exists for zoning the Real Property pursuant to Section 16-135 of the City of Black Hawk Zoning Ordinance in that the proposed Lake Gulch Whiskey Resort Planned Unit Development provides flexibility and will result in higher quality development based on the application of the purposes set forth in Section 16-135.

Section 2. The Real Property is hereby initially zoned to Commercial/Business Services (C/BS) with a Planned Unit Development (PUD) overlay district known as the Lake Gulch Whiskey Resort Planned Unit Development as provided in the Lake Gulch Whiskey Resort Planned Unit Development Standards and Plan, which is attached hereto as Exhibit B, and incorporated by this reference.

Section 3. The Zoning Ordinance and Zoning Map are hereby amended to conform with the zoning changes.

Section 4. Safety Clause. The City Council hereby finds, determines, and declares that this Ordinance is promulgated under the general police power of the City of Black Hawk, that it is promulgated for the health, safety, and welfare of the public, and that this Ordinance is necessary for the preservation of health and safety and for the protection of public convenience and welfare. The City Council further determines that the Ordinance bears a rational relation to the proper legislative object sought to be attained.

Section 5. Severability. If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect application to other persons or circumstances.

Section 6. Effective Date. The City Clerk is directed to post the Ordinance as required by the Charter. This Ordinance shall become effective upon posting by the City Clerk

READ, PASSED AND ORDERED POSTED this $\qquad$ day of $\qquad$ , 2020.

David D. Spellman, Mayor

ATTEST:

Melissa A. Greiner, CMC, City Clerk

## Exhibit A

## Lake Gulch Whiskey Resort Annexation No. 1

Legal Description
A parcel of land located in Sections 17 \& 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime}$ E a distance of 3,617.79 feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.

Thence $\mathrm{S} 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Lode a distance of 296.23 feet to the point of intersection with line 3-2 of the Blow Out Lode, US Mineral Survey No. 18776;
thence N $19^{\circ} 46^{\prime} 26^{\prime \prime}$ E along said line 3-2 of said Blow Out Lode a distance of 361.74 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 208.47 feet to the point of intersection with line 1-2 of the Great Britian Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 29^{\circ} 18^{\prime} 00^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Great Britian Lode a distance of 353.67 feet to corner No. 2 of said Great Britian Lode;
thence $\mathrm{S} 46^{\circ} 17^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-3 of said Great Britian Lode a distance of 131.10 feet to the point of intersection with line 4-1 of said Williams Crossing Lode;
thence $\mathrm{S} 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line $4-1$ of said Williams Crossing Lode a distance of 149.95 feet to the point of intersection with line 6-7 of said Great Britian Lode;
thence $\mathrm{N} 46^{\circ} 22^{\prime} 45^{\prime \prime}$ E along said line 6-7 of said Great Britian Lode a distance of 142.56 feet to corner No. 7 of said Great Britian Lode;
thence $\mathrm{N} 29^{\circ} 19^{\prime} 49^{\prime \prime} \mathrm{E}$ along line $7-8$ of said Great Britian Lode a distance of 461.80 feet to the point of intersection with said east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 474.24 feet to the point of intersection with line 16-15 of the Gold Tunnel No. 21 Lode, US Mineral Survey No. 4589;
thence $\mathrm{S} 43^{\circ} 56^{\prime} 47^{\prime \prime} \mathrm{W}$ along said line $16-15$ of the Gold Tunnel No. 21 Lode a distance of 81.81 feet to corner No. 15 of the said Gold Tunnel No. 21 Lode;
thence $S 46^{\circ} 21^{\prime} 54^{\prime \prime}$ E along line $15-14$ of the said Gold Tunnel No. 21 Lode, a distance of 150.01 feet to corner no. 14 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{N} 43^{\circ} 56^{\prime} 15^{\prime \prime}$ E along line $14-13$ of the said Gold Tunnel No. 21 Lode, a distance of 227.88 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ and City of Black Hawk Patented Boundary a distance of 1040.34 feet to the N 1/16th corner of Sections 17 and 18;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along the east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 165.11 feet to the point of intersection with line 3-2 of said East Williams Lode, US Mineral Survey No. 588;
thence $\mathrm{S} 47^{\circ} 19^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 3-2 of the East Williams Lode a distance of 204.89 feet to
corner No. 2 of said East Williams Lode;
thence $\mathrm{S} 42^{\circ} 44^{\prime} 49^{\prime \prime}$ E along line 2-1 of said East Williams Lode a distance of 152.37 feet to corner No. 1 of said East Williams Lode;
thence $\mathrm{N} 47^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{E}$ along line $1-4$ of said East Williams Lode a distance of 385.62 feet to the point of intersection with said east-west centerline of the NW $1 / 4$ of said Section 17 and the City of Black Hawk Patented Boundary;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NW $1 / 4$ of said Section 17 and City of Black Hawk Patented Boundary a distance of 906.14 feet to the NW $1 / 16$ th corner of said Section 17;
thence $\mathrm{N} 01^{\circ} 02^{\prime} 29 " \mathrm{~W}$ along the north-south centerline of said NW $1 / 4$ of said Section 17 and along the City of Black Hawk Patented Boundary a distance of 164.47 feet to the point of intersection with line 1-2 of the Mary Miller Lode, US Mineral Survey No. 969;
thence $\mathrm{N} 44^{\circ} 28^{\prime} 35^{\prime \prime}$ E along said line 1-2 of said Mary Miller Lode a distance of 60.92 feet to the point of intersection with said City of Black Hawk Patented Boundary;
thence $\mathrm{N} 88^{\circ} 00^{\prime} 45^{\prime \prime}$ E along said City of Black Hawk Patented Boundary a distance of 96.85 feet;
thence $\mathrm{N} 00^{\circ} 18^{\prime} 42^{\prime \prime} \mathrm{W}$ along said City of Black Hawk Patented Boundary a distance of 91.93 feet to the point of intersection with line 6-5 of the Morgan Placer US Mineral Survey No. 226;
thence $S 42^{\circ} 19^{\prime} 52^{\prime \prime}$ E along said line $6-5$ of said Morgan Placer a distance of 92.75 feet to corner No. 5 of said Morgan Placer;
thence S $41^{\circ} 03^{\prime} 33^{\prime \prime} \mathrm{E}$ along Colorado Department of Transportation deed recorded at Reception No. 141956 Gilpin County Records a distance of 12.42 feet to a CDOT $31 / 4$ " aluminum cap;
thence $S 49^{\circ} 47^{\prime} 21^{\prime \prime}$ E continuing along said Reception No. 141956 a distance of 43.07 feet to the point of intersection with line 3-4 of said Mary Miller Lode;
thence $\mathrm{S} 44^{\circ} 27^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 3-4 of
said Mary Miller Lode a distance of 340.78 feet to the north-south centerline of said NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 980.96 feet to corner No. 3 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 45^{\circ} 33^{\prime} 27^{\prime \prime} \mathrm{W}$ along line 3-2 of said Little Mattie Lode a distance of 149.96 feet to corner No. 2 of said Little Mattie Lode;
thence S $44^{\circ} 28^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 2-1 of said Little Mattie Lode a distance of 1499.34 feet to corner No. 1 of said Little Mattie Lode;
thence $S 45^{\circ} 17^{\prime} 32^{\prime \prime}$ E along line 1-4 of said Little Mattie Lode a distance of 149.75 feet to corner No. 4 of said Little Mattie Lode;
thence S $27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 938.48 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18;
thence N $88^{\circ} 20^{\prime} 50{ }^{\prime \prime} \mathrm{W}$ a distance of 663.62 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 31.99 feet;
2. $\mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.64 feet;
3. N $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 33.14 feet;
4. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.32 feet;
5. N $53^{\circ} 47^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
6. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.56 feet;
7. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.90 feet;
8. $\mathrm{S} 89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
9. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
10. N $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 33.32 feet;
11. $\mathrm{N} 83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 32.67 feet;
12. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.68 feet;
13. N $84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.81 feet;
14. N $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.44 feet;
15. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
16. $\mathrm{N} 85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
17. N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.60 feet;
18. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 29.15 feet;
19. $\mathrm{N} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.55 feet;
20. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.11 feet;
21. N $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.60 feet;
22. $\mathrm{N} 69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.58 feet;
23. $\mathrm{N} 69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
24. $\mathrm{N} 69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.04 feet;
25. $\mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.55 feet;
26. $\mathrm{N} 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.25 feet;
27. $\mathrm{N} 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
28. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 25.03 feet;
29. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.04 feet;
30. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.20 feet;
31. $\mathrm{N} 61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
32. $N 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 25.01 feet to a point on line 1-4 of Washingtons Day Lode, US Mineral Survey 11885;
thence along said line $1-4 \mathrm{~N} 39^{\circ} 23^{\prime} 17^{\prime \prime} \mathrm{E} \mathrm{a}$ distance of 633.47 feet to corner No. 4 of said Washingtons Day Lode;
thence along line 4-3 of said Washingtons Day Lode N $45^{\circ} 12^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 150.58 feet to corner No. 3 of said Washingtons Day Lode; thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of $1,096.94$ feet;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{E}$ a distance of 320.86 feet;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 169.95 feet;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 314.68 feet; thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 710.26 feet to the Point of Beginning,

EXCEPT the Denver Lode, US Mineral Survey 745, total parcel containing 100.5 acres gross, 95.35 acres net more or less.

## Lake Gulch Whiskey Resort Annexation No. 2 <br> Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{N} 69^{\circ} 30^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of $3,617.79$ feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.

Thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 710.26 feet; thence $\mathrm{N} 47^{\circ} 00^{\prime} 48^{\prime \prime}$ E a distance of 314.68 feet; thence $S 42^{\circ} 58^{\prime} 23^{\prime \prime}$ E a distance of 169.95 feet; thence $\mathrm{S} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 320.86 feet; thence $\mathrm{S} 40^{\circ} 53^{\prime} 21^{\prime \prime}$ " E a distance of 1096.94 feet to corner No. 3 of the Washingtons Day Lode, US Mineral Survey 11885;
thence along line 3-2 of said Washingtons Day Lode S $39^{\circ} 23^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 664.25 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge the following 42 courses:

1. $\quad \mathrm{N} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 24.56 feet;
2. $\quad \mathrm{N} 50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
3. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 25.59 feet;
4. $\quad \mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 33.90 feet;
5. $\quad \mathrm{N} 52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.19 feet;
6. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
7. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
8. $\quad \mathrm{N} 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
9. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.24 feet;
10. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.49 feet;
11. $\mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.13 feet;
12. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 27.54 feet;
13. $\quad \mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 25.88 feet;
14. $\mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.46 feet;
15. $\mathrm{N} 37^{\circ} 44^{\prime} 53{ }^{\prime \prime} \mathrm{W}$ a distance of 28.83 feet;
16. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
17. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.96 feet;
18. $\mathrm{N} 45^{\circ} 20^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of 27.74 feet;
19. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 26.55 feet;
20. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
21. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 29.16 feet;
22. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.52 feet;
23. N $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.59 feet;
24. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 26.42 feet;
25. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.70 feet;
26. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.32 feet;
27. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 24.48 feet;
28. $\mathrm{N} 29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 27.32 feet;
29. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
30. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
31. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
32. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 35.15 feet;
33. N $47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.08 feet;
34. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 31.28 feet;
35. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.10 feet;
36. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.61 feet;
37. $\mathrm{N} 41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.31 feet;
38. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.65 feet;
39. N $42^{\circ} 17^{\prime} 500^{\prime \prime} \mathrm{W}$ a distance of 25.71 feet;
40. N $44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 26.51 feet;
41. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.58 feet;
42. $\mathrm{N} 44^{\circ} 25^{\prime} 34$ " W a distance of 5.81 feet to the point of intersection with line 4-3 of the Tariff Lode, US Mineral Survey No. 966;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{E}$ along said line $4-3$ of said Tariff Lode a distance of 1068.76 feet to corner No. 3 of said Tariff Lode;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ along line 3-2 of said Tariff Lode a distance of 149.95 feet to corner No. 2 of said Tariff lode;
thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ along line 2-1 of said Tariff Lode a distance of 367.57 feet to the point of intersection with line 2-3 of the Williams Lode, US Mineral Survey No. 15824;
thence $\mathrm{N} 47^{\circ} 53^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 2-3 of said Williams Lode a distance of 660.81 feet to the point of intersection with line 6-5 of the East Clay County Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 17^{\circ} 31^{\prime} 51^{\prime \prime} \mathrm{W}$ along said line $6-5$ of said East Clay County Lode a distance of 88.60 feet to the point of intersection with line 3-2 of the Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{N} 51^{\circ} 26^{\prime} 36^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Clay County Lode a distance of 26.56 feet to corner No. 4 of said Clay County Lode, US Mineral Survey No. 360;
thence $\mathrm{N} 52^{\circ} 11^{\prime} 23^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Clay County Lode, US Mineral Survey No. 360 a distance of 114.49 feet to corner No. 2 of said Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{S} 37^{\circ} 28^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-1 of said Clay County Lode, US Mineral Survey No. 329A a distance of 547.96 feet to the point of intersection with line $4-1$ of the Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{N} 54^{\circ} 01^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 4-1 of the Clay County Lode, US Mineral Survey No. 329B a distance of 109.70 feet to corner No. 1 of said Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{S} 50^{\circ} 08^{\prime} 44^{\prime \prime} \mathrm{W}$ along line $1-2$ of said

Clay County Lode, US Mineral Survey No. 329B a distance of 172.25 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 12 courses:

1. $\mathrm{N} 52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 4.07 feet;
2. N $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
3. $\mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.84 feet;
4. $\quad \mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 29.52 feet;
5. $\quad \mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 32.08 feet;
6. $\quad \mathrm{N} 38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.04 feet;
7. $\mathrm{N} 34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 32.85 feet;
8. $\quad \mathrm{N} 32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
9. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
10. $\mathrm{N} 29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 37.67 feet;
11. $\mathrm{N} 28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.05 feet;
12. $\mathrm{N} 28^{\circ} 12^{\prime} 54 \mathrm{C}$ W a distance of 1.33 feet to the point of intersection with line 1-2 of the Caledonia Lode, US Mineral Survey No. MS 519;
thence $\mathrm{N} 49^{\circ} 29^{\prime} 47^{\prime \prime} \mathrm{E}$ along said line 1-2 of said Caledonia Lode a distance of 724.79 feet to the point of intersection with line 6-5 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence $N 31^{\circ} 43^{\prime} 33^{\prime \prime} \mathrm{W}$ along said line $6-5$ of said Golden Gad Lode a distance of 50.45 feet to the point of intersection with the east-west centerline of said NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary; thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline of the NW $1 / 4$ and along the City of Black Hawk Patented Boundary a distance of 258.49 feet to the N $1 / 16$ th corner on the northsouth centerline of said Section 18; thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along the east-west centerline of the NE $1 / 4$ of said Section 18 and along the City of Black Hawk Patented Boundary a distance of 246.17 feet to the point of intersection with line 3-4 of the Clay County Lode, US Mineral Survey No. 360; thence $\mathrm{S} 27^{\circ} 50^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 3-4 of
said Clay County Lode a distance of 157.91 feet to the point of intersection with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824, the Point of Beginning, containing 29.21 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 3 Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12$ " E, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime}$ E along the east line of the NE $1 / 4$ of said Section 13 a distance of 876.53 feet to the point of intersection with the northerly and easterly edge of Lake Gulch Road, County Road 6 . Thence along said northerly and easterly edge of Lake Gulch Road the following 66 courses:

1. $S 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 13.72 feet;
2. $\quad \mathrm{S} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 35.41 feet;
3. $\quad \mathrm{S} 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
4. $\quad \mathrm{S} 85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 32.03 feet;
5. $\quad$ S $86^{\circ} 21^{\prime} 19 " \mathrm{E}$ a distance of 31.14 feet;
6. $\quad \mathrm{S} 87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.82 feet;
7. $S 88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 29.18 feet;
8. $\quad \mathrm{S} 88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 34.66 feet;
9. $\quad \mathrm{S} 88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 25.20 feet;
10. $\mathrm{S} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.97 feet;
11. $\mathrm{S} 89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 35.02 feet;
12. $\mathrm{N} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 36.59 feet;
13. $\mathrm{N} 87^{\circ} 31^{\prime} 19$ " E a distance of 26.26 feet;
14. $\mathrm{N} 85^{\circ} 29^{\prime} 19^{\prime \prime}$ E a distance of 27.58 feet;
15. $\mathrm{N} 84^{\circ} 48^{\prime} 46^{\prime \prime}$ E a distance of 29.08 feet;
16. $\mathrm{N} 84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.85 feet;
17. $\quad \mathrm{N} 82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 28.00 feet;
18. N $78^{\circ} 58^{\prime} 54^{\prime \prime}$ E a distance of 26.68 feet;
19. N $76^{\circ} 54^{\prime} 40^{\prime \prime}$ E a distance of 25.60 feet;
20. N $77^{\circ} 08^{\prime} 36^{\prime \prime}$ E a distance of 25.55 feet;
21. $N 78^{\circ} 10^{\prime} 02^{\prime \prime}$ E a distance of 25.48 feet;
22. $N 78^{\circ} 39^{\prime} 54^{\prime \prime}$ E a distance of 37.64 feet;
23. N $79^{\circ} 54^{\prime} 14^{\prime \prime}$ E a distance of 26.32 feet;
24. $\quad \mathrm{N} 80^{\circ} 28^{\prime} 29^{\prime \prime}$ E a distance of 26.01 feet;
25. $\mathrm{N} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{E}$ a distance of 25.64 feet;
26. $\quad \mathrm{N} 82^{\circ} 00^{\prime} 47^{\prime \prime}$ E a distance of 25.87 feet;
27. $\quad \mathrm{N} 83^{\circ} 11^{\prime} 19{ }^{\prime \prime} \mathrm{E}$ a distance of 25.72 feet;
28. $\quad \mathrm{N} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{E}$ a distance of 25.51 feet;
29. $N 80^{\circ} 36^{\prime} 50^{\prime \prime}$ E a distance of 36.86 feet;
30. N $77^{\circ} 53^{\prime} 04^{\prime \prime}$ E a distance of 25.17 feet;
31. N $76^{\circ} 30^{\prime} 21^{\prime \prime}$ E a distance of 26.42 feet;
32. $N 74^{\circ} 45^{\prime} 56^{\prime \prime}$ E a distance of 26.43 feet;
33. $N 73^{\circ} 10^{\prime} 29^{\prime \prime}$ E a distance of 27.05 feet;
34. $N 71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.52 feet;
35. $\quad \mathrm{N} 69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 29.17 feet;
36. $\quad \mathrm{N} 68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 28.70 feet;
37. $N 68^{\circ} 11^{\prime} 55^{\prime \prime}$ E a distance of 28.34 feet;
38. $N 68^{\circ} 11^{\prime} 21^{\prime \prime}$ E a distance of 28.58 feet;
39. N $70^{\circ} 17^{\prime} 29^{\prime \prime}$ E a distance of 27.99 feet;
40. $\quad \mathrm{N} 72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
41. $N 72^{\circ} 28^{\prime} 10^{\prime \prime}$ E a distance of 26.21 feet;
42. $\quad \mathrm{N} 68^{\circ} 41^{\prime} 24^{\prime \prime}$ E a distance of 27.08 feet;
43. $N 71^{\circ} 51^{\prime} 48^{\prime \prime}$ E a distance of 27.85 feet;
44. N $74^{\circ} 45^{\prime} 31^{\prime \prime}$ E a distance of 27.76 feet;
45. $\quad \mathrm{N} 75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 28.93 feet;
46. $\mathrm{N} 77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{E}$ a distance of 29.52 feet;
47. $\mathrm{N} 78^{\circ} 51^{\prime} 11$ " E a distance of 28.58 feet;
48. $N 78^{\circ} 32^{\prime} 38^{\prime \prime}$ E a distance of 26.85 feet;
49. $N 76^{\circ} 41^{\prime} 51^{\prime \prime}$ E a distance of 25.03 feet;
50. $\quad \mathrm{N} 79^{\circ} 17{ }^{\prime} 59^{\prime \prime}$ E a distance of 29.12 feet;
51. $\mathrm{N} 78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 5.49 feet;
52. $\mathrm{N} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 34.79 feet;
53. $\mathrm{N} 77^{\circ} 18^{\prime} 33^{\prime \prime}$ E a distance of 34.86 feet;
54. $N 76^{\circ} 11^{\prime} 24$ " E a distance of 34.36 feet;
55. N $76^{\circ} 19^{\prime} 36^{\prime \prime}$ E a distance of 34.21 feet;
56. N $75^{\circ} 55^{\prime} 53$ " E a distance of 32.92 feet;
57. $\mathrm{N} 75^{\circ} 45^{\prime} 56^{\prime \prime}$ E a distance of 33.64 feet;
58. N $77^{\circ} 56^{\prime} 07{ }^{\prime \prime}$ E a distance of 54.90 feet;
59. N $79^{\circ} 21^{\prime} 17{ }^{\prime \prime}$ E a distance of 32.59 feet;
60. N $79^{\circ} 51^{\prime} 30^{\prime \prime}$ E a distance of 30.19 feet;
61. $N 81^{\circ} 04^{\prime} 54 " E$ a distance of 30.69 feet;
62. $N 82^{\circ} 42^{\prime} 42^{\prime \prime}$ E a distance of 26.71 feet;
63. $\mathrm{N} 85^{\circ} 59^{\prime} 16^{\prime \prime}$ E a distance of 29.83 feet;
64. N $87^{\circ} 30^{\prime} 36^{\prime \prime}$ E a distance of 25.59 feet;
65. $\mathrm{N} 89^{\circ} 45^{\prime} 47^{\prime \prime}$ E a distance of 26.85 feet;
66. S $89^{\circ} 47^{\prime} 40^{\prime \prime}$ E a distance of 21.27 feet to the point of intersection with line 3-2 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{N} 39^{\circ} 31^{\prime} 27^{\prime \prime}$ E along said line 3-2 of said St. Anthony Lode a distance of 246.50 feet to the point of intersection with line 1-6 of the SusanMary Lode, US Mineral Survey No. 694;
thence $\mathrm{S} 19^{\circ} 06^{\prime} 00^{\prime \prime} \mathrm{E}$ along said line 1-6 of said Susan-Mary Lode a distance of 35.27 feet to corner No. 6 of said Susan-Mary Lode;
thence $\mathrm{N} 70^{\circ} 54^{\prime} 00^{\prime \prime}$ E along line 6-5 of said Susan-Mary Lode a distance of 224.97 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18, the City of Black Hawk Patented Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Patented Boundary a distance of 553.67 feet to the point of intersection with line 4-3 of the Golden Gad

Lode, US Mineral Survey No. 13048;
thence $\mathrm{S} 49^{\circ} 45^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line $4-3$ of said Golden Gad Lode a distance of 340.06 feet to corner No. 3 of said Golden Gad Lode;
thence S $63^{\circ} 17^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 3-2 of said Golden Gad Lode a distance of 259.61 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 178 courses:
79. S $47^{\circ} 36^{\prime} 27^{\prime \prime}$ E a distance of 20.45 feet; 80. S $37^{\circ} 01^{\prime} 46^{\prime \prime}$ E a distance of 33.69 feet; 81. S $31^{\circ} 20^{\prime} 23^{\prime \prime}$ E a distance of 35.62 feet; 82. S $29^{\circ} 21^{\prime} 33^{\prime \prime}$ E a distance of 35.80 feet; 83. S $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 35.14 feet; 84. S $28^{\circ} 15^{\prime} 54$ " E a distance of 26.48 feet; 85. S $28^{\circ} 12^{\prime} 54$ " E a distance of 25.97 feet; 86. S $28^{\circ} 29^{\prime} 34 "$ E a distance of 25.05 feet; 87. S $29^{\circ} 02^{\prime} 31$ " E a distance of 37.67 feet; 88. S $30^{\circ} 53^{\prime} 344^{\prime \prime} \mathrm{E}$ a distance of 33.92 feet; 89. S $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 28.92 feet; 90. S $34^{\circ} 37^{\prime} 33^{\prime \prime}$ E a distance of 32.85 feet; 91. S $38^{\circ} 27^{\prime} 56^{\prime \prime}$ E a distance of 34.04 feet; 92. S $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 32.08 feet; 93. S $48^{\circ} 19^{\prime} 15^{\prime \prime}$ E a distance of 29.52 feet; 94. S $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 31.84 feet; 95. S $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet; 96. S $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 32.15 feet; 97. S $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet; 98. S $51^{\circ} 16^{\prime} 35^{\prime \prime}$ E a distance of 28.26 feet; 99. S $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.81 feet; 100. S $54^{\circ} 36^{\prime} 48^{\prime \prime}$ E a distance of 27.25 feet; 101. S $54^{\circ} 32^{\prime} 13^{\prime \prime}$ E a distance of 32.80 feet; 102. S $57^{\circ} 04^{\prime} 544^{\prime \prime} \mathrm{E}$ a distance of 26.24 feet; 103. S $58^{\circ} 48^{\prime} 15^{\prime \prime}$ E a distance of 27.12 feet;
104. S $58^{\circ} 36^{\prime} 20^{\prime \prime}$ E a distance of 29.13 feet; 105. S $57^{\circ} 16^{\prime} 49^{\prime \prime}$ E a distance of 30.45 feet; 106. S $57^{\circ} 52^{\prime} 07{ }^{\prime \prime} \mathrm{E}$ a distance of 29.57 feet; 107. S $57^{\circ} 47^{\prime} 48^{\prime \prime}$ E a distance of 29.54 feet; 108. S $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 30.64 feet; 109. S $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 31.93 feet; 110. S $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 32.05 feet; 111. S $64^{\circ} 12^{\prime} 09^{\prime \prime}$ E a distance of 30.05 feet; 112. S $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 31.36 feet; 113. S $64^{\circ} 57^{\prime} 544^{\prime \prime} \mathrm{E}$ a distance of 31.74 feet; 114. S $66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 30.74 feet; 115. S $62^{\circ} 36^{\prime} 41^{\prime \prime}$ E a distance of 31.24 feet; 116. S $56^{\circ} 45^{\prime} 33^{\prime \prime}$ E a distance of 32.71 feet; 117. S $52^{\circ} 10^{\prime} 05^{\prime \prime}$ E a distance of 34.02 feet; 118. S $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 35.06 feet; 119. S $46^{\circ} 14^{\prime} 32^{\prime \prime}$ E a distance of 33.54 feet; 120. S $46^{\circ} 05^{\prime} 49^{\prime \prime}$ E a distance of 31.95 feet; 121. S $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 33.28 feet; 122. S $46^{\circ} 33^{\prime} 23^{\prime \prime}$ E a distance of 34.15 feet; 123. S $45^{\circ} 20^{\prime} 144^{\prime \prime} \mathrm{E}$ a distance of 34.73 feet; 124. S $45^{\circ} 05^{\prime} 49^{\prime \prime}$ E a distance of 33.04 feet; 125. S $45^{\circ} 18^{\prime} 29^{\prime \prime}$ E a distance of 32.28 feet; 126. $S 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 31.87 feet; 127. S $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 32.58 feet; 128. S $44^{\circ} 56^{\prime} 55^{\prime \prime}$ E a distance of 26.51 feet; 129. $S 42^{\circ} 17^{\prime} 50$ " E a distance of 25.71 feet; 130. S $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 35.65 feet; 131. S $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 32.31 feet; 132. $\mathrm{S} 41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 32.61 feet; 133. S $39^{\circ} 40^{\prime} 26^{\prime \prime}$ E a distance of 30.10 feet; 134. S $43^{\circ} 51^{\prime} 36^{\prime \prime}$ E a distance of 31.28 feet; 135. $S 47^{\circ} 25^{\prime} 27^{\prime \prime}$ E a distance of 31.08 feet; 136. $S 47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 35.15 feet;
137. $\mathrm{S} 46^{\circ} 02^{\prime} 34^{\prime \prime}$ E a distance of 25.97 feet;
138. S $38^{\circ} 52^{\prime} 14^{\prime \prime}$ E a distance of 38.09 feet;
139. S $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.44 feet;
140. S $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 27.32 feet;
141. S $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 24.48 feet;
142. S $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 31.32 feet;
143. $\mathrm{S} 49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 26.70 feet;
144. S $59^{\circ} 21^{\prime} 59^{\prime \prime}$ E a distance of 26.42 feet;
145. S $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of 33.59 feet;
146. S $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 33.52 feet;
147. S $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 29.16 feet;
148. S $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.06 feet;
149. S $49^{\circ} 06^{\prime} 25^{\prime \prime}$ E a distance of 26.55 feet;
150. $S 45^{\circ} 20^{\prime} 47^{\prime \prime}$ E a distance of 27.74 feet;
151. S $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 27.96 feet;
152. S $42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 30.25 feet;
153. S $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.83 feet;
154. S $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 30.46 feet;
155. S $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 25.88 feet;
156. $\mathrm{S} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 27.54 feet;
157. $\mathrm{S} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 28.13 feet;
158. S $45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 27.49 feet;
159. S $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 28.24 feet;
160. S $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 28.91 feet;
161. $\mathrm{S} 49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
162. S $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 30.55 feet;
163. S $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 28.19 feet;
164. S $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{E}$ a distance of 33.90 feet;
165. S $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 25.59 feet;
166. S $50^{\circ} 23^{\prime} 24^{\prime \prime}$ E a distance of 26.25 feet;
167. S $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 27.86 feet;
168. S $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 29.88 feet;
169. S $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
170. S $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
171. S $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 31.05 feet;
172. S $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 25.85 feet;
173. S $66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 27.06 feet;
174. S $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
175. S $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.20 feet;
176. S $54^{\circ} 58^{\prime} 57{ }^{\prime \prime}$ E a distance of 28.04 feet;
177. S $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 25.03 feet;
178. S $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 29.46 feet;
179. S $68^{\circ} 24^{\prime} 20^{\prime \prime}$ E a distance of 27.25 feet;
180. S $67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 31.55 feet;
181. S $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 30.04 feet;
182. S $69^{\circ} 23^{\prime} 51^{\prime \prime}$ E a distance of 31.51 feet;
183. S $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 30.58 feet;
184. S $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 29.60 feet;
185. S $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 28.11 feet;
186. $\mathrm{S} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
187. S $76^{\circ} 41^{\prime} 49^{\prime \prime}$ E a distance of 29.15 feet;
188. S $81^{\circ} 25^{\prime} 50$ " E a distance of 28.60 feet;
189. S $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.17 feet;
190. S $85^{\circ} 57^{\prime} 08^{\prime \prime}$ E a distance of 28.99 feet;
191. S $85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 29.44 feet;
192. $\mathrm{S} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 25.81 feet;
193. S $82^{\circ} 55^{\prime} 20^{\prime \prime}$ E a distance of 27.68 feet;
194. S $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 32.67 feet;
195. S $85^{\circ} 25^{\prime} 50$ " E a distance of 33.32 feet;
196. S $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 30.91 feet;
197. N $89^{\circ} 52^{\prime} 43^{\prime \prime}$ E a distance of 27.50 feet;
198. S $85^{\circ} 37^{\prime} 54^{\prime \prime}$ E a distance of 30.90 feet;
199. S $75^{\circ} 08^{\prime} 14^{\prime \prime}$ E a distance of 35.56 feet;
200. S $53^{\circ} 47^{\prime} 50$ " E a distance of 29.23 feet;
201. S $38^{\circ} 37^{\prime} 56^{\prime \prime}$ E a distance of 34.32 feet;
202. S $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 33.14 feet;
203. S $07^{\circ} 44^{\prime} 55^{\prime \prime}$ E a distance of 32.64 feet; 204. S $04^{\circ} 13^{\prime} 02^{\prime \prime}$ E a distance of 31.99 feet; 205. S $00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 31.57 feet; 206. S $01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.44 feet; 207. S $00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 32.16 feet;
208. S $02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
209. S $06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 38.26 feet;
210. S $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 37.16 feet;
211. S $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
212. $S 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 45.06 feet;
213. S $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
214. $\mathrm{S} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 30.05 feet;
215. $\mathrm{S} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 38.41 feet;
216. S $41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 34.91 feet;
217. S $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 32.47 feet;
218. S $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 32.66 feet;
219. S $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 35.71 feet;
220. S $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 32.11 feet;
221. S $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
222. S $19^{\circ} 00^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 35.03 feet;
223. S $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
224. S $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.35 feet;
225. S $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 27.80 feet;
226. S $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 47.10 feet;
227. S $11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.86 feet;
228. S $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 15.92 feet;
229. S $10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 30.16 feet;
230. S $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
231. S $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 31.40 feet;
232. S $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.62 feet;
233. S $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 25.34 feet;
234. S $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 19.58 feet;
235. S $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 7.58 feet;
236. S $32^{\circ} 05^{\prime} 32^{\prime \prime}$ E a distance of 27.59 feet;
237. $S 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{E}$ a distance of 29.13 feet;
238. S $52^{\circ} 04^{\prime} 36^{\prime \prime}$ E a distance of 27.04 feet;
239. S $54^{\circ} 37^{\prime} 49^{\prime \prime}$ E a distance of 25.73 feet;
240. S $54^{\circ} 46^{\prime} 58^{\prime \prime}$ E a distance of 26.38 feet;
241. $S 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 30.82 feet;
242. S $59^{\circ} 18^{\prime} 04^{\prime \prime}$ E a distance of 25.17 feet;
243. S $63^{\circ} 19^{\prime} 05^{\prime \prime}$ E a distance of 29.27 feet;
244. S $60^{\circ} 16^{\prime} 48^{\prime \prime}$ E a distance of 30.28 feet;
245. S $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 33.01 feet;
246. S $61^{\circ} 28^{\prime} 38^{\prime \prime}$ E a distance of 33.37 feet;
247. S $55^{\circ} 46^{\prime} 17{ }^{\prime \prime}$ E a distance of 29.95 feet;
248. S $56^{\circ} 17^{\prime} 05^{\prime \prime}$ E a distance of 38.86 feet;
249. S $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 57.67 feet;
250. S $48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{E}$ a distance of 91.48 feet;
251. S $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 48.20 feet;
252. S $43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 41.87 feet;
253. S $45^{\circ} 38^{\prime} 04^{\prime \prime}$ E a distance of 24.91 feet;
254. S $49^{\circ} 36^{\prime} 04^{\prime \prime}$ E a distance of 29.00 feet;
255. S $53^{\circ} 53^{\prime} 44^{\prime \prime}$ E a distance of 30.11 feet;
256. S $58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 15.49 feet to the point of intersection with the south line of the SE $1 / 4$ of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along said south line of said SE $1 / 4$ of said Section 18 a distance of 39.68 feet to the point of intersection with the westerly and southerly edge of said Lake Gulch Road;
thence along said westerly and southerly edge of said Lake Gulch Road the following 259 courses:

1. $\mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 14.21 feet;
2. $\mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.59 feet;
3. $N 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
4. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.82 feet;
5. $\mathrm{N} 45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 47.21 feet;
6. $\mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 90.36 feet;
7. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 56.22 feet;
8. $\mathrm{N} 56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
9. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 28.96 feet;
10. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
11. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.24 feet;
12. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
13. $\mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
14. $\mathrm{N} 59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.18 feet;
15. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.69 feet;
16. $\mathrm{N} 54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
17. N $54^{\circ} 37^{\prime} 49{ }^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
18. $\mathrm{N} 52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
19. $\mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 32.98 feet;
20. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.58 feet;
21. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 16.35 feet;
22. $\mathrm{N} 11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 28.47 feet;
23. N $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.32 feet;
24. N $11^{\circ} 03^{\prime} 12 " \mathrm{E}$ a distance of 31.96 feet;
25. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.10 feet;
26. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet;
27. $\mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.89 feet;
28. $N 13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 16.19 feet;
29. N $11^{\circ} 455^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 30.01 feet;
30. N $14^{\circ} 06^{\prime} 12 " \mathrm{E}$ a distance of 47.47 feet;
31. N $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 27.77 feet;
32. N $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.78 feet;
33. N $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 33.77 feet;
34. N $19^{\circ} 00^{\prime} 54 " \mathrm{E}$ a distance of 35.82 feet;
35. $\mathrm{N} 20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
36. N $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 33.26 feet;
37. N $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 37.09 feet;
38. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 34.81 feet;
39. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 34.41 feet;
40. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.10 feet;
41. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet;
42. $\mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 28.32 feet;
43. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 28.10 feet;
44. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 43.15 feet;
45. $\mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.96 feet;
46. N $16^{\circ} 17{ }^{\prime} 42^{\prime \prime}$ E a distance of 33.64 feet;
47. $\mathrm{N} 06^{\circ} 12^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of 35.66 feet;
48. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 27.09 feet;
49. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 31.86 feet;
50. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
51. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
52. $\mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 30.37 feet;
53. N $07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
54. $\mathrm{N} 18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 27.17 feet;
55. N $38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.41 feet;
56. N $53^{\circ} 47^{\prime} 50$ " W a distance of 22.16 feet;
57. N $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 29.40 feet;
58. N $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 28.02 feet;
59. S $89^{\circ} 52^{\prime} 43 \prime \mathrm{~W}$ a distance of 27.21 feet;
60. N $87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.81 feet;
61. N $85^{\circ} 25^{\prime} 50$ " W a distance of 33.93 feet;
62. N $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 33.15 feet;
63. N $82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.67 feet;
64. N $84^{\circ} 02^{\prime} 37{ }^{\prime \prime} \mathrm{W}$ a distance of 25.38 feet;
65. N $85^{\circ} 10^{\prime} 50{ }^{\prime \prime} \mathrm{W}$ a distance of 29.07 feet;
66. N $85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.87 feet;
67. N $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 29.04 feet;
68. N $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
69. N $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.74 feet;
70. N $73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
71. N $70^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet;
72. N $69^{\circ} 40^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.91 feet;
73. N $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.63 feet;
74. N $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.56 feet;
75. N $69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.35 feet;
76. $\mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet;
77. $N 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.25 feet;
78. $N 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 31.29 feet;
79. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 26.50 feet;
80. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.22 feet;
81. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 28.94 feet;
82. N $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 31.12 feet;
83. $\mathrm{N} 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 26.08 feet;
84. N $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
85. N $62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
86. N $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.17 feet;
87. N $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.94 feet;
88. N $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.51 feet;
89. N $48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 27.58 feet;
90. N $50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 25.21 feet;
91. N $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 24.95 feet;
92. $\mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 34.13 feet;
93. $\mathrm{N} 52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.67 feet;
94. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.14 feet;
95. N $49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 31.07 feet;
96. N $48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.28 feet;
97. N $47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.86 feet;
98. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.28 feet;
99. $\quad \mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.69 feet;
100. N $42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.59 feet;
101. N $38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 27.43 feet;
102. N $34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
103. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
104. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
105. N $43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.46 feet;
106. N $45^{\circ} 20^{\prime} 47^{\prime \prime}$ W a distance of 26.75 feet;
107. N $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet; 108. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 23.97 feet; 109. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.27 feet; 110. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.19 feet; 111. $\mathrm{N} 61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.99 feet; 112. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet; 113. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 30.84 feet; 114. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 115. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 26.10 feet; 116. N $29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.77 feet; 117. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet; 118. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.74 feet; 119. N $46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 24.23 feet; 120. N $47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 121. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.87 feet; 122. N $43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 32.77 feet; 123. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet; 124. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.25 feet; 125. N $41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 126. N $41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.49 feet; 127. N $42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet; 128. $\mathrm{N} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 25.56 feet; 129. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.68 feet; 130. $N 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 131. N $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.15 feet; 132. $\mathrm{N} 45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet; 133. $\mathrm{N} 45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 34.45 feet; 134. N $46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 33.75 feet; 135. N $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.36 feet; 136. N $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 32.17 feet; 137. N $46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet;
108. $\mathrm{N} 47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet;
109. N $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 32.26 feet; 140. N $56^{\circ} 45^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 30.70 feet;
110. N $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.38 feet;
111. $\mathrm{N} 66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
112. N $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 31.64 feet;
113. N $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
114. N $64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 31.24 feet;
115. N $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet;
116. N $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.37 feet;
117. N $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 30.86 feet;
118. N $57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.66 feet;
119. N $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet;
120. N $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.31 feet;
121. N $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
122. $\mathrm{N} 58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 27.42 feet;
123. N $57^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.06 feet;
124. N $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.27 feet;
125. N $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet;
126. N $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 27.45 feet;
127. N $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.72 feet;
128. N $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 29.69 feet;
129. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
130. N $50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.76 feet;
131. N $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet;
132. N $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
133. $\mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 33.97 feet;
134. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 36.03 feet;
135. N $34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.03 feet;
136. N $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.64 feet;
137. N $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
138. N $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 38.14 feet;
139. N $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
140. $\mathrm{N} 28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.03 feet;
141. N $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 26.41 feet;
142. N $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.93 feet; 174. N $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.27 feet; 175. N $31^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 34.15 feet; 176. N $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 30.56 feet; 177. N $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet; 178. N $55^{\circ} 33^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet; 179. N $61^{\circ} 36^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.13 feet; 180. N $63^{\circ} 34^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 26.32 feet; 181. $\mathrm{N} 64^{\circ} 31^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet; 182. N $67^{\circ} 22^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet; 183. N $69^{\circ} 56^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 31.66 feet; 184. N $71^{\circ} 44^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.36 feet; 185. N $73^{\circ} 18^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 30.03 feet; 186. N $77^{\circ} 37^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet; 187. N $82^{\circ} 16^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 26.04 feet; 188. $\mathrm{N} 88^{\circ} 32^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 28.15 feet; 189. S $89^{\circ} 07^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 25.28 feet; 190. S $87^{\circ} 57^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 28.75 feet; 191. S $89^{\circ} 11^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.08 feet; 192. S $89^{\circ} 11^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 25.02 feet; 193. N $89^{\circ} 16^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet; 194. N $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 29.71 feet; 195. S $89^{\circ} 45^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 26.33 feet; 196. S $87^{\circ} 30^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 24.87 feet; 197. S $85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet; 198. $\mathrm{S} 82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 25.77 feet; 199. S $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.14 feet; 200. S $79^{\circ} 51^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 29.85 feet; 201. S $79^{\circ} 21^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 32.22 feet; 202. S $77^{\circ} 56^{\prime} 07{ }^{\prime \prime} \mathrm{W}$ a distance of 54.21 feet; 203. S $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet; 204. S $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
143. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.26 feet;
144. $S 76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.55 feet;
145. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 35.14 feet;
146. S $77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 34.96 feet;
147. S $78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet;
148. S $79^{\circ} 17^{\prime} 59{ }^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet;
149. S $76^{\circ} 41^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 24.88 feet;
150. $\mathrm{S} 78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 27.26 feet;
151. $\mathrm{S} 78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 28.33 feet;
152. S $77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
153. S $75^{\circ} 42^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.46 feet;
154. $\mathrm{S} 74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 27.02 feet;
155. S $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 26.69 feet;
156. S $68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.19 feet;
157. S $72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 26.92 feet;
158. S $72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
159. S $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
160. S $68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
161. S $68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 28.31 feet;
162. S $68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 28.95 feet;
163. S $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.75 feet;
164. S $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
165. S $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.76 feet;
166. S $74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.07 feet;
167. S $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 27.01 feet;
168. S $77^{\circ} 53^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.96 feet;
169. S $80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 37.64 feet;
170. S $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
171. S $83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.74 feet;
172. S $82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.30 feet;
173. S $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
174. $\mathrm{S} 80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
175. S $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
176. S $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 37.31 feet;
177. S $78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 25.19 feet;
178. S $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 25.31 feet;
179. S $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
180. S $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.66 feet;
181. S $82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
182. S $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.37 feet;
183. $\mathrm{S} 84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
184. S $85^{\circ} 29^{\prime} 19 " \mathrm{~W}$ a distance of 28.10 feet;
185. S $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 26.80 feet;
186. $\mathrm{S} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 37.12 feet;
187. N $89^{\circ} 43^{\prime} 04 " \mathrm{~W}$ a distance of 35.66 feet;
188. N $88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 37.23 feet;
189. N $88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
190. N $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 34.65 feet;
191. N $88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.41 feet;
192. N $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.21 feet;
193. N $86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 31.47 feet;
194. N $85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 32.34 feet;
195. N $84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{W}$ a distance of 33.73 feet;
196. N $85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 35.41 feet;
197. N $84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 11.88 feet to the point of intersection with the east line of said NE $1 / 4$ of said Section 13;
thence $\mathrm{N} 00^{\circ} 14^{\prime} 12{ }^{\prime \prime} \mathrm{E}$ along said east line of said NE $1 / 4$ of said Section 13 a distance of 22.08 feet to the Point of Beginning containing 8.03 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 4 Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence $\mathrm{S} 77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch Road, being the Point of Beginning.

Thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S 1/16th corner of Sections 17 and 18;
thence $\mathrm{S} 00^{\circ} 00^{\prime} 33^{\prime \prime} \mathrm{W}$ along the east line of the SE $1 / 4$ of said Section 18 a distance of 1312.03 feet to the SE corner of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along the south line of the SE $1 / 4$ of said Section 18 a distance of 387.79 feet to a point on the easterly edge of Lake Gulch Road, County Road 6;
thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\mathrm{N} 58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 15.49 feet;
2. $\mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 30.11 feet;
3. N $49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 29.00 feet;
4. $\quad \mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 24.91 feet;
5. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.87 feet;
6. N $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 48.20 feet;
7. $\quad \mathrm{N} 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 91.48 feet;
8. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 57.67 feet;
9. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.86 feet;
10. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 29.95 feet;
11. N $61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 33.37 feet;
12. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.01 feet;
13. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
14. N $63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.27 feet;
15. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.17 feet;
16. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 30.82 feet;
17. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 26.38 feet;
18. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
19. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
20. N $44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 29.13 feet;
21. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 27.59 feet;
22. $\mathrm{N} 33^{\circ} 47^{\prime} 37{ }^{\prime \prime} \mathrm{W}$ a distance of 7.58 feet;
23. N $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 19.58 feet;
24. N $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.34 feet;
25. N $11^{\circ} 03^{\prime} 12 " \mathrm{E}$ a distance of 31.62 feet;
26. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.40 feet;
27. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet;
28. $\mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.16 feet;
29. N $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 15.92 feet;
30. $\mathrm{N} 11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.86 feet;
31. $\mathrm{N} 14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.10 feet;
32. N $13^{\circ} 41^{\prime} 03{ }^{\prime \prime} \mathrm{E}$ a distance of 24.47 feet to the point of intersection with line 2-3 of the Rickard Lode, US Mineral Survey No. 16283;
thence $\mathrm{N} 67^{\circ} 02^{\prime} 38^{\prime \prime}$ E along said line 2-3 of said Rickard Lode a distance of 945.51 feet to corner No. 3 of said Rickard Lode;
thence $\mathrm{N} 23^{\circ} 02^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $3-4$ of said Rickard Lode a distance of 150.08 feet to corner No. 4 of said Rickard Lode;
thence S $67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Rickard Lode a distance of 153.49 feet to the point of intersection with line 3-4 of the Olivia Lode, US Mineral Survey No. 13916;
thence $S 29^{\circ} 39^{\prime} 14 " E$ along said line 3-4 a distance of 131.02 feet to corner No. 4 of said Olivia Lode;
thence $\mathrm{S} 60^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Olivia Lode a distance of 150.24 feet to corner No. 1 of said Olivia Lode;
thence $\mathrm{N} 29^{\circ} 41^{\prime} 13{ }^{\prime \prime} \mathrm{W}$ along line 1-2 of said Olivia Lode a distance of 148.78 to the point of intersection with said line 4-1 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along said line $4-1$ of said Rickard Lode a distance of 497.85 feet to the point of intersection with the easterly line of said Lake Gulch Road;
thence along said easterly edge of said Lake Gulch Road the following 14 courses:
33. $\mathrm{N} 31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 20.73 feet;
34. $\mathrm{N} 37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 32.47 feet;
35. $\mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 34.91 feet;
36. $\mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.41 feet;
37. $\quad \mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet;
38. N $34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 30.28 feet;
39. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 45.06 feet;
40. $\quad \mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
41. N $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 37.16 feet;
42. $\mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 38.26 feet;
43. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 28.30 feet;
44. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 32.16 feet;
45. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.44 feet;
46. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 31.57 feet to the Point of Beginning, containing 20.72 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 5
Legal Description
A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $37^{\circ} 49^{\prime} 49^{\prime \prime}$ E a distance of $1,154.79$ feet to the intersection of line 3-4 of the Annex

Lode, US Mineral Survey No. 7799 with the easterly and northerly edge of Lake Gulch Road, County Road 6 being the Point of Beginning.

Thence $\mathrm{N} 61^{\circ} 53^{\prime} 31^{\prime \prime}$ E along said line 3-4 of said Annex Lode a distance of 1064.95 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary; thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline of said NW $1 / 4$ and City of Black Hawk Patented Boundary a distance of 227.43 feet to the point of intersection with line 1-4 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{S} 39^{\circ} 30^{\prime} 42^{\prime \prime} \mathrm{W}$ along said line 1-4 of said St. Anthony Lode a distance of 328.85 feet to the point of intersection with said easterly and northerly edge of Lake Gulch Road;
thence along said easterly and northerly edge of Lake Gulch Road the following 8 courses:

1. $\mathrm{S} 79^{\circ} 21^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 10.12 feet;
2. $\quad \mathrm{S} 77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.90 feet;
3. $\mathrm{S} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.64 feet;
4. $\quad \mathrm{S} 75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 32.92 feet;
5. $\quad \mathrm{S} 76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.21 feet;
6. S $76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.36 feet;
7. S $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.86 feet;
8. $\quad \mathrm{S} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.75 feet to the point of intersection with line 1-2 of the Elizabeth Lode, US Mineral Survey No. 15894;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 46^{\prime \prime}$ E along said line 1-2 of said Elizabeth Lode a distance of 249.88 feet to the point of intersection with line 3-2 of the Black Diamond Lode, US Mineral Survey No. 17634;
thence $\mathrm{S} 63^{\circ} 58^{\prime} 12^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Black Diamond Lode a distance of 827.46 feet to the point of intersection with said easterly and northerly edge of said Lake Gulch Road;
thence along said easterly and northerly edge of said Lake Gulch Road the following 5 courses:
9. $\mathrm{S} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 18.54 feet;
10. $\quad \mathrm{S} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.51 feet;
11. $\quad \mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.72 feet;
12. $\quad \mathrm{S} 82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.87 feet;
13. $\quad \mathrm{S} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 22.34 feet to the Point of Beginning containing 2.58 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 6

## Legal Description

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $20^{\circ} 56^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 997.85 feet to the point of intersection of line 3-4 of the Dale Lode, US Mineral Survey No. 13338 with line 21 of the Notaway Extension Lode, US Mineral Survey No. 9722 being the Point of Beginning.
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime} \mathrm{E}$ along said line 2-1 of said Notaway Extension Lode a distance of 105.93 feet to the point of intersection with line 1-5 of the Gulch Lode, US Mineral Survey No. 12784;
thence $\mathrm{N} 36^{\circ} 25^{\prime} 58^{\prime \prime}$ E along said line 1-5 of said Gulch Lode a distance of 382.53 feet to corner No. 5 of said Gulch Lode;
thence $\mathrm{N} 52^{\circ} 39^{\prime} 02^{\prime \prime} \mathrm{W}$ along line $5-4$ of said Gulch Lode a distance of 83.36 feet to the point of intersection with said Line 2-1 of said Notaway Extension Lode;
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime}$ E along said Line 2-1 of said Notaway Extension Lode a distance of 36.99 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Patented Boundary;
thence S $89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline and City of Black Hawk Patented Boundary a distance of 756.52 feet to the point
of intersection with line 1-2 of the Annex Lode, US Mineral Survey No. 7799;
thence $\mathrm{S} 61^{\circ} 53^{\prime} 31^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Annex Lode a distance of 776.77 feet to the point of intersection with line 7-6 of said Dale Lode, US Mineral Survey No. 13338;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 00^{\prime \prime}$ E along said line 7-6 of said Dale Lode a distance of 409.81 feet to corner No. 6 of said Dale Lode;
thence $\mathrm{N} 50^{\circ} 28^{\prime} 19^{\prime \prime} \mathrm{W}$ along line 6-5 of said Dale Lode a distance of 74.00 feet to corner No. 5 of said Dale Lode;
thence $\mathrm{N} 89^{\circ} 24^{\prime} 17^{\prime \prime} \mathrm{W}$ along line 5-4 of said Dale Lode a distance of 97.24 feet to corner No. 4 of said Dale Lode;
thence S $39^{\circ} 23^{\prime} 43^{\prime \prime} \mathrm{W}$ along line $4-3$ of said Dale Lode a distance of 624.77 feet to the Point of Beginning containing 2.35 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 7 Legal Description

A parcel of land located in Sections 17 and 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:

Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears N $00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence S $77^{\circ} 17^{\prime} 58^{\prime \prime}$ E a distance of 5,336.50 feet to a point on the easterly edge of Lake Gulch Road;
thence $\mathrm{S} 88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S $1 / 16$ th corner of Sections 17 and 18 being the Point of Beginning.
Thence N $27^{\circ} 33^{\prime} 11^{\prime \prime}$ W along the City of Black Hawk Boundary a distance of 938.48 feet to corner No. 4 of the Little Mattie Lode, US

Mineral Survey No. 970;
thence $\mathrm{N} 44^{\circ} 29^{\prime} 09^{\prime \prime}$ E along line 4-3 of said Little Mattie Lode a distance of 1500.03 feet to corner No. 3 of said Little Mattie Lode;
thence $\mathrm{N} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{E}$ along the City of Black Hawk Boundary a distance of 980.96 feet to the north-south centerline of the NW $1 / 4$ of said Section 17;
thence $\mathrm{S} 01^{\circ} 03^{\prime} 00^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 1273.98 feet to the W $1 / 16$ th corner on the east-west centerline of said NW $1 / 4$ of Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 111.85 feet to the point of intersection with line 1-2 of the Mascot Lode, US Mineral Survey No. 845;
thence $\mathrm{S} 55^{\circ} 22^{\prime} 15^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Mascot Lode a distance of 100.62 feet to corner No. 2 of said Mascot Lode;
thence $\mathrm{S} 34^{\circ} 54^{\prime} 36^{\prime \prime}$ E along line 2-3 of said Mascot Lode a distance of 146.65 feet to the point of intersection with the north-south centerline of the SW $1 / 4$ of said Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said SW $1 / 4$ of said Section 17 a distance of 1034.62 feet to the SW $1 / 16$ th corner of said Section 17;
thence $\mathrm{S} 88^{\circ} 35^{\prime} 30^{\prime \prime} \mathrm{W}$ along the east-west centerline of the SW $1 / 4$ of said Section 17 a distance of 1307.15 feet to the $S 1 / 16$ th corner of Sections 17 and 18, the Point of Beginning containing 63.62 acres more or less.

## LAKE GULCH WHISKEY RESORT

A PLANNED UNIT DEVELOPMENT
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M.,
CITY OF BLACK HAWK COUNTY OF GIIPIN STATE OF COLORADO






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## LAKE GULCH WHISKEY RESORT

A PLANNED UNIT DEVELOPMENT
A PART OF SECTIONS 17 \& 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M. CITY OF BLACK HAWK, COUNTY OF GILPIN, STATE OF COLORADO


## NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Black Hawk Board of Aldermen shall hold a public hearing concerning the initial zoning of newly annexed land to the Commercial/Business Services (C/BS) zoning district and the Planned Unit Development (PUD) overlay zoning district, located on property described in Exhibit A and generally located south of the present City limits and north \& east of Lake Gulch Road, pursuant to the City of Black Hawk zoning ordinance.

The public hearing is to be held before the City of Black Hawk Board of Aldermen on Wednesday, March 25, 2020 at 3:00 p.m. or as soon as possible thereafter. The public hearing shall be held in the City of Black Hawk Council Chambers located at 211 Church Street, Black Hawk, Colorado, 80422, or at such other time or place in the event these hearings are adjourned.

## ALL INTERESTED PARTIES MAY ATTEND

Melissa A. Greiner
City Clerk

## Exhibit A

## LEGAL DESCRIPTION

Lake Gulch Whiskey Resort Annexation No. 1
A parcel of land located in Sections $17 \& 18$, Township 3
South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime}$ E a distance of $3,617.79$ feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.
Thence $\mathrm{S} 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line 4-1 of said Williams Lode a distance of 296.23 feet to the point of intersection with line 3-2 of the Blow Out Lode, US Mineral Survey No. 18776;
thence N $19^{\circ} 46^{\prime} 26^{\prime \prime}$ E along said line 3-2 of said Blow Out Lode a distance of 361.74 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary; thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ a distance of 208.47 feet to the point of
intersection with line 1-2 of the Great Britian Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 29^{\circ} 18^{\prime} 00$ " W along said line 1-2 of said Great Britian Lode a distance of 353.67 feet to corner No. 2 of said Great Britian Lode;
thence $S 46^{\circ} 17^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-3 of said Great Britian Lode a distance of 131.10 feet to the point of intersection with line $4-1$ of said Williams Crossing Lode;
thence $S 47^{\circ} 53^{\prime} 33^{\prime \prime}$ E along said line $4-1$ of said Williams Crossing Lode a distance of 149.95 feet to the point of intersection with line 6-7 of said Great Britian Lode; thence $\mathrm{N} 46^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ along said line 6-7 of said Great Britian Lode a distance of 142.56 feet to corner No. 7 of said Great Britian Lode;
thence $\mathrm{N} 29^{\circ} 19^{\prime} 49^{\prime \prime} \mathrm{E}$ along line $7-8$ of said Great Britian Lode a distance of 461.80 feet to the point of intersection with said east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary; thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NE $1 / 4$ a distance of 474.24 feet to the point of intersection with line 16-15 of the Gold Tunnel No. 21 Lode, US Mineral Survey No. 4589;
thence $\mathrm{S} 43^{\circ} 56^{\prime} 47^{\prime \prime} \mathrm{W}$ along said line $16-15$ of the Gold Tunnel No. 21 Lode a distance of 81.81 feet to corner No. 15 of the said Gold Tunnel No. 21 Lode; thence $S 46^{\circ} 21^{\prime} 54^{\prime \prime}$ E along line $15-14$ of the said Gold Tunnel No. 21 Lode, a distance of 150.01 feet to corner no. 14 of the said Gold Tunnel No. 21 Lode;
thence $\mathrm{N} 43^{\circ} 56^{\prime} 15^{\prime \prime} \mathrm{E}$ along line 14-13 of the said Gold Tunnel No. 21 Lode, a distance of 227.88 feet to the point of intersection with the east-west centerline of the NE $1 / 4$ of said Section 18 and the City of Black Hawk Boundary; thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along said east-west centerline of the NE $1 / 4$ a distance of 1040.34 feet to the N $1 / 16$ th corner of Sections 17 and 18;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime}$ E along the east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 165.11 feet to the point of intersection with line 3-2 of said East Williams Lode, US Mineral Survey No. 588;
thence $\mathrm{S} 47^{\circ} 19^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line 3-2 of the East Williams Lode a distance of 204.89 feet to corner No. 2 of said East Williams Lode;
thence $S 42^{\circ} 44^{\prime} 49^{\prime \prime}$ E along line 2-1 of said East Williams Lode a distance of 152.37 feet to corner No. 1 of said East Williams Lode;
thence $\mathrm{N} 47^{\circ} 20^{\prime} 23^{\prime \prime}$ E along line 1-4 of said East Williams Lode a distance of 385.62 feet to the point of intersection with said east-west centerline of the NW $1 / 4$ of said Section 17;
thence $\mathrm{N} 87^{\circ} 26^{\prime} 32^{\prime \prime}$ E along said east-west centerline of the NW $1 / 4$ of said Section 17 a distance of 906.14 feet to the NW $1 / 16$ th corner of said Section 17;
thence $\mathrm{N} 01^{\circ} 02^{\prime} 29^{\prime \prime} \mathrm{W}$ along the north-south centerline of said NW $1 / 4$ of said Section 17 and along the City of Black Hawk boundary a distance of 164.47 feet to the point of intersection with line 1-2 of the Mary Miller Lode, US Mineral Survey No. 969;
thence $\mathrm{N} 44^{\circ} 28^{\prime} 35^{\prime \prime}$ E along said line 1-2 of said Mary Miller Lode a distance of 60.92 feet to the point of intersection with said City of Black Hawk boundary; thence $\mathrm{N} 88^{\circ} 00^{\prime} 45^{\prime \prime}$ E along said City of Black Hawk boundary a distance of 96.85 feet;
thence $\mathrm{N} 00^{\circ} 18^{\prime} 42^{\prime \prime}$ W along said City of Black Hawk boundary a distance of 91.93 feet to the point of intersection with line 6-5 of the Morgan Placer US Mineral Survey No. 226;
thence $\mathrm{S} 42^{\circ} 19^{\prime} 52^{\prime \prime} \mathrm{E}$ along said line 6-5 of said Morgan Placer a distance of 92.75 feet to corner No. 5 of said Morgan Placer;
thence S $41^{\circ} 03^{\prime} 33^{\prime \prime}$ E along Colorado Department of Transportation deed recorded at Reception No. 141956 Gilpin County Records a distance of 12.42 feet to a CDOT $31 / 4$ " aluminum cap; thence $S 49^{\circ} 47^{\prime} 21^{\prime \prime}$ E continuing along said Reception No. 141956 a distance of 43.07 feet to the point of intersection with line 3-4 of said Mary Miller Lode; thence $\mathrm{S} 44^{\circ} 27^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Mary Miller Lode a distance of 340.78 feet to the north-south centerline of said NW $1 / 4$ of said Section 17; thence $\mathrm{S} 42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 980.96 feet to corner No. 3 of the Little Mattie Lode, US Mineral Survey No. 970;
thence $\mathrm{N} 45^{\circ} 33^{\prime} 27^{\prime \prime} \mathrm{W}$ along line 3-2 of said Little Mattie Lode a distance of 149.96 feet to corner No. 2 of said Little Mattie Lode;
thence S $44^{\circ} 28^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 2-1 of said Little Mattie Lode a distance of 1499.34 feet to corner No. 1 of said Little Mattie Lode; thence $\mathrm{S} 45^{\circ} 17^{\prime} 32^{\prime \prime} \mathrm{E}$ along line 1-4 of said Little Mattie Lode a distance of 149.75 feet to corner No. 4 of said Little Mattie Lode; thence S $27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 938.48 feet to the S $1 / 16$ th corner of Sections 17 and 18; thence $\mathrm{N} 88^{\circ} 20^{\prime} 50{ }^{\prime \prime} \mathrm{W}$ a distance of 663.62 feet to a point on the easterly edge of Lake Gulch Road, County Road 6; thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\quad \mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 31.99 feet;
2. $\quad \mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.64 feet;
3. $\quad \mathrm{N} 18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 33.14 feet;
4. $\quad \mathrm{N} 38^{\circ} 37^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.32 feet;
5. $\quad \mathrm{N} 53^{\circ} 47^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
6. $\quad \mathrm{N} 75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.56 feet;
7. $\quad \mathrm{N} 85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 30.90 feet;
8. $\quad \mathrm{S} 89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 27.50 feet;
9. $\quad \mathrm{N} 87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 30.91 feet;
10. $\mathrm{N} 85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 33.32 feet;
11. $\quad \mathrm{N} 83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 32.67 feet;
12. $\quad \mathrm{N} 82^{\circ} 55^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.68 feet;
13. $\quad \mathrm{N} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 25.81 feet;
14. $\mathrm{N} 85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 29.44 feet;
15. $\mathrm{N} 85^{\circ} 57^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
16. $\mathrm{N} 85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
17. $\mathrm{N} 81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 28.60 feet;
18. $\mathrm{N} 76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 29.15 feet;
19. $\mathrm{N} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.55 feet;
20. N $70^{\circ} 53^{\prime} 21 " \mathrm{~W}$ a distance of 28.11 feet;
21. N $69^{\circ} 40^{\prime} 34{ }^{\prime \prime} \mathrm{W}$ a distance of 29.60 feet;
22. $\quad \mathrm{N} 69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 30.58 feet;
23. $\quad \mathrm{N} 69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet;
24. $\quad \mathrm{N} 69^{\circ} 00^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 30.04 feet;
25. $\quad \mathrm{N} 67^{\circ} 48^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 31.55 feet;
26. $\quad \mathrm{N} 68^{\circ} 24^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 27.25 feet;
27. $\quad \mathrm{N} 62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
28. N $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 25.03 feet;
29. N $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{W}$ a distance of 28.04 feet;
30. N $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.20 feet;
31. $\quad \mathrm{N} 61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
32. $\mathrm{N} 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{W}$ a distance of 25.01 feet to a point on line 1-4 of Washingtons Day Lode, US Mineral Survey 11885;
thence along said line $1-4 \mathrm{~N} 39^{\circ} 23^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 633.47 feet to corner No. 4 of said Washingtons Day Lode; thence along line 4-3 of said Washingtons Day Lode N $45^{\circ}$ 12' $18^{\prime \prime}$ W a distance of 150.58 feet to corner No. 3 of said Washingtons Day Lode;
thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of $1,096.94$ feet;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime}$ E a distance of 320.86 feet;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 169.95 feet; thence $\mathrm{S} 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 314.68 feet; thence $\mathrm{N} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 710.26 feet to the Point of Beginning,
EXCEPT the Denver Lode, US Mineral Survey 745, total parcel containing 95.35 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 2

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 ⁄ 4$ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence N $69^{\circ} 30^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of $3,617.79$ feet to the point of intersection of line 3-4 of the Clay County Lode, US Mineral Survey No. 360 with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824 being the Point of Beginning.
Thence S $40^{\circ} 53^{\prime} 21^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 710.26 feet; thence $\mathrm{N} 47^{\circ} 00^{\prime} 48^{\prime \prime}$ E a distance of 314.68 feet; thence S $42^{\circ} 58^{\prime} 23^{\prime \prime}$ E a distance of 169.95 feet; thence $\mathrm{S} 47^{\circ} 01^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 320.86 feet; thence $\mathrm{S} 40^{\circ} 53^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 1096.94 feet to corner No. 3 of the Washingtons Day Lode, US Mineral Survey 11885;
thence along line 3-2 of said Washingtons Day Lode S $39^{\circ}$ $23^{\prime} 18^{\prime \prime} \mathrm{W}$ a distance of 664.25 feet to a point on the easterly edge of Lake Gulch Road, County Road 6; thence along said easterly edge the following 42 courses:

1. $\quad \mathrm{N} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 24.56 feet;
2. $\quad \mathrm{N} 50^{\circ} 23^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
3. $\quad \mathrm{N} 53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 25.59 feet;
4. $\quad \mathrm{N} 53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{W}$ a distance of 33.90 feet;
5. N $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.19 feet;
6. N $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet;
7. $\mathrm{N} 49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
8. $N 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.91 feet;
9. $N 47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.24 feet;
10. $\mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.49 feet;
11. $\mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.13 feet;
12. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 27.54 feet;
13. $\mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 25.88 feet;
14. $\quad \mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.46 feet;
15. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 28.83 feet;
16. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet;
17. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.96 feet;
18. $\mathrm{N} 45^{\circ} 20^{\prime} 477^{\prime \prime} \mathrm{W}$ a distance of 27.74 feet;
19. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 26.55 feet;
20. N $51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
21. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 29.16 feet;
22. $\quad \mathrm{N} 61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.52 feet;
23. $\quad \mathrm{N} 61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.59 feet;
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42. $\quad \mathrm{N} 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 5.81 feet to the point of intersection with line 4-3 of the Tariff Lode, US Mineral Survey No. 966;
thence $\mathrm{N} 47^{\circ} 01^{\prime} 18^{\prime \prime}$ E along said line $4-3$ of said Tariff Lode a distance of 1068.76 feet to corner No. 3 of said Tariff Lode;
thence $\mathrm{N} 42^{\circ} 58^{\prime} 23^{\prime \prime} \mathrm{W}$ along line 3-2 of said Tariff Lode a distance of 149.95 feet to corner No. 2 of said Tariff lode;
thence $S 47^{\circ} 00^{\prime} 48^{\prime \prime} \mathrm{W}$ along line $2-1$ of said Tariff Lode a distance of 367.57 feet to the point of intersection with line 2-3 of the Williams Lode, US Mineral Survey No. 15824; thence $\mathrm{N} 47^{\circ} 53^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 2-3 of said Williams Lode a distance of 660.81 feet to the point of intersection with line 6-5 of the East Clay County Lode, US Mineral Survey No. 18776;
thence $\mathrm{S} 17^{\circ} 31^{\prime} 51^{\prime \prime} \mathrm{W}$ along said line 6-5 of said East Clay County Lode a distance of 88.60 feet to the point of intersection with line 3-2 of the Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{N} 51^{\circ} 26^{\prime} 36^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Clay
County Lode a distance of 26.56 feet to corner No. 4 of said Clay County Lode, US Mineral Survey No. 360; thence $\mathrm{N} 52^{\circ} 11^{\prime} 23^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Clay County Lode, US Mineral Survey No. 360 a distance of 114.49 feet to corner No. 2 of said Clay County Lode, US Mineral Survey No. 329A;
thence $\mathrm{S} 37^{\circ} 28^{\prime} 00^{\prime \prime} \mathrm{W}$ along line 2-1 of said Clay County Lode, US Mineral Survey No. 329A a distance of 547.96 feet to the point of intersection with line 4-1 of the Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{N} 54^{\circ} 01^{\prime} 59^{\prime \prime} \mathrm{W}$ along said line $4-1$ of the Clay County Lode, US Mineral Survey No. 329B a distance of 109.70 feet to corner No. 1 of said Clay County Lode, US Mineral Survey No. 329B;
thence $\mathrm{S} 50^{\circ} 08^{\prime} 44^{\prime \prime} \mathrm{W}$ along line 1-2 of said Clay County Lode, US Mineral Survey No. 329B a distance of 172.25 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 12 courses:
43. $\quad \mathrm{N} 52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 4.07 feet;
44. $\quad \mathrm{N} 50^{\circ} 32^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
45. $\quad \mathrm{N} 48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.84 feet;
46. $\quad \mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 29.52 feet;
47. $\quad \mathrm{N} 44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 32.08 feet;
48. $\quad \mathrm{N} 38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 34.04 feet;
49. $\quad \mathrm{N} 34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 32.85 feet;
50. $\quad \mathrm{N} 32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 28.92 feet;
51. N $30^{\circ} 53^{\prime} 34 " \mathrm{~W}$ a distance of 33.92 feet;
52. $\quad \mathrm{N} 29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 37.67 feet;
53. $\mathrm{N} 28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 25.05 feet;
54. $\mathrm{N} 28^{\circ} 12^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 1.33 feet to the point of intersection with line 1-2 of the Caledonia Lode, US Mineral Survey No. MS 519;
thence $\mathrm{N} 49^{\circ} 29^{\prime} 47^{\prime \prime}$ E along said line 1-2 of said Caledonia Lode a distance of 724.79 feet to the point of intersection with line 6-5 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence N $31^{\circ} 43^{\prime} 33^{\prime \prime} \mathrm{W}$ along said line 6-5 of said Golden Gad Lode a distance of 50.45 feet to the point of intersection with the east-west centerline of said NW $1 / 4$ of said Section 18;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline of the NW $1 / 4$ and along the City of Black Hawk Boundary a distance of 258.49 feet to the N 1/16th corner on the northsouth centerline of said Section 18;
thence $\mathrm{N} 89^{\circ} 32^{\prime} 31^{\prime \prime}$ E along the east-west centerline of the NE $1 / 4$ of said Section 18 and along the City of Black Hawk Boundary a distance of 246.17 feet to the point of intersection with line 3-4 of the Clay County Lode, US Mineral Survey No. 360;
thence S $27^{\circ} 50^{\prime} 26^{\prime \prime} \mathrm{W}$ along said line 3-4 of said Clay County Lode a distance of 157.91 feet to the point of intersection with line 4-1 of the Williams Crossing Lode, US Mineral Survey No. 15824, the Point of Beginning, containing 29.21 acres more or less.

Lake Gulch Whiskey Resort Annexation No. 3
A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description feet; thence $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$ along the east line of the $\mathrm{NE} 1 / 4$ of
said Section 13 a distance of 876.53 feet to the point of intersection with the northerly and easterly edge of Lake Gulch Road, County Road 6. Thence along said northerly and easterly edge of Lake Gulch Road the following 66 courses:

1. $\quad \mathrm{S} 84^{\circ} 44^{\prime} 44^{\prime \prime}$ E a distance of 13.72 feet;
2. $\quad \mathrm{S} 85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 35.41 feet;
3. $\quad S 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
4. $\quad \mathrm{S} 85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 32.03 feet;
5. $\quad \mathrm{S} 86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
6. S $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.82 feet;
7. $\mathrm{S} 88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 29.18 feet;
8. $\quad \mathrm{S} 88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 34.66 feet;
9. $\quad \mathrm{S} 88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 25.20 feet;
10. $\quad \mathrm{S} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.97 feet;
11. $\mathrm{S} 89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 35.02 feet;
12. $\mathrm{N} 88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 36.59 feet;
13. $\mathrm{N} 87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 26.26 feet;
14. $\mathrm{N} 85^{\circ} 29^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 27.58 feet;
15. $\mathrm{N} 84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.08 feet;
16. $\mathrm{N} 84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.85 feet;
17. $\mathrm{N} 82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 28.00 feet;
18. N $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 26.68 feet;
19. N $76^{\circ} 54^{\prime} 40^{\prime \prime}$ E a distance of 25.60 feet;
20. N $77^{\circ} 08^{\prime} 36^{\prime \prime}$ E a distance of 25.55 feet;
21. $N 78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 25.48 feet;
22. N $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 37.64 feet;
23. N $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 26.32 feet;
24. $N 80^{\circ} 28^{\prime} 29^{\prime \prime}$ E a distance of 26.01 feet;
25. N $80^{\circ} 13^{\prime} 10{ }^{\prime \prime}$ E a distance of 25.64 feet;
26. N $82^{\circ} 00^{\prime} 47{ }^{\prime \prime} \mathrm{E}$ a distance of 25.87 feet;
27. N $83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{E}$ a distance of 25.72 feet;
28. N $81^{\circ} 54^{\prime} 30^{\prime \prime}$ E a distance of 25.51 feet;
29. N $80^{\circ} 36^{\prime} 50^{\prime \prime}$ E a distance of 36.86 feet;
30. N $77^{\circ} 53^{\prime} 04^{\prime \prime}$ E a distance of 25.17 feet;
31. N $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
32. N $74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 26.43 feet;
33. N $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 27.05 feet;
34. $\mathrm{N} 71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.52 feet;
35. N $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 29.17 feet;
36. $N 68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{E}$ a distance of 28.70 feet;
37. $N 68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 28.34 feet;
38. $N 68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 28.58 feet;
39. N $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 27.99 feet;
40. $\quad \mathrm{N} 72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet;
41. $\quad \mathrm{N} 72^{\circ} 28^{\prime} 10^{\prime \prime} \mathrm{E}$ a distance of 26.21 feet;
42. $N 68^{\circ} 41^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 27.08 feet;
43. N $71^{\circ} 51^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.85 feet;
44. N $74^{\circ} 45^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 27.76 feet;
45. N $75^{\circ} 42^{\prime} 50$ " E a distance of 28.93 feet;
46. $\quad \mathrm{N} 77^{\circ} 13^{\prime} 39^{\prime \prime} \mathrm{E}$ a distance of 29.52 feet;
47. $\quad \mathrm{N} 78^{\circ} 51^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 28.58 feet;
48. N $78^{\circ} 32^{\prime} 38^{\prime \prime} \mathrm{E}$ a distance of 26.85 feet;
49. N $76^{\circ} 41^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 25.03 feet;
50. N $79^{\circ} 17^{\prime} 59^{\prime \prime}$ E a distance of 29.12 feet;
51. $\mathrm{N} 78^{\circ} 11^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 5.49 feet;
52. $\quad \mathrm{N} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 34.79 feet;
53. N $77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 34.86 feet;
54. $\quad \mathrm{N} 76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 34.36 feet;
55. N $76^{\circ} 19^{\prime} 36^{\prime \prime}$ E a distance of 34.21 feet;
56. N $75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 32.92 feet;
57. N $75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 33.64 feet;
58. N $77^{\circ} 56^{\prime} 07{ }^{\prime \prime} \mathrm{E}$ a distance of 54.90 feet;
59. $\quad \mathrm{N} 79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
60. N $79^{\circ} 51^{\prime} 30^{\prime \prime}$ E a distance of 30.19 feet;
61. N $81^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 30.69 feet;
62. $\mathrm{N} 82^{\circ} 42^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 26.71 feet;
63. $\mathrm{N} 85^{\circ} 59^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.83 feet;
64. N $87^{\circ} 30^{\prime} 36^{\prime \prime}$ E a distance of 25.59 feet;
65. N $89^{\circ} 45^{\prime} 47^{\prime \prime}$ E a distance of 26.85 feet;
66. S $89^{\circ} 47^{\prime} 40^{\prime \prime} \mathrm{E}$ a distance of 21.27 feet to the point of intersection with line 3-2 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence N $39^{\circ} 31^{\prime} 37^{\prime \prime}$ E along said line 3-2 of said St.
Anthony Lode a distance of 246.50 feet to the point of intersection with line 1-6 of the Susan-Mary Lode, US Mineral Survey No. 694;
thence $S 19^{\circ} 06^{\prime} 00^{\prime \prime}$ E along said line 1-6 of said SusanMary Lode a distance of 35.27 feet to corner No. 6 of said Susan-Mary Lode;
thence N $70^{\circ} 54^{\prime} 00^{\prime \prime}$ E along line 6-5 of said Susan-Mary Lode a distance of 224.97 feet ot the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18, the City of Black Hawk Boundary;
thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ along said east-west centerline and City of Black Hawk Boundary a distance of 553.67 feet to the point of intersection with line 4-3 of the Golden Gad Lode, US Mineral Survey No. 13048;
thence $\mathrm{S} 49^{\circ} 45^{\prime} 10^{\prime \prime} \mathrm{W}$ along said line 4-3 of said Golden Gad Lode a distance of 340.06 feet to corner No. 3 of said Golden Gad Lode;
thence S $63^{\circ} 17^{\prime} 40^{\prime \prime} \mathrm{W}$ along line 3-2 of said Golden Gad Lode a distance of 259.61 feet to the point of intersection with the easterly edge of Lake Gulch Road;
thence along said easterly edge of Lake Gulch Road the following 177 courses:
67. S $47^{\circ} 36^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 20.45 feet;
68. S $37^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 33.69 feet;
69. S $31^{\circ} 20^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 35.62 feet;
70. S $29^{\circ} 21^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 35.80 feet;
71. S $28^{\circ} 33^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 35.14 feet;
72. S $28^{\circ} 15^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 26.48 feet;
73. S $28^{\circ} 12^{\prime} 54^{\prime \prime}$ E a distance of 25.97 feet;
74. S $28^{\circ} 29^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 25.05 feet;
75. S $29^{\circ} 02^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 37.67 feet;
76. S $30^{\circ} 53^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 33.92 feet;
77. S $32^{\circ} 21^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 28.92 feet;
78. S $34^{\circ} 37^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 32.85 feet;
79. S $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 34.04 feet;
80. S $44^{\circ} 59^{\prime} 11^{\prime \prime} \mathrm{E}$ a distance of 32.08 feet;
81. S $48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 29.52 feet; 94. S $48^{\circ} 45^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 31.84 feet;
82. S $50^{\circ} 32^{\prime} 17{ }^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet; 96. S $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 32.15 feet; 97. S $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet; 98. S $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.26 feet; 99. S $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.81 feet; 100. S $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.25 feet; 101. S $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet; 102. S $57^{\circ} 04^{\prime} 54^{\prime \prime}$ E a distance of 26.24 feet; 103. S $58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 27.12 feet; 104. S $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 29.13 feet; 105. S $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.45 feet; 106. S $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{E}$ a distance of 29.57 feet; 107. S $57^{\circ} 47^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 29.54 feet; 108. S $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 30.64 feet; 109. S $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 31.93 feet; 110. S $60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 32.05 feet; 111. S $64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet; 112. S $66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 31.36 feet; 113. S $64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 31.74 feet; 114. S $66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 30.74 feet; 115. S $62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{E}$ a distance of 31.24 feet; 116. S $56^{\circ} 45^{\prime} 33^{\prime \prime} \mathrm{E}$ a distance of 32.71 feet; 117. S $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 34.02 feet; 118. S $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 35.06 feet; 119. S $46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 33.54 feet; 120. S $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 31.95 feet; 121. S $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 33.28 feet; 122. $\mathrm{S} 46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 34.15 feet; 123. $\mathrm{S} 45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 34.73 feet; 124. S $45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 33.04 feet; 125. S $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.28 feet; 126. $S 44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 31.87 feet; 127. S $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 32.58 feet; 128. $\mathrm{S} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 26.51 feet; 129. $\mathrm{S} 42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 25.71 feet; 130. $\mathrm{S} 41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 35.65 feet; 131. $\mathrm{S} 41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 32.31 feet; 132. $\mathrm{S} 41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 32.61 feet; 133. S $39^{\circ} 40^{\prime} 26^{\prime \prime}$ E a distance of 30.10 feet; 134. $\mathrm{S} 43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 31.28 feet; 135. $S 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{E}$ a distance of 31.08 feet; 136. $S 47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 35.15 feet; 137. $S 46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 25.97 feet; 138. $S 38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet; 139. $\mathrm{S} 33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 27.44 feet; 140. S $29^{\circ} 24^{\prime} 22^{\prime \prime}$ E a distance of 27.32 feet; 141. S $30^{\circ} 56^{\prime} 40^{\prime \prime}$ E a distance of 24.48 feet; 142. $\mathrm{S} 37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 31.32 feet; 143. S $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 26.70 feet; 144. $\quad$ S $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 26.42 feet; 145. S $61^{\circ} 44^{\prime} 13 " \mathrm{E}$ a distance of 33.59 feet; 146. S $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 33.52 feet; 147. $\mathrm{S} 59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 29.16 feet; 148. $\mathrm{S} 51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{E}$ a distance of 26.06 feet; 149. S $49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{E}$ a distance of 26.55 feet; 150. $S 45^{\circ} 20^{\prime} 47^{\prime \prime}$ E a distance of 27.74 feet;
83. $\mathrm{S} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 27.96 feet; 152. $\mathrm{S} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{E}$ a distance of 30.25 feet; 153. S $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.83 feet; 154. $\mathrm{S} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 30.46 feet; 155. $\mathrm{S} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 25.88 feet;
84. $\mathrm{S} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 27.54 feet;
85. $S 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{E}$ a distance of 28.13 feet;
86. $\mathrm{S} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 27.49 feet;
87. S $47^{\circ} 37^{\prime} 34^{\prime \prime}$ E a distance of 28.24 feet;
88. $S 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{E}$ a distance of 28.91 feet;
89. $\mathrm{S} 49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
90. S $51^{\circ} 12^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 30.55 feet;
91. S $52^{\circ} 37^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 28.19 feet;
92. S $53^{\circ} 43^{\prime} 00^{\prime \prime} \mathrm{E}$ a distance of 33.90 feet;
93. S $53^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 25.59 feet;
94. S $50^{\circ} 23^{\prime} 24^{\prime \prime}$ E a distance of 26.25 feet;
95. $\mathrm{S} 48^{\circ} 28^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 27.86 feet;
96. S $48^{\circ} 55^{\prime} 48^{\prime \prime} \mathrm{E}$ a distance of 29.88 feet;
97. S $51^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
98. S $56^{\circ} 10^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 31.14 feet;
99. $S 62^{\circ} 17^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 31.05 feet;
100. S $66^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 25.85 feet;
101. $\mathrm{S} 66^{\circ} 40^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 27.06 feet;
102. S $61^{\circ} 34^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 32.80 feet;
103. S $57^{\circ} 56^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 30.20 feet;
104. S $54^{\circ} 58^{\prime} 57^{\prime \prime} \mathrm{E}$ a distance of 28.04 feet;
105. S $58^{\circ} 52^{\prime} 53^{\prime \prime} \mathrm{E}$ a distance of 25.03 feet;
106. S $62^{\circ} 37^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 29.46 feet;
107. S $68^{\circ} 24^{\prime} 20^{\prime \prime}$ E a distance of 27.25 feet;
108. S $67^{\circ} 48^{\prime} 40^{\prime \prime}$ E a distance of 31.55 feet;
109. S $69^{\circ} 00^{\prime} 03{ }^{\prime \prime} \mathrm{E}$ a distance of 30.04 feet;
110. S $69^{\circ} 23^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 31.51 feet;
111. S $69^{\circ} 16^{\prime} 06^{\prime \prime} \mathrm{E}$ a distance of 30.58 feet;
112. S $69^{\circ} 40^{\prime} 34^{\prime \prime}$ E a distance of 29.60 feet;
113. S $70^{\circ} 53^{\prime} 21^{\prime \prime}$ E a distance of 28.11 feet;
114. $\mathrm{S} 73^{\circ} 08^{\prime} 35^{\prime \prime} \mathrm{E}$ a distance of 28.55 feet;
115. S $76^{\circ} 41^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 29.15 feet;
116. S $81^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 28.60 feet;
117. S $85^{\circ} 47^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.17 feet;
118. S $85^{\circ} 57^{\prime} 08^{\prime \prime}$ E a distance of 28.99 feet;
119. $\mathrm{S} 85^{\circ} 10^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 29.44 feet;
120. $\mathrm{S} 84^{\circ} 02^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 25.81 feet;
121. S $82^{\circ} 55^{\prime} 20^{\prime \prime}$ E a distance of 27.68 feet;
122. S $83^{\circ} 57^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 32.67 feet;
123. S $85^{\circ} 25^{\prime} 50^{\prime \prime} \mathrm{E}$ a distance of 33.32 feet;
124. $\mathrm{S} 87^{\circ} 06^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 30.91 feet;
125. N $89^{\circ} 52^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 27.50 feet;
126. S $85^{\circ} 37^{\prime} 54^{\prime \prime} \mathrm{E}$ a distance of 30.90 feet;
127. S $75^{\circ} 08^{\prime} 14^{\prime \prime} \mathrm{E}$ a distance of 35.56 feet;
128. S $53^{\circ} 47^{\prime} 50^{\prime \prime}$ E a distance of 29.23 feet;
129. S $38^{\circ} 37^{\prime} 56^{\prime \prime}$ E a distance of 34.32 feet;
130. S $18^{\circ} 09^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 33.14 feet;
131. S $07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{E}$ a distance of 32.64 feet;
132. S $04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 31.99 feet;
133. $\mathrm{S} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 31.57 feet;
134. S $01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.44 feet;
135. $S 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{E}$ a distance of 32.16 feet;
136. $\quad \mathrm{S}_{0} 2^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
137. S $06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 38.26 feet;
138. S $16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 37.16 feet;
139. S $24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
140. $\quad \mathrm{S} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 45.06 feet;
141. $\quad \mathrm{S} 34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
142. $\quad \mathrm{S} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 30.05 feet;
143. $\mathrm{S} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 38.41 feet;
144. $\mathrm{S} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 34.91 feet;
145. S $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 32.47 feet;
146. $\quad \mathrm{S} 31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 32.66 feet;
147. S $26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 35.71 feet;
148. S $24^{\circ} 24^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 32.11 feet;
149. $\quad \mathrm{S} 20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.30 feet;
150. S $19^{\circ} 00^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 35.03 feet;
151. S $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 32.80 feet;
152. S $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 28.35 feet;
153. S $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 27.80 feet;
154. S $14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 47.10 feet;
155. $\mathrm{S} 11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.86 feet;
156. S $13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 15.92 feet;
157. S $10^{\circ} 22^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of 30.16 feet;
158. S $09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{W}$ a distance of 30.12 feet;
159. $\mathrm{S} 11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 31.40 feet;
160. $\mathrm{S} 11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 31.62 feet;
161. S $10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 25.34 feet;
162. S $11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 19.58 feet;
163. S $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{E}$ a distance of 7.58 feet;
164. S $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{E}$ a distance of 27.59 feet;
165. $\mathrm{S} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{E}$ a distance of 29.13 feet;
166. $S 52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 27.04 feet;
167. S $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of 25.73 feet;
168. S $54^{\circ} 46^{\prime} 58^{\prime \prime}$ E a distance of 26.38 feet;
169. S $58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 30.82 feet;
170. $S 59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 25.17 feet;
171. S $63^{\circ} 19^{\prime} 05^{\prime \prime}$ E a distance of 29.27 feet;
172. S $60^{\circ} 16^{\prime} 48^{\prime \prime}$ E a distance of 30.28 feet;
173. S $61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 33.01 feet;
174. $S 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{E}$ a distance of 33.37 feet;
175. S $55^{\circ} 46^{\prime} 17^{\prime \prime}$ E a distance of 29.95 feet;
176. S $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{E}$ a distance of 38.86 feet;
177. $\mathrm{S} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{E}$ a distance of 57.67 feet;
178. $S 48^{\circ} 44^{\prime} 08^{\prime \prime}$ E a distance of 91.48 feet;
179. S $45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{E}$ a distance of 48.20 feet;
180. $S 43^{\circ} 37^{\prime} 26^{\prime \prime}$ E a distance of 41.87 feet;
181. S $45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 24.91 feet;
182. S $49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{E}$ a distance of 29.00 feet;
183. S $53^{\circ} 53^{\prime} 44 " \mathrm{E}$ a distance of 30.11 feet;
184. S $58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 15.49 feet to the point of intersection with the south line of the $\mathrm{SE} 1 / 4$ of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along said south line of said SE $1 / 4$ of said Section 18 a distance of 39.68 feet to the point of
intersection with the westerly and southerly edge of said Lake Gulch Road;
thence along said westerly and southerly edge of said Lake Gulch Road the following 260 courses:
185. $\quad \mathrm{N} 53^{\circ} 53^{\prime} 444^{\prime \prime} \mathrm{W}$ a distance of 14.21 feet;
186. $\quad \mathrm{N} 49^{\circ} 36^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.59 feet;
187. $\mathrm{N} 45^{\circ} 38^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.06 feet;
188. $\quad \mathrm{N} 43^{\circ} 37^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.82 feet;
189. $\quad \mathrm{N} 45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 47.21 feet;
190. $N 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 90.36 feet;
191. $\mathrm{N} 51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 56.22 feet;
192. $\quad \mathrm{N} 56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.09 feet;
193. $\quad \mathrm{N} 55^{\circ} 46^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 28.96 feet;
194. $\quad \mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet;
195. $\mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.24 feet;
196. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
197. $\mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.46 feet;
198. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 26.18 feet;
199. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 31.69 feet;
200. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
201. N $54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 26.25 feet;
202. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
203. $\mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 32.98 feet;
204. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.58 feet;
205. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 16.35 feet;
206. $N 11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 28.47 feet;
207. $\quad \mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.32 feet;
208. $\quad \mathrm{N} 11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 31.96 feet;
209. N $11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.10 feet;
210. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 29.84 feet;
211. $\quad \mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.89 feet;
212. $\quad \mathrm{N} 13^{\circ} 18^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 16.19 feet;
213. $\mathrm{N} 11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 30.01 feet;
214. $\quad \mathrm{N} 14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.47 feet;
215. $\mathrm{N} 13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 27.77 feet;
216. N $13^{\circ} 56^{\prime} 52^{\prime \prime} \mathrm{E}$ a distance of 28.78 feet;
217. N $15^{\circ} 53^{\prime} 59^{\prime \prime} \mathrm{E}$ a distance of 33.77 feet;
218. N $19^{\circ} 00^{\prime} 54 " \mathrm{E}$ a distance of 35.82 feet;
219. N $20^{\circ} 02^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
220. $\quad \mathrm{N} 24^{\circ} 24^{\prime} 12^{\prime \prime}$ E a distance of 33.26 feet;
221. $N 26^{\circ} 02^{\prime} 44^{\prime \prime} \mathrm{E}$ a distance of 37.09 feet;
222. N $31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 34.81 feet;
223. N $37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 34.41 feet;
224. $\quad \mathrm{N} 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 36.10 feet;
225. $\quad \mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.09 feet;
226. $\quad \mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 28.32 feet;
227. $\quad \mathrm{N} 34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 28.10 feet;
228. $\quad \mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 43.15 feet;
229. $\quad \mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 26.96 feet;
230. $\quad \mathrm{N} 16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 33.64 feet;
231. $\quad \mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 35.66 feet;
232. $\quad \mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 27.09 feet;
233. $\quad \mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 31.86 feet;
234. $\quad \mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.59 feet;
235. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 30.52 feet;
236. $\quad \mathrm{N} 04^{\circ} 13^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 30.37 feet;
237. $\quad \mathrm{N} 07^{\circ} 44^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 29.96 feet;
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$\mathrm{N} 49^{\circ} 32^{\prime} 52^{\prime \prime} \mathrm{W}$ a distance of 31.07 feet,
96. $\quad \mathrm{N} 48^{\circ} 21^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 29.28 feet;
97. $\quad \mathrm{N} 47^{\circ} 37^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 28.86 feet;
98. $\quad \mathrm{N} 45^{\circ} 09^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.28 feet;
99. $\mathrm{N} 43^{\circ} 31^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 28.69 feet;
100. $\mathrm{N} 42^{\circ} 12^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 28.59 feet;
101. $\mathrm{N} 38^{\circ} 01^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 27.43 feet;
102. $\mathrm{N} 34^{\circ} 08^{\prime} 31^{\prime \prime} \mathrm{W}$ a distance of 30.52 feet;
103. N $37^{\circ} 44^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
104. $\mathrm{N} 42^{\circ} 43^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 29.05 feet;
105. $\mathrm{N} 43^{\circ} 58^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 27.46 feet;
106. $\mathrm{N} 45^{\circ} 20^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 26.75 feet;
107. $\mathrm{N} 49^{\circ} 06^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
108. $\mathrm{N} 51^{\circ} 35^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 23.97 feet;
109. N $59^{\circ} 58^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 27.27 feet; 110. N $61^{\circ} 25^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 33.19 feet; 111. N $61^{\circ} 44^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.99 feet; 112. N $59^{\circ} 21^{\prime} 59^{\prime \prime} \mathrm{W}$ a distance of 28.78 feet; 113. N $49^{\circ} 29^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 30.84 feet; 114. N $37^{\circ} 52^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 115. N $30^{\circ} 56^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 26.10 feet; 116. $\mathrm{N} 29^{\circ} 24^{\prime} 22^{\prime \prime} \mathrm{W}$ a distance of 26.77 feet; 117. N $33^{\circ} 48^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 25.62 feet; 118. N $38^{\circ} 52^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 35.74 feet; 119. $\mathrm{N} 46^{\circ} 02^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 24.23 feet;
120. $\mathrm{N} 47^{\circ} 57^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 34.89 feet; 121. $\mathrm{N} 47^{\circ} 25^{\prime} 27^{\prime \prime} \mathrm{W}$ a distance of 31.87 feet; 122. $\mathrm{N} 43^{\circ} 51^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 32.77 feet; 123. N $39^{\circ} 40^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 30.55 feet; 124. N $41^{\circ} 30^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 32.25 feet; 125. $\mathrm{N} 41^{\circ} 29^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 126. $\mathrm{N} 41^{\circ} 52^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 35.49 feet; 127. $\mathrm{N} 42^{\circ} 17^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 25.12 feet; 128. $\mathrm{N} 44^{\circ} 56^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 25.56 feet; 129. N $47^{\circ} 16^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 32.68 feet; 130. N $44^{\circ} 25^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 32.24 feet; 131. N $45^{\circ} 18^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 32.15 feet; 132. $\mathrm{N} 45^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 33.03 feet;
133. $\mathrm{N} 45^{\circ} 20^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 34.45 feet; 134. $\mathrm{N} 46^{\circ} 33^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 33.75 feet; 135. N $47^{\circ} 24^{\prime} 34^{\prime \prime} \mathrm{W}$ a distance of 33.36 feet; 136. N $46^{\circ} 05^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 32.17 feet; 137. $\mathrm{N} 46^{\circ} 14^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 33.26 feet; 138. N $47^{\circ} 33^{\prime} 12^{\prime \prime} \mathrm{W}$ a distance of 33.92 feet; 139. N $52^{\circ} 10^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 32.26 feet; 140. N $56^{\circ} 45^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 30.70 feet; 141. $\mathrm{N} 62^{\circ} 36^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 29.38 feet; 142. $\quad \mathrm{N} 66^{\circ} 27^{\prime} 41^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet; 143. $\mathrm{N} 64^{\circ} 57^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 31.64 feet; 144. $\mathrm{N} 66^{\circ} 59^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 31.51 feet; 145. $\quad \mathrm{N} 64^{\circ} 12^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 31.24 feet; 146. $\mathrm{N} 60^{\circ} 47^{\prime} 03^{\prime \prime} \mathrm{W}$ a distance of 33.06 feet; 147. N $58^{\circ} 55^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 32.37 feet; 148. N $58^{\circ} 32^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 30.86 feet; 149. N $57^{\circ} 47^{\prime} 48^{\prime \prime}$ W a distance of 29.66 feet; 150. N $57^{\circ} 52^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 29.67 feet; 151. N $57^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 30.31 feet; 152. N $58^{\circ} 36^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 28.84 feet; 153. $\mathrm{N} 58^{\circ} 48^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 27.42 feet; 154. N $57^{\circ} 04^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.06 feet; 155. N $54^{\circ} 32^{\prime} 13^{\prime \prime} \mathrm{W}$ a distance of 33.27 feet; 156. N $54^{\circ} 36^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 27.44 feet; 157. N $53^{\circ} 32^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 27.45 feet; 158. N $51^{\circ} 16^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 28.72 feet; 159. N $51^{\circ} 09^{\prime} 16^{\prime \prime} \mathrm{W}$ a distance of 29.69 feet; 160. N $52^{\circ} 05^{\prime} 43^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet; 161. N $50^{\circ} 32^{\prime} 17{ }^{\prime \prime} \mathrm{W}$ a distance of 30.76 feet; 162. N $48^{\circ} 45^{\prime} 27{ }^{\prime \prime} \mathrm{W}$ a distance of 32.27 feet; 163. $\mathrm{N} 48^{\circ} 19^{\prime} 15^{\prime \prime} \mathrm{W}$ a distance of 30.25 feet; 164. $\mathrm{N} 44^{\circ} 59^{\prime} 11{ }^{\prime \prime} \mathrm{W}$ a distance of 33.97 feet;
165. N $38^{\circ} 27^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 36.03 feet;
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220. S $72^{\circ} 23^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
221. S $70^{\circ} 17^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.18 feet;
222. $\quad \mathrm{S} 68^{\circ} 11^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 28.17 feet;
223. $\quad \mathrm{S} 68^{\circ} 11^{\prime} 55^{\prime \prime} \mathrm{W}$ a distance of 28.31 feet;
224. $\quad \mathrm{S} 68^{\circ} 02^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 28.95 feet;
225. S $69^{\circ} 29^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 29.75 feet;
226. S $71^{\circ} 02^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.23 feet;
227. S $73^{\circ} 10^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 27.76 feet;
228. S $74^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 27.07 feet;
229. S $76^{\circ} 30^{\prime} 21^{\prime \prime} \mathrm{W}$ a distance of 27.01 feet;
230. S $77^{\circ} 53^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.96 feet;
231. S $80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 37.64 feet;
232. S $81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 26.00 feet;
233. $\mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.74 feet;
234. S $82^{\circ} 00^{\prime} 47^{\prime \prime} \mathrm{W}$ a distance of 25.30 feet;
235. S $80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 25.35 feet;
236. $\mathrm{S} 80^{\circ} 28^{\prime} 29^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
237. S $79^{\circ} 54^{\prime} 14^{\prime \prime} \mathrm{W}$ a distance of 25.97 feet;
238. S $78^{\circ} 39^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 37.31 feet;
239. S $78^{\circ} 10^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 25.19 feet;
240. S $77^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 25.31 feet;
241. S $76^{\circ} 54^{\prime} 40^{\prime \prime} \mathrm{W}$ a distance of 25.95 feet;
242. S $78^{\circ} 58^{\prime} 54^{\prime \prime} \mathrm{W}$ a distance of 27.66 feet;
243. S $82^{\circ} 03^{\prime} 23^{\prime \prime} \mathrm{W}$ a distance of 28.99 feet;
244. S $84^{\circ} 07^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 29.37 feet;
245. S $84^{\circ} 48^{\prime} 46^{\prime \prime} \mathrm{W}$ a distance of 29.34 feet;
246. S $85^{\circ} 29^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 28.10 feet;
247. S $87^{\circ} 31^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 26.80 feet;
248. S $88^{\circ} 16^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 37.12 feet;
249. N $89^{\circ} 43^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 35.66 feet;
250. $\mathrm{N} 88^{\circ} 22^{\prime} 02^{\prime \prime} \mathrm{W}$ a distance of 37.23 feet;
251. $\mathrm{N} 88^{\circ} 22^{\prime} 11^{\prime \prime} \mathrm{W}$ a distance of 25.20 feet;
252. N $88^{\circ} 24^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 34.65 feet;
253. N $88^{\circ} 23^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 29.41 feet;
254. N $87^{\circ} 13^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 30.21 feet;
255. N $86^{\circ} 21^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 31.47 feet;
256. N $85^{\circ} 28^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 32.34 feet;
257. $\mathrm{N} 84^{\circ} 42^{\prime} 28^{\prime \prime} \mathrm{W}$ a distance of 33.73 feet;
258. N $85^{\circ} 15^{\prime} 25^{\prime \prime} \mathrm{W}$ a distance of 35.41 feet;
259. $\mathrm{N} 84^{\circ} 44^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 11.88 feet to the point of intersection with the east line of said $\mathrm{NE} 1 / 4$ of said Section 13;
260. $\quad \mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime}$ E along said east line of said $\mathrm{NE} 1 / 4$ of said Section 13 a distance of 22.08 feet to the Point of Beginning containing 8.03 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 4

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line
forming the Basis of Bearing for this description; thence S $77^{\circ} 17^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch Road, being the Point of Beginning.
Thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the S $1 / 16$ th corner of Sections 17 and 18 ;
thence $\mathrm{S} 00^{\circ} 00^{\prime} 33^{\prime \prime} \mathrm{W}$ along the east line of the $\mathrm{SE} 1 / 4$ of said Section 18 a distance of 1312.03 feet to the SE corner of said Section 18;
thence $\mathrm{N} 89^{\circ} 44^{\prime} 17^{\prime \prime} \mathrm{W}$ along the south line of the $\mathrm{SE} 1 / 4$ of said Section 18 a distance of 387.79 feet to a point on the easterly edge of Lake Gulch Road, County Road 6; thence along said easterly edge of said Lake Gulch Road the following 32 courses:

1. $\quad \mathrm{N} 58^{\circ} 27^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 15.49 feet;
2. $\quad \mathrm{N} 53^{\circ} 53^{\prime} 44^{\prime \prime} \mathrm{W}$ a distance of 30.11 feet;
3. N $49^{\circ} 36^{\prime} 04{ }^{\prime \prime} \mathrm{W}$ a distance of 29.00 feet;
4. $\quad \mathrm{N} 45^{\circ} 38^{\prime} 04 \mathrm{\prime} \mathrm{\prime} \mathrm{~W}$ a distance of 24.91 feet;
5. $\quad \mathrm{N} 43^{\circ} 377^{\prime} 26^{\prime \prime} \mathrm{W}$ a distance of 41.87 feet;
6. $\quad \mathrm{N} 45^{\circ} 53^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 48.20 feet;
7. $N 48^{\circ} 44^{\prime} 08^{\prime \prime} \mathrm{W}$ a distance of 91.48 feet;
8. N $51^{\circ} 45^{\prime} 51^{\prime \prime} \mathrm{W}$ a distance of 57.67 feet;
9. N $56^{\circ} 17^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 38.86 feet;
10. N $55^{\circ} 46^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 29.95 feet;
11. $\mathrm{N} 61^{\circ} 28^{\prime} 38^{\prime \prime} \mathrm{W}$ a distance of 33.37 feet;
12. $\quad \mathrm{N} 61^{\circ} 39^{\prime} 09^{\prime \prime} \mathrm{W}$ a distance of 33.01 feet;
13. $\mathrm{N} 60^{\circ} 16^{\prime} 48^{\prime \prime} \mathrm{W}$ a distance of 30.28 feet;
14. $\quad \mathrm{N} 63^{\circ} 19^{\prime} 05^{\prime \prime} \mathrm{W}$ a distance of 29.27 feet;
15. N $59^{\circ} 18^{\prime} 04^{\prime \prime} \mathrm{W}$ a distance of 25.17 feet;
16. $\mathrm{N} 58^{\circ} 03^{\prime} 45^{\prime \prime} \mathrm{W}$ a distance of 30.82 feet;
17. N $54^{\circ} 46^{\prime} 58^{\prime \prime} \mathrm{W}$ a distance of 26.38 feet;
18. $\quad \mathrm{N} 54^{\circ} 37^{\prime} 49^{\prime \prime} \mathrm{W}$ a distance of 25.73 feet;
19. N $52^{\circ} 04^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 27.04 feet;
20. $\quad \mathrm{N} 44^{\circ} 08^{\prime} 01^{\prime \prime} \mathrm{W}$ a distance of 29.13 feet;
21. N $32^{\circ} 05^{\prime} 32^{\prime \prime} \mathrm{W}$ a distance of 27.59 feet;
22. N $33^{\circ} 47^{\prime} 37^{\prime \prime} \mathrm{W}$ a distance of 7.58 feet;
23. $\quad \mathrm{N} 11^{\circ} 08^{\prime} 36^{\prime \prime} \mathrm{E}$ a distance of 19.58 feet;
24. $\quad \mathrm{N} 10^{\circ} 04^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 25.34 feet;
25. N $11^{\circ} 03^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 31.62 feet;
26. $\mathrm{N} 11^{\circ} 50^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 31.40 feet;
27. $\mathrm{N} 09^{\circ} 29^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 30.12 feet;
28. $\quad \mathrm{N} 10^{\circ} 22^{\prime} 47^{\prime \prime} \mathrm{E}$ a distance of 30.16 feet;
29. N $13^{\circ} 18^{\prime} 52^{\prime \prime}$ E a distance of 15.92 feet;
30. $\quad \mathrm{N} 11^{\circ} 45^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 29.86 feet;
31. $\quad \mathrm{N} 14^{\circ} 06^{\prime} 12^{\prime \prime} \mathrm{E}$ a distance of 47.10 feet;
32. N $13^{\circ} 41^{\prime} 03^{\prime \prime} \mathrm{E}$ a distance of 24.47 feet to the point of intersection with line 2-3 of the Rickard Lode, US Mineral Survey No. 16283;
thence $\mathrm{N} 67^{\circ} 02^{\prime} 38^{\prime \prime} \mathrm{E}$ along said line 2-3 of said Rickard
Lode a distance of 945.51 feet to corner No. 3 of said Rickard Lode;
thence $\mathrm{N} 23^{\circ} 02^{\prime} 09^{\prime \prime} \mathrm{W}$ along line 3-4 of said Rickard Lode a distance of 150.08 feet to corner No. 4 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Rickard Lode a distance of 153.49 feet to the point of intersection with line 3-4 of the Olivia Lode, US Mineral Survey No. 13916; thence S $29^{\circ} 39^{\prime} 14^{\prime \prime}$ E along said line 3-4 a distance of 131.02 feet to corner No. 4 of said Olivia Lode; thence S $60^{\circ} 16^{\prime} 49^{\prime \prime} \mathrm{W}$ along line $4-1$ of said Olivia Lode a distance of 150.24 feet to corner No. 1 of said Olivia Lode; thence $\mathrm{N} 29^{\circ} 41^{\prime} 13^{\prime \prime} \mathrm{W}$ along line 1-2 of said Olivia Lode a distance of 148.78 to the point of intersection with said line 4-1 of said Rickard Lode;
thence $\mathrm{S} 67^{\circ} 01^{\prime} 09^{\prime \prime} \mathrm{W}$ along said line $4-1$ of said Rickard Lode a distance of 497.85 feet to the point of intersection with the easterly line of said Lake Gulch Road; thence along said easterly edge of said Lake Gulch Road the following 14 courses:
33. $\quad \mathrm{N} 31^{\circ} 34^{\prime} 31^{\prime \prime} \mathrm{E}$ a distance of 20.73 feet;
34. $\quad \mathrm{N} 37^{\circ} 13^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 32.47 feet;
35. $N 41^{\circ} 40^{\prime} 02^{\prime \prime} \mathrm{E}$ a distance of 34.91 feet;
36. $\quad \mathrm{N} 43^{\circ} 22^{\prime} 45^{\prime \prime} \mathrm{E}$ a distance of 38.41 feet;
37. $\mathrm{N} 40^{\circ} 01^{\prime} 56^{\prime \prime} \mathrm{E}$ a distance of 30.05 feet;
38. $\mathrm{N} 34^{\circ} 24^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 30.28 feet;
39. $\mathrm{N} 28^{\circ} 41^{\prime} 22^{\prime \prime} \mathrm{E}$ a distance of 45.06 feet;
40. $\quad \mathrm{N} 24^{\circ} 29^{\prime} 21^{\prime \prime} \mathrm{E}$ a distance of 29.34 feet;
41. $\quad \mathrm{N} 16^{\circ} 17^{\prime} 42^{\prime \prime} \mathrm{E}$ a distance of 37.16 feet;
42. $\mathrm{N} 06^{\circ} 12^{\prime} 17^{\prime \prime} \mathrm{E}$ a distance of 38.26 feet;
43. $\mathrm{N} 02^{\circ} 47^{\prime} 46^{\prime \prime} \mathrm{E}$ a distance of 28.30 feet;
44. $\mathrm{N} 00^{\circ} 03^{\prime} 20^{\prime \prime} \mathrm{W}$ a distance of 32.16 feet;
45. $\mathrm{N} 01^{\circ} 13^{\prime} 29^{\prime \prime} \mathrm{E}$ a distance of 32.44 feet;
46. $\mathrm{N} 00^{\circ} 41^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of 31.57 feet to the

Point of Beginning, containing 20.72 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 5

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 / 4$ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $37^{\circ} 49^{\prime} 49^{\prime \prime} \mathrm{E}$ a distance of $1,154.79$ feet to the intersection of line 3-4 of the Annex Lode, US Mineral Survey No. 7799 with the easterly and northerly edge of Lake Gulch Road, County Road 6 being the Point of Beginning. Thence N $61^{\circ} 53^{\prime} 31^{\prime \prime}$ E along said line $3-4$ of said Annex Lode a distance of 1064.95 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Boundary; thence $S 89^{\circ} 38^{\prime} 09^{\prime \prime}$ E along said east-west centerline of said NW $1 / 4$ a distance of 227.43 feet to the point of intersection with line 1-4 of the St. Anthony Lode, US Mineral Survey No. 19174;
thence $\mathrm{S} 39^{\circ} 30^{\prime} 42^{\prime \prime} \mathrm{W}$ along said line 1-4 of said St. Anthony Lode a distance of 328.85 feet to the point of intersection with said easterly and northerly edge of Lake Gulch Road;
thence along said easterly and northerly edge of Lake Gulch Road the following 8 courses:

1. $\quad \mathrm{S} 79^{\circ} 21^{\prime} 17^{\prime \prime} \mathrm{W}$ a distance of 10.12 feet;
2. $\quad$ S $77^{\circ} 56^{\prime} 07^{\prime \prime} \mathrm{W}$ a distance of 54.90 feet;
3. $\quad \mathrm{S} 75^{\circ} 45^{\prime} 56^{\prime \prime} \mathrm{W}$ a distance of 33.64 feet;
4. $\quad \mathrm{S} 75^{\circ} 55^{\prime} 53^{\prime \prime} \mathrm{W}$ a distance of 32.92 feet;
5. S $76^{\circ} 19^{\prime} 36^{\prime \prime} \mathrm{W}$ a distance of 34.21 feet;
6. $\quad \mathrm{S} 76^{\circ} 11^{\prime} 24^{\prime \prime} \mathrm{W}$ a distance of 34.36 feet;
7. $S 77^{\circ} 18^{\prime} 33^{\prime \prime} \mathrm{W}$ a distance of 34.86 feet;
8. $\quad \mathrm{S} 77^{\circ} 38^{\prime} 35^{\prime \prime} \mathrm{W}$ a distance of 27.75 feet to the point of intersection with line 1-2 of the Elizabeth Lode, US Mineral Survey No. 15894;
thence N $39^{\circ} 23^{\prime} 46^{\prime \prime}$ E along said line 1-2 of said Elizabeth Lode a distance of 249.88 feet to the point of intersection with line 3-2 of the Black Diamond Lode, US Mineral Survey No. 17634;
thence $\mathrm{S} 63^{\circ} 58^{\prime} 12^{\prime \prime} \mathrm{W}$ along said line 3-2 of said Black Diamond Lode a distance of 827.46 feet to the point of intersection with said easterly and northerly edge of said Lake Gulch Road;
thence along said easterly and northerly edge of said Lake Gulch Road the following 5 courses:
9. $\quad \mathrm{S} 80^{\circ} 36^{\prime} 50^{\prime \prime} \mathrm{W}$ a distance of 18.54 feet;
10. $\quad \mathrm{S} 81^{\circ} 54^{\prime} 30^{\prime \prime} \mathrm{W}$ a distance of 25.51 feet;
11. $\quad \mathrm{S} 83^{\circ} 11^{\prime} 19^{\prime \prime} \mathrm{W}$ a distance of 25.72 feet;
12. $\quad \mathrm{S} 82^{\circ} 00^{\prime} 47{ }^{\prime \prime} \mathrm{W}$ a distance of 25.87 feet;
13. $\quad \mathrm{S} 80^{\circ} 13^{\prime} 10^{\prime \prime} \mathrm{W}$ a distance of 22.34 feet to the Point of Beginning containing 2.58 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 6

A parcel of land located in Section 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W ¼ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of $2,639.74$ feet, said line forming the Basis of Bearing for this description; thence N $20^{\circ} 56^{\prime} 43^{\prime \prime} \mathrm{E}$ a distance of 997.85 feet to the point of intersection of line 3-4 of the Dale Lode, US Mineral Survey No. 13338 with line 2-1 of the Notaway Lode, US Mineral Survey No. 9722 being the Point of Beginning. thence N $24^{\circ} 10^{\prime} 55^{\prime \prime}$ E along said line $2-1$ of said Notaway Lode a distance of 105.93 feet to the point of intersection with line 1-5 of the Gulch Lode, US Mineral Survey No. 12784;
thence $\mathrm{N} 36^{\circ} 25^{\prime} 58^{\prime \prime}$ E along said line 1-5 of said Gulch Lode a distance of 382.53 feet to corner No. 5 of said Gulch Lode;
thence N $52^{\circ} 39^{\prime} 02^{\prime \prime} \mathrm{W}$ along line 5-4 of said Gulch Lode a distance of 83.36 feet to the point of intersection with said Line 2-1 of said Notaway Lode;
thence $\mathrm{N} 24^{\circ} 10^{\prime} 55^{\prime \prime} \mathrm{E}$ along said Line 2-1 of said
Notaway Lode a distance of 36.99 feet to the point of intersection with the east-west centerline of the NW $1 / 4$ of said Section 18 and the City of Black Hawk Boundary; thence $\mathrm{S} 89^{\circ} 38^{\prime} 09^{\prime \prime} \mathrm{E}$ a distance of 756.52 feet to the point of intersection with line 1-2 of the Annex Lode, US Mineral Survey No. 7799;
thence $\mathrm{S} 61^{\circ} 53^{\prime} 311^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Annex Lode a distance of 776.77 feet to the point of intersection with line 7-6 of said Dale Lode, US Mineral Survey No. 13338;
thence $\mathrm{N} 39^{\circ} 23^{\prime} 00^{\prime \prime}$ E along said line 7-6 of said Dale Lode a distance of 409.81 feet to corner No. 6 of said Dale Lode;
thence $\mathrm{N} 50^{\circ} 28^{\prime} 19^{\prime \prime} \mathrm{W}$ along line 6-5 of said Dale Lode a distance of 74.00 feet to corner No. 5 of said Dale Lode; thence $\mathrm{N} 89^{\circ} 24^{\prime} 17^{\prime \prime} \mathrm{W}$ along line $5-4$ of said Dale Lode a distance of 97.24 feet to corner No. 4 of said Dale Lode; thence S $39^{\circ} 23^{\prime} 43^{\prime \prime}$ W along line 4-3 of said Dale Lode a distance of 624.77 feet to the Point of Beginning containing 2.35 acres more or less.

## Lake Gulch Whiskey Resort Annexation No. 7

A parcel of land located in Sections 17 and 18, Township 3 South, Range 72 West of the 6th Principal Meridian, County of Gilpin, State of Colorado, being more particularly described as follows:
Commencing at the East $1 / 4$ corner of Section 13, T3S, R73W, being a US BLM standard brass cap, stamped "T3S R73W R72W $1 ⁄ 4$ S13 1980" from whence the northeast corner of said Section 13, being a US BLM standard brass cap, stamped "T3S R73W R72W CC S12 S13 1980", bears $\mathrm{N} 00^{\circ} 14^{\prime} 12^{\prime \prime} \mathrm{E}$, a distance of 2,639.74 feet, said line forming the Basis of Bearing for this description; thence S $77^{\circ} 17^{\prime} 58^{\prime \prime} \mathrm{E}$ a distance of $5,336.50$ feet to a point on the easterly edge of Lake Gulch Road;
thence S $88^{\circ} 20^{\prime} 50^{\prime \prime}$ E along the City of Black Hawk Boundary a distance of 663.62 feet to the $\mathrm{S} 1 / 16$ th corner of Sections 17 and 18 being the Point of Beginning. Thence N $27^{\circ} 33^{\prime} 11^{\prime \prime} \mathrm{W}$ along the City of Black Hawk Boundary a distance of 938.48 feet to corner No. 4 of the Little Mattie Lode, US Mineral Survey No. 970; thence $\mathrm{N} 44^{\circ} 29^{\prime} 09^{\prime \prime} \mathrm{E}$ along line $4-3$ of said Little Mattie Lode a distance of 1500.03 feet to corner No. 3 of said Little Mattie Lode;
thence N $42^{\circ} 07^{\prime} 27^{\prime \prime} \mathrm{E}$ along the City of Black Hawk Boundary a distance of 980.96 feet to the north-south centerline of the NW $1 / 4$ of said Section 17;
thence $S 01^{\circ} 03^{\prime} 00^{\prime \prime}$ E along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 1273.98 feet to the W 1/16th corner on the east-west centerline of said NW $1 / 4$ of Section 17;
thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said NW $1 / 4$ of said Section 17 a distance of 111.85 feet to the point of intersection with line 1-2 of the Mascot Lode, US Mineral Survey No. 845;
thence $\mathrm{S} 55^{\circ} 22^{\prime} 15^{\prime \prime} \mathrm{W}$ along said line 1-2 of said Mascot Lode a distance of 100.62 feet to corner No. 2 of said Mascot Lode;
thence S $34^{\circ} 54^{\prime} 36^{\prime \prime}$ E along line 2-3 of said Mascot Lode a distance of 146.65 feet to the point of intersection with the north-south centerline of the SW $1 / 4$ of said Section 17; thence $\mathrm{S} 00^{\circ} 21^{\prime} 55^{\prime \prime} \mathrm{E}$ along said north-south centerline of said SW $1 / 4$ of said Section 17 a distance of 1034.62 feet to the SW $1 / 16$ th corner of said Section 17;
thence $\mathrm{S} 88^{\circ} 35^{\prime} 30^{\prime \prime} \mathrm{W}$ along the east-west centerline of the SW $1 / 4$ of said Section 17 a distance of 1307.15 feet to the S $1 / 16$ th corner of Sections 17 and 18, the Point of Beginning containing 63.62 acres more or less.

## CITY OF BLACK HAWK REQUEST FOR COUNCIL ACTION

SUBJECT: To consider an ordinance zoning all the territory in the Lake Gulch Whiskey Resort Annexations No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7 to the Commercial/Business Services zone district and Planned Unit Development zone overlay district.

RECOMMENDATION: Staff recommends the following motion to the Mayor and Board of Aldermen:

MOTION TO APPROVE Council Bill 9, A Bill for an Ordinance Zoning Certain Property Within the City of Black Hawk to Commercial/Business Services (C/BS) Zoning District and a Planned Unit Development (PUD) Overlay Known as the Lake Gulch Whiskey Resort Planned Unit Development, and Amending the City's Zoning Map to Conform Therewith.

## SUMMARY AND BACKGROUND OF SUBJECT MATTER:

RSM Partners LLC (RSM) submitted seven petitions for the annexation of land in unincorporated Gilpin County into the City of Black Hawk known as the Lake Gulch Whiskey Resort annexations. In addition to and concurrent with the annexation petitions, the applicants are requesting approval of an initial zoning to the Commercial/Business Services (C/BS) zoning district and a Planned Unit Development (PUD) which is an overlay zoning district allowed in Black Hawk. Proximo Distillers, LLC (Proximo) is under contract to purchase the properties from RSM. Proximo plans to purchase the property with the purpose of developing a distillery for the Tincup whiskey brand. The development is proposed to include a distillery, barrelhouses, a visitor's center, residential uses, guesthouse and cabins, a restaurant, event space, retail, parking and outdoor activities.

AGENDA DATE:
WORKSHOP DATE:
FUNDING SOURCE:
DEPARTMENT DIRECTOR APPROVAL:
STAFF PERSON RESPONSIBLE:

DOCUMENTS ATTACHED:

March 25, 2020
N/A
N/A
[X]Yes [ ]No
Cynthia L. Linker CP\&D Director

Council Bill 9, Staff Report
[X]Yes [ ]No
[X]Yes [ ]N/A

SUBMITTED BY:


Cynthia L. Linker, CP\&D Director


Vincent Harris, AICP, Baseline Corporation

## REVIEWED BY:



Stephen N. Cole, City Manager


## Staff Report

# CITY OF BLACK HAWK PLANNING / LAND USE 

STAFF REPORT: Initial Zoning: Lake Gulch Whiskey Resort
For:
Project:
City Council
P-20-01b Lake Gulch Whiskey Resort PUD
Property Address: Various - Lake Gulch Road on Miners Mesa
Applicants:
Troy Tengwall, Coburn Architecture o/b/o Proximo Distillers, LLC (developer)
 RSM Partners LLC (landowner)
Zoning: Gilpin County
Prepared by: Ethan Watel, AICP - Baseline Corporation Approved by:
Reviewed by:
Vincent Harris, AICP - Baseline Corporation Vintidas Cynthia Linker, CP\&D Director


BACKGROUND: On January 3, 2020 RSM Partners LLC (RSM) submitted seven petitions for the annexation of land in unincorporated Gilpin County into the City of Black Hawk. The proposed annexations cover approximately 221.9 acres of land. The annexations consist of a portion of the property known as the "Richest Square Mile" located north and east of Lake Gulch Road and south of Miners Mesa and adjacent to the southern city limits.

In addition to and concurrent with the annexation petitions, the applicants are requesting approval of an initial zoning to the Commercial/Business Services (C/BS) zoning district and a Planned Unit Development (PUD) which is an overlay zoning district allowed in Black Hawk.

Proximo Distillers, LLC (Proximo) is under contract to purchase the properties from RSM. Proximo plans to purchase the property with the purpose of developing a distillery for the Tincup whiskey brand. The development is proposed to include a distillery, barrelhouses, a visitor's center, a predominance of residential uses so long as the impacts of such residential development can be offset, guesthouse and cabins, a restaurant, event space, retail, parking and outdoor activities.

## ZONING:

The property lies outside the city limits and Gilpin County does not maintain an accessible official zoning map. Concurrent with the annexation, the applicants are requesting approval of an initial zoning to the Commercial/Business Services (C/BS) zoning district and the Planned Unit Development (PUD) overlay zoning district.

The adjacent City of Black Hawk zoning is Public Facilities (PF), Hillside Development - Mixed Use (HD), and Environmental Character Preservation (ECP).

Figure 1: Vicinity Map


## REQUEST:

Troy Tengwall of Coburn Architecture on behalf of Proximo Distillers, LLC (developer) and RSM Partners LLC (landowner) requests City of Black Hawk initial zoning to C/BS and PUD concurrent with the proposed Lake Gulch Whiskey Resort Annexations No. 1 through 7.

# Applicable City of Black Hawk Regulations 

Excerpts from:

City of Black Hawk<br>Home Rule Charter<br>Article VIII: Miscellaneous

## Section 8. Annexation and Zoning.

In all proceedings for the annexation of territory to the City, the City Council shall require concurrent zoning of the same.
Staff Comment: The Lake Gulch Whiskey Resort Annexations Nos. 1-7 are scheduled to be heard concurrently with the proposal for initial zoning of the property.

Excerpts from:

> City of Black Hawk
> Zoning Code
> Chapter 16 - Zoning

Sec. 16-7. Relationship to the Comprehensive Plan and other adopted plans.
It is the intent of the Board of Aldermen that this Chapter implement the planning policies adopted by the Board of Aldermen as reflected in the Comprehensive Plan and other related plans and planning documents. While the Board of Aldermen reaffirms its commitment that this Chapter and any amendment to it be in conformity with the adopted planning policies, the Board of Aldermen hereby expresses its intent that neither this Chapter nor any amendment to it may be challenged on the basis of any alleged nonconformity with any planning document.
Staff Comment: The Black Hawk Comprehensive Plan serves as a guiding document related to future zoning decisions that the City Council may see presented to the City for consideration. The property in question with the proposed annexation and initial zoning is in the Future Growth Area which is directly south of the Miner's Mesa District (MMD) area designated in the Comprehensive Plan. The MMD has the following goals included;

- Transition from a local gaming area to a regional resort destination:
- Encourage diversified commercial development that complements gaming:
- Expand hotel uses:
- Strengthen outdoor recreational opportunities:

The proposed PUD promotes the list of desired uses (listed in the Comprehensive Plan) in the adjacent Miners Mesa District, which is directly adjacent, and can blend well into the area land use pattern next to the MMD. Miner's Mesa District desired uses include: Public facilities, Event venues, Warehouses, Storage units, Light industrial including distilleries/breweries, RV park/campgrounds, Short-term lodging, Adventure park and outdoor recreation, Outdoor entertainment facility area;_Arena with grandstands for a rodeo, dog shows, horse shows, trade shows, and exhibitions.

Sec. 16-364. Planned unit development process.
(a) General provisions.
(1) The approval of a planned unit development or PUD, constitutes an overlay zone to an existing zoning district to a more flexible PUD zone overlay district. The underlying zone district does not change.
(2) Each PUD application shall be reviewed and approved, disapproved or conditionally approved by the Board of Aldermen.
Staff Comment: The PUD application is based on the C/BS zoning district as the underlying zone district. The PUD will be reviewed by the City Council (Board of Alderman) at a public hearing.
(b) Review and processing procedures. PUDs shall be processed as a zoning district amendment in accordance with Section 16-[365].
Staff Comment: The proposed initial zoning to PUD is being processed in the manner of a zoning district amendment.
(c) Occupancy or use restrictions prior to approval. Notwithstanding the rezoning of an overall area as a PUD, no portion thereof shall be used or occupied otherwise than as was permitted immediately prior to the approval of such rezoning until:
(1) A final subdivision plat for said portion shall have been approved by the Board of Aldermen as required by Chapter 17 of this Code.
(2) The proposed use has received a certificate of appropriateness from the HPC under Section 16-327.
Staff Comment: Final subdivisions plats will be required prior to occupancy or use. Site Development Plans and building permits are also needed. Please note that the applicable architectural review process is now the Certificate of Architectural Compatibility (COAC) which is reviewed by City Council. The COA/HPC process no longer applies to the subject property.

Sec. 16-365. Rezoning procedures, amendments to zoning ordinance and special review use permits.
(b) All territory annexed to the City shall be zoned in accordance with the zoning classifications established by this Chapter and in accordance with the procedures in this Section for rezoning. All annexed land shall be zoned at the time of annexation as required by this Chapter.
Staff Comment: The Lake Gulch Whiskey Resort Annexations Nos. 1-7 are scheduled to be heard concurrently with the proposal for initial zoning of the property.
(c) Planned unit developments as described under Section 16-137 shall be processed as amendments to the Zoning District Map and to the applicable district regulations within said area proposed for development. The zoning districts in a PUD and the subdivision plat of the planned development shall, upon approval by the Board of Aldermen, be incorporated in the Zoning District Map.
Staff Comment: The proposed initial zoning to PUD is being processed in the manner of a zoning district amendment and map amendment.

Sec. 16-365 (e)(5) Basis for approval. The Board of Aldermen shall give consideration to and satisfy themselves of the criteria set forth below on land use applications identified in Section 16-361 except subdivisions:
a. That a need exists for the proposal;

Staff Comment: A need does exist for additional destination and support uses as the City continues its efforts to attract uses other than gaming uses in the City. The PUD will implement the objectives of the City of Black Hawk Zoning Ordinance. The proposed CB/S zoning and PUD will appropriately zone the Lake Gulch Whiskey Resort properties.
b. That the proposal is in conformance with the goals and objectives of the Comprehensive Plan;
Staff Comment: As stated above, the goals and objectives are being met with the overall uses proposed. The proposal for rezoning conforms with and is not inconsistent with the Comprehensive Plan.
c. That there has been an error in the original zoning; or

Staff Comment: Not applicable, since it's not actually in the City yet.
d. That there have been significant changes in the area to warrant a zone change;

Staff Comment: Additional growth opportunities and placemaking in the City of Black Hawk have changed and the proposal warrants new uses on the property.
$e$. That adequate circulation exists in the area of the proposal and traffic movement would not be significantly impeded by the development resulting from the proposal; and
Staff Comment: A Traffic Study has been completed and raised no significant issues with the development of the property. There exists adequate circulation in the area to support the rezoning. The roads in the area may be expanded and extended in the future to accommodate full build-out of the proposed project.
f. That any additional cost for municipal-related services resulting from the proposal will not be incurred by the City.
Staff Comment: An Annexation Agreement is to be included and approved to outline City and applicant responsibilities.

## Article VI: Overlay Districts. Division 3: Planned Unit Development (PUD)

Sec. 16-135. General purpose.
The PUD Overlay Zone District is created to facilitate the achievement of the purposes and objectives of this Chapter, the Comprehensive Plan and other City-wide plans adopted by the City when the applicant can demonstrate that flexibility from the provisions of the existing zoning will result in higher quality development and when one (1) or more of the following purposes can be achieved:
(1) The provision of necessary commercial, recreational and educational facilities conveniently located to housing;
(2) The provision of well located, clean, safe and pleasant limited industrial sites involving a minimum of strain on transportation facilities;
(3) The encouragement of innovations in residential, commercial and limited industrial development and renewal so that the growing demands of the population may be met by greater variety in type, design and layout of buildings and by the conservation and more efficient use of open space ancillary to said buildings;
(4) The encouragement of a more efficient use of land and of public services, or private services in lieu thereof, and to reflect changes in the technology of land development so that resulting economics may inure to the benefit of those who need homes;
(5) A lessening of the burden of traffic on streets and highways;
(6) Conservation of the value of the land; and
(7) Preservation of the site's natural characteristics.

Staff Comment: The proposed PUD provides a variety of uses allowed on the subject property addressing all seven (7) items above with no significant impacts that cannot be mitigated.

Sec. 16-136. General regulations.
(a) Applicability and scope. Applications for planned unit development zoning may be made for land located in any zoning district.
(b) Conformity with the City's comprehensive plan required. No PUD shall be approved unless it is found by the Board of Aldermen to be in general conformity with the City's Comprehensive Plan.
(c) Approval conditions. The Board of Aldermen may approve a proposed PUD overlay designation upon a finding that it will implement the purposes of this Chapter and will meet the purposes, standards and requirements set forth in this Section.
(d) PUD Master Plan. The approved PUD zoning and the approved PUD plan along with all exhibits are inseparable, and a PUD shall not be established without the approval of the related PUD plan. The approved PUD zoning and the approved PUD plan and all exhibits together establish the uses permitted, character of the development and any modification to the zoning regulations which were theretofore applicable.
(e) Minimum land area. The minimum size of a parcel of land that may comprise a PUD is any lot or parcel of record within the City.
Staff Comment: The proposed PUD addresses these five (5) items above. The PUD consists of the PUD standards and the PUD plan which will be recorded as one document.

## Sec. 16-137. Permitted uses.

In general, all permitted and special review uses in any zoning district may be allowed in a PUD, subject to the provisions of this Chapter.
(1) Internal compatibility of design elements. It is recognized that certain individual land uses, regardless of their adherence to all the design elements provided for in this Chapter, might not exist compatibly with one another. Therefore, a proposed PUD shall be considered from the point of view of the relationship and compatibility of the individual elements of the plan and no PUD shall be approved which contains incompatible elements.
(2) Uses specified.
a. Subsequent to approval of a PUD, uses allowed within a PUD shall be limited to those specifically listed or to those in underlying zone district.
b. Uses shall be indicated in the PUD ordinance and on the PUD plan and shall use the symbols indicated in the sections of the zoning districts.
c. PUDs with a net area of less than one (1) acre may be limited by the Board of Aldermen to the uses and densities allowed in the zoning district on which the site of the proposed PUD is located or to those densities or uses allowed in any zoning district immediately adjacent to the proposed PUD site.
(3) Residential density; restrictions. The maximum allowable residential density in a planned unit development shall be those indicated in the residential development standards.
(4) Common open space; area required. Twenty-five percent (25\%) of the total area within the boundary of any PUD shall be devoted to usable and accessible common open space; provided, however, that the Board of Aldermen may reduce such requirement if it finds that such decrease is warranted by the design of and the amenities and features incorporated into the plan and that the needs of the occupants of the PUD for common open space can be met in the proposed PUD and the surrounding area.
Staff Comment: Compatibility, Residential density and uses allowed, and Open Space have been adequately addressed in the proposed PUD as submitted for approval by the City of Black Hawk, and consistent with the Gold Mountain Development Plan.

## Sec. 16-138. Development Standards.

(a) Modification of development standards of this Chapter.
(2) Unless specifically modified by development standards approved by the Board of Aldermen as a part of the ordinance creating the PUD, uses within a PUD shall comply with the development standards and occupancy restrictions applicable to the underlying zone district.
Staff Comment: It is understood that any development will comply with the PUD standards.

## STAFF SUMMARY:

Staff from Baseline Corporation has evaluated the information provided by Proximo and Coburn for the Lake Gulch Whiskey Resort. The City of Black Hawk Municipal Code and City Charter call for the initial zoning of annexed land to take place immediately after approval of the annexation (if approved). The seven Lake Gulch Whiskey Resort Annexations and the initial zoning are scheduled to be heard on same date.

The proposed Lake Gulch Whiskey Resort Plan Unit Development consists of a mix of uses with standards and metrics that would allow for the development of the resort for the Tincup Whiskey brand. Proximo's development plan and program involve a distillery to produce and bottle Tincup Whiskey, several barrelhouses, a visitor's center, guesthouse and cabins, a restaurant, event space, retail, parking, and an array of outdoor activities focused on both active and passive recreation. The project is envisioned to be completed in phases, with the distillery and the visitor's center highlighting the first phase. Residential uses could consist of a caretaker's residence along with multi-family, single-family attached, single-family detached residential units in accordance with the Gold Mountain Development Plan of the 1999 Growth IGA at the property owner's request, and subject to being able to offset the impacts of such residential development.

The PUD is based on the Commercial/Business Services (C/BS) zoning district as a base, with additions and modifications the tailor the zoning specifically to the proposed project.

The boundaries of the PUD are coterminous with the seven proposed Lake Gulch Whiskey Resort annexations. The project is wholly within the Black Hawk Growth Area of the 1999 Growth IGA, but the property only makes up a portion of the Growth Area.

The application was sent to various internal and external referral agencies for review and comment for the required 25-day referral period. The following agencies were sent a referral:

- Black Hawk Community Development Department
- Black Hawk Fire Department
- Black Hawk Police Department
- Black Hawk Public Works Department
- City Surveyor
- Black Hawk-Central City Sanitation District
- Timberline Fire Protection District
- Stolfus \& Associates - city's traffic consultant
- CenturyLink
- Xcel Energy
- USA Communications
- Gilpin County
- Central City
- Colorado Department of Transportation

Figure 2: Conceptual Plan


The following agencies responded with comments:

- Black Hawk Community Development Department (through Baseline): provided redline comments on the PUD
- Black Hawk Public Works Department: provided comments on cost estimates, public improvements designs, traffic, and the conceptual site plan
- Black Hawk-Central City Sanitation District: provided comments on future inclusion into the district.
- Colorado Department of Transportation: reviewed the traffic study and provided comments on access permits.
- Stolfus \& Associates: provided comments on the traffic study and public improvement plans in relation to vehicle turning movement.
- Timberline Fire Protection District: requested a list of parcel numbers associated with the project.

The applicant responded to comments and resubmitted on March 12, 2020. The applicant responded to further comments and resubmitted on March 18, 2020.

Based on the review by staff and the comments provided by referral agencies, staff feels that the PUD can be approved. The PUD is prepared in accordance with the Municipal Code and meets the intent of the Comprehensive Plan of the City of Black Hawk.

In summary, Staff recommends that the Planned Unit Development Zoning for Lake Gulch Whiskey Resort be approved. The following comments are noted for the record:

1. The zoning to $\mathrm{CB} / \mathrm{S}$ and Planned Unit Development will not be effective unless the Lake Gulch Whiskey Resort Annexations Nos. 1 through 7, inclusive, are approved by the City of Black Hawk; and
2. The zoning to $C B / S$ and Planned Unit Development will not be effective until the ordinance approving such and the PUD are recorded in the records of the Gilpin County Clerk and Recorder.

City Council may approve a proposal to rezone (or in this case initial zone) according to Sec. 16-365(e)(5) of the Municipal Code. See the staff comments on Sec. 16-365(e)(5) above.

Staff recommends that City Council pass an ordinance approving the initial zoning of the Lake Gulch Whiskey Resort into the Commercial/Business Services (C/BS) zoning district and a Planned Unit Development (PUD) zoning overlay district, as more fully described in the ordinance.

## FINDINGS:

City Council may approve, conditionally approve, or deny a request to zone land in the City of Black Hawk. To support this proposal, the following findings can be used:

1. Application has been made by property owner, RSM Partners LLC and applicant Proximo Distillers, LLC, to zone certain property known as the Lake Gulch Whiskey Resort (the "Property") within the City of Black Hawk, Colorado, to be within the Commercial/Business Services (C/BS) zoning district and the Planned Unit Development (PUD) zone overlay district.
2. Public notice has been given of such rezoning by one publication in a newspaper of general circulation within the City and the official newspaper of the City at least fifteen (15) days before the public hearing of such amendment.
3. Notice of such proposed hearing was posted on the property for fifteen (15) consecutive days prior to said hearing.
4. A need exists for rezoning the Property pursuant to the City of Black Hawk Zoning Ordinance to the extent provided herein.

## RECOMMENDATION:

Staff recommends the following motion to the Mayor and Board of Aldermen:
MOTION TO APPROVE Council Bill 9, A Bill for an Ordinance Zoning Certain Property Within the City of Black Hawk to Commercial/Business Services (C/BS) Zoning District and a Planned Unit Development (PUD) Overlay Known as the Lake Gulch Whiskey Resort Planned Unit Development, and Amending the City's Zoning Map to Conform Therewith.

## ATTACHMENTS:

- Land Use Application and Checklist
- Letter of Authorization
- RSM Partners LLC Certificate of Corporate Resolution
- Application Cover Letter/Narrative
- Lake Gulch Whiskey Resort Planned Unit Development
- Lake Gulch Whiskey Resort Annexation Overall Exhibit
- Preliminary Public Improvement Plans \& Vehicle Movement Plans
- Lake Gulch Whiskey Resort Conceptual Site Plan \& Character Sketches
- Public Notice Proof of Publication
- Traffic Impact Study


## Applicant's Submittal

## LAND USE APPLICATION FORM

City of Black Hawk
Community Planning and Development
211 Church Street, P.O. Box $68 \quad$ Phone: $303-582-0615$

Black Hawk, CO 80422 Fax: 303-582-2239
www.cityofblackhawk.org
DATE: $\underline{1 / 3 / 2020}$
APPLICANT NAME: COBURN ARCHITECTURE on behalf of PROXIMO DISTILLERS, LLC
APPLICANT ADDRESS: 2560 28th STREET, BOULDER, COLORADO 80501
APPLICANT MAILING ADDRESS: SAME
APPLICANT CONTACT NUMBER: 303.442 .3351 X1125 EMAIL ADDRESS: ttengwall@coburnpartners.com
PROPERTY OWNER NAME: RSM PARTNERS, LLC
PROPERTY OWNER ADDRESS: 950 SOUTH CHERRY STREEET, \#1220, DENVER, COLORADO 80246
PROPERTY OWNER MAILING ADDRESS: SAME
PROPERTY OWNER CONTACT NUMBER: 201-306-7100 EMAIL ADDRESS: $\underline{\text { cdeddens@maplewoodadvisors.com }}$
PROJECT NAME: LAKE GULCH WHISKEY RESORT
PROJECT ADDRESS: TBD
PROJECT DESCRIPTION: NEW DISTILLERY AND VISITOR'S CENTER FOR TINCUP WHISKEY
IS PROPERTY WITHIN CITY LIMITS: YES $\square$ NO $\square$
PRESENT ZONING: __ CURRENT USE: VACANT LAND
NAME OF EXISTING PLANNED UNIT DEVEOPMENT (IF APPLICABLE): N/A

NAME OF EXISTING SUBDIVISION PLAT (IF APPLICABLE): N/A
GILPIN COUNTY ASSESSOR'S I.D. NO.(S): VARIOUS_EXISTING PROPERTY SIZE: 2
(PLEASE ATTACH A COPY OF SURVEY/PLAT.)
EXISTING BUILDING SIZE: N/A
SQ. FT. AND/OR NUMBER OF EXISTING RESIDENTIAL UNITS: 0

## APPLICANT HAS READ AND ACKNOWLEDGES THE FOLLOWING:

For informational purposes, the Black Hawk Adopted Fee Schedule and Section 16-370 of the Black Hawk Municipal Code establishes the requirement for applicants to pay fees to cover the costs the City may incur by having City approved consultants evaluate and process applications.

## APPLICANT AGREES TO THE FOLLOWING CERTIFICATION STATEMENT AND AFFIDAVIT:

I, as the applicant, hereby certify that I believe to the best of my knowledge that all information supplied with this application is true and accurate and that consent of the property owner listed above, without which the requested action cannot lawfully be accomplished, has been granted. Permission is also hereby granted to the City of Black Hawk staff and their consultants to physically enter upon and inspect the subject property and take photographs as necessary for preparation of the case. In addition, I have read and understand the Black Hawk Adopted Fee Schedule and Section 16-370 of the Black Hawk Municipal Code, and by signing this application I am agreeing that I am authorized to sign on behalf of the property owner, or businessowner, or applicant and commit and agree to the payment of any and all fees associated with processing this application and further agree to pay City of Black Hawk invoices associated with the processing of this application.
The application may be submitted electronically to the CP\&D office by emailing Cynthia Linker at CLinker@cityofblackhawk.org with a copy to Janice Beecher at JBeecher@cityofblackhawk.org. Hard copy submittals may be required after the initial review of the electronic submittal. A receipt of application fee payment must accompany the application. Application fees may be paid online at: http://www.cityofblackhawk.org/city-departments/community-planning-development/

SIGNATURE OF APPLICANT: $\qquad$


DATE: $\underline{\underline{1 / 3 / 2020}}$

LAND USE APPLICATION CHECKLIST
City of Black Hawk • Community Planning and Development - www.cityofblackhawk.org 211 Church Street • P.O. Box 68 • Black Hawk, CO 80422 • 303-582-2231

DATE: ${ }^{1 / 3 / 2020}$ PROJECT NUMBER: 2020-01

PROJECT NAME: LAKE GULCH WHISKEY RESORT
Public Hearing Required with City Council? Yes $\square$ No $\square \quad$ Administrative Approval: Yes $\square$ No $\square$ APPLICATION TYPE

| ANNEXATION | $\square$ | BOUNDARY LINE AGREEMENT |
| :--- | :--- | :--- |
| ZONING/REZONING | $\square$ | FLOOD PLAIN DEVELOPMENT PERMIT |
| PLANNED UNIT DEVELOPMENT or AMENDMENT | $\square$ | CLOMR/LOMR |
| SUBDIVISION PLAT | $\square$ | ROADWAY EASEMENT |
| SITE DEVELOPMENT PLAN | $\square$ | TEMPORARY CONSTRUCTION EASEMENT |
| SPECIAL REVIEW USE | $\square$ | TEMPORARY USE |
| CERTIFICATE OF APPROPRIATENESS | $\square$ | VACATION |
| CERTIFICATE OF ARCHITECTURAL COMPATIBILITY | $\square$ | VARIANCE |
| COMPREHENSIVE SIGN PLAN/STD SIGN PLAN | $\square$ | BOARD OF APPEALS |
| LICENSE AGREEMENT | $\square$ | OTHER |

## REQUIRED SUBMITTAL MATERIALS

One legible copy of the recorded Warranty Deed(s), or other such recorded documents, reflecting current ownership and
If dedications to the City are to be made, one legible copy of the recorded Deed(s) of Trust, mortgage(s) and/or assignments to any and all lending agencies or individuals, including recorded legible copies of any document(s)
If the applicant is someone other than the current owner, a notarized letter of authorization empowering the applicant to act on behalf of the owner.
A title commitment guaranteeing clear title, including legible, recorded copies of all documents referenced within the title commitment by book and page or reception number. The title commitment must have an "Effective date" no earlier than two weeks prior to the date of the Land Use Pre-Planning Application is submitted.
If the owner or lender is a corporation, a joint venture, or a partnership, an authorization of signatures (official verification that the signatures are authorized to sign up on behalf of the corporation, joint venture or partnership) will be required in the form of:

- A copy of the Articles of Incorporation and/or Corporate Bylaws, or a copy of the Partnership or Operating agreement, which identifies by proper name and title those authorized to sign on the corporation, joint venture or partnership's behalf, or
- A certified corporate resolution by the board of directors specifically identifying and authorizing the signatories.
A detailed written description of the request. Include Structures location, size and general design.
Annexation Petition.
Annexation Plat.
Site Development Plan: prepared in accordance with the Black Hawk Zoning Ordinance.
Planned Unit Development (PUD): prepared in accordance with the Black Hawk Zoning Ordinance or conceptual site plan for rezoning proposals to a standard City zone district.
Preliminary Map: prepared in accordance with the Black Hawk Subdivision Ordinance.
Final Plat: prepared in accordance with the Black Hawk Subdivision Ordinance.
ALTA Survey of property showing the property dimensions, existing structures, vegetation, adjacent roadways, etc.
Lot Line Adjustment Plat: prepared in accordance with the Black Hawk Subdivision Ordinance.
Traverse Closure Sheets which include the external boundary and all internal lots, and street centerlines.
Preliminary Drainage Report: prepared in accordance with the Black Hawk Regulations.
Final Drainage Report: prepared in accordance with the Black Hawk Regulations.
Geological Report: prepared in accordance with the Black Hawk Subdivision Ordinance.
Traffic Study: prepared in accordance with the Black Hawk Transportation Regulations.
Final Grading and Erosion Control Plan; prepared in conformance with the Black Hawk Regulations.
Preliminary Plans for public improvements.
Final Plans for public improvements.
Quantities Estimates for Public Improvements including an 8-1/2 x 11" location map.
Subdivision Agreement (SA) Information Sheet.
A written legal description prepared by a registered land surveyor if property is not part of an approved Subdivision.
Storm Water Management Plan (SWAMP).
Other/Additional Requirements: Annex Aareement TBD with Citv and applicant //II/I/I Conceptual Site Plan


# RSI PARTNERS LLD <br> 950 S. Cherry Street, \#1220 <br> Denver, CO 80246 <br> (201) 306-7100 <br> cdeddens emarlewoodadvisors.com 

December 19, 2019

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CITY OF BLACK HAWK
Community Planning and Development
211 Church Street
P.O. Box }6
Black Hawk, CO }8042
(303) 582-0615
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## RE: Letter of Authorization for Proximo Distillers LLC

Sirs:
Please accept this Letter of Authorization on behalf of RSM Partners LLC, as official notice to you that Proximo Distillers, LLC, has the power and authority to pursue the annexation of RSM Partners LLC's property, within Gilpin County, Colorado, and within the Black Hawk annexation area.

If you have any questions, comments or concerns regarding this matter, please do not hesitate to contact me. Thank you very much.

STATE OF $\qquad$

County Of


ROM PARTNERS LLD


Carl DFddens, Authorized Agent and President Signal ure and Date

The foregoing Letter of Authorization was acknowledged before me on this
2019 by Carl Deddens, Authorized Agent and President of RSD. Partners LLC.

My Commission Expires: $8-29-2023$


## CERTIFICATE OF CORPORATE RESOLUTION OF RSM PARTNERS LLD AUTHORIZING PROXIMO DISTILLERS LLC TO PROCEED WITH ANNEXATION APPLICATION

1, Carl Deadens, President of RSM PARTNERS LLC, organized and existing under the Laws of the State of Colorado, and having its principal place of business at 950 S. Cherry Street, \#1220, Denver, CO 80246, hereby certify that the following is a true copy of a resolution adopted by the RSM Partners LLC (hereinafter the "Company"), and that such resolution is now in full force and effect, and is in accordance with the Operating Agreement of the Company.

RESOLVED, that the Company approves of Proximo Distillers, LLC's right and authority to proceed with an Annexation Application with the City of Black Hawk, for the Company's property located within Gilpin County, Colorado, and within the Black Hawk annexation area; and,

RESOLVED, that Carl Deddens, acting as the Company's President, may sign this Resolution and any other documents necessary to assist Proximo Distillers, LLC's annexation application and/or to complete the purpose of this Resolution.

I further certify that the Company is duly organized and existing under the laws of Colorado, and has the power to take the actions called for by the foregoing Resolution.

REM PARTNERS LLD


Carl Deadens, President
Signature and Date


The foregoing Letter of Authorization was acknowledged before me on this 20 day of December, 2019 by Carl Deadens, President of RSM Partners LLC.

My Commission Expires: $8-29-2023$
 Notary Public

Witness my bifid and Official Seal


Frascona, Joimer, Goodman and Greensteim, P.C.<br>Oliver E. Frascoma (1947-2014)<br>Jonathan A. Goodman<br>Gregg A. Greensteim<br>Cimithia M. Manzano<br>Jonathan H. Sargent<br>Michael A. Smeenk<br>Jordan C. May<br>Attorneys at Law<br>A $\mathbb{P}_{\text {rof }}$ fessional Corporation<br>4750 Table Mesa Drive, Boulder, Colorado 80305-554i<br>Telephome (305) 494-3000 Facsimile (305) 494m6309<br>www.frascoma.com emmail: harmom@frascoma.com<br>January 3, 2020<br>Cynthia Linker<br>Community Planning and Development Administrator<br>211 Church Street<br>Black Hawk, CO 80422<br>Re: Black Hawk Case No. 2020-01A, Lake Gulch Annexations<br>Black Hawk Case No. 2020-01B, Lake Gulch Whiskey Resort PUD<br>\[ \begin{aligned} \& \quad of Counsel<br>\& Gary S. Joimer<br>\& Jamice H. Loudlen<br>\& G. Roger Bock<br>\& Karen J. Radakovich<br>\& Jesse H. Witt<br>\& T. Damien Zumbremmen<br>\& Britmey BeallaEder<br>\& Harmon W. Zuckerman<br>\& Zachary A. Grey<br>\& C. Amdrew Meyer<br>\& Brittamey D. MeGinnis<br>\& Phillip M. Khallife<br>\& Carolime B. Veltri<br>\& Benjamin J. Daniells \end{aligned} \]

Dear Ms. Linker:
This law firm represents Proximo Spirits, a major producer and importer of distilled spirits. Proximo owns Tincup Whiskey and numerous other established national brands and has a strong presence in local distilling as the owner of Stranahan's Colorado Whiskey in Denver. We are pleased to present the City of Black Hawk with an Annexation Petition and a Planned Unit Development (PUD) application, which, if approved, would support the development in Black Hawk of a bespoke distillery for the Tincup brand. We are also grateful for the attention, coordination, and collaboration that the City and its consultant, Baseline, have extended to us in the development of these materials.

Proximo's vision is to create a great, authentic whiskey in a great, authentic place by building a new, state-of-the-art whiskey distillery in the mountains of Colorado. To that end, Proximo has negotiated the purchase of the Richest Square Mile Ranch ("RSM"), an approximately 330 -acre property located below Miner's Mesa. Pursuant to annexation and the approval of the PUD, Proximo would expect to close on the purchase of the RSM, and soon after that would begin the development of the distillery.

The portion of the RSM that is within Black Hawk's Growth Area (and which is subject to the annexation and PUD) comprises 221.9 acres. Proximo's development plan and program involve a distillery to produce and bottle Tincup Whiskey, several barrelhouses, a visitor's center, guesthouse and cabins, a restaurant, event space, retail, parking, and an array of outdoor activities focused on both active and passive recreation. The project is envisioned to be completed in phases, with the distillery and the visitor's center highlighting the first phase. At completion, the project is expected to result in over 40 direct net-new full-time equivalent jobs and over $\$ 50,000,000$ in capital investment.

The distillery would be a destination attraction and would benefit Black Hawk by identifying it as the home of the brand. Visitors would be welcomed both to observe the

Frascoma, Joiner, Goodman and Greensteim, P.C.
January 3, 2020
Page 2 of 4
production and enjoy the product, and the distillery and visitor experience would bring in a unique tourism target group. It is anticipated that a high percentage of visitors would visit Black Hawk's other attractions before or after the distillery. We believe that the project would complement and diversify Black Hawk's economy, contribute to the community's achievement of its planning goals, and fit with the rugged image, mountain lifestyle, and mining heritage of the area.

To fit in with its surroundings, the project would always hew to the philosophy of Distilling in Place. Distilling in Place is a way to create authenticity through the relationship between the whiskey and where it is made. One way to cement that relationship is through the use of compelling architecture that respects and furthers the architectural heritage of Black Hawk. Some concept examples of the future Tincup distillery and visitor's center are below:


Frascona, Joimer, Goodman and Greenstein, P.C.

January 3, 2020
Page 3 of 4

Another way for the project to complement its surroundings is by respecting the natural landscape as shown in the photograph below:


As is evident from the conceptual site plan below, the majority of the RSM is intended to remain in its natural state:


Frascona, Joimer, Goodman and Greensteim, P.C.

January 3, 2020
Page 4 of 4

The Tincup distillery project is a labor of love for Proximo. There is an ample supply of light industrial property in the Front Range with easy access, more cooperative weather, and ready utilities. Nonetheless, we have focused on the RSM location for the past 18 months, performing exhaustive title analysis, survey work, utility design exercises, architecture and planning, cost estimation, and a host of other due diligence tasks. We are dedicated to completing this project in this location, and to creating a one-of-a-kind destination and production facility that would represent Colorado, and Black Hawk, proudly within the portfolio of Proximo's brands. ${ }^{1}$

We believe that our Annexation Petition and PD application are complete, compliant with the Municipal Code, and supportive of the policies and principles embodied in the Black Hawk Comprehensive Plan. As to the Comp Plan, the proposed project would improve the sustainability of the area through expansion of recreational and non-gaming activities (see Policy EST-3.1), significant improvements in utility infrastructure (see Policies EST-4.1 and 4.2), and contribution to the overall health and vitality of Black Hawk (see Policies LU-2.1 through 2.3). The project would support a multitude of Comp Plan principles, including PRINCIPLE LU-4: Encourage the orderly annexation of the land within the Black Hawk Growth Area.

Based on the foregoing, Proximo respectfully requests that Black Hawk approve Case Nos. 2020-01A and 2020-01B and permit the proposed annexation and PUD project.

Sincerely yours,
Frascona, Jøiner, Gogdman and Greenstein, P.C.

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## LAKE GULCH WHISKEY RESORT

## A PLANNED UNIT DEVELOPMENT

A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
CITY OF BLACK HAWK COUNTY OF GIIPIN STATE OF COLORADO





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## SHEET INDEX

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## LAKE GULCH WHISKEY RESORT

A PLANNED UNIT DEVELOPMENT
A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M., CITY OF BLACK HAWK, COUNTY OF GILPIN, STATE OF COLORADO


## LAKE GULCH WHISKEY RESORT

## ANNEXATION EXHIBIT TO THE CITY OF BLACK HAWK

A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M
COUNTY OF GILPIN, STATE OF COLORADO


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DISTLLLERY PROJECT Black Hawk, Colorado

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## LAKE GULCH WHISKEY RESORT

PRELIMINARY PUBLIC IMPROVEMENTS
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
CITY OF BLACK HAWK, COUNTY OF GILPIN STATE OF COLORADO



DISTLLLERY PROJECT Black Hawk, Colorado

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PRELIMINARY PUBLIC IMPROVEMENTS
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,
CITY OF BLACK HAWK, COUNTY OF GILPIN, STATE OF COLORADO


LAKE GULCH ROAD PLAN

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## LAKE GULCH WHISKEY RESORT

CONCEPTUAL SITE PLAN \& CHARACTER SKETCHES
A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M. CITY OF BLACK HAWK, COUNTY OF GILPIN, STATE OF COLORADO


## LAKE GULCH WHISKEY RESORT

CONCEPTUAL SITE PLAN \& CHARACTER SKETCHES
A PART OF SECTIONS $17 \& 18$, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6 TH P.M.



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# Proof of Publication 

State of Colorado<br>County of Gilpin

I, Aaron K. Storms, do solemnly swear that I am the Publisher \& Managing Editor of the Weekly Register Call; that the same is a weekly newspaper published in the City of Black Hawk, County of Gilpin, State of Colorado, and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Gilpin for ar period of more than fifty-fwo consecutive weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the act of March 3, 1879, or any amendments thereof, and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said weekly newspaper for the period of 1 insertions as noted; and that the first publication of said notice was in the issue of newspaper dated March 5, 2020, and that the last publication of said notice was in the issue of newspaper dated March 5, 2020.

## City of Black Hawk - Notice of Public Hearing concerning the initial zoning of newly annexed land (Lake Gulch Whiskey Resort) to the Commercial/ Business Services zoning district - published on 3/5/2020

In witness whereof T have hereunto set my hand this 10th day of March, 2020.
/s /Aaron Storms
Publisher \& Managing Editor


Subscribed and sworn to before me, a notary public in and for the County of Gilpin, State of Colorado, this 10th day of March, 2020.

Notary Public


My Commission Expires on:


Weekly Register-Call<br>PO Box 93<br>Black Hawk, Colorado 80422<br>aron.storms@weeklyregistercall.com<br>303-582-0133<br>www.weeklyregistercall.com

# Public Notices \＆Legais cont＇d 

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Traffic Impact Study Update

## Lake Gulch Whiskey Resort City of Black Hawk Gilpin County, Colorado

Prepared for:
Coburn Architecture

## Kimley»"Horn

## Lake Gulch Whiskey Resort

City of Black Hawk
Gilpin County, Colorado

Prepared for
Coburn Architecture
$256028^{\text {th }}$ Street
Suite 200
Boulder, Colorado 80301

Prepared by
Kimley-Horn and Associates, Inc.
4582 South Ulster Street
Suite 1500
Denver, Colorado 80237
(303) 228-2300

March 2020


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### 1.0 EXECUTIVE SUMMARY

Lake Gulch Whiskey Resort is proposed to be located at Miner's Mesa Road along the north side of Lake Gulch Road in Gilpin County, Colorado. The project will be developed to the east of the existing Miner's Mesa Road alignment, which is located approximately a half-mile south of State Highway 119 (SH-119). The resort is expected to consist of distillery operations, a restaurant, packaging buildings, barrel houses, events buildings, a lodge and cabins, tasting rooms, an amphitheater, and a caretaker's residence. For purposes of this study, analysis was completed for development of the project in 2025, as well as the 2030 (ten-year) and 2040 (twenty-year) horizons to determine intersection and roadway configurations needed for these planning years.

The purpose of this study is to identify project traffic generation characteristics and potential project traffic related impacts on the local street system, as well as to develop mitigation measures required for identified impacts. Specifically, this traffic study update has been prepared to address City of Black Hawk comments to provide a weekend analysis to include event traffic to be generated by the facility. The following intersections were incorporated into this traffic study in accordance with City of Black Hawk, Gilpin County, and State of Colorado Department of Transportation (CDOT) standards and requirements:

- SH-119 and Mill Street
- Main Street and Mill Street
- Bobtail Road and Miner’s Mesa Road

Regional access to the project will be provided by Interstate 70 (I-70) and SH-119 as well as by Central City Parkway, albeit to a believed lesser extent. Primary access to the proposed development will be provided by Mill Street, Bobtail Road, Miner's Mesa Road, and Lake Gulch Road. Direct access is proposed from one access along the north side of Lake Gulch Road, to the east of Miner's Mesa Road.

During typical weekday operations, Lake Gulch Whiskey Resort is expected to generate 1,540 daily weekday trips. Of these, 213 trips are expected to occur during the morning peak hour, while 219 trips are expected during the afternoon peak hour. On weekends, the facility will continue to accommodate the routine functions but may also have events with a varied attendance. For purposes of this study, an attendance of up to 250 people was considered.

These events may include weddings or other celebratory gatherings. The Friday afternoon peak hour of generator is believed to have the facilities highest trip generation during the arrival of a 250-person event. During this timeframe, the facility may generate a total of 361 peak hour trips. On a Saturday, the facility may generate a total of 1,928 daily trips, with 357 of these occurring during the afternoon peak hour of generator.

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, anticipated surrounding development areas, and the proposed access system for the project. It is anticipated that traffic will primarily arrive and depart through Black Hawk and SH-119. This route was considered primary to provide a conservative analysis of the roadways and intersections in the City. It is understood that some traffic may arrive to the site via Central City Parkway. Since Lake Gulch Road is unpaved and lacks a clean connection to Central City Parkway for the northbound and southbound directions of travel, 10 percent of traffic was applied to Lake Gulch Road. Other traffic traveling Central City Parkway will be able to gain access to the facility by traveling through Central City to Gregory Street by then accessing Bobtail Road. Since this travel distance is a bit further, although all paved, 10 percent of the trip distribution was assigned to this route as well, to account for 20 percent of traffic arrivals from Central City Parkway. Assignment of project traffic was based upon the trip generation described previously and the distributions developed.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Lake Gulch Whiskey Resort project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network and the proposed project development and expected traffic volumes resulted in the following recommendations:

- Roadway improvements are proposed to be constructed by the project to provide access to Lake Gulch Whiskey Resort. At the existing western terminus of the roadway through the Black Hawk Operations facility, a new roadway alignment of Miner's Mesa Road will be constructed to the west and then to the south to intersect with Lake Gulch Road. Lake Gulch Road will be widened and paved from this new intersection to the east to the proposed access location. The existing paved alignment of Miner's Mesa Road to the east of the City facility will be abandoned. A single shared movement lane should be sufficient on all three approaches of the proposed access intersection along Lake Gulch Road. It is
recommended that the southbound project access approach to Lake Gulch Road operate with stop-control with the installation of a R1-1 "STOP" sign.
- It is recommended that the intersection of Miner's Mesa Road and Bobtail Road operate with either all-way stop control or a roundabout. To implement all-way stop control, a R1-1 "STOP" sign should be installed on the westbound Miner's Mesa Road approach to the intersection. The "Traffic from Right Does Not Stop" sign underneath the existing "STOP" sign on the northbound Miner's Mesa Road approach and "Oncoming Traffic Does Not Stop" sign underneath the existing "STOP" sign on the eastbound Bobtail Road approach should be removed. Underneath all "STOP" signs, R1-4 "ALL WAY" plaques should be installed. Likewise, orange flags can be affixed to the top of the new "STOP" sign on the westbound Miner's Mesa Road approach to warn drivers of the change in control. Otherwise, an alternative to the all-way stop control configuration is that the intersection could operate acceptably under single lane roundabout control if desired by the City of Black Hawk. If a roundabout is desired, further study would be required to determine if it is feasible to construct at this location.
- The threshold for requiring an access permit along CDOT roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the south leg of Mill Street at SH-119 is anticipated to increase existing access traffic volumes by more than 20 percent during the weekday peak hours; therefore, CDOT may require an access permit for this intersection in association with this project.
- The existing 375 -foot westbound left turn lane at the signalized SH-119 and Mill Street intersection may need to be lengthened per the CDOT State Highway Access Code. Based on the SH-119 category of NR-B with a speed limit less than 45 mph ( 35 mph ), the left turn lane requirement is storage length plus taper length. The storage length should be one foot per vehicle during the peak hour rounded to the nearest 25 feet (typical spacing of one vehicle). With the addition of project traffic, this westbound left turn lane may need to be lengthened by 50 feet to 425 feet in 2025, by 75 feet to 450 feet in 2030 , and by 125 feet to 500 feet in 2040. There are significant constraints to lengthening this westbound left turn lane with the roadway being constructed on the hillside edge. This will need further engineering design evaluation to determine if any lengthening is feasible.
- Any on-site and off-site signing and striping improvements shall be incorporated into the Civil Drawings, and conform to standards of Gilpin County, City of Black Hawk, and CDOT as applicable as well as the Manual on Traffic Control Devices - 2009 Edition (MUTCD).


### 2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with Lake Gulch Whiskey Resort. The project is proposed to be located at Miner's Mesa Road along the north side of Lake Gulch Road in Gilpin County, Colorado. The project will be developed to the east of the existing Miner's Mesa Road alignment, which is located approximately a half-mile south of State Highway 119 (SH-119). A vicinity map illustrating the project location with respect to the surrounding area is shown in Figure 1. The resort is expected to consist of distillery operations, a restaurant, packaging buildings, barrel houses, events buildings, a lodge and cabins, tasting rooms, an amphitheater, and a caretaker's residence. A conceptual site plan is provided in Appendix F.

For purposes of this study, analysis was completed for development of the project in 2025, as well as the 2030 (ten-year) and 2040 (twenty-year) horizons to determine intersection and roadway configurations needed for these planning years.

The purpose of this study is to identify project traffic generation characteristics and potential project traffic related impacts on the local street system, as well as to develop mitigation measures required for identified impacts. Specifically, this traffic study update has been prepared to address City of Black Hawk comments to provide a weekend analysis to include event traffic to be generated by the facility. The following intersections were incorporated into this traffic study in accordance with City of Black Hawk, Gilpin County, and State of Colorado Department of Transportation (CDOT) standards and requirements:

- SH-119 and Mill Street
- Main Street and Mill Street
- Bobtail Road and Miner's Mesa Road

Regional access to the project will be provided by Interstate 70 (I-70) and SH-119 as well as by Central City Parkway, albeit to a believed lesser extent. Primary access to the proposed development will be provided by Mill Street, Bobtail Road, Miner's Mesa Road, and Lake Gulch Road. Direct access is proposed from one access along the north side of Lake Gulch Road, to the east of Miner's Mesa Road.


### 3.0 EXISTING AND FUTURE CONDITIONS

### 3.1 Existing Study Area

The project site is currently undeveloped while the surrounding area is also vacant and mountain terrain. The City of Black Hawk Emergency Operations facility is located northwest of the site. The City of Black Hawk retail and casino resort district is located approximately a half mile north of the site along $\mathrm{SH}-119$. Central City is located less than two miles northwest of this project. The land uses and roadway network surrounding the site within the study area are shown in the aerial of Figure 2.

### 3.2 Existing Roadway Network

SH-119 extends primarily east-west within this study area and provides two through lanes in each direction with a raised median and a speed limit of 35 miles per hour within the project study area. However, SH-119 is a north-south highway extending from US-6 from the south to the City of Boulder to the north. SH-119 transitions to a two-lane highway north and south of Black Hawk with a double yellow centerline. Main Street extends east-west with one through lane in each direction with a striped center median. Main Street has a posted speed limit of 15 miles per hour. Mill Street extends less than 200 feet between SH-119 and Main Street. South of Main Street, Mill Street transitions to Miner's Mesa Road. Miner's Mesa Road is a windy twolane roadway with a double yellow centerline.

The T-intersection of SH-119 and Mill Street is signalized that operates with protected-permitted left turn phasing on the westbound approach. The eastbound approach of this intersection provides two through lanes and a right turn lane while the westbound approach includes a left turn lane and two through lanes. The northbound approach provides a left turn lane and channelized free right turn lane.

The intersection of Main Street and Mill Street/Miner's Mesa Road is also signalized. It operates with protected-permitted left turn phasing on the southbound and eastbound approaches. The eastbound and westbound approaches of this intersection provide a left turn lane and shared through/right turn lane. The northbound approach provides a shared left turn/through lane and a separate right turn lane while the southbound approach includes a left turn lane, one through lane, and a right turn lane.


The T-intersection of Bobtail Road and Miner's Mesa Road operates with stop control along the eastbound Bobtail Road and northbound Miner's Mesa Road approaches. The westbound Miner's Mesa Road approach does not stop. The west leg of this intersection is Bobtail Road while the south and east legs are Miner's Mesa Road. All three approaches to the intersection include single shared movement lanes.

The T-intersection of Miner's Mesa Road and Black Hawk Emergency Operations Access operates with stop control along the northbound Miner's Mesa Road approach. The south and east legs of this intersection are Miner's Mesa Road while the west leg is the access to the City emergency facility. All three approaches to the intersection include a single shared movement lane. The existing intersection lane configurations and control for the key area intersections are shown in Figure 3.

### 3.3 Existing Traffic Volumes

Existing peak hour turning movement counts were conducted at the key area intersections on Tuesday, January 21, 2020. The counts were obtained in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. In addition, Friday peak hour directional and Saturday peak hour turning movement counts were provided by City of Black Hawk staff. These counts were conducted during July 2014 as part of a traffic signal timing study. The existing turning movement counts are shown in Figure 4 with count sheets provided in Appendix A. Of note, the prorated difference in volumes from the Saturday peak hour traffic collected at SH-119/Mill Street and Main Street/Mill Street were applied to the other two intersection turning movements.

The existing weekday traffic volumes were seasonally adjusted to account for the highest traffic volume month. Based on CDOT information provided within Appendix B, the highest traffic volumes within the area were observed to occur in the month of July along SH-119, north of US-
6. Comparing the data, July traffic volumes were shown to be approximately 25 percent higher than the traffic volumes in January when the counts were performed. Therefore, the highest month traffic volumes of July are shown in the weekday counts of Figure 5. In addition, the weekend counts conducted from 2014 were grown at the prescribed 1.8 percent annual growth rate from CDOT information and data (further described in the next Section of 3.4) to obtain adjusted 2020 weekend traffic volumes. These Friday and Saturday peak hour traffic volumes at the key intersections are also shown in Figure 5.




### 3.4 Unspecified Development Traffic Growth

According to traffic projections provided by Colorado Department of Transportation (CDOT), SH-119 is expected to have a 20-year growth factor of 1.43 south of the project limits and a growth factor of 1.06 north of the project limits. This equates an annual growth rate of approximately 1.80 percent and 0.29 percent, respectively. Therefore, an annual growth rate of 1.8 percent was used to calculate short term buildout 2025 background traffic projections, and future traffic volume projections in 2030 and 2040. In addition, Bobtail Road is currently closed to traffic for construction. Therefore, eastbound and westbound through volumes were assumed and assigned to eastbound Bobtail Road and westbound Miners Mesa Road to account for conditions with that roadway being open. CDOT traffic information is included in Appendix B. Background traffic volumes for 2025, 2030, and 2040 are shown in Figure 6, Figure 7, and Figure 8, respectively.




### 4.0 PROJECT TRAFFIC CHARACTERISTICS

### 4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the Trip Generation Manual ${ }^{1}$ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. This project is proposed to include a lodge with 15 rooms and up to 45 cabins, as well as an approximate 4,800 square foot restaurant. In addition, the project will include distillery operations with approximately 35 employees and tours for 60 patrons per hour. Approximately five (5) delivery trucks will leave and return from the site per day at full operations. Likewise, events of up to 250 people are expected at the facility throughout the year. On weekends, the facility may have events with a varied attendance, but for purposes of this study, an attendance of up to 250 people was considered. These events may include weddings or other celebratory gatherings.

For the distillery, lodging, and restaurant uses, Kimley-Horn used the ITE Trip Generation Report average trip rates that apply to Manufacturing (ITE Land Use Code 140), Hotel (ITE 310), and Sit-Down Restaurant (ITE 932). The weekday afternoon peak hour trip generation for the Manufacturing (140) and Hotel (310) uses were directly applied to the Friday afternoon peak hour. For the Friday afternoon peak hour, the Friday peak hour of generator traffic volume ITE equations were applied. In addition, given the specific nature of this site, a methodology separate from the ITE Trip Generation Manual has been developed based on client data to determine the trip generation potential of other uses within the project. For the delivery trucks on-site, two of the five (5) trucks per day were assumed to arrive and depart during the weekday morning and afternoon (including Friday afternoon) peak hours. No truck trips are anticipated for the Saturday peak hour of the generator.

Further, traffic was added as expected to occur from tours to the facility. Distillery tours are expected to occur seven (7) days per week and for eight (8) hours each day. The group sizes for the distillery tours are expected to be 30 patrons per tour. At first, it is expected that only one (1) tour would occur per hour; however, it is expected that two (2) tours may occur per hour

[^6]when the facility is at full operations in the future. It should be noted that a conservative one person per vehicle was utilized when actual rates would likely be closer to two persons per vehicle. Therefore, at full distillery operations, this results in 60 vehicles arriving and 60 vehicles departing during both the morning and afternoon peak hours. For the 250-person events traffic, it was assumed that two passengers per vehicle would be the average vehicle occupancy. Since the critical traffic time period is the Friday and Saturday afternoons, it was considered that the beginning of an event would coincide with the peak traffic volumes of the adjacent street network. Therefore, during the Friday and Saturday peak hours of the generator, the guests of an event would constitute 125 vehicles. In addition, it was assumed that there would be an additional 5 vehicles ( 5 trips in and 5 trips out) during the peak hour to account for staff, deliveries, transport rides, etc.

Trip generation calculations were based on the procedure and information provided in the ITE Trip Generation Handbook, $3^{\text {rd }}$ Edition, 2017 and other specified information. The trip generation worksheets are included in Appendix C. During typical weekday operations, Lake Gulch Whiskey Resort is expected to generate 1,540 daily weekday trips. Of these, 213 trips are expected to occur during the morning peak hour, while 219 trips are expected during the afternoon peak hour. Table 1 summarizes the estimated weekday trip generation for the proposed development.

Table 1 - Lake Gulch Whiskey Resort Weekday Project Traffic Generation

| Land Use | Size | Vehicles Trips |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Daily | Weekday AM Peak Hour |  |  | Weekday PM Peak Hour |  |  |
|  |  |  | In | Out | Total | In | Out | Total |
| Typical Weekday Operations |  |  |  |  |  |  |  |  |
| Manufacturing (ITE 140) Distillery Operations | 35 Employees | 88 | 10 | 3 | 13 | 5 | 7 | 12 |
| Hotel (ITE 310) Lodge \& Cabins | 60 Rooms | 502 | 17 | 11 | 28 | 18 | 18 | 36 |
| Sit-Down Restaurant (ITE 932) | 4,800 Square Feet | 540 | 26 | 22 | 48 | 29 | 18 | 47 |
| Trucks (Client Information) | 5 Trucks | 10 | 2 | 2 | 4 | 2 | 2 | 4 |
| Distillery Tours (Client Information) | 60 Patrons | 400 | 60 | 60 | 120 | 60 | 60 | 120 |
| Typical Weekdays Summation |  | 1,540 | 115 | 98 | 213 | 114 | 105 | 219 |

On weekends, the facility will continue to accommodate the routine functions but may also have events with a varied attendance. For purposes of this study, an attendance of up to 250 people was considered. These events may include weddings or other celebratory gatherings. The Friday afternoon peak hour of generator is believed to have the facilities highest trip generation during the arrival of a 250 -person event. During this timeframe, the facility may generate a total of 361 peak hour trips. On a Saturday, the facility may generate a total of 1,928 daily trips, with 357 of these occurring during the afternoon peak hour of generator. Table 2 summarizes the estimated trip generation for the proposed development.

Table 2 - Lake Gulch Whiskey Resort Weekend Project Traffic Generation

| Land Use | Size | Vehicles Trips |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sat. <br> Daily | Friday Peak Hour of Generator |  |  | Friday Peak Hour of Generator |  |  |
|  |  |  | In | Out | Total | In | Out | Total |
| Weekend Operations with 250 | son Event |  |  |  |  |  |  |  |
| Manufacturing (ITE 140) Distillery Operations | 18 Employees | 24 | 5 | 7 | 12 | 2 | 2 | 4 |
| Hotel (ITE 310) Lodge \& Cabins | 60 Rooms | 492 | 18 | 18 | 36 | 25 | 19 | 44 |
| Sit-Down Restaurant (ITE 932) | 4,800 Square Feet | 652 | 52 | 50 | 102 | 28 | 26 | 54 |
| Trucks (Client Information) | 5 Trucks | 10 | 2 | 2 | 4 | 0 | 0 | 0 |
| Distillery Tours (Client Information) | 60 Patrons | 400 | 60 | 60 | 120 | 60 | 60 | 120 |
| Weekend Events | 250 People | 350 | 130 | 5 | 135 | 130 | 5 | 135 |
| Weekend Operations Summation |  | 1,928 | 244 | 117 | 361 | 245 | 112 | 357 |

In addition to these typical weekday and weekend operations with standard events, approximately 10 to 15 large events may occur at the facility each year. There is a planned amphitheater which may accommodate 1,000 to 2,000 people. When these events occur, it is believed that arrangements will be made with the hotel/casinos in Black Hawk to partner with their facility for lodging, parking, and shuttle service to and from the event. As these special events aren't expected during typical weekday or weekend operations, they were not specifically evaluated within this traffic study. These events are anticipated to occur on Friday nights and on weekends.

### 4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of sitegenerated traffic that approaches the site from a given direction and departs the site back to the original source direction. It is anticipated that traffic will primarily arrive and depart through Black Hawk and SH-119. This route was considered primary to provide a conservative analysis of the roadways and intersections in the City. It is understood that some traffic may arrive to the site via Central City Parkway. Since Lake Gulch Road is unpaved and lacks a clean and consistent connection to Central City Parkway for the northbound and southbound directions of travel, 10 percent of traffic was applied to Lake Gulch Road. Other traffic traveling Central City Parkway will be able to gain access to the facility by traveling through Central City to Gregory Street by then accessing Bobtail Road. Since this travel distance is a bit further, although all paved, 10 percent of the trip distribution was assigned to this route as well, to account for 20 percent of traffic arrivals from Central City Parkway. Figure 9 illustrates the expected trip distribution for the site.

### 4.3 Traffic Assignment

Traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the project shown in Tables 1 and 2. The Lake Gulch Whiskey Resort project traffic assignment is shown in Figure 10.

### 4.4 Total (Background Plus Project) Traffic

Lake Gulch Whiskey Resort project traffic volumes were added to the background volumes to represent estimated total traffic conditions for the 2025 buildout horizon as well as the 2030 and 2040 study horizons. Figure 11 illustrates the background plus project traffic volumes for the 2025 buildout horizon. Likewise, total traffic volumes in 2030 are shown in Figure 12, while total traffic volume projections in 2040 are shown in Figure 13.






### 5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025, 2030, and 2040 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the Highway Capacity Manual (HCM)².

### 5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, typical traffic engineering practice recommends intersection LOS D and approach/movement LOS E as the minimum thresholds for acceptable operations. Table 2 shows the definition of level of service for signalized and unsignalized intersections.

Table 3 - Level of Service Definitions

| Level of <br> Service | Signalized Intersection <br> Average Total Delay <br> (sec/veh) | Unsignalized Intersection <br> Average Total Delay <br> (sec/veh) |
| :---: | :---: | :---: |
| A | $\leq 10$ | $\leq 10$ |
| B | $>10$ and $\leq 20$ | $>10$ and $\leq 15$ |
| C | $>20$ and $\leq 35$ | $>15$ and $\leq 25$ |
| D | $>35$ and $\leq 55$ | $>25$ and $\leq 35$ |
| E | $>55$ and $\leq 80$ | $>35$ and $\leq 50$ |
| F | $>80$ | $>50$ |

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the level of service (LOS) for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service for a two-way stop-controlled intersection is not defined for the intersection as a whole. Level of service for a signalized and four-way stop controlled intersection is defined for each approach and for the intersection.

[^7]
### 5.2 Intersection Operational Analysis

Calculations for the level of service at the key intersections identified for study are provided in Appendix D. The existing year analysis is based on the lane geometry and intersection control shown in Figure 3. The two key signalized intersections utilize the observed 90 -second cycle lengths for the peak hours with existing phasing and optimized timing splits. Synchro traffic analysis software was used to analyze the study area intersections. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

## SH-119 and Mill Street

The T-intersection of SH-119 and Mill Street is signalized that operates with protected-permitted left turn phasing on the westbound approach. This intersection currently operates acceptably with LOS B during all four peak hours studied. With the existing lane configurations and future traffic projections, this intersection is expected to continue to operate acceptably with LOS C or better during the peak hours throughout the 2040 horizon. Table 4 provides the results of the level of service analysis conducted at this intersection.

Table 4 - SH-119 and Mill Street LOS Results

| Scenario | Weekday AM Peak Hour |  | Weekday PM Peak Hour |  | Friday PM Peak Hour |  | Saturday PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | Delay (sec/veh) | LOS |
| 2020 Existing | 10.8 | B | 11.6 | B | 11.4 | B | 11.8 | B |
| 2025 Background | 10.4 | B | 12.3 | B | 11.2 | B | 11.7 | B |
| 2025 Total | 11.1 | B | 11.9 | B | 11.7 | B | 14.8 | B |
| 2030 Background | 11.0 | B | 12.0 | B | 11.5 | B | 12.4 | B |
| 2030 Total | 11.2 | B | 12.2 | B | 12.6 | B | 16.2 | B |
| 2040 Background | 12.0 | B | 12.4 | B | 11.8 | B | 13.8 | B |
| 2040 Total | 11.0 | B | 12.7 | B | 13.6 | B | 22.0 | C |

## Main Street and Mill Street/Miner's Mesa Road

The Main Street and Mill Street/Miner's Mesa Road intersection is signalized that operates with protected-permitted left turn phasing on the eastbound and southbound approaches. This intersection currently operates acceptably with LOS B during the weekday morning and afternoon peak hours as well as Friday and Saturday afternoon peak hour of the generator in the peak season. With the existing lane configurations and future traffic projections, this intersection is expected to continue to operate acceptably with LOS C or better during the peak hours throughout the 2040 horizon with or without the addition of project traffic. Of note, the addition of project traffic through this intersection was found to lower the overall delay because the northbound and southbound approaches can accommodate more volume at lower delay levels, which in effects lowers the overall average delay for the intersection. Table 5 provides the results of the level of service analysis conducted at this intersection.

Table 5 - Main Street and Mill Street/Miner's Mesa Road LOS Results

| Scenario | Weekday AM Peak Hour |  | Weekday PM Peak Hour |  | Friday PM Peak Hour |  | Saturday PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | Delay (sec/veh) | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS |
| 2020 Existing | 13.9 | B | 19.7 | B | 18.2 | B | 18.7 | B |
| 2025 Background | 14.1 | B | 19.9 | B | 18.4 | B | 18.9 | B |
| 2025 Total | 9.8 | A | 15.6 | B | 12.9 | B | 16.5 | B |
| 2030 Background | 13.9 | B | 20.2 | C | 18.4 | B | 19.0 | B |
| 2030 Total | 9.9 | A | 16.1 | B | 15.2 | B | 16.9 | B |
| 2040 Background | 20.2 | C | 20.1 | C | 18.8 | B | 19.6 | B |
| 2040 Total | 10.4 | B | 16.7 | B | 16.1 | B | 18.1 | B |

## Miner's Mesa Road and Bobtail Road

The T-intersection of Miner's Mesa Road and Bobtail Road operates with stop control along the eastbound Bobtail Road and northbound Miner's Mesa Road approaches. All three approaches of this intersection provide a single lane for shared movements. HCM does report level of service with stop control on perpendicular legs while a third leg does not have a stop condition; therefore, this intersection was analyzed with all-way stop control in order to obtain a reported LOS. In addition, it is recommended that this intersection be considered to operate with all-way stop control (AWSC) or a single lane roundabout. To implement AWSC, a R1-1 "STOP" sign should be installed on the westbound Miner's Mesa Road approach to the intersection. The "Traffic from Right Does Not Stop" sign underneath the existing "STOP" sign on the northbound Miner's Mesa Road approach and "Oncoming Traffic Does Not Stop" sign underneath the existing "STOP" sign on the eastbound Bobtail Road approach should be removed. Underneath all "STOP" signs, R1-4 "ALL WAY" plaques should be installed. Likewise, orange flags can be affixed to the top of the new "STOP" sign on the westbound Miner's Mesa Road approach to warn drivers of the change in control. Otherwise, an alternative to the all-way stop control configuration is that the intersection could operate acceptably under single lane roundabout control if desired by the City of Black Hawk. If a roundabout is desired, further study would be required to determine if it is feasible to construct at this location.

With this modified control to all-way stop and the existing lane configurations, this intersection currently operates acceptably with LOS A during the weekday morning, weekday afternoon, Friday afternoon, and Saturday afternoon peak hours in the peak season. Of note, Bobtail Road is currently closed for construction. Through traffic volumes were assumed along the eastbound Bobtail Road and westbound Miner's Mesa Road approaches to account for a volume with the roadway being open to traffic. With the existing lane configurations and the addition of project, this intersection is expected to continue to operate acceptably with LOS B during the weekday peak hours throughout the 2040 horizon with either all-way stop control or a single lane roundabout. It is recommended that a R1-1 "STOP" sign be installed along the westbound approach of the Miner's Mesa Road and Bobtail Road intersection. Table 6 provides the results of the level of service at this intersection.

Table 6 - Miner's Mesa Road and Bobtail Road LOS Results

| Scenario | Weekday AM Peak Hour |  | Weekday PM Peak Hour |  | Friday PM Peak Hour |  | Saturday PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS | $\begin{gathered} \text { Delay } \\ \text { (sec/veh) } \end{gathered}$ | LOS |
| 2020 Existing <br> All-Way Stop Control <br> Roundabout | $\begin{aligned} & 7.0 \\ & 2.7 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | 6.7 2.7 | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{aligned} & 6.8 \\ & 2.8 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | 6.9 2.9 | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |
| 2025 Background All-Way Stop Control Roundabout | $\begin{array}{r} 7.4 \\ 3.2 \\ \hline \end{array}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.5 \\ & 3.2 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.7 \\ & 3.4 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 8.0 \\ & 3.6 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |
| 2025 Total All-Way Stop Control Roundabout | $\begin{aligned} & 8.2 \\ & 3.7 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | 8.3 3.8 | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | 9.9 4.6 | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{gathered} 10.5 \\ 4.9 \\ \hline \end{gathered}$ | $\begin{aligned} & \mathrm{B} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |
| 2030 Background All-Way Stop Control Roundabout | $\begin{aligned} & 7.5 \\ & 3.2 \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.6 \\ & 3.3 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.8 \\ & 3.5 \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{aligned} & 8.1 \\ & 3.7 \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |
| 2030 Total <br> All-Way Stop Control <br> Roundabout | $\begin{aligned} & 8.3 \\ & 3.8 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 8.5 \\ & 3.9 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{gathered} 10.1 \\ 4.7 \\ \hline \end{gathered}$ | $\begin{array}{r} \mathrm{B} \\ . \mathrm{A} \\ \hline \end{array}$ | $\begin{gathered} 10.8 \\ 5.0 \\ \hline \end{gathered}$ | $\begin{aligned} & \mathrm{B} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |
| 2040 Background All-Way Stop Control Roundabout | $\begin{aligned} & 7.6 \\ & 3.4 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.7 \\ & 3.4 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 8.0 \\ & 3.6 \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{aligned} & 8.3 \\ & 3.8 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ |
| 2040 Total All-Way Stop Control Roundabout | 8.4 3.9 | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | 8.6 4.0 | $\begin{aligned} & \text { A } \\ & \text { A } \\ & \hline \end{aligned}$ | $\begin{gathered} 10.4 \\ 4.8 \\ \hline \end{gathered}$ | $\begin{aligned} & \mathrm{B} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{gathered} 11.2 \\ 5.1 \\ \hline \end{gathered}$ | $\begin{aligned} & \mathrm{B} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ |

### 5.3 Access Improvements

Roadway improvements are proposed to be constructed by the project to provide access to Lake Gulch Whiskey Resort. At the existing western terminus of the roadway through the Black Hawk Operations facility, a new roadway alignment of Miner's Mesa Road will be constructed to the west and then to the south to intersect with Lake Gulch Road. Then from this new intersection to the east, this portion of Lake Gulch Road will be widened and paved up to the proposed access location. The existing paved alignment of Miner's Mesa Road to the east of the City facility will be abandoned. A single shared movement lane should be sufficient on all three approaches of the proposed access intersection along Lake Gulch Road. It is recommended that the southbound project access approach to Lake Gulch Road operate with stop-control with the installation of a R1-1 "STOP" sign.

### 5.4 Turn Bay Length Analysis

The threshold for requiring an access permit along CDOT roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the south leg of Mill Street at SH-119 is anticipated to increase existing access traffic volumes by more than 20 percent during the peak hour; therefore, CDOT may require an access permit for this intersection in association with this project.

Since SH-119 is a state owned and maintained facility, it is recommended that auxiliary turn lanes along SH-119 be constructed in accordance with the current CDOT State Highway Access Code (Access Code). CDOT categorizes the segment of SH-119 through the study area as NR-B: Non-Rural Arterial. According to the State Highway Access Code for category NR-B roadways, the following thresholds apply for implementation of auxiliary turn lanes.

- A left turn lane with storage length plus taper is required for any access with a projected peak hour left ingress turning volume greater than 25 vehicles per hour.
- A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vehicles per hour.
- An acceleration lane is generally not required.

Based on traffic projections and the above thresholds, auxiliary turn lane requirements were calculated for the intersection of SH-119 and Mill Street. SH-119 provides two lanes of travel in each direction and has a posted speed limit of 35 miles per hour at the intersection with Mill Street. As such, turn lane requirements at the study area intersection along $\mathrm{SH}-119$ are as follows:

- A westbound left turn lane currently exists and is warranted today with 191 westbound left turns during the Saturday peak hour in July and the threshold being 25 vehicles per hour. Since SH-119 has a category of NR-B with a speed limit less than 45 mph ( 35 mph ), the left turn lane requirement is storage length plus taper length. The storage length should be one foot per vehicle during the peak hour rounded to the nearest 25 feet (typical spacing of one vehicle). The existing westbound left turn lane provides 375 feet of length; therefore, this left turn lane currently meets CDOT Standards as traffic volumes suggest this left turn lane only requires 200 feet of length plus a 120-foot taper (10 to 1). With the addition of project traffic, this left turn lane may need to be lengthened by 50 feet to 425 feet in 2025, by 75 feet to 450 feet in 2030 , and by 125 feet
to 500 feet in 2040. There are significant constraints to lengthening this westbound left turn lane with the roadway being constructed on the hillside edge. This will need further engineering design evaluation to determine if any lengthening is feasible.
- An eastbound right turn lane exists but is not warranted based on existing traffic being 38 vph and the threshold being 50 vehicles per hour. With the addition of project traffic, the projected 2040 background plus project traffic is anticipated to be 72 eastbound right turns during the peak hour, so this eastbound right turn lane is anticipated to be warranted based on a combination of background growth and the addition of project traffic. The right turn lane requirement at this location is storage length plus taper length. With 72 vph, the eastbound right turn lane length requirement would be 75 feet. The existing eastbound right turn lane currently provides 225 feet of length. Since this right turn lane is existing and currently exceeds CDOT Standards for length, no modification to this right turn lane is needed.
- A northbound to eastbound right turn acceleration lane exists but is not required based on the State Highway Access Code for this category roadway and speed limit. The existing acceleration lane provide an approximate length of 425 feet ( 300 feet plus 125foot taper). Mitigation is not recommended at the existing northbound to eastbound right turn acceleration lane.


### 5.5 Vehicle Queuing Analysis

A queuing analysis was conducted for turn lanes at the study area intersections. The queuing analysis was performed using the Synchro analysis software presenting the results of the 95th percentile queue length. Results are shown in the following Table 7 with calculations provided in Appendix E for the signalized intersections.

Table 7 - Queueing Analysis Results

| Intersection and Turn Lane | Existing Turn Lane Length (feet) | 2025 <br> Calculated Queue Length (feet) | 2025 <br> Recommended Turn Lane Length (feet) | 2040 <br> Calculated Queue Length (feet) | 2040 <br> Recommended Turn Lane Length (feet) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SH-119 \& Mill Street |  |  |  |  |  |
| Eastbound Right | 225' | 29' | 225' | 34' | 225' |
| Westbound Left | 375' | 244' | 425' CDOT | 417' | 500' CDOT |
| Northbound Left | C (100') | 55' | C (100') | 62' | C (100') |
| Northbound Right | C (100') | FREE | C (100') | FREE | C (100') |
| Main Street \& Miner's Mesa Road |  |  |  |  |  |
| Eastbound Left | 75' | 59' | 75' | 71' | 75' |
| Westbound Left | 100' | 34 | 100' | 39' | 100' |
| Northbound Right | 50' | 25' | 50' | 25' | 50' |
| Southbound Left | 100' | 25' | 100' | 25' | 100' |
| Southbound Right | 50' | 25' | 50' | 25' | 50' |

C = Continuous Turn Lane; FREE = Free Right Turn Lane

As shown in the queuing table, all vehicle queues are anticipated to be contained within the existing auxiliary turn lanes in the 2025 horizon. CDOT standards identify lengthening the westbound left turn lane to 425 feet in 2025 . This left turn lane would accommodate the projected queue in 2040, but at this time the CDOT requirements would include a turn lane of 500 feet in this horizon year.

### 5.6 Summary of Improvements

Based on the results of the operational and vehicle queuing analysis, the recommended lane configurations and control at the study key intersections are shown in Figure 14 for 2025,
Figure 15 for 2030, and Figure 16 for 2040.




### 6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Lake Gulch Whiskey Resort project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network and the proposed project development and expected traffic volumes resulted in the following recommendations:

- Roadway improvements are proposed to be constructed by the project to provide access to Lake Gulch Whiskey Resort. At the existing western terminus of the roadway through the Black Hawk Operations facility, a new roadway alignment of Miner's Mesa Road will be constructed to the west and then to the south to intersect with Lake Gulch Road. Lake Gulch Road will be widened and paved from this new intersection to the east to the proposed access location. The existing paved alignment of Miner's Mesa Road to the east of the City facility will be abandoned. A single shared movement lane should be sufficient on all three approaches of the proposed access intersection along Lake Gulch Road. It is recommended that the southbound project access approach to Lake Gulch Road operate with stop-control with the installation of a R1-1 "STOP" sign.
- It is recommended that the intersection of Miner's Mesa Road and Bobtail Road operate with either all-way stop control or a roundabout. To implement all-way stop control, a R1-1 "STOP" sign should be installed on the westbound Miner's Mesa Road approach to the intersection. The "Traffic from Right Does Not Stop" sign underneath the existing "STOP" sign on the northbound Miner's Mesa Road approach and "Oncoming Traffic Does Not Stop" sign underneath the existing "STOP" sign on the eastbound Bobtail Road approach should be removed. Underneath all "STOP" signs, R1-4 "ALL WAY" plaques should be installed. Likewise, orange flags can be affixed to the top of the new "STOP" sign on the westbound Miner's Mesa Road approach to warn drivers of the change in control. Otherwise, an alternative to the all-way stop control configuration is that the intersection could operate acceptably under single lane roundabout control if desired by the City of Black Hawk. If a roundabout is desired, further study would be required to determine if it is feasible to construct at this location.
- The threshold for requiring an access permit along CDOT roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent.

Based on traffic projections, the addition of project traffic on the south leg of Mill Street at SH-119 is anticipated to increase existing access traffic volumes by more than 20 percent during the weekday peak hours; therefore, CDOT may require an access permit for this intersection in association with this project.

- The existing 375 -foot westbound left turn lane at the signalized SH-119 and Mill Street intersection may need to be lengthened per the CDOT State Highway Access Code. Based on the SH-119 category of NR-B with a speed limit less than 45 mph ( 35 mph ), the left turn lane requirement is storage length plus taper length. The storage length should be one foot per vehicle during the peak hour rounded to the nearest 25 feet (typical spacing of one vehicle). With the addition of project traffic, this westbound left turn lane may need to be lengthened by 50 feet to 425 feet in 2025, by 75 feet to 450 feet in 2030 , and by 125 feet to 500 feet in 2040. There are significant constraints to lengthening this westbound left turn lane with the roadway being constructed on the hillside edge. This will need further engineering design evaluation to determine if any lengthening is feasible.
- Any on-site and off-site signing and striping improvements shall be incorporated into the Civil Drawings, and conform to standards of Gilpin County, City of Black Hawk, and CDOT as applicable as well as the Manual on Traffic Control Devices - 2009 Edition (MUTCD).


## APPENDICES

## APPENDIX A

## Intersection Count Sheets

Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts

File Name : SH 119 and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | SH-119 <br> Eastbound |  |  |  | SH-119 <br> Westbound |  |  |  | Mill Street Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| 07:00 AM | 25 | 2 | 0 | 27 | 5 | 36 | 0 | 41 | 1 | 10 | 0 | 11 | 79 |
| 07:15 AM | 29 | 3 | 0 | 32 | 4 | 42 | 0 | 46 | 1 | 10 | 0 | 11 | 89 |
| 07:30 AM | 21 | 4 | 0 | 25 | 8 | 53 | 0 | 61 | 0 | 6 | 0 | 6 | 92 |
| 07:45 AM | 34 | 8 | 0 | 42 | 14 | 38 | 0 | 52 | 1 | 3 | 0 | 4 | 98 |
| Total | 109 | 17 | 0 | 126 | 31 | 169 | 0 | 200 | 3 | 29 | 0 | 32 | 358 |


| 08:00 AM | 41 | 2 | 0 | 43 | 10 | 49 | 0 | 59 | 0 | 6 | 0 | 6 | 108 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 29 | 4 | 0 | 33 | 7 | 38 | 0 | 45 | 4 | 4 | 0 | 8 | 86 |
| 08:30 AM | 27 | 3 | 0 | 30 | 22 | 37 | 0 | 59 | 7 | 2 | 0 | 9 | 98 |
| 08:45 AM | 20 | 5 | 0 | 25 | 13 | 59 | 0 | 72 | 0 | 1 | 0 | 1 | 98 |
| Total | 117 | 14 | 0 | 131 | 52 | 183 | 0 | 235 | 11 | 13 | 0 | 24 | 390 |


| Grand Total | 226 | 31 | 0 | 257 | 83 | 352 | 0 | 435 | 14 | 42 | 0 | 548 |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Apprch \% | 87.9 | 12.1 | 0 |  | 19.1 | 80.9 | 0 |  | 25 | 75 | 0 |  |  |
| Total \% | 30.2 | 4.1 | 0 | 34.4 | 11.1 | 47.1 | 0 | 58.2 | 1.9 | 5.6 | 0 |  |  |
| Automobiles | 226 | 31 | 0 | 257 | 83 | 352 | 0 | 435 | 14 | 42 | 0 | 5.5 |  |
| \% Automobiles | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Ridgeview Data Collection

Black Hawk, CO
Black Hawk Traffic Counts
AM Peak
SH - 119 and Mill St

File Name : SH 119 and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
File Name : SH 119 and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3


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

| 07:45 AM | 34 | 8 | 0 | 42 | 14 | 38 | 0 | 52 | 1 | 3 | 0 | 4 | 98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:00 AM | 41 | 2 | 0 | 43 | 10 | 49 | 0 | 59 | 0 | 6 | 0 | 6 | 108 |
| 08:15 AM | 29 | 4 | 0 | 33 | 7 | 38 | 0 | 45 | 4 | 4 | 0 | 8 | 86 |
| 08:30 AM | 27 | 3 | 0 | 30 | 22 | 37 | 0 | 59 | 7 | 2 | 0 | 9 | 98 |
| Total Volume | 131 | 17 | 0 | 148 | 53 | 162 | 0 | 215 | 12 | 15 | 0 | 27 | 390 |
| \% App. Total | 88.5 | 11.5 | 0 |  | 24.7 | 75.3 | 0 |  | 44.4 | 55.6 | 0 |  |  |
| PHF | . 799 | . 531 | . 000 | . 860 | . 602 | . 827 | . 000 | . 911 | . 429 | . 625 | . 000 | . 750 | . 903 |



Ridgeview Data Collection

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
SH - 119 and Mill St

File Name : SH 119 and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | SH-119 <br> Eastbound |  |  |  | SH-119 <br> Westbound |  |  |  | Mill Street Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 84 | 3 | 0 | 87 | 17 | 47 | 0 | 64 | 9 | 20 | 0 | 29 | 180 |
| 04:15 PM | 69 | 3 | 0 | 72 | 10 | 52 | 0 | 62 | 8 | 19 | 0 | 27 | 161 |
| 04:30 PM | 57 | 5 | 0 | 62 | 11 | 55 | 0 | 66 | 9 | 20 | 0 | 29 | 157 |
| 04:45 PM | 66 | 5 | 0 | 71 | 11 | 54 | 0 | 65 | 2 | 18 | 0 | 20 | 156 |
| Total | 276 | 16 | 0 | 292 | 49 | 208 | 0 | 257 | 28 | 77 | 0 | 105 | 654 |
| 05:00 PM | 56 | 5 | 0 | 61 | 13 | 41 | 0 | 54 | 7 | 23 | 0 | 30 | 145 |
| 05:15 PM | 81 | 5 | 0 | 86 | 17 | 66 | 0 | 83 | 7 | 14 | 0 | 21 | 190 |
| 05:30 PM | 53 | 3 | 0 | 56 | 14 | 55 | 0 | 69 | 2 | 17 | 0 | 19 | 144 |
| 05:45 PM | 47 | 5 | 0 | 52 | 10 | 44 | 0 | 54 | 3 | 14 | 0 | 17 | 123 |
| Total | 237 | 18 | 0 | 255 | 54 | 206 | 0 | 260 | 19 | 68 | 0 | 87 | 602 |
| Grand Total | 513 | 34 | 0 | 547 | 103 | 414 | 0 | 517 | 47 | 145 | 0 | 192 | 1256 |
| Apprch \% | 93.8 | 6.2 | 0 |  | 19.9 | 80.1 | 0 |  | 24.5 | 75.5 | 0 |  |  |
| Total \% | 40.8 | 2.7 | 0 | 43.6 | 8.2 | 33 | 0 | 41.2 | 3.7 | 11.5 | 0 | 15.3 |  |
| Automobiles | 513 | 34 | 0 | 547 | 103 | 414 | 0 | 517 | 47 | 145 | 0 | 192 | 1256 |
| \% Automobiles | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
SH - 119 and Mill St

File Name: SH 119 and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No :2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
File Name : SH 119 and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020

Page No : 3

|  | SH-119 <br> Eastbound |  |  |  | SH-119 <br> Westbound |  |  |  | Mill Street Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |

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

| 04:00 PM | 84 | 3 | 0 | 87 | 17 | 47 | 0 | 64 | 9 | 20 | 0 | 29 | 180 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:15 PM | 69 | 3 | 0 | 72 | 10 | 52 | 0 | 62 | 8 | 19 | 0 | 27 | 161 |
| 04:30 PM | 57 | 5 | 0 | 62 | 11 | 55 | 0 | 66 | 9 | 20 | 0 | 29 | 157 |
| 04:45 PM | 66 | 5 | 0 | 71 | 11 | 54 | 0 | 65 | 2 | 18 | 0 | 20 | 156 |
| Total Volume | 276 | 16 | 0 | 292 | 49 | 208 | 0 | 257 | 28 | 77 | 0 | 105 | 654 |
| \% App. Total | 94.5 | 5.5 | 0 |  | 19.1 | 80.9 | 0 |  | 26.7 | 73.3 | 0 |  |  |
| PHF | . 821 | . 800 | . 000 | . 839 | . 721 | . 945 | . 000 | . 973 | . 778 | . 963 | . 000 | . 905 | . 908 |



Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
AM Peak
Main St and Mill St
File Name : Main St and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | Main Street Eastbound |  |  |  |  | Main Street Westbound |  |  |  |  | Mill Street Northbound |  |  |  |  | Mill Street Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 07:00 AM | 2 | 2 | 2 | 1 | 7 | 1 | 1 | 1 | 3 | 6 | 4 | 7 | 2 | 1 | 14 | 2 | 6 | 0 | 3 | 11 | 38 |
| 07:15 AM | 3 | 4 | 1 | 0 | 8 | 0 | 2 | 2 | 1 | 5 | 4 | 7 | 1 | 0 | 12 | 3 | 2 | 1 | 4 | 10 | 35 |
| 07:30 AM | 1 | 2 | 5 | 0 | 8 | 0 | 4 | 1 | 3 | 8 | 2 | 3 | 0 | 2 | 7 | 0 | 6 | 0 | 2 | 8 | 31 |
| 07:45 AM | 1 | 1 | 3 | 1 | 6 | 0 | 4 | 2 | 4 | 10 | 2 | 2 | 0 | 4 | 8 | 4 | 19 | 4 | 4 | 31 | 55 |
| Total | 7 | 9 | 11 | 2 | 29 | 1 | 11 | 6 | 11 | 29 | 12 | 19 | 3 | 7 | 41 | 9 | 33 | 5 | 13 | 60 | 159 |


| $08: 00$ AM | 2 | 1 | 3 | 0 | 6 | 0 | 1 | 1 | 5 | 7 | 8 | 2 | 3 | 6 | 19 | 1 | 10 | 3 | 3 | 17 | 49 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $08: 15 \mathrm{AM}$ | 0 | 2 | 6 | 1 | 9 | 1 | 0 | 2 | 1 | 4 | 2 | 5 | 0 | 1 | 8 | 1 | 5 | 3 | 3 | 12 | 33 |
| $08: 30$ AM | 3 | 2 | 1 | 0 | 6 | 0 | 1 | 2 | 4 | 7 | 4 | 4 | 0 | 3 | 11 | 1 | 19 | 3 | 1 | 24 | 48 |
| $08: 45$ AM | 1 | 3 | 1 | 0 | 5 | 0 | 3 | 1 | 5 | 9 | 5 | 1 | 1 | 8 | 15 | 2 | 12 | 4 | 9 | 27 | 56 |
| Total | 6 | 8 | 11 | 1 | 26 | 1 | 5 | 6 | 15 | 27 | 19 | 12 | 4 | 18 | 53 | 5 | 46 | 13 | 16 | 80 | 186 |


| Grand Total | 13 | 17 | 22 | 3 | 55 | 2 | 16 | 12 | 26 | 56 | 31 | 31 | 7 | 25 | 94 | 14 | 79 | 18 | 29 | 140 | 345 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 23.6 | 30.9 | 40 | 5.5 |  | 3.6 | 28.6 | 21.4 | 46.4 |  | 33 | 33 | 7.4 | 26.6 |  | 10 | 56.4 | 12.9 | 20.7 |  |  |
| Total \% | 3.8 | 4.9 | 6.4 | 0.9 | 15.9 | 0.6 | 4.6 | 3.5 | 7.5 | 16.2 | 9 | 9 | 2 | 7.2 | 27.2 | 4.1 | 22.9 | 5.2 | 8.4 | 40.6 |  |
| Automobiles | 13 | 17 | 22 | 1 | 53 | 2 | 16 | 12 | 0 | 30 | 31 | 31 | 7 | 0 | 69 | 14 | 79 | 18 | 0 | 111 | 263 |
| \% Automobiles | 100 | 100 | 100 | 33.3 | 96.4 | 100 | 100 | 100 | 0 | 53.6 | 100 | 100 | 100 | 0 | 73.4 | 100 | 100 | 100 | 0 | 79.3 | 76.2 |
| Bicycles and | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 26 | 26 | 0 | 0 | 0 | 25 | 25 | 0 | 0 | 0 | 29 | 29 | 82 |
| \% Bicycles and | 0 | 0 | 0 | 66.7 | 3.6 | 0 | 0 | 0 | 100 | 46.4 | 0 | 0 | 0 | 100 | 26.6 | 0 | 0 | 0 | 100 | 20.7 | 23.8 |

Ridgeview Data

Black Hawk, CO
Black Hawk Traffic Counts
AM Peak
Main St and Mill St

File Name : Main St and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
File Name : Main St and Mill St AM
Site Code : IPO 483
Start Date : 1/21/2020
Main St and Mill St

|  | Main Street Eastbound |  |  |  |  | Main Street Westbound |  |  |  |  | Mill Street <br> Northbound |  |  |  |  | Mill Street Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |

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

| 08:00 AM | 2 | 1 | 3 | 0 | 6 | 0 | 1 | 1 | 5 | 7 | 8 | 2 | 3 | 6 | 19 | 1 | 10 | 3 | 3 | 17 | 49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 2 | 6 | 1 | 9 | 1 | 0 | 2 | 1 | 4 | 2 | 5 | 0 | 1 | 8 | 1 | 5 | 3 | 3 | 12 | 33 |
| 08:30 AM | 3 | 2 | 1 | 0 | 6 | 0 | 1 | 2 | 4 | 7 | 4 | 4 | 0 | 3 | 11 | 1 | 19 | 3 | 1 | 24 | 48 |
| 08:45 AM | 1 | 3 | 1 | 0 | 5 | 0 | 3 | 1 | 5 | 9 | 5 | 1 | 1 | 8 | 15 | 2 | 12 | 4 | 9 | 27 | 56 |
| Total Volume | 6 | 8 | 11 | 1 | 26 | 1 | 5 | 6 | 15 | 27 | 19 | 12 | 4 | 18 | 53 | 5 | 46 | 13 | 16 | 80 | 186 |
| \% App. Total | 23.1 | 30.8 | 42.3 | 3.8 |  | 3.7 | 18.5 | 22.2 | 55.6 |  | 35.8 | 22.6 | 7.5 | 34 |  | 6.2 | 57.5 | 16.2 | 20 |  |  |
| PHF | . 500 | . 667 | . 458 | . 250 | . 722 | . 250 | . 417 | . 750 | . 750 | . 750 | . 594 | . 600 | . 333 | . 563 | . 697 | . 625 | . 605 | . 813 | . 444 | . 741 | . 830 |



Ridgeview Data
Collection

Black Hawk, CO
Black Hawks Traffic Counts
PM Peak
Main St and Mill St

File Name : Main St and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | Main Street Eastbound |  |  |  |  | Main Street Westbound |  |  |  |  | Mill Street Northbound |  |  |  |  | Mill Street Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 11 | 4 | 1 | 0 | 16 | 1 | 6 | 3 | 16 | 26 | 5 | 17 | 0 | 9 | 31 | 3 | 12 | 4 | 7 | 26 | 99 |
| 04:15 PM | 8 | 11 | 4 | 1 | 24 | 1 | 6 | 1 | 18 | 26 | 5 | 15 | 1 | 8 | 29 | 0 | 7 | 6 | 11 | 24 | 103 |
| 04:30 PM | 12 | 6 | 0 | 1 | 19 | 1 | 6 | 3 | 13 | 23 | 4 | 18 | 0 | 7 | 29 | 0 | 9 | 7 | 8 | 24 | 95 |
| 04:45 PM | 4 | 2 | 2 | 2 | 10 | 2 | 9 | 0 | 9 | 20 | 6 | 13 | 2 | 3 | 24 | 2 | 10 | 4 | 10 | 26 | 80 |
| Total | 35 | 23 | 7 | 4 | 69 | 5 | 27 | 7 | 56 | 95 | 20 | 63 | 3 | 27 | 113 | 5 | 38 | 21 | 36 | 100 | 377 |


| $05: 00$ PM | 8 | 6 | 5 | 1 | 20 | 3 | 2 | 4 | 23 | 32 | 1 | 17 | 1 | 5 | 24 | 2 | 11 | 5 | 2 | 20 | 96 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $05: 15 ~ P M$ | 8 | 4 | 5 | 0 | 17 | 1 | 3 | 4 | 10 | 18 | 3 | 11 | 1 | 3 | 18 | 1 | 15 | 7 | 10 | 33 | 86 |
| $05: 30$ PM | 4 | 5 | 6 | 1 | 16 | 0 | 4 | 2 | 5 | 11 | 2 | 9 | 2 | 0 | 13 | 2 | 7 | 8 | 8 | 25 | 65 |
| $05: 45$ PM | 6 | 6 | 3 | 0 | 15 | 2 | 5 | 0 | 20 | 27 | 3 | 14 | 1 | 5 | 23 | 4 | 10 | 2 | 10 | 26 | 91 |
| Total | 26 | 21 | 19 | 2 | 68 | 6 | 14 | 10 | 58 | 88 | 9 | 51 | 5 | 13 | 78 | 9 | 43 | 22 | 30 | 104 | 338 |


| Grand Total | 61 | 44 | 26 | 6 | 137 | 11 | 41 | 17 | 114 | 183 | 29 | 114 | 8 | 40 | 191 | 14 | 81 | 43 | 66 | 204 | 715 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 44.5 | 32.1 | 19 | 4.4 |  | 6 | 22.4 | 9.3 | 62.3 |  | 15.2 | 59.7 | 4.2 | 20.9 |  | 6.9 | 39.7 | 21.1 | 32.4 |  |  |
| Total \% | 8.5 | 6.2 | 3.6 | 0.8 | 19.2 | 1.5 | 5.7 | 2.4 | 15.9 | 25.6 | 4.1 | 15.9 | 1.1 | 5.6 | 26.7 | 2 | 11.3 | 6 | 9.2 | 28.5 |  |
| Automobiles | 61 | 44 | 26 | 0 | 131 | 11 | 41 | 17 | 0 | 69 | 29 | 114 | 8 | 0 | 151 | 14 | 81 | 43 | 0 | 138 | 489 |
| \% Automobiles | 100 | 100 | 100 | 0 | 95.6 | 100 | 100 | 100 | 0 | 37.7 | 100 | 100 | 100 | 0 | 79.1 | 100 | 100 | 100 | 0 | 67.6 | 68.4 |
| Bicyles and | 0 | 0 | 0 | 6 | 6 | 0 | 0 | 0 | 114 | 114 | 0 | 0 | 0 | 40 | 40 | 0 | 0 | 0 | 66 | 66 | 226 |
| \% Bicycles and | 0 | 0 | 0 | 100 | 4.4 | 0 | 0 | 0 | 100 | 62.3 | 0 | 0 | 0 | 100 | 20.9 | 0 | 0 | 0 | 100 | 32.4 | 31.6 |

Ridgeview Data

Black Hawk, CO
Black Hawks Traffic Counts
PM Peak
Main St and Mill St

File Name : Main St and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawks Traffic Counts
PM Peak
Main St and Mill St

File Name : Main St and Mill St PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3

|  | Main Street Eastbound |  |  |  |  | Main Street Westbound |  |  |  |  | Mill Street <br> Northbound |  |  |  |  | Mill Street Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |

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

| 04:00 PM | 11 | 4 | 1 | 0 | 16 | 1 | 6 | $\mathbf{3}$ | 16 | $\mathbf{2 6}$ | 5 | 17 | 0 | $\mathbf{9}$ | $\mathbf{3 1}$ | $\mathbf{3}$ | $\mathbf{1 2}$ | $\mathbf{4}$ | 7 | $\mathbf{2 6}$ | 99 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $04: 15 \mathrm{PM}$ | 8 | $\mathbf{1 1}$ | $\mathbf{4}$ | 1 | $\mathbf{2 4}$ | 1 | 6 | 1 | $\mathbf{1 8}$ | 26 | 5 | 15 | 1 | 8 | 29 | 0 | 7 | 6 | $\mathbf{1 1}$ | 24 | $\mathbf{1 0 3}$ |
| $04: 30 \mathrm{PM}$ | $\mathbf{1 2}$ | 6 | 0 | 1 | 19 | 1 | 6 | 3 | 13 | 23 | 4 | $\mathbf{1 8}$ | 0 | 7 | 29 | 0 | 9 | $\mathbf{7}$ | 8 | 24 | 95 |
| $04: 45 \mathrm{PM}$ | 4 | 2 | 2 | $\mathbf{2}$ | 10 | $\mathbf{2}$ | $\mathbf{9}$ | 0 | 9 | 20 | $\mathbf{6}$ | 13 | $\mathbf{2}$ | 3 | $\mathbf{2 4}$ | 2 | 10 | 4 | 10 | 26 | 80 |
| Total Volume | 35 | 23 | 7 | 4 | 69 | 5 | 27 | 7 | 56 | 95 | 20 | 63 | 3 | 27 | 113 | 5 | 38 | 21 | 36 | 100 | 377 |
| \% App. Total | 50.7 | 33.3 | 10.1 | 5.8 |  | 5.3 | 28.4 | 7.4 | 58.9 |  | 17.7 | 55.8 | 2.7 | 23.9 |  | 5 | 38 | 21 | 36 |  |  |
| PHF | .729 | .523 | .438 | .500 | .719 | .625 | .750 | .583 | .778 | .913 | .833 | .875 | .375 | .750 | .911 | .417 | .792 | .750 | .818 | .962 | .915 |



Ridgeview Data Collection

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Mill St/Bobtail and Miners Mesa

File Name : Bobtail and Miners Mesa AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | Bobtail Rd Eastbound |  |  |  | Miners Mesa Westbound |  |  |  | Miners Mesa Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| 07:00 AM | 2 | 0 | 0 | 2 | 5 | 0 | 0 | 5 | 0 | 1 | 0 | 1 | 8 |
| 07:15 AM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 3 |
| 07:30 AM | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 7 | 1 | 2 | 0 | 3 | 10 |
| 07:45 AM | 2 | 0 | 0 | 2 | 4 | 1 | 0 | 5 | 1 | 1 | 0 | 2 | 9 |
| Total | 5 | 0 | 0 | 5 | 14 | 3 | 0 | 17 | 2 | 6 | 0 | 8 | 30 |
| 08:00 AM | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 0 | 1 | 0 | 1 | 5 |
| 08:15 AM | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 4 |
| 08:30 AM | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 4 | 0 | 4 | 7 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 3 |
| Total | 1 | 0 | 0 | 1 | 8 | 3 | 0 | 11 | 0 | 7 | 0 | 7 | 19 |
| Grand Total | 6 | 0 | 0 | 6 | 22 | 6 | 0 | 28 | 2 | 13 | 0 | 15 | 49 |
| Apprch \% | 100 | 0 | 0 |  | 78.6 | 21.4 | 0 |  | 13.3 | 86.7 | 0 |  |  |
| Total \% | 12.2 | 0 | 0 | 12.2 | 44.9 | 12.2 | 0 | 57.1 | 4.1 | 26.5 | 0 | 30.6 |  |
| Automobiles | 6 | 0 | 0 | 6 | 22 | 6 | 0 | 28 | 2 | 13 | 0 | 15 | 49 |
| \% Automobiles | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Ridgeview Data Collection

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Mill St/Bobtail and Miners Mesa

File Name: Bobtail and Miners Mesa AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No :2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Mill St/Bobtail and Miners Mesa

File Name: Bobtail and Miners Mesa AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3

|  | Bobtail Rd <br> Eastbound |  |  |  | Miners Mesa <br> Westbound |  |  |  | Miners Mesa <br> Northbound |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| :--- |

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

| 07:00 AM | 2 | 0 | 0 | 2 | 5 | 0 | 0 | 5 | 0 | 1 | 0 | 1 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:15 AM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 3 |
| 07:30 AM | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 7 | 1 | 2 | 0 | 3 | 10 |
| 07:45 AM | 2 | 0 | 0 | 2 | 4 | 1 | 0 | 5 | 1 | 1 | 0 | 2 | 9 |
| Total Volume | 5 | 0 | 0 | 5 | 14 | 3 | 0 | 17 | 2 | 6 | 0 | 8 | 30 |
| \% App. Total | 100 | 0 | 0 |  | 82.4 | 17.6 | 0 |  | 25 | 75 | 0 |  |  |
| PHF | . 625 | . 000 | . 000 | . 625 | . 700 | . 375 | . 000 | . 607 | . 500 | . 750 | . 000 | . 667 | . 750 |



Ridgeview Data Collection

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Mill St/Bobtail and Miners Mesa

File Name: Bobtail and Miners Mesa PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No :1

|  | Bobtail Rd Eastbound |  |  |  | Miners Mesa Westbound |  |  |  | Miners Mesa Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 6 | 0 | 6 | 10 |
| 04:15 PM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 04:30 PM | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 6 |
| 04:45 PM | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 7 | 0 | 7 | 9 |
| Total | 7 | 0 | 0 | 7 | 3 | 0 | 0 | 3 | 0 | 17 | 0 | 17 | 27 |
| 05:00 PM | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 0 | 5 | 7 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 05:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 |
| 05:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 |
| Total | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 8 | 0 | 8 | 12 |
| Grand Total | 7 | 0 | 0 | 7 | 7 | 0 | 0 | 7 | 0 | 25 | 0 | 25 | 39 |
| Apprch \% | 100 | 0 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  |  |
| Total \% | 17.9 | 0 | 0 | 17.9 | 17.9 | 0 | 0 | 17.9 | 0 | 64.1 | 0 | 64.1 |  |
| Automobiles | 7 | 0 | 0 | 7 | 7 | 0 | 0 | 7 | 0 | 25 | 0 | 25 | 39 |
| \% Automobiles | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 100 | 0 | 100 | 0 | 100 | 100 |
| Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Mill St/Bobtail and Miners Mesa

File Name: Bobtail and Miners Mesa PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data

## Collection

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Mill St/Bobtail and Miners Mesa

File Name : Bobtail and Miners Mesa PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3

|  | Bobtail Rd <br> Eastbound |  |  |  | Miners Mesa Westbound |  |  |  | Miners Mesa Northbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |

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

| 04:00 PM | $\mathbf{3}$ | 0 | 0 | $\mathbf{3}$ | $\mathbf{1}$ | 0 | 0 | $\mathbf{1}$ | 0 | 6 | 0 | 6 | $\mathbf{1 0}$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 04:15 PM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| $04: 30$ PM | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 6 |
| 04:45 PM | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | $\mathbf{7}$ | 0 | $\mathbf{7}$ | 9 |
| Total Volume | 7 | 0 | 0 | 7 | 3 | 0 | 0 | 3 | 0 | 17 | 0 | 17 | 27 |
| \% App. Total | 100 | 0 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  |  |
| PHF | .583 | .000 | .000 | .583 | .750 | .000 | .000 | .750 | .000 | .607 | .000 | .607 | .675 |



Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | Miners Mesa Eastbound |  |  |  |  | Miners Mesa Westbound |  |  |  |  | City of Black Hawk Emergency Ops Access Northbound |  |  |  |  | Road Blocked off Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 07:00 AM | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 07:15 AM | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 07:30 AM | 0 | 2 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| 07:45 AM | 0 | 3 | 0 | 0 | 3 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Total | 0 | 9 | 0 | 0 | 9 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 25 |


| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 08:30 AM | 0 | 3 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| 08:45 AM | 0 | 2 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Total | 0 | 6 | 0 | 0 | 6 | 4 | 3 | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 14 |


| Grand Total | 0 | 15 | 0 | 0 | 15 | 4 | 18 | 0 | 0 | 22 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 39 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 0 | 100 | 0 | 0 |  | 18.2 | 81.8 | 0 | 0 |  | 0 | 0 | 100 | 0 |  | 0 | 0 | 0 | 0 |  |  |
| Total \% | 0 | 38.5 | 0 | 0 | 38.5 | 10.3 | 46.2 | 0 | 0 | 56.4 | 0 | 0 | 5.1 | 0 | 5.1 | 0 | 0 | 0 | 0 | 0 |  |
| Automobiles | 0 | 15 | 0 | 0 | 15 | 4 | 18 | 0 | 0 | 22 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 39 |
| \% Automobiles | 0 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bicycles and | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts AM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops AM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3

|  | Miners Mesa Eastbound |  |  |  |  | Miners Mesa Westbound |  |  |  |  | City of Black Hawk Emergency Ops Access Northbound |  |  |  |  | Road Blocked off Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. To | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. To | Left | Thru | Right | Peds | App. To |  |

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

| 07:00 AM | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:15 AM | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 07:30 AM | 0 | 2 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| 07:45 AM | 0 | 3 | 0 | 0 | 3 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Total Volume | 0 | 9 | 0 | 0 | 9 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 25 |
| \% App. Total | 0 | 100 | 0 | 0 |  | 0 | 100 | 0 | 0 |  | 0 | 0 | 100 | 0 |  | 0 | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 750 | . 000 | . 000 | . 750 | . 000 | . 536 | . 000 | . 000 | . 536 | . 000 | . 000 | . 250 | . 000 | . 250 | . 000 | . 000 | . 000 | . 000 | . 000 | . 625 |



Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 1

|  | Miners Mesa Eastbound |  |  |  |  | Miners Mesa Westbound |  |  |  |  | City of Black Hawk Emergency Ops Access Northbound |  |  |  |  | Road Blocked off Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 0 | 7 | 0 | 0 | 7 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 04:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:30 PM | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 04:45 PM | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| Total | 0 | 17 | 0 | 0 | 17 | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 21 |


| 05:00 PM | 0 | 5 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 05:45 PM | 0 | 3 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| Total | 0 | 9 | 0 | 0 | 9 | 2 | 3 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 16 |


| Grand Total | 0 | 26 | 0 | 0 | 26 | 3 | 5 | 0 | 0 | 8 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 37 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 0 | 100 | 0 | 0 |  | 37.5 | 62.5 | 0 | 0 |  | 0 | 0 | 100 | 0 |  | 0 | 0 | 0 | 0 |  |  |
| Total \% | 0 | 70.3 | 0 | 0 | 70.3 | 8.1 | 13.5 | 0 | 0 | 21.6 | 0 | 0 | 8.1 | 0 | 8.1 | 0 | 0 | 0 | 0 | 0 |  |
| Automobiles | 0 | 26 | 0 | 0 | 26 | 3 | 5 | 0 | 0 | 8 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 37 |
| \% Automobiles | 0 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bicycles and <br> Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \% Bicycles and <br> Pedestrians | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 2


Ridgeview Data
Collection

Black Hawk, CO
Black Hawk Traffic Counts
PM Peak
Miners Mesa \& Black Hawk Emergency Ops

File Name : Miners Mesa \& Emergency Ops PM
Site Code : IPO 483
Start Date : 1/21/2020
Page No : 3

|  | Miners Mesa Eastbound |  |  |  |  | Miners Mesa <br> Westbound |  |  |  |  | City of Black Hawk Emergency Ops Access Northbound |  |  |  |  | Road Blocked off Southbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. To | Left | Thru | Right | Peds | Apo. Total | Left | Thru | Right | Peds | Apo. Total |  |

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

| 04:00 PM | 0 | 7 | 0 | 0 | 7 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:30 PM | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 04:45 PM | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| Total Volume | 0 | 17 | 0 | 0 | 17 | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 21 |
| \% App. Total | 0 | 100 | 0 | 0 |  | 33.3 | 66.7 | 0 | 0 |  | 0 | 0 | 100 | 0 |  | 0 | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 607 | . 000 | . 000 | . 607 | . 250 | . 500 | . 000 | . 000 | . 375 | . 000 | . 000 | . 250 | . 000 | . 250 | . 000 | . 000 | . 000 | . 000 | . 000 | . 583 |



All Traffic Data Services,Inc.
9660 W 44th Ave
Wheat Ridge,CO 80033
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File Name: \#2 SH119\&MILL11-1
Site Code : 00000000
Start Date : 7/19/2014
Page No : 2

|  | SH 119 Southbound |  |  |  |  | MILL ST <br> Westbound |  |  |  |  | SH 119 <br> Northbound |  |  |  |  | MILL ST <br> Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Right | Thru | Left | Other | App. | Right | Thru | Left | Other | 1 | Right | Thru | Left | Other | App. Total | Right | Thru | Left | Other | App. Total | Int. T |

Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:00 AM

| 11:00 AM | 10 | 127 | 0 | 0 | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 21 | 0 | 68 | 51 | 0 | 5 | 0 | 56 | 261 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11:15 AM | 6 | 140 | 0 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 16 | 0 | 52 | 50 | 0 | 1 | 0 | 51 | 249 |
| 11:30 AM | 5 | 132 | 0 | 0 | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 56 | 0 | 7 | 0 | 63 | 206 |
| 11:45 AM | 11 | 126 | 0 | 0 | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 92 | 24 | 0 | 116 | 46 | 0 | 3 | 0 | 49 | 302 |
| Total Volume | 32 | 525 | 0 | 0 | 557 | 0 | 0 | 0 | 0 | 0 | 0 | 181 | 61 | 0 | 242 | 203 | 0 | 16 | 0 | 219 | 1018 |
| \% App. Total | 5.7 | 94.3 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 74.8 | 25.2 | 0 |  | 92.7 | 0 | 7.3 | 0 |  |  |
| PHF | . 727 | . 938 | . 000 | . 000 | . 954 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 492 | . 635 | . 000 | . 522 | . 906 | . 000 | . 571 | . 000 | . 869 | . 843 |


|  |  |  |
| :---: | :---: | :---: |
|  | Peak Hour Data <br> Peak Hour Begins at 11:00 AM <br> Class 1 |  |
|  |  |  |

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File Name : \#2 SH119\&MILLSAT6-7
Site Code : 00000000
Start Date :7/19/2014
Page No :2

|  | SH 119 Southbound |  |  |  |  | MILL ST Westbound |  |  |  |  | SH 119 <br> Northbound |  |  |  |  | MILL ST <br> Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Right | Thru | Left | Other | App. Total | Right | Thru | Left | Other | App. Total | Right | Thru | Left | Other | App. Total | Right | Thru | Left | Other | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Entire Intersection Begins at 04:00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 04:00 PM | 11 | 136 | 0 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 48 | 1 | 165 | 49 | 0 | 11 | 0 | 60 | 372 |
| 04:15 PM | 6 | 144 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 50 | 0 | 168 | 45 | 0 | 7 | 0 | 52 | 370 |
| 04:30 PM | 11 | 126 | 0 | 0 | 137 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 50 | 0 | 183 | 42 | 0 | 5 | 0 | 47 | 367 |
| 04:45 PM | 10 | 107 | 0 | 0 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 43 | 1 | 160 | 51 | 0 | 6 | 0 | 57 | 334 |
| Total Volume | 38 | 513 | 0 | 0 | 551 | 0 | 0 | 0 | 0 | 0 | 0 | 483 | 191 | 2 | 676 | 187 | 0 | 29 | 0 | 216 | 1443 |
| \% App. Total | 6.9 | 93.1 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 71.4 | 28.3 | 0.3 |  | 86.6 | 0 | 13.4 | 0 |  |  |
| PHF | . 864 | . 891 | . 000 | . 000 | . 918 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 908 | . 955 | . 500 | . 923 | . 917 | . 000 | . 659 | . 000 | . 900 | . 970 |



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File Name : \#7 MAIN\&MILLS11-1
Site Code :
Start Date : 7/19/2014
Page No : 2

|  | MAIN ST Southbound |  |  |  |  | MILL ST Westbound |  |  |  |  | MAIN ST Northbound |  |  |  |  | MILL ST <br> Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Right | Thru | Left | Peds | .pp. To | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | Apo To | Int. Tot |

Peak Hour Analysis From 11:00 PM to 12:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:15 PM

| 11:15 PM | 4 | 17 | 13 | 0 | 34 | 7 | 9 | 6 | 28 | 50 | 2 | 12 | 4 | 29 | 47 | 7 | 35 | 7 | 29 | 78 | 209 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11:30 PM | 2 | 12 | 19 | 6 | 39 | 4 | 2 | 0 | 25 | 31 | 5 | 7 | 0 | 24 | 36 | 5 | 37 | 3 | 35 | 80 | 186 |
| 11:45 PM | 2 | 8 | 13 | 0 | 23 | 12 | 14 | 7 | 27 | 60 | 1 | 8 | 0 | 33 | 42 | 2 | 33 | 5 | 47 | 87 | 212 |
| 12:00 AM | 5 | 22 | 13 | 9 | 49 | 8 | 13 | 1 | 22 | 44 | 1 | 6 | 3 | 31 | 41 | 5 | 44 | 1 | 40 | 90 | 224 |
| Total Volume | 13 | 59 | 58 | 15 | 145 | 31 | 38 | 14 | 102 | 185 | 9 | 33 | 7 | 117 | 166 | 19 | 149 | 16 | 151 | 335 | 831 |
| \% App. Total | 9 | 40.7 | 40 | 10.3 |  | 16.8 | 20.5 | 7.6 | 55.1 |  | 5.4 | 19.9 | 4.2 | 70.5 |  | 5.7 | 44.5 | 4.8 | 45.1 |  |  |
| PHF | . 650 | . 670 | . 763 | . 417 | . 740 | . 646 | . 679 | . 500 | . 911 | . 771 | . 450 | . 688 | . 438 | . 886 | . 883 | . 679 | . 847 | . 571 | . 803 | . 931 | . 927 |



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File Name: \#7 MAIN\&MILLS6-7
Site Code :
Start Date : 7/19/2014
Page No : 2

|  | MAIN ST Southbound |  |  |  |  | MILL ST Westbound |  |  |  |  | MAIN ST Northbound |  |  |  |  | MILL ST <br> Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | T |

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 06:00 PM

| 06:00 PM | 4 | 23 | 10 | 27 | 64 | 21 | 34 | 4 | 1 | 60 | 8 | 10 | 1 | 47 | 66 | 7 | 38 | 7 | 39 | 91 | 281 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 06:15 PM | 7 | 23 | 7 | 52 | 89 | 16 | 27 | 11 | 4 | 58 | 5 | 14 | 6 | 26 | 51 | 8 | 42 | 5 | 28 | 83 | 281 |
| 06:30 PM | 12 | 12 | 13 | 41 | 78 | 24 | 30 | 9 | 4 | 67 | 5 | 11 | 6 | 59 | 81 | 6 | 30 | 4 | 37 | 77 | 303 |
| 06:45 PM | 4 | 16 | 19 | 43 | 82 | 15 | 27 | 10 | 7 | 59 | 2 | 20 | 4 | 51 | 77 | 5 | 39 | 5 | 53 | 102 | 320 |
| Total Volume | 27 | 74 | 49 | 163 | 313 | 76 | 118 | 34 | 16 | 244 | 20 | 55 | 17 | 183 | 275 | 26 | 149 | 21 | 157 | 353 | 1185 |
| \% App. Total | 8.6 | 23.6 | 15.7 | 52.1 |  | 31.1 | 48.4 | 13.9 | 6.6 |  | 7.3 | 20 | 6.2 | 66.5 |  | 7.4 | 42.2 | 5.9 | 44.5 |  |  |
| PHF | . 563 | . 804 | . 645 | . 784 | . 879 | . 792 | . 868 | . 773 | . 571 | . 910 | . 625 | . 688 | . 708 | . 775 | . 849 | . 813 | . 887 | . 750 | . 741 | . 865 | . 926 |



Site Code: 9 Station ID: 9

| Start Time | $\begin{gathered} \hline \text { 18-Jul-14 } \\ \text { Fri } \\ \hline \end{gathered}$ | NB | SB |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12:00 AM |  | 12 | 54 |  |  |  |  |  |  | 66 |
| 01:00 |  | 8 | 36 |  |  |  |  |  |  | 44 |
| 02:00 |  | 7 | 44 |  |  |  |  |  |  | 51 |
| 03:00 |  | 3 | 30 |  |  |  |  |  |  | 33 |
| 04:00 |  | 9 | 7 |  |  |  |  |  |  | 16 |
| 05:00 |  | 15 | 15 |  |  |  |  |  |  | 30 |
| 06:00 |  | 24 | 22 |  |  |  |  |  |  | 46 |
| 07:00 |  | 60 | 17 |  |  |  |  |  |  | 77 |
| 08:00 |  | 52 | 24 |  |  |  |  |  |  | 76 |
| 09:00 |  | 60 | 37 |  |  |  |  |  |  | 97 |
| 10:00 |  | 68 | 30 |  |  |  |  |  |  | 98 |
| 11:00 |  | 89 | 39 |  |  |  |  |  |  | 128 |
| 12:00 PM |  | 103 | 66 |  |  |  |  |  |  | 169 |
| 01:00 |  | 106 | 62 |  |  |  |  |  |  | 168 |
| 02:00 |  | 89 | 64 |  |  |  |  |  |  | 153 |
| 03:00 |  | 85 | 75 |  |  |  |  |  |  | 160 |
| 04:00 |  | 96 | 80 |  |  |  |  |  |  | 176 |
| 05:00 |  | 101 | 95 |  |  |  |  |  |  | 196 |
| 06:00 |  | 146 | 76 |  |  |  |  |  |  | 222 |
| 07:00 |  | 125 | 73 |  |  |  |  |  |  | 198 |
| 08:00 |  | 124 | 76 |  |  |  |  |  |  | 200 |
| 09:00 |  | 87 | 83 |  |  |  |  |  |  | 170 |
| 10:00 |  | 63 | 106 |  |  |  |  |  |  | 169 |
| 11:00 |  | 39 | 108 |  |  |  |  |  |  | 147 |
| Total |  | 1571 | 1319 |  |  |  |  |  |  | 2890 |
| Percent |  | 54.4\% | 45.6\% |  |  |  |  |  |  |  |
| AM Peak | - | 11:00 | 00:00 | - | - | - | - | - | - | 11:00 |
| Vol. | - | 89 | 54 | - | - | - | - | - | - | 128 |
| PM Peak | - | 18:00 | 23:00 | - | - | - | - | - | - | 18:00 |
| Vol. | - | 146 | 108 | - | - | - | - | - | - | 222 |



| Start Time | $\begin{gathered} \text { 18-Jul-14 } \\ \text { Fri } \\ \hline \end{gathered}$ | NB | SB |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12:00 AM |  | 6 | 23 |  |  |  |  |  |  | 29 |
| 01:00 |  | 7 | 16 |  |  |  |  |  |  | 23 |
| 02:00 |  | 8 | 27 |  |  |  |  |  |  | 35 |
| 03:00 |  | 1 | 11 |  |  |  |  |  |  | 12 |
| 04:00 |  | 11 | 12 |  |  |  |  |  |  | 23 |
| 05:00 |  | 22 | 9 |  |  |  |  |  |  | 31 |
| 06:00 |  | 30 | 20 |  |  |  |  |  |  | 50 |
| 07:00 |  | 38 | 22 |  |  |  |  |  |  | 60 |
| 08:00 |  | 41 | 24 |  |  |  |  |  |  | 65 |
| 09:00 |  | 66 | 22 |  |  |  |  |  |  | 88 |
| 10:00 |  | 45 | 28 |  |  |  |  |  |  | 73 |
| 11:00 |  | 56 | 28 |  |  |  |  |  |  | 84 |
| 12:00 PM |  | 29 | 23 |  |  |  |  |  |  | 52 |
| 01:00 |  | 53 | 25 |  |  |  |  |  |  | 78 |
| 02:00 |  | 58 | 33 |  |  |  |  |  |  | 91 |
| 03:00 |  | 75 | 49 |  |  |  |  |  |  | 124 |
| 04:00 |  | 57 | 64 |  |  |  |  |  |  | 121 |
| 05:00 |  | 67 | 55 |  |  |  |  |  |  | 122 |
| 06:00 |  | 72 | 45 |  |  |  |  |  |  | 117 |
| 07:00 |  | 54 | 49 |  |  |  |  |  |  | 103 |
| 08:00 |  | 51 | 57 |  |  |  |  |  |  | 108 |
| 09:00 |  | 31 | 36 |  |  |  |  |  |  | 67 |
| 10:00 |  | 20 | 55 |  |  |  |  |  |  | 75 |
| 11:00 |  | 17 | 46 |  |  |  |  |  |  | 63 |
| Total |  | 915 | 779 |  |  |  |  |  |  | 1694 |
| Percent |  | 54.0\% | 46.0\% |  |  |  |  |  |  |  |
| AM Peak | - | 09:00 | 10:00 | - | - | - | - | - | - | 09:00 |
| Vol. | - | 66 | 28 | - | - | - | - | - | - | 88 |
| PM Peak | - | 15:00 | 16:00 | - | - | - | - | - | - | 15:00 |
| Vol. | - | 75 | 64 | - | - | - | - | - | - | 124 |



Site Code: 8 Station ID: 8

| Start <br> Time | 18-Jul-14 | NB | SB |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12:00 AM |  | 51 | 223 |  |  |  |  |  |  | 274 |
| 01:00 |  | 31 | 203 |  |  |  |  |  |  | 234 |
| 02:00 |  | 29 | 186 |  |  |  |  |  |  | 215 |
| 03:00 |  | 15 | 120 |  |  |  |  |  |  | 135 |
| 04:00 |  | 33 | 83 |  |  |  |  |  |  | 116 |
| 05:00 |  | 50 | 86 |  |  |  |  |  |  | 136 |
| 06:00 |  | 140 | 98 |  |  |  |  |  |  | 238 |
| 07:00 |  | 217 | 134 |  |  |  |  |  |  | 351 |
| 08:00 |  | 249 | 161 |  |  |  |  |  |  | 410 |
| 09:00 |  | 335 | 172 |  |  |  |  |  |  | 507 |
| 10:00 |  | 328 | 231 |  |  |  |  |  |  | 559 |
| 11:00 |  | 436 | 289 |  |  |  |  |  |  | 725 |
| 12:00 PM |  | 420 | 266 |  |  |  |  |  |  | 686 |
| 01:00 |  | 469 | 264 |  |  |  |  |  |  | 733 |
| 02:00 |  | 525 | 347 |  |  |  |  |  |  | 872 |
| 03:00 |  | 557 | 376 |  |  |  |  |  |  | 933 |
| 04:00 |  | 548 | 404 |  |  |  |  |  |  | 952 |
| 05:00 |  | 681 | 413 |  |  |  |  |  |  | 1094 |
| 06:00 |  | 750 | 345 |  |  |  |  |  |  | 1095 |
| 07:00 |  | 839 | 374 |  |  |  |  |  |  | 1213 |
| 08:00 |  | 634 | 356 |  |  |  |  |  |  | 990 |
| 09:00 |  | 464 | 406 |  |  |  |  |  |  | 870 |
| 10:00 |  | 260 | 454 |  |  |  |  |  |  | 714 |
| 11:00 |  | 190 | 591 |  |  |  |  |  |  | 781 |
| Total |  | 8251 | 6582 |  |  |  |  |  |  | 14833 |
| Percent |  | 55.6\% | 44.4\% |  |  |  |  |  |  |  |
| AM Peak | - | 11:00 | 11:00 | - | - | - | - | - | - | 11:00 |
| Vol. | - | 436 | 289 | - | - | - | - | - | - | 725 |
| PM Peak | - | 19:00 | 23:00 | - | - | - | - | - | - | 19:00 |
| Vol. | - | 839 | 591 | - | - | - | - | - | - | 1213 |

Site Code: 8 Station ID: 8

| Start Time | $\begin{gathered} \text { 19-Jul-14 } \\ \text { Sat } \end{gathered}$ | NB | SB |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12:00 AM |  | 91 | 491 |  |  |  |  |  |  | 582 |
| 01:00 |  | 56 | 482 |  |  |  |  |  |  | 538 |
| 02:00 |  | 42 | 410 |  |  |  |  |  |  | 452 |
| 03:00 |  | 24 | 268 |  |  |  |  |  |  | 292 |
| 04:00 |  | 23 | 159 |  |  |  |  |  |  | 182 |
| 05:00 |  | 50 | 115 |  |  |  |  |  |  | 165 |
| 06:00 |  | 128 | 87 |  |  |  |  |  |  | 215 |
| 07:00 |  | 196 | 119 |  |  |  |  |  |  | 315 |
| 08:00 |  | 265 | 195 |  |  |  |  |  |  | 460 |
| 09:00 |  | 365 | 193 |  |  |  |  |  |  | 558 |
| 10:00 |  | 554 | 279 |  |  |  |  |  |  | 833 |
| 11:00 |  | 658 | 270 |  |  |  |  |  |  | 928 |
| 12:00 PM |  | 705 | 348 |  |  |  |  |  |  | 1053 |
| 01:00 |  | 861 | 349 |  |  |  |  |  |  | 1210 |
| 02:00 |  | 886 | 423 |  |  |  |  |  |  | 1309 |
| 03:00 |  | 837 | 507 |  |  |  |  |  |  | 1344 |
| 04:00 |  | 824 | 605 |  |  |  |  |  |  | 1429 |
| 05:00 |  | 701 | 628 |  |  |  |  |  |  | 1329 |
| 06:00 |  | 666 | 714 |  |  |  |  |  |  | 1380 |
| 07:00 |  | 853 | 441 |  |  |  |  |  |  | 1294 |
| 08:00 |  | 909 | 548 |  |  |  |  |  |  | 1457 |
| 09:00 |  | 610 | 523 |  |  |  |  |  |  | 1133 |
| 10:00 |  | 361 | 696 |  |  |  |  |  |  | 1057 |
| 11:00 |  | 240 | 713 |  |  |  |  |  |  | 953 |
| Total |  | 10905 | 9563 |  |  |  |  |  |  | 20468 |
| Percent |  | 53.3\% | 46.7\% |  |  |  |  |  |  |  |
| AM Peak | - | 11:00 | 00:00 | - | - | - | - | - | - | 11:00 |
| Vol. | - | 658 | 491 | - | - | - | - | - | - | 928 |
| PM Peak | - | 20:00 | 18:00 | - | - | - | - | - | - | 20:00 |
| Vol. | - | 909 | 714 | - | - | - | - | - | - | 1457 |
| Total |  | 24989 | 21772 |  |  |  |  |  |  | 46761 |
| Percent |  | 53.4\% | 46.6\% |  |  |  |  |  |  |  |
| ADT |  | 15,074 | AA |  |  |  |  |  |  |  |

## APPENDIX B

## CDOT Traffic Projections

CDOTTraffic Projections: Lake Gulch Whiskey Resort (Black Hawk)

| ROUTE | REPT | ENDREPT | LENGIH | AADT | AADTYR | YR20FACTOR | DHN | LOCATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 119A | 0.082 | 6.718 | 6.61 | 14000 | 2018 | 1.43 | 10.5 | ON SH 119 N/OSH6 |
| 119A | 6.718 | 7.282 | 0.543 | 4400 | 2018 | 1.06 | 10 | ON SH 119 SE/O GREGORY ST |
|  |  |  |  | Annaul Growth: |  | $\begin{aligned} & 1.80 \% \\ & 0.29 \% \end{aligned}$ |  |  |


| Station | Year | CDOTSeasonal Traffic Data-SH119 NOSH6 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
| 311 | 2020 | 13,473 |  |  |  |  |  |  |  |  |  |  |  |
| 311 | 2019 | 12,631 | 13,006 | 13,282 | 13,582 | 14,620 | 14,800 | 15,754 | 15,280 | 15,012 | 13,748 | 12,659 | 12,404 |
| 311 | 2018 | 13,838 | 12,576 | 12,819 | 13,119 | 12,224 | 16,163 | 15,844 | 14,898 | 15,016 | 13,648 | 13,411 | 13,470 |
| 311 | 2017 | 13,242 | 14,517 | 14,823 | 13,847 | 14,437 | 14,562 | 15,916 | 15,073 | 15,199 | 14,097 | 13,946 | 12,998 |
| 311 | 2016 | 13,930 | 14,463 | 14,120 | 13,876 | 15,043 | 15,064 | 16,399 | 15,678 | 15,381 | 14,570 | 14,068 | 12,739 |
| 311 | 2015 | 14,017 | 12,443 | 14,038 | 13,633 | 14,714 | 14,420 | 15,440 | 15,600 | 15,187 | 14,403 | 12,705 | 12,463 |
| 311 | 2014 | 11,730 | 13,410 | 14,140 | 13,680 | 14,403 | 14,652 | 15,205 | 16,568 | 15,218 | 14,637 | 13,180 | 12,328 |
| 311 | 2013 | 13,149 | 13,619 | 14,366 | 13,435 | 14,233 | 15,137 | 14,888 | 15,337 | 16,049 | 14,560 | 14,205 | 12,194 |
| 311 | 2012 | 13,311 | 13,425 | 14,901 | 14,019 | 12,317 | 12,801 | 15,087 | 14,490 | 14,884 | 12,964 | 13,314 | 12,882 |
| 311 | 2011 | 13,540 | 12,233 | 13,181 | 14,572 | 15,160 | 14,887 | 16,790 | 14,810 | 14,723 | 13,817 | 13,186 | 12,122 |
| 311 | 2010 | 14,813 | 14,353 | 14,492 | 14,794 | 15,582 | 15,207 | 17,065 | 16,565 | 16,366 | 15,713 | 13,994 | 13,399 |
| 311 | 2009 | 13,353 | 14,374 | 14,016 | 12,985 | 14,427 | 14,643 | 17,686 | 17,213 | 16,367 | 14,344 | 14,467 | 12,570 |
| 311 | 2008 | 12,561 | 13,488 | 13,432 | 13,227 | 13,761 | 13,911 | 14,708 | 14,757 | 14,185 | 13,084 | 13,129 | 11,572 |
| 311 | 2007 | 11,545 | 13,603 | 14,128 | 13,356 | 12,470 | 14,676 | 15,533 | 14,989 | 15,299 | 13,701 | 13,440 | 11,089 |
| 311 | 2006 | 14,117 | 14,673 | 14,343 | 15,115 | 14,034 | 14,580 | 15,701 | 14,770 | 15,168 | 12,746 | 12,886 | 11,510 |
| 311 | 2005 | 14,819 | 16,037 | 15,327 | 14,912 | 15,872 | 11,466 | 12,343 | 12,028 | 13,551 | 14,723 | 13,805 | 13,074 |
| 311 | 2004 | 16,587 | 17,053 | 17,621 | 16,760 | 18,627 | 18,274 | 21,632 | 19,570 | 18,374 | 18,353 | 15,213 | 14,583 |
| 311 | 2003 | 17,114 | 16,067 | 15,643 | 17,264 | 18,045 | 17,558 | 19,620 | 20,000 | 18,197 | 16,932 | 15,807 | 15,690 |
| 311 | 2002 | 16,860 | 18,350 | 17,756 | 17,793 | 18,197 | 19,596 | 20,592 | 20,088 | 19,199 | 16,744 | 16,569 | 16,518 |
| 311 | 2001 | 15,213 | 16,029 | 16,928 | 16,385 | 16,637 | 18,002 | 19,879 | 19,572 | 18,843 | 16,985 | 16,746 | 16,902 |
| 311 | 2000 | 15,684 | 17,221 | 16,298 | 16,665 | 16,764 | 17,729 | 19,503 | 18,821 | 17,803 | 16,702 | 14,940 | 14,807 |
| 311 | 1999 | 14,110 | 15,542 | 15,071 | 14,044 | 16,023 | 16,909 | 17,867 | 17,043 | 15,918 | 15,792 | 15,379 | 13,880 |
| 311 | 1998 | 12,799 | 13,938 | 13,215 | 13,296 | 14,127 | 15,231 | 16,689 | 16,516 | 15,450 | 14,535 | 13,945 | 12,453 |
| 311 | 1997 | 11,816 | 12,611 | 13,741 | 12,415 | 14,169 | 14,724 | 15,502 | 15,096 | 14,969 | 12,677 | 12,800 | 11,712 |
| 311 | 1996 | 10,847 | 13,002 | 13,437 | 13,083 | 13,791 | 15,306 | 16,462 | 16,023 | 15,089 | 13,304 | 12,241 | 11,787 |
| 311 | 1995 | 13,523 | 13,069 | 13,507 | 13,401 | 14,286 | 15,198 | 17,667 | 16,471 | 14,755 | 13,974 | 11,958 | 12,868 |
| 311 | 1994 | 12,113 | 12,375 | 12,544 | 12,600 | 13,826 | 14,422 | 16,755 | 15,558 | 15,506 | 13,989 | 12,911 | 13,241 |
| 311 | 1993 | 9,675 | 9,762 | 10,842 | 10,964 | 12,342 | 13,025 | 15,311 | 14,484 | 13,367 | 12,049 | 9,935 | 11,070 |
| 311 | 1992 | 7,294 | 9,056 | 8,808 | 9,385 | 10,597 | 12,510 | 14,654 | 14,450 | 13,074 | 11,862 | 9,010 | 8,428 |
| 311 | 1991 |  |  |  |  |  |  |  |  |  | 8,712 | 6,283 | 6,912 |
|  |  | 12,631 |  |  |  |  |  | 15,754 |  |  |  |  |  |
|  |  | Seasonal | ador | 125 |  |  |  |  |  |  |  |  |  |

## APPENDIX C

## Trip Generation Worksheets

## Lake Gulch Whiskey Resort

Weekday Trip Generation Summary

| Land Use | Quantity | Units | Vehicle Trips |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | eekd <br> Peak |  |  | eekday eak |  |
|  |  |  | Daily | In | Out | Total | In | Out | Total |
| Manufacturing (ITE 140) - Distillery Operations | 35 | Employees | 88 | 10 | 3 | 13 | 5 | 7 | 12 |
| Hotel (ITE 310) - Lodge \& Cabins | 60 | Rooms | 502 | 17 | 11 | 28 | 18 | 18 | 36 |
| Sit Down Restaurant (ITE 932) | 4,800 | Square Feet | 540 | 26 | 22 | 48 | 29 | 18 | 47 |
| Trucks | 5 | Trucks/Day | 10 | 2 | 2 | 4 | 2 | 2 | 4 |
| Distillery Tours | 60 | Patrons | 400 | 60 | 60 | 120 | 60 | 60 | 120 |
| Total Site Generated Trips |  |  | 1,540 | 115 | 98 | 213 | 114 | 105 | 219 |

Weekend Trip Generation Summary

| Land Use | Quantity | Units | Vehicle Trips |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Sat. <br> Daily | Friday Peak Hour of Generator |  |  | Saturday Peak Hour of Generator |  |  |
|  |  |  |  | In | Out | Total | In | Out | Total |
| Manufacturing (ITE 140) - Distillery Operations | 18 | Employees | 24 | **5 | ** 7 | **12 | 2 | 2 | 4 |
| Hotel (ITE 310) - Lodge \& Cabins | 60 | Rooms | 492 | **18 | **18 | **36 | 25 | 19 | 44 |
| Sit Down Restaurant (ITE 932) | 4,800 | Square Feet | 652 | 52 | 50 | 102 | 28 | 26 | 54 |
| Trucks | 5 | Trucks/Day | 10 | 2 | 2 | 4 | 0 | 0 | 0 |
| Distillery Tours | 60 | Patrons | 400 | 60 | 60 | 120 | 60 | 60 | 120 |
| Weekend Events | *250 | Patrons | 350 | 130 | 5 | 135 | 130 | 5 | 135 |
| Total Site Generated Trips |  |  | 1,928 | 244 | 117 | 361 | 245 | 112 | 357 |

* $=$ Vehicle Occupancy is 2 People per Vehicle
${ }^{* *}=$ Weekday PM Peak Hour


## Kimley»)Horn

| Project | Lake Gulch Whiskey Resort |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Subject | Trip Generation for Manufacturing |  |  |  |  |  |
| Designed by | JRP | Date | January 28, 2020 | Job No. | 096637003 |  |
| Checked by |  | Date |  | Sheet No. | 1 | of |

## TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - Manufacturing (140)
Independant Variable - Employees
Employees = 35
X = 35
T = Average Vehicle Trip Ends

## Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (100 Series Page 59)



## Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. ( 100 Series Page 60)


(*) TRIP END WAS CHANGED BY 1 TO SATISFY THE TOTAL

## Weekday (100 Series Page 58)

$\mathrm{T}=2.47(\mathrm{X})$
$\mathrm{T}=2.47$ *
35


## Saturday (100 Series Page 63)

| $\mathrm{T}=1.24(\mathrm{X})$ |  |
| :--- | :--- |
| $\mathrm{T}=1.24^{*}$ | 35 |

Directional Distribution: 50\% ent. 50\% exit
1.24 (X)

35

| $\mathrm{T}=$ | 44 | Average Vehicle Trip Ends |
| :---: | :---: | :---: |
| 22 | entering |  |
| 22 | $+22=44$ |  |

## Saturday Peak Hour of Generator (100 Series Page 64)


(*) TRIP END WAS CHANGED BY 1 TO SATISFY THE TOTAL

## Kimley»)Horn

| Project | Lake Gulch Whiskey Resort |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Subject | Trip Generation for Manufacturing |  |  |  |  |  |
| Designed by | JRP | Date | January 28, 2020 | Job No. | 096637003 |  |
| Checked by |  | Date |  | Sheet No. | 1 | of |

## TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - Manufacturing (140)
Independant Variable - Employees
Employees = 18
X = 18
T = Average Vehicle Trip Ends

## Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (100 Series Page 59)



## Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. ( 100 Series Page 60)

$$
\mathrm{T}=0.33(\mathrm{X})
$$

$$
\begin{equation*}
\mathrm{T}=0.33 \text { * } \tag{18}
\end{equation*}
$$

Directional Distribution: 39\% ent. 61\% exit. T = $6 \quad$ Average Vehicle Trip Ends 2 entering 4 exiting $2+4=6$

Directional Distribution: 50\% ent. 50\% exit. $\mathrm{T}=46$ Average Vehicle Trip Ends $23+23=46$

Directional Distribution: 50\% ent. 50\% exit. T = $24 \quad$ Average Vehicle Trip Ends 12 entering 12 exiting $12+12=24$

## Saturday Peak Hour of Generator (100 Series Page 64)

$\mathrm{T}=0.18(\mathrm{X})$
$\mathrm{T}=0.18$ *
18

| Directional Distribution: | $50 \%$ | ent. | $50 \%$ |  |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{~T}=$ | 4 | Average | Vehicle Trip Ends |  |
| 2 | entering |  | 2 | exiting |

## Kimley»Horn

Project

> Lake Gulch Whiskey Resort

Subject Trip Generation for Hotel
Designed by _JRP
Checked by $\qquad$ Date _January 27, 2020 Job No.

| 096637003 |
| :---: |
| $1 \quad$ of 1 |

## TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code -Hotel (310)
Independant Variable - Rooms (X)

$$
X=60
$$

T = Average Vehicle Trip Ends

## Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 300 Page 3)



## Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 300 Page 4)

Directional Distribution: $51 \%$ ent. 49\% exit.
$\mathrm{T}=0.60 \mathrm{X}$
$\mathrm{T}=0.60$ * 60
$\mathrm{T}=36 \quad$ Average Vehicle Trip Ends
18 entering 18 exiting
$18+18=36$
Weekday (Series 300 Page 2)
Average Weekday
Directional Distribution: 50\% entering, 50\% exiting
$(T)=8.36(X)$
$(T)=8.36$ *
(60.0)

| $\mathrm{T}=$ | 502 | Average Vehicle Trip Ends |
| :---: | :--- | :---: |
| 251 | entering | 251 |

$251+251=502$
Saturday (300 Series Page 7)
$\mathrm{T}=8.19 \mathrm{X}$
$\mathrm{T}=8.19$ * 60
Directional Distribution: $50 \%$ ent. 50\% exit. $\mathrm{T}=492 \quad$ Average Vehicle Trip Ends 246 entering 246 exiting $246+246=492$

## Saturday Peak Hour of Generator (300 Series Page 8)

Average Weekday
$(T)=0.72(X)$
$(T)=0.72$ *
(60.0)

Directional Distribution: 56\% entering, 44\% exiting $\mathrm{T}=44 \quad$ Average Vehicle Trip Ends 25 entering 19 exiting
$25+19=44$


## APPENDIX D

## Intersection Analysis Worksheets

|  | $\rightarrow$ |  | $\checkmark$ |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个 $\uparrow$ | F | \% | 44 | 7 | 「 |
| Traffic Volume (vph) | 164 | 21 | 66 | 203 | 15 | 19 |
| Future Volume (vph) | 164 | 21 | 66 | 203 | 15 | 19 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 36.0 | 36.0 | 24.0 | 60.0 | 30.0 |  |
| Total Split (\%) | 40.0\% | 40.0\% | 26.7\% | 66.7\% | 33.3\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efftt Green (s) | 42.2 | 42.2 | 53.5 | 53.5 | 23.5 | 90.0 |
| Actuated g/C Ratio | 0.47 | 0.47 | 0.59 | 0.59 | 0.26 | 1.00 |
| v/c Ratio | 0.11 | 0.03 | 0.12 | 0.11 | 0.03 | 0.01 |
| Control Delay | 14.9 | 6.4 | 8.3 | 8.1 | 17.6 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.9 | 6.4 | 8.3 | 8.1 | 17.6 | 0.0 |
| LOS | B | A | A | A | B | A |
| Approach Delay | 13.9 |  |  | 8.1 | 7.6 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |
| Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green |  |  |  |  |  |  |
| Natural Cycle: 65 |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.12 |  |  |  |  |  |  |
| Intersection Signal Delay: 10.3 |  |  |  | Intersection LOS: B |  |  |
| Intersection Capacity Utilization 29.1\% |  |  |  | ICU Level of Service A |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |

Splits and Phases: 1: Mill Street \& SH-119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ | $\geqslant$ | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | F | \％ | 个4 | \％ | 「 |
| Traffic Volume（vph） | 345 | 20 | 61 | 260 | 35 | 96 |
| Future Volume（vph） | 345 | 20 | 61 | 260 | 35 | 96 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 40.0 | 40.0 | 21.0 | 61.0 | 29.0 |  |
| Total Split（\％） | 44．4\％ | 44．4\％ | 23．3\％ | 67．8\％ | 32．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 43.4 | 43.4 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g／C Ratio | 0.48 | 0.48 | 0.61 | 0.61 | 0.25 | 1.00 |
| v／c Ratio | 0.22 | 0.03 | 0.12 | 0.13 | 0.09 | 0.07 |
| Control Delay | 14.9 | 6.2 | 7.9 | 7.8 | 25.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.9 | 6.2 | 7.9 | 7.8 | 25.9 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 14.4 |  |  | 7.8 | 7.0 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length： 90 |  |  |  |  |  |  |
| Actuated Cycle Length： 90 |  |  |  |  |  |  |
| Offset： 0 （0\％），Referenced to phase 4：EBT and 8：WBTL，Start of Green |  |  |  |  |  |  |
| Natural Cycle： 65 |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.22 |  |  |  |  |  |  |
| Intersection Signal Delay： 10.7 |  |  |  | Intersection LOS：B |  |  |
| Intersection Capacity Utilization 34．1\％ |  |  |  | ICU Level of Service A |  |  |
| Analysis Period（min） 15 |  |  |  |  |  |  |

Splits and Phases：1：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | 「 | ${ }^{7}$ | 个个 | ${ }^{7}$ | F |
| Traffic Volume（vph） | 400 | 30 | 149 | 376 | 22 | 146 |
| Future Volume（vph） | 400 | 30 | 149 | 376 | 22 | 146 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 37.0 | 37.0 | 25.0 | 62.0 | 28.0 |  |
| Total Split（\％） | 41．1\％ | 41．1\％ | 27．8\％ | 68．9\％ | 31．1\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 39.5 | 39.5 | 55.5 | 55.5 | 21.5 | 90.0 |
| Actuated g／C Ratio | 0.44 | 0.44 | 0.62 | 0.62 | 0.24 | 1.00 |
| v／c Ratio | 0.28 | 0.05 | 0.31 | 0.19 | 0.06 | 0.10 |
| Control Delay | 17.1 | 6.0 | 9.0 | 7.7 | 26.0 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.1 | 6.0 | 9.0 | 7.7 | 26.0 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 16.3 |  |  | 8.1 | 3.5 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.31
Intersection Signal Delay：10．6 Intersection LOS：B

Intersection Capacity Utilization 39．7\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


Synchro 10 Report
Page 1


## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ 4 | 「 | \% |  | ${ }^{7}$ | F |
| Traffic Volume (vph) | 571 | 42 | 213 | 538 | 32 | 208 |
| Future Volume (vph) | 571 | 42 | 213 | 538 | 32 | 208 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 38.0 | 38.0 | 26.0 | 64.0 | 26.0 |  |
| Total Split (\%) | 42.2\% | 42.2\% | 28.9\% | 71.1\% | 28.9\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efftt Green (s) | 39.9 | 39.9 | 57.5 | 57.5 | 19.5 | 90.0 |
| Actuated g/C Ratio | 0.44 | 0.44 | 0.64 | 0.64 | 0.22 | 1.00 |
| v/c Ratio | 0.40 | 0.06 | 0.49 | 0.26 | 0.09 | 0.14 |
| Control Delay | 18.4 | 5.4 | 10.7 | 7.4 | 27.5 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.4 | 5.4 | 10.7 | 7.4 | 27.5 | 0.2 |
| LOS | B | A | B | A | C | A |
| Approach Delay | 17.5 |  |  | 8.3 | 3.9 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 48.0\% ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 6: Mill Street \& SH-119


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|  | $\rightarrow$ | $\cdots$ | 7 |  | 4 | \％ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |  |
| Lane Configurations | 44 | 「 | ${ }^{*}$ | 中4 | ＊ | 「＇ |  |
| Traffic Volume（veh／h） | 571 | 42 | 213 | 538 | 32 | 208 |  |
| Future Volume（veh／h） | 571 | 42 | 213 | 538 | 32 | 208 |  |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Ped－Bike Adj（A＿pbT） |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Work Zone On Approach | No |  |  | No | No |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |  |
| Adj Flow Rate，veh／h | 621 | 46 | 232 | 585 | 35 | 0 |  |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Cap，veh／h | 1697 | 757 | 521 | 2270 | 386 |  |  |
| Arrive On Green | 0.48 | 0.48 | 0.09 | 0.64 | 0.22 | 0.00 |  |
| Sat Flow，veh／h | 3647 | 1585 | 1781 | 3647 | 1781 | 1585 |  |
| Grp Volume（v），veh／h | 621 | 46 | 232 | 585 | 35 | 0 |  |
| Grp Sat Flow（s），veh／h／ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |  |
| Q Serve（g＿s），s | 10.0 | 1.4 | 5.5 | 6.4 | 1.4 | 0.0 |  |
| Cycle Q Clear（g＿c），s | 10.0 | 1.4 | 5.5 | 6.4 | 1.4 | 0.0 |  |
| Prop In Lane |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap（c），veh／h | 1697 | 757 | 521 | 2270 | 386 |  |  |
| V／C Ratio（X） | 0.37 | 0.06 | 0.45 | 0.26 | 0.09 |  |  |
| Avail Cap（c＿a），veh／h | 1697 | 757 | 748 | 2270 | 386 |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 0.00 |  |
| Uniform Delay（d），s／veh | 14.9 | 12.7 | 9.9 | 7.0 | 28.2 | 0.0 |  |
| Incr Delay（d2），s／veh | 0.6 | 0.2 | 0.6 | 0.3 | 0.5 | 0.0 |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| \％ile BackOfQ（50\％），veh／ln | 4.0 | 0.5 | 2.0 | 2.2 | 0.6 | 0.0 |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 15.5 | 12.8 | 10.5 | 7.3 | 28.6 | 0.0 |  |
| LnGrp LOS | B | B | B | A | C |  |  |
| Approach Vol，veh／h | 667 |  |  | 817 | 35 | A |  |
| Approach Delay，s／veh | 15.3 |  |  | 8.2 | 28.6 |  |  |
| Approach LOS | B |  |  | A | C |  |  |
| Timer－Assigned Phs |  | 2 | 3 | 4 |  |  | 8 |
| Phs Duration（ $G+Y+R c$ ），s |  | 26.0 | 14.5 | 49.5 |  |  | 64.0 |
| Change Period（Y＋Rc），s |  | 6.5 | 6.5 | 6.5 |  |  | 6.5 |
| Max Green Setting（Gmax），s |  | 19.5 | 19.5 | 31.5 |  |  | 57.5 |
| Max Q Clear Time（g＿c＋l1），s |  | 3.4 | 7.5 | 12.0 |  |  | 8.4 |
| Green Ext Time（p＿c），s |  | 0.0 | 0.5 | 4.3 |  |  | 4.6 |
| Intersection Summary |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 11.8 |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |

## Notes

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

|  | $\rightarrow$ |  | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | F | \％ | 个4 | \％ | 「 |
| Traffic Volume（vph） | 179 | 23 | 72 | 222 | 16 | 21 |
| Future Volume（vph） | 179 | 23 | 72 | 222 | 16 | 21 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 37.0 | 37.0 | 24.0 | 61.0 | 29.0 |  |
| Total Split（\％） | 41．1\％ | 41．1\％ | 26．7\％ | 67．8\％ | 32．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 43.1 | 43.1 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g／C Ratio | 0.48 | 0.48 | 0.61 | 0.61 | 0.25 | 1.00 |
| v／c Ratio | 0.12 | 0.03 | 0.13 | 0.11 | 0.04 | 0.01 |
| Control Delay | 14.4 | 6.1 | 7.9 | 7.7 | 18.7 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.4 | 6.1 | 7.9 | 7.7 | 18.7 | 0.0 |
| LOS | B | A | A | A | B | A |
| Approach Delay | 13.4 |  |  | 7.8 | 7.9 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length： 90 |  |  |  |  |  |  |
| Actuated Cycle Length： 90 |  |  |  |  |  |  |
| Offset： 0 （0\％），Referenced to phase 4：EBT and 8：WBTL，Start of Green |  |  |  |  |  |  |
| Natural Cycle： 65 |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.13 |  |  |  |  |  |  |
| Intersection Signal Delay： 9.9 |  |  |  | Intersection LOS：A |  |  |
| Intersection Capacity Utilization 29．5\％ |  |  |  | ICU Level of Service A |  |  |
| Analysis Period（min） 15 |  |  |  |  |  |  |

Splits and Phases：1：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ | $\geqslant$ | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | F | \% | 个4 | \% | F |
| Traffic Volume (vph) | 377 | 22 | 67 | 284 | 38 | 105 |
| Future Volume (vph) | 377 | 22 | 67 | 284 | 38 | 105 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 39.0 | 39.0 | 21.0 | 60.0 | 30.0 |  |
| Total Split (\%) | 43.3\% | 43.3\% | 23.3\% | 66.7\% | 33.3\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efftt Green (s) | 42.2 | 42.2 | 53.5 | 53.5 | 23.5 | 90.0 |
| Actuated g/C Ratio | 0.47 | 0.47 | 0.59 | 0.59 | 0.26 | 1.00 |
| v/c Ratio | 0.25 | 0.03 | 0.14 | 0.15 | 0.09 | 0.07 |
| Control Delay | 15.9 | 6.3 | 8.5 | 8.3 | 24.5 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.9 | 6.3 | 8.5 | 8.3 | 24.5 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 15.3 |  |  | 8.4 | 6.5 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 4:EBT and 8:WBTL, Start of Green |  |  |  |  |  |  |
| Natural Cycle: 65 |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.25 |  |  |  |  |  |  |
| Intersection Signal Delay: 11.2 |  |  |  | Intersection LOS: B |  |  |
| Intersection Capacity Utilization 35.0\% |  |  |  | ICU Level of Service A |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |

Splits and Phases: 1: Mill Street \& SH-119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ |  | 7 |  | 4 | $p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | 「 | \％ | 个4 | \％ | 「 |
| Traffic Volume（vph） | 437 | 33 | 163 | 411 | 24 | 160 |
| Future Volume（vph） | 437 | 33 | 163 | 411 | 24 | 160 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 37.0 | 37.0 | 26.0 | 63.0 | 27.0 |  |
| Total Split（\％） | 41．1\％ | 41．1\％ | 28．9\％ | 70．0\％ | 30．0\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 40.3 | 40.3 | 56.5 | 56.5 | 20.5 | 90.0 |
| Actuated g／C Ratio | 0.45 | 0.45 | 0.63 | 0.63 | 0.23 | 1.00 |
| v／c Ratio | 0.30 | 0.05 | 0.34 | 0.20 | 0.06 | 0.11 |
| Control Delay | 16.9 | 5.7 | 9.0 | 7.4 | 26.0 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.9 | 5.7 | 9.0 | 7.4 | 26.0 | 0.2 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 16.1 |  |  | 7.8 | 3.5 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.34
Intersection Signal Delay：10．4 Intersection LOS：B
Intersection Capacity Utilization 41．5\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


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## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | 「 | ${ }^{7}$ | 个个 | ${ }^{7}$ | 「 |
| Traffic Volume（vph） | 624 | 46 | 233 | 588 | 35 | 227 |
| Future Volume（vph） | 624 | 46 | 233 | 588 | 35 | 227 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 39.0 | 39.0 | 26.0 | 65.0 | 25.0 |  |
| Total Split（\％） | 43．3\％ | 43．3\％ | 28．9\％ | 72．2\％ | 27．8\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 40.4 | 40.4 | 58.5 | 58.5 | 18.5 | 90.0 |
| Actuated g／C Ratio | 0.45 | 0.45 | 0.65 | 0.65 | 0.21 | 1.00 |
| v／c Ratio | 0.43 | 0.07 | 0.55 | 0.28 | 0.10 | 0.16 |
| Control Delay | 18.4 | 5.1 | 11.4 | 7.1 | 29.1 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.4 | 5.1 | 11.4 | 7.1 | 29.1 | 0.2 |
| LOS | B | A | B | A | C | A |
| Approach Delay | 17.5 |  |  | 8.3 | 4.1 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.55
Intersection Signal Delay：11．2 Intersection LOS：B
Intersection Capacity Utilization 50．6\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


Synchro 10 Report
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## Notes

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

|  | $\rightarrow$ |  | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | F | \％ | 个4 | \％ | 「 |
| Traffic Volume（vph） | 179 | 29 | 158 | 222 | 21 | 95 |
| Future Volume（vph） | 179 | 29 | 158 | 222 | 21 | 95 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 33.0 | 33.0 | 28.0 | 61.0 | 29.0 |  |
| Total Split（\％） | 36．7\％ | 36．7\％ | 31．1\％ | 67．8\％ | 32．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 38.1 | 38.1 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g／C Ratio | 0.42 | 0.42 | 0.61 | 0.61 | 0.25 | 1.00 |
| v／c Ratio | 0.13 | 0.05 | 0.28 | 0.11 | 0.05 | 0.07 |
| Control Delay | 16.7 | 6.4 | 9.1 | 7.7 | 25.8 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.7 | 6.4 | 9.1 | 7.7 | 25.8 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 15.2 |  |  | 8.3 | 4.8 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length： 90 |  |  |  |  |  |  |
| Actuated Cycle Length： 90 |  |  |  |  |  |  |
| Offset： 0 （0\％），Referenced to phase 4：EBT and 8：WBTL，Start of Green |  |  |  |  |  |  |
| Natural Cycle： 65 |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.28 |  |  |  |  |  |  |
| Intersection Signal Delay： 9.8 |  |  |  | Intersection LOS：A |  |  |
| Intersection Capacity Utilization 34．1\％ |  |  |  | ICU Level of Service A |  |  |
| Analysis Period（min） 15 |  |  |  |  |  |  |

Splits and Phases：1：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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


Synchro 10 Report


## Notes

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


Synchro 10 Report

|  | $\rightarrow$ | $\cdots$ | 7 |  | 4 | \％ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |  |
| Lane Configurations | 中4 | 「゙ | ${ }^{7}$ | 中4 | ＊ | 「＇ |  |
| Traffic Volume（veh／h） | 437 | 45 | 346 | 411 | 30 | 248 |  |
| Future Volume（veh／h） | 437 | 45 | 346 | 411 | 30 | 248 |  |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Ped－Bike Adj（A＿pbT） |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Work Zone On Approach | No |  |  | No | No |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |  |
| Adj Flow Rate，veh／h | 475 | 49 | 376 | 447 | 33 | 0 |  |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Cap，veh／h | 1603 | 715 | 647 | 2270 | 465 |  |  |
| Arrive On Green | 0.45 | 0.45 | 0.14 | 0.64 | 0.26 | 0.00 |  |
| Sat Flow，veh／h | 3647 | 1585 | 1781 | 3647 | 1781 | 1585 |  |
| Grp Volume（v），veh／h | 475 | 49 | 376 | 447 | 33 | 0 |  |
| Grp Sat Flow（s），veh／h／ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |  |
| Q Serve（g＿s），s | 7.6 | 1.6 | 9.4 | 4.7 | 1.3 | 0.0 |  |
| Cycle Q Clear（g＿c），s | 7.6 | 1.6 | 9.4 | 4.7 | 1.3 | 0.0 |  |
| Prop In Lane |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap（c），veh／h | 1603 | 715 | 647 | 2270 | 465 |  |  |
| V／C Ratio（X） | 0.30 | 0.07 | 0.58 | 0.20 | 0.07 |  |  |
| Avail Cap（c＿a），veh／h | 1603 | 715 | 926 | 2270 | 465 |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 0.00 |  |
| Uniform Delay（d），s／veh | 15.6 | 14.0 | 9.5 | 6.7 | 25.0 | 0.0 |  |
| Incr Delay（d2），s／veh | 0.5 | 0.2 | 0.8 | 0.2 | 0.3 | 0.0 |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| \％ile BackOfQ（50\％），veh／ln | 3.1 | 0.6 | 3.4 | 1.6 | 0.6 | 0.0 |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 16.1 | 14.2 | 10.4 | 6.9 | 25.3 | 0.0 |  |
| LnGrp LOS | B | B | B | A | C |  |  |
| Approach Vol，veh／h | 524 |  |  | 823 | 33 | A |  |
| Approach Delay，s／veh | 15.9 |  |  | 8.5 | 25.3 |  |  |
| Approach LOS | B |  |  | A | C |  |  |
| Timer－Assigned Phs |  | 2 | 3 | 4 |  |  | 8 |
| Phs Duration（ $G+Y+R c$ ），s |  | 28.0 | 16.9 | 45.1 |  |  | 62.0 |
| Change Period（Y＋Rc），s |  | 4.5 | 4.5 | 4.5 |  |  | 4.5 |
| Max Green Setting（Gmax），s |  | 23.5 | 26.5 | 26.5 |  |  | 57.5 |
| Max Q Clear Time（g＿c＋l1），s |  | 3.3 | 11.4 | 9.6 |  |  | 6.7 |
| Green Ext Time（p＿c），s |  | 0.0 | 1.0 | 3.1 |  |  | 3.4 |
| Intersection Summary |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 11.7 |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |

## Notes

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

Timings

|  | $\rightarrow$ |  | 7 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | F | \% | 个4 | \% | F' |
| Traffic Volume (vph) | 624 | 58 | 417 | 588 | 41 | 311 |
| Future Volume (vph) | 624 | 58 | 417 | 588 | 41 | 311 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 31.4 | 31.4 | 34.0 | 65.4 | 24.6 |  |
| Total Split (\%) | 34.9\% | 34.9\% | 37.8\% | 72.7\% | 27.3\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efft Green (s) | 30.8 | 30.8 | 58.9 | 58.9 | 18.1 | 90.0 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.65 | 0.65 | 0.20 | 1.00 |
| v/c Ratio | 0.56 | 0.11 | 0.83 | 0.28 | 0.13 | 0.21 |
| Control Delay | 27.7 | 7.3 | 25.3 | 6.9 | 25.3 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.7 | 7.3 | 25.5 | 6.9 | 25.3 | 0.3 |
| LOS | C | A | C | A | C | A |
| Approach Delay | 26.0 |  |  | 14.6 | 3.2 |  |
| Approach LOS | C |  |  | B | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |
| Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.83 |  |  |  |  |  |  |
| Intersection Signal Delay: 16.5 |  |  |  | Intersection LOS: B |  |  |
| Intersection Capacity Utilization 60.8\% |  |  |  | ICU Level of Service B |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |

Splits and Phases: 6: Mill Street \& SH-119


Synchro 10 Report

|  | $\rightarrow$ | $\cdots$ | 7 |  | 4 | \％ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |  |
| Lane Configurations | 中4 | 「゙ | ${ }^{*}$ | 中4 | ＊ | 「 |  |
| Traffic Volume（veh／h） | 624 | 58 | 417 | 588 | 41 | 311 |  |
| Future Volume（veh／h） | 624 | 58 | 417 | 588 | 41 | 311 |  |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Ped－Bike Adj（A＿pbT） |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Work Zone On Approach | No |  |  | No | No |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |  |
| Adj Flow Rate，veh／h | 678 | 63 | 453 | 639 | 45 | 0 |  |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Cap，veh／h | 1461 | 652 | 580 | 2326 | 358 |  |  |
| Arrive On Green | 0.41 | 0.41 | 0.17 | 0.65 | 0.20 | 0.00 |  |
| Sat Flow，veh／h | 3647 | 1585 | 1781 | 3647 | 1781 | 1585 |  |
| Grp Volume（v），veh／h | 678 | 63 | 453 | 639 | 45 | 0 |  |
| Grp Sat Flow（s），veh／h／ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |  |
| Q Serve（g＿s），s | 12.5 | 2.2 | 12.1 | 6.8 | 1.9 | 0.0 |  |
| Cycle Q Clear（g＿c），s | 12.5 | 2.2 | 12.1 | 6.8 | 1.9 | 0.0 |  |
| Prop In Lane |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap（c），veh／h | 1461 | 652 | 580 | 2326 | 358 |  |  |
| V／C Ratio（X） | 0.46 | 0.10 | 0.78 | 0.27 | 0.13 |  |  |
| Avail Cap（c＿a），veh／h | 1461 | 652 | 820 | 2326 | 358 |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 1.00 | 0.96 | 0.00 |  |
| Uniform Delay（d），s／veh | 19.3 | 16.2 | 12.6 | 6.6 | 29.5 | 0.0 |  |
| Incr Delay（d2），s／veh | 1.1 | 0.3 | 3.2 | 0.3 | 0.7 | 0.0 |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| \％ile BackOfQ（50\％），veh／ln | 5.2 | 0.8 | 4.7 | 2.3 | 0.9 | 0.0 |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 20.3 | 16.5 | 15.8 | 6.8 | 30.2 | 0.0 |  |
| LnGrp LOS | C | B | B | A | C |  |  |
| Approach Vol，veh／h | 741 |  |  | 1092 | 45 | A |  |
| Approach Delay，s／veh | 20.0 |  |  | 10.6 | 30.2 |  |  |
| Approach LOS | C |  |  | B | C |  |  |
| Timer－Assigned Phs |  | 2 | 3 | 4 |  |  | 8 |
| Phs Duration（ $G+Y+R c$ ），s |  | 24.6 | 21.9 | 43.5 |  |  | 65.4 |
| Change Period（Y＋Rc），s |  | 6.5 | 6.5 | 6.5 |  |  | 6.5 |
| Max Green Setting（Gmax），s |  | 18.1 | 27.5 | 24.9 |  |  | 58.9 |
| Max Q Clear Time（g＿c＋l1），s |  | 3.9 | 14.1 | 14.5 |  |  | 8.8 |
| Green Ext Time（p＿c），s |  | 0.1 | 1.3 | 3.5 |  |  | 5.1 |
| Intersection Summary |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 14.8 |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |

## Notes

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

|  | $\rightarrow$ |  | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | 「 | \％ | 个4 | \％ | 「 |
| Traffic Volume（vph） | 196 | 25 | 79 | 243 | 18 | 23 |
| Future Volume（vph） | 196 | 25 | 79 | 243 | 18 | 23 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 36.0 | 36.0 | 24.0 | 60.0 | 30.0 |  |
| Total Split（\％） | 40．0\％ | 40．0\％ | 26．7\％ | 66．7\％ | 33．3\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 41.9 | 41.9 | 53.5 | 53.5 | 23.5 | 90.0 |
| Actuated g／C Ratio | 0.47 | 0.47 | 0.59 | 0.59 | 0.26 | 1.00 |
| v／c Ratio | 0.13 | 0.04 | 0.15 | 0.13 | 0.04 | 0.02 |
| Control Delay | 15.2 | 6.2 | 8.5 | 8.2 | 18.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.2 | 6.2 | 8.5 | 8.2 | 18.4 | 0.0 |
| LOS | B | A | A | A | B | A |
| Approach Delay | 14.2 |  |  | 8.3 | 8.2 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length： 90 |  |  |  |  |  |  |
| Actuated Cycle Length： 90 |  |  |  |  |  |  |
| Offset： 0 （0\％），Referenced to phase 4：EBT and 8：WBTL，Start of Green |  |  |  |  |  |  |
| Natural Cycle： 65 |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.15 |  |  |  |  |  |  |
| Intersection Signal Delay： 10.5 |  |  |  | Intersection LOS：B |  |  |
| Intersection Capacity Utilization 30．2\％ |  |  |  | ICU Level of Service A |  |  |
| Analysis Period（min） 15 |  |  |  |  |  |  |

Splits and Phases：1：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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


Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.26
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 36.0\% ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 1: Mill Street \& SH-119


Synchro 10 Report
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## Notes

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

|  | $\rightarrow$ |  | 7 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | 「 | \％ | 个 4 | \％ | 「 |
| Traffic Volume（vph） | 478 | 36 | 178 | 449 | 26 | 175 |
| Future Volume（vph） | 478 | 36 | 178 | 449 | 26 | 175 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 38.0 | 38.0 | 25.0 | 63.0 | 27.0 |  |
| Total Split（\％） | 42．2\％ | 42．2\％ | 27．8\％ | 70．0\％ | 30．0\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 39.8 | 39.8 | 56.5 | 56.5 | 20.5 | 90.0 |
| Actuated g／C Ratio | 0.44 | 0.44 | 0.63 | 0.63 | 0.23 | 1.00 |
| v／c Ratio | 0.33 | 0.05 | 0.39 | 0.22 | 0.07 | 0.12 |
| Control Delay | 17.6 | 5.7 | 9.5 | 7.5 | 25.8 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 5.7 | 9.5 | 7.5 | 25.8 | 0.2 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 16.8 |  |  | 8.1 | 3.5 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.39
Intersection Signal Delay：10．7 Intersection LOS：B
Intersection Capacity Utilization 43．5\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


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## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个个 | F | ${ }^{7}$ | 个4 | ${ }^{7}$ | F |
| Traffic Volume（vph） | 683 | 50 | 255 | 643 | 38 | 249 |
| Future Volume（vph） | 683 | 50 | 255 | 643 | 38 | 249 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 38.0 | 38.0 | 27.0 | 65.0 | 25.0 |  |
| Total Split（\％） | 42．2\％ | 42．2\％ | 30．0\％ | 72．2\％ | 27．8\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 39.3 | 39.3 | 58.5 | 58.5 | 18.5 | 90.0 |
| Actuated g／C Ratio | 0.44 | 0.44 | 0.65 | 0.65 | 0.21 | 1.00 |
| v／c Ratio | 0.48 | 0.07 | 0.63 | 0.30 | 0.11 | 0.17 |
| Control Delay | 20.1 | 5.5 | 13.4 | 7.3 | 29.1 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.1 | 5.5 | 13.4 | 7.3 | 29.1 | 0.3 |
| LOS | C | A | B | A | C | A |
| Approach Delay | 19.1 |  |  | 9.0 | 4.0 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.63
Intersection Signal Delay：12．1 Intersection LOS：B

Intersection Capacity Utilization 53．4\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


Synchro 10 Report
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## Notes

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

|  | $\rightarrow$ |  | 1 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | F | \% | 个4 | \% | 「 |
| Traffic Volume (vph) | 196 | 31 | 165 | 243 | 23 | 97 |
| Future Volume (vph) | 196 | 31 | 165 | 243 | 23 | 97 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 33.0 | 33.0 | 28.0 | 61.0 | 29.0 |  |
| Total Split (\%) | 36.7\% | 36.7\% | 31.1\% | 67.8\% | 32.2\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efftt Green (s) | 38.0 | 38.0 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.61 | 0.61 | 0.25 | 1.00 |
| v/c Ratio | 0.14 | 0.05 | 0.29 | 0.12 | 0.06 | 0.07 |
| Control Delay | 16.9 | 6.3 | 9.3 | 7.7 | 28.0 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.9 | 6.3 | 9.3 | 7.7 | 28.0 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 15.4 |  |  | 8.4 | 5.4 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 4:EBT and 8:WBTL, Start of Green |  |  |  |  |  |  |
| Natural Cycle: 65 |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.29 |  |  |  |  |  |  |
| Intersection Signal Delay: 10.0 |  |  |  | Intersection LOS: B |  |  |
| Intersection Capacity Utilization 35.0\% |  |  |  | ICU Level of Service A |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |

Splits and Phases: 1: Mill Street \& SH-119


Synchro 10 Report


## Notes

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



## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\leftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | 「 | ${ }^{7}$ | 性 | ${ }^{7}$ | F |
| Traffic Volume（vph） | 478 | 48 | 361 | 449 | 32 | 263 |
| Future Volume（vph） | 478 | 48 | 361 | 449 | 32 | 263 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 30.0 | 30.0 | 35.0 | 65.0 | 25.0 |  |
| Total Split（\％） | 33．3\％ | 33．3\％ | 38．9\％ | 72．2\％ | 27．8\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 35.3 | 35.3 | 58.5 | 58.5 | 18.5 | 90.0 |
| Actuated g／C Ratio | 0.39 | 0.39 | 0.65 | 0.65 | 0.21 | 1.00 |
| v／c Ratio | 0.37 | 0.08 | 0.69 | 0.21 | 0.10 | 0.18 |
| Control Delay | 21.7 | 6.9 | 14.2 | 6.7 | 24.7 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.7 | 6.9 | 14.3 | 6.7 | 24.7 | 0.3 |
| LOS | C | A | B | A | C | A |
| Approach Delay | 20.3 |  |  | 10.1 | 2.9 |  |
| Approach LOS | C |  |  | B | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 70
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.69
Intersection Signal Delay：12．1 Intersection LOS：B

Intersection Capacity Utilization 53．6\％ ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


Synchro 10 Report
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## Notes

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

|  | $\rightarrow$ |  | 7 | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个4 | F | \％ | 个个 | ${ }^{7}$ | F |
| Traffic Volume（vph） | 683 | 62 | 439 | 643 | 44 | 333 |
| Future Volume（vph） | 683 | 62 | 439 | 643 | 44 | 333 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 31.3 | 31.3 | 34.2 | 65.5 | 24.5 |  |
| Total Split（\％） | 34．8\％ | 34．8\％ | 38．0\％ | 72．8\％ | 27．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efft Green（s） | 28.5 | 28.5 | 59.0 | 59.0 | 18.0 | 90.0 |
| Actuated g／C Ratio | 0.32 | 0.32 | 0.66 | 0.66 | 0.20 | 1.00 |
| v／c Ratio | 0.66 | 0.12 | 0.87 | 0.30 | 0.14 | 0.23 |
| Control Delay | 31.0 | 7.3 | 33.5 | 7.1 | 25.6 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.0 | 7.3 | 34.3 | 7.1 | 25.6 | 0.4 |
| LOS | C | A | C | A | C | A |
| Approach Delay | 29.1 |  |  | 18.1 | 3.3 |  |
| Approach LOS | C |  |  | B | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length： 90 |  |  |  |  |  |  |
| Actuated Cycle Length： 90 |  |  |  |  |  |  |
| Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green |  |  |  |  |  |  |
| Natural Cycle： 80 |  |  |  |  |  |  |
| Control Type：Actuated－Coordinated |  |  |  |  |  |  |
| Maximum v／c Ratio： 0.87 |  |  |  |  |  |  |
| Intersection Signal Delay： 19.3 |  |  |  |  | ersectio | LOS：B |
| Intersection Capacity Utilization 63．6\％ |  |  |  | ICU Level of Service B |  |  |
| Analysis Period（min） 15 |  |  |  |  |  |  |

Splits and Phases：6：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ | $\geqslant$ | $\checkmark$ | $\leftarrow$ | 4 | $p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个个 | $\stackrel{\square}{7}$ | ${ }^{7}$ | ¢4 | ${ }^{7}$ | 「 |
| Traffic Volume（vph） | 412 | 24 | 73 | 311 | 42 | 115 |
| Future Volume（vph） | 412 | 24 | 73 | 311 | 42 | 115 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 40.0 | 40.0 | 21.0 | 61.0 | 29.0 |  |
| Total Split（\％） | 44．4\％ | 44．4\％ | 23．3\％ | 67．8\％ | 32．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 43.1 | 43.1 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g／C Ratio | 0.48 | 0.48 | 0.61 | 0.61 | 0.25 | 1.00 |
| V／c Ratio | 0.26 | 0.03 | 0.16 | 0.16 | 0.10 | 0.08 |
| Control Delay | 15.5 | 6.0 | 8.2 | 8.0 | 26.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 6.0 | 8.2 | 8.0 | 26.9 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 15.0 |  |  | 8.0 | 7.3 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and $8: W B T L$ ，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.26
Intersection Signal Delay：11．0 Intersection LOS：B
Intersection Capacity Utilization 36．0\％ ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：1：Mill Street \＆SH－119


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## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | 4 | 4 | $p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 性 | 「 | \％ | 个 $\uparrow$ | ${ }^{*}$ | F |
| Traffic Volume（vph） | 493 | 29 | 87 | 371 | 50 | 137 |
| Future Volume（vph） | 493 | 29 | 87 | 371 | 50 | 137 |
| Turn Type | NA | Perm | pm＋pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 41.0 | 41.0 | 20.0 | 61.0 | 29.0 |  |
| Total Split（\％） | 45．6\％ | 45．6\％ | 22．2\％ | 67．8\％ | 32．2\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Effct Green（s） | 42.7 | 42.7 | 54.5 | 54.5 | 22.5 | 90.0 |
| Actuated g／C Ratio | 0.47 | 0.47 | 0.61 | 0.61 | 0.25 | 1.00 |
| $\mathrm{v} / \mathrm{c}$ Ratio | 0.32 | 0.04 | 0.21 | 0.19 | 0.12 | 0.09 |
| Control Delay | 16.3 | 5.7 | 8.6 | 8.2 | 27.2 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.3 | 5.7 | 8.6 | 8.2 | 27.2 | 0.1 |
| LOS | B | A | A | A | C | A |
| Approach Delay | 15.7 |  |  | 8.3 | 7.3 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.32
Intersection Signal Delay： 11.5 Intersection LOS：B
Intersection Capacity Utilization 38．9\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：1：Mill Street \＆SH－119


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个个 | F | \％ | 个4 | ${ }^{7}$ | 「 |
| Traffic Volume（vph） | 571 | 43 | 213 | 537 | 31 | 209 |
| Future Volume（vph） | 571 | 43 | 213 | 537 | 31 | 209 |
| Turn Type | NA | Perm | $\mathrm{pm}+\mathrm{pt}$ | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial（s） | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split（s） | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split（s） | 38.0 | 38.0 | 26.0 | 64.0 | 26.0 |  |
| Total Split（\％） | 42．2\％ | 42．2\％ | 28．9\％ | 71．1\％ | 28．9\％ |  |
| Yellow Time（s） | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All－Red Time（s） | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust（s） | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time（s） | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead／Lag | Lag | Lag | Lead |  |  |  |
| Lead－Lag Optimize？ | Yes | Yes | Yes |  |  |  |
| Recall Mode | C－Max | C－Max | None | C－Max | Max |  |
| Act Efftt Green（s） | 39.9 | 39.9 | 57.5 | 57.5 | 19.5 | 90.0 |
| Actuated g／C Ratio | 0.44 | 0.44 | 0.64 | 0.64 | 0.22 | 1.00 |
| v／c Ratio | 0.40 | 0.06 | 0.49 | 0.26 | 0.09 | 0.14 |
| Control Delay | 18.4 | 5.4 | 10.7 | 7.4 | 27.4 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.4 | 5.4 | 10.7 | 7.4 | 27.4 | 0.2 |
| LOS | B | A | B | A | C | A |
| Approach Delay | 17.5 |  |  | 8.3 | 3.7 |  |
| Approach LOS | B |  |  | A | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length： 90
Actuated Cycle Length： 90
Offset： $0(0 \%)$ ，Referenced to phase 4：EBT and 8：WBTL，Start of Green
Natural Cycle： 65
Control Type：Actuated－Coordinated
Maximum v／c Ratio： 0.49
Intersection Signal Delay：11．1 Intersection LOS：B

Intersection Capacity Utilization 48．0\％ICU Level of Service A
Analysis Period（min） 15
Splits and Phases：6：Mill Street \＆SH－119


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## Notes

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

|  | $\rightarrow$ |  | $\checkmark$ | $\longleftarrow$ | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ 4 | 「 | ${ }^{7}$ |  | ${ }^{7}$ | F |
| Traffic Volume (vph) | 816 | 60 | 304 | 769 | 46 | 297 |
| Future Volume (vph) | 816 | 60 | 304 | 769 | 46 | 297 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 37.5 | 37.5 | 28.0 | 65.5 | 24.5 |  |
| Total Split (\%) | 41.7\% | 41.7\% | 31.1\% | 72.8\% | 27.2\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efftt Green (s) | 36.3 | 36.3 | 59.0 | 59.0 | 18.0 | 90.0 |
| Actuated g/C Ratio | 0.40 | 0.40 | 0.66 | 0.66 | 0.20 | 1.00 |
| v/c Ratio | 0.62 | 0.10 | 0.77 | 0.36 | 0.14 | 0.20 |
| Control Delay | 24.8 | 5.9 | 24.1 | 7.5 | 26.9 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.8 | 5.9 | 24.1 | 7.5 | 26.9 | 0.3 |
| LOS | C | A | C | A | C | A |
| Approach Delay | 23.5 |  |  | 12.2 | 3.9 |  |
| Approach LOS | C |  |  | B | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: $15.3 \quad$ Intersection LOS: B
Intersection Capacity Utilization 59.8\% ICU Level of Service B
Analysis Period (min) 15
Splits and Phases: 6: Mill Street \& SH-119


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## Notes

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


Synchro 10 Report


## Notes

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


Synchro 10 Report


## Notes

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

|  | $\rightarrow$ | 7 | 7 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢ $\uparrow$ | F | \% | 性 | ${ }^{7}$ | 「 |
| Traffic Volume (vph) | 571 | 55 | 396 | 537 | 37 | 297 |
| Future Volume (vph) | 571 | 55 | 396 | 537 | 37 | 297 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 30.4 | 30.4 | 35.0 | 65.4 | 24.6 |  |
| Total Split (\%) | 33.8\% | 33.8\% | 38.9\% | 72.7\% | 27.3\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Effct Green (s) | 32.7 | 32.7 | 58.9 | 58.9 | 18.1 | 90.0 |
| Actuated g/C Ratio | 0.36 | 0.36 | 0.65 | 0.65 | 0.20 | 1.00 |
| v/c Ratio | 0.48 | 0.10 | 0.78 | 0.25 | 0.11 | 0.20 |
| Control Delay | 25.2 | 7.4 | 19.6 | 6.8 | 26.4 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.4 | 19.7 | 6.8 | 26.4 | 0.3 |
| LOS | C | A | B | A | C | A |
| Approach Delay | 23.7 |  |  | 12.2 | 3.2 |  |
| Approach LOS | C |  |  | B | A |  |
| Intersection Summary |  |  |  |  |  |  |

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 14.4 Intersection LOS: B

Intersection Capacity Utilization 58.1\% ICU Level of Service B
Analysis Period (min) 15
Splits and Phases: 6: Mill Street \& SH-119


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## Notes

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

|  | $\rightarrow$ |  | 7 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ¢4 | 「 | \% | 个4 | \% | F' |
| Traffic Volume (vph) | 816 | 72 | 488 | 769 | 52 | 381 |
| Future Volume (vph) | 816 | 72 | 488 | 769 | 52 | 381 |
| Turn Type | NA | Perm | pm+pt | NA | Prot | Free |
| Protected Phases | 4 |  | 3 | 8 | 2 |  |
| Permitted Phases |  | 4 | 8 |  |  | Free |
| Detector Phase | 4 | 4 | 3 | 8 | 2 |  |
| Switch Phase |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |  |
| Minimum Split (s) | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |  |
| Total Split (s) | 27.5 | 27.5 | 38.0 | 65.5 | 24.5 |  |
| Total Split (\%) | 30.6\% | 30.6\% | 42.2\% | 72.8\% | 27.2\% |  |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |  |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |  |
| Lead/Lag | Lag | Lag | Lead |  |  |  |
| Lead-Lag Optimize? | Yes | Yes | Yes |  |  |  |
| Recall Mode | C-Max | C-Max | None | C-Max | Max |  |
| Act Efft Green (s) | 24.7 | 24.7 | 59.0 | 59.0 | 18.0 | 90.0 |
| Actuated g/C Ratio | 0.27 | 0.27 | 0.66 | 0.66 | 0.20 | 1.00 |
| v/c Ratio | 0.92 | 0.16 | 0.93 | 0.36 | 0.16 | 0.26 |
| Control Delay | 49.0 | 7.8 | 46.9 | 7.5 | 27.0 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.0 | 7.8 | 52.4 | 7.5 | 27.0 | 0.4 |
| LOS | D | A | D | A | C | A |
| Approach Delay | 45.7 |  |  | 24.9 | 3.6 |  |
| Approach LOS | D |  |  | C | A |  |
| Intersection Summary |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 4:EBT and 8:WBTL, Start of Green |  |  |  |  |  |  |
| Natural Cycle: 90 |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.93 |  |  |  |  |  |  |
| Intersection Signal Delay: 28.5 |  |  |  | Intersection LOS: C |  |  |
| Intersection Capacity Utilization 70.0\% |  |  |  | ICU Level of Service C |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |

Splits and Phases: 6: Mill Street \& SH-119


Synchro 10 Report

|  | $\rightarrow$ | $\cdots$ | 7 |  | 4 | \％ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |  |
| Lane Configurations | 中4 | 「7 | ${ }^{7}$ | 44 | ＊ | 「＇ |  |
| Traffic Volume（veh／h） | 816 | 72 | 488 | 769 | 52 | 381 |  |
| Future Volume（veh／h） | 816 | 72 | 488 | 769 | 52 | 381 |  |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Ped－Bike Adj（A＿pbT） |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Work Zone On Approach | No |  |  | No | No |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |  |
| Adj Flow Rate，veh／h | 887 | 78 | 530 | 836 | 57 | 0 |  |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Cap，veh／h | 1228 | 548 | 578 | 2330 | 356 |  |  |
| Arrive On Green | 0.35 | 0.35 | 0.24 | 0.66 | 0.20 | 0.00 |  |
| Sat Flow，veh／h | 3647 | 1585 | 1781 | 3647 | 1781 | 1585 |  |
| Grp Volume（v），veh／h | 887 | 78 | 530 | 836 | 57 | 0 |  |
| Grp Sat Flow（s），veh／h／ln | 1777 | 1585 | 1781 | 1777 | 1781 | 1585 |  |
| Q Serve（g＿s），s | 19.6 | 3.0 | 17.9 | 9.5 | 2.4 | 0.0 |  |
| Cycle Q Clear（g＿c），s | 19.6 | 3.0 | 17.9 | 9.5 | 2.4 | 0.0 |  |
| Prop In Lane |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap（c），veh／h | 1228 | 548 | 578 | 2330 | 356 |  |  |
| V／C Ratio（X） | 0.72 | 0.14 | 0.92 | 0.36 | 0.16 |  |  |
| Avail Cap（c＿a），veh／h | 1228 | 548 | 778 | 2330 | 356 |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 1.00 | 0.91 | 0.00 |  |
| Uniform Delay（d），s／veh | 25.7 | 20.3 | 19.2 | 7.0 | 29.8 | 0.0 |  |
| Incr Delay（d2），s／veh | 3.7 | 0.5 | 12.8 | 0.4 | 0.9 | 0.0 |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| \％ile BackOfQ（50\％），veh／ln | 8.6 | 1.2 | 8.7 | 3.3 | 1.1 | 0.0 |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 29.4 | 20.8 | 32.0 | 7.4 | 30.6 | 0.0 |  |
| LnGrp LOS | C | C | C | A | C |  |  |
| Approach Vol，veh／h | 965 |  |  | 1366 | 57 | A |  |
| Approach Delay，s／veh | 28.7 |  |  | 17.0 | 30.6 |  |  |
| Approach LOS | C |  |  | B | C |  |  |
| Timer－Assigned Phs |  | 2 | 3 | 4 |  |  | 8 |
| Phs Duration（ $G+Y+R c$ ），s |  | 24.5 | 27.9 | 37.6 |  |  | 65.5 |
| Change Period（Y＋Rc），s |  | 6.5 | 6.5 | 6.5 |  |  | 6.5 |
| Max Green Setting（Gmax），s |  | 18.0 | 31.5 | 21.0 |  |  | 59.0 |
| Max Q Clear Time（g＿c＋l1），s |  | 4.4 | 19.9 | 21.6 |  |  | 11.5 |
| Green Ext Time（p＿c），s |  | 0.1 | 1.4 | 0.0 |  |  | 7.3 |
| Intersection Summary |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 22.0 |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |

## Notes

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

|  | $\rangle$ |  | $\checkmark$ |  | 4 | 4 | P | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\hat{\beta}$ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | 4 | F |
| Traffic Volume (vph) | 8 | 10 | 1 | 6 | 24 | 15 | 5 | - | 58 | 16 |
| Future Volume (vph) | 8 | 10 | 1 | 6 | 24 | 15 | 5 | 6 | 58 | 16 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 15.0 | 42.0 | 27.0 | 27.0 | 33.0 | 33.0 | 33.0 | 15.0 | 48.0 | 48.0 |
| Total Split (\%) | 16.7\% | 46.7\% | 30.0\% | 30.0\% | 36.7\% | 36.7\% | 36.7\% | 16.7\% | 53.3\% | 53.3\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 9.0 | 9.0 | 6.2 | 6.2 |  | 76.7 | 76.7 | 75.3 | 79.2 | 79.2 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.85 | 0.85 | 0.84 | 0.88 | 0.88 |
| v/c Ratio | 0.06 | 0.14 | 0.01 | 0.13 |  | 0.03 | 0.00 | 0.01 | 0.04 | 0.01 |
| Control Delay | 33.2 | 21.9 | 38.0 | 28.7 |  | 6.2 | 0.0 | 2.3 | 1.8 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.2 | 21.9 | 38.0 | 28.7 |  | 6.2 | 0.0 | 2.3 | 1.8 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 24.8 |  | 29.3 |  | 5.5 |  |  | 1.5 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 ( $0 \%$ ), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.14
Intersection Signal Delay: 9.5
Intersection LOS: A
Intersection Capacity Utilization 28.7\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
Page 1

|  | $\stackrel{ }{*}$ |  |  | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 8 | 10 | 14 | 1 | 6 | 8 | 24 | 15 | 5 | 6 | 58 | 16 |
| Future Volume (veh/h) | 8 | 10 | 14 | 1 | 6 | 8 | 24 | 15 | 5 | 6 | 58 | 16 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 9 | 11 | 15 | 1 | 7 | 9 | 26 | 16 | 5 | 7 | 63 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 138 | 86 | 117 | 131 | 27 | 35 | 654 | 388 | 1037 | 995 | 1376 | 1166 |
| Arrive On Green | 0.01 | 0.12 | 0.12 | 0.04 | 0.04 | 0.04 | 0.65 | 0.65 | 0.65 | 0.01 | 0.74 | 0.74 |
| Sat Flow, veh/h | 1781 | 717 | 978 | 1385 | 743 | 955 | 900 | 593 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 9 | 0 | 26 | 1 | 0 | 16 | 42 | 0 | 5 | 7 | 63 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1694 | 1385 | 0 | 1698 | 1494 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.4 | 0.0 | 1.2 | 0.1 | 0.0 | 0.8 | 0.0 | 0.0 | 0.1 | 0.1 | 0.8 | 0.3 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 1.2 | 0.1 | 0.0 | 0.8 | 0.7 | 0.0 | 0.1 | 0.1 | 0.8 | 0.3 |
| Prop In Lane | 1.00 |  | 0.58 | 1.00 |  | 0.56 | 0.62 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 138 | 0 | 203 | 131 | 0 | 62 | 1042 | 0 | 1037 | 995 | 1376 | 1166 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.13 | 0.01 | 0.00 | 0.26 | 0.04 | 0.00 | 0.00 | 0.01 | 0.05 | 0.01 |
| Avail Cap(c_a), veh/h | 287 | 0 | 668 | 395 | 0 | 387 | 1042 | 0 | 1037 | 1147 | 1376 | 1166 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.2 | 0.0 | 35.4 | 41.8 | 0.0 | 42.2 | 5.5 | 0.0 | 5.4 | 4.5 | 3.3 | 3.2 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 | 2.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.2 | 0.0 | 0.5 | 0.0 | 0.0 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 39.4 | 0.0 | 35.7 | 41.8 | 0.0 | 44.3 | 5.6 | 0.0 | 5.4 | 4.5 | 3.3 | 3.2 |
| LnGrp LOS | D | A | D | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 35 |  |  | 17 |  |  | 47 |  |  | 87 |  |
| Approach Delay, s/veh |  | 36.6 |  |  | 44.2 |  |  | 5.6 |  |  | 3.4 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 7.3 | 65.4 |  | 17.3 |  | 72.7 | 7.5 | 9.8 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 8.5 | 26.5 |  | 35.5 |  | 41.5 | 8.5 | 20.5 |  |  |  |  |
| Max Q Clear Time ( $\left.\mathrm{g}_{-} \mathrm{c}+11\right)$, s | 2.1 | 2.7 |  | 3.2 |  | 2.8 | 2.4 | 2.8 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 0.2 |  | 0.1 |  | 0.4 | 0.0 | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 13.9 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

2: Mill Street \& Main Street

|  |  |  | $\uparrow$ |  | 4 | $\dagger$ | $>$ | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | * | $\hat{1}$ | \% | $\hat{}$ |  | $\uparrow$ | 「 | \% | $\uparrow$ | 「 |
| Traffic Volume (vph) | 44 | 29 | 6 | 34 | 25 | 79 | 4 | 0 | 48 | 26 |
| Future Volume (vph) | 44 | 29 | 6 | 34 | 25 | 79 | 4 | 6 | 48 | 26 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 16.0 | 43.0 | 27.0 | 27.0 | 33.0 | 33.0 | 33.0 | 14.0 | 47.0 | 47.0 |
| Total Split (\%) | 17.8\% | 47.8\% | 30.0\% | 30.0\% | 36.7\% | 36.7\% | 36.7\% | 15.6\% | 52.2\% | 52.2\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 16.7 | 16.6 | 7.5 | 7.5 |  | 65.4 | 65.4 | 65.3 | 67.9 | 67.9 |
| Actuated g/C Ratio | 0.19 | 0.18 | 0.08 | 0.08 |  | 0.73 | 0.73 | 0.73 | 0.75 | 0.75 |
| v/c Ratio | 0.22 | 0.12 | 0.06 | 0.30 |  | 0.09 | 0.00 | 0.01 | 0.04 | 0.02 |
| Control Delay | 28.9 | 21.7 | 37.8 | 36.6 |  | 9.6 | 0.0 | 5.0 | 4.5 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.9 | 21.7 | 37.8 | 36.6 |  | 9.6 | 0.0 | 5.0 | 4.5 | 0.0 |
| LOS | C | C | D | D |  | A | A | A | A | A |
| Approach Delay |  | 25.5 |  | 36.7 |  | 9.2 |  |  | 3.1 |  |
| Approach LOS |  | C |  | D |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 ( $0 \%$ ), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.30
Intersection Signal Delay: $16.2 \quad$ Intersection LOS: B
Intersection Capacity Utilization 32.1\% ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


|  | $\dagger$ |  |  | 7 |  |  | 4 | 4 | p |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\hat{\beta}$ |  | \% | $\hat{\beta}$ |  |  | $\uparrow$ | 7 | \% | $\uparrow$ | 7 |
| Traffic Volume (veh/h) | 44 | 29 | 9 | 6 | 34 | 9 | 25 | 79 | 4 | 6 | 48 | 26 |
| Future Volume (veh/h) | 44 | 29 | 9 | 6 | 34 |  | 25 | 79 | 4 | 6 | 48 | 26 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 32 | 10 | 7 | 37 | 10 | 27 | 86 | 4 | 7 | 52 | 28 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 221 | 69 | 149 | 72 | 19 | 270 | 834 | 971 | 864 | 1298 | 1100 |
| Arrive On Green | 0.04 | 0.16 | 0.16 | 0.05 | 0.05 | 0.05 | 0.61 | 0.61 | 0.61 | 0.01 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1366 | 427 | 1365 | 1418 | 383 | 359 | 1361 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 48 | 0 | 42 | 7 | 0 | 47 | 113 | 0 | 4 | 7 | 52 | 28 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1793 | 1365 | 0 | 1801 | 1720 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.2 | 0.0 | 1.8 | 0.4 | 0.0 | 2.3 | 0.0 | 0.0 | 0.1 | 0.1 | 0.8 | 0.5 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 1.8 | 0.4 | 0.0 | 2.3 | 2.2 | 0.0 | 0.1 | 0.1 | 0.8 | 0.5 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.21 | 0.24 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 0 | 290 | 149 | 0 | 91 | 1104 | 0 | 971 | 864 | 1298 | 1100 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.14 | 0.05 | 0.00 | 0.52 | 0.10 | 0.00 | 0.00 | 0.01 | 0.04 | 0.03 |
| Avail Cap(c_a), veh/h | 302 | 0 | 727 | 391 | 0 | 410 | 1104 | 0 | 971 | 997 | 1298 | 1100 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.6 | 0.0 | 32.4 | 40.8 | 0.0 | 41.7 | 7.2 | 0.0 | 6.8 | 5.8 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.2 | 0.1 | 0.0 | 4.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 0.8 | 0.2 | 0.0 | 1.1 | 0.9 | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 37.4 | 0.0 | 32.6 | 40.9 | 0.0 | 46.1 | 7.4 | 0.0 | 6.8 | 5.8 | 4.4 | 4.3 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 90 |  |  | 54 |  |  | 117 |  |  | 87 |  |
| Approach Delay, s/veh |  | 35.1 |  |  | 45.5 |  |  | 7.3 |  |  | 4.5 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 7.3 | 61.7 |  | 21.0 |  | 69.0 | 10.0 | 11.0 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 7.5 | 26.5 |  | 36.5 |  | 40.5 | 9.5 | 20.5 |  |  |  |  |
| Max Q Clear Time ( $\left.\mathrm{g}_{-} \mathrm{c}+11\right)$, s | 2.1 | 4.2 |  | 3.8 |  | 2.8 | 4.2 | 4.3 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 0.5 |  | 0.2 |  | 0.3 | 0.0 | 0.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 19.7 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report


Synchro 10 Report
Page 1

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | F |  | \% | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 38 | 58 | 21 | 13 | 43 | 16 | 17 | 116 | 20 | 27 | 92 | 59 |
| Future Volume (veh/h) | 38 | 58 | 21 | 13 | 43 | 16 | 17 | 116 | 20 | 27 | 92 | 59 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 41 | 63 | 23 | 14 | 47 | 17 | 18 | 126 | 22 | 29 | 100 | 64 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 175 | 218 | 80 | 157 | 77 | 28 | 141 | 953 | 932 | 817 | 1288 | 1092 |
| Arrive On Green | 0.04 | 0.17 | 0.17 | 0.06 | 0.06 | 0.06 | 0.59 | 0.59 | 0.59 | 0.03 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1307 | 477 | 1311 | 1311 | 474 | 163 | 1621 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 41 | 0 | 86 | 14 | 0 | 64 | 144 | 0 | 22 | 29 | 100 | 64 |
| Grp Sat Flow(s),veh/h/n | 1781 | , | 1784 | 1311 | 0 | 1785 | 1784 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.8 | 0.9 | 0.0 | 3.1 | 0.0 | 0.0 | 0.5 | 0.5 | 1.6 | 1.2 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.8 | 0.9 | 0.0 | 3.1 | 3.1 | 0.0 | 0.5 | 0.5 | 1.6 | 1.2 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.27 | 0.12 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 175 | 0 | 298 | 157 | 0 | 105 | 1094 | 0 | 932 | 817 | 1288 | 1092 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.29 | 0.09 | 0.00 | 0.61 | 0.13 | 0.00 | 0.02 | 0.04 | 0.08 | 0.06 |
| Avail Cap(c_a), veh/h | 260 | 0 | 684 | 379 | 0 | 407 | 1094 | 0 | 932 | 915 | 1288 | 1092 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 36.1 | 0.0 | 32.8 | 40.3 | 0.0 | 41.3 | 8.3 | 0.0 | 7.7 | 6.1 | 4.6 | 4.5 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 0.5 | 0.2 | 0.0 | 5.6 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ), veh/ln | 0.8 | 0.0 | 1.7 | 0.3 | 0.0 | 1.5 | 1.2 | 0.0 | 0.2 | 0.2 | 0.6 | 0.4 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 36.8 | 0.0 | 33.4 | 40.5 | 0.0 | 46.9 | 8.5 | 0.0 | 7.8 | 6.1 | 4.7 | 4.6 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 127 |  |  | 78 |  |  | 166 |  |  | 193 |  |
| Approach Delay, s/veh |  | 34.5 |  |  | 45.8 |  |  | 8.4 |  |  | 4.9 |  |
| Approach LOS |  | C |  |  | D |  |  | A |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 9.1 | 59.4 | 21.5 | 68.5 | 9.7 | 11.8 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 7.5 | 28.5 | 34.5 | 42.5 | 7.5 | 20.5 |
| Max Q Clear Time (g_c+11), s | 2.5 | 5.1 | 5.8 | 3.6 | 3.9 | 5.1 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.4 | 0.8 | 0.0 | 0.2 |

Intersection Summary
HCM 6th Ctrl Delay 18.2
HCM 6th LOS

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |


|  | 4 | $\rightarrow$ |  | $\checkmark$ |  |  | 4 | 4 | 7 |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{4}$ | $\hat{\square}$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | 「 | ${ }^{4}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 55 | 82 | 30 | 19 | 61 | 22 | 23 | 166 | 29 | 38 | 131 | 85 |
| Future Volume (veh/h) | 55 | 82 | 30 | 19 | 61 | 22 | 23 | 166 | 29 | 38 | 131 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 60 | 89 | 33 | 21 | 66 | 24 | 25 | 180 | 32 | 41 | 142 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 191 | 248 | 92 | 176 | 98 | 36 | 130 | 903 | 883 | 731 | 1244 | 1054 |
| Arrive On Green | 0.04 | 0.19 | 0.19 | 0.08 | 0.08 | 0.08 | 0.56 | 0.56 | 0.56 | 0.04 | 0.66 | 0.66 |
| Sat Flow, veh/h | 1781 | 1301 | 482 | 1269 | 1309 | 476 | 153 | 1620 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 60 | 0 | 122 | 21 | 0 | 90 | 205 | 0 | 32 | 41 | 142 | 92 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1269 | 0 | 1785 | 1774 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 5.3 | 1.4 | 0.0 | 4.4 | 0.0 | 0.0 | 0.8 | 0.8 | 2.5 | 1.9 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 5.3 | 1.4 | 0.0 | 4.4 | 4.9 | 0.0 | 0.8 | 0.8 | 2.5 | 1.9 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.27 | 0.12 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 191 | 0 | 340 | 176 | 0 | 134 | 1033 | 0 | 883 | 731 | 1244 | 1054 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.36 | 0.12 | 0.00 | 0.67 | 0.20 | 0.00 | 0.04 | 0.06 | 0.11 | 0.09 |
| Avail Cap(c_a), veh/h | 263 | 0 | 684 | 369 | 0 | 407 | 1033 | 0 | 883 | 816 | 1244 | 1054 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.91 | 0.91 | 0.91 |
| Uniform Delay (d), s/veh | 34.6 | 0.0 | 31.6 | 39.1 | 0.0 | 40.5 | 9.9 | 0.0 | 9.0 | 7.1 | 5.5 | 5.4 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.6 | 0.3 | 0.0 | 5.7 | 0.4 | 0.0 | 0.1 | 0.0 | 0.2 | 0.1 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.2 | 0.0 | 2.3 | 0.4 | 0.0 | 2.1 | 2.0 | 0.0 | 0.3 | 0.3 | 0.9 | 0.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 35.6 | 0.0 | 32.3 | 39.4 | 0.0 | 46.2 | 10.3 | 0.0 | 9.1 | 7.1 | 5.6 | 5.5 |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 182 |  |  | 111 |  |  | 237 |  |  | 275 |  |
| Approach Delay, s/veh |  | 33.4 |  |  | 44.9 |  |  | 10.2 |  |  | 5.8 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 9.7 | 56.6 |  | 23.7 |  | 66.3 | 10.4 | 13.3 |  |  |  |  |
| Change Period ( $Y+\mathrm{Rc}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 7.5 | 28.5 |  | 34.5 |  | 42.5 | 7.5 | 20.5 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 2.8 | 6.9 |  | 7.3 |  | 4.5 | 4.7 | 6.4 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.2 |  | 0.6 |  | 1.1 | 0.0 | 0.4 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 18.7 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report

|  | $\rangle$ |  | $\dagger$ |  | 4 | $\uparrow$ | $p$ | $\checkmark$ | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 7 | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | 4 | 「 |
| Traffic Volume (vph) | 9 | 11 | 1 | 7 | 26 | 16 | 5 | 7 | 63 | 17 |
| Future Volume (vph) | 9 | 11 | 1 | 7 | 26 | 16 | 5 | 7 | 63 | 17 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 16.0 | 43.0 | 27.0 | 27.0 | 31.0 | 31.0 | 31.0 | 16.0 | 47.0 | 47.0 |
| Total Split (\%) | 17.8\% | 47.8\% | 30.0\% | 30.0\% | 34.4\% | 34.4\% | 34.4\% | 17.8\% | 52.2\% | 52.2\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 9.0 | 9.1 | 6.3 | 6.3 |  | 76.6 | 76.6 | 75.2 | 79.1 | 79.1 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.85 | 0.85 | 0.84 | 0.88 | 0.88 |
| v/c Ratio | 0.07 | 0.15 | 0.01 | 0.14 |  | 0.03 | 0.00 | 0.01 | 0.04 | 0.01 |
| Control Delay | 33.2 | 21.9 | 38.0 | 28.6 |  | 6.2 | 0.0 | 2.9 | 2.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.2 | 21.9 | 38.0 | 28.6 |  | 6.2 | 0.0 | 2.9 | 2.2 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 24.9 |  | 29.1 |  | 5.6 |  |  | 1.9 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.15
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 28.7\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
Page 1

|  | $\rangle$ | $\rightarrow$ |  | 7 |  |  |  | $\uparrow$ |  | $\downarrow$ | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\hat{\dagger}$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 9 | 11 | 15 | 1 | 7 | 9 | 26 | 16 | 5 | 7 | 63 | 17 |
| Future Volume (veh/h) | 9 | 11 | 15 | 1 | 7 | 9 | 26 | 16 | 5 | 7 | 63 | 17 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 10 | 12 | 16 | 1 | 8 | 10 | 28 | 17 | 5 | 8 | 68 | 18 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | , | , | , | 2 | 2 | 2 | 2 | , | , | 2 | 2 |
| Cap, veh/h | 141 | 89 | 119 | 133 | 29 | 36 | 651 | 381 | 1031 | 990 | 1370 | 1161 |
| Arrive On Green | 0.01 | 0.12 | 0.12 | 0.04 | 0.04 | 0.04 | 0.65 | 0.65 | 0.65 | 0.01 | 0.73 | 0.73 |
| Sat Flow, veh/h | 1781 | 727 | 969 | 1382 | 756 | 945 | 901 | 586 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 10 | 0 | 28 | 1 | 0 | 18 | 45 | 0 | 5 | 8 | 68 | 18 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1696 | 1382 | 0 | 1700 | 1486 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.5 | 0.0 | 1.3 | 0.1 | 0.0 | 0.9 | 0.0 | 0.0 | 0.1 | 0.1 | 0.9 | 0.3 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 1.3 | 0.1 | 0.0 | 0.9 | 0.8 | 0.0 | 0.1 | 0.1 | 0.9 | 0.3 |
| Prop In Lane | 1.00 |  | 0.57 | 1.00 |  | 0.56 | 0.62 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 141 | 0 | 208 | 133 | 0 | 65 | 1032 | 0 | 1031 | 990 | 1370 | 1161 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.13 | 0.01 | 0.00 | 0.28 | 0.04 | 0.00 | 0.00 | 0.01 | 0.05 | 0.02 |
| Avail Cap(c_a), veh/h | 307 | 0 | 688 | 395 | 0 | 387 | 1032 | 0 | 1031 | 1160 | 1370 | 1161 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.9 | 0.0 | 35.2 | 41.6 | 0.0 | 42.1 | 5.6 | 0.0 | 5.5 | 4.6 | 3.3 | 3.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 | 2.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.2 | 0.0 | 0.6 | 0.0 | 0.0 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 39.2 | 0.0 | 35.5 | 41.7 | 0.0 | 44.3 | 5.7 | 0.0 | 5.5 | 4.6 | 3.4 | 3.3 |
| LnGrp LOS | D | A | D | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 38 |  |  | 19 |  |  | 50 |  |  | 94 |  |
| Approach Delay, s/veh |  | 36.5 |  |  | 44.2 |  |  | 5.7 |  |  | 3.5 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 7.4 | 65.0 |  | 17.6 |  | 72.4 | 7.6 | 10.0 |  |  |  |  |
| Change Period ( $Y+\mathrm{Rc}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 9.5 | 24.5 |  | 36.5 |  | 40.5 | 9.5 | 20.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.1 | 2.8 |  | 3.3 |  | 2.9 | 2.5 | 2.9 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 0.2 |  | 0.1 |  | 0.4 | 0.0 | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 14.1 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |


|  | $\rangle$ |  | 7 |  | 4 | 4 | P | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\hat{\beta}$ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | 4 | 「 |
| Traffic Volume (vph) | 48 | 32 | 7 | 37 | 27 | 86 | 4 | 7 | 52 | 28 |
| Future Volume (vph) | 48 | 32 | 7 | 37 | 27 | 86 | 4 | 7 | 52 | 28 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 15.0 | 42.0 | 27.0 | 27.0 | 34.0 | 34.0 | 34.0 | 14.0 | 48.0 | 48.0 |
| Total Split (\%) | 16.7\% | 46.7\% | 30.0\% | 30.0\% | 37.8\% | 37.8\% | 37.8\% | 15.6\% | 53.3\% | 53.3\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 16.6 | 16.4 | 7.6 | 7.6 |  | 65.5 | 65.5 | 65.5 | 68.1 | 68.1 |
| Actuated g/C Ratio | 0.18 | 0.18 | 0.08 | 0.08 |  | 0.73 | 0.73 | 0.73 | 0.76 | 0.76 |
| v/c Ratio | 0.25 | 0.14 | 0.07 | 0.31 |  | 0.10 | 0.00 | 0.01 | 0.04 | 0.02 |
| Control Delay | 29.6 | 22.0 | 37.9 | 36.7 |  | 9.4 | 0.0 | 4.6 | 4.0 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.6 | 22.0 | 37.9 | 36.7 |  | 9.4 | 0.0 | 4.6 | 4.0 | 0.0 |
| LOS | C | C | D | D |  | A | A | A | A | A |
| Approach Delay |  | 26.1 |  | 36.8 |  | 9.1 |  |  | 2.8 |  |
| Approach LOS |  | C |  | D |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.31
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 32.8\% ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
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| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | ¢ |  | \% | $\uparrow$ |  |  | $\uparrow$ | 「 | * | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 48 | 32 | 10 | 7 | 37 | 10 | 27 | 86 | 4 | 7 | 52 | 28 |
| Future Volume (veh/h) | 48 | 32 | 10 | 7 | 37 | 10 | 27 | 86 | 4 | 7 | 52 | 28 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 52 | 35 | 11 | 8 | 40 | 11 | 29 | 93 | 4 | 8 | 57 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 184 | 224 | 70 | 150 | 73 | 20 | 267 | 829 | 965 | 853 | 1293 | 1096 |
| Arrive On Green | 0.04 | 0.16 | 0.16 | 0.05 | 0.05 | 0.05 | 0.61 | 0.61 | 0.61 | 0.01 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1364 | 429 | 1360 | 1412 | 388 | 356 | 1362 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 52 | 0 | 46 | 8 | 0 | 51 | 122 | 0 | 4 | 8 | 57 | 30 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1793 | 1360 | 0 | 1800 | 1718 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.4 | 0.0 | 2.0 | 0.5 | 0.0 | 2.5 | 0.0 | 0.0 | 0.1 | 0.1 | 0.9 | 0.5 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 2.0 | 0.5 | 0.0 | 2.5 | 2.5 | 0.0 | 0.1 | 0.1 | 0.9 | 0.5 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.22 | 0.24 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 184 | 0 | 294 | 150 | 0 | 93 | 1096 | 0 | 965 | 853 | 1293 | 1096 |
| V/C Ratio(X) | 0.28 | 0.00 | 0.16 | 0.05 | 0.00 | 0.55 | 0.11 | 0.00 | 0.00 | 0.01 | 0.04 | 0.03 |
| Avail Cap(c_a), veh/h | 281 | 0 | 707 | 390 | 0 | 410 | 1096 | 0 | 965 | 984 | 1293 | 1096 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.5 | 0.0 | 32.3 | 40.7 | 0.0 | 41.7 | 7.4 | 0.0 | 6.9 | 5.9 | 4.4 | 4.4 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.2 | 0.1 | 0.0 | 5.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.1 | 0.0 | 0.9 | 0.2 | 0.0 | 1.2 | 1.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 37.3 | 0.0 | 32.5 | 40.9 | 0.0 | 46.7 | 7.6 | 0.0 | 6.9 | 5.9 | 4.5 | 4.4 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 98 |  |  | 59 |  |  | 126 |  |  | 95 |  |
| Approach Delay, s/veh |  | 35.1 |  |  | 45.9 |  |  | 7.5 |  |  | 4.6 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 7.4 | 61.3 | 21.3 | 68.7 | 10.1 | 11.1 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 7.5 | 27.5 | 35.5 | 41.5 | 8.5 | 20.5 |
| Max Q Clear Time (g_c+11), s | 2.1 | 4.5 | 4.0 | 2.9 | 4.4 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.2 | 0.4 | 0.0 | 0.2 |

Intersection Summary
HCM 6th Ctrl Delay 19.9
HCM 6th LOS


Synchro 10 Report
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|  | $\stackrel{ }{*}$ |  |  | $\dagger$ |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | F | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 139 | 24 | 32 | 110 | 71 |
| Future Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 139 | 24 | 32 | 110 | 71 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 75 | 27 | 17 | 55 | 21 | 22 | 151 | 26 | 35 | 120 | 77 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 234 | 84 | 166 | 86 | 33 | 139 | 923 | 908 | 777 | 1267 | 1074 |
| Arrive On Green | 0.04 | 0.18 | 0.18 | 0.07 | 0.07 | 0.07 | 0.57 | 0.57 | 0.57 | 0.03 | 0.68 | 0.68 |
| Sat Flow, veh/h | 1781 | 1313 | 473 | 1293 | 1289 | 492 | 164 | 1611 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 49 | 0 | 102 | 17 | 0 | 76 | 173 | 0 | 26 | 35 | 120 | 77 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1785 | 1293 | 0 | 1782 | 1775 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 0.0 | 0.0 | 0.6 | 0.7 | 2.0 | 1.5 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 3.9 | 0.0 | 0.6 | 0.7 | 2.0 | 1.5 |
| Prop In Lane | 1.00 |  | 0.26 | 1.00 |  | 0.28 | 0.13 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 0 | 318 | 166 | 0 | 119 | 1062 | 0 | 908 | 777 | 1267 | 1074 |
| V/C Ratio(X) | 0.27 | 0.00 | 0.32 | 0.10 | 0.00 | 0.64 | 0.16 | 0.00 | 0.03 | 0.05 | 0.09 | 0.07 |
| Avail Cap(c_a), veh/h | 262 | 0 | 684 | 374 | 0 | 406 | 1062 | 0 | 908 | 868 | 1267 | 1074 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.95 | 0.95 | 0.95 |
| Uniform Delay (d), s/veh | 35.4 | 0.0 | 32.2 | 39.7 | 0.0 | 40.9 | 9.0 | 0.0 | 8.3 | 6.6 | 5.0 | 4.9 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.6 | 0.3 | 0.0 | 5.6 | 0.3 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 2.0 | 0.4 | 0.0 | 1.8 | 1.6 | 0.0 | 0.2 | 0.2 | 0.7 | 0.5 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 36.1 | 0.0 | 32.8 | 40.0 | 0.0 | 46.6 | 9.4 | 0.0 | 8.4 | 6.6 | 5.1 | 5.0 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 151 |  |  | 93 |  |  | 199 |  |  | 232 |  |
| Approach Delay, s/veh |  | 33.9 |  |  | 45.4 |  |  | 9.3 |  |  | 5.3 |  |
| Approach LOS |  | C |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 9.4 | 58.1 |  | 22.5 |  | 67.5 | 10.0 | 12.5 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 7.5 | 28.5 |  | 34.5 |  | 42.5 | 7.5 | 20.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.7 | 5.9 |  | 6.5 |  | 4.0 | 4.2 | 5.7 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.0 |  | 0.5 |  | 1.0 | 0.0 | 0.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 18.4 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\hat{+}$ |  | ${ }^{7}$ | $\hat{6}$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 60 | 90 | 33 | 21 | 67 | 24 | 25 | 181 | 32 | 42 | 143 | 93 |
| Future Volume (veh/h) | 60 | 90 | 33 | 21 | 67 | 24 | 25 | 181 | 32 | 42 | 143 | 93 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 98 | 36 | 23 | 73 | 26 | 27 | 197 | 35 | 46 | 155 | 101 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 194 | 257 | 95 | 181 | 106 | 38 | 127 | 889 | 869 | 706 | 1231 | 1043 |
| Arrive On Green | 0.04 | 0.20 | 0.20 | 0.08 | 0.08 | 0.08 | 0.55 | 0.55 | 0.55 | 0.04 | 0.66 | 0.66 |
| Sat Flow, veh/h | 1781 | 1305 | 479 | 1256 | 1317 | 469 | 150 | 1621 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 65 | 0 | 134 | 23 | 0 | 99 | 224 | 0 | 35 | 46 | 155 | 101 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1256 | 0 | 1786 | 1771 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.9 | 0.0 | 5.9 | 1.5 | 0.0 | 4.9 | 0.0 | 0.0 | 0.9 | 0.9 | 2.8 | 2.1 |
| Cycle Q Clear(g_c), s | 2.9 | 0.0 | 5.9 | 1.5 | 0.0 | 4.9 | 5.5 | 0.0 | 0.9 | 0.9 | 2.8 | 2.1 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.12 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 194 | 0 | 352 | 181 | 0 | 144 | 1015 | 0 | 869 | 706 | 1231 | 1043 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.38 | 0.13 | 0.00 | 0.69 | 0.22 | 0.00 | 0.04 | 0.07 | 0.13 | 0.10 |
| Avail Cap(c_a), veh/h | 263 | 0 | 664 | 352 | 0 | 387 | 1015 | 0 | 869 | 767 | 1231 | 1043 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.88 | 0.88 | 0.88 |
| Uniform Delay (d), s/veh | 34.2 | 0.0 | 31.3 | 38.8 | 0.0 | 40.3 | 10.4 | 0.0 | 9.4 | 7.4 | 5.7 | 5.6 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 0.7 | 0.3 | 0.0 | 5.8 | 0.5 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.3 | 0.0 | 2.6 | 0.5 | 0.0 | 2.3 | 2.3 | 0.0 | 0.3 | 0.3 | 1.0 | 0.7 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 35.2 | 0.0 | 32.0 | 39.1 | 0.0 | 46.0 | 10.9 | 0.0 | 9.5 | 7.5 | 5.9 | 5.8 |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 199 |  |  | 122 |  |  | 259 |  |  | 302 |  |
| Approach Delay, s/veh |  | 33.1 |  |  | 44.7 |  |  | 10.7 |  |  | 6.1 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 9.9 | 55.8 | 24.3 | 65.7 | 10.5 | 13.7 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 6.5 | 30.5 | 33.5 | 43.5 | 7.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 7.5 | 7.9 | 4.8 | 4.9 | 6.9 |
| Green Ext Time (p_c), s | 0.0 | 1.4 | 0.7 | 1.3 | 0.0 | 0.4 |

Intersection Summary
HCM 6th Ctrl Delay 18.9
HCM 6th LOS

|  | 4 |  |  |  | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | F |  | $\uparrow$ | 「 | ${ }^{1}$ | $\uparrow$ | 「 |
| Traffic Volume (vph) |  | 11 | , | 7 | 26 | 94 | 5 | 7 | 155 | 17 |
| Future Volume (vph) | 9 | 11 | 1 | 7 | 26 | 94 | 5 | 7 | 155 | 17 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 15.0 | 41.0 | 26.0 | 26.0 | 34.0 | 34.0 | 34.0 | 15.0 | 49.0 | 49.0 |
| Total Split (\%) | 16.7\% | 45.6\% | 28.9\% | 28.9\% | 37.8\% | 37.8\% | 37.8\% | 16.7\% | 54.4\% | 54.4\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 9.0 | 9.1 | 6.3 | 6.3 |  | 76.6 | 76.6 | 75.2 | 79.1 | 79.1 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.85 | 0.85 | 0.84 | 0.88 | 0.88 |
| v/c Ratio | 0.07 | 0.15 | 0.01 | 0.14 |  | 0.09 | 0.00 | 0.01 | 0.10 | 0.01 |
| Control Delay | 33.2 | 21.9 | 38.0 | 28.6 |  | 5.5 | 0.0 | 1.6 | 1.1 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.2 | 21.9 | 38.0 | 28.6 |  | 5.5 | 0.0 | 1.6 | 1.1 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 24.9 |  | 29.1 |  | 5.3 |  |  | 1.0 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 ( $0 \%$ ), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.15
Intersection Signal Delay: 6.2
Intersection LOS: A
Intersection Capacity Utilization 38.0\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
Page 1


Synchro 10 Report

2: Mill Street \& Main Street

|  |  |  | 7 |  | 4 | 4 |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | $\hat{\beta}$ | \% | $\uparrow$ |  | $\uparrow$ | F | \% | $\uparrow$ | F |
| Traffic Volume (vph) | 48 | 32 | 7 | 37 | 27 | 170 | 4 | 7 | 143 | 28 |
| Future Volume (vph) | 48 | 32 | 7 | 37 | 27 | 170 | 4 | 7 | 143 | 28 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 14.0 | 40.0 | 26.0 | 26.0 | 37.0 | 37.0 | 37.0 | 13.0 | 50.0 | 50.0 |
| Total Split (\%) | 15.6\% | 44.4\% | 28.9\% | 28.9\% | 41.1\% | 41.1\% | 41.1\% | 14.4\% | 55.6\% | 55.6\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 16.1 | 15.9 | 7.6 | 7.6 |  | 66.0 | 66.0 | 66.0 | 68.6 | 68.6 |
| Actuated g/C Ratio | 0.18 | 0.18 | 0.08 | 0.08 |  | 0.73 | 0.73 | 0.73 | 0.76 | 0.76 |
| v/c Ratio | 0.26 | 0.14 | 0.07 | 0.31 |  | 0.16 | 0.00 | 0.01 | 0.11 | 0.02 |
| Control Delay | 30.6 | 22.6 | 37.9 | 36.7 |  | 9.1 | 0.0 | 2.7 | 2.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Delay | 30.6 | 22.6 | 37.9 | 36.7 |  | 9.1 | 0.0 | 2.7 | 2.4 | 0.0 |
| LOS | C | C | D | D |  | A | A | A | A | A |
| Approach Delay |  | 26.9 |  | 36.8 |  | 8.9 |  |  | 2.0 |  |
| Approach LOS |  | C |  | D |  | A |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.31 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 12.6 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 43.5\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 2: Mill Street \& Main Street



Synchro 10 Report


|  | $\stackrel{ }{*}$ |  |  | $\dagger$ |  |  | 4 | 4 |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{*}$ | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | F | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 42 | 63 | 23 | 14 | 47 | 17 | 19 | 221 | 22 | 30 | 296 | 65 |
| Future Volume (veh/h) | 42 | 63 | 23 | 14 | 47 | 17 | 19 | 221 | 22 | 30 | 296 | 65 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 46 | 68 | 25 | 15 | 51 | 18 | 21 | 240 | 24 | 33 | 322 | 71 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | , | 2 | 2 | 2 |
| Cap, veh/h | 180 | 196 | 72 | 161 | 82 | 29 | 104 | 1135 | 1060 | 822 | 1403 | 1189 |
| Arrive On Green | 0.04 | 0.15 | 0.15 | 0.06 | 0.06 | 0.06 | 0.67 | 0.67 | 0.67 | 0.03 | 0.75 | 0.75 |
| Sat Flow, veh/h | 1781 | 1304 | 480 | 1303 | 1320 | 466 | 91 | 1698 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 46 | 0 | 93 | 15 | 0 | 69 | 261 | 0 | 24 | 33 | 322 | 71 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1303 | 0 | 1786 | 1789 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.1 | 0.0 | 4.2 | 1.0 | 0.0 | 3.4 | 0.0 | 0.0 | 0.5 | 0.5 | 4.7 | 1.1 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 4.2 | 1.0 | 0.0 | 3.4 | 4.8 | 0.0 | 0.5 | 0.5 | 4.7 | 1.1 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.08 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 180 | 0 | 268 | 161 | 0 | 111 | 1240 | 0 | 1060 | 822 | 1403 | 1189 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.35 | 0.09 | 0.00 | 0.62 | 0.21 | 0.00 | 0.02 | 0.04 | 0.23 | 0.06 |
| Avail Cap(c_a), veh/h | 241 | 0 | 624 | 377 | 0 | 407 | 1240 | 0 | 1060 | 895 | 1403 | 1189 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.82 | 0.82 | 0.82 |
| Uniform Delay (d), s/veh | 35.8 | 0.0 | 34.3 | 40.0 | 0.0 | 41.2 | 5.7 | 0.0 | 5.0 | 3.8 | 3.4 | 2.9 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 0.8 | 0.2 | 0.0 | 5.6 | 0.4 | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.9 | 0.0 | 1.9 | 0.3 | 0.0 | 1.6 | 1.8 | 0.0 | 0.1 | 0.1 | 1.4 | 0.3 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 36.5 | 0.0 | 35.1 | 40.3 | 0.0 | 46.8 | 6.1 | 0.0 | 5.1 | 3.8 | 3.7 | 3.0 |
| LnGrp LOS | D | A | D | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 139 |  |  | 84 |  |  | 285 |  |  | 426 |  |
| Approach Delay, s/veh |  | 35.5 |  |  | 45.6 |  |  | 6.0 |  |  | 3.6 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 7.3 | 64.7 |  | 18.0 |  | 72.0 | 7.9 | 10.1 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 4.5 | 4.5 |  | 4.5 |  | 4.5 | 4.5 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 6.5 | 38.5 |  | 31.5 |  | 49.5 | 6.5 | 20.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.5 | 6.8 |  | 6.2 |  | 6.7 | 4.1 | 5.4 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.7 |  | 0.4 |  | 2.4 | 0.0 | 0.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 12.9 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report

|  |  |  |  |  | 4 | 4 |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | 4 | 「 |
| Traffic Volume (vph) | 60 | 90 | 21 | 67 | 25 | 271 | 32 | 42 | 339 | 93 |
| Future Volume (vph) | 60 | 90 | 21 | 67 | 25 | 271 | 32 | 42 | 339 | 93 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 12.0 | 37.0 | 25.0 | 25.0 | 41.0 | 41.0 | 41.0 | 12.0 | 53.0 | 53.0 |
| Total Split (\%) | 13.3\% | 41.1\% | 27.8\% | 27.8\% | 45.6\% | 45.6\% | 45.6\% | 13.3\% | 58.9\% | 58.9\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 19.2 | 19.2 | 9.6 | 9.6 |  | 49.7 | 49.7 | 57.8 | 57.8 | 57.8 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.11 | 0.11 |  | 0.55 | 0.55 | 0.64 | 0.64 | 0.64 |
| $\mathrm{v} / \mathrm{c}$ Ratio | 0.29 | 0.34 | 0.17 | 0.48 |  | 0.33 | 0.04 | 0.07 | 0.31 | 0.10 |
| Control Delay | 29.3 | 25.3 | 38.1 | 37.8 |  | 15.6 | 0.1 | 2.2 | 4.1 | 1.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 1.7 | 0.0 |
| Total Delay | 29.3 | 25.3 | 38.1 | 37.8 |  | 15.6 | 0.1 | 2.2 | 5.8 | 1.1 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 26.6 |  | 37.9 |  | 14.0 |  |  | 4.6 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.48 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 14.5 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 62.2\% |  |  |  | ICU Level of Service B |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 7: Mill Street \& Main Street


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\hat{}$ |  | ${ }^{7}$ | $\hat{F}$ |  |  | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 60 | 90 | 33 | 21 | 67 | 24 | 25 | 271 | 32 | 42 | 339 | 93 |
| Future Volume (veh/h) | 60 | 90 | 33 | 21 | 67 | 24 | 25 | 271 | 32 | 42 | 339 | 93 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 98 | 36 | 23 | 73 | 26 | 27 | 295 | 35 | 46 | 368 | 101 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 194 | 257 | 94 | 181 | 106 | 38 | 92 | 928 | 869 | 625 | 1232 | 1044 |
| Arrive On Green | 0.04 | 0.20 | 0.20 | 0.08 | 0.08 | 0.08 | 0.55 | 0.55 | 0.55 | 0.04 | 0.66 | 0.66 |
| Sat Flow, veh/h | 1781 | 1305 | 479 | 1256 | 1317 | 469 | 88 | 1693 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 65 | 0 | 134 | 23 | 0 | 99 | 322 | 0 | 35 | 46 | 368 | 101 |
| Grp Sat Flow( s , veh/h/ln | 1781 | 0 | 1784 | 1256 | 0 | 1786 | 1780 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.9 | 0.0 | 5.9 | 1.5 | 0.0 | 4.9 | 0.0 | 0.0 | 0.9 | 0.9 | 7.5 | 2.1 |
| Cycle Q Clear(g_c), s | 2.9 | 0.0 | 5.9 | 1.5 | 0.0 | 4.9 | 8.5 | 0.0 | 0.9 | 0.9 | 7.5 | 2.1 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.08 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap (c), veh/h | 194 | 0 | 352 | 181 | 0 | 143 | 1020 | 0 | 869 | 625 | 1232 | 1044 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.38 | 0.13 | 0.00 | 0.69 | 0.32 | 0.00 | 0.04 | 0.07 | 0.30 | 0.10 |
| Avail Cap(c_a), veh/h | 223 | 0 | 605 | 338 | 0 | 367 | 1020 | 0 | 869 | 666 | 1232 | 1044 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.60 | 0.60 | 0.60 |
| Uniform Delay (d), s/veh | 34.3 | 0.0 | 31.4 | 38.8 | 0.0 | 40.3 | 11.1 | 0.0 | 9.4 | 7.7 | 6.5 | 5.6 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 0.7 | 0.3 | 0.0 | 5.8 | 0.8 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 1.3 | 0.0 | 2.6 | 0.5 | 0.0 | 2.3 | 3.5 | 0.0 | 0.3 | 0.3 | 2.7 | 0.6 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 35.3 | 0.0 | 32.0 | 39.1 | 0.0 | 46.1 | 11.9 | 0.0 | 9.5 | 7.7 | 6.9 | 5.7 |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 199 |  |  | 122 |  |  | 357 |  |  | 515 |  |
| Approach Delay, s/veh |  | 33.1 |  |  | 44.8 |  |  | 11.7 |  |  | 6.7 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 9.9 | 55.8 | 24.2 | 65.8 | 10.5 | 13.7 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 5.5 | 34.5 | 30.5 | 46.5 | 5.5 | 18.5 |
| Max Q Clear Time (g_c+11), s | 2.9 | 10.5 | 7.9 | 9.5 | 4.9 | 6.9 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.7 | 2.8 | 0.0 | 0.4 |

Intersection Summary
HCM 6th Ctrl Delay
16.5

HCM 6th LOS

|  | 4 |  |  |  | 4 | $\uparrow$ | 7 |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\hat{\beta}$ | \% | F |  | $\uparrow$ | 「 | ${ }^{1}$ | $\uparrow$ | 「 |
| Traffic Volume (vph) | 10 | 12 | , | 7 | 29 | 18 | 6 | 7 | 69 | 19 |
| Future Volume (vph) | 10 | 12 | 1 | 7 | 29 | 18 | 6 | 7 | 69 | 19 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 16.0 | 43.0 | 27.0 | 27.0 | 31.0 | 31.0 | 31.0 | 16.0 | 47.0 | 47.0 |
| Total Split (\%) | 17.8\% | 47.8\% | 30.0\% | 30.0\% | 34.4\% | 34.4\% | 34.4\% | 17.8\% | 52.2\% | 52.2\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 9.1 | 9.1 | 6.4 | 6.4 |  | 72.8 | 72.8 | 72.7 | 75.3 | 75.3 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.81 | 0.81 | 0.81 | 0.84 | 0.84 |
| v/c Ratio | 0.08 | 0.16 | 0.01 | 0.15 |  | 0.04 | 0.01 | 0.01 | 0.05 | 0.02 |
| Control Delay | 33.4 | 21.3 | 38.0 | 27.8 |  | 6.6 | 0.0 | 3.0 | 2.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.4 | 21.3 | 38.0 | 27.8 |  | 6.6 | 0.0 | 3.0 | 2.4 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 24.5 |  | 28.3 |  | 5.8 |  |  | 2.0 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.16
Intersection Signal Delay: 9.5
Intersection LOS: A
Intersection Capacity Utilization 28.7\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
Page 1

|  | 4 |  |  | 7 |  |  | 4 | 4 | 7 | - | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | F | \% | 个 | 7 |
| Traffic Volume (veh/h) | 10 | 12 | 17 | 1 | 7 | 10 | 29 | 18 |  | 7 | 69 | 19 |
| Future Volume (veh/h) | 10 | 12 | 17 | 1 | 7 | 10 | 29 | 18 | 6 | 7 | 69 | 19 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 13 | 18 | 1 | 8 | 11 | 32 | 20 | 7 | 8 | 75 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 144 | 89 | 124 | 135 | 29 | 39 | 639 | 385 | 1027 | 980 | 1365 | 1157 |
| Arrive On Green | 0.01 | 0.13 | 0.13 | 0.04 | 0.04 | 0.04 | 0.65 | 0.65 | 0.65 | 0.01 | 0.73 | 0.73 |
| Sat Flow, veh/h | 1781 | 710 | 983 | 1378 | 713 | 981 | 887 | 594 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 11 | 0 | 31 | 1 | 0 | 19 | 52 | 0 | 7 | 8 | 75 | 21 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1693 | 1378 | 0 | 1694 | 1481 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.5 | 0.0 | 1.5 | 0.1 | 0.0 | 1.0 | 0.0 | 0.0 | 0.1 | 0.1 | 1.0 | 0.3 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 1.5 | 0.1 | 0.0 | 1.0 | 0.9 | 0.0 | 0.1 | 0.1 | 1.0 | 0.3 |
| Prop In Lane | 1.00 |  | 0.58 | 1.00 |  | 0.58 | 0.62 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 144 | 0 | 213 | 135 | 0 | 68 | 1024 | 0 | 1027 | 980 | 1365 | 1157 |
| V/C Ratio(X) | 0.08 | 0.00 | 0.15 | 0.01 | 0.00 | 0.28 | 0.05 | 0.00 | 0.01 | 0.01 | 0.05 | 0.02 |
| Avail Cap(c_a), veh/h | 309 | 0 | 687 | 394 | 0 | 386 | 1024 | 0 | 1027 | 1150 | 1365 | 1157 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.7 | 0.0 | 35.0 | 41.5 | 0.0 | 41.9 | 5.7 | 0.0 | 5.6 | 4.7 | 3.4 | 3.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 | 2.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.2 | 0.0 | 0.6 | 0.0 | 0.0 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 39.0 | 0.0 | 35.4 | 41.5 | 0.0 | 44.2 | 5.8 | 0.0 | 5.6 | 4.7 | 3.5 | 3.4 |
| LnGrp LOS | D | A | D | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 42 |  |  | 20 |  |  | 59 |  |  | 104 |  |
| Approach Delay, s/veh |  | 36.3 |  |  | 44.0 |  |  | 5.8 |  |  | 3.6 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 7.4 | 64.8 |  | 17.8 |  | 72.2 | 7.7 | 10.1 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 9.5 | 24.5 |  | 36.5 |  | 40.5 | 9.5 | 20.5 |  |  |  |  |
| Max Q Clear Time ( $\left.\mathrm{g}_{-} \mathrm{c}+11\right)$, s | 2.1 | 2.9 |  | 3.5 |  | 3.0 | 2.5 | 3.0 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 0.2 |  | 0.1 |  | 0.5 | 0.0 | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 13.9 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |


|  |  |  |  |  | 4 | $\dagger$ |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | F | \% | ¢ | 「 |
| Traffic Volume (vph) | 53 | 35 | 7 | 41 | 30 | 94 | 5 | 7 | 57 | 31 |
| Future Volume (vph) | 53 | 35 | 7 | 41 | 30 | 94 | 5 | 7 | 57 | 31 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 16.0 | 43.0 | 27.0 | 27.0 | 33.0 | 33.0 | 33.0 | 14.0 | 47.0 | 47.0 |
| Total Split (\%) | 17.8\% | 47.8\% | 30.0\% | 30.0\% | 36.7\% | 36.7\% | 36.7\% | 15.6\% | 52.2\% | 52.2\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 19.9 | 19.9 | 7.8 | 7.8 |  | 58.3 | 58.3 | 59.5 | 60.8 | 60.8 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.09 | 0.09 |  | 0.65 | 0.65 | 0.66 | 0.68 | 0.68 |
| v/c Ratio | 0.23 | 0.12 | 0.07 | 0.34 |  | 0.12 | 0.00 | 0.01 | 0.05 | 0.03 |
| Control Delay | 27.3 | 20.5 | 37.6 | 37.1 |  | 10.9 | 0.0 | 5.3 | 5.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.3 | 20.5 | 37.6 | 37.1 |  | 10.9 | 0.0 | 5.3 | 5.1 | 0.1 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 24.2 |  | 37.1 |  | 10.5 |  |  | 3.5 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.34 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 16.4 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 33.7\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 2: Mill Street \& Main Street


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | F |  | \% | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 94 | 5 | 7 | 57 | 31 |
| Future Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 94 | 5 | 7 | 57 | 31 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 38 | 12 | 8 | 45 | 12 | 33 | 102 | 5 | 8 | 62 | 34 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 185 | 228 | 72 | 151 | 75 | 20 | 272 | 814 | 961 | 838 | 1288 | 1091 |
| Arrive On Green | 0.04 | 0.17 | 0.17 | 0.05 | 0.05 | 0.05 | 0.61 | 0.61 | 0.61 | 0.01 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1363 | 430 | 1355 | 1423 | 379 | 366 | 1343 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 58 | 0 | 50 | 8 | 0 | 57 | 135 | 0 | 5 | 8 | 62 | 34 |
| Grp Sat Flow(s),veh/h/n | 1781 | , | 1793 | 1355 | 0 | 1802 | 1710 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 0.0 | 0.0 | 0.1 | 0.1 | 1.0 | 0.6 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 2.8 | 0.0 | 0.1 | 0.1 | 1.0 | 0.6 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.21 | 0.24 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 185 | 0 | 300 | 151 | 0 | 94 | 1086 | 0 | 961 | 838 | 1288 | 1091 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.17 | 0.05 | 0.00 | 0.60 | 0.12 | 0.00 | 0.01 | 0.01 | 0.05 | 0.03 |
| Avail Cap(c_a), veh/h | 297 | 0 | 727 | 389 | 0 | 410 | 1086 | 0 | 961 | 969 | 1288 | 1091 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.4 | 0.0 | 32.1 | 40.6 | 0.0 | 41.7 | 7.5 | 0.0 | 7.0 | 6.0 | 4.5 | 4.5 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 0.3 | 0.1 | 0.0 | 6.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ), veh/ln | 1.2 | 0.0 | 0.9 | 0.2 | 0.0 | 1.4 | 1.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 37.3 | 0.0 | 32.4 | 40.8 | 0.0 | 47.8 | 7.8 | 0.0 | 7.0 | 6.0 | 4.6 | 4.5 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 108 |  |  | 65 |  |  | 140 |  |  | 104 |  |
| Approach Delay, s/veh |  | 35.0 |  |  | 46.9 |  |  | 7.7 |  |  | 4.7 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 7.4 | 61.0 | 21.5 | 68.5 | 10.3 | 11.2 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 7.5 | 26.5 | 36.5 | 40.5 | 9.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 2.1 | 4.8 | 4.2 | 3.0 | 4.7 | 4.8 |
| Green Ext Time (p_c), s | 0.0 | 0.7 | 0.2 | 0.4 | 0.0 | 0.2 |

## Intersection Summary

HCM 6th Ctrl Delay 20.2

HCM 6th LOS


|  | $\stackrel{ }{*}$ |  |  | $\dagger$ |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | F | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 139 | 24 | 32 | 110 | 71 |
| Future Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 139 | 24 | 32 | 110 | 71 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 75 | 27 | 17 | 55 | 21 | 22 | 151 | 26 | 35 | 120 | 77 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 234 | 84 | 166 | 86 | 33 | 139 | 923 | 908 | 777 | 1267 | 1074 |
| Arrive On Green | 0.04 | 0.18 | 0.18 | 0.07 | 0.07 | 0.07 | 0.57 | 0.57 | 0.57 | 0.03 | 0.68 | 0.68 |
| Sat Flow, veh/h | 1781 | 1313 | 473 | 1293 | 1289 | 492 | 164 | 1611 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 49 | 0 | 102 | 17 | 0 | 76 | 173 | 0 | 26 | 35 | 120 | 77 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1785 | 1293 | 0 | 1782 | 1775 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 0.0 | 0.0 | 0.6 | 0.7 | 2.0 | 1.5 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 3.9 | 0.0 | 0.6 | 0.7 | 2.0 | 1.5 |
| Prop In Lane | 1.00 |  | 0.26 | 1.00 |  | 0.28 | 0.13 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 0 | 318 | 166 | 0 | 119 | 1062 | 0 | 908 | 777 | 1267 | 1074 |
| V/C Ratio(X) | 0.27 | 0.00 | 0.32 | 0.10 | 0.00 | 0.64 | 0.16 | 0.00 | 0.03 | 0.05 | 0.09 | 0.07 |
| Avail Cap(c_a), veh/h | 262 | 0 | 684 | 374 | 0 | 406 | 1062 | 0 | 908 | 868 | 1267 | 1074 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.95 | 0.95 | 0.95 |
| Uniform Delay (d), s/veh | 35.4 | 0.0 | 32.2 | 39.7 | 0.0 | 40.9 | 9.0 | 0.0 | 8.3 | 6.6 | 5.0 | 4.9 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.6 | 0.3 | 0.0 | 5.6 | 0.3 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 2.0 | 0.4 | 0.0 | 1.8 | 1.6 | 0.0 | 0.2 | 0.2 | 0.7 | 0.5 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 36.1 | 0.0 | 32.8 | 40.0 | 0.0 | 46.6 | 9.4 | 0.0 | 8.4 | 6.6 | 5.1 | 5.0 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 151 |  |  | 93 |  |  | 199 |  |  | 232 |  |
| Approach Delay, s/veh |  | 33.9 |  |  | 45.4 |  |  | 9.3 |  |  | 5.3 |  |
| Approach LOS |  | C |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 9.4 | 58.1 |  | 22.5 |  | 67.5 | 10.0 | 12.5 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 7.5 | 28.5 |  | 34.5 |  | 42.5 | 7.5 | 20.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.7 | 5.9 |  | 6.5 |  | 4.0 | 4.2 | 5.7 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.0 |  | 0.5 |  | 1.0 | 0.0 | 0.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 18.4 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report


Synchro 10 Report
Page 1

|  | $\stackrel{ }{*}$ |  |  | $\dagger$ |  |  | 4 | 4 | $p$ | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | ${ }^{*}$ | $\uparrow$ |  |  | $\uparrow$ | F | ${ }^{7}$ | 4 | F |
| Traffic Volume (veh/h) | 66 | 98 | 36 | 23 | 73 | 26 | 27 | 198 | 35 | 45 | 157 | 102 |
| Future Volume (veh/h) | 66 | 98 | 36 | 23 | 73 | 26 | 27 | 198 | 35 | 45 | 157 | 102 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 107 | 39 | 25 | 79 | 28 | 29 | 215 | 38 | 49 | 171 | 111 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  | 2 | 2 | 2 | 2 |
| Cap, veh/h | 201 | 269 | 98 | 186 | 112 | 40 | 123 | 873 | 853 | 678 | 1215 | 1030 |
| Arrive On Green | 0.05 | 0.21 | 0.21 | 0.09 | 0.09 | 0.09 | 0.54 | 0.54 | 0.54 | 0.04 | 0.65 | 0.65 |
| Sat Flow, veh/h | 1781 | 1308 | 477 | 1242 | 1319 | 467 | 145 | 1623 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 72 | 0 | 146 | 25 | 0 | 107 | 244 | 0 | 38 | 49 | 171 | 111 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1785 | 1242 | 0 | 1786 | 1768 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.2 | 0.0 | 6.4 | 1.7 | 0.0 | 5.2 | 0.0 | 0.0 | 1.0 | 1.0 | 3.2 | 2.4 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 6.4 | 1.7 | 0.0 | 5.2 | 6.2 | 0.0 | 1.0 | 1.0 | 3.2 | 2.4 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.12 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 201 | 0 | 368 | 186 | 0 | 152 | 996 | 0 | 853 | 678 | 1215 | 1030 |
| V/C Ratio(X) | 0.36 | 0.00 | 0.40 | 0.13 | 0.00 | 0.70 | 0.24 | 0.00 | 0.04 | 0.07 | 0.14 | 0.11 |
| Avail Cap(c_a), veh/h | 263 | 0 | 664 | 349 | 0 | 387 | 996 | 0 | 853 | 737 | 1215 | 1030 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.83 | 0.83 | 0.83 |
| Uniform Delay (d), s/veh | 33.7 | 0.0 | 30.9 | 38.4 | 0.0 | 40.1 | 11.0 | 0.0 | 9.8 | 7.8 | 6.1 | 5.9 |
| Incr Delay (d2), s/veh | 1.1 | 0.0 | 0.7 | 0.3 | 0.0 | 5.8 | 0.6 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.4 | 0.0 | 2.8 | 0.5 | 0.0 | 2.5 | 2.6 | 0.0 | 0.4 | 0.4 | 1.2 | 0.7 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 34.8 | 0.0 | 31.6 | 38.8 | 0.0 | 45.8 | 11.6 | 0.0 | 9.9 | 7.8 | 6.3 | 6.1 |
| LnGrp LOS | C | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 218 |  |  | 132 |  |  | 282 |  |  | 331 |  |
| Approach Delay, s/veh |  | 32.7 |  |  | 44.5 |  |  | 11.4 |  |  | 6.5 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 10.0 | 54.9 |  | 25.0 |  | 65.0 | 10.9 | 14.2 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 6.5 | 30.5 |  | 33.5 |  | 43.5 | 7.5 | 19.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 3.0 | 8.2 |  | 8.4 |  | 5.2 | 5.2 | 7.2 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.5 |  | 0.8 |  | 1.4 | 0.0 | 0.4 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 19.0 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report

|  | $\rangle$ |  | $\dagger$ |  | 4 | $\uparrow$ | $p$ | $\checkmark$ | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 7 | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | F' | 7 | 4 | F |
| Traffic Volume (vph) | 10 | 12 | 1 | 7 | 29 | 96 | 6 | 7 | 161 | 19 |
| Future Volume (vph) | 10 | 12 | 1 | 7 | 29 | 96 | 6 | 7 | 161 | 19 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 15.0 | 41.0 | 26.0 | 26.0 | 35.0 | 35.0 | 35.0 | 14.0 | 49.0 | 49.0 |
| Total Split (\%) | 16.7\% | 45.6\% | 28.9\% | 28.9\% | 38.9\% | 38.9\% | 38.9\% | 15.6\% | 54.4\% | 54.4\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 9.1 | 9.1 | 6.4 | 6.4 |  | 72.8 | 72.8 | 72.7 | 75.3 | 75.3 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.81 | 0.81 | 0.81 | 0.84 | 0.84 |
| v/c Ratio | 0.08 | 0.16 | 0.01 | 0.15 |  | 0.10 | 0.01 | 0.01 | 0.11 | 0.02 |
| Control Delay | 33.4 | 21.3 | 38.0 | 27.8 |  | 6.0 | 0.0 | 1.4 | 1.1 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Total Delay | 33.4 | 21.3 | 38.0 | 27.8 |  | 6.0 | 0.0 | 1.4 | 1.3 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 24.5 |  | 28.3 |  | 5.7 |  |  | 1.2 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 ( $0 \%$ ), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.16
Intersection Signal Delay: 6.5
Intersection LOS: A
Intersection Capacity Utilization 38.6\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
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|  |  |  | 7 |  | 4 | 4 |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | $\hat{\beta}$ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (vph) | 53 | 35 | 7 | 41 | 30 | 178 | 5 | 7 | 148 | 31 |
| Future Volume (vph) | 53 | 35 | 7 | 41 | 30 | 178 | 5 | 7 | 148 | 31 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 14.0 | 40.0 | 26.0 | 26.0 | 37.0 | 37.0 | 37.0 | 13.0 | 50.0 | 50.0 |
| Total Split (\%) | 15.6\% | 44.4\% | 28.9\% | 28.9\% | 41.1\% | 41.1\% | 41.1\% | 14.4\% | 55.6\% | 55.6\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 18.9 | 18.9 | 7.8 | 7.8 |  | 59.3 | 59.3 | 60.5 | 61.8 | 61.8 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.09 | 0.09 |  | 0.66 | 0.66 | 0.67 | 0.69 | 0.69 |
| v/c Ratio | 0.25 | 0.13 | 0.07 | 0.34 |  | 0.20 | 0.00 | 0.01 | 0.13 | 0.03 |
| Control Delay | 28.9 | 21.6 | 37.6 | 37.1 |  | 10.4 | 0.0 | 2.7 | 2.7 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Total Delay | 28.9 | 21.6 | 37.6 | 37.1 |  | 10.4 | 0.0 | 2.7 | 2.9 | 0.1 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 25.5 |  | 37.1 |  | 10.2 |  |  | 2.5 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.34 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 13.2 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 44.7\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 2: Mill Street \& Main Street


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢ |  | \% | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 178 | 5 | 7 | 148 | 31 |
| Future Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 178 | 5 | 7 | 148 | 31 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 38 | 12 | 8 | 45 | 12 | 33 | 193 | 5 | 8 | 161 | 34 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 185 | 228 | 72 | 151 | 75 | 20 | 166 | 944 | 961 | 752 | 1288 | 1091 |
| Arrive On Green | 0.04 | 0.17 | 0.17 | 0.05 | 0.05 | 0.05 | 0.61 | 0.61 | 0.61 | 0.01 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1363 | 430 | 1355 | 1423 | 379 | 199 | 1558 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 58 | 0 | 50 | 8 | 0 | 57 | 226 | 0 | 5 | 8 | 161 | 34 |
| Grp Sat Flow(s),veh/h/n | 1781 | 0 | 1793 | 1355 | 0 | 1802 | 1756 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 0.0 | 0.0 | 0.1 | 0.1 | 2.6 | 0.6 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 4.9 | 0.0 | 0.1 | 0.1 | 2.6 | 0.6 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.21 | 0.15 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 185 | 0 | 300 | 151 | 0 | 94 | 1110 | 0 | 961 | 752 | 1288 | 1091 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.17 | 0.05 | 0.00 | 0.60 | 0.20 | 0.00 | 0.01 | 0.01 | 0.13 | 0.03 |
| Avail Cap(c_a), veh/h | 257 | 0 | 667 | 374 | 0 | 390 | 1110 | 0 | 961 | 862 | 1288 | 1091 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 36.4 | 0.0 | 32.1 | 40.6 | 0.0 | 41.7 | 7.9 | 0.0 | 7.0 | 6.2 | 4.8 | 4.5 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 0.3 | 0.1 | 0.0 | 6.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ), veh/ln | 1.2 | 0.0 | 0.9 | 0.2 | 0.0 | 1.4 | 1.9 | 0.0 | 0.0 | 0.1 | 0.9 | 0.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 37.3 | 0.0 | 32.4 | 40.8 | 0.0 | 47.8 | 8.4 | 0.0 | 7.0 | 6.2 | 5.0 | 4.5 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 108 |  |  | 65 |  |  | 231 |  |  | 203 |  |
| Approach Delay, s/veh |  | 35.0 |  |  | 46.9 |  |  | 8.3 |  |  | 4.9 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 7.4 | 61.0 | 21.5 | 68.5 | 10.3 | 11.2 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 6.5 | 30.5 | 33.5 | 43.5 | 7.5 | 19.5 |
| Max Q Clear Time (g_c+11), s | 2.1 | 6.9 | 4.2 | 4.6 | 4.7 | 4.8 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.2 | 1.1 | 0.0 | 0.2 |

## Intersection Summary

HCM 6th Ctrl Delay
HCM 6th LOS


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\hat{\beta}$ |  | ${ }_{1}$ | $\uparrow$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 233 | 24 | 32 | 305 | 71 |
| Future Volume (veh/h) | 45 | 69 | 25 | 16 | 51 | 19 | 20 | 233 | 24 | 32 | 305 | 71 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 75 | 27 | 17 | 55 | 21 | 22 | 253 | 26 | 35 | 332 | 77 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 234 | 84 | 166 | 86 | 33 | 92 | 979 | 908 | 687 | 1267 | 1074 |
| Arrive On Green | 0.04 | 0.18 | 0.18 | 0.07 | 0.07 | 0.07 | 0.57 | 0.57 | 0.57 | 0.03 | 0.68 | 0.68 |
| Sat Flow, veh/h | 1781 | 1313 | 473 | 1293 | 1289 | 492 | 84 | 1709 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 49 | 0 | 102 | 17 | 0 | 76 | 275 | 0 | 26 | 35 | 332 | 77 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1785 | 1293 | 0 | 1782 | 1793 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 0.0 | 0.0 | 0.6 | 0.7 | 6.3 | 1.5 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 4.5 | 1.1 | 0.0 | 3.7 | 6.6 | 0.0 | 0.6 | 0.7 | 6.3 | 1.5 |
| Prop In Lane | 1.00 |  | 0.26 | 1.00 |  | 0.28 | 0.08 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 0 | 318 | 166 | 0 | 119 | 1071 | 0 | 908 | 687 | 1267 | 1074 |
| V/C Ratio(X) | 0.27 | 0.00 | 0.32 | 0.10 | 0.00 | 0.64 | 0.26 | 0.00 | 0.03 | 0.05 | 0.26 | 0.07 |
| Avail Cap(c_a), veh/h | 222 | 0 | 625 | 360 | 0 | 386 | 1071 | 0 | 908 | 738 | 1267 | 1074 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.75 | 0.75 | 0.75 |
| Uniform Delay (d), s/veh | 35.4 | 0.0 | 32.3 | 39.7 | 0.0 | 41.0 | 9.6 | 0.0 | 8.3 | 6.8 | 5.7 | 4.9 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.6 | 0.3 | 0.0 | 5.7 | 0.6 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 2.0 | 0.4 | 0.0 | 1.8 | 2.7 | 0.0 | 0.2 | 0.2 | 2.2 | 0.4 |

Unsig. Movement Delay, s/veh

| LnGrp Delay(d),s/veh | 36.2 | 0.0 | 32.8 | 40.0 | 0.0 | 46.6 | 10.2 | 0.0 | 8.4 | 6.8 | 6.1 | 5.0 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 151 |  |  | 93 |  |  | 301 |  | 444 |  |  |
| Approach Delay, s/veh |  | 33.9 |  |  | 45.4 |  |  | 10.0 |  | 5.9 |  |  |
| Approach LOS |  | C |  |  | D |  |  | B |  | A |  |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 9.4 | 58.1 | 22.5 | 67.5 | 10.0 | 12.5 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 5.5 | 33.5 | 31.5 | 45.5 | 5.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 8.6 | 6.5 | 8.3 | 4.2 | 5.7 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.5 | 2.4 | 0.0 | 0.3 |

## Intersection Summary

HCM 6th Ctrl Delay
15.2

HCM 6th LOS

|  |  |  |  |  | 4 | 4 |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | F | \% | 4 | 「 |
| Traffic Volume (vph) | 66 | 98 | 23 | 73 | 27 | 288 | 35 | 45 | 353 | 102 |
| Future Volume (vph) | 66 | 98 | 23 | 73 | 27 | 288 | 35 | 45 | 353 | 102 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 12.0 | 37.0 | 25.0 | 25.0 | 41.0 | 41.0 | 41.0 | 12.0 | 53.0 | 53.0 |
| Total Split (\%) | 13.3\% | 41.1\% | 27.8\% | 27.8\% | 45.6\% | 45.6\% | 45.6\% | 13.3\% | 58.9\% | 58.9\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 19.6 | 19.6 | 10.0 | 10.0 |  | 49.2 | 49.2 | 57.4 | 57.4 | 57.4 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.11 | 0.11 |  | 0.55 | 0.55 | 0.64 | 0.64 | 0.64 |
| v/c Ratio | 0.31 | 0.36 | 0.18 | 0.50 |  | 0.35 | 0.04 | 0.08 | 0.32 | 0.11 |
| Control Delay | 29.5 | 25.8 | 37.9 | 38.5 |  | 16.2 | 0.1 | 2.5 | 4.8 | 1.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 |
| Total Delay | 29.5 | 25.8 | 37.9 | 38.5 |  | 16.2 | 0.1 | 2.5 | 6.7 | 1.3 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 27.1 |  | 38.4 |  | 14.6 |  |  | 5.2 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.50 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 15.2 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 65.3\% |  |  |  | ICU Level of Service C |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 7: Mill Street \& Main Street


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\uparrow$ |  | 7 | $\uparrow$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 66 | 98 | 36 | 23 | 73 | 26 | 27 | 288 | 35 | 45 | 353 | 102 |
| Future Volume (veh/h) | 66 | 98 | 36 | 23 | 73 | 26 | 27 | 288 | 35 | 45 | 353 | 102 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 107 | 39 | 25 | 79 | 28 | 29 | 313 | 38 | 49 | 384 | 111 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 200 | 269 | 98 | 186 | 112 | 40 | 91 | 909 | 854 | 598 | 1216 | 1030 |
| Arrive On Green | 0.05 | 0.21 | 0.21 | 0.09 | 0.09 | 0.09 | 0.54 | 0.54 | 0.54 | 0.04 | 0.65 | 0.65 |
| Sat Flow, veh/h | 1781 | 1308 | 477 | 1242 | 1319 | 467 | 88 | 1688 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 72 | 0 | 146 | 25 | 0 | 107 | 342 | 0 | 38 | 49 | 384 | 111 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1785 | 1242 | 0 | 1786 | 1776 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.2 | 0.0 | 6.4 | 1.7 | 0.0 | 5.2 | 0.0 | 0.0 | 1.0 | 1.0 | 8.1 | 2.4 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 6.4 | 1.7 | 0.0 | 5.2 | 9.3 | 0.0 | 1.0 | 1.0 | 8.1 | 2.4 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.08 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 200 | 0 | 367 | 186 | 0 | 152 | 1000 | 0 | 854 | 598 | 1216 | 1030 |
| V/C Ratio(X) | 0.36 | 0.00 | 0.40 | 0.13 | 0.00 | 0.70 | 0.34 | 0.00 | 0.04 | 0.08 | 0.32 | 0.11 |
| Avail Cap(c_a), veh/h | 223 | 0 | 605 | 335 | 0 | 367 | 1000 | 0 | 854 | 637 | 1216 | 1030 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.54 | 0.54 | 0.54 |
| Uniform Delay (d), s/veh | 33.8 | 0.0 | 30.9 | 38.4 | 0.0 | 40.1 | 11.7 | 0.0 | 9.8 | 8.1 | 6.9 | 5.9 |
| Incr Delay (d2), s/veh | 1.1 | 0.0 | 0.7 | 0.3 | 0.0 | 5.9 | 0.9 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.4 | 0.0 | 2.8 | 0.5 | 0.0 | 2.5 | 3.9 | 0.0 | 0.4 | 0.4 | 3.0 | 0.7 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 34.8 | 0.0 | 31.6 | 38.8 | 0.0 | 45.9 | 12.7 | 0.0 | 9.9 | 8.2 | 7.3 | 6.0 |
| LnGrp LOS | C | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 218 |  |  | 132 |  |  | 380 |  |  | 544 |  |
| Approach Delay, s/veh |  | 32.7 |  |  | 44.6 |  |  | 12.4 |  |  | 7.1 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 10.0 | 55.0 | 25.0 | 65.0 | 10.8 | 14.2 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 5.5 | 34.5 | 30.5 | 46.5 | 5.5 | 18.5 |
| Max Q Clear Time (g_c+11), s | 3.0 | 11.3 | 8.4 | 10.1 | 5.2 | 7.2 |
| Green Ext Time (p_c), s | 0.0 | 2.3 | 0.7 | 3.0 | 0.0 | 0.4 |

Intersection Summary
HCM 6th Ctrl Delay 16.9
HCM 6th LOS


|  | 4 | $\rightarrow$ |  | $\checkmark$ |  |  | 4 | 4 | 7 |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\hat{}$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | 「 | * | $\uparrow$ | F |
| Traffic Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 94 | 5 | 7 | 57 | 31 |
| Future Volume (veh/h) | 53 | 35 | 11 | 7 | 41 | 11 | 30 | 94 | 5 | 7 | 57 | 31 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 38 | 12 | 8 | 45 | 12 | 33 | 102 | 5 | 8 | 62 | 34 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 185 | 228 | 72 | 151 | 75 | 20 | 272 | 814 | 961 | 838 | 1288 | 1091 |
| Arrive On Green | 0.04 | 0.17 | 0.17 | 0.05 | 0.05 | 0.05 | 0.61 | 0.61 | 0.61 | 0.01 | 0.69 | 0.69 |
| Sat Flow, veh/h | 1781 | 1363 | 430 | 1355 | 1423 | 379 | 366 | 1343 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 58 | 0 | 50 | 8 | 0 | 57 | 135 | 0 | 5 | 8 | 62 | 34 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1793 | 1355 | 0 | 1802 | 1710 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 0.0 | 0.0 | 0.1 | 0.1 | 1.0 | 0.6 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 2.2 | 0.5 | 0.0 | 2.8 | 2.8 | 0.0 | 0.1 | 0.1 | 1.0 | 0.6 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.21 | 0.24 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 185 | 0 | 300 | 151 | 0 | 94 | 1086 | 0 | 961 | 838 | 1288 | 1091 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.17 | 0.05 | 0.00 | 0.60 | 0.12 | 0.00 | 0.01 | 0.01 | 0.05 | 0.03 |
| Avail Cap(c_a), veh/h | 297 | 0 | 727 | 389 | 0 | 410 | 1086 | 0 | 961 | 969 | 1288 | 1091 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.4 | 0.0 | 32.1 | 40.6 | 0.0 | 41.7 | 7.5 | 0.0 | 7.0 | 6.0 | 4.5 | 4.5 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 0.3 | 0.1 | 0.0 | 6.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.2 | 0.0 | 0.9 | 0.2 | 0.0 | 1.4 | 1.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 37.3 | 0.0 | 32.4 | 40.8 | 0.0 | 47.8 | 7.8 | 0.0 | 7.0 | 6.0 | 4.6 | 4.5 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 108 |  |  | 65 |  |  | 140 |  |  | 104 |  |
| Approach Delay, s/veh |  | 35.0 |  |  | 46.9 |  |  | 7.7 |  |  | 4.7 |  |
| Approach LOS |  | D |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | , | 7 | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 7.4 | 61.0 |  | 21.5 |  | 68.5 | 10.3 | 11.2 |  |  |  |  |
| Change Period ( $Y+R \mathrm{C}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 7.5 | 26.5 |  | 36.5 |  | 40.5 | 9.5 | 20.5 |  |  |  |  |
| Max Q Clear Time ( $\left.\mathrm{g}_{-} \mathrm{c}+11\right)$, s | 2.1 | 4.8 |  | 4.2 |  | 3.0 | 4.7 | 4.8 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 0.7 |  | 0.2 |  | 0.4 | 0.0 | 0.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 20.2 |  |  |  |  |  |  |  |  |  |
|  |  |  | C |  |  |  |  |  |  |  |  |  |


|  | 4 |  |  |  | 4 | $\uparrow$ | 7 | * | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\hat{+}$ |  | $\uparrow$ | 「 | ${ }^{1}$ | $\uparrow$ | 「 |
| Traffic Volume (vph) | 63 | 41 | 9 | 49 | 36 | 113 | 6 | 9 | 69 | 37 |
| Future Volume (vph) | 63 | 41 | 9 | 49 | 36 | 113 | 6 | 9 | 69 | 37 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 15.0 | 42.0 | 27.0 | 27.0 | 34.0 | 34.0 | 34.0 | 14.0 | 48.0 | 48.0 |
| Total Split (\%) | 16.7\% | 46.7\% | 30.0\% | 30.0\% | 37.8\% | 37.8\% | 37.8\% | 15.6\% | 53.3\% | 53.3\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 20.0 | 20.0 | 8.2 | 8.2 |  | 58.2 | 58.2 | 59.4 | 60.7 | 60.7 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.09 | 0.09 |  | 0.65 | 0.65 | 0.66 | 0.67 | 0.67 |
| v/c Ratio | 0.28 | 0.14 | 0.08 | 0.38 |  | 0.15 | 0.01 | 0.01 | 0.06 | 0.04 |
| Control Delay | 28.1 | 20.9 | 37.4 | 37.4 |  | 10.9 | 0.0 | 5.2 | 5.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.1 | 20.9 | 37.4 | 37.4 |  | 10.9 | 0.0 | 5.2 | 5.1 | 0.1 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 24.7 |  | 37.4 |  | 10.5 |  |  | 3.5 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: $0(0 \%)$, Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: $16.5 \quad$ Intersection LOS: B
Intersection Capacity Utilization 35.6\% ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


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|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |


|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% |  |  | 7 |  |  |  | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 54 | 83 | 30 | 19 | 61 | 23 | 24 | 166 | 29 | 39 | 131 | 84 |
| Future Volume (veh/h) | 54 | 83 | 30 | 19 | 61 | 23 | 24 | 166 | 29 | 39 | 131 | 84 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 59 | 90 | 33 | 21 | 66 | 25 | 26 | 180 | 32 | 42 | 142 | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 191 | 249 | 91 | 176 | 98 | 37 | 134 | 895 | 882 | 731 | 1243 | 1053 |
| Arrive On Green | 0.04 | 0.19 | 0.19 | 0.08 | 0.08 | 0.08 | 0.56 | 0.56 | 0.56 | 0.04 | 0.66 | 0.66 |
| Sat Flow, veh/h | 1781 | 1306 | 479 | 1268 | 1293 | 490 | 160 | 1609 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 59 | 0 | 123 | 21 | 0 | 91 | 206 | 0 | 32 | 42 | 142 | 91 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1268 | 0 | 1782 | 1769 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.6 | 0.0 | 5.4 | 1.4 | 0.0 | 4.5 | 0.0 | 0.0 | 0.8 | 0.8 | 2.5 | 1.8 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 5.4 | 1.4 | 0.0 | 4.5 | 4.9 | 0.0 | 0.8 | 0.8 | 2.5 | 1.8 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.27 | 0.13 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 191 | 0 | 341 | 176 | 0 | 135 | 1029 | 0 | 882 | 731 | 1243 | 1053 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.36 | 0.12 | 0.00 | 0.67 | 0.20 | 0.00 | 0.04 | 0.06 | 0.11 | 0.09 |
| Avail Cap(c_a), veh/h | 263 | 0 | 684 | 369 | 0 | 406 | 1029 | 0 | 882 | 815 | 1243 | 1053 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.91 | 0.91 | 0.91 |
| Uniform Delay (d), s/veh | 34.6 | 0.0 | 31.6 | 39.1 | 0.0 | 40.5 | 10.0 | 0.0 | 9.0 | 7.1 | 5.5 | 5.4 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.6 | 0.3 | 0.0 | 5.7 | 0.4 | 0.0 | 0.1 | 0.0 | 0.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.2 | 0.0 | 2.4 | 0.4 | 0.0 | 2.2 | 2.0 | 0.0 | 0.3 | 0.3 | 0.9 | 0.6 |

Unsig. Movement Delay, s/veh

| LnGrp Delay(d), s/veh | 35.5 | 0.0 | 32.3 | 39.4 | 0.0 | 46.2 | 10.4 | 0.0 | 9.1 | 7.2 | 5.6 | 5.5 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 182 |  |  | 112 |  |  | 238 |  | 275 |  |  |
| Approach Delay, s/veh |  | 33.3 |  |  | 44.9 |  |  | 10.2 |  | 5.8 |  |  |
| Approach LOS |  | C |  |  | D |  |  | B |  | A |  |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c), \mathrm{s}$ | 9.8 | 56.6 | 23.7 | 66.3 | 10.4 | 13.3 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$, s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 7.5 | 28.5 | 34.5 | 42.5 | 7.5 | 20.5 |
| Max Q Clear Time (g_c+1), s | 2.8 | 6.9 | 7.4 | 4.5 | 4.6 | 6.5 |
| Green Ext Time (p_c), s | 0.0 | 1.2 | 0.7 | 1.1 | 0.0 | 0.4 |

Intersection Summary
HCM 6th Ctrl Delay 18.8
HCM 6th LOS


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| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\uparrow$ |  | * | ¢ |  |  | $\uparrow$ | 「 | * | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 79 | 117 | 43 | 27 | 87 | 31 | 33 | 237 | 41 | 54 | 187 | 121 |
| Future Volume (veh/h) | 79 | 117 | 43 | 27 | 87 | 31 | 33 | 237 | 41 | 54 | 187 | 121 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 86 | 127 | 47 | 29 | 95 | 34 | 36 | 258 | 45 | 59 | 203 | 132 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 216 | 296 | 109 | 199 | 129 | 46 | 120 | 825 | 814 | 611 | 1175 | 996 |
| Arrive On Green | 0.06 | 0.23 | 0.23 | 0.10 | 0.10 | 0.10 | 0.51 | 0.51 | 0.51 | 0.04 | 0.63 | 0.63 |
| Sat Flow, veh/h | 1781 | 1302 | 482 | 1211 | 1315 | 471 | 147 | 1607 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 86 | 0 | 174 | 29 | 0 | 129 | 294 | 0 | 45 | 59 | 203 | 132 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1211 | 0 | 1786 | 1754 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.8 | 0.0 | 7.5 | 2.0 | 0.0 | 6.3 | 0.0 | 0.0 | 1.3 | 1.3 | 4.1 | 3.0 |
| Cycle Q Clear(g_c), s | 3.8 | 0.0 | 7.5 | 2.0 | 0.0 | 6.3 | 8.2 | 0.0 | 1.3 | 1.3 | 4.1 | 3.0 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.12 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 216 | 0 | 405 | 199 | 0 | 175 | 945 | 0 | 814 | 611 | 1175 | 996 |
| V/C Ratio(X) | 0.40 | 0.00 | 0.43 | 0.15 | 0.00 | 0.74 | 0.31 | 0.00 | 0.06 | 0.10 | 0.17 | 0.13 |
| Avail Cap(c_a), veh/h | 244 | 0 | 644 | 342 | 0 | 387 | 945 | 0 | 814 | 644 | 1175 | 996 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.70 | 0.70 | 0.70 |
| Uniform Delay (d), s/veh | 32.4 | 0.0 | 29.8 | 37.5 | 0.0 | 39.4 | 12.6 | 0.0 | 11.0 | 8.9 | 7.0 | 6.8 |
| Incr Delay (d2), s/veh | 1.2 | 0.0 | 0.7 | 0.3 | 0.0 | 5.9 | 0.9 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.7 | 0.0 | 3.2 | 0.6 | 0.0 | 3.0 | 3.5 | 0.0 | 0.5 | 0.5 | 1.5 | 1.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 33.6 | 0.0 | 30.5 | 37.8 | 0.0 | 45.3 | 13.5 | 0.0 | 11.1 | 8.9 | 7.2 | 7.0 |
| LnGrp LOS | C | A | C | D | A | D | B | A | B | A | A | A |
| Approach Vol, veh/h |  | 260 |  |  | 158 |  |  | 339 |  |  | 394 |  |
| Approach Delay, s/veh |  | 31.5 |  |  | 43.9 |  |  | 13.2 |  |  | 7.4 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 10.4 | 52.7 | 26.9 | 63.1 | 11.6 | 15.3 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 5.5 | 32.5 | 32.5 | 44.5 | 6.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 10.2 | 9.5 | 6.1 | 5.8 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.9 | 1.7 | 0.0 | 0.5 |

## Intersection Summary

HCM 6th Ctrl Delay 19.6

HCM 6th LOS

|  | 4 |  |  |  | 4 | $\uparrow$ | 7 |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\hat{F}$ |  | $\uparrow$ | 「 | ${ }^{1}$ | $\uparrow$ | 「 |
| Traffic Volume (vph) | 11 | 14 | , | 9 | 34 | 99 | 7 | 9 | 175 | 23 |
| Future Volume (vph) | 11 | 14 | 1 | 9 | 34 | 99 | 7 | 9 | 175 | 23 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 14.0 | 40.0 | 26.0 | 26.0 | 36.0 | 36.0 | 36.0 | 14.0 | 50.0 | 50.0 |
| Total Split (\%) | 15.6\% | 44.4\% | 28.9\% | 28.9\% | 40.0\% | 40.0\% | 40.0\% | 15.6\% | 55.6\% | 55.6\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 9.2 | 9.2 | 6.5 | 6.5 |  | 72.6 | 72.6 | 72.6 | 75.2 | 75.2 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.07 | 0.07 |  | 0.81 | 0.81 | 0.81 | 0.84 | 0.84 |
| v/c Ratio | 0.08 | 0.19 | 0.01 | 0.16 |  | 0.11 | 0.01 | 0.01 | 0.12 | 0.02 |
| Control Delay | 33.5 | 20.8 | 38.0 | 28.4 |  | 6.2 | 0.0 | 1.4 | 1.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Total Delay | 33.5 | 20.8 | 38.0 | 28.4 |  | 6.2 | 0.0 | 1.4 | 1.3 | 0.0 |
| LOS | C | C | D | C |  | A | A | A | A | A |
| Approach Delay |  | 23.9 |  | 28.8 |  | 5.8 |  |  | 1.2 |  |
| Approach LOS |  | C |  | C |  | A |  |  | A |  |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 ( $0 \%$ ), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.19
Intersection Signal Delay: 6.7
Intersection LOS: A
Intersection Capacity Utilization 39.8\%
ICU Level of Service A
Analysis Period (min) 15
Splits and Phases: 2: Mill Street \& Main Street


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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

2: Mill Street \& Main Street

|  | $\rangle$ |  |  |  | 4 | $\dagger$ | $p$ |  | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | \% | $\uparrow$ |  | $\uparrow$ | F | \% | 个 | F |
| Traffic Volume (vph) | 63 | 41 | 9 | 49 | 36 | 197 | 6 | 9 | 160 | 37 |
| Future Volume (vph) | 63 | 41 | 9 | 49 | 36 | 197 | 6 | 9 | 160 | 37 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 14.0 | 40.0 | 26.0 | 26.0 | 38.0 | 38.0 | 38.0 | 12.0 | 50.0 | 50.0 |
| Total Split (\%) | 15.6\% | 44.4\% | 28.9\% | 28.9\% | 42.2\% | 42.2\% | 42.2\% | 13.3\% | 55.6\% | 55.6\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 19.4 | 19.4 | 8.2 | 8.2 |  | 58.7 | 58.7 | 60.0 | 61.3 | 61.3 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.09 | 0.09 |  | 0.65 | 0.65 | 0.67 | 0.68 | 0.68 |
| $\mathrm{v} / \mathrm{C}$ Ratio | 0.29 | 0.15 | 0.08 | 0.38 |  | 0.22 | 0.01 | 0.01 | 0.14 | 0.04 |
| Control Delay | 29.1 | 21.5 | 37.3 | 37.8 |  | 10.9 | 0.0 | 2.6 | 2.5 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 29.1 | 21.5 | 37.3 | 37.8 |  | 10.9 | 0.0 | 2.6 | 2.8 | 0.1 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 25.6 |  | 37.7 |  | 10.6 |  |  | 2.3 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: $0(0 \%)$, Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.38 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 13.7 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 47.2\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 2: Mill Street \& Main Street


Synchro 10 Report
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|  | $\stackrel{ }{ }$ | $\rightarrow$ |  | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Contigurations | \% | $\hat{\beta}$ |  | \% | $\hat{\beta}$ |  |  | $\uparrow$ | 「 | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 63 | 41 | 13 | 9 | 49 | 13 | 36 | 197 | 6 | 9 | 160 | 37 |
| Future Volume (veh/h) | 63 | 41 | 13 | 9 | 49 | 13 | 36 | 197 | 6 | 9 | 160 | 37 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 68 | 45 | 14 | 10 | 53 | 14 | 39 | 214 | 7 | 10 | 174 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 193 | 243 | 76 | 159 | 84 | 22 | 171 | 910 | 940 | 716 | 1267 | 1074 |
| Arrive On Green | 0.05 | 0.18 | 0.18 | 0.06 | 0.06 | 0.06 | 0.59 | 0.59 | 0.59 | 0.01 | 0.68 | 0.68 |
| Sat Flow, veh/h | 1781 | 1368 | 426 | 1344 | 1426 | 377 | 210 | 1534 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 68 | 0 | 59 | 10 | 0 | 67 | 253 | 0 | 7 | 10 | 174 | 40 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1794 | 1344 | 0 | 1803 | 1744 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.1 | 0.0 | 2.5 | 0.6 | 0.0 | 3.3 | 0.0 | 0.0 | 0.2 | 0.2 | 3.0 | 0.8 |
| Cycle Q Clear(g_c), s | 3.1 | 0.0 | 2.5 | 0.6 | 0.0 | 3.3 | 5.7 | 0.0 | 0.2 | 0.2 | 3.0 | 0.8 |
| Prop In Lane | 1.00 |  | 0.24 | 1.00 |  | 0.21 | 0.15 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 193 | 0 | 319 | 159 | 0 | 106 | 1080 | 0 | 940 | 716 | 1267 | 1074 |
| V/C Ratio(X) | 0.35 | 0.00 | 0.18 | 0.06 | 0.00 | 0.63 | 0.23 | 0.00 | 0.01 | 0.01 | 0.14 | 0.04 |
| Avail Cap(c_a), veh/h | 259 | 0 | 668 | 371 | 0 | 391 | 1080 | 0 | 940 | 803 | 1267 | 1074 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.95 | 0.95 | 0.95 |
| Uniform Delay (d), s/veh | 35.7 | 0.0 | 31.4 | 40.1 | 0.0 | 41.4 | 8.6 | 0.0 | 7.5 | 6.6 | 5.2 | 4.8 |
| Incr Delay (d2), s/veh | 1.1 | 0.0 | 0.3 | 0.2 | 0.0 | 6.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.4 | 0.0 | 1.1 | 0.2 | 0.0 | 1.6 | 2.3 | 0.0 | 0.1 | 0.1 | 1.1 | 0.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 36.8 | 0.0 | 31.7 | 40.3 | 0.0 | 47.4 | 9.1 | 0.0 | 7.5 | 6.6 | 5.4 | 4.9 |
| LnGrp LOS | D | A | C | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h |  | 127 |  |  | 77 |  |  | 260 |  |  | 224 |  |
| Approach Delay, s/veh |  | 34.5 |  |  | 46.5 |  |  | 9.1 |  |  | 5.3 |  |
| Approach LOS |  | C |  |  | D |  |  | A |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 7.6 | 59.9 |  | 22.5 |  | 67.5 | 10.7 | 11.8 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.5 | 31.5 |  | 33.5 |  | 43.5 | 7.5 | 19.5 |  |  |  |  |
| Max Q Clear Time ( $\left.\mathrm{g}_{-} \mathrm{c}+11\right)$, s | 2.2 | 7.7 |  | 4.5 |  | 5.0 | 5.1 | 5.3 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.5 |  | 0.3 |  | 1.2 | 0.0 | 0.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 16.7 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report

|  | $\rangle$ |  |  |  | 4 | 4 | 1 | b | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | ¢ | \% | $\uparrow$ |  | $\uparrow$ | 「 | \% | 4 | 7 |
| Traffic Volume (vph) | 54 | 83 | 19 | 61 | 24 | 260 | 29 | 39 | 326 | 84 |
| Future Volume (vph) | 54 | 83 | 19 | 61 | 24 | 260 | 29 | 39 | 326 | 84 |
| Turn Type | pm+pt | NA | Perm | NA | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 |  | 8 |  | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 8 |  | 2 |  | 2 | 6 |  | 6 |
| Detector Phase | 7 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 11.5 | 24.5 | 24.5 |
| Total Split (s) | 12.0 | 37.0 | 25.0 | 25.0 | 41.0 | 41.0 | 41.0 | 12.0 | 53.0 | 53.0 |
| Total Split (\%) | 13.3\% | 41.1\% | 27.8\% | 27.8\% | 45.6\% | 45.6\% | 45.6\% | 13.3\% | 58.9\% | 58.9\% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 |  | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead |  | Lag | Lag | Lag | Lag | Lag | Lead |  |  |
| Lead-Lag Optimize? | Yes |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |
| Recall Mode | None | None | None | None | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Act Efftt Green (s) | 18.8 | 18.8 | 9.2 | 9.2 |  | 50.2 | 50.2 | 58.2 | 58.2 | 58.2 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.10 | 0.10 |  | 0.56 | 0.56 | 0.65 | 0.65 | 0.65 |
| v/c Ratio | 0.27 | 0.32 | 0.16 | 0.46 |  | 0.31 | 0.03 | 0.07 | 0.29 | 0.09 |
| Control Delay | 29.4 | 24.8 | 38.4 | 37.2 |  | 15.0 | 0.1 | 2.4 | 4.3 | 1.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| Total Delay | 29.4 | 24.8 | 38.4 | 37.2 |  | 15.0 | 0.1 | 2.4 | 5.9 | 1.2 |
| LOS | C | C | D | D |  | B | A | A | A | A |
| Approach Delay |  | 26.3 |  | 37.4 |  | 13.6 |  |  | 4.7 |  |
| Approach LOS |  | C |  | D |  | B |  |  | A |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |
| Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Actuated Cycle Length: 90 |  |  |  |  |  |  |  |  |  |  |
| Offset: 0 (0\%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |  |  |  |  |  |  |  |  |  |  |
| Natural Cycle: 75 |  |  |  |  |  |  |  |  |  |  |
| Control Type: Actuated-Coordinated |  |  |  |  |  |  |  |  |  |  |
| Maximum v/c Ratio: 0.46 |  |  |  |  |  |  |  |  |  |  |
| Intersection Signal Delay: 14.2 |  |  |  | Intersection LOS: B |  |  |  |  |  |  |
| Intersection Capacity Utilization 54.1\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |

Splits and Phases: 7: Mill Street \& Main Street


|  | $\stackrel{ }{*}$ |  |  | $\dagger$ |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ |  | \% | $\uparrow$ |  |  | $\uparrow$ | F | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 54 | 83 | 30 | 19 | 61 | 23 | 24 | 260 | 29 | 39 | 326 | 84 |
| Future Volume (veh/h) | 54 | 83 | 30 | 19 | 61 | 23 | 24 | 260 | 29 | 39 | 326 | 84 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 59 | 90 | 33 | 21 | 66 | 25 | 26 | 283 | 32 | 42 | 354 | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 190 | 249 | 91 | 176 | 98 | 37 | 93 | 943 | 882 | 643 | 1244 | 1054 |
| Arrive On Green | 0.04 | 0.19 | 0.19 | 0.08 | 0.08 | 0.08 | 0.56 | 0.56 | 0.56 | 0.04 | 0.66 | 0.66 |
| Sat Flow, veh/h | 1781 | 1306 | 479 | 1268 | 1293 | 490 | 89 | 1694 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 59 | 0 | 123 | 21 | 0 | 91 | 309 | 0 | 32 | 42 | 354 | 91 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1268 | 0 | 1782 | 1783 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.6 | 0.0 | 5.4 | 1.4 | 0.0 | 4.5 | 0.0 | 0.0 | 0.8 | 0.8 | 7.0 | 1.8 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 5.4 | 1.4 | 0.0 | 4.5 | 7.9 | 0.0 | 0.8 | 0.8 | 7.0 | 1.8 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.27 | 0.08 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 190 | 0 | 340 | 176 | 0 | 135 | 1036 | 0 | 882 | 643 | 1244 | 1054 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.36 | 0.12 | 0.00 | 0.68 | 0.30 | 0.00 | 0.04 | 0.07 | 0.28 | 0.09 |
| Avail Cap(c_a), veh/h | 223 | 0 | 605 | 341 | 0 | 366 | 1036 | 0 | 882 | 688 | 1244 | 1054 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(1) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.66 | 0.66 | 0.66 |
| Uniform Delay (d), s/veh | 34.6 | 0.0 | 31.7 | 39.1 | 0.0 | 40.5 | 10.6 | 0.0 | 9.0 | 7.4 | 6.2 | 5.4 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.6 | 0.3 | 0.0 | 5.8 | 0.7 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.2 | 0.0 | 2.4 | 0.4 | 0.0 | 2.2 | 3.3 | 0.0 | 0.3 | 0.3 | 2.5 | 0.6 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 35.5 | 0.0 | 32.3 | 39.4 | 0.0 | 46.3 | 11.3 | 0.0 | 9.1 | 7.4 | 6.6 | 5.5 |
| LnGrp LOS | D | A | C | D | A | D | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 182 |  |  | 112 |  |  | 341 |  |  | 487 |  |
| Approach Delay, s/veh |  | 33.4 |  |  | 45.0 |  |  | 11.1 |  |  | 6.5 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 |  | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 9.8 | 56.6 |  | 23.7 |  | 66.3 | 10.4 | 13.3 |  |  |  |  |
| Change Period ( $Y+R \mathrm{R}$ ), s | 6.5 | 6.5 |  | 6.5 |  | 6.5 | 6.5 | 6.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.5 | 34.5 |  | 30.5 |  | 46.5 | 5.5 | 18.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.8 | 9.9 |  | 7.4 |  | 9.0 | 4.6 | 6.5 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.0 |  | 0.6 |  | 2.7 | 0.0 | 0.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 16.1 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |

Synchro 10 Report


Synchro 10 Report
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| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ |  |  | $\uparrow$ | 「 | ${ }^{7}$ | 4 | 「 |
| Traffic Volume (veh/h) | 79 | 117 | 43 | 27 | 87 | 31 | 33 | 327 | 41 | 54 | 383 | 121 |
| Future Volume (veh/h) | 79 | 117 | 43 | 27 | 87 | 31 | 33 | 327 | 41 | 54 | 383 | 121 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 86 | 127 | 47 | 29 | 95 | 34 | 36 | 355 | 45 | 59 | 416 | 132 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 215 | 295 | 109 | 198 | 129 | 46 | 93 | 854 | 815 | 536 | 1177 | 997 |
| Arrive On Green | 0.06 | 0.23 | 0.23 | 0.10 | 0.10 | 0.10 | 0.51 | 0.51 | 0.51 | 0.04 | 0.63 | 0.63 |
| Sat Flow, veh/h | 1781 | 1302 | 482 | 1211 | 1315 | 471 | 96 | 1661 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 86 | 0 | 174 | 29 | 0 | 129 | 391 | 0 | 45 | 59 | 416 | 132 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 0 | 1784 | 1211 | 0 | 1786 | 1757 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.8 | 0.0 | 7.5 | 2.0 | 0.0 | 6.3 | 0.0 | 0.0 | 1.3 | 1.3 | 9.6 | 3.0 |
| Cycle Q Clear(g_c), s | 3.8 | 0.0 | 7.5 | 2.0 | 0.0 | 6.3 | 11.6 | 0.0 | 1.3 | 1.3 | 9.6 | 3.0 |
| Prop In Lane | 1.00 |  | 0.27 | 1.00 |  | 0.26 | 0.09 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 215 | 0 | 404 | 198 | 0 | 175 | 947 | 0 | 815 | 536 | 1177 | 997 |
| V/C Ratio(X) | 0.40 | 0.00 | 0.43 | 0.15 | 0.00 | 0.74 | 0.41 | 0.00 | 0.06 | 0.11 | 0.35 | 0.13 |
| Avail Cap(c_a), veh/h | 224 | 0 | 595 | 322 | 0 | 357 | 947 | 0 | 815 | 559 | 1177 | 997 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.44 | 0.44 | 0.44 |
| Uniform Delay (d), s/veh | 32.5 | 0.0 | 29.8 | 37.5 | 0.0 | 39.5 | 13.4 | 0.0 | 10.9 | 9.3 | 8.0 | 6.8 |
| Incr Delay (d2), s/veh | 1.2 | 0.0 | 0.7 | 0.3 | 0.0 | 6.0 | 1.3 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.7 | 0.0 | 3.3 | 0.6 | 0.0 | 3.0 | 4.9 | 0.0 | 0.5 | 0.5 | 3.5 | 0.9 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 33.7 | 0.0 | 30.6 | 37.9 | 0.0 | 45.5 | 14.8 | 0.0 | 11.1 | 9.4 | 8.3 | 6.9 |
| LnGrp LOS | C | A | C | D | A | D | B | A | B | A | A | A |
| Approach Vol, veh/h |  | 260 |  |  | 158 |  |  | 436 |  |  | 607 |  |
| Approach Delay, s/veh |  | 31.6 |  |  | 44.1 |  |  | 14.4 |  |  | 8.1 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | A |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 10.4 | 52.8 | 26.9 | 63.1 | 11.6 | 15.3 |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Max Green Setting (Gmax), s | 5.0 | 35.5 | 30.0 | 47.0 | 5.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 13.6 | 9.5 | 11.6 | 5.8 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 2.7 | 0.9 | 3.3 | 0.0 | 0.5 |

## Intersection Summary

HCM 6th Ctrl Delay
HCM 6th LOS

| Intersection |  |
| :--- | :---: |
| Intersection Delay, s/veh | 7 |
| Intersection LOS | A |



| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $27 \%$ | $0 \%$ | $82 \%$ |
| Vol Thru, \% | $0 \%$ | $100 \%$ | $18 \%$ |
| Vol Right, \% | $73 \%$ | $0 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 11 | 6 | 22 |
| LT Vol | 3 | 0 | 18 |
| Through Vol | 0 | 6 | 4 |
| RT Vol | 8 | 0 | 0 |
| Lane Flow Rate | 12 | 7 | 24 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.012 | 0.007 | 0.027 |
| Departure Headway (Hd) | 3.605 | 3.973 | 4.124 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 995 | 905 | 873 |
| Service Time | 1.618 | 1.98 | 2.127 |
| HCM Lane V/C Ratio | 0.012 | 0.008 | 0.027 |
| HCM Control Delay | 6.7 | 7 | 7.2 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0 | 0 | 0.1 |

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| Intersection |  |  |  |
| :--- | ---: | ---: | ---: |
| Intersection Delay, s/veh | 2.7 |  |  |
| Intersection LOS | A |  | WB |
| Approach | EB | 1 | NB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 24 | 12 |
| Adj Approach Flow, veh/h | 7 | 24 | 12 |
| Demand Flow Rate, veh/h | 7 | 3 | 7 |
| Vehicles Circulating, veh/h | 20 | 16 | 20 |
| Vehicles Exiting, veh/h | 7 | 0 | 0 |
| Ped Vol Crossing Leg, \#/h | 0 | 1.000 | 2.000 |
| Ped Cap Adj | 1.000 | 2.8 | A |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 4.609 |
| Critical Headway, s | 4.976 | 4.976 | 12 |
| Entry Flow, veh/h | 7 | 24 | 1370 |
| Cap Entry Lane, veh/h | 1352 | 1376 | 1.000 |
| Entry HV Adj Factor | 0.980 | 0.997 | 12 |
| Flow Entry, veh/h | 7 | 24 | 1370 |
| Cap Entry, veh/h | 1325 | 1371 | 0.009 |
| V/C Ratio | 0.005 | 0.017 | 2.7 |
| Control Delay, s/veh | 2.8 | 2.8 | A |
| LOS | A | A | 0 |



| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $0 \%$ | $0 \%$ | $100 \%$ |
| Vol Thru, $\%$ | $00 \%$ | $100 \%$ | $0 \%$ |
| Vol Right, \% | $100 \%$ | $0 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 21 | 9 | 4 |
| LT Vol | 0 | 0 | 4 |
| Through Vol | 0 | 9 | 0 |
| RT Vol | 21 | 0 | 0 |
| Lane Flow Rate | 23 | 10 | 4 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.021 | 0.011 | 0.005 |
| Departure Headway (Hd) | 3.359 | 3.977 | 4.181 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 1070 | 905 | 860 |
| Service Time | 1.365 | 1.98 | 2.185 |
| HCM Lane V/C Ratio | 0.021 | 0.011 | 0.005 |
| HCM Control Delay | 6.4 | 7 | 7.2 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.1 | 0 | 0 |


| Intersection |  |  |  |
| :--- | ---: | ---: | ---: |
| Intersection Delay, s/veh | 2.7 |  |  |
| Intersection LOS | A |  | WB |
| Approach | EB | 1 | NB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 4 | 1 |
| Adj Approach Flow, veh/h | 10 | 4 | 23 |
| Demand Flow Rate, veh/h | 10 | 0 | 23 |
| Vehicles Circulating, veh/h | 4 | 33 | 10 |
| Vehicles Exiting, veh/h | 0 | 0 | 4 |
| Ped Vol Crossing Leg, \#/h | 0 | 1.000 | 0 |
| Ped Cap Adj | 1.000 | 2.6 | 1.000 |
| Approach Delay, s/veh | 2.7 | A | A |
| Approach LOS | A |  |  |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 4.609 |
| Critical Headway, s | 4.976 | 4.976 | 23 |
| Entry Flow, veh/h | 10 | 4 | 1366 |
| Cap Entry Lane, veh/h | 1374 | 1380 | 1.000 |
| Entry HV Adj Factor | 0.980 | 1.000 | 23 |
| Flow Entry, veh/h | 10 | 4 | 1366 |
| Cap Entry, veh/h | 1347 | 1380 | 0.017 |
| V/C Ratio | 0.007 | 0.003 | 2.8 |
| Control Delay, s/veh | 2.7 | 2.6 | A |
| LOS | A | A | 0 |



| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $33 \%$ |
| Vol Thru, $\%$ | $0 \%$ | $100 \%$ | $67 \%$ |
| Vol Right, \% | $88 \%$ | $0 \%$ | $0 \%$ |
| Sign Control | 32 | 12 | 12 |
| Traffic Vol by Lane | 4 | 0 | 4 |
| LT Vol | 0 | 12 | 8 |
| Through Vol | 28 | 0 | 0 |
| RT Vol | 35 | 13 | 13 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.034 | 0.015 | 0.015 |
| Degree of Util (X) | 3.481 | 4.005 | 4.072 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 1031 | 897 | 882 |
| Cap | 1.492 | 2.014 | 2.081 |
| Service Time | 0.034 | 0.014 | 0.015 |
| HCM Lane V/C Ratio | 6.6 | 7.1 | 7.1 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.1 | 0 | 0 |


|  |  |  |  |
| :--- | ---: | ---: | ---: |
| Intersection |  |  |  |
| Intersection Delay, s/veh | 2.8 |  | WB |
| Intersection LOS | A |  | NB |
| Approach | EB | 1 | 1 |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 13 | 34 |
| Adj Approach Flow, veh/h | 13 | 13 | 35 |
| Demand Flow Rate, veh/h | 13 | 4 | 13 |
| Vehicles Circulating, veh/h | 4 | 44 | 0 |
| Vehicles Exiting, veh/h | 13 | 1.000 |  |
| Ped Vol Crossing Leg, \#/h | 0 | 0 | A |
| Ped Cap Adj | 1.000 | 1.000 | A |
| Approach Delay, s/veh | 2.7 | 2.7 | A |
| Approach LOS | A |  |  |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 4.609 |
| Critical Headway, s | 4.976 | 4.976 | 35 |
| Entry Flow, veh/h | 13 | 13 | 1362 |
| Cap Entry Lane, veh/h | 1374 | 1374 | 0.971 |
| Entry HV Adj Factor | 0.980 | 0.986 | 34 |
| Flow Entry, veh/h | 13 | 13 | 1323 |
| Cap Entry, veh/h | 1347 | 1356 | 0.026 |
| V/C Ratio | 0.009 | 0.009 | 2.9 |
| Control Delay, s/veh | 2.7 | 2.7 | A |
| LOS | A | A | 0 |



| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $39 \%$ |
| Vol Thru, $\%$ | $0 \%$ | $100 \%$ | $61 \%$ |
| Vol Right, \% | $87 \%$ | $0 \%$ | $0 \%$ |
| Sign Control | 46 | 17 | 18 |
| Traffic Vol by Lane | 6 | 0 | 7 |
| LT Vol | 0 | 17 | 11 |
| Through Vol | 40 | 0 | 0 |
| RT Vol | 50 | 18 | 20 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.049 | 0.021 | 0.022 |
| Degree of Util (X) | 3.502 | 4.035 | 4.112 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 1023 | 889 | 873 |
| Cap | 1.522 | 2.049 | 2.126 |
| Service Time | 0.049 | 0.02 | 0.023 |
| HCM Lane V/C Ratio | 6.7 | 7.1 | 7.2 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.2 | 0.1 | 0.1 |



| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 7.4 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\uparrow$ |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 67 | 2 | 20 | 64 | 3 | 9 |
| Future Vol, veh/h | 67 | 2 | 20 | 64 | 3 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 73 | 2 | 22 | 70 | 3 | 10 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.4 |  | 7.5 |  | 6.9 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $25 \%$ | $0 \%$ | $24 \%$ |
| Vol Thru, \% | $0 \%$ | $97 \%$ | $76 \%$ |
| Vol Right, \% | $75 \%$ | $3 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 12 | 69 | 84 |
| LT Vol | 3 | 0 | 20 |
| Through Vol | 0 | 67 | 64 |
| RT Vol | 9 | 2 | 0 |
| Lane Flow Rate | 13 | 75 | 91 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.014 | 0.084 | 0.103 |
| Departure Headway (Hd) | 3.819 | 4.008 | 4.061 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 925 | 894 | 884 |
| Service Time | 1.892 | 2.031 | 2.08 |
| HCM Lane V/C Ratio | 0.014 | 0.084 | 0.103 |
| HCM Control Delay | 6.9 | 7.4 | 7.5 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0 | 0.3 | 0.3 |

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| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.5$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{+}$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 90 | 4 | 4 | 80 | 0 | 23 |
| Future Vol, veh/h | 90 | 4 | 4 | 80 | 0 | 23 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 4 | 4 | 87 | 0 | 25 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.6 |  | 7.6 |  | 6.8 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $0 \%$ | $0 \%$ | $5 \%$ |
| Vol Thru, \% | $0 \%$ | $96 \%$ | $95 \%$ |
| Vol Right, \% | $100 \%$ | $4 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 23 | 94 | 84 |
| LT Vol | 0 | 0 | 4 |
| Through Vol | 0 | 90 | 80 |
| RT Vol | 23 | 4 | 0 |
| Lane Flow Rate | 25 | 102 | 91 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.025 | 0.114 | 0.103 |
| Departure Headway (Hd) | 3.663 | 4.02 | 4.064 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 961 | 892 | 882 |
| Service Time | 1.748 | 2.045 | 2.089 |
| HCM Lane V/C Ratio | 0.026 | 0.114 | 0.103 |
| HCM Control Delay | 6.8 | 7.6 | 7.6 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.4 | 0.3 |



| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.7$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{\beta}$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 113 | 2 | 4 | 109 | 4 | 31 |
| Future Vol, veh/h | 113 | 2 | 4 | 109 | 4 | 31 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 123 | 2 | 4 | 118 | 4 | 34 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.8 |  | 7.8 |  | 7.1 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $11 \%$ | $0 \%$ | $4 \%$ |
| Vol Thru, \% | $0 \%$ | $98 \%$ | $96 \%$ |
| Vol Right, \% | $89 \%$ | $2 \%$ | $0 \%$ |
| Sign Control | 35 | 115 | 113 |
| Traffic Vol by Lane | 4 | 0 | 4 |
| LT Vol | 0 | 113 | 109 |
| Through Vol | 31 | 2 | 0 |
| RT Vol | 38 | 125 | 123 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.042 | 0.142 | 0.14 |
| Degree of Util (X) | 3.961 | 4.083 | 4.102 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 910 | 875 | 871 |
| Cap | 1.961 | 2.125 | 2.145 |
| Service Time | 0.042 | 0.143 | 0.141 |
| HCM Lane V/C Ratio | 7.1 | 7.8 | 7.8 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.1 | 0.5 | 0.5 |



|  |  |
| :--- | :--- |
| Intersection |  |
| Intersection Delay, s/veh | 8 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{}$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 139 | 4 | 8 | 132 | 7 | 44 |
| Future Vol, veh/h | 139 | 4 | 8 | 132 | 7 | 44 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 151 | 4 | 9 | 143 | 8 | 48 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.1 |  | 8.1 |  | 7.4 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $14 \%$ | $0 \%$ | $6 \%$ |
| Vol Thru, \% | $0 \%$ | $97 \%$ | $94 \%$ |
| Vol Right, \% | $86 \%$ | $3 \%$ | $0 \%$ |
| Sign Control | 51 | 143 | 140 |
| Traffic Vol by Lane | 7 | 0 | 8 |
| LT Vol | 0 | 139 | 132 |
| Through Vol | 44 | 4 | 0 |
| RT Vol | 55 | 155 | 152 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.063 | 0.178 | 0.176 |
| Degree of Util (X) | 4.111 | 4.129 | 4.16 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 876 | 861 | 85 |
| Cap | 2.111 | 2.193 | 2.223 |
| Service Time | 0.063 | 0.18 | 0.178 |
| HCM Lane V/C Ratio | 7.4 | 8.1 | 8.1 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.2 | 0.6 | 0.6 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 8.2 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\rightharpoonup}{1}$ |  |  | $\uparrow$ | Y |  |
| Traffic Vol, veh/h | 67 | 14 | 112 | 64 | 13 | 87 |
| Future Vol, veh/h | 67 | 14 | 112 | 64 | 13 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 73 | 15 | 122 | 70 | 14 | 95 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.8 |  | 8.7 |  | 7.6 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $64 \%$ |
| Vol Thru, \% | $0 \%$ | $83 \%$ | $36 \%$ |
| Vol Right, \% | $87 \%$ | $17 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 81 | 176 |
| LT Vol | 13 | 0 | 112 |
| Through Vol | 0 | 67 | 64 |
| RT Vol | 87 | 14 | 0 |
| Lane Flow Rate | 109 | 88 | 191 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.123 | 0.105 | 0.23 |
| Departure Headway (Hd) | 4.068 | 4.276 | 4.321 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 886 | 843 | 821 |
| Service Time | 2.073 | 2.276 | 2.397 |
| HCM Lane V/C Ratio | 0.123 | 0.104 | 0.233 |
| HCM Control Delay | 7.6 | 7.8 | 8.7 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.4 | 0.4 | 0.9 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, S/veh | 8.3 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{+}$ |  |  | $\uparrow$ | Y |  |
| Traffic Vol, veh/h | 90 | 15 | 95 | 80 | 11 | 107 |
| Future Vol, veh/h | 90 | 15 | 95 | 80 | 11 | 107 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | , |
| Mvmt Flow | 98 | 16 | 103 | 87 | 12 | 116 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8 |  | 8.8 |  | 7.8 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $9 \%$ | $0 \%$ | $54 \%$ |
| Vol Thru, \% | $0 \%$ | $86 \%$ | $46 \%$ |
| Vol Right, \% | $91 \%$ | $14 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 118 | 105 | 175 |
| LT Vol | 0 | 0 | 95 |
| Through Vol | 107 | 90 | 80 |
| RT Vol | 128 | 15 | 0 |
| Lane Flow Rate | 1 | 114 | 190 |
| Geometry Grp | 0.146 | 0.137 | 1 |
| Degree of Util (X) | 4.096 | 4.329 | 4.357 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 880 | 831 | 810 |
| Cap | 2.101 | 2.342 | 2.454 |
| Service Time | 0.145 | 0.137 | 0.235 |
| HCM Lane V/C Ratio | 7.8 | 8 | 8.8 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.5 | 0.5 | 0.9 |


| Intersection |  |  |  |
| :--- | ---: | ---: | ---: |
| Intersection Delay, s/veh | 3.8 |  |  |
| Intersection LOS | A |  |  |
| Approach | EB | WB | NB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 114 | 190 | 128 |
| Demand Flow Rate, veh/h | 116 | 194 | 130 |
| Vehicles Circulating, veh/h | 105 | 12 | 100 |
| Vehicles Exiting, veh/h | 101 | 218 | 121 |
| Ped Vol Crossing Leg, \#/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.7 | 3.9 | 3.8 |
| Approach LOS | A | A | A |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 4.609 |
| Critical Headway, s | 4.976 | 4.976 | 130 |
| Entry Flow, veh/h | 116 | 194 | 1246 |
| Cap Entry Lane, veh/h | 1240 | 1363 | 0.985 |
| Entry HV Adj Factor | 0.983 | 0.981 | 128 |
| Flow Entry, veh/h | 114 | 190 | 1227 |
| Cap Entry, veh/h | 1219 | 1337 | 0.104 |
| V/C Ratio | 0.094 | 0.142 | 3.8 |
| Control Delay, s/veh | 3.7 | 3.9 | A |
| LOS | A | A | 0 |


| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh $\quad 9.9$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 113 | 26 | 199 | 109 | 16 | 125 |
| Future Vol, veh/h | 113 | 26 | 199 | 109 | 16 | 125 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | , |
| Mvmt Flow | 123 | 28 | 216 | 118 | 17 | 136 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.7 |  | 11 |  | 8.7 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $11 \%$ | $0 \%$ | $65 \%$ |
| Vol Thru, \% | $0 \%$ | $81 \%$ | $35 \%$ |
| Vol Right, \% | $89 \%$ | $19 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 141 | 139 | 308 |
| LT Vol | 16 | 0 | 199 |
| Through Vol | 0 | 113 | 109 |
| RT Vol | 125 | 26 | 0 |
| Lane Flow Rate | 153 | 151 | 335 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.193 | 0.191 | 0.426 |
| Departure Headway (Hd) | 4.535 | 4.553 | 4.585 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 789 | 787 | 783 |
| Service Time | 2.57 | 2.591 | 2.619 |
| HCM Lane V/C Ratio | 0.194 | 0.192 | 0.428 |
| HCM Control Delay | 8.7 | 8.7 | 11 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 0.7 | 0.7 | 2.1 |



| Intersection |  |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 10.5 |  |
| Intersection LOS | B |  |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | F |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 139 | 29 | 204 | 132 | 18 | 134 |
| Future Vol, veh/h | 139 | 29 | 204 | 132 | 18 | 134 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 151 | 32 | 222 | 143 | 20 | 146 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 9.1 |  | 11.8 |  | 9 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $61 \%$ |
| Vol Thru, \% | $0 \%$ | $83 \%$ | $39 \%$ |
| Vol Right, \% | $88 \%$ | $17 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 152 | 168 | 336 |
| LT Vol | 18 | 0 | 204 |
| Through Vol | 0 | 139 | 132 |
| RT Vol | 134 | 29 | 0 |
| Lane Flow Rate | 165 | 183 | 365 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.215 | 0.235 | 0.472 |
| Departure Headway (Hd) | 4.682 | 4.641 | 4.654 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 763 | 771 | 771 |
| Service Time | 2.729 | 2.69 | 2.698 |
| HCM Lane V/C Ratio | 0.216 | 0.237 | 0.473 |
| HCM Control Delay | 9 | 9.1 | 11.8 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 0.8 | 0.9 | 2.6 |



| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.5$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 77 | 3 | 22 | 75 | 4 | 10 |
| Future Vol, veh/h | 77 | 3 | 22 | 75 | 4 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 3 | 24 | 82 | 4 | 11 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.5 |  | 7.6 |  | 7 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $29 \%$ | $0 \%$ | $23 \%$ |
| Vol Thru, \% | $0 \%$ | $96 \%$ | $77 \%$ |
| Vol Right, \% | $71 \%$ | $4 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 14 | 80 | 97 |
| LT Vol | 4 | 0 | 22 |
| Through Vol | 0 | 77 | 75 |
| RT Vol | 10 | 3 | 0 |
| Lane Flow Rate | 15 | 87 | 105 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.016 | 0.097 | 0.119 |
| Departure Headway (Hd) | 3.891 | 4.018 | 4.072 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 906 | 891 | 881 |
| Service Time | 1.975 | 2.043 | 2.092 |
| HCM Lane V/C Ratio | 0.017 | 0.098 | 0.119 |
| HCM Control Delay | 7 | 7.5 | 7.6 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0 | 0.3 | 0.4 |



| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.6$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{F}$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 101 | 5 | 5 | 90 | 0 | 25 |
| Future Vol, veh/h | 101 | 5 | 5 | 90 | 0 | 25 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 110 | 5 | 5 | 98 | 0 | 27 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.7 |  | 7.7 |  | 6.9 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $0 \%$ | $0 \%$ | $5 \%$ |
| Vol Thu, \% | $0 \%$ | $95 \%$ | $95 \%$ |
| Vol Right, \% | $100 \%$ | $5 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 25 | 106 | 95 |
| LT Vol | 0 | 0 | 5 |
| Through Vol | 0 | 101 | 90 |
| RT Vol | 25 | 5 | 0 |
| Lane Flow Rate | 27 | 115 | 103 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.028 | 0.129 | 0.117 |
| Departure Headway (Hd) | 3.705 | 4.031 | 4.078 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 947 | 888 | 878 |
| Service Time | 1.802 | 2.06 | 2.109 |
| HCM Lane V/C Ratio | 0.029 | 0.13 | 0.117 |
| HCM Control Delay | 6.9 | 7.7 | 7.7 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.4 | 0.4 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 3.3 |
| Intersection LOS | A |


| Approach | EB | WB | NB |
| :--- | ---: | ---: | ---: |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 115 | 103 | 27 |
| Demand Flow Rate, veh/h | 117 | 105 | 28 |
| Vehicles Circulating, veh/h | 5 | 0 | 112 |
| Vehicles Exiting, veh/h | 100 | 140 | 10 |
| Ped Vol Crossing Leg, \#/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.3 | 3.3 | 3.2 |
| Approach LOS | A | A | A |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 117 | 105 | 28 |
| Cap Entry Lane, veh/h | 1373 | 1380 | 1231 |
| Entry HV Adj Factor | 0.981 | 0.981 | 0.964 |
| Flow Entry, veh/h | 115 | 103 | 27 |
| Cap Entry, veh/h | 1347 | 1354 | 1187 |
| V/C Ratio | 0.085 | 0.076 | 0.023 |
| Control Delay, s/veh | 3.3 | 3.3 | 3.2 |
| LOS | A | A | A |
| 95th \%tile Queue, veh | 0 | 0 | 0 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.8$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 124 | 3 | 5 | 120 | 5 | 33 |
| Future Vol, veh/h | 124 | 3 | 5 | 120 | 5 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 135 | 3 | 5 | 130 | 5 | 36 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.9 |  | 7.9 |  | 7.2 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $4 \%$ |
| Vol Thru, \% | $0 \%$ | $98 \%$ | $96 \%$ |
| Vol Right, \% | $87 \%$ | $2 \%$ | $0 \%$ |
| Sign Control | 38 | 127 | 125 |
| Traffic Vol by Lane | 5 | 0 | 5 |
| LT Vol | 0 | 124 | 120 |
| Through Vol | 33 | 3 | 0 |
| RT Vol | 41 | 138 | 136 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.046 | 0.157 | 0.155 |
| Degree of Util (X) | 4.03 | 4.095 | 4.119 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 894 | 871 | 865 |
| Cap | 2.03 | 2.143 | 2.167 |
| Service Time | 0.046 | 0.158 | 0.157 |
| HCM Lane V/C Ratio | 7.2 | 7.9 | 7.9 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.1 | 0.6 | 0.5 |

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| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 8.1 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{\beta}$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 150 | 5 | 8 | 143 | 7 | 48 |
| Future Vol, veh/h | 150 | 5 | 8 | 143 | 7 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 163 | 5 | 9 | 155 | 8 | 52 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.2 |  | 8.2 |  | 7.5 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $5 \%$ |
| Vol Thru, \% | $0 \%$ | $97 \%$ | $95 \%$ |
| Vol Right, \% | $87 \%$ | $3 \%$ | $0 \%$ |
| Sign Control | 55 | Stop | Stop |
| Traffic Vol by Lane | 7 | 0 | 151 |
| LT Vol | 0 | 150 | 8 |
| Through Vol | 48 | 5 | 143 |
| RT Vol | 60 | 168 | 164 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.069 | 0.194 | 0.19 |
| Degree of Util (X) | 4.158 | 4.144 | 4.177 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 867 | 856 | 850 |
| Cap | 2.158 | 2.215 | 2.248 |
| Service Time | 0.069 | 0.196 | 0.193 |
| HCM Lane V/C Ratio | 7.5 | 8.2 | 8.2 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.2 | 0.7 | 0.7 |

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| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $14 \%$ | $0 \%$ | $60 \%$ |
| Vol Thru, \% | $0 \%$ | $84 \%$ | $40 \%$ |
| Vol Right, \% | $86 \%$ | $16 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 102 | 92 | 189 |
| LT Vol | 14 | 0 | 114 |
| Through Vol | 0 | 77 | 75 |
| RT Vol | 88 | 15 | 0 |
| Lane Flow Rate | 111 | 100 | 205 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.127 | 0.119 | 0.247 |
| Departure Headway (Hd) | 4.131 | 4.295 | 4.328 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 873 | 838 | 820 |
| Service Time | 2.136 | 2.305 | 2.411 |
| HCM Lane V/C Ratio | 0.127 | 0.119 | 0.25 |
| HCM Control Delay | 7.7 | 7.9 | 8.9 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.4 | 0.4 | 1 |

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| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 8.5 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{F}$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 101 | 16 | 96 | 90 | 11 | 109 |
| Future Vol, veh/h | 101 | 16 | 96 | 90 | 11 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | , |
| Mvmt Flow | 110 | 17 | 104 | 98 | 12 | 118 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.2 |  | 9 |  | 7.9 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $9 \%$ | $0 \%$ | $52 \%$ |
| Vol Thru, \% | $0 \%$ | $86 \%$ | $48 \%$ |
| Vol Right, \% | $91 \%$ | $14 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 120 | 117 | 186 |
| LT Vol | 11 | 0 | 96 |
| Through Vol | 0 | 101 | 90 |
| RT Vol | 109 | 16 | 0 |
| Lane Flow Rate | 130 | 127 | 202 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.15 | 0.154 | 0.251 |
| Departure Headway (Hd) | 4.151 | 4.355 | 4.472 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 866 | 825 | 80 |
| Service Time | 2.169 | 2.373 | 2.472 |
| HCM Lane V/C Ratio | 0.15 | 0.154 | 0.25 |
| HCM Control Delay | 7.9 | 8.2 | 9 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.5 | 0.5 | 1 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 10.1 |
| Intersection LOS | B |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | F |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 124 | 27 | 200 | 120 | 17 | 127 |
| Future Vol, veh/h | 124 | 27 | 200 | 120 | 17 | 127 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 135 | 29 | 217 | 130 | 18 | 138 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.8 |  | 11.3 |  | 8.8 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $62 \%$ |
| Vol Thru, \% | $0 \%$ | $82 \%$ | $38 \%$ |
| Vol Right, \% | $88 \%$ | $18 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 144 | 151 | 320 |
| LT Vol | 17 | 0 | 200 |
| Through Vol | 0 | 124 | 120 |
| RT Vol | 127 | 27 | 0 |
| Lane Flow Rate | 157 | 164 | 348 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.2 | 0.209 | 0.445 |
| Departure Headway (Hd) | 4.597 | 4.586 | 4.609 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 779 | 780 | 779 |
| Service Time | 2.637 | 2.629 | 2.646 |
| HCM Lane V/C Ratio | 0.202 | 0.21 | 0.447 |
| HCM Control Delay | 8.8 | 8.8 | 11.3 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 0.7 | 0.8 | 2.3 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 10.8 |
| Intersection LOS | B |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | F |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 150 | 30 | 204 | 143 | 18 | 138 |
| Future Vol, veh/h | 150 | 30 | 204 | 143 | 18 | 138 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 163 | 33 | 222 | 155 | 20 | 150 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 9.3 |  | 12.2 |  | 9.2 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $59 \%$ |
| Vol Thru, \% | $0 \%$ | $83 \%$ | $41 \%$ |
| Vol Right, \% | $88 \%$ | $17 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 156 | 180 | 347 |
| LT Vol | 18 | 0 | 204 |
| Through Vol | 0 | 150 | 143 |
| RT Vol | 138 | 30 | 0 |
| Lane Flow Rate | 170 | 196 | 377 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.223 | 0.254 | 0.49 |
| Departure Headway (Hd) | 4.736 | 4.674 | 4.681 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 755 | 765 | 766 |
| Service Time | 2.789 | 2.728 | 2.728 |
| HCM Lane V/C Ratio | 0.225 | 0.256 | 0.492 |
| HCM Control Delay | 9.2 | 9.3 | 12.2 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 0.9 | 1 | 2.7 |

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| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $0 \%$ | $0 \%$ | $5 \%$ |
| Vol Thru, \% | $0 \%$ | $95 \%$ | $95 \%$ |
| Vol Right, \% | $100 \%$ | $5 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 25 | 106 | 95 |
| LT Vol | 0 | 0 | 5 |
| Through Vol | 0 | 101 | 90 |
| RT Vol | 25 | 5 | 0 |
| Lane Flow Rate | 27 | 115 | 103 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.028 | 0.129 | 0.117 |
| Departure Headway (Hd) | 3.705 | 4.031 | 4.078 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 947 | 888 | 878 |
| Service Time | 1.802 | 2.06 | 2.109 |
| HCM Lane V/C Ratio | 0.029 | 0.13 | 0.117 |
| HCM Control Delay | 6.9 | 7.7 | 7.7 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.4 | 0.4 |



| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 7.7$ |  |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 113 | 6 | 6 | 100 | 0 | 30 |
| Future Vol, veh/h | 113 | 6 | 6 | 100 | 0 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 123 | 7 | 7 | 109 | 0 | 33 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 7.8 |  | 7.8 |  | 7 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $0 \%$ | $0 \%$ | $6 \%$ |
| Vol Thru, \% | $0 \%$ | $95 \%$ | $94 \%$ |
| Vol Right, \% | $100 \%$ | $5 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 30 | 119 | 106 |
| LT Vol | 0 | 0 | 6 |
| Through Vol | 0 | 113 | 100 |
| RT Vol | 30 | 6 | 0 |
| Lane Flow Rate | 33 | 129 | 115 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.035 | 0.145 | 0.131 |
| Departure Headway (Hd) | 3.858 | 4.047 | 4.1 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 934 | 883 | 872 |
| Service Time | 1.858 | 2.084 | 2.137 |
| HCM Lane V/C Ratio | 0.035 | 0.146 | 0.132 |
| HCM Control Delay | 7 | 7.8 | 7.8 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.5 | 0.5 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 3.4 |
| Intersection LOS | A |


| Approach | EB | WB | NB |
| :--- | ---: | ---: | ---: |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 130 | 116 | 33 |
| Demand Flow Rate, veh/h | 132 | 118 | 34 |
| Vehicles Circulating, veh/h | 7 | 0 | 125 |
| Vehicles Exiting, veh/h | 111 | 159 | 14 |
| Ped Vol Crossing Leg, \#/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.4 | 3.3 | 3.3 |
| Approach LOS | A | A | A |


| Lane | Left | Left | Left |
| :--- | ---: | ---: | ---: |
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized |  |  |  |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 132 | 118 | 34 |
| Cap Entry Lane, veh/h | 1370 | 1380 | 1215 |
| Entry HV Adj Factor | 0.981 | 0.982 | 0.971 |
| Flow Entry, veh/h | 130 | 116 | 33 |
| Cap Entry, veh/h | 1345 | 1354 | 1179 |
| V/C Ratio | 0.096 | 0.086 | 0.028 |
| Control Delay, s/veh | 3.4 | 3.3 | 3.3 |
| LOS | A | A | A |
| 95th \%tile Queue, veh | 0 | 0 | 0 |


| Intersection |  |
| :--- | :--- |
| Intersection Delay, s/veh | 8 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 137 | 4 | 6 | 131 | 6 | 40 |
| Future Vol, veh/h | 137 | 4 | 6 | 131 | 6 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 149 | 4 | 7 | 142 | 7 | 43 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.1 |  | 8.1 |  | 7.3 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $4 \%$ |
| Vol Thru, $\%$ | $0 \%$ | $97 \%$ | $96 \%$ |
| Vol Right, \% | $87 \%$ | $3 \%$ | $0 \%$ |
| Sign Control | 46 | 141 | 137 |
| Traffic Vol by Lane | 6 | 0 | 6 |
| LT Vol | 0 | 137 | 131 |
| Through Vol | 40 | 4 | 0 |
| RT Vol | 50 | 153 | 149 |
| Lane Flow Rate | 1 | 1 | 1 |
| Geometry Grp | 0.057 | 0.175 | 0.171 |
| Degree of Util (X) | 4.091 | 4.116 | 4.145 |
| Departure Headway (Hd) | Yes | Yes | Yes |
| Convergence, Y/N | 881 | 864 | 858 |
| Cap | 2.091 | 2.176 | 2.205 |
| Service Time | 0.057 | 0.177 | 0.174 |
| HCM Lane V/C Ratio | 7.3 | 8.1 | 8.1 |
| HCM Control Delay | A | A | A |
| HCM Lane LOS | 0.2 | 0.6 | 0.6 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 8.3 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | \% |  |
| Traffic Vol, veh/h | 164 | 6 | 10 | 156 | 9 | 57 |
| Future Vol, veh/h | 164 | 6 | 10 | 156 | 9 | 57 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 178 | 7 | 11 | 170 | 10 | 62 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.4 |  | 8.4 |  | 7.6 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $14 \%$ | $0 \%$ | $6 \%$ |
| Vol Thru, \% | $0 \%$ | $96 \%$ | $94 \%$ |
| Vol Right, \% | $86 \%$ | $4 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 66 | 170 | 166 |
| LT Vol | 9 | 0 | 10 |
| Through Vol | 0 | 164 | 156 |
| RT Vol | 57 | 6 | 0 |
| Lane Flow Rate | 72 | 185 | 180 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.084 | 0.214 | 0.211 |
| Departure Headway (Hd) | 4.239 | 4.177 | 4.213 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 850 | 888 | 841 |
| Service Time | 2.239 | 2.262 | 2.298 |
| HCM Lane V/C Ratio | 0.085 | 0.218 | 0.214 |
| HCM Control Delay | 7.6 | 8.4 | 8.4 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.3 | 0.8 | 0.8 |

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| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 8.4 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\hat{+}$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 89 | 16 | 118 | 86 | 14 | 89 |
| Future Vol, veh/h | 89 | 16 | 118 | 86 | 14 | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 97 | 17 | 128 | 93 | 15 | 97 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8 |  | 9 |  | 7.8 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $14 \%$ | $0 \%$ | $58 \%$ |
| Vol Thru, \% | $0 \%$ | $85 \%$ | $42 \%$ |
| Vol Right, \% | $86 \%$ | $15 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 103 | 105 | 204 |
| LT Vol | 14 | 0 | 118 |
| Through Vol | 0 | 89 | 86 |
| RT Vol | 89 | 16 | 0 |
| Lane Flow Rate | 112 | 114 | 222 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.131 | 0.137 | 0.267 |
| Departure Headway (Hd) | 4.199 | 4.325 | 4.336 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 858 | 832 | 816 |
| Service Time | 2.204 | 2.338 | 2.43 |
| HCM Lane V/C Ratio | 0.131 | 0.137 | 0.272 |
| HCM Control Delay | 7.8 | 8 | 9 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.5 | 0.5 | 1.1 |

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| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 8.6 |
| Intersection LOS | A |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | $\stackrel{\text { F }}{ }$ |  |  | $\uparrow$ | M |  |
| Traffic Vol, veh/h | 113 | 17 | 97 | 100 | 11 | 114 |
| Future Vol, veh/h | 113 | 17 | 97 | 100 | 11 | 114 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | , |
| Mvmt Flow | 123 | 18 | 105 | 109 | 12 | 124 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 8.3 |  | 9.1 |  | 8 |  |
| HCM LOS | A |  | A |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $9 \%$ | $0 \%$ | $49 \%$ |
| Vol Thru, \% | $0 \%$ | $87 \%$ | $51 \%$ |
| Vol Right, \% | $91 \%$ | $13 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 125 | 130 | 197 |
| LT Vol | 0 | 0 | 97 |
| Through Vol | 114 | 113 | 100 |
| RT Vol | 17 | 0 |  |
| Lane Flow Rate | 1 | 141 | 214 |
| Geometry Grp | 1 | 1 |  |
| Degree of Util (X) | 0.159 | 0.172 | 0.268 |
| Departure Headway (Hd) | 4.207 | 4.387 | 4.502 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 853 | 818 | 803 |
| Service Time | 2.229 | 2.41 | 2.502 |
| HCM Lane V/C Ratio | 0.159 | 0.172 | 0.267 |
| HCM Control Delay | 8 | 8.3 | 9.1 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.6 | 0.6 | 1.1 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 10.4 |
| Intersection LOS | B |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | F |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 137 | 28 | 201 | 131 | 18 | 134 |
| Future Vol, veh/h | 137 | 28 | 201 | 131 | 18 | 134 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 149 | 30 | 218 | 142 | 20 | 146 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 9.1 |  | 11.7 |  | 9 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $61 \%$ |
| Vol Thru, \% | $0 \%$ | $83 \%$ | $39 \%$ |
| Vol Right, \% | $88 \%$ | $17 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 152 | 165 | 332 |
| LT Vol | 18 | 0 | 201 |
| Through Vol | 0 | 137 | 131 |
| RT Vol | 134 | 28 | 0 |
| Lane Flow Rate | 165 | 179 | 361 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.214 | 0.231 | 0.466 |
| Departure Headway (Hd) | 4.665 | 4.637 | 4.65 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 767 | 771 | 772 |
| Service Time | 2.711 | 2.684 | 2.692 |
| HCM Lane V/C Ratio | 0.215 | 0.232 | 0.468 |
| HCM Control Delay | 9 | 9.1 | 11.7 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 0.8 | 0.9 | 2.5 |



| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 11.2 |
| Intersection LOS | B |


| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | F |  |  | $\uparrow$ | * |  |
| Traffic Vol, veh/h | 164 | 31 | 206 | 156 | 20 | 147 |
| Future Vol, veh/h | 164 | 31 | 206 | 156 | 20 | 147 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 178 | 34 | 224 | 170 | 22 | 160 |
| Number of Lanes | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  | WB |  | NB |  |
| Opposing Approach | WB |  | EB |  |  |  |
| Opposing Lanes | 1 |  | 1 |  | 0 |  |
| Conflicting Approach Left |  |  | NB |  | EB |  |
| Conflicting Lanes Left | 0 |  | 1 |  | 1 |  |
| Conflicting Approach Right | NB |  |  |  | WB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 1 |  |
| HCM Control Delay | 9.6 |  | 12.8 |  | 9.4 |  |
| HCM LOS | A |  | B |  | A |  |


| Lane | NBLn1 | EBLn1 | WBLn1 |
| :--- | ---: | ---: | ---: |
| Vol Left, \% | $12 \%$ | $0 \%$ | $57 \%$ |
| Vol Thru, \% | $0 \%$ | $84 \%$ | $43 \%$ |
| Vol Right, \% | $88 \%$ | $16 \%$ | $0 \%$ |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 167 | 195 | 362 |
| LT Vol | 20 | 0 | 206 |
| Through Vol | 0 | 164 | 156 |
| RT Vol | 147 | 31 | 0 |
| Lane Flow Rate | 182 | 212 | 393 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.243 | 0.279 | 0.517 |
| Departure Headway (Hd) | 4.817 | 4.738 | 4.733 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 741 | 752 | 759 |
| Service Time | 2.88 | 2.801 | 2.789 |
| HCM Lane V/C Ratio | 0.246 | 0.282 | 0.518 |
| HCM Control Delay | 9.4 | 9.6 | 12.8 |
| HCM Lane LOS | A | A | B |
| HCM 95th-tile Q | 1 | 1.1 | 3 |



## APPENDIX E

## Queuing Analysis Worksheets



[^8]

[^9]|  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |
|  | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Group | 475 | 49 | 376 | 447 | 33 | 270 |
| Lane Group Flow (vph) | 0.28 | 0.06 | 0.61 | 0.18 | 0.09 | 0.17 |
| V/c Ratio | 14.9 | 4.7 | 10.1 | 5.0 | 29.8 | 0.2 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 14.9 | 4.7 | 10.1 | 5.0 | 29.8 | 0.2 |
| Total Delay | 80 | 0 | 74 | 40 | 16 | 1 |
| Queue Length 50th (ft) | 127 | 20 | 115 | 56 | 44 | 0 |
| Queue Length 95th (ft) | 1084 |  |  | 1078 | 169 |  |
| Internal Link Dist ( (ft) |  | 225 | 375 |  |  |  |
| Turn Bay Length (ft) | 1722 | 795 | 792 | 2457 | 363 | 1583 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0.28 | 0.06 | 0.47 | 0.18 | 0.09 | 0.17 |
| Reduced v/c Ratio |  |  |  |  |  |  |

Intersection Summary

|  | $\rightarrow$ | 7 | $\downarrow$ | 4 | 4 | $p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Group Flow (vph) | 678 | 63 | 453 | 639 | 45 | 338 |
| v/c Ratio | 0.56 | 0.11 | 0.83 | 0.28 | 0.13 | 0.21 |
| Control Delay | 27.7 | 7.3 | 25.3 | 6.9 | 25.3 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.7 | 7.3 | 25.5 | 6.9 | 25.3 | 0.3 |
| Queue Length 50th (tt) | 166 | 0 | 129 | 71 | 21 | 0 |
| Queue Length 95th (ft) | 243 | 29 | 244 | 96 | 55 | 0 |
| Internal Link Dist (ft) | 1084 |  |  | 1078 | 169 |  |
| Turn Bay Length (tt) |  | 225 | 375 |  |  |  |
| Base Capacity (vph) | 1209 | 582 | 626 | 2316 | 355 | 1583 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 11 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.11 | 0.74 | 0.28 | 0.13 | 0.21 |

Intersection Summary

|  | $\rightarrow$ | \% | $t$ | 4 | 4 | $p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Group Flow (vph) | 254 | 39 | 196 | 315 | 28 | 110 |
| v/c Ratio | 0.17 | 0.06 | 0.32 | 0.14 | 0.07 | 0.07 |
| Control Delay | 16.7 | 6.0 | 9.1 | 7.5 | 31.8 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.7 | 6.0 | 9.1 | 7.5 | 31.8 | 0.1 |
| Queue Length 50th ( t ) | 45 | 0 | 44 | 35 | 12 | O |
| Queue Length 95th (ft) | 75 | 19 | 76 | 53 | 41 | 0 |
| Internal Link Dist (ft) | 1084 |  |  | 1078 | 169 |  |
| Turn Bay Length (ft) |  | 225 | 375 |  |  |  |
| Base Capacity (vph) | 1517 | 701 | 702 | 2182 | 422 | 1583 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced V/c Ratio | 0.17 | 0.06 | 0.28 | 0.14 | 0.07 | 0.07 |

[^10]

[^11]|  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |
|  | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Group | 621 | 60 | 430 | 584 | 40 | 323 |
| Lane Group Flow (vph) | 0.48 | 0.10 | 0.78 | 0.25 | 0.11 | 0.20 |
| V/c Ratio | 25.2 | 7.4 | 19.6 | 6.8 | 26.4 | 0.3 |
| Control Delay | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 25.2 | 7.4 | 19.7 | 6.8 | 26.4 | 0.3 |
| Total Delay | 140 | 0 | 103 | 64 | 20 | 1 |
| Queue Length 50th (ft) | 224 | 29 | 196 | 87 | 50 | 0 |
| Queue Length 95th (ft) | 1084 |  |  | 1078 | 169 |  |
| Internal Link Dist ( (ft) |  | 225 | 375 |  |  |  |
| Turn Bay Length (ft) | 1286 | 613 | 663 | 2316 | 355 | 1583 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 11 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0.48 | 0.10 | 0.66 | 0.25 | 0.11 | 0.20 |
| Reduced v/c Ratio |  |  |  |  |  |  |

Intersection Summary

|  | $\rightarrow$ |  | 7 |  | 4 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Group Flow (vph) | 887 | 78 | 530 | 836 | 57 | 414 |
| v/c Ratio | 0.92 | 0.16 | 0.93 | 0.36 | 0.16 | 0.26 |
| Control Delay | 49.0 | 7.8 | 46.9 | 7.5 | 27.0 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.0 | 7.8 | 52.4 | 7.5 | 27.0 | 0.4 |
| Queue Length 50th (ft) | -292 | 0 | 230 | 100 | 31 | 0 |
| Queue Length 95th (tt) | \#417 | 34 | \#417 | 131 | 61 | 0 |
| Internal Link Dist (ft) | 1084 |  |  | 1078 | 169 |  |
| Turn Bay Length (tt) |  | 225 | 375 |  |  |  |
| Base Capacity (vph) | 969 | 490 | 623 | 2320 | 354 | 1583 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 2 | 56 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 0.16 | 0.93 | 0.36 | 0.16 | 0.26 |
| Intersection Summary |  |  |  |  |  |  |
| ~ Volume exceeds capacity, queue is theoretically infinite. |  |  |  |  |  |  |
| Queue shown is maximum after two cycles. |  |  |  |  |  |  |
| \# 95th percentile volume exceeds capacity, queue may be longer. |  |  |  |  |  |  |
| Queue shown is maximum after two cycles. |  |  |  |  |  |  |


|  | $\stackrel{ }{*}$ | $\rightarrow$ | 7 | $\leftarrow$ | $\uparrow$ |  |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 10 | 28 | 1 | 18 | 130 | 5 | 8 | 168 | 18 |
| v/c Ratio | 0.07 | 0.15 | 0.01 | 0.14 | 0.09 | 0.00 | 0.01 | 0.10 | 0.01 |
| Control Delay | 33.2 | 21.9 | 38.0 | 28.6 | 5.5 | 0.0 | 1.6 | 1.1 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.2 | 21.9 | 38.0 | 28.6 | 5.5 | 0.0 | 1.6 | 1.1 | 0.0 |
| Queue Length 50th (ft) | 6 | 7 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 95th (ft) | 17 | 27 | 5 | 25 | 73 | 0 | 1 | 12 | 0 |
| Internal Link Dist (tt) |  | 483 |  | 424 | 183 |  |  | 169 |  |
| Turn Bay Length (t) | 75 |  | 100 |  |  | 50 |  |  |  |
| Base Capacity (vph) | 190 | 662 | 403 | 377 | 1468 | 1377 | 1004 | 1638 | 1406 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 221 | 0 |
| Spillback Cap Reductn | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.04 | 0.00 | 0.05 | 0.09 | 0.00 | 0.01 | 0.12 | 0.01 |

Intersection Summary

|  | $\rangle$ | $\rightarrow$ | 1 | $\longleftrightarrow$ | $\dagger$ | $p$ |  |  | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 52 | 46 | 8 | 51 | 214 | 4 | 8 | 155 | 30 |
| v/c Ratio | 0.26 | 0.14 | 0.07 | 0.31 | 0.16 | 0.00 | 0.01 | 0.11 | 0.02 |
| Control Delay | 30.6 | 22.6 | 37.9 | 36.7 | 9.1 | 0.0 | 2.7 | 2.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Delay | 30.6 | 22.6 | 37.9 | 36.7 | 9.1 | 0.0 | 2.7 | 2.4 | 0.0 |
| Queue Length 50th ( t ) | 23 | 16 | 4 | 22 | 48 | 0 | 1 | 10 | 0 |
| Queue Length 95th (ft) | 51 | 41 | 17 | 55 | 123 | 0 | m2 | 13 | 0 |
| Internal Link Dist (tt) |  | 483 |  | 424 | 183 |  |  | 169 |  |
| Turn Bay Length (tt) | 75 |  | 100 |  |  | 50 |  |  |  |
| Base Capacity (vph) | 212 | 675 | 310 | 399 | 1299 | 1214 | 812 | 1419 | 1234 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 671 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.07 | 0.03 | 0.13 | 0.16 | 0.00 | 0.01 | 0.21 | 0.02 |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  | $\rangle$ | $\rightarrow$ | 1 | $\longleftrightarrow$ | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 12 | 37 | 1 | 22 | 145 | 8 | 10 | 190 | 25 |
| v/c Ratio | 0.08 | 0.19 | 0.01 | 0.16 | 0.11 | 0.01 | 0.01 | 0.12 | 0.02 |
| Control Delay | 33.5 | 20.8 | 38.0 | 28.4 | 6.2 | 0.0 | 1.4 | 1.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Total Delay | 33.5 | 20.8 | 38.0 | 28.4 | 6.2 | 0.0 | 1.4 | 1.3 | 0.0 |
| Queue Length 50th ( t ) | 7 | 8 | 1 | 5 | 15 | 0 | 0 | 7 | 0 |
| Queue Length 95th (ft) | 19 | 31 | 5 | 28 | 82 | 0 | m2 | 12 | 0 |
| Internal Link Dist (tt) |  | 483 |  | 424 | 183 |  |  | 169 |  |
| Turn Bay Length (tt) | 75 |  | 100 |  |  | 50 |  |  |  |
| Base Capacity (vph) | 169 | 645 | 375 | 379 | 1352 | 1316 | 951 | 1555 | 1342 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 792 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.06 | 0.00 | 0.06 | 0.11 | 0.01 | 0.01 | 0.25 | 0.02 |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  | $\rangle$ | $\rightarrow$ | 1 | $\leftarrow$ | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 68 | 59 | 10 | 67 | 253 | 7 | 10 | 174 | 40 |
| v/c Ratio | 0.29 | 0.15 | 0.08 | 0.38 | 0.22 | 0.01 | 0.01 | 0.14 | 0.04 |
| Control Delay | 29.1 | 21.5 | 37.3 | 37.8 | 10.9 | 0.0 | 2.6 | 2.5 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 29.1 | 21.5 | 37.3 | 37.8 | 10.9 | 0.0 | 2.6 | 2.8 | 0.1 |
| Queue Length 50th ( t ) | 30 | 20 | 5 | 29 | 60 | 0 | 1 | 11 | 0 |
| Queue Length 95th (ft) | 62 | 48 | 20 | 67 | 150 | 0 | m1 | 13 | 0 |
| Internal Link Dist (tt) |  | 483 |  | 424 | 183 |  |  | 169 |  |
| Turn Bay Length (tt) | 75 |  | 100 |  |  | 50 |  |  |  |
| Base Capacity (vph) | 242 | 677 | 290 | 401 | 1138 | 1102 | 710 | 1268 | 1116 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 645 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.09 | 0.03 | 0.17 | 0.22 | 0.01 | 0.01 | 0.28 | 0.04 |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  | 4 | $\rightarrow$ | 7 | 4 | $\dagger$ | 7 |  | $\downarrow$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 59 | 123 | 21 | 91 | 309 | 32 | 42 | 354 | 91 |
| v/c Ratio | 0.27 | 0.32 | 0.16 | 0.46 | 0.31 | 0.03 | 0.07 | 0.29 | 0.09 |
| Control Delay | 29.4 | 24.8 | 38.4 | 37.2 | 15.0 | 0.1 | 2.4 | 4.3 | 1.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| Total Delay | 29.4 | 24.8 | 38.4 | 37.2 | 15.0 | 0.1 | 2.4 | 5.9 | 1.2 |
| Queue Length 50th (ft) | 27 | 47 | 11 | 39 | 106 | 0 | 3 | 65 | 3 |
| Queue Length 95th (ft) | 55 | 89 | 32 | 82 | 188 | 0 | m8 | 144 | m10 |
| Internal Link Dist (ft) |  | 483 |  | 424 | 183 |  |  | 169 |  |
| Turn Bay Length (ft) | 75 |  | 100 |  |  | 50 |  |  |  |
| Base Capacity (vph) | 220 | 620 | 259 | 382 | 988 | 971 | 634 | 1205 | 1066 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 657 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.20 | 0.08 | 0.24 | 0.31 | 0.03 | 0.07 | 0.65 | 0.09 |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

## Intersection Summary

m Volume for 95 th percentile queue is metered by upstream signal.

## APPENDIX F

## Site Plan

## LAKE GULCH WHISKEY RESORT

A PART OF SECTIONS 17 \& 18, TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M., COUNTY OF GILPIN, STATE OF COLORADO


## RESOLUTION 26-2020 A RESOLUTION <br> APPROVING A MINOR SUBDIVISION CREATING TWO LOTS AT 211-221 GREGORY STREET AND 201 SELAK STREET (CONTINUED TO <br> MAY 13, 2020)

## RESOLUTION 27-2020 A RESOLUTION APPROVING A CERTIFICATE OF ARCHITECTURAL COMPATIBILITY FOR THE RENOVATION OF A BUILDING AT 211-221 GREGORY STREET (CONTINUED TO <br> MAY 13, 2020)

## RESOLUTION 28-2020 A RESOLUTION CONSENTING TO AND EXTENDING THE ORDER DECLARING A LOCAL DISASTER EMERGENCY IN AND FOR THE CITY OF BLACK HAWK, COLORADO

# STATE OF COLORADO <br> COUNTY OF GILPIN CITY OF BLACK HAWK 

Resolution No. 28-2020

## TITLE: A RESOLUTION CONSENTING TO AND EXTENDING THE ORDER DECLARING A LOCAL DISASTER EMERGENCY IN AND FOR THE CITY OF BLACK HAWK, COLORADO

WHEREAS, the Colorado Disaster Emergency Act, C.R.S. § 24-33.5-701, et seq. (the "Act"), provides procedures for statewide and local prevention of, preparation for, response to, and recovery from disasters and emergencies;

WHEREAS, pursuant to the Act, an "emergency" is an unexpected event that places life or property in danger and requires an immediate response through the use of state and community resources and procedures, and an "emergency epidemic" is cases of an illness or condition, communicable or noncommunicable, caused by bioterrorism, pandemic influenza, or novel and highly fatal infectious agents or biological toxins;

WHEREAS, pursuant to C.R.S. § 24-33.5-709, a local disaster emergency may be declared "only by the principal executive officer of a political subdivision," here, the Mayor;

WHEREAS, pursuant to the City of Black Hawk Home Rule Charter, Article VIII, Section 13, in case of emergency, the Mayor assumes the authority to execute any action necessary for the protection of life and property, including the authority to establish regulations governing conduct and activities related to the cause of the emergency;

WHEREAS, on March 18, 2020, the Mayor did issue an order declaring a local disaster, which order is attached hereto as Exhibit A;

WHEREAS, pursuant to C.R.S. § 24-33.5-709(1) the declaration of a local emergency shall not be continued or renewed for a period in excess of 7 days except by or with the consent of City Council;

WHEREAS, pursuant to C.R.S. § 24-33.5-709(1), any order declaring, continuing, or terminating a local disaster emergency shall be given prompt and general publicity and shall be filed promptly with the City Clerk, the County Clerk and with the state office of emergency management; and

WHEREAS, immediately after it was issued, the attached order was given prompt and general publicity, was filed with the City Clerk and the Gilpin County Clerk and Recorder and was submitted to the Colorado Office of Emergency Management.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BLACK HAWK, COLORADO, THAT:

Section 1. The City Council hereby consents to and supports the Order Declaring a Local Disaster Emergency in and for the City of Black Hawk, Colorado.

Section 2. The City Council hereby extends the Order Declaring a Local Disaster Emergency in and for City of Black Hawk, Colorado until April 24, 2020, unless sooner terminated by action of City Council, at which time the Order may be extended by action of City Council.

Section 3. This Resolution shall be given prompt and general publicity, filed with the City Clerk and the Gilpin County Clerk and Recorder, and submitted to the Colorado Office of Emergency Management

RESOLVED AND PASSED this $25^{\text {th }}$ day of March, 2020.

David D. Spellman, Mayor

## ATTEST:

Melissa A. Greiner, cmC, City Clerk

# ORDER DECLARING A LOCAL DISASTER EMERGENCY IN AND FOR THE CITY OF BLACK HAWK, COLORADO 

WHEREAS, the Colorado Disaster Emergency Act, C.R.S. § 24-33.5-701, et seq. (the "Act"), provides procedures for statewide and local prevention of, preparation for, response to, and recovery from disasters and emergencies;

WHEREAS, pursuant to the Act, an "emergency" is an unexpected event that places life or property in danger and requires an immediate response through the use of state and community resources and procedures, and an "emergency epidemic" is cases of an illness or condition, communicable or noncommunicable, caused by bioterrorism, pandemic influenza, or novel and highly fatal infectious agents or biological toxins;

WHEREAS, pursuant to C.R.S. § 24-33.5-709, a local disaster emergency may be declared unilaterally by the principal executive officer of a political subdivision, here the Mayor;

WHEREAS, pursuant to the City of Black Hawk Home Rule Charter, Article VIII, Section 13 , in case of emergency, the Mayor assumes the authority to execute any action necessary for the protection of life and property, including the authority to establish regulations governing conduct and activities related to the cause of the emergency;

WHEREAS, pursuant to C.R.S. § 24-33.5-709, the declaration activates the response and recovery aspects of any applicable disaster emergency plans and authorizes the furnishing of aid and assistance under such plans;

WHEREAS, pursuant to C.R.S. § 24-33.5-709(1) the declaration of a local emergency shall not be continued beyond a period of seven days or removed except by action of the City Council;

WHEREAS, pursuant to C.R.S. § 24-33.5-709(1), any order declaring, continuing, or terminating a local disaster "shall be given prompt and general publicity and shall be filed promptly with the shall be filed promptly with the county clerk and recorder, the city clerk....and with the office of emergency management"; and

WHEREAS, because of the COVID-19 pandemic, which was recognized by the Governor of the State of Colorado on March 10,2020, the City of Black Hawk is suffering and has suffered a disaster emergency as defined in the Act.

NOW, THEREFORE, IT IS HEREBY ORDERED, this $18^{\text {th }}$ day of March, 2020, that a disaster emergency is declared in and for the City of Black Hawk, Colorado, beginning on this day and ending March 25,2020, unless extended by action of the City Council.

IT IS FURTHER ORDERED that this Order shall be given prompt and general publicity, filed immediately with the City Clerk, and a copy of it shall be sent to the Gilpin County Clerk and Recorder as well as to the Colorado Office of Emergency Management.


Melissa A. Greiner, CMC, City Clerk


# CITY OF BLACK HAWK REQUEST FOR COUNCIL ACTION 

SUBJECT: Extension of the Order Declaring a Local Disaster Emergency
RECOMMENDATION: Staff recommends the following motion to the Mayor and Board of Aldermen:

MOTION TO APPROVE Resolution 28-2020, A Resolution Consenting to and Extending the Order Declaring a Local Disaster Emergency in and For the City of Black Hawk, Colorado

## SUMMARY AND BACKGROUND OF SUBJECT MATTER:

Response to Coronavirus COVID-19.

AGENDA DATE:

WORKSHOP DATE:
FUNDING SOURCE:

March 25, 2020

N/A
Various line items
DEPARTMENT DIRECTOR APPROVAL: [ X ]Yes [ ]No

Melissa Greiner, CMC
City Clerk/Administrative Service Director
"Exhibit A" Order Declaring a Local Disaster Emergency In and For the City of Black Hawk, Colorado

## RECORD: [ ]Yes [ X ]No

CITY ATTORNEY REVIEW: [ ]Yes [ X ]N/A

## SUBMITTED BY:



Melissa A. Greiner, CMC
City Clerk/Administrative Services Director

REVIEWED BY:


Stephen N. Cole
City Manager

## RESOLUTION 29-2020 A RESOLUTION APPROVING THE 2020 FIREWORKS <br> PRODUCTION CONTRACT BETWEEN THE CITY OF BLACK HAWK AND WESTERN ENTERPRISES, INC.

Resolution No. 29-2020

TITLE: A RESOLUTION APPROVING THE 2020 FIREWORKS PRODUCTION CONTRACT BETWEEN THE CITY OF BLACK HAWK AND WESTERN ENTERPRISES, INC.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE CITY OF BLACK HAWK, COLORADO, THAT:

Section 1. The Board of Aldermen hereby approves the Fireworks Production Contract between the City and Western Enterprises, Inc., and authorizes the Mayor to execute the same on behalf of the City.

RESOLVED AND PASSED this $25^{\text {th }}$ day of March, 2020.

> David D. Spellman, Mayor

ATTEST:

Melissa A. Greiner, CMC, City Clerk

## CITY OF BLACK HAWK REQUEST FOR COUNCIL ACTION

SUBJECT: Fireworks Production Contract between the City of Black Hawk and Western Enterprises, Inc.

RECOMMENDATION: Staff recommends the following motion to the Mayor and Board of Aldermen:

MOTION TO APPROVE Resolution 29-2020, A Resolution Approving the 2020 Fireworks Production Contract between the City of Black Hawk and Western Enterprises, Inc.

## SUMMARY AND BACKGROUND OF SUBJECT MATTER:

Boom Town Fireworks Production Contract for 2020 with a $6 \%$ increase since over last year's contact. The increase is due to increased production cost from overseas suppliers.

## AGENDA DATE:

WORKSHOP DATE:
FUNDING SOURCE:

March 25, 2020
October 23, 2019
010-1101-4115828

DEPARTMENT DIRECTOR APPROVAL: [ X ]Yes [ ]No
STAFF PERSON RESPONSIBLE:

Melissa Greener, CMC
City Clerk/Administrative Service Director
Memo from City Manager Cole
Western Enterprises, Inc. Fireworks
Production Contract

RECORD: [ ]Yes [ X ]No
CITY ATTORNEY REVIEW: [ ]Yes [ X ]N/A

SUBMITTED BY:


Melissa A. Greener, CMC
City Clerk/Administrative Services Director

REVIEWED BY:


Stephen N. Cole
City Manager
black hAwk


INCORPORATED 1864

Office of the City Manager<br>201 Selak Street<br>P.O. Box 68<br>Black Hawk, CO 80422<br>www.cityofblackhawk.org<br>303-582-2200 Office<br>303-582-0848 Fax

Mayor
David D. Spellman

## Aldermen

Linda Armbright Paul G. Bennett Hal Midcap
Jim Johnson
Greg Moates
Benito Torres
City Attorney
Corey Y. Hoffmann
City Manager
Stephen N. Cole
City Clerk /
Administrative Services Director
Melissa A. Greiner
Finance Director
Lance R. Hillis
Fire Chief / Emergency Manager
Christopher K. Woolley
Police Chief
Kenneth E. Lloyd
Public Works Director
Thomas Isbester
Community Planning \& Development Director Cynthia L. Linker

## COLORADO'S SECOND OLDEST MUNICIPAL CORPORATION

## MEMORANDUM


#### Abstract

TO: The Honorable Mayor and Board of Aldermen FROM: Stephen N. Cole, City Manager SNC SUBJECT: 2020 Boom Town Fireworks Presentation DATE: March 19, 2020 Staff reviewed last year's Fourth of July Fireworks Show and recommended changes to the 2020 fireworks show. This report is divided into three (3) sections: Western Enterprise Recommendations for the 2020 show, Staff Recommendations, and Projected expenses of the 2020 show as compared to 2019. A full description of the proposal made by Western Enterprises is attached to this memo.


## Western Enterprise Recommendations for the 2020 Show

This year's proposed show will last 30 minutes as usual but includes a couple of changes worth noting.

During the 2019 Show, Western Enterprises fired numerous 2.5 -inch, 3 -inch, and 5 -inch shells from the Casey. The 2.5 -inch shells detonated closer to the ground, creating a greater fire danger. The size of the Casey site limits the size of shells that can be safely fired from that location while the Mesa site can accommodate larger shells. In 2019 the Mesa show included 5 -inch, 6 -inch, and 10 -inch shells.

This year, the Casey Show will only include 3 -inch and 4inch shells. Western Enterprise indicated the change from 2.5 -inch shells to 3 -inch shells would reduce the risk of a fire, but not entirely eliminate it. Western Enterprises stated the difference between the 4 -inch shells and last year's 5 -inch shells would not be discernable to the viewer. This year's Mesa show will include more 6 -inch shells.

Redistributing the shells shot from each site will result in more shells fired from the Mesa than in past years. The
goal is to create a complete show from each site that will compliment each other during the 30 -minute fireworks show.

## Staff Recommendations:

- The Fire Department was concerned about the fallout from the fireworks shot on the Casey Chase, which fell in Chase Gulch. They suggested we review our selection of fireworks to ensure debris is not burning when it hits the ground.
- Response: The Fire Department will assign resources to Chase Street to spot fires if staffing is available.
- Response: Western Enterprises will increase the size of the small shells from 2.5 inch to 3 -inch shells on the Casey, increasing the height of the fireworks at detonation.
- The Fireworks on the Mesa drew a large crowd, but the fireworks show was notably smaller than the Casey show. Staff suggests increasing the size of the show on the Mesa.
- Response: Western Enterprises will allocate more fireworks to the Mesa Show. The five (5) inch shells previously fired on the Casey will be eliminated, and add 6 -inch shells will to the Mesa.
- Crowd size seemed larger in 2019 as compared to previous years, possibly because several communities canceled their fireworks shows in 2019. Allocate more police resources to the show.
- Response: Police will allocate additional staff to the show, if available.
- Increase police patrol on Maryland Mountain to prevent unauthorized campers and campfires.
- Response: Police will assign additional staff to the Park on an ATV to patrol the area if staffing is available.
- Additional signage is needed along the main trails of Maryland Mountain, prohibiting hiking and camping after dark.
- Response: Public Work will place temporary signs at main entrances to Maryland Mountain Recreational Park.
- Add eight (8) additional port-a-pots @\$110 each for the old Post Office site, Briggs lot, Bobtail area, and Miner's Mesa locations.
- Response: Public Works will rent additional port-a-pots and identify appropriate locations.
- Add temporary trash containers at high occupancy areas like the Briggs lot, Miner's Mesa, old Post Office Site, and Bobtail area.
- Response: Public Works will rent additional trash containers, if available. Eliminate trash containers at Briggs lot and Bobtail in 2020 due to current construction activity.
- Review methods of screening traffic entering residential areas.
- Response: Public Works will provide instruction to contract workers.
- Add 'No parking' signs along Gregory at Mountain City and the Bobtail Mine area.
- Response: Public Works will purchase and place temporary signs and place where appropriate.


## Projected Expenses

In 2019 the City spent approximately $\$ 104,729$ for the entire fireworks show, not including on-duty staff time. The fireworks show itself was $\$ 96,000$. The 2019 expenditures were as follows:

Fire Department staffing - 44 hours of overtime pay $\$ 1,267$
Police Department staffing - 18 hours of overtime pay $\$ 1,368$
Public Works staffing - 8 hours of overtime pay \$376
Western Enterprises (Fireworks show) \$96,000
Sand for launch sites \$874
Portable Port-a-Pots (10 units)
\$1,100
Colorado Barricade-flaggers at residential streets
\$3,744
2019 Cost \$104,729
In 2020 the estimated cost of the fireworks show provided by Western Enterprises is $\$ 101,760.00$. That expense, coupled with additional expenditures, brings the total cost of the 2020 Fireworks Show to approximately $\$ 112,269.00$. Estimated expenditures are as follows:

| Fire Department staffing for overtime | $\$ 1,667$ |
| :--- | :--- |
| Police Department staffing for overtime | $\$ 1,868$ |
| Public Works staffing overtime pay | $\$ 376$ |
| Western Enterprises (Fireworks show) | $\$ 101,760$ |
| Sand for launch sites | $\$ 874$ |
| Portable Port-a-Pots (10 units plus 8 more) | $\$ 1,980$ |
| Colorado Barricade-flaggers at residential streets | $\$ 3,744$ |
| ATV Unit for patrolling Maryland Mountain | TBD |
| Estimated 2020 Cost | $\$ 112,269$ |

After reviewing the recommendations made by staff after last year's show and discussing improvements to the show, we recommend the described changes to improve the experience of our residents and visitors at this year's show.


February 19, 2020
Melissa Greiner, City Clerk
City of Black Hawk
P.O. Box 68

Black Hawk, CO 80422
Dear Melissa;
I want to thank you and Steve again for your kindness in allowing Larry and me to meet with you to discuss the 2020 Boom Town $4^{\text {th }}$ of July Fireworks Production. I believe that we accomplished a lot during our meeting, as we were able to come up with a good plan to modify the program so that we can fire from both locations (Casey location and Mesa location) at the same time throughout the entire performance. This should truly improve the performance as it will "connect" both locations throughout the production.

I know we spent some time talking about the subject of tariffs that were to be imposed on certain items, including fireworks; and we were very concerned about how high the tariffs would end up. After our meeting, I attended a Pyrotechnic Conference last week, during which I learned that the $7.5 \%$ tariff on fireworks were going to be suspended for a while, which means that at present, there are no tariffs on display fireworks. That was the good news. However. we found out there is some bad news as well, which pertains to the increased cost of insurance. The Insurance Carriers for the Insurance Industry increased their excess limits (the amount of coverage over $\$ 1,000,000$ ) by six percent ( $6 \%$ ), which forces us to increase by $6 \%$.

Considering this $6 \%$ increase for insurance, your "Fireworks Production Contract" details a \$101,760 Pyrotechnic Production that includes $\$ 10,000,000$ fireworks liability coverage, a crew of Colorado certified pyrotechnic operators who will be in charge of the load-in/firing/load-out of the equipment and fireworks, and the design coordination of two (2) firing locations that will coincide with each other throughout the performance. (Our operators are covered by worker's compensation coverage, with statutory limits of the state of Colorado.)

As we discussed in our meeting, I have restructured your program that will allow us to stage your performance from both the Casey and Mesa locations throughout the show's entirety. To accomplish this, I deleted the smaller shells ( 2.5 ") in the program and applied the money toward six-inch ( 6 ") shells, which will be fired from the Mesa location. I also moved the five-inch ( $5^{\prime \prime}$ ) shells from the Casey location to the Mesa location. And I moved the "mini-finale" into the main body and also a portion into the GRAND FINALE as well.

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You also asked if our technicians could fire the shells in such a fashion that will help the audience distinguish the very special shells that are in the performance. And we will accomplish this by ensuring that our technicians fire the aerial shells in more "designed flights" of the same effects, rather than fire shells so quickly that they cover each other up and get "lost in the multitude of shells firing at the same time". By doing this, your show will be more dynamic and effective for the audience, from wherever they are located.

We are very excited by our new line of aerial shells that we will integrate into your performance for this year. Some of these new aerial shells we have for this season are; "Crossette Rings w/Brocade Pistils, Ghost Pattern Shells, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing". There will also be sequences of our animated special shells such as; Humming Birds, Silver Pinwheels and Whistling Bees. Your show will have a myriad of pyrotechnic aerial shells to entertain your audience!

Your pyrotechnic production will begin with a barrage of titanium salutes (loud reports with "silver flash") from both locations, which is always a tremendous way to catch the attention of everyone in the viewing areas. And then after the "Opening Announcement", your show will proceed throughout its entirety in an ever-changing Pyrotechnic Aerial Dance! Everything builds in momentum to the one-of-a-kind Black Hawk Grand Finale, which is truly the most powerful element in your production.

- This special "Grand Finale" has truly become the most spectacular "Grand Finale" in the state of Colorado, especially since it is now fired from two (2) separate firing locations; one location being the Casey Street Site and the other location being the Miner's Mesa Site. Your Finale closing will begin with a breathtaking barrage of Red Flower Shells, followed by a barrage of Silver Flower Shells, followed by another barrage of Blue Flower Shells, followed by a barrage of Golden Silk Flower shells, which ultimately culminates in a massive barrage of Staccato Report Salutes, and heavy Titanium Report Bombs which echo reverberating thunder through the valley bringing a thrilling conclusion to the 2020 BLACK HAWK JULY $4^{\text {th }}$ FIREWORKS SPECTACULAR!

We want to thank the Town of Black Hawk for graciously providing us the opportunity to deliver our trucks prior to the display and park them up on Miner's Mesa, and we hope that you will allow us to do so again this year. Your display is of such magnitude that it requires several days for the fireworks crew to conduct the "load-in, firing and load-out" of the fireworks. And this year will definitely require more logistical planning since both locations will have a substantial quantity of fireworks.

Also, through the years, Tom Isbester and his staff have graciously provided our crew immeasurable assistance in not only "grading and leveling the road to the Casey site, but also for providing sand and a frontend loader for the Miner's Mesa site". This preparatory work is invaluable, and we hope that Tom and his staff will be able to assist our fireworks crew again for this year's show.

Creating the Spectrum of Pyrotechnic Production Excellence

Ms. Melissa Greiner

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We are also offering our early payment discount option through April 3, 2020. This prepayment option allows you to either deduct the five percent amount of $(\$ 5,088.00)$ from the total contract amount or this amount can be allocated toward the "purchase" of additional shells to enhance the "Grand Finale", These additional shells are itemized on page Eleven (11).

In closing, we have always considered it an honor to stage the fireworks for the Boom Town $4^{\text {th }}$ of July Spectacular, and we are deeply grateful to have the privilege of showcasing our pyrotechnics for one of the premier pyrotechnic productions in the country. We are so proud to be a part of your event!

Once again, we thank you for everything and I ask that if you have any questions whatsoever, please do not hesitate to contact me anytime at 800-375-2204.

With my best wishes,
Respectfully,


Jim Burnett
WESTERN ENTERPRISES, INC.

## FIREWORKS PRODUCTION CONTRACT

1. This Contract is entered into this $\qquad$ day of $\qquad$ , 20 $\qquad$ , by and between WESTERN ENTERPRISES, INC., designated herein as the "SELLER", and CITY OF BLACK HAWK, designated herein as the "PURCHASER" for a fireworks production to be held on JULY 4, 2020.
2. SELLER will secure, prepare and deliver said fireworks as outlined, or will make necessary substitutions of equal or greater value. SELLER will include the services of a Pyrotechnic Operator to take charge of, set up and fire the display, along with such help as he deems necessary to perform the fireworks display safely, and in accordance with such Federal, State or Local laws that might be applicable.
3. SELLER agrees that the Operator and Assistant(s) are to check the display area after the presentation of the fireworks display for any "duds" or other material, which might not have ignited. Any such material, found by any person other than the Operator, shall be turned to the Operator for safekeeping or disposal of said material.
4. PURCHASER will furnish the secured minimum safety distances established by the SELLER after an on-site inspection of the proposed firing location. PURCHASER will provide adequate police protection, security personnel (Monitors) around the display site perimeter, and/or other adequate security to maintain these distances. PURCHASER also agrees to have a fire truck available on location during the display, provide sand and front-end loader (only if necessary) for set-up, and security during time of set-up and show firing.
5. A Certificate of Insurance covering the fireworks display will be provided by the SELLER upon signing of the contract, for coverage in the amount of TEN MILLION DOLLARS $(\$ 10,000,000.00)$ broad form, bodily injury and property damage liability, and Comprehensive Automobile Liability Combined Single Limit. SELLER provides Statutory Workers Compensation Coverage on their technicians. PURCHASER agrees to provide a complete list of all Additional Insured's to be named on the certificate. Those entities/individuals listed on the certificate of insurance shall be deemed as additional insured per this contract.
6. It is agreed and understood that the PURCHASER will pay to the SELLER the sum of ONE HUNDRED ONE THOUSAND SEVEN HUNDRED SIXTY DOLLARS \& NO/100 $(\$ 101,760.00)$ to be paid within fifteen (15) days after the date of the display. HOWEVER, if payment is made in full by April 3, 2020, a five percent (5\%) discount $(\$ 5,088,00)$ will apply. That discount can either be deducted from the total contract price, or the PURCHASER may elect to receive that amount of extra pyrotechnic product in lieu of the discount. Unpaid accounts are subject to one percent ( $1 \%$ ) interest charge per month after fifteen days.
7. In the event of inclement weather or other adverse conditions, so as to cause postponement of the display it is agreed and understood that PURCHASER will notify SELLER regarding the postponement date, normally the following night, or at some future date within the calendar year. If the PURCHASER will not re-schedule the display within the calendar year, or completely cancels the display, the PURCHASER agrees to pay to the SELLER Thirty percent $\mathbf{( 3 0 \%}$ ) of the cost of the display $(\mathbf{\$ 3 0 , 5 2 8 . 0 0})$. If the prepayment option has been exercised, SELLER will refund to PURCHASER the total amount paid, less the $30 \%$ mentioned above.
8. Witness whereof, we have caused our signatures to be affixed to this Document, on this $\qquad$ day of
$\qquad$ , 20 $\qquad$ .


## CITY OF BLACK HAWK

 PURCHASERBY:
authorized agent


## Western Enterprises, Inc.

(Performance at Montreal International Fireworks Competition 2016)

## Pyrotechnic Production Proposal

# City of Black Hawk, Colorado July 4, 2020 

Attn: Melissa Greiner<br>City Clerk/Administrative Services Director

Creating the Spectrum of Pyrotechnic Production Excellence
Web Site: www.fireworksbywestern.com


February 19, 2020

CITY OF BLACK HAWK BLACK HAWK, COLORADO 4TH OF JULY SPECTACULAR JULY 4, 2020

Ms. Melissa Greiner, City Clerk
City of Black Hawk
P.O. Box 68

Black Hawk, CO 80422
(303) 582-2292

## ***PYROTECHNIC PRODUCTION PROPOSAL****

As a beginning declaration, this program proposal is a written sequence of the very best aerial shells and pyrotechnic devices anywhere. All ideas, concepts, and itemized product listing are deemed confidential, and are intended solely for the client's review, and should not be disseminated to anyone other than those persons who are a part of the committee for this event.

1. PURPOSE. Western Enterprises, Inc. considers it an honor to provide the following proposal for the production of a pyrotechnic exhibition to be held in conjunction with the $2020 \mathrm{BLACK} \boldsymbol{H A W K} 4 t h$ OF JULY SPECTACULAR. We are very excited to include in your production some extremely unique products that we have purchased exclusively from five (5) different factories in China. And to accompany these products with our own special-made designer shells that we manufacture in our own facility, it is with great pride that we are committed to staging an evening of "Pyrotechnic Magic" for your audience.
2. FIRING SITE. All pyrotechnics will be fired from a designated point, which meets approval of the Black Hawk Fire Department.
3. PLANNING CONSIDERATIONS. The following provides a list of specific considerations in relationship to this performance.
a. Duration. The duration of your fireworks display has normally been approximately 30 -minutes in length. However, since this production is fired electronically, the operators can accurately fire your display so that it will last a precise length of time. If you have a specific amount of time that you prefer your display to last, please let us know and we will accommodate your preference.
b. Insurance. The coverage provided under this program is $\$ 10,000,000$ per occurrence for Broad Form, Contractual, Bodily Injury and Property Damage, and includes all necessary additional insureds. All Western Enterprises vehicles hauling explosives are covered with $\$ 10,000,000$ liability coverage. All Western Enterprises technicians are covered by statutory limits of Colorado State Worker's Compensation.
c. Permits. All necessary permits, clearances and documentation regarding pyrotechnics whether federal, state or municipal, is the responsibility of Western Enterprises, Inc.
d. Labor. A Colorado licensed pyrotechnic operator and crew from Western Enterprises will be in charge of handling the "load in, staging, firing and load out" of the pyrotechnic production.
e. Musical Accompaniment. This production is NOT scheduled to be choreographed to music, HOWEVER, if you do wish to have a performance staged to music, Western Enterprises, Inc. will produce a special musical score that is appropriate to the theme of the event. The music will be prerecorded on a format that is acceptable to the Pyrotechnic firm and the sound contractor selected by the client. It is very important to finalize the music by May $1^{\text {st }}$ so as to allow our pyrotechnic choreographer, Gary Caimano, adequate time to design the pyrotechnics to the music.
4. GENERAL OVERVIEW OF PERFORMANCE. Your performance will include a wide variety of pyrotechnic products from around the world, including some of the very unique products profiled for the 2020 season and also a breath-taking array of special-made aerial shells that we have showcased in the 2016 International Fireworks Competition where we represented the United States. Some of the newly designed aerial shells that we will showcase in your performance are "Crossette Rings w/Brocade Pistils, Ghost Patterns, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing".
5. MUSIC REQUIREMENTS. If you wish to have your pyrotechnics fired to music, Western Enterprises will be pleased to produce a special music arrangement that is appropriate to the event. This service is offered at no additional charge to the client. The choreographic design of the pyrotechnics to a music production is a true art form and requires days of preparation. The design choreographer will ensure that color combinations and effects are blended together to match the music. Each and every shell is "back-timed" so that they will actually break in the sky at the appropriate time. This ensures the synchronization of the pyrotechnics to the music. "Command cues" are placed on a separate track of the CD and are transmitted to the firing location of the fireworks, so that the pyrotechnic operators will be firing in synchrony to the music.

Your performance for 2020 will BEGIN with a tremendous salvo of "Titanium Salute Shells" from both locations (Casey Street site and Miner's Mesa site). This powerful beginning to your production will provide an exciting announcement to your show! From this point on, your how will flow from both locations, showcasing special Pattern Shells, a breathtaking array of Flower Shells and Animated effects throughout the entire performance to delight your audience.

| TO: | MELISSA GREINER |
| :--- | :--- |
| EVENT: | CITY OF BLACK HAWK 4TH OF JULY SPECTACULAR |
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After the main body of your performance concludes, your audience will be thrilled by the one-of-a-kind, signature BLACK HAWK "Grand Finale". This special "Grand Finale" has truly become the most dynamic "Grand Finales" in the state of Colorado, especially since it is fired from two (2) separate firing locations. Your Grand Finale will not only be staged from the regular firing location, but also from the top of Miner's Mesa as well. This spectacular Finale closing will begin with a breathtaking barrage of Red Flower Shells, followed by a barrage of Silver Flower Shells, followed by another barrage of Blue Flower Shells, followed by a barrage of Golden Silk Flower shells, which ultimately culminates in a massive barrage of Staccato Report Salutes, and heavy Titanium Report Bombs which echo reverberating thunder through the valley bringing a thrilling conclusion to the 2020 BLACK HAWK JULY $4^{\text {th }}$ FIREWORKS
SPECTACULAR!

## 'GRAND FINALE SEQUENCE" (Casey location)

20-10/3" RED FLOWER CHAINS (200-3" Red Shells)
11-5/4" RED FLOWER SHELLS (55-4" Red Shells)
20-10/3" WHITE/SILVER FLOWER CHAINS (200-3" White/Silver Shells)
11-5/4" WHITE/SILVER FLOWER CHAINS (55-4" White/Silver Shells)
20-10/3' BLUE FLOWER CHAINS (200-3" Blue Shells)
11-5/4" BLUE FLOWER CHAINS (55-4" Blue Shells)
20-10/3" BROCADE FLOWER SHELLS (200-3" Gold Silk Shells)
11-5/4" BROCADE FLOWER SHELLS (55-4" Gold Silk Shells)
10-10/3" TITANIUM SALUTE BOMBS (100 - Titanium Salute Bombs)

# 'GRAND FINALE SEQUENCE" (Miner's Mesa location) 

## 36-5" RED FLOWER SHELLS <br> 24 - 6" RED FLOWER SHELLS <br> 4 - 8" RED FLOWER SHELLS

$36-5 "$ WHITE FLOWER SHELLS
$24-6 "$ WHITE FLOWER SHELLS
$4-8 "$ WHITE FLOWER SHELLS
36-5" BLUE FLOWER SHELLS
24-6" BLUE FLOWER SHELLS
4 - 8" BLUE FLOWER SHELLS

TO: MELISSA GREINER
EVENT: CITY OF BLACK HAWK 4TH OF JULY SPECTACULAR
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# "GRAND FINALE SEQUENCE" - Continued (Miner's Mesa location) 

36-5' BROCADE FLOWER SHELLS
24 - 6" BROCADE FLOWER SHELLS
4-8" BROCADE FLOWER SHELLS
2 - 10" BROCADE FLOWER SHELL
6 - 10/3" TITANIUM SALUTE BOMBS (60 - Titanium Salute Bombs)

This brings a thrilling conclusion to the 2019 BLACK HAWK $4^{\text {th }}$ of JULY FIREWORKS SPECTACULAR!

## ITEMIZED PRODUCT LISTING

## NOTE TO PACKING DEPARTMENT:

1. Please note that this show is complicated, so please be careful when packing!
2. This show has two (2) different Firing Locations. One location is "Regular Location" and the other location is "Miner's Mesa location". So, please pack according to Location.
3. Please notice that all 5 " and larger shells should be packed separate and mark on boxes "Miner's Mesa".

## OPENING SHELLS

## CASEY LOCATION (45 Shells)

1-5/3" SILVER TIGER TAIL COMET BARRAGE (5-3" Tiger Tail Comets, "Opening Barrage")
4-10/3" TITANIUM SALUTE CHAINS (40-3" Titanium Report Bombs for "Opening Barrage")

## MINER'S MESA LOCATION (45 Shells)

1-5/3" SILVER TIGER TAIL COMET BARRAGE (5-3" Tiger Tail Comets, "Opening Barrage") 4-10/3" TITANIUM SALUTE CHAINS (40-3" Titanium Report Bombs for "Opening Barrage")

TO: MELISSA GREINER
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## "GRAND FINALE"

(Casey Location)
20-10/3" RED FLOWER CHAINS (200-3" Red Shells)
11-5/4" RED FLOWER SHELLS (55-4" Red Shells)
20-10/3" WHITE/SILVER FLOWER CHAINS (200-3" White/Silver Shells)
11-5/4" WHITE/SILVER FLOWER CHAINS (55-4" White/Silver Shells)
20-10/3" BLUE FLOWER CHAINS (200-3" Blue Shells)
11-5/4" BLUE FLOWER CHAINS (55-4" Blue Shells)
20-10/3" BROCADE FLOWER SHELLS (200-3" Gold Silk Shells)
11-5/4" BROCADE FLOWER SHELLS (55-4" Gold Silk Shells)
10-10/3" TITANIUM SALUTE BOMBS (100 - Titanium Salute Bombs)

# 'GRAND FINALE" <br> (Miner's Mesa location) 

36-5" RED FLOWER SHELLS
24 - 6" RED FLOWER SHELLS
$4-8$ " RED FLOWER SHELLS
36-5" WHITE FLOWER SHELLS
24-6" WHITE FLOWER SHELLS
4-8" WHITE FLOWER SHELLS
36-5" BLUE FLOWER SHELLS
24-6" BLUE FLOWER SHELLS
4-8" BLUE FLOWER SHELLS
36-5" BROCADE FLOWER SHELLS
24 - 6" BROCADE FLOWER SHELLS
4 - 8" BROCADE FLOWER SHELLS
2 - 10" BROCADE FLOWER SHELL
6 - 10/3" TITANIUM SALUTE BOMBS (60 - Titanium Salute Bombs)

| TO: | MELISSA GREINER |
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## THREE INCH SHELLS (550)

50 - AERIAL BOMBS (Heavy reporting salutes)
100 - COLOR \& FANCY STAR SHELLS (Consisting of: Ruby, Blue, Emerald, Pearl, Yellow \& Purple with Titanium Twinklers \& Aluminum Flitters)
100 - ORIENTAL FLOWER PATTERNS (Consisting of: Chrysanthemum, Peonies \& Dahlias)
50 - COMETS (Magnesium Crown Red, Green, Blue, Purple and Yellow with titanium rising tails)
50 - SPECIAL SHELLS (Consisting of: Diamond Screamers, Silver Pinwheels, Silver Whirls, Whistles, Humming Birds, Serpents \& Fish)
100 - PATTERN SHELLS (Consisting of: Rings, Spider Webs, Willows)
100 - SPECIAL-MADE COMPETITION SHELLS (Consisting of: Crossette Rings w/Brocade Pistils, Ghost Patterns, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing)

## FOUR INCH SHELLS (600)

50 - COLOR \& FANCY STAR SHELLS (Consisting of: Ruby, Blue, Pearl, Emerald, Yellow, Purple with Titanium Twinklers \& Aluminum Flitters)
70 - ORIENTAL FLOWER PATTERN (Consisting of: Chrysanthemum, Peonies \& Dahlias)
50 - SKYWORKS SPECIALS (Consisting of: Crackling Meteors, Crackling Coconut Palms, Flowers w/strobing pistils, Half/Half Flowers, Crackling Willows, etc.)

60 - NEW SPECIAL EFFECT SPECIALS (Consisting of: Color Changing Crossettes, Strobing Happy
Faces, Snowflake Patterns, Color Changing Kaleidoscopes, Color Changing Lilies, Color Changing Plume Flower and Horsetail Brocades)

35 - DESIGNER SHELLS (Consisting of: Purple Strobes, Orange Strobes, Yellow Strobes, Pastel Flowers w/Pastel Pistils, Triple Crossing Rings, Planet Saturns, Red Crackling Coconut Palms, Crackling Strobes, Jeweled Brocades, Diadem Flowers w/pistils, Magnesium Color Changing Willows, Green Crackling Coconut Palm Trees, etc)

35 - PATRIOTIC DESIGNER SHELLS (Consisting of: Red Bees, White Bees, Blue Bees, Red w/Glittering Core, Blue w/Glittering Core, Red Crossettes, White Crossettes, Blue Crossettes, Red Go-getters, Blue Go-getters, White Go-getters, Red \& Blue Criss-Cross, Blue Flower w/Red strobe core, Red Flower s/blue strobe core, etc.)

# FOUR INCH SHELLS (continued) 

65 - SPECIAL-MADE COMPETITION SHELLS (Consisting of: Crossette Rings w/Brocade Pistils, Ghost Patterns, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing)

40 - SPECIAL SHELLS (Consisting of: Diamond Screamers, Silver Pinwheels, Silver Whirls, Whistles, Humming Birds, Serpents \& Fish)
**15-COLOR CROSSETTES (pack separately and fire with 5" Crossettes in sequence)
** 15 - BROCADES (pack separately and fire with 5 " Brocades in sequence)
** 15 - SILVER PALMS (pack separately and fire with 5 " Silver Palms in sequence)
**15-GOLD PALMS (pack separately and fire with 5" Gold Palms in group sequence)
**15-CRACKLING COCONUT SHELLS (pack separately and fire with 5" Crackling Coconut Shells in group sequence)
** 15 - STAINED GLASS SHELLS (pack separately and fire with 5" Stained Glass in sequence)
**15-RING OR DOUBLE RING PATTERNS (pack separately and fire with 5" Rings in sequence)
**15-BEES OR GO-GETTERS (Pack separately and fire with 5" Bees in group sequence) **15 - PIXIE DUST W/PISTIL SHELLS (Pack separately and fire with 5" Pixie Dust Shells in group sequence)
** 15 - TIME RAIN OR GOLD MUM W/CRACKLING SHELLS (Pack separately and fire with 5" Time Rain or Gold w/crackling Shells)
** 15 - SILVER MUMS W/ASSORTED PISTILS ( (Pack separately and fire with 5" Silver Mums w/Assorted Pistils in group sequence)
**15-FIVE POINTED STARS, HEART PATTERNS \& SATURNS (5 each, pack separately with 5" stars, hearts \& saturns)
**15 - VIOLET STROBES (pack separately and fire with 5" Violet Strobes in sequence)

## FIVE INCH SHELLS (750)

(pack separate and mark for "Mesa" location)
50 - COLOR \& FANCY STAR SHELLS (Consisting of: Ruby, Pearl, Emerald, Blue, Yellow \& Purple with Titanium Twinklers \& Aluminum Flitters)

150 - ORIENTAL FLOWER PATTERNS (Consisting of: Peonies, Chrysanthemums, \& Dahlias)

## FIVE INCH SHELLS (continued)

50 - NEW SPECIAL EFFECT SPECIALS (Consisting of: Color Changing Crossettes, Strobing Happy Faces, Snowflake Patterns, Color Changing Kaleidoscopes, Color Changing Lilies, Color Changing Plume Flower and Horsetail Brocades)
50 - SKYWORKS SPECIALS (Consisting of: Crackling Meteors, Crackling Coconut Palms, Flowers w/strobing pistils, Half/Half Flowers, Crackling Willows, etc.)
50 - DESIGNER SHELLS (Consisting of: Dianthus, Triple Rings, Double Rings w/pistils, Red Palms, Cascading Willow Shells, Crackling Strobes, Jeweled Brocades, Diadem Flowers w/pistils, Magnesium Color Changing Willows, Green Palm Trees, etc)
50 - PATRIOTIC DESIGNER SHELLS (Consisting of: Red Bees, White Bees, Blue Bees, Red w/Glittering Core, Blue w/Glittering Core, Red Crossettes, White Crossettes, Blue Crossettes, Red Go-getters, Blue Go-getters, White Go-getters, Red \& Blue Criss-Cross, Blue Flower w/Red strobe core, Red Flower s/blue strobe core, etc.)

50 - SPECIAL-MADE COMPETITION SHELLS (Consisting of: Crossette Rings w/Brocade Pistils, Ghost Patterns, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing)

40 - DESIGNER SHELLS (Consisting of: Purple Strobes, Orange Strobes, Yellow Strobes, Pastel Flowers w/Pastel Pistils, Triple Crossing Rings, Planet Saturns, Red Crackling Coconut Palms, Crackling Strobes, Jeweled Brocades, Diadem Flowers w/pistils, Magnesium Color Changing Willows, Green Crackling Coconut Palm Trees, etc)
**20 - COLOR CROSSETTES (pack separately and fire with 4" Crossettes in sequence)
**20-BROCADES (pack separately and fire with 4" Brocades in sequence)
**20 - SILVER PALMS (pack separately and fire with 4" Silver Palms in sequence)
**20 - GOLD PALMS (pack separately and fire with 4" Gold Palms in group sequence)
**20 - CRACKLING COCONUT SHELLS (pack separately and fire with 5" Crackling Coconut
Shells in group sequence)
**20 - STAINED GLASS SHELLS (pack separately and fire with 4" Stained Glass in sequence)
**20 - RING OR DOUBLE RING PATTERNS (pack separately and fire with 4" Rings in sequence)
**20-BEES OR GO-GETTERS (Pack separately and fire with 4" Bees in group sequence)
**20 - PIXIE DUST W/PISTIL SHELLS (Pack separately and fire with 5" Pixie Dust Shells in group sequence)
**20 - TIME RAIN OR GOLD MUM W/CRACKLING SHELLS (Pack separately and fire with 5" Time Rain or Gold w/crackling Shells)

| TO: | MELISSA GREINER |
| :--- | :--- |
| EVENT: | CITY OF BLACK HAWK 4TH OF JULY SPECTACULAR |
| DATE: | JULY 4, 2020 |
| PAGE: | TEN |

## FIVE INCH SHELLS (continued)

**20 - SILVER MUMS W/ASSORTED PISTILS ( (Pack separately and fire with 5" Silver Mums w/Assorted Pistils in group sequence) in group sequence)
**20 - FIVE POINTED STARS, HEART PATTERNS \& SATURNS (5 each, pack separately with 4" stars, hearts \& saturns)
**20 - VIOLET STROBES (pack separately and fire with 4" Violet Strobes in sequence)

## SIX INCH SHELLS (100)

10 - COLOR \& FANCY STAR SHELLS (Consisting of: Ruby, Pearl, Emerald, Blue, Yellow \& Purple with Titanium Twinklers \& Aluminum Flitters)

10 - ORIENTAL FLOWER PATTERNS (Consisting of: Peonies, Chrysanthemums, \& Dahlias)
10 - NEW SPECIAL EFFECT SPECIALS (Consisting of: Color Changing Crossettes, Strobing Happy Faces, Snowflake Patterns, Color Changing Kaleidoscopes, Color Changing Lilies, Color Changing Plume Flower and Horsetail Brocades)
10 - SKYWORKS SPECIALS (Consisting of: Crackling Meteors, Crackling Coconut Palms, Flowers w/strobing pistils, Half/Half Flowers, Crackling Willows, etc.)

15 - DESIGNER SHELLS (Consisting of: Dianthus, Triple Rings, Double Rings w/pistils, Red Palms, Cascading Willow Shells, Crackling Strobes, Jeweled Brocades, Diadem Flowers w/pistils, Magnesium Color Changing Willows, Green Palm Trees, etc)
15 - PATRIOTIC DESIGNER SHELLS (Consisting of: Red Bees, White Bees, Blue Bees, Red w/Glittering Core, Blue w/Glittering Core, Red Crossettes, White Crossettes, Blue Crossettes, Red Go-getters, Blue Go-getters, White Go-getters, Red \& Blue Criss-Cross, Blue Flower w/Red strobe core, Red Flower s/blue strobe core, etc.)

15 - SPECIAL-MADE COMPETITION SHELLS (Consisting of: Crossette Rings w/Brocade Pistils, Ghost Patterns, Silver Kimuro Horsetails, Brocade Silk Horsetails, Red Waterfalls, Blue Waterfalls, Half Moons, Mosaic Stained Glass, Kimuros w/Saturn Ring, Criss-Crossing Patterns, Whirling Flowers w/strobe pistils, Aqua Strobes, Cosmic Comets, and Butterflies Dancing)

15 - DESIGNER SHELLS (Consisting of: Purple Strobes, Orange Strobes, Yellow Strobes, Pastel Flowers w/Pastel Pistils, Triple Crossing Rings, Planet Saturns, Red Crackling Coconut Palms, Crackling Strobes, Jeweled Brocades, Diadem Flowers w/pistils, Magnesium Color Changing Willows, Green Crackling Coconut Palm Trees, etc)

TO: MELISSA GREINER
EVENT: CITY OF BLACK HAWK 4TH OF JULY SPECTACULAR
DATE: JULY 4, 2020
PAGE:

## INSURANCE ON DISPLAY

$\$ 10,000,000$ BROAD FORM, CONTRACTUAL, PROPERTY DAMAGE \& BODILY INJURY (Additional insured included.)

COLORADO WORKER'S COMPENSATION COVERAGE ON TECHNICIANS
\$10,000,000 LIABILITY ON WESTERN ENTERPRISES, INC. VEHICLES THAT HAUL EXPLOSIVES

## MORTARS, SQUIBS \& EQUIPMENT

All necessary mortars, racks, firing systems, electrical squibs, etc. are supplied with this contract, and are the property of Western Enterprises, Inc.

1-600-SHOT FIRING SYSTEM COMPLETE (Main-firing site)
1 - 300-SHOT FIRING SYSTEM COMPLETE (Main-firing site)
1 - 300-SHOT FIRING SYSTEM COMPLETE (Miner's Mesa firing site)
1-600-SHOT FIRING SYSTEM COMPLETE (Miner's Mesa firing site)

TOTAL CONTRACT PRICE -- - \$101,760.00

## ADDITIONAL PRODUCT FOR EARLY PAY DISCOUNT

*Note: The following product will be added to your display if you elect to exercise the early payment option and use that amount to "purchase" product to enhance your production. These will be integrated into the main body of the program.

45-5" SHELLS
28-6" SHELLS
8-8" SHELLS


[^0]:    
    
    
    

[^1]:    

[^2]:    

[^3]:    LAKE GULCH WHISKEY RESORT
    A PART OF SECTIONS 17 \& 18 , TOWNSHIP 3 SOUTH, RANGE 72 WEST OF THE 6TH P.M.,

[^4]:    ${ }^{1}$ Proximo's portfolio of brands includes the world’s largest selling tequila, Jose Cuervo ${ }^{\circledR}$, as well as $1800 ®$ Tequila, Bushmills ${ }^{\circledR}$ Irish Whiskey, The Kraken ${ }^{\circledR}$ Black Spiced Rum, Pendleton ${ }^{\circledR}$ Canadian Whisky, Three Olives ${ }^{\circledR}$ Vodka, Maestro Dobel® Tequila, Gran Centenario ${ }^{\circledR}$ Tequila, Creyente ${ }^{\circledR}{ }^{\circledR}$ Mezcal, Tincup ${ }^{\circledR}$ American Whiskey, The Sexton ${ }^{\circledR}$ Single Malt Irish Whiskey, Hangar $1{ }^{\circledR}$ Vodka, Boodles ${ }^{\circledR}$ Gin, Owney’s ${ }^{\circledR}$ Rum, Matusalem ${ }^{\circledR}$ Rum, Agavero ${ }^{\circledR}$ Liqueur, Stranahan’s ${ }^{\circledR}$ Colorado Whiskey, Black Dirt ${ }^{\circledR}$ Bourbon and Old Camp ${ }^{\circledR}$ Whiskey. Proximo also is the global distribution partner for Proper No. Twelve ${ }^{\text {TM }}$ Irish Whiskey. In addition, Proximo and its affiliates have a substantial track record of operating successful state-of-the-art distilleries with authentic visitor experiences. These facilities include the Old Bushmills Distillery in Northern Ireland, which receives over 150,000 visitors per year. Stranahan's Distillery in Denver, CO is ranked by Trip Advisor as the \#1 thing to do in Denver and was recently named by Yelp as the \#1 whiskey bar in America.

[^5]:    ${ }^{1}$ Proximo's portfolio of brands includes the world’s largest selling tequila, Jose Cuervo ${ }^{\circledR}$, as well as $1800 ®$ Tequila, Bushmills ${ }^{\circledR}$ Irish Whiskey, The Kraken ${ }^{\circledR}$ Black Spiced Rum, Pendleton ${ }^{\circledR}$ Canadian Whisky, Three Olives ${ }^{\circledR}$ Vodka, Maestro Dobel® Tequila, Gran Centenario ${ }^{\circledR}$ Tequila, Creyente ${ }^{\circledR}{ }^{\circledR}$ Mezcal, Tincup ${ }^{\circledR}$ American Whiskey, The Sexton ${ }^{\circledR}$ Single Malt Irish Whiskey, Hangar $1{ }^{\circledR}$ Vodka, Boodles ${ }^{\circledR}$ Gin, Owney’s ${ }^{\circledR}$ Rum, Matusalem ${ }^{\circledR}$ Rum, Agavero ${ }^{\circledR}$ Liqueur, Stranahan’s ${ }^{\circledR}$ Colorado Whiskey, Black Dirt ${ }^{\circledR}$ Bourbon and Old Camp ${ }^{\circledR}$ Whiskey. Proximo also is the global distribution partner for Proper No. Twelve ${ }^{\text {TM }}$ Irish Whiskey. In addition, Proximo and its affiliates have a substantial track record of operating successful state-of-the-art distilleries with authentic visitor experiences. These facilities include the Old Bushmills Distillery in Northern Ireland, which receives over 150,000 visitors per year. Stranahan's Distillery in Denver, CO is ranked by Trip Advisor as the \#1 thing to do in Denver and was recently named by Yelp as the \#1 whiskey bar in America.

[^6]:    ${ }^{1}$ Institute of Transportation Engineers, ITE Trip Generation Manual, Tenth Edition, Washington DC, 2017.

[^7]:    ${ }^{2}$ Transportation Research Board, Highway Capacity Manual, Sixth Edition, Washington DC, 2016.

[^8]:    Intersection Summary

[^9]:    Intersection Summary

[^10]:    Intersection Summary

[^11]:    Intersection Summary

