



AGENDA
CITY OF GLENWOOD SPRINGS
REGULAR CITY COUNCIL MEETING
JUNE 4, 2026
101 W. 8TH STREET
6:15 p.m.

The agenda is subject to *change, including the addition of items 24 hours in advance or the deletion of items at any time.*

The order and times of agenda items listed are approximate and intended as a guideline for the City Council.

ATTENTION: To ensure your written comments are included in the City Council packet, public comments must be received by 4 p.m. on the day before City Council meetings. Comments may be submitted to ryan.muse@cogs.us.

Written comments may be submitted after this deadline and will be shared via email to City Council but are not guaranteed to make it into the meeting packet. Submit comments at any time directly to City Council via email at citycouncil@cogs.us.

The City of Glenwood Springs ensures meaningful access to City programs, services, and activities to comply with the Americans with Disabilities Act (ADA) and reasonably provides: translation, interpretation, modifications, accommodations, alternative formats, auxiliary aids, and services. To request these services, email ADAteam@cogs.us or call 970-384-6441. Please submit requests as soon as possible but no later than three business days (Monday-Thursday, excludes holidays) before scheduled events.

TIME	ITEM	WORK SESSION	ACTION
3:00	Financial Advisory Board Joint Work Session		Information/Discussion
3:30	South Bridge Discussion		Information/Discussion
4:30	Parking Requirements for New Downtown Development		Information/Discussion
5:00	Remote Meeting Attendance by City Councilors		Information/Discussion
5:15	Break to Get Dinner		
5:30	Evaluation of Council		Information/Discussion

ZOOM INSTRUCTIONS

When: Jun 4, 2026 06:15 PM Mountain Time (US and Canada)

Join from PC, Mac, iPad, or Android: <https://us02web.zoom.us/j/86768307743?pwd=QapKb0KVK5OStnMKhLSHrdNB2WEH6K.1>

Passcode: 605926

Join via audio: +1 719 359 4580 US

Webinar ID: 867 6830 7743

REGULAR SESSION

1. Roll Call
2. Agenda Changes
3. Disclosure of Any Councilor Conflict of Interest
4. Citizens Appearing Before Council and Council Response (For Items Not on the Agenda—Comments Limited to 3 Minutes)
5. Council Announcements
6. Consent Agenda
Discussion and/or Action
 - A. May 21, 2026 Council Minutes
 - B. Award Request for Proposal 2026-13 Slip Line Project
 - C. Adoption of Updated Engineering Standards
 - D. Ordinance 2026-10; Municipal Code 080.040 Water Regulation Updates. Second Reading
 - E. Downtown Development Authority (DDA) Board Appointments
 - F. River Commission Reappointment

7. Proclamation for Sargeant Mike Young

Presentation

ACTIONS AND/OR PRESENTATIONS

8. Approval of Financial Advisory Board Grant Recommendations
9. Ordinance 2026-12; An Ordinance Of The City Of Glenwood Springs, Colorado, Repealing And Replacing Section 080.010.060 Of The Glenwood Springs Municipal Code Regarding Utility Disconnection Notices.
10. Water Service Agreement for 50235 Highway 6 and 24
11. Resolution 2026-10; Approval of Sole Source Purchase of Axon Equipment
12. Council Comments
13. Report from City Administration
 - A. City Manager
 - B. City Attorney
 - C. Correspondence Incoming/Outgoing
14. Social Event Announcement
15. Adjournment

Discussion and/or Action

Discussion and/or Action

Discussion and/or Action

Discussion and/or Action



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Financial Advisory Board Joint Work Session

Action Requested: This is the annual meeting with the Financial Advisory Board.

Department: City Administration

Presented By: Steve Boyd

Strategic Goals: Provide Efficient and Responsive City Government
Preserve and Improve Infrastructure
Protect and Preserve our Quality of Life
Generate Sustainable Economic Development
Ensure Public Safety

Background Info: We will discuss the Board's recommendation for awarding grants in the 2026 cycle. The recommendation is attached. Current Board membership:

Members

- **Christina Conley**
Appointed: April 2024 (to fill)
Term Expires: February 2027
- **Spencer Graff**
Appointed: April 2022 (to fill), February 2024
Term Expires: February 2027
- **Ken Murphy, Tourism**
Appointed: April 2024 (to fill)
Term Expires: February 2026
- **Ksana Oglesby**
Appointed: February 2023
Term Expires: February 2026
- **Asha John**
Appointed: February 2022, February 2025
Term Expires: February 2028
- **Ted Edmonds**
Appointed: August 2023 (to fill), February 2025
Term Expires: February 2028

Issues: None at this time.

Fiscal Impact: Funds are appropriated in the 2026 budget.

Available Funds		Separately Approved by Council as Ongoing		
2025 Carryover	\$18,200	Chamber	Strawberry Days	\$25,000
A & I	\$257,636	DDA	Downtown Market	\$25,000
Tourism	\$21,250		Summer of Music	\$10,000
Total Available	\$297,086		Total	\$60,000
Total Allocated	\$293,500	Note: This amount is not included in the Total Available		
Balance	\$3,586			

Legal Review: NA

Staff Recommendation: Staff supports the Board's recommendation.

Organization Name	2024 Grant Award	2025 Grant Award	2026 Grant Request	2026 FAB Recommendation
A Way Out, Inc	\$5,000	-	\$7,500	\$5,000
Access AfterSchool	\$10,000	\$7,500	\$10,000	\$7,500
Advocate Safehouse Project	-	-	\$10,000	\$10,000
Alpine Legal Services	-	-	\$10,000	\$0
Andy Zanca Youth Empowerment Program	\$3,000	\$3,000	\$5,000	\$3,000
Aspen Dance Connection	-	-	\$5,000	\$0
Aspen Science Center	-	\$5,000	\$10,000	\$5,000
Carbondale Community Access Radio KDNK	\$1,000	-	\$5,000	\$0
CASA of the Ninth	-	-	\$5,000	\$5,000
Catholic Charities and Community Services of the Archdiocese of Denver, Inc.	-	-	\$30,000	\$10,000
College Outreach	\$3,000	\$3,000	\$7,000	\$5,000
Colorado High School Cycling League	\$5,000	\$5,000	\$5,000	\$5,000
Community Health Services Inc.	-	\$7,000	\$13,807	\$7,000
Family Resource Centers of the Roaring Fork School District	-	-	\$10,000	\$7,500
Family Visitor Program of Garfield County, Inc. dba Great Expectations	-	\$5,000	\$10,000	\$5,000
FocusedKids	-	\$10,000	\$12,892	\$0
Food Bank of the Rockies â€œ Western Slope	-	-	\$10,000	\$10,000
Glenwood Springs Arts Council	\$2,000	\$3,000	\$3,000	\$0
Glenwood Springs Citizens' Alliance	\$4,000	\$3,000	\$3,000	\$3,000
Glenwood Springs Downtown Development Authority	\$8,900	\$8,000	\$20,000	\$0
Glenwood Springs Kiwanis	-	\$500	\$1,500	\$500
Glenwood Springs Riverside Botanical Gardens	-	-	\$8,000	\$0
Glenwood Springs Youth Hockey Association	\$5,000	\$5,000	\$10,000	\$5,000
High Country Volunteers	\$7,500	\$7,500	\$7,500	\$7,500
High Fives Nonprofit Foundation	-	-	\$6,658	\$0
HomeCare & Hospice of the Valley	\$8,500	\$7,500	\$10,000	\$10,000
Junior Achievement Rocky Mountain	\$5,000	\$2,500	\$5,000	\$2,500
LIFT-UP	\$10,000	\$12,500	\$15,000	\$12,500
Mountain Family Health Centers	-	\$20,000	\$20,000	\$17,500
Mountain Valley Developmental Services, Inc	\$15,000	\$15,000	\$25,000	\$17,500
Our School Nursery and Preschool	-	-	\$5,000	\$0
River Bridge Regional Center	\$10,000	\$7,500	\$10,000	\$7,500
Roaring Fork Center for Community Leadership	-	-	\$5,000	\$0
Roaring Fork Fencers Club	-	-	\$8,500	\$0
Roaring Fork Kayaking Club	\$5,000	\$2,000	\$3,500	\$3,500
Roaring Fork Outdoor Volunteers	\$7,500	\$10,000	\$10,000	\$10,000
Roaring Fork Public Radio, Inc. dba Aspen Public Radio	\$1,000	\$1,000	\$10,000	\$0

Organization Name	2024 Grant Award	2025 Grant Award	2026 Grant Request	2026 FAB Recommendation
Roaring Fork Recovery Support Center dba The Meeting Place	\$2,000	\$5,000	\$7,500	\$5,000
Roaring Fork Schools Foundation f/b/o Roaring Fork PreCollegiate	\$5,000	\$5,000	\$10,000	\$5,000
Roaring Fork Valley Early Learning Fund DBA Raising A Reader Aspen to Parachute	\$5,000	\$5,000	\$7,500	\$5,000
Rock And Roll Academy Roaring Fork	-	-	\$4,500	\$0
Smiling Goat Ranch	\$2,500	\$2,000	\$10,000	\$2,000
Sol Theatre Company	-	-	\$8,000	\$0
Sopris Barracuda Swim Team	-	\$4,000	\$8,000	\$4,000
Sopris Sun	-	-	\$10,000	\$0
Special Olympics Colorado	-	-	\$5,000	\$1,000
Stepping Stones of the Roaring Fork Valley	\$5,000	\$7,500	\$12,000	\$7,500
The Buddy Program (TBP)	\$5,000	\$5,000	\$7,500	\$5,000
The Salvation Army Glenwood Springs Service Extension	\$10,000	\$10,000	\$12,000	\$10,000
Three Rivers Little League	-	\$5,000	\$14,700	\$5,000
Thunder River Theatre Company	-	-	\$5,000	\$0
Tom's Door	-	-	\$30,000	\$10,000
Valley Meals and More	\$7,500	\$7,500	\$15,000	\$7,500
Valley Settlement	\$7,500	\$8,500	\$9,000	\$8,500
VOICES	-	-	\$5,000	\$1,000
West Mountain Regional Health Alliance	\$10,000	\$10,000	\$25,000	\$10,000
Western Slope Fusion	-	-	\$10,000	\$0
Western Slope Veterans Coalition	-	\$5,000	\$5,000	\$5,000
YouthZone	\$20,000	\$20,000	\$20,000	\$20,000
Grant Totals	\$195,900	\$250,000	\$593,557	\$293,500

Available Funds	
2025 Carryover	\$18,200
A & I	\$257,636
Tourism	\$21,250
Total Available	\$297,086
Total Allocated	\$293,500
Balance	\$3,586

Separately Approved by Council as Ongoing		
Chamber	Strawberry Days	\$25,000
DDA	Downtown Market	\$25,000
	Summer of Music	\$10,000
	Total	\$60,000
Note: This amount is not included in the Total Available		



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: South Bridge Discussion

Action Requested: Discussion

Department: Engineering

Presented By: Matthew Langhorst, Ryan Gordon, Steve Boyd

Strategic Goals: Ensure Public Safety

Background Info: This is an update from staff on progress related to the Location and Extent (L&E) with the County, Federal Highway Administration (FHWA), Colorado Department of Transportation (CDOT), right-of-way acquisition, grant status, budget considerations and other topics of interest to Council.

Issues: Please see above.

Fiscal Impact: Unknown at this time.

Legal Review: NA

Staff Recommendation: NA



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Parking Requirements for New Downtown Development

Action Requested: NA

Department: Economic and Community Development

Presented By: Trent Hyatt

Strategic Goals: Protect and Preserve our Quality of Life

Background Info: Council has asked to have a work session on what parking requirements, if any, should be imposed on development in the downtown area and other topics related to the General Improvement District (GID).

Issues: NA

Fiscal Impact: The GID generates around \$50,000 per year from a mill levy. The 2026 budget allocates funds to structural improvements to the parking garage at 9th and Grand.

Legal Review: NA

Staff Recommendation: NA

Recorded at 10 42 o'clock A P. JUN 17 1980
Reception No. **304769** MILDRED ALSDORF, RECORDER

BOOK **550** PAGE **238**

ORDINANCE NO. 18

AN ORDINANCE CREATING THE CITY OF GLENWOOD SPRINGS GENERAL IMPROVEMENT DISTRICT NO. 1980, WITHIN THE CITY OF GLENWOOD SPRINGS; SETTING FORTH THE BOUNDARY OF THE DISTRICT; DESCRIBING THE PROPOSED IMPROVEMENTS TO BE CONSTRUCTED AND INSTALLED; DESIGNATING THE GOVERNING BOARD OF THE DISTRICT, AND PROVIDING OTHER DETAILS IN CONNECTION THEREWITH

WHEREAS, Petitions for the creation of the City of Glenwood Springs General Improvement District No. 1980 in Glenwood Springs, Colorado, have been filed with the City Clerk on April 17, 1980; and

WHEREAS, a Bond has been filed to pay all expenses connected with the proceedings in case the organization of the District is not effected, which Bond is hereby approved; and

WHEREAS, on April 17, 1980, the City Council adopted a Resolution and entered an Order authorizing the Notice of Hearing on the Petitions for the organization of said District, such Hearing to be on May 15, 1980; and

WHEREAS, the City Clerk caused Notice by publication to be made of the pendency of the Petitions, of the purposes and boundaries of the proposed District, and of the time and place of hearing thereon, such Notice having been published in the Glenwood Springs Post in accordance with Law; and

WHEREAS, the City Clerk also caused a copy of the Notice of Hearing to be mailed to each registered elector of the proposed District at his or her last-known address, as disclosed by the tax and official voter registration records of Garfield County, Colorado; and

the District and the construction of the improvements therein;
and

WHEREAS, the City Council has ascertained that the Petitions were signed by the required number of registered electors of the City who own real or personal property within the proposed District, and that, together with the other owners of property within the proposed District having signed consents to inclusion, said Petitioners own the required amount of property having the requisite valuation for assessment therein; and

WHEREAS, the Council has determined, and hereby determines, that the allegations of the Petitions are true, and that it has jurisdiction concerning the creation of the District; and

WHEREAS, the City Council has determined that the proposed improvements will confer a general benefit on the District and that the cost of such improvements would not be excessive, as compared with the value of the property within the District;

THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS,
COLORADO, ORDAINS:

Section 1. Creation of the District. That it is hereby determined and declared that the Petitions for Organization of the City of Glenwood Springs General Improvement District No. 1980, have been duly and properly signed by not less than a majority of the registered electors of the City who own real or personal property within the proposed District, and that, together with the other owners of property within the proposed District having signed consents to inclusion, said Petitioners own real or personal property therein having a valuation for assessment of not less than one-half of the valuation for assessment of all

of Title 31, Article 25, Page 6, Colorado Revised Statutes 1973, as amended, that the allegations thereof are true, and that nothing prevents the adoption of an ordinance creating the District at this time.

That the City of Glenwood Springs General Improvement District No. 1980 is hereby duly created and organized. That the corporate name of said District shall be "City of Glenwood Springs General Improvement District No. 1980", in the City of Glenwood Springs, Colorado, by which name in all proceedings it shall hereafter be known, and said District shall be a public or quasi-municipal subdivision of the State of Colorado and a body corporate with the limited proprietary powers set forth in said Part 6.

Section 2. Description of Improvements. A general description of the improvements to be constructed within the District is:

A general program of providing parking and related improvements for the District area, which may include, but shall not be limited to:

- A. Parking and off-street parking facilities including, but not limited to structures;
- B. Acquisition or lease of necessary land or interests therein, and improvements thereto in connection with said facilities;
- C. Other incidental and appurtenance facilities and improvements designed to provide parking and improve the convenience of the District area; and,
- D. Landscaping, beautification and pedestrian improvements.

The present estimated cost of the proposed improvements is approximately \$1,500,000; the City will pay approximately \$-0- toward such cost.

Section 3. Boundary of District. The territory to

EXHIBIT "A"
LEGAL DESCRIPTION
OF
GENERAL IMPROVEMENT DISTRICT NO. 1980

Beginning at a point located at the intersection of the centerline of Grand Avenue with the southern edge of the 11th Street right-of-way both public streets as platted on the original townsite, thence east to the northwest corner of Lot 32, Block 4, thence northerly to the northwest corner of Lot 29, Block 17, thence easterly to the eastern edge of the Block 16 alley right-of-way, thence northerly to the northwest corner of Lot 32, Block 25, thence easterly to the northwest corner of Lot 1, Block 26, thence northerly to the northwest corner of Lot Block 35, thence easterly to the northwest corner of Lot 32, Block 3 thence northerly to the northwest corner of Lot 34, Block 46, thence easterly to the eastern edge of the Bennett Avenue right-of-way, thence northerly to the northern edge of the South River Street right-of-way thence southwesterly following the northern edge of River Street right-of-way to the western edge of the Blake Avenue right-of-way, thence southerly to the northern edge of the 7th Street right-of-way, thence westerly to the western edge of the Pitkin Avenue right-of-way extension thence southerly to the northeast corner of Lot 1, Block 21, thence easterly to the northeast corner of Lot 32, Block 22, thence southerly to the northeast corner of Lot 128, Block 19, thence easterly to the

Section 4. Filing with County Clerk and Recorder and Assessor. Within thirty (30) days after the date of the final adoption of this ordinance, the City Clerk shall submit to the County Clerk and Recorder of Garfield County, Colorado, to the County Assessor of the County, and to the Division of Local Government, copies of this ordinance to be filed in accordance with Sec. 31-25-608 and 39-1-110, C.R.S. 1973, as amended.

Section 5. Governing Board of the District. The City Council of the City of Glenwood Springs shall constitute ex-officio the board of directors of the District. The Mayor of the City shall be ex-officio the President of the board and of the District. The Director of Finance of the City shall also be the Secretary and the Treasurer, respectively, of the board and of the District. The board shall adopt a seal. The Secretary shall keep a record of all its proceedings, minutes of all meetings, certificates and contracts, and all corporate acts which shall be open to inspection of all owners of property in the District, as well as to all other interested parties. The Treasurer shall keep permanent records containing accurate accounts of all money received by and disbursed for and on behalf of the District.

Section 6. Severability. That if any one or more sections or parts of this Ordinance shall be adjudged unenforceable or invalid, such judgment shall not affect, impair or invalidate the remaining provisions hereof, it being the intention that the various provisions of this Ordinance are and shall be severable.

Section 7. Repealer. All Ordinances or parts thereof in conflict with this Ordinance are hereby repealed.

Section 8. Recording and Authentication. This Ordinance, as adopted by the City Council, shall be numbered and recorded, and the adoption and publication shall be authenticated by the signature

INTRODUCED AND PASSED ON FIRST READING This 15th day of
May, 1980.

(S E A L)

Marian I. Smith
Marian I. Smith, Mayor

ATTEST:

Ruby Dunham
RUBY DUNHAM
ACTING FINANCE DIRECTOR

FINALLY PASSED AND ADOPTED This 5th day of June,
1980.

(S E A L)

Marian I. Smith
Marian I. Smith, Mayor

ATTEST:

Ruby Dunham
RUBY DUNHAM
ACTING FINANCE DIRECTOR

Affidavit of Publication in full of the Ordinance following
First Reading)

AN ORDINANCE CREATING THE CITY OF GLENWOOD SPRINGS GENERAL IMPROVEMENT DISTRICT NO. 1980, WITHIN THE CITY OF GLENWOOD SPRINGS; SETTING FORTH THE BOUNDARY OF THE DISTRICT; DESCRIBING THE PROPOSED IMPROVEMENTS TO BE CONSTRUCTED AND INSTALLED; DESIGNATING THE GOVERNING BOARD OF THE DISTRICT, AND PROVIDING OTHER DETAILS IN CONNECTION THEREWITH.

WHEREAS, Petitions for the creation of the City of Glenwood Springs General Improvement District No. 1980 in Glenwood Springs, Colorado, have been filed with the City Clerk on 4-17-80, 1980; and

WHEREAS, a Bond has been filed to pay all expenses connected with the proceedings in case the organization of the District is not effected, which Bond is hereby approved; and

WHEREAS, on April 17, 1980, the City Council adopted a Resolution and entered an Order authorizing the Notice of Hearing on the Petitions for the organization of said District, such Hearing to be on May 15, 1980; and

WHEREAS, the City Clerk caused Notice by publication to be made of the pendency of the Petitions, of the purposes and boundaries of the proposed District, and of the time and place of hearing thereon, such Notice having been published in the Glenwood Springs Post in accordance with law; and

WHEREAS, the City Clerk also caused a copy of the Notice of Hearing to be mailed to each registered elector of the proposed District at his or her last-known address, as disclosed by the tax and official voter registration records of Garfield County,

City who own real or personal property within the proposed District, and that, together with the other owners of property within the proposed District having signed consents to inclusion, said Petitioners own the required amount of property having the requisite valuation for assessment therein; and

WHEREAS, the Council has determined, and hereby determines, that the allegations of the Petitions are true, and that it has jurisdiction concerning the creation of the District; and

WHEREAS, the City Council has determined that the proposed improvements will confer a general benefit on the District and that the cost of such improvements would not be excessive, as compared with the value of the property within the District;

THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, ORDAIN:

Section 1. Creation of the District. That it is hereby determined and declared that the Petitions for Organization of the City of Glenwood Springs General Improvement District No. 1980, have been duly and properly signed by not less than a majority of the registered electors of the City who own real or personal property within the proposed District, and that, together with the other owners of property within the proposed District having signed consents to inclusion, said Petitioners own real or personal property therein having a valuation for assessment of not less than one-half of the valuation for assessment of all the real and personal property in the proposed District.

That it is further hereby determined and declared that said Petitions comply fully with all of the applicable requirements of Title 31, Article 25, Part 6, Colorado Revised Statutes 1973, as amended, that the allegations thereof are true, and that nothing prevents the adoption of an ordinance creating the District at this time.

That the City of Glenwood Springs General Improvement District No. 1980 is hereby duly created and organized. That the corporate name of said District shall be "City of Glenwood Springs General Improvement District No. 1980", in the City of Glenwood Springs, Colorado, by which name in all proceedings it shall hereafter be known, and said District shall be a public or quasi-municipal subdivision of the State of Colorado and a body corporate with the limited proprietary powers set forth in said Part 6.

Section 2. Description of Improvements. A general description of the improvements to be constructed within the District is:

A general program of providing parking and related improvements for the District area, which may include, but shall not be limited to:

A. Parking and off-street parking facilities including, but not limited to structures;

B. Acquisition or lease of necessary land or interests therein, and improvements thereto in connection with said facilities;

C. Other incidental and appurtenant facilities and improvements designed to provide parking and improve the convenience of the District area; and,

D. Landscaping, beautification and pedestrian improvements.

The present estimated cost of the proposed improvements is approximately \$1,500,000; the City will pay approximately \$-0- toward such total cost.

Section 3. Boundary of the District. The territory to be included in the proposed district is as follows:

EXHIBIT "A"

LEGAL DESCRIPTION
OF

GENERAL IMPROVEMENT DISTRICT NO. 1980
Beginning at a point located at the intersection of the centerline of Grand Avenue with the southern edge of the 11th Street right-of-way, both public streets as platted on the original townsite, thence easterly to the northwest corner of Lot 32, Block 4, thence northerly to the northwest corner of Lot 29, Block 17, thence easterly to the eastern edge of the Block 16 alley right-of-way, thence northerly to the northwest corner of Lot 32, Block 25, thence easterly to the northwest corner of Lot 1, Block 26, thence northerly to the northwest corner of Lot 1, Block 35, thence easterly to the northwest corner

the northeast corner of Lot 28, Block 19, thence easterly to the northeast corner of Lot 5, Block 18, thence southerly to the northeast corner of Lot 1, Block 3, thence easterly to the point of beginning, all the aforementioned being contained in the original townsite.

Section 4. Filing with County Clerk and Recorder and Assessor. Within thirty (30) days after the date of the final adoption of this ordinance, the City Clerk shall submit to the County Clerk and Recorder of Garfield County, Colorado, to the County Assessor of the County, and to the Division of Local Government, copies of this ordinance to be filed in accordance with Sec. 31-25-608 and 39-1-110, C.R.S. 1973, as amended.

Section 5. Governing Board of the District. The City Council of the City of Glenwood Springs shall constitute ex-officio the board of directors of the District. The Mayor of the City shall be ex-officio the President of the board and of the District. The Director of Finance of the City shall also be the Secretary and the Treasurer, respectively, of the board and of the District. The board shall adopt a seal. The Secretary shall keep a record of all its proceedings, minutes of all meetings, certificates and contracts, and all corporate acts which shall be open to inspection of all owners of property in the District, as well as to all other interested parties. The Treasurer shall keep permanent records containing accurate accounts of all money received by and disbursed for and on behalf of the District.

Section 6. Severability. That if any one or more sections or parts of this Ordinance shall be adjudged unenforceable or invalid, such judgment shall not affect, impair or invalidate the remaining provisions hereof, it being the intention that the various provisions of this Ordinance are and shall be severable.

Section 7. Repealer. All Ordinances or parts thereof in conflict with this Ordinance are hereby repealed.

Section 8. Recording and Authentication. This Ordinance, as adopted by the City Council, shall be numbered and recorded, and the adoption and publication shall be authenticated by the signature of the Mayor and the Director of Finance, and by the certificate of publication.

INTRODUCED AND PASSED ON FIRST READING This 15th day of May, 1980.

(SEAL)

/s/ Marian L. Smith
Mayor

ATTEST:

/s/ Chad Burkey
Director of Finance

Published May 22, 1980 in the Glenwood Post.

PROOF OF PUBLICATION
GLENWOOD POST

STATE OF COLORADO
COUNTY OF GARFIELD

I, Peter

swear that I am

GLENWOOD POST, or in part, and published in Garfield County, Colorado, and has a general circulation prior to the first publication; that said newspaper is published as second-class mail as second-class on March 3, 1879, or earlier, and is a newspaper devoted to the publication of advertisements with other news of the County of Garfield, Colorado.

That the annexed is a true and correct copy of the regular and

the period of publication of said notice is
May 22

notice was in the

19

In witness whereof
day of May

Subscribed and sworn to before me

County of Garfield,
May

(SEAL)

My Commission Expires

81

№ 11010

Peter W. Stautier

General Manager

That the annexed legal notice or advertisement was published in

I period of consecutive insertions; and that the first sub-

.....A.D., 19....., and the last publication of said

in witness whereof I have hereunto set my hand this

of A.D. 19.....

Subscribed and sworn to before me, a notary public^{1/} in and for the

Charles S. Samuels

Notary Public

Commission Expires My Commission expires Jan. 9, 1983

Section 4. Filing with County Clerk and Recorder and Assessor. Within thirty (30) days after the date of the final adoption of this ordinance, the City Clerk shall submit to the County Clerk and Recorder of Garfield County, Colorado, to the County Assessor of the County, and to the Division of Local Government, copies of this ordinance to be filed in accordance with Sec. 31-25-608 and 39-1-110, C.R.S. 1973, as amended.

Section 5. Governing Board of the District.

Section 6. Severability. That if any one or

Section 7. Repealer. All Ordinances or par-

Section 8. Recording and Authentication.
This Ordinance, as adopted by the City Coun-

INTRODUCED AND PASSED ON FIRST

ATTEST:

ATTEST:
/s/ Chond Burlew

Council has determined that the allegations are true, and that it has been negligent in creating the conditions that have led to this situation.

L OF THE CITY OF GLEN-

Energy determined and

Lawrence Springs Control

tion of improvements. A
of the improvements is

if you need a...

PROOF OF PUBLICATION
GLENWOOD POST

STATE OF COLORADO, }
COUNTY OF GARFIELD. } ss.

Nº 11058

I, Peter W. Stauffer do solemnly

swear that I am General Manager of the
GLENWOOD POST; that the same is a newspaper printed, in whole
or in part, and published in the County of Garfield, State of Colo-
rado and has a general circulation therein; that said newspaper has
been published continuously and uninterruptedly in said County of
Garfield for a period of more than fifty-two consecutive weeks next
prior to the first publication of the annexed legal notice or advertise-
ment; 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 newspaper duly qualified for publishing legal notices and ad-
vertisements 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 newspaper for

the period of 1 consecutive insertions; and that the first pub-
lication of said notice was in the issue of said newspaper dated
June 9 A.D., 1980, and the last publication of said
notice was in the issue of said newspaper dated A.D.,
19 .

In witness whereof I have hereunto set my hand this 17th
day of June A.D., 1980.

Peter W. Stauffer
General Manager / Publisher

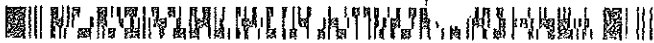
Subscribed and sworn to before me, a notary public in and for the
County of Garfield, State of Colorado, this 17th day
of June A.D., 1980.

(SEAL)

Angeline S. Samuelson
Notary Public

My Commission Expires My Commission expires Jan. 2, 1983

ORDINANCE NO. 18
AN ORDINANCE CREATING THE CITY OF
GLENWOOD SPRINGS GENERAL IM-
PROVEMENT DISTRICT NO. 1980, WITHIN THE
CITY OF GLENWOOD SPRINGS; SETTING
FORTH THE BOUNDARY OF THE DISTRICT;
DESCRIBING THE PROPOSED IMPROVEMENT
TO BE CONSTRUCTED AND INSTALLED;
DESIGNATING THE GOVERNING BOARD OF
THE DISTRICT, AND PROVIDING OTHER
DETAILS IN CONNECTION THEREWITH.
INTRODUCED, READ BY TITLE AND NUM-
BER, PASSED ON SECOND READING BY ROLL
CALL VOTE OF THE CITY COUNCIL, AND OR-
DERED PUBLISHED IN FULL WITH NOTICE AS
REQUIRED BY LAW THIS 5th DAY OF JUNE,
1980.
/s/ Marian I. Smith,
Mayor
ATTEST:
/s/ Ruby Dunham
Acting Director of Finance
Published June 9, 1980 in the Glenwood
Post



Reception #: 868128
09/17/2016 04:49:14 PM Jean Alberico
1 of 4 Rec Fee:\$26.00 Doc Fee:0.00 GARFIELD COUNTY CO

ORDINANCE NO. 15

Series of 2015

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO SITTING AS THE BOARD OF DIRECTORS OF THE GLENWOOD SPRINGS IMPROVEMENT DISTRICT NO. 1980 FOR THE INCLUSION OF CERTAIN PROPERTIES INTO THE DISTRICT.

WHEREAS, the Glenwood Springs General Improvement District No. 1980 ("G.I.D.") is designed to serve an area generally perceived to be downtown Glenwood Springs south of the Colorado River; and

WHEREAS, the G.I.D. was established and operates to facilitate a general program of providing parking and related improvements for the G.I.D. area; and

WHEREAS, the goal of the G.I.D. is to assist in preserving and enhancing a vital mix of retail, professional, financial, education, entertainment, governmental and mixed uses to keep the downtown Glenwood Springs area an inviting and exciting place, attractive to citizens and visitors alike; and

WHEREAS, the G.I.D. is committed to preserving an orderly transition of uses from the core commercial area to neighboring residential areas; and

WHEREAS, the City Council sitting as the Board of Directors for the G.I.D., by and through Resolution 2015-16, amended the criteria and requirement for inclusion (annexation) of properties into the G.I.D.; and

WHEREAS, petition has been made for inclusion (annexation) of five (5) properties into the G.I.D.; and

WHEREAS, the City Council finds that the properties meet the requirements for inclusion (annexation) as described in Resolution 1982-31, as amended by Resolution 2015-16, as well as C.R.S. § 31-25-618; and

WHEREAS, the City Council desires, in fairness and equity, to include (annex) the petitioning properties into the G.I.D. without assessing the costs of such proceedings against the petitioners.

NOW, THEREFORE, IT IS ORDAINED BY THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, THAT:

Section 1. The recitals above are hereby adopted as findings.



Reception #: 868128
09/17/2015 04:49:14 PM Jean Alberico
2 of 4 Rec Fee:\$26.00 Doc Fee:0.00 GARFIELD COUNTY CO

Section 2. The petitions for inclusion (annexation) of properties into the G.I.D. are granted. The following properties are hereby included (annexed) into the G.I.D.:

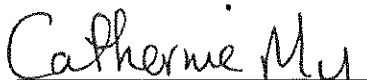
Luis and Kristine Del Rio	815 Pitkin Avenue (All of Lot 8 and the South 21.5 ft. of Lot 7, Block 40, City of Glenwood Springs)
Andrew T. and Karen L. Holtmeier	817 Pitkin Avenue (Lots 9 and 10, Block 40 City of Glenwood Springs)
Eric E. and Jennifer E. Liska	823 Pitkin Avenue (Lots 11 and 12, Block 40, City of Glenwood Springs)
Rick D. Rossow Trust and Melanie G. Rossow Trust	827 Pitkin Avenue (Lots 13 and 14, Block 40, City of Glenwood Springs)
Stabenau Family Trust	829 Pitkin Avenue (Lots 15 and 16, Block 40, City of Glenwood Springs)

Section 3. The applicable fees and costs to inclusion (annexation) are waived.

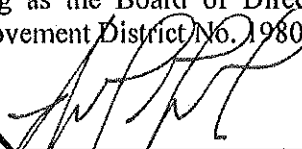
INTRODUCED, READ ON FIRST READING, PASSED, AND ORDERED
PUBLISHED BY TITLE ONLY THIS 6TH DAY OF AUGUST, 2015.

CITY OF GLENWOOD SPRINGS, COLORADO,
Sitting as the Board of Directors of the General
Improvement District No. 1980

ATTEST:


Catherine Mythen, City Clerk



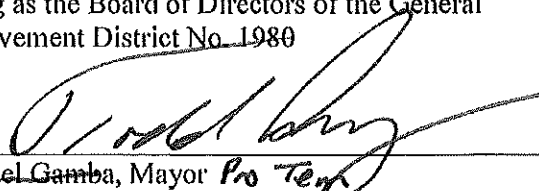

Michael Gamboa, Mayor

Reception #: 868128
09/17/2015 04:49:14 PM Jean Alberico
3 of 4 Rec Fee: \$26.00 Doc Fee: 0.00 GARFIELD COUNTY CO

INTRODUCED, READ ON SECOND READING, PASSED AND ORDERED
PUBLISHED BY TITLE ONLY TO BE EFFECTIVE TEN DAYS FOLLOWING THE DATE
OF SECOND PUBLICATION THIS 20TH DAY OF AUGUST, 2015.

CITY OF GLENWOOD SPRINGS, COLORADO,
Sitting as the Board of Directors of the General
Improvement District No. 1980

ATTEST:


Michael Gamba, Mayor Pro Tem

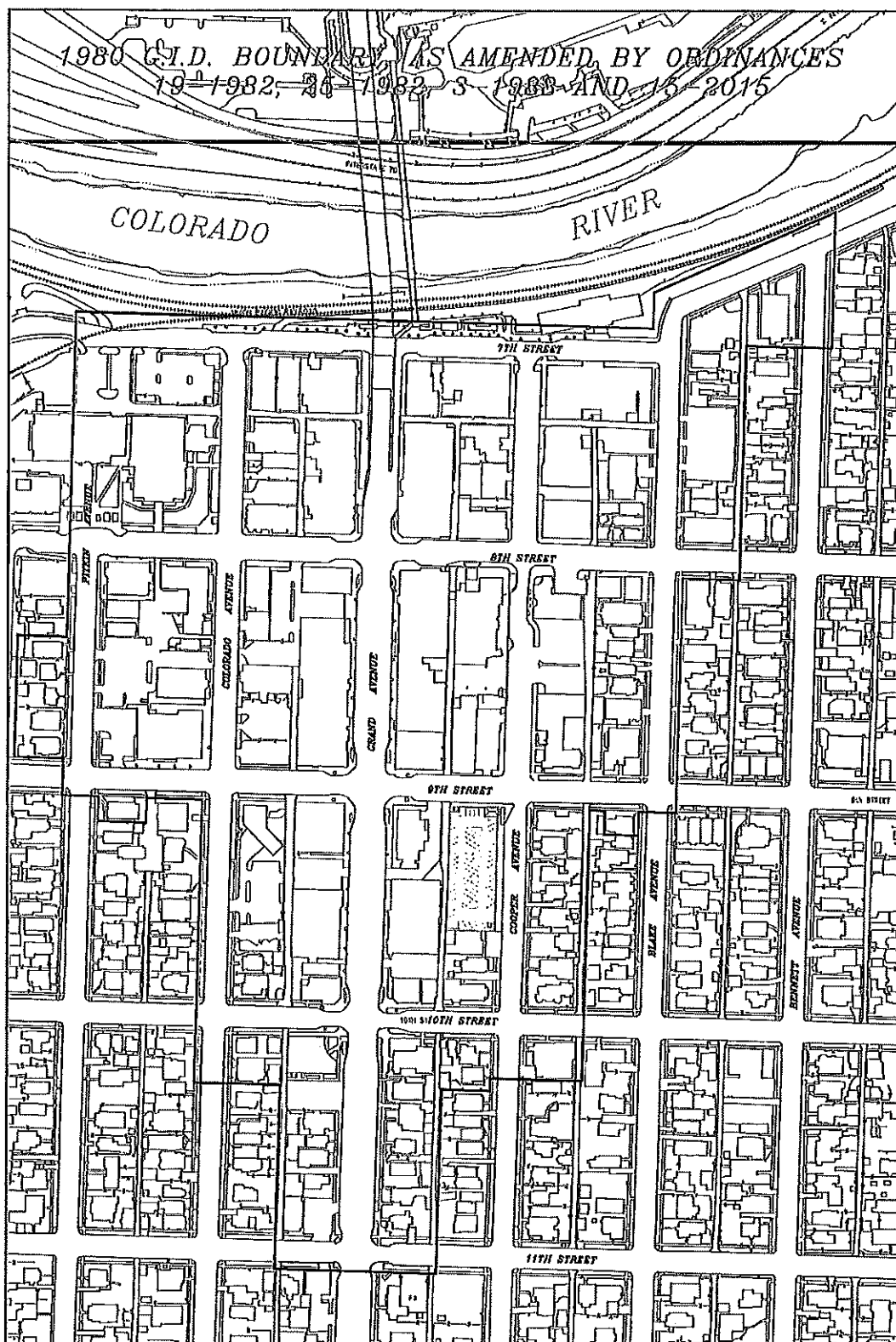
Todd Leshy


Catherine Mythen, City Clerk

Ann Green, Deputy



Reception#: 868128
09/17/2015 04:49:14 PM Jean Alberico
4 of 4 Rec Fee:\$26.00 Doc Fee:0.00 GARFIELD COUNTY CO





CITY OF
GLENWOOD
SPRINGS
COLORADO

General Improvement District

June 4, 2026 City Council Meeting

Trent L. Hyatt, Economic and Community Development



Colorado General Improvement District's Generally Speaking

- Colorado Revised Statutes (C.R.S.) Title 31, Article 25, Part 6
 - Authorizes districts
- Provide targeted public improvements
 - streets, sidewalks, parking, parks, utilities, lighting, drainage, transportation, and other infrastructure
- Directly benefit those who pay for the improvements
 - property taxes, fees, or assessments
- Support economic development and community enhancement
- Ensure improvements
 - planned, constructed, and maintained within the district's boundaries
- Optionally issue revenue bonds to finance capital projects



Glenwood's General Improvement District (GID)

- Established in 1980
 - Via ordinance #18-80
- Governance
 - City Council
- Funding
 - 2.287 mils property tax
 - Approximately \$50,000 annually
 - Used to construct 9th Street garage
 - Used for maintenance this summer
 - Does not generate enough revenue to address intended goal

Glenwood's General Improvement District (GID)

- Goals of our GID
 - Building parking and off-street parking facilities (not limited to structures)
 - Acquire property or lease of land for parking facilities
 - Other improvements within the district
- Parking
 - Minimum standards eliminated by ordinance #41-80
- Annexation
 - Via petition
 - None since 2015
 - Strict guidance for parking of residential units and employees



Glenwood's General Improvement District (GID)

- Options
 - Do nothing. Does a real problem exist?
 - Fee in lieu of parking for certain uses
 - Require off street parking tiered minimums
 - Consider transportation demand management standards
 - bike storage, carshare, transit passes, etc.
 - Strengthen GID parking management



Glenwood's General Improvement District (GID)

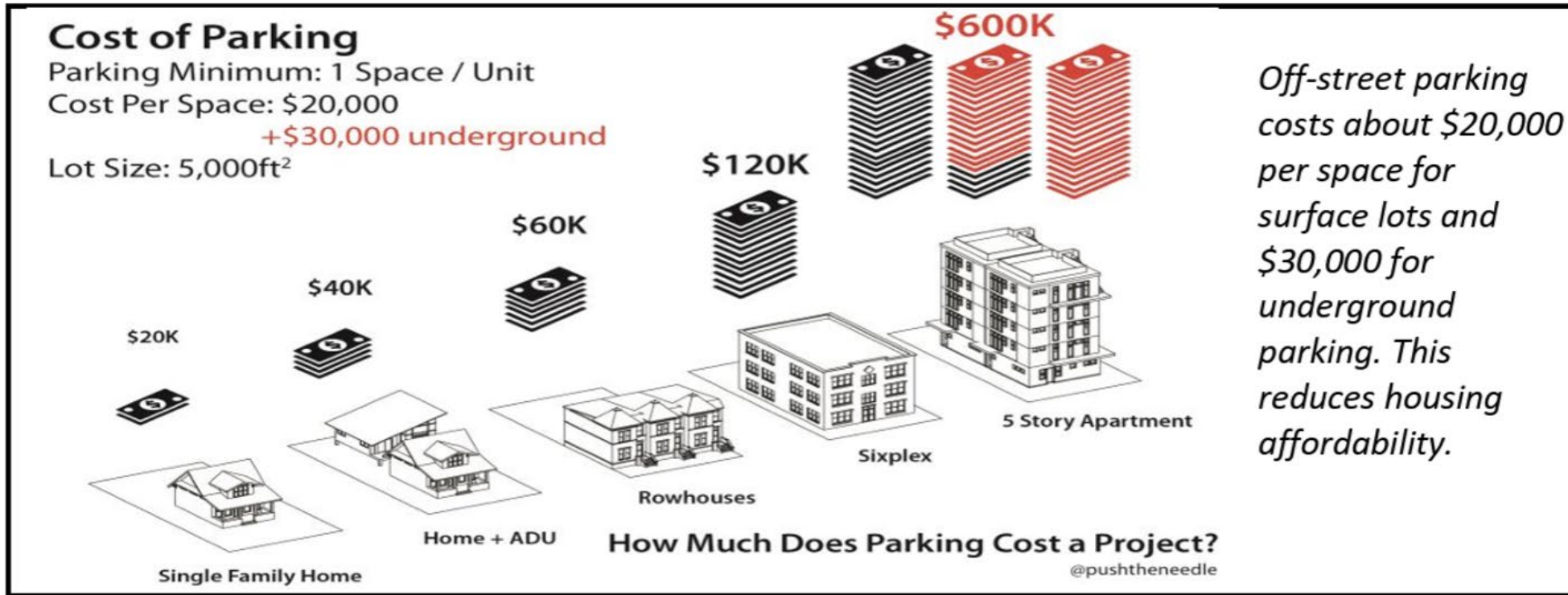


Image Source: Parking Reform Network

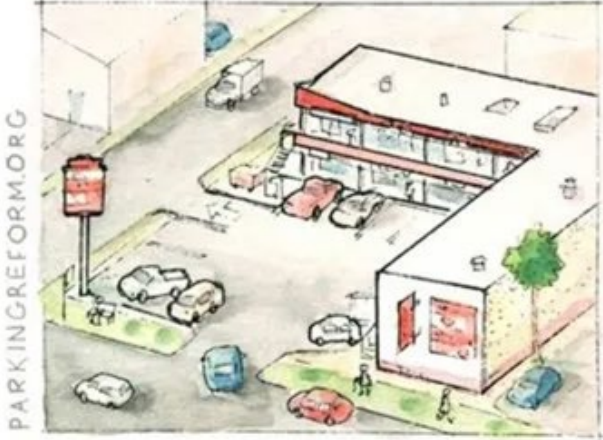
- Glenwood reality
 - \$70k-120k per underground space
 - 60+ foot tall buildings (five stories and above) buildings

Glenwood's General Improvement District (GID)

Do we want this?



1 Space per 500 Square Feet



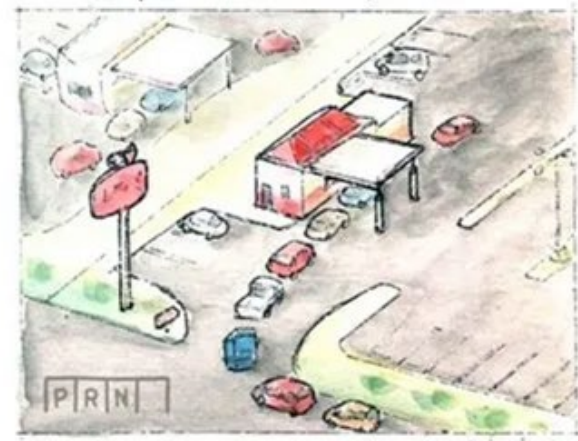
Or that?



1 Space per 250 square feet



1 Space per 100 square feet





City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Remote Meeting Attendance by City Councilors

Action Requested: Approval of policy defining when remote attendance at meetings is appropriate.

Department: City Administration

Presented By: Steve Boyd

Strategic Goals: Provide Efficient and Responsive City Government

Background Info: Council prefers in-person meetings but recognizes there are times when it may be appropriate for one or more members to join remotely.

Issues: NA

Fiscal Impact: NA

Legal Review: NA

Staff Recommendation: NA

EXHIBIT A.

REMOTE PARTICIPATION POLICY

The City Council may fully participate electronically, unless otherwise restricted by law, in regular and special Council meetings, executive sessions, work sessions and land use hearings in accordance with the following rules:

1. General Rules: The following shall apply to all Council Meetings:

1.1. Requirements for Participation. Electronic participation shall consist of clear, uninterrupted two-way communication via video conferencing or other electronic means that allows the electronically participating Councilmember to hear, speak and see presentations during the Meeting, and allows persons attending the Meeting in-person to hear, speak to, and see the electronically participating Councilmember.

1.2. When Participation Prohibited. Electronic participation may be limited or prohibited in certain instances based upon unforeseen problems with video conferencing equipment, internet limitations, or other technological difficulties that preclude a Councilmember from fully participating in the Meeting. A Councilmember participating electronically is responsible for ensuring that their videoconference equipment and Internet capabilities are current and compatible with the City's videoconference equipment and their software updates are current.

1.3. Power to Terminate Participation. The Mayor or other presiding officer shall have the authority to terminate a Councilmember's electronic participation because the electronic connection is repeatedly lost, the quality of the connection is extremely poor, there is excessive background noise from the remote location, or for other reasons that cause disruption to the Meeting.

1.4. Quorum. Electronic participation shall constitute attendance at a Meeting, and Councilmembers participating electronically shall be considered physically present for all purposes including without limitation, for the determination of the presence of a quorum and for casting votes.

1.5. Emergency Circumstances. Upon a vote of the City Council that emergency circumstances exist justifying an entirely electronic meeting, a meeting may be attended virtually by all Councilmembers.

1.6. Notice of Electronic Attendance. A Councilmember desiring to participate electronically ~~shall use their best efforts to~~ must provide written notice of their intent via City email to the City Manager a minimum of two business days in advance of the Meeting day.

1.7. Reasonable Accommodation. The City shall provide Councilmembers with reasonable accommodations, and may waive or alter the provisions of this policy, to

provide disabled persons or individuals who qualify for accommodations under federal or state laws full and equal access to participate in Meetings.

1.8. Illness or Injury. A Councilmember may electronically attend as many meetings as necessary upon, providing notice to the City Manager, in good faith, demonstrating an illness or injury preventing the Councilmember from attending meetings in person. ~~If the Council believes a member has provided this notice in bad faith, the Council may require, upon a majority vote, that the Councilmember attending electronically resume in-person attendance.~~

~~1.8. Council Vote. If the Council believes a member has provided any notice required under this Policy in bad faith, the council may require, upon a majority vote, that the Councilmember attending electronically attend any meeting in person.~~

2. Rules for Meetings: The following shall apply to all regular meetings, special meetings, work sessions and executive sessions:

2.1. Electronic Participation. ~~A Councilmember may participate electronically in two meetings per calendar year. If there is more than one meeting in a single day, all meetings shall count as one for purposes of this policy.~~ Councilmembers shall endeavor to attend all meetings in person. However, a Councilmember may electronically attend a total of two meetings per year upon presenting the City Manager with the notice required under Section 1.6

2.2. Maximum Electronic Participation. No more than 2 Councilmembers may participate electronically in any single meeting. If more than 2 Councilmembers desire to participate electronically, the first two Councilmembers to provide notice of electronic attendance to the City Manager may do so.

2.3. Executive Session. Councilmembers may electronically participate in executive sessions in accordance with this policy, if steps are taken to ensure that the electronic location does not compromise the confidentiality of the executive session, and the Councilmember participating electronically confirms verbally that no third party is in the Councilmember's presence.

2.4. Temporary Attendance: Upon approval of the entire Council, a Councilmember may electronically attend a portion of a meeting without attending the entire length of the meeting. Such temporary attendance shall count as one meeting for purposes of this policy.

3. Rules for Hearings: The following shall apply to all land-use or quasi-judicial hearings:

~~3.1. Hearing Policy: Councilmembers should endeavor to attend all land-use or quasi-judicial hearings in person.~~

~~3.2. — Maximum Electronic Participation: If a Councilmember must attend a land-use or quasi-judicial hearing electronically, they may do so by following the provisions of this Policy and—~~

3.1. Electronic Participation Issues: If a Councilmember attends a land-use or quasi-judicial hearing electronically and violates Section 1.1, 1.2 or 1.3 of this Policy they shall lose any right to participate electronically in any other land-use or quasi-judicial hearing within the calendar year.

~~3.3.~~ 3.4. Voting Electronically in a Quasi-Judicial Hearing: A Councilmember participating remotely in a quasi-judicial or land-use hearing shall affirm, prior to voting on a matter, that such member was able to hear all testimony, presentations, and deliberations, and see or review all documentary evidence and materials presented at the hearing.



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Evaluation of Council

Action Requested: Discussion

Department: City Administration

Presented By: Steve Boyd

Strategic Goals: Provide Efficient and Responsive City Government

Background Info: Council has asked for a work session to discuss possible ways to evaluate its effectiveness.

Issues: NA

Fiscal Impact: NA

Legal Review: NA

Staff Recommendation: NA



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: May 21, 2026 Council Minutes
Action Requested: May 21, 2026 City Council Minutes
Department: City Clerk

Presented By:

Strategic Goals:

Background Info:

Issues:

Fiscal Impact:

Legal Review:

Staff Recommendation:



MINUTES
CITY OF GLENWOOD SPRINGS
CITY COUNCIL MEETING
MAY 21, 2026
6:15 PM

Note: Official meeting minutes are located on the City website via YouTube video at the following link: <https://www.youtube.com/user/GlenwoodSprings1885/videos>. The times in agenda items indicate approximately where the item can be found on the YouTube video timeline.

REGULAR SESSION

Item 1. 5:59 Roll Call

Present: Councilor Smith, Councilor Schachter, Councilor Weimer, Mayor Dehm, Mayor Pro Tem Zalinski, and Councilor Townsley. **Absent:** Councilor Schmahl

Staff Present: Also present were City Manager Steve Boyd, City Clerk Ryan Muse, City Attorney Karl Hanlon, Chief of Public Safety Joseph Deras, Finance Director Yvette Gustad, Director of Operations Tim Bergman, and City Engineer Ryan Gordon.

Item 2. 6:10 Agenda Changes

There were none.

Item 3. 6:18 Disclosure of Any Councilor Conflicts of Interest

There were none.

Item 4. 6:28 Citizens Appearing Before Council and Council Response (for items not on the agenda - comments limited to 3 minutes)

Glenwood Springs resident Judy Haynes asked questions regarding the special use permit for 100 Midland.

Glenwood Springs resident Myles Rovig made comments thanking Council for their service, recognizing Nick Adams, Recreation Supervisor, for all of the great activities available for kids, and regarding withdrawal from the SPEAR taskforce.

Item 5. 14:11 Council Announcements

Mayor Pro Tem Zalinski made an announcement about a fishing closure near the confluence of Three-Mile Creek and the Roaring Fork River to protect spawning fish. She also made an announcement about the Young Eagles event and other upcoming airport events and opportunities.

Councilor Smith made announcements about the upcoming Colorado Communities for Climate Action annual meeting in Vail, Garfield Clean Energy board grant awards, flights over the valley with CLEER and Ecoflight to view traffic patterns, valley-wide trails working group discussing policies for e-bike use on trails, and the upcoming summer kickoff event at the Community Center for middle and high school kids.

Mayor Dehm made an announcement about the upcoming Wildfire Preparedness and State of Public Safety meeting.

Item 6. 21:49 Consent Agenda

Mayor Pro Tem Zalinski moved to approve the consent agenda as written.

Councilor Weimer seconded the motion.

22:53 The motion passed unanimously.

Item 7. 23:03 Project Update

City Engineer Ryan Gordon presented on the item.

Councilor Smith, Councilor Weimer, and Mayor Dehm asked questions and made comments.

Mayor Dehm opened the item for public comment.

There were none.

Mayor Dehm closed the public portion.

Item 9. 36:52 Resolution 2026-09; Sole Source for Police Body Cameras and Related Technology.

Chief of Public Safety Joseph Deras presented on the item.

Councilor Townsley, Councilor Smith, Mayor Pro Tem Zalinski, Councilor Schachter, and Mayor Dehm asked questions.

Mayor Dehm opened the item for public comment.

There were none.

Mayor Dehm closed the public portion.

1:08:15 Mayor Pro Tem Zalinski moved, seconded by Councilor Weimer, to approve Resolution 2026-09; Sole Source for Police Body Cameras and Related Technology.

Councilor Townsley, Mayor Pro Tem Zalinski, and Mayor Dehm made comments.

1:12:07 The motion was withdrawn. Resolution 2026-09 will be voted on at the next meeting.

Councilor Schachter made a comment.

Item 8. 1:13:54 Ordinance 2026-10; Municipal Code 080.040 Water Regulation Updates

City Attorney Karl Hanlon presented on the item.

Councilor Weimer, asked question.

1:15:30 Mayor Pro Tem Zalinski moved, seconded by Councilor Townsley, to approve Ordinance 2026-10; Municipal Code 080.040 Water Regulation Updates.

Mayor Pro Tem Zalinski and Councilor Townsley made comments.

1:18:31 The motion passed unanimously.

Item 10. 1:18:39 Council Comments

Mayor Pro Tem Zalinski made a comment about bear proof trash containers and requested bringing this topic to a future work session. Councilor Smith, Councilor Schachter, and Councilor Weimer supported discussing this in a future work session.

Mayor Pro Tem Zalinski made a comment about construction delays in Glenwood Canyon affecting tourism.

Councilor Smith made comments about the calendar of upcoming topics for City Council work sessions. He also expressed appreciation for the leadership of Parks and Recreation Director Rod Tarullo who is retiring.

Councilor Schachter expressed appreciation to Housing Development Manager/Planner Watkins Fulk-Gray, Public Information Officer Bryana Starbuck, and all of Community Development for the recent successful Latinx-focused housing event.

Mayor Dehm made a comment about North Landing and the recent ribbon cutting event

Councilor Schachter made a comment that 6th Street will be one of the areas on the Garden Club's annual garden tour this year.

Item 11. 1:24:52 Report from City Administration

City Manager Steve Boyd reported that Parks and Recreation Director Rod Tarullo's final day will be June 1st and expressed appreciation to Rod for his time at the City. Tim Bergman will be interim Parks and Rec Director until a replacement is hired. He also reported about a CDOT highway cleanup opportunity.

City Attorney Karl Hanlon reported on an upcoming trip to Washington DC. He also announced the hazardous waste and compost event at the community center this weekend.

Item 12. 1:30:01 Social Event Announcement

Tonight's social event will take place at Doc Holiday's following the Council meeting.

Item 13. 1:30:08 Adjournment

1:30:10 Mayor Pro Tem Zalinski moved to adjourn. Councilor Weimer seconded.

1:30:45 The motion passed unanimously.



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item:	Award Request for Proposal 2026-13 Slip Line Project
Action Requested:	Award for the Request for Proposal 2026-13 Slip Line Project to Mocon Pacific Inc (MPI) per bid, to include alternate bid item, for a total of \$236,645.
Department:	Public Works
Presented By:	
Strategic Goals:	Preserve and Improve Infrastructure
Background Info:	Each budget season, city staff utilize approximately \$400,000 from the Street and Infrastructure tax money to slip line and hat our sewer system. The process of slip lining the sewer adds a secondary blown in pipe to an older section of line to "slip line" the old section of pipe with a new interior coating. This work improves flow, removes leaking joints, eliminates root intrusion, and adds stability to an older section of pipe. With this work, we also have the contractor "hat" each service connection to the main line, which in essence, pushes a short section of slip lining up the service line and seals up the connection point to the main. Old clay service lines were commonly connected to a clay main line by hammering out a hole and pushing the service into it. Roots find these poor connections and cause issues with flow. Staff budgeted \$400k for this work in the 2026 budget, and pricing came in at \$236,645, well under budget. With the cost savings, staff will be discussing with MPI about slip lining a section of storm sewer that was not completed in 2025 due to budgeting issues.
Issues:	None at this time.
Fiscal Impact:	This items was budgeted for in 2026.
Legal Review:	Legal will review the contract language.
Staff Recommendation:	Staff is Recommending the Award for the Request for Proposal 2026-13 Slip Line Project go to Mocon Pacific Inc (MPI) per bid, to include alternate bid item, for a total of \$236,645.



**City of Glenwood Springs
Request for Proposal 2026-13P
Slip Line Project
Proposal Deadline – May 21, 2026 2:00 p.m.**

Bid Submitted By: Mocon Pacific, Inc.

Darin R. Fogg, President
808-372-8751
darinfogg@moconpacific.com

Bid Prepared By: Darin R. Fogg, President
808-372-8751
darinfogg@moconpacific.com

Addendums #1-#2 Acknowledged

MPI is prepared to start submittals and preparing the site within 30 days of NTP. Project will take 15 days and will be completed by a date agreed to with the City, but no later than 9/30/2026.



May 20, 2026

City of Glenwood Springs

Attn: Ryan Muse via BidNet

Re: Request for Proposal 2026-13P/Slip Line Project

Mocon Pacific, Inc. herein proposes to furnish a Proposal for the labor, materials, equipment, and services set forth below to reconstruct the referenced project. The following prices should be considered confidential.

****See Pricing on Official Revised Bid Schedule****

ASSUMPTIONS AND QUALIFICATIONS:

We have based this proposal on a nominal wall thickness of 3.6mm for the CIPP tube. This is based on the best available information at the time of this proposal. Existing pipe deterioration in excess of the conditions assumed, ground water loads in excess of those assumed, or other loads or conditions may increase the recommended thickness for all or portions of the work. Final recommendations may be submitted to you following the completion of the preliminary TV phase of the project. Stated prices are subject to adjustment if design changes are agreed upon.

Laterals. Normal practice only reinstates those which are active. **This proposal assumes 28 laterals are anticipated to be reinstated.** You may direct us to reinstate all or specific laterals as you desire. This proposal, unless otherwise stated, assumes that all laterals will be reconnected using our main line cutter. Specific service connections, if encountered, will not be reconnected only when written directions are received from the Owner. The Owner will indemnify and hold **MPI** harmless from all claims arising from backups and other effects of such actions or in-actions from services not opened at the Prime's request. In the event that MPI is unable to locate or reconnect a service lateral internally, the Owner will externally reconnect the service at no cost to MPI.

Water shall be provided at no cost to MPI for all construction phases of this project. Any required backflow preventer or water meters will be supplied by others. Water to be supplied at no additional cost for construction activities. Mocon will follow all required backflow prevention and metering procedures.

The Owner/GC will provide equipment access to both ends of the line and any potential point repairs that may be required prior to the lining operation.



This proposal does not include any mitigation of sags or “bellies” in the existing pipe. Should sags be encountered, Owner will be responsible for correcting or additional fees will be negotiated with MPi to remedy should owner elect to remedy.

PROPOSAL INCLUSIONS:

The prices stated in this proposal include:

1. One mobilization and demobilization. - based **on a mutually agreeable schedule between MPi and the Owner**. The Owner needs to give MPi at least two-week advance notice of any changes to the mutually agreed upon schedule. If through no fault of Mocon the mutually agreed upon schedule changes with less than one week notice, then Mocon may charge the Owner an additional mobilization charge and any potential lost materials including but not limited to tube already “wetout”.
2. Pre-Video inspections and documentation of existing pipe prior to reconstruction with the CIPP process for pipe rehabilitated by CIPP.
3. Preliminary Cleaning and preparation of pipe for CIPP
4. Post video inspection following completion of the installation to document your new pipe rehabilitated by CIPP.
5. Traffic control
6. Installation of Cured-In-Place Pipe (CIPP) lining per manufacturer’s recommendation including inversion, curing, and finishing. MPi will utilize a UV cure resin system.
7. Confined space safe entry practices.
8. One-year standard construction warranty.
9. Certificate of insurance with a standard coverage.

PROPOSAL EXCLUSIONS:

Not included in the prices stated in this estimate are costs associated with the items listed below. These items, if needed or found to be applicable, would be provided by **MPi** at your additional cost; or would be furnished by others, at your direction, at no cost to **MPi**:

1. Point repairs if required prior to lining
2. Dye Testing
3. Prevailing Wage Rates
4. If preliminary video inspection of the pipe interior indicates excessive damage, or other extraordinary condition, which will require excavation, or other extraordinary remedy, to prepare the pipe for installation of the CIPP, then those services will be provided by the Owner. This will include excessive roots, excessive debris, pipeline sags and protruding taps.
5. Additional cleaning and televising mobilizations and/or setups due to point repairs, obstruction removals, or delays out of our control will be an additional charge.
6. Active lateral verification, other than visual inspection.
7. Water from fire hydrants or other sources within a convenient distance from each cleaning and inversion site location.
8. *If any hazardous or toxic materials are encountered during the project, the Prime will be responsible for the removal and disposal of the materials.*
9. Bypass pumping of any laterals that may be required
10. Installation of cleanouts, or other ports, if required for special bypass pumping requirements for businesses.



11. Manhole installation, rehabilitation, and/or replacement, if required.
12. Project permits and/or local licenses.
13. Additional premiums for special insurance coverage(s) demanded by you or other parties particular to this project.

PROPOSAL TERMS AND CONDITIONS:

- a.) When CIPP is required to negotiate bends or defects in the host pipe, there is a tendency to experience wrinkling in the installed CIPP around the inside radius of the bend or in the area where the host pipe defect is located. This is normal and should be expected. It will not affect the structural integrity of the finished product. Mocon Pacific, Inc. will not be liable for repairs or penalties due to wrinkles in the CIPP at the locations of bends or defects in the host pipe.
- b.) Limits of Liability. In consideration of Mocon Pacific, Inc. agreement to maintain no less than \$1,000,000 of comprehensive general liability insurance in the form required by the Contract, Mocon Pacific, Inc. liability to the Prime for any matter covered by such insurance will be limited to the extent of such insurance and the Prime will indemnify and hold Mocon Pacific, Inc. harmless from any third party claims covered by such insurance to the extent such claims exceed the limits of such insurance. Neither party shall be liable to the other for consequential damages relating to the contract. In case of conflict between this provision and any other provision in the Contract as ultimately executed, this provision shall govern and prevail.
- c.) **LIMITED WARRANTY. IN LIEU OF ALL OTHER EXPRESSED, IMPLIED AND/OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, MOCON AGREES TO CORRECT ANY DEFECTS IN THE MATERIALS OR SERVICES PROVIDED BY MPI WHICH ARE BROUGHT TO THE ATTENTION OF MOCON WITHIN ONE YEAR FOLLOWING COMPLETION OF MPI'S WORK, PROVIDED PRIME AFFORDS MPI SUITABLE ACCESS AND WORKING CONDITIONS TO ACCOMPLISH SUCH CORRECTION.**
- d.) MUTUAL RELEASE OF CONSEQUENTIAL DAMAGES. Neither party shall be liable to the other for consequential damages relating to or arising out of the Contract.
- e.) **PROPOSAL SUBJECT TO NEGOTIATION OF OTHER STANDARD TERMS OF AGREEMENT.** This proposal is subject to agreement of the parties on other terms and conditions as are customary in contracts of this nature.
- f.) If actual quantities differ significantly from those stated in the proposal then work will be renegotiated.
- g.) Payments are due at net within thirty days of invoice. Final payment is due within thirty days of completion of project.



- h.) Monthly progress partial payments will be requested for the value of work in progress or completed, including materials secured and on site.
- i.) Prices stated are in effect for ten days from the date of this proposal. The acceptance period may be extended at the sole option of Mocon Pacific, Inc.
- j.) CONFLICTS. In the case of conflict between the provision of the aforesaid paragraphs and any other provision in the contract as ultimately executed the provisions as set forth above shall govern and prevail.

OFFERED BY:
Mocon Pacific, Inc.

A handwritten signature in black ink, appearing to read "Darin R. Fogg", is written over a horizontal line.

DARIN R. FOGG
PRESIDENT
(808-372-8751)

ACCEPTED BY:

SIGNATURE

DATE

NAME

TITLE

ORGANIZATION

BID SCHEDULE

Price Qualifications shall include a breakout of the main facets of the work with the estimated number of hours and dollars associated. Also include the estimated number of hours and dollars associated with any potential additions to the project that you might foresee. All fees will be considered by the city to be negotiable based on the final scope of services and deliverables. **(please include all associated cost per line item)**

LINE ITEMS

1. Mobilization for line items (1-11)

Ten thousand dollars	10,000.00
<i>(lump sum – words)</i>	<i>(Lump Sum Total)</i>

2. Shot 1

26 Th Street	
Eleven thousand sixty nine dollars	11,069.00
<i>(lump sum – words)</i>	<i>(Lump Sum Total)</i>

3. Shot 2

Red Mountain Drive	
Eight thousand one hundred ninety six dollars	8,196.00
<i>(lump sum – words)</i>	<i>(Lump Sum Total)</i>

4. Shot 3

Bennett Court	
Twelve thousand six hundred seventy five dollars	12,675.00
<i>(lump sum – words)</i>	<i>(Lump Sum Total)</i>

5. Shot 4

Lincoln Ave	
Eight thousand three hundred twenty three dollars	8,323.00
<i>(lump sum – words)</i>	<i>(Lump Sum Total)</i>

6. Shot 529th & Grand AveEleven thousand nine hundred fourteen dollars \$ 11,914.00*(lump sum – words)**(Lump Sum Total)***7. Shot 6**

Cowdin Drive

Seven thousand four hundred thirty six dollars \$ 7,436.00*(lump sum – words)**(Lump Sum Total)***8. Shot 7**Blake & 29thThirty four thousand eight hundred sixty three dollars \$ 34,863.00*(lump sum – words)**(Lump Sum Total)***9. Shot 8**26th Palmer AveSixteen thousand eight hundred fifty seven dollars \$ 16,857.00*(lump sum – words)**(Lump Sum Total)***10. Shot 9**

Bennett Backyard

Eight thousand four hundred fifty dollars \$ 8,450.00*(lump sum – words)**(Lump Sum Total)***11. Shot 10**

N Hyland Park Drive

Twenty three thousand three hundred sixty two dollars \$ 23,362.00*(lump sum – words)**(Lump Sum Total)***12. Shot 11**

Grand Ave

Twenty two thousand four hundred dollars \$ 22,400.00*(lump sum – words)**(Lump Sum Total)*

PROTRUDING TAP CUTTING

13. All costs associated with removal of protruding tap(s)

4 protruding taps

Two thousand two hundred dollars \$ 2,200.00

(lump sum – (Lump Sum Total)

PROJECT TOTALS

PROJECT TOTAL (Bid Items 1 thru 13)

One hundred seventy seven thousand seven hundred forty five dollars 177,745.00
\$

(lump sum – words) (Lump Sum Total)

ALTERNATE BID ITEMS

14. Alternate bid line item #1 – Sewer tap rehabilitation including mobilization.

28 Total Taps

Fifty eight thousand nine hundred dollars 58,900.00
\$

(lump sum – words) (Lump Sum Total)



Company Information & Qualifications, Employee Qualifications and Project References

MPI is a General Contractor specializing in various types of trenchless rehabilitation to include CIPP, Manhole Rehabilitation, Lateral Lining, Chemical Grouting, Cleaning, and CCTV.

MPI was established in 2018 and has been working in conjunction with a previously partnered firm, Mocon Corporation in Hawaii. Mocon Corporation has been completing CIPP projects primarily on the west coast of the United States since the early 1980's, and mostly using water/steam curing methods. For the past 6 years, UV curing has been the primary focus. For the past 2 years, MPI has been focused on installations in the mountain and central regions of the mainland US. MPI owns and operates all the equipment necessary to complete CIPP liners and has the capacity to mobilize and complete liners anywhere in the United States.

MPI's key employees have over 180 years of combined experience in CIPP installation utilizing a variety of curing methods, to include ambient, water, steam, and UV. Additionally, MPI maintains a staff of highly trained individuals offering a variety of experience and expertise. Any documentation or additional information regarding our experience will be provided on request. These employees have a multitude of experience in the CIPP installation industry to include over the hole wet outs for felt installations, small and large diameter UV cured installations from 6" diameter to 66" diameter, small and large bypass operations, and a variety of other trenchless solutions.

Additionally, for consideration. MPI owner, Darin Fogg was raised in Rangely, Colorado, owns property in South Routt County in Yampa, pays taxes in Routt County, and has made permanent residence in Yampa, CO. Darin's spouse, Pamela Fogg is currently employed as a special education teacher at the Yampa Elementary School. Darin's paternal grandparents graduated from Steamboat High School and homesteaded in and around Steamboat Springs and Clark. Darin's maternal grandparents homesteaded on the Great Divide near Craig, CO. His Dad and all his siblings went to school and graduated from SOROCO High School in Oak Creek. Long story short, all of Darin's family on both sides are homesteaders in Northwest Colorado mostly around Craig and Steamboat Springs, so there are a lot of family and ties to the area and have been since the early 1900's.

MPI Project Team:

Darin Fogg---Project Manager/President/Owner

Raised in Colorado. 25 years experience in the trenchless construction industry. 7 years with Insituform in the CIPP trenchless market, 8 years of other construction and miscellaneous trenchless construction and the past 10 years with Mocon Corporation/MPI in the CIPP and trenchless construction.

Clay Taylor---Project Manager/Logistics Coordinator/UV Curing Technician

33 years in the Army National Guard. 25 years in the construction industry with the past 7 years with Mocon/MPI in the CIPP installation business.

Jeff Brady---Project Foreman



Born and Raised in Colorado. 40 years construction experience primarily in the western slope oil field. The last 6 years have been with MPI learning and experiencing the trenchless construction methods.

Garrett Fogg---Project Superintendent

Raised in Hawaii. Resident of Colorado for the past 2 years. 7 years experience in the trenchless construction industry. The last 5 with MPI.

Reed Rucker---CCTV/UV Cure Technician

Born and raised in Texas. Resident of Colorado since April of 2023. 5 years experience in the CIPP/MH rehab and trenchless construction all with MPI.

Mike Ellis---Project Manager/Business Development

Resident of Utah for over 40 years. 50 years experience in the Trenchless Industry specializing in microtunneling and directional drilling. The last 4 with MPI focused on CIPP installations.

Russell Brown---Project Forman/Superintendent

Born and raised in Texas. Working in Colorado for the past year. 40 years experience in the trenchless construction market specializing in Cleaning and CCTV work.

Specific Project Experience

1. Town of Yampa, CO
 - a. MPi was responsible for managing and implementing a complete system rehabilitation to include 23,000 LF of CIPP, 592 VF of Manhole rehab, flow control, traffic control, and public notifications.
 - b. Traffic control ranged from residential streets to alleyways to Colorado State Hwy 131.
 - c. MPi installation crews were extremely efficient averaging 2,500' of installed liner per week.
 - d. Flow control was set up each and every day to accommodate the needs of the specific installation
 - e. 100% solids epoxy coating was used as the final product on the manhole rehabilitation.
 - i. Most manholes required rung removal, bench and channel restructuring, wall re-build and water infiltration grouting to stop leaks
 - f. Contact: Mary Alice Page---Town of Yampa Planner
planner@townofyampa.com
970-846-4582
2. Town of Fort Morgan, CO
 - a. MPi has completed the Town of Fort Morgan, CO annual rehabilitation contract the last 3 years in a row.
 - b. Primarily CIPP rehab to include flow control, traffic control, and public notifications.
 - c. MPi has completed over 15,000 Lf of CIPP to include 8", 10", 12", 15", and 18"
 - d. Contact: Erik Sagel---Sewer Division Supervisor
Erik.sagel@cityoffortmorgan.com
970-380-2576
3. Town of Windsor, CO
 - a. MPi just completed the 2025 Town of Windsor CIPP pipeline rehab project.
 - b. This project included 8", 12", 15", and 60" liners, traffic control, flow control, and community notification
 - c. Contact: Jeff Coufal---Water Systems Superintendent
jcoufal@windsorgov.com
970-545-9046



Glenwood Co Work Plan

Work Area Plan

- a. Work area required for liner installation
 - a. Each CIPP liner installation will be from one manhole to the next downstream manhole.
 - b. Each Manhole location will be used for temporary equipment storage and use during the CIPP liner installation.
 - c. The area at each manhole will be approximately 12' wide by 30' long.
- b. Method of preventing water from interfering with installation
 - a. Incoming sewage flow will be temporarily blocked off at the upstream manhole location and pumped, as needed, around the CIPP installation site.
 - b. "Sewer Flow Control Contingency Plan" can be provided upon request.
- c. Site Restoration Plan
 - a. The CIPP process does not require any major disturbance of the work site.
 - b. Restoration would include the following
 - i. Reinstall manhole lid/cover
 - ii. Remove equipment and materials from the site
 - iii. Pick up and remove any flow control from the site
 - iv. Pick up and remove any traffic control devices from the site
 - v. Pick up and remove any debris from the site
 - vi. Sweep area as needed to ensure site is as good or better than when the crew arrived on site



Omega-Liner™ Product

Information 2024

Omega-Liner™ Technical Data

Company Information

Certification Owner	Omega UV Liner Company
Location	Canton, South Dakota

Product Information

Product name	Omega UV Liner
Manufacturing since	2017
Environmentally friendly	No discharge of contaminated water or condensate.
Low carbon footprint	minimal fuel consumption
Inflate procedure	Low pressure high volume blower
Curing method	UV or LED Light
Installation technique	Pull-in Place
Impregnation Location	Manufacturers plant only
Certification	ISO 9001:2015
MSDS Sheet	Available
Resin System(s)	Unsaturated Polyester or Vinyl Ester
Diameter range	6" (150mm) to 66" (1676mm)
Special profiles	Circumferences up to 207 inches
Pipe Transitions	Yes (Example: 15" to 18")

Liner Physical Properties

Reinforcement	EC-R Glass
Chemical resistance	According to ASTM D 543
Barcol hardness according to ASTM 2583	≥ 40
Recovery period	Minimum 50 yrs
Maximum residual styrene content after curing	≤ 3 %
Short-term Flexural Modulus ASTM D 790	2,200,000 psi
Long-term Flexural Modulus ASTM D790	1,460,800 psi
Short-term Flexural Strength ASTM D790	30,000 psi
Long-term Flexural Strength ASTM D790	19,920 psi
Poisson's ratio according ASTM E3039	< 3
Retention factor after 10.000 h Per ASTM D2990	50y = 66.4%
Creep behavior after 24 h per ASTM D2990	< 10 %

Material Information

Inner Foil

Material	PE / PA
Thickness of foil	6 mils

Outer Protective Foils

Material	PE / PA / PE
Thickness of outer foil	8 mils

Outer Fleece

Material	PP / PP
Outer Fleece Thickness	.35 mm

Reinforcement

Reinforcement material	Glass fiber stitch bonded fabric, non-woven
Textile glass type	EC-R Glass Fiber
Expansion in radial direction	4.0 %
Stretching in axial direction	0 %

Gliding Foil

Material	PE
Thickness of foil	21 mils

Resin System Data:

UP resin group according to DIN 18820/1 & DIN EN 13121/1	3 & 4
UP resin type according to DIN 16946/2	1140
VE resin type according to DIN 16946/2	1310
UP resin based on	Isophthalic acid / Neopentyl glycol
Curing Agents	UV-Curing: UV-initiators
Reaction shrinkage of the pure resin	8 %
Content of styrene before curing	Approx. 39-42 %
Barcol Hardness in accordance with ASTM D2583	48
Tensile Elongation in accordance with ASTM D638	3.1%

Resin Physical Data

Viscosity, @77°F/25°C, RVF Brookfield Spindle #2 @ 20 rpm	800 cps
Peak Exotherm	356°F - 419°F
Flash Point	88 °F



515 Noid Rd | Canton, SD 57013 | (605) 558-1020
info@omegaUVpipe.com | www.omegaUVpipe.com

**Building environmentally friendly
solutions for the future.**

December 06, 2024

Mocon Pacific
Darin Fogg
President
darinfogg@moconpacific.com

To whom it may concern;

Omega Liner Company, Inc. 515 Noid Road, Canton, SD does hereby affirm that the following personnel at Mocon Pacific of Yampa, CO are authorized/certified installers of UV Cured-In-Place Omega Liners.

- John "Reed" Rucker
- Garrett Fogg
- Darin Fogg
- John "Clay" Taylor
- Jeff Brady
- Russell Brown
- Mason Brown
- Anthony Lyons
- Aaron Atwood
- Brycyn Atwood
- Kevin Voyson
- Kaulen Pennell
- Aurther Redmond
- Fidel Paul Verela
- Brandon Grund
- Rex Powell
- Angus Stewart

Best Regards,

Mark Hallett
President
Omega Liner Company, Inc.

Mark Hallett

President

12/6/2024

Date

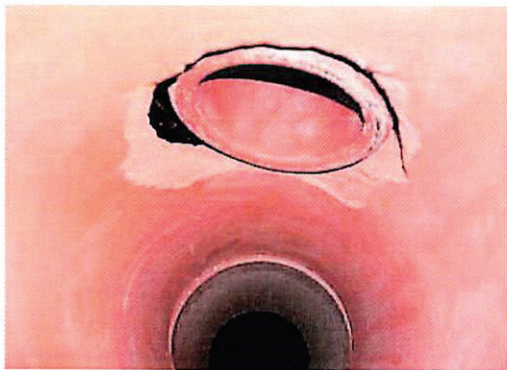
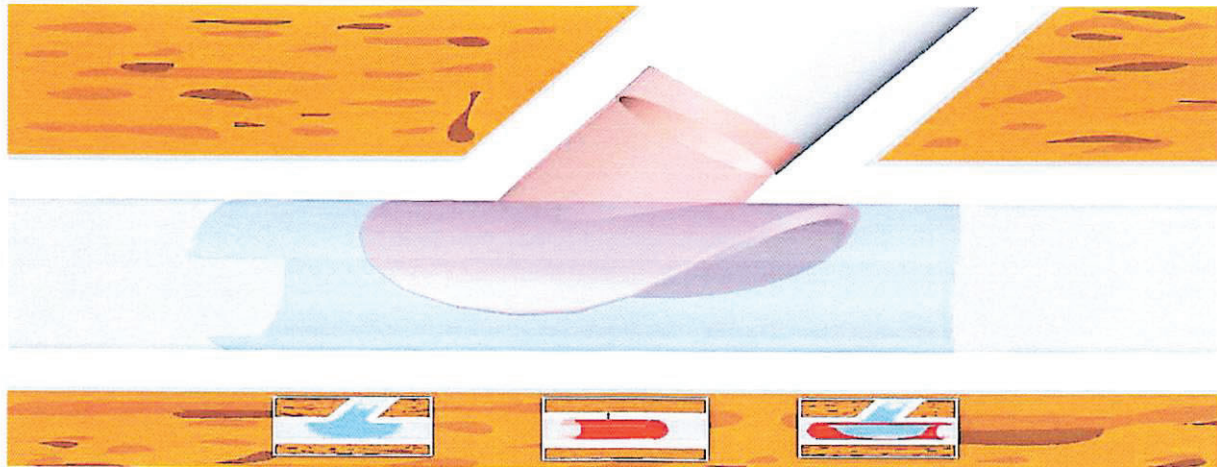


Cosmic “Lateral Connection Sealing” System (LCS)

SUBMITTAL

The Cosmic Engineering LCS system is a specialty robot designed to transport, install and cure a factory impregnated ECR Fiberglass Laminate to seal the lateral connection to the sewer mainline.

Connections can be sealed via “Brim” and/or Full wrap “T” Style.



Before



After

Cosmic Engineering
Tel.: 424 288-9053 or 424 558 9872
• E-Mail: tophatarmijo@aol.com or tophatchris@gmail.com • Homepage: www.cosmic.at

GENERAL SPECIFICATION FOR THE REHABILITATION OF SEWER LATERAL TO SEWER MAIN Service Lateral Connections (SLC)

1. General:

It is the intent of this specification to provide for the rehabilitation of the existing service lateral connection (SLC) to the main sewer, without excavation, by the installation of a (UV) light curing, resin impregnated, flexible fiberglass insert (SLC) that is pushed into the house connection pipe, using a mainline robot crawler connected to a packer. The SLC may be a combination of "tees" or "wyes" of varying angles. The resin shall be rapidly cured to transform the flexible insert into a hard, impermeable seal around and in the lateral connection. When cured, SLC shall seal the connection of the lateral to the mainline in a continuous tight-fitting, watertight pipe-within-a-pipe to eliminate any visible ground water leakage between the lateral and mainline, and shall provide a leak-proof seal designed to prevent root intrusion, infiltration, and ex-filtration between a liner and host pipe.

A Cosmic Lateral Connection Sealing System" can be either a Brim Style or T-Style (Full-Wrap). Either style can be installed from 6"- 16" up the lateral by utilizing varying lengths of bladders on the applicators. The Cosmic System applicator's working range in mainline pipes is from 6"- 24". With 6" mainline, the maximum up the lateral is 6 inches. With 8" to 24" mainline, the lateral line can be lined up to 16 inches with different equipment applicators.

2. General Corrosion Requirements:

The finished SLC product shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage and shall meet the chemical resistance requirements of ASTM D-543.

The SLC product shall be compatible with the lining system materials utilized in the main sewer line.

3. SLC Materials:

The SLC product shall be an ECR (E-glass corrosion resistant) fiberglass laminate. The fiberglass material is factory impregnated with polyester or Vinyl Ester resins that are UV light reactive. When the laminate is mounted on the packer, epoxy or other adhesive products shall be used to secure a permanent bond between the laminate and liner and the existing lateral pipe.

This specification references The American Society for Testing and Materials (ASTM) standards that are made part hereof by reference and shall be the latest edition and revision. D-543 Testing Method of Plastics to Chemical Regents D-578 Standard Specifications for Glass Fiber Strands D-1600 Abbreviations of Terms Relating to Plastics D-638 Testing Methods for Tensile Properties of Plastics D-790 Test Methods for Flexural Properties of Un-reinforced and Reinforced Plastics and Electrical Insulating Materials

4. Physical Properties:

The cured SLC shall conform to the minimum standards as follows:

Flexural Modulus of Elasticity:	ASTMD-790	725,000 psi (minimum)
Flexural Strength at Break (fiber stress)	ASTM D-790	6,500 psi (minimum)
Tensile Strength at Break:	ASTMD-638	9,000 psi (minimum)

Bonding materials used with SLC sealing system shall be compatible with the existing mainline and house connection or with the lining system used in the mainline and lateral.

5. Installation Preparation:

The Contractor shall carry out its operations in strict accordance with all **OSHA** standards and City's guidelines. Particular attention is drawn to those safety requirements involving entering confined spaces. Prior to installing the SLC product the area around the lateral sealing surface in both the main and lateral shall be inspected. Waste product build-up, hard scale, roots, lateral cutting debris or resin slugs must be removed by using high pressure water jetting or in-line robotic cutters.

Break-in connection and / or lateral pipe protruding into the mains shall be ground flush to the mainline. Built-up deposits on the main and lateral pipe walls shall be removed. The removal shall reach at least one foot beyond the SLC product to allow the bladder to inflate tightly against the pipe walls ensuring a smooth transition from the SLC product to the existing pipe wall.

In relined pipes, the lateral reinstatement must be opened 95 percent or more, and shall have a smooth finished edge. The brim style or T-style can also be used for overcuts and miss's of laterals.

When necessary, the Contractor shall provide for the flow bypassing of sewage around the section or sections of mainline pipe where the service lateral designated for SLC is located. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass line shall be of adequate capacity and size to handle the flow.

6. Installer Qualification:

The installer shall be certified by the manufacturer of the SLC sealing system. Personnel installing the SLC sealing system shall be adequately trained in maintenance and operation of the required installation equipment. A letter from the manufacturer of the SLC sealing system, verifying the certification of the installer, shall be submitted to the owner.

7. SLC Installation:

The resin impregnated SLC product shall be loaded on the applicator apparatus, attached to a robotic device and positioned in the mainline pipe at the service connection that is to be sealed. The robotic device together with a television camera shall be used to align the SLC repair product with the service connection opening. Air pressure, supplied to the applicator through an air hose, shall be used to insert the resin impregnated SLC product into the lateral pipe. The inserted product will then be inspected using a TV camera to confirm the SLC product is correctly positioned and / or centered in the lateral opening prior to curing. The insertion pressure will be adjusted to fully deploy the SLC product into the lateral connection and hold the SLC product tight to the main and lateral pipe walls. Care shall be taken during the curing process not to over-stress the bladder.

The pressure apparatus shall include a bladder of sufficient length in both the main and lateral lines such that the inflated bladder extends beyond the ends of both the lateral tube and main line brim segment of the SLC product pressing the edges flat against the internal pipe wall thus forming a smooth transition from SLC product to pipe diameters without a step, ridge or gap between the SLC product and the inner diameter of the lateral and mainline pipe.

After insertion is completed, recommended pressure must be maintained on the SLC product for the duration of the UV light curing process.

The bladder is then deflated, removed from the sealed connection and returned to the manhole to repeat the cycle.

The finished SLC product shall be free of dry spots, lifts, and de-lamination. The installed SLC shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.

After the work is completed, the Contractor will provide the customer with a video disc showing the completed work including the restored conditions.

During the warranty period any defects with the SLC that affect the performance or cleaning of the lateral connection shall be repaired at the contractor's expense in a manner acceptable to the customer.

8. CleanUp:

Upon acceptance of the installation work, the contractor shall reinstate the site affected by its operations to as close to the original condition as possible.



DUKE'S
2115 S. 11th Ave., Suite 120
Phoenix, Arizona 85007
Phone: 1-800-447-6687

As of 1/2024

CERTIFICATE OF INSTALLER

To Whom It May Concern:

This certificate verifies that the noted **DUKE'S** personal has received all necessary training for the correct preparation and installation procedures for the Cosmic Systems. This includes the Tophat "Lateral connection seal" and the Cosmic robotic cutting system. Should there be any other questions, feel free to contact Chris Armijo at information listed below.

DUKE'S Trainees.....
Nick Lanoue
Ramiro Nava
Refugio Orozco
Jeremiah Nowling

Sincerely,
Chris Armijo
Cosmic Engineering GMBH





CERTIFIED CORPORATE RESOLUTION

I, Darin R. Fogg, President of Mocon Pacific, Inc., a corporation, do hereby certify that the following is a full, true and correct copy of a resolution duly adopted by the Board of Directors of said Corporation, at its meeting called and held at the office of Mocon Pacific, Inc., 200 Clifton Ave, Yampa, CO 80483 on January 3, 2024, at which a quorum was present and acting throughout; and that said resolution has not been modified, amended or rescinded and continues in full force and effect:

"RESOLVED that any individual at the time holding the position of President, Vice President, or Secretary, each of them are hereby authorized to execute on behalf of the Corporation, any bid, proposal or contract for the sale or rental of the products of the Corporation or for services to be performed by the Corporation, and to execute any bond required by any such bid, proposal or contract with the United States Government or any State, County or Municipal Government or any department or subdivision on any of them"

A handwritten signature in black ink, appearing to read 'Darin R. Fogg', with a stylized flourish at the end.

Darin R. Fogg, President

President: Darin R. Fogg, 30 Moffat Ave., Yampa, CO 80483

Secretary: Garrett I. Fogg, 5474 S Danube Way, Centennial, CO 80015



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item:	Adoption of Updated Engineering Standards
Action Requested:	Staff requests council adopt the revised Engineering Standards per Resolution 2026-11
Department:	Engineering
Presented By:	Ryan Gordon
Strategic Goals:	Provide Efficient and Responsive City Government Preserve and Improve Infrastructure Protect and Preserve our Quality of Life Generate Sustainable Economic Development Ensure Public Safety
Background Info:	The Engineering Standards were last revised and adopted back in 2022 and need to be updated to keep up with new materials, concepts and changing regulations. This revision will also clean up disconnected references, minor typos and simplify/clarify how to complete construction in the city.
Issues:	None
Fiscal Impact:	None
Legal Review:	Legal has reviewed the standards and completed resolution language.
Staff Recommendation:	Staff recommends council adopt the revised standards.



Chapter 6

Electrical Standards

City of Glenwood Springs Engineering

Revised 2026

Chapter 6 Electrical Standards

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Chapter 4 Electrical Standards

I. Introduction

These standards are issued by the Glenwood Springs Electric System (GSES) as a guide for obtaining electric service and electric line extensions and put forth the service available, conditions for service, and the standards for material and construction. The standards herein supersede all previous publications of "Electric Service Standards" issued by the Glenwood Springs Electric System prior to this date and are subject to change without notice. These are provided to assist customers, architects, engineers, contractors, developers, wireman and inspectors in planning and installing electric distribution and electric service. It is not intended that any requirements may be unduly restrictive or burdensome, but that these regulations and policies serve to provide safety guidelines and expedite service connection by establishing uniform and equitable standards for electric service. No one rule or instruction covers all conditions. Glenwood Springs Electric System welcomes and encourages all inquiries concerning unusual or special needs and to provide clarification of our requirements and standards.

II. Definitions

- A. The term "Customer", when used herein, refers to any person or company applying for, receiving, using or agreeing to take a class of electric service or other services supplied by Glenwood Springs Electric System.
- B. The term "National Electric Safety Code" or "NESC", when used herein, refers to the current edition of the National Electric Safety Code as adopted by the City of Glenwood Springs at time of distribution installation.
- C. The term "National Electric Code" or "NEC", when used herein, refers to the current edition of the National Electric Code as adopted by the City of Glenwood Springs at time of construction.
- D. The City of Glenwood Springs Electric System may be referred to in this text as "GSES", "local utility", the "Electric Department", or the "City".

III. General Policy Information

- A. The standards herein are supplementary to, and are not intended to conflict with, the rules and regulations on file with the City Clerk of the City of Glenwood Springs, applicable to city ordinances, the National Electric Safety Code, and the National Electric Code.
- B. The customer will give the duly authorized agents and employees of GSES, when properly identified, full and free access to the premises of the customer at all reasonable hours. This access will be for the purpose of installing, reading, inspecting, adjusting, repairing, maintaining, replacing or removing any of GSES facilities on the premises of the customer or for any other purpose incidental to the electric service supplied by GSES.



City of Glenwood Springs Electrical Standards

- C. Employees of GSES may not demand or accept any compensation from a customer for services rendered in the line of duty. The customer will not bypass, tamper with, engage in unauthorized metering, or otherwise interfere with the proper operation of GSES meter or other equipment or in any way interfere with the proper metering registration. No meter socket will be flatted or bypassed without express consent of GSES.
- D. For violation of this regulation, service will be disconnected without notice to the customer and will not be reconnected until the customer has corrected such violation in accordance with prevailing electric requirements. The customer may be billed the costs incurred by GSES to resolve the situation as well as the outstanding charges.
- E. The customer, at all times, will protect the property of GSES on the premises of the customer and will permit no persons other than the employees and agents of GSES and other persons authorized by law to inspect, work on, open, or otherwise handle the wires, meters or other facilities of GSES. All work within GSES equipment will be in compliance with the National Electric Safety Code. In case of loss or damage to the property of GSES due to carelessness, neglect, or misuse by the customer, his family, agents, servants, or employees, the customer will, at the request of GSES, pay to GSES the cost of any necessary repairs or replacement of such facilities or the value of such facilities.
- F. Devices or attachments will not be connected to the GSES facilities in such a manner as to permit the use of un-metered energy without the prior written consent of the GSES.
- G. The electric service supplied by GSES is for exclusive use of the customer on the premises to which such service is delivered by GSES. GSES will not supply electric to a customer for resale by the customer. However, a master metered customer may "check meter" tenants, lessees or other person to whom ultimately the electricity is distributed by an allocation procedure, provided the master metered customer does not receive more than necessary to pay the master metered bill. GSES will supply and maintain only one master meter in such an instance.
- H. The rates for all types of electric service supplied by GSES are on file with the City Clerk's office at Glenwood Springs City Hall. Upon request, a representative of the City of Glenwood Springs will explain rate schedules and billing.
- I. Generally, attachments of any kind to a power pole or street light poles will NOT be permitted. In certain cases, attachments to power poles by other utility entities are granted. A permit is required for Joint Pole Attachment. In certain cases, attachments to street light poles are granted typically for street signage or banners.
- J. GSES will use reasonable diligence to supply continuous electric service to the customer but does not guarantee the supply of electric service to the customer against irregularities or interruptions. GSES will not be considered in default of its service agreement with the customer and will not otherwise be liable for any damages incurred by any irregularity or interruption of electric service.
- K. GSES will not be considered in default of its service agreement and will not otherwise be



liable due to failure by GSES to perform any obligation if prevented from fulfilling such obligation by reason of delivery delays, breakdowns of or damage to facilities, acts of God, public enemy, strikes, action of civil, military, or governmental authority or any other cause beyond the control of GSES.

- L. The customer may be required to provide Utilities Design CAD File (UDCF), Utilities "As Built" drawings or both in support of a service extension request. Details and recommendations of the UDCF and "As Built" drawings are given in Section 7

6.1 CHARACTER OF AVAILABLE SERVICES

A. General Statement

The Glenwood Springs Electric System has on file it's Rate, Rules, Regulations and Extension Policies, copies of which are open for inspection by the public at City Hall or the Electric Department. The following standards are statements of the operating rules and practices, which affect the majority of connections made to the GSES distribution system. Where information not included herein is needed, representatives of the Electric Department will provide assistance.

B. Type of Service

The Electric Department shall be contacted for definite information as to voltage and phase available for any particular service, by upfront consultation and perhaps unnecessary expense may be avoided in obtaining final service connections. Depending upon the location and nature of the load, the following types of services are available.

- a. Single phase, 3-wire at a nominal voltage of 120/240 volts.
- b. Three phase, 4-wire wye at a nominal voltage of 208/120.
- c. Three phase, 4-wire wye at a nominal voltage of 480/277 volts.

The following types of service are available only at the Electric Department's option upon prior written approval. These types of services will generally not be available if the above types of services are more appropriate in the Electric Department's opinion.

- a. Single phase, 2-wire at a nominal voltage of 120 volts
- b. Three phase, 3-wire delta at a nominal voltage of 240 volts or 480 volts
- c. Three phase , 4-wire delta at a nominal voltage of 120/240 volts
- d. All other voltages



C. Service and Limitations

- a. The Electric Department reserves the right to determine the location and type of service that will be made available at any particular location and therefore should be consulted. Service will be rendered to consumer from the Electric Department's nearest suitable line of sufficient capacity to furnish adequate service at the phase and voltage available.
- b. Services must not be used by consumer for purposes other than that specified in the applicable rate. Electrical energy purchased from the City of Glenwood Springs shall not be resold.
- c. Services requiring only 120 volt, two-wire, shall not be installed unless it is the only available supply (fed from underground street lighting circuits, etc.), and must have prior written approval from the Electric Department. Existing two-wire services being revamped shall be changed to 240 volt, three wire where possible.
- d. Reduced current starting equipment will be required on all three-phase motors larger than 25hp, and all motors larger than 10 hp shall be three-phase. Written exemptions may be granted by the Electric Department for certain installations.

D. Application for Service

Consumers may contact the Electric Department or City Hall in person, by mail, or telephone to secure information related to applications for new electric service connections or changes in existing service. Before electric service can be made available to the consumer's installation, it is necessary that:

- a. The consumer makes an application for service at City Hall.
- b. The consumer complete and return to the Electric Department the "Request for Load Information Form".
- c. The consumer will pay all appropriate fees to City Hall.
- d. The Electric Department completes its engineering and construction, if any.
- e. The State Electrical Inspector, who has jurisdiction for electrical inspections, has notified the Electric Department of his approval by phone or the presence of a valid approved electrical inspection sticker.

E. Rate Schedule

- a. Rate schedules are available upon request.

F. Load Balance

- a. Customer shall connect his equipment so that the load at the point of delivery shall be balanced as nearly as practicable.

G. Cogeneration/Photovoltaic Installations



- a. It is the policy of GSES to allow qualified small power producers and co-generators to operate in parallel with GSES. Certain requirements are outlined to ensure the safety and reliable operation of such interconnected power sources. Details of each case will be reviewed and coordinated with the City of Glenwood Springs Public Works Director, Finance Director, and the GSES Superintendent and Electrical Engineer upon receipt of a letter of request and intent. The customer is urged to discuss the project plans prior to the purchase and installation of equipment.
- b. GSES will encourage the use of induction generators or line-commutated inverters over the use of synchronous generators or self-commutated inverters in order to simplify interconnection requirements for 100kw and smaller co-generators.

H. Conditions for Approval of Photovoltaic Installations

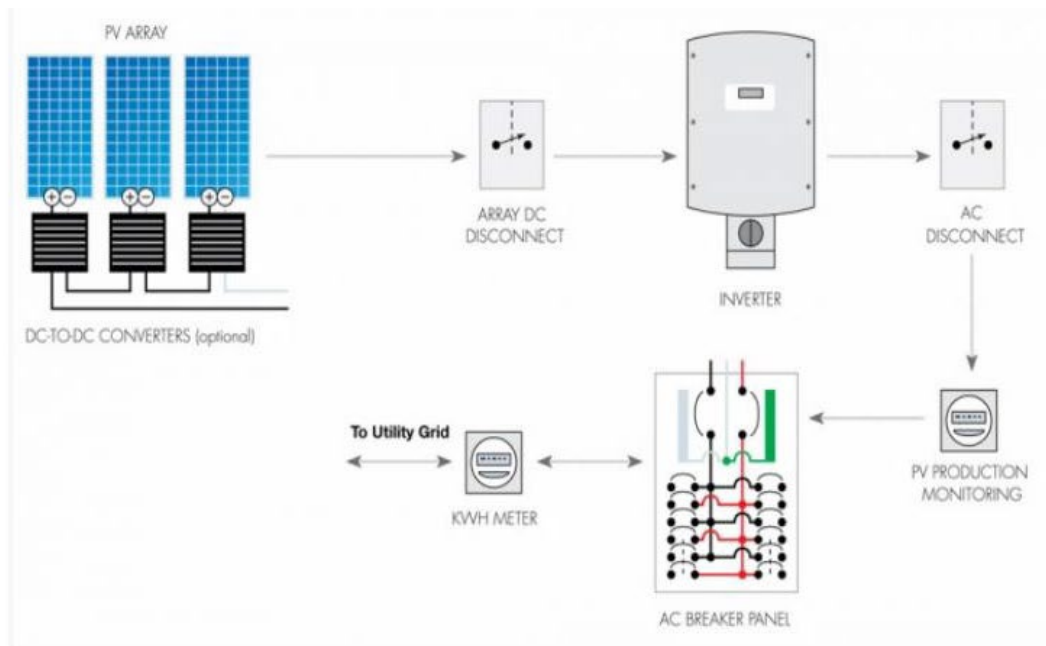
- a. Generating facility shall include a metering system that meets all applicable standards, regulations, and statutes that will meter the generation prior to customer usage and capable of recording the monthly output (kilowatts) of the generation facility based on the highest 15 minute rolling interval delivered to the customer and a second meter capable of reverse power flow measurement for net kilowatt hour readings. The facility will include full protective systems to protect utility line personnel from back feed onto the utility grid system upon utility power failure. See Exhibit A One line Diagram.
- b. All wiring to be in accordance with the current National Electric Code safety and protection requirements and utility power quality standards for voltage and frequency. Inverters must be UL listed and approved. The system must be grid- tied (utility net metering applies) and requires a minimum 5-year warranty on the panels, inverters and installation. For small PV supply systems, harmonic content injection shall be limited to the levels prescribed in IEEE-519.
- c. Systems must be installed by a NABCEP certified installer. Submit copy of installer certification to the City with Net Metering Application for Interconnection.
- d. The AC outlet supply shall be wired to an outside disconnect, labeled, "WARNING!! DUAL POWER SUPPLY", installed adjacent to or at the main point of service disconnect. See Exhibit B Warning Label Diagram.
- e. 1- line electrical diagram of the generating system shall be furnished to the City prior to installation. The 1-line electrical diagram shall show all wiring, connecting point and protective devices for the selected equipment components at this site.
- f. Generating facility shall be sized to supply no more than **120 percent** of the customer's average annual electricity consumption at the site, where the site includes all contiguous property owned or leased by the consumer, without regard to interruptions in contiguity caused by easements, public thoroughfares, transportation, rights-of-ways, or utility rights-of-way.
- g. Maximum Limits. The following maximum limits will apply, without exception, to the



monthly excess generation provisions of this policy.

- a. Residential Customer –Generators may generate electricity subject to this net metering policy up to **10 kilowatts**.
- b. Commercial or Industrial Customer- Generators may generate electricity subject to this net metering policy up to **25 kilowatts**.





PV Module Information:

Manufacture

Model #

DC Disconnect Rating:

Max DC Voltage

Max Operating Amps

PV Array information:

of Modules in Series

of Parallel Circuits

AC Disconnect Rating:

Max AC Voltage

Max Operating Amps

Inverter Information:

Manufacturer

Model #

Max DC Volt Rating

Max Power Rating

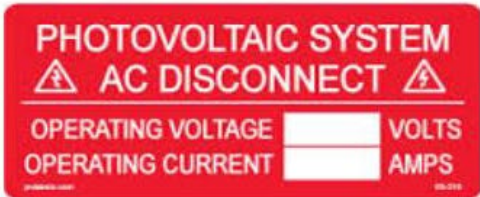
Nominal AC Voltage

Max AC Current

Exhibit A – Warning Label Diagram



THIS SIGN IS ATTACHED TO THE "METER HOUSING" AND IS AT LEAST 2 x 4 INCHES IN SIZE AND MUST BE WEATHERPROOF AND PERMANENT.



4" x 2"



THESE SIGNS ARE PERMANENTLY ATTACHED TO THEIR RESPECTIVE DISCONNECT SWITCHES.



THIS SIGN IS TO BE PLACED AT THE LOAD CENTER DIRECTLY NEXT TO THE ACTUAL PV BREAKER



City of Glenwood Springs Electrical Standards

I. System Voltage Transients

Voltage transients can and will occur on the power system resulting from both normal operation and acts of God. These transients will characteristically be of short time duration, low energy, but high magnitude. These transients may affect sensitive equipment such as computers. Due to the nature and origin of these types of transients, the customer at the customer's expense may require special power conditioning equipment.

J. Voltage Levels

The actual secondary distribution voltage at the customer's meter will vary up to and including +/- 5% of the nominal voltage, depending on circuit location and normal operating needs. This conforms to the ANSI Standard C84.1, which deals with electric power supply and utilization systems. It must be recognized that because of conditions outside the GSES control, there will be infrequent and limited periods when sustained voltage outside these limits may occur. Additional voltage variations will occur between the meter and the customer's utilization equipment at normal operation.

K. Momentary Interruptions and Voltage Dips

Many modern electronic appliances such as digital clocks, VCRs, microwave ovens, PCs, etc. are extremely sensitive to momentary power interruptions or voltage dips. In order to minimize the duration of outages to all customers when a temporary failure occurs (as caused by nearby or direct lightning strikes to power lines, or by wind trees, or animals) power circuit breakers and reclosers will trip to clear the fault and automatically reclose within a few seconds to restore service. Customers are encouraged to select electronic appliances with a short-term power outage carryover automatic clock reset feature, which are readily available from most leading manufacturers.

L. Three- phase Motor Protection

In the event the customer has three-phase motors that may be sensitive to a single-phase condition, it will be customer's responsibility to install the proper equipment to protect motor from damage.

M. Power Factor

See Municipal Code Article 08.020.020 Inspection and Power Factor.

N. Emergency Generator

When an emergency generator is required, it will be installed in such a manner as to eliminate the possibility of operating in parallel with, or back-feeding into the GSES. A double-throw, double-source main disconnect will be used for this purpose. Customers must sign and comply with GSES interconnection agreement in order to parallel with the GSES.



O. Welders

To ensure good service and limit the amount of voltage flicker to our customers, permission will be obtained from the Glenwood Springs Electric System for the use of welders in a residential area, which require more than 40 amps input.

P. Line Locating

A line locate must be requested before any excavation begins. Twenty-four (24) hour advance notice is required except for emergencies. Working without a locate is not only extremely dangerous but may cause the excavator and/or the company he represents a large fine and repair costs, which may include any lost revenue that the City may incur. To schedule a locate you must call the Utility Notification Center of Colorado (UNCC) at 811, GSES at 970-384-6352 and the City's Water/Wastewater Department at 970-384-6344.

Q. Request for Load Information Work Sheet (see following page)



CITY OF GLENWOOD SPRINGS
REQUEST FOR LOAD INFORMATION

Owner's Name: _____ Date: _____

Address: _____

Person Contact: _____

Telephone #: _____

Building Classification:

☐ Residential

☐ Industrial

☐ Commercial

☐ Other _____

Building Features: Square Footage: _____

Type Use (Office, Retail Store, etc.): _____

Electrical Data: Voltage Request:

☐ 120/240, 1 ϕ , 3-w ☐ 277/480, 3 ϕ , 4-w

☐ 120/208, 3 ϕ , 4-w ☐ Other _____

Secondary Main Breaker Size:

☐ 100-amp

☐ 400 amp

☐ 200 amp

☐ Other _____

Load Profile: Total Connected KW: _____

Estimated Maximum Demand KW: _____

Transformer Request Size KVA: _____

Equipment List:

Heat: ☐ Gas ☐ Electric ☐ Other _____

Air Conditioning: ☐ Yes ☐ No

Largest Motor Load, HP _____ Qty _____

Largest Resistance Load, KW _____ Qty _____

Utility Service Information

Electrical Summary:

Transformer Size: _____ KVA

Service Voltage: _____

Meter Classification:

Voltage Configuration: _____ Amp Classification: _____

Instrument Rated (CTS): _____ Meter Type: _____

Fault Current: _____



City of Glenwood Springs Electrical Standards

6.2 SERVICE ENTRANCE GUIDELINES

A. General

- a. The consumer, before purchasing equipment or beginning construction of a proposed installation, should confer with the Electric Department to determine if the type of service and voltage desired by the consumer is available; to determine if extension of, or additions to the Electric Department's facilities will be required; and to secure definite location of the point of delivery, i.e., point where the Electric Department's electric facilities will connect to those of the consumer. Before any additions to or alterations of existing installations are made by the consumer which will materially affect the amount of service required, or which may require a change in the type of service or the point of delivery, the Electric Department shall be notified reasonably in advance thereof in order to determine if the service desired is available and, if so, that the necessary changes in the Electric Department's facilities may be arranged for and completed.
- b. The Electric Department makes service available from either overhead or underground distribution facilities, in accordance with the terms of the Electric Department's Line Extension Policy. It is extremely important that the Electric Department be consulted in advance to determine the type of service that will be available.
- c. The Electric Department is responsible for service up to the metering point. Anything beyond that point is the responsibility of the customer.
- d. Outside disconnects are required for all new and remodeled services.

B. Consumer's Responsibility

- a. It is understood that any of the Electric Department's facilities located on consumer's premises should be adequately protected against damage and that consumer is responsible for any damage or loss resulting from improper protection or neglect.
- b. Installation of and proper connection of the service entrance conductors are the direct responsibility of the consumer and/or his electrical contractor.
- c. Antennas, ropes, signs, flood lights, banners or other objects shall not be attached to or cross over any poles or lines owned by the Electric Department. Consumer's distribution wires are not to be installed on the Electric Department's poles or facilities, except for equipment on farm or irrigation metering poles, or metering equipment as approved.

C. Apparatus and Equipment

- a. The Glenwood Springs Electric System shall be contacted prior to the start of all installations to determine the location of all metering equipment.
- b. The installation and material of the service entrance equipment, meter mounting device, associated equipment and wiring, etc., is the responsibility of the consumer and shall comply with GSES guidelines, the latest version of the National Electrical Code (NEC), or other regulatory authorities having jurisdiction, whichever is more stringent.



- c. The service entrance conductors shall be connected to the service drop conductors, by Glenwood Springs Electric Department Personnel Only.
- d. A loadbreak fused disconnect or breaker shall be installed on the load side of the meter at the meter location.
- e. The top of the conduit mounted on the pole must be six (6) feet from the Glenwood Springs Electric System's neutral. Cable tails must be long enough to reach connections, including drip loops.
- f. All three-phase (3Ø) four-wire wye-metering stacks with 120/208-volt services must have a factory installed fifth terminal at the nine o'clock position. These installations must be reviewed on an individual basis prior to construction (in the design stage) to ensure compatibility with Glenwood Springs Electric System.
- g. Glenwood Springs Electric System will not assume any liability or responsibility for maintenance of any equipment purchased and installed by others.
- h. A nine (9') foot clearance is required in front of all transformers and electrical apparatus doors per NEC Code 110-34(a). A thirty (30") inch clearance is required on all sealed sides and rear. A nine (9') foot clearance above the transformers and electrical apparatus is required per NEC Code 110-34(c).

D. Meter Installation and Ownership

- a. Generally, only one meter will be allowed for each rate under which consumer receives service at each location.
- b. Projects, which incorporate the use of motel or lodge type housing, will be permitted to master meter. Condos, townhouses and apartments (housekeeping units), shall provide individual metering for each unit.
- c. Where two or more meters are installed, the applicable rate will apply to each meter, and readings of the meters will not be combined for billing purposes.
- d. All meters, service wires, and other electrical facilities installed by the Electric Department at its expense upon consumer's premises for the purpose of delivering or measuring electrical energy to consumer, shall continue to be the property of the Electric Department and may be repaired, inspected, tested, relocated, replaced or removed by the Electric Department at any time without prior notice.
- e. The consumer shall provide and maintain without cost to the Electric Department, subject to the Electric Department's approval, an easily accessible location of sufficient size for installation of meters and other apparatus of the Electric Department in accordance with the Electric Department rules as contained herein.

E. Meter Location

- a. The location of meters and metering equipment shall be designated by the Electric Department. No wiring dependent upon the meter location should be started until the



location has been definitely agreed upon by the Electric Department. Outdoor metering is preferred. It has the advantage of eliminating inconvenience to the customer occasioned by the reading and testing of meters. Insofar as is practicable, all meters for single- or two-family dwellings, terraces and small store buildings and apartments, etc. shall be installed outdoors in accordance with rules governing outdoor meter installations. Under certain conditions, however, it may not be practicable to install meters outdoors and by special arrangement with the Electric Department, an indoor location may be approved.

- b. Meters must be accessible 24 hours a day, 12 months a year for maintenance and reading. They cannot be located within a locked area or within an area which might be locked in the future. The Electric Department will not accept keys.
- c. Also, meters shall not be located where access might be barred or where the meter and/or Electric Department employees or agents could be subjected to physical damage by the accumulation of snow or ice, parked vehicles, stored materials, etc., and shall be located on the vehicle access side of the building where practical. Meter locations must also conform to National Electric Code requirements and all local codes.
- d. In multiple metered buildings, meters shall be grouped in a centralized accessible location approved by the Electric Department.
- e. If meter cabinets are constructed to screen meters, the doors of such cabinets shall be constructed of lightweight materials and open wide enough for easy access for maintenance and reading. The doors shall be hinged on the side and shall not be locked. The door openings shall be sufficiently high so that snow and ice will not impair access. The Electric Department will not be responsible for damage to consumer constructed meter cabinets.
- f. All meter locations must be approved by the Electric Department prior to installation. If a meter location is not approved in advance, the Electric Department field installer is authorized to refuse installation of the meter until an acceptable location is agreed upon.

F. Outdoor Meter Locations

- a. Outdoor meters shall be installed in a place accessible at all times, and in such a location as to coordinate with the service entrance requirements. Self-contained meter mountings shall be securely fastened to the building wall and shall be installed so that the center of the meter cover shall be five and one-half (5 ½) feet above the finished grade or permanent platform. Such a platform shall be not less than three (3) feet square. Proper location and clearance of meter mountings necessitate consultation between the consumer and the Electric Department.
- b. Where service is rendered to individual consumers located in a structure designed for multiple occupancy, such as an office, professional building or an apartment building, etc., the individual outdoor meters should preferably be grouped at a point nearest the service entrance attachment. Each mounting shall be plainly and permanently marked by the consumer with numerals or letters showing which apartment, offices or rooms are supplied there from. Where the available space requires that meter mounting devices be placed in



vertical alignment, the highest meter may not be more than seven (7) feet above grade to the center of the glass cover, and the lowest meter may not be lower than thirty-six (36) inches above grade to the center of the glass.

G. Indoor Meter Locations

- a. When indoor locations are necessary, the meters shall be installed in a location where they will be readily accessible at all times for reading and maintenance purposes. Meter mountings shall be securely fastened to the wall and shall be installed so that the center of the glass meter cover will be five and one-half (5 ½) feet above the floor. Proper location and clearances of meter mountings necessitate consultation between the consumer and the Electric Department.
- b. Where two or more meters are to be installed indoors, they shall be grouped together in a common room or other suitable space accessible at all hours to authorized Electric Department employees. In unusual cases where installation is made in a multiple story building, exception may be made for multiple meter rooms (maximum of 1 room per 3 stories), with special permission of the Electric Department. Individual meter mounting devices may be placed as close together as the fitting will permit, but not less than two (2) inches apart. They shall be plainly and permanently marked by consumer with numerals or letters showing which apartments, offices or rooms are supplied there from. The load wires from each meter mounting shall run in separate conduit to individual disconnecting means. When un-metered conductors are run through private basements or other private areas, they shall be enclosed in a continuous length of conduit. The installation of pull boxes or other devices in this service feed will not be permitted. Where the available space requires that meter mounting devices be placed in vertical alignment, the highest meter may not be more than seven (7) feet above grade to the center of the glass cover, and the lowest meter may not be lower than thirty-six (36) inches above grade to the center of the glass cover.

H. Meter Mounting Installation

Meter mountings and associated equipment, both indoors and outdoors, shall be mounted securely and plumb. Where they are attached to masonry, concrete or plastered walls, expansion bolts, plugs or anchors shall be used.

I. Meter Pedestals

The electric department does not supply meter pedestals. The application of using a meter pedestal is determined by accessibility and the aesthetic value of using one.

- a. Single meter pedestals will be used for single family dwellings on all newly constructed homes when applicable.
- b. Double meter pedestals will be used at a common property line to serve both adjoining properties on new construction.
- c. On multi-family units, a meter stack will be required. It will be strategically placed for the convenience of the meter reader and the Electric Department.



J. Classification of Metering

Selection of the type of metering to be used will be determined solely by the Electric Department and will be based upon the voltage of the circuit and the load supplied. The Electric Department classifies its metering installations as follows:

K. Self-Contained Metering

- a. Where the service ampacity does not exceed 225 amperes, and where the service voltage does not exceed 240 volts, self-contained metering may be used.
- b. For self-contained installations not covered by these drawings or location of metering equipment, or where instrument transformers are required, or 480-volt service, the Electric Department should be contacted prior to the start of the installation for approval.
- c. The use of single-phase meter mounting devices other than those supplied by the Electric Department is permissible providing the following conditions are fulfilled:
 - i. The cost of purchasing, installing, and connecting the device shall be borne by the consumer.
 - ii. All such devices intended to be connected three-wire single phase, 120/208Y volt shall have a fifth terminal installed at the 9 o'clock position and connected to the service neutral.
 - iii. Where an installation consists of multiple mounting devices (such as apartments, condos, etc.) the line side conductors in raceways or gutters shall be separated from the load side conductors by means of a permanent barrier.
 - iv. Access to the line side conductors shall be sealable. In applications where a single device is used, line and load conductors must be in separate conduits.
 - v. The meter-mounting device shall be equal in quality to the comparable device, which the Electric Department would otherwise furnish.

L. Instrument Transformer Metering

- a. Instrument metering shall be used whenever service rating exceeds 225 amps, and on most 480-volt services.
- b. Current and potential transformers (CT's and PT's) shall be securely mounted in an enclosure of adequate size, and shall not be installed in service disconnects, wiring gutters, junction boxes, or be exposed to the weather.
- c. The installation of instrument transformer in pad-mount transformer will be done solely at the discretion of the Electric Department. Prior written approval must be obtained and will not be granted if the Electric Department determines that the transformer could serve more than one service.
- d. CT cabinets and service disconnect for residential services shall be located in an accessible exterior location.



- e. The cabinet for the instrument transformers and the necessary conduit and fitting will be supplied, installed and owned by the consumer. The instrument transformers and meter mounting device will be supplied and owned by the Electric Department but will be installed by the consumer. Meter test switch, and instrument transformer secondary wiring will be supplied, installed and owned by the Electric Department.

M. Non-registration of Meters

- a. The consumer is requested to notify the Electric Department of any defect in the Electric Department's wiring or equipment, which may result in the failure of a meter to register.
- b. Lack of proper registration will result in estimated billing.

N. Electricity Theft

Electricity theft costs customers money. Although GSES works to minimize costs, this loss is shared by our customers. Meter tampering and electricity theft are criminal acts that can lead to arrest, fines and/or imprisonment. Electricity tampering is also a safety issue that can cause fire, personal injury and possible electrocution. Please report any meter tampering or electricity theft to the Electric Department

O. Reasons for Discontinuing Service

The Electric Department may refuse to connect or may discontinue service for non-payment of bills, faulty or dangerous wiring, and non-compliance with the application for service or contract, theft of electricity, or appearance of power theft devices on a customer's premises. Discontinuance of service does not release a customer from any obligations to the Electric Department.

P. Moving or Removing Meters and Metering Equipment

Only authorized Electric Department employees are permitted to connect, disconnect, remove or relocate meters. All metering equipment owned by the Electric Department and either not installed, or installed and not be utilized, shall be returned to the Electric Department.

Q. Diversion of Electricity

Under no circumstances shall devices or attachments be connected to the Glenwood Springs Electric System facilities in such manner as to permit the use of un-metered energy, except in emergencies where specifically authorized by the Glenwood Springs Electric System. Legal recourse will be taken by the Glenwood Springs Electric System against any person engaged in this activity.

R. Access for Electric Department's Employees

Consumer shall permit authorized employees of Glenwood Springs Electric System access to premises of consumer to obtain information concerning connected load, to measure or test service, to read meters, and for other purposes incidental to the supplying of electric service.



6.3 CONSTRUCTION STANDARDS

A. Purpose

The purpose of these standards is the practical safeguarding of persons during installation, operation, and/or maintenance of electrical supply lines and associated equipment. These standards are to be used in conjunction with the National Electric Safety Code-Current Edition, all Federal, State, County and municipal rules, regulations and codes.

B. Scope

All GSES Department employees, authorized contractors, or other entities performing design, construction, operation, or maintenance tasks for electric supply or communication lines or equipment covered by these standards shall be responsible for following and meeting these applicable standards.

C. Application

- a. New Installations. These standards shall apply to all new installations and extensions, except that they may be waived or modified by the approval of the GSES Line Superintendent.
- b. Existing Installations
 - i. Where an existing installation meets, or is altered to meet, these standards, it shall be considered to be in compliance with these standards.
 - ii. Existing installations that complied with prior existing standards need not be modified to comply with these standards except as may be required for safety reasons by the GSES Line Superintendent.
 - iii. Where existing installations are to be altered or remodeled, the installation will conform to the new standards with exceptions made by the GSES Line Superintendent.

D. Easements for Company Facilities

Consumer agrees to provide, at no cost to the Electric Department and at the Electric Departments request, necessary easements and suitable land area or building space owned and controlled by the consumer for installation, construction, reconstruction, maintenance and operation of the Electric Department's overhead and/or underground facilities, used or useful to render electric service to the consumer, and to include those facilities described as ON Building Facilities (installed on the face of the consumer's building wall) of In Building Facilities (installed within the interior of the consumer's building).

E. Consumer Responsibility

- a. It is understood that any of the Electric Department's facilities located on consumer's premises should be adequately protected against damage and that consumer is responsible



for any damage or loss resulting from improper protection or neglect.

- b. Installation of and proper connection of the service entrance conductors are the direct responsibility of the consumer and/or his electrical contractor.
- c. Antennas, ropes, signs, flood lights, banners or other objects shall not be attached to or cross over any poles or lines owned by the Electric Department. Consumer's distribution wires are not to be installed on the Electric Department's poles or facilities, except for equipment on farm or irrigation metering poles, or metering equipment as approved.

F. Line Locating

The customer must call the Utility Notification Center of Colorado (UNCC-Dial 811 or visit their website at <http://www.unco2.org/web/>) at least two full working days (48 hours) before trenching or excavating for underground service. Utilities are only required to locate their utility. In some cases, private utilities exist and it is the responsibility of the customer to hire a private company to locate, UNCC can provide information on private locating companies.

6.4 TEMPORARY SERVICE

A. General Requirements

- a. These are typical guidelines only. GSES should be contacted prior to construction if variations are to be considered.
- b. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located in an accessible location which will not be subject to physical damage (ice, vehicles, etc.).
- c. If GSES's delivery point is from an underground source, the consumer must extend their service cable into the bottom of the vault, with sufficient cable tails to reach the secondary connections. GSES will assist with the entrance to the vault; however, the consumer must do all excavation and restoration.
- d. Temporary service may be available:
 - i. Prior to the installation of the permanent service; at locations where service is expected to be less than eighteen (18) months; or;
 - ii. At heavy construction projects which may require service for a period longer than eighteen (18) months, provided that, in the opinion of the Electric Department, such service will not cause an undue hardship upon the Electric Department or its existing customers.
- e. Temporary service shall be restricted to as short a time as possible and shall be disconnected by the Electric Department at such time that the permanent service is connected.



- f. Temporary service connections and extensions will be made as provided in the current Line Extension Policy.
- g. GSES shall be contacted prior to the installation of any temporary service to determine the type of service to be made available:
 - i. If a service drop and meter support is required, it must be established by the consumer in accordance with Temporary Overhead Service.
 - ii. If temporary service is to be underground, it must be established by the consumer in accordance with Temporary Underground Service.
 - iii. When the permanent meter loop service is to be located on an Electric Department-owned pole, a temporary pole-mounted service can be installed by the consumer, eliminating the need for the service drop and meter support. This installation must be installed in accordance with Meter Loop at Service Pole.
- h. As soon as the temporary service is no longer needed, all temporary equipment attached to GSES poles must be promptly removed.
- i. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric personnel only.
- j. No persons other than employees or agents of Glenwood Springs Electric System may break seals, remove or relocate meter and other equipment owned by Glenwood Springs Electric System.

6.5 CONSTRUCTION TEMPORARY - OVERHEAD

A. Illustration Notes

- a. 1 - Pressure Treated Pole (20' minimum) not owned by Glenwood Springs Electric System.
- b. 2 – 4 x 4 posts adequately braced four ways.
- c. Weather head.
- d. Three (#6 CU or larger) service conductors.
- e. The consumer shall provide an approved triplex service drop of sufficient length to connect to the transformer subject to the following:
 - i. Pressure treated pole, span length from Glenwood Spring Electric System's pole to consumer's pole shall not be less than 15' or more than 75',
 - ii. (4x4 post), span length from Glenwood Springs Electric Springs's pole to consumer's pole shall not be less than 10' or more than 15'.
 - iii. The terrain underneath the span is level and does not include any streets or alleys.
 - iv. A 12' minimum clearance can be maintained above pedestrian areas and residential driveways.



- v. The service drop cable must be properly attached (secondary clevis and approved deadend tie) to the service drop support by the consumer.
- f. Point of attachment.
- g. Conduit must be securely attached to pole, stand-offs not required.
- h. Conduit, size as required.
- i. Socket hub.
- j. Meter, provided and installed by Glenwood Springs Electric Springs.
- k. Meter socket, (not provided by Glenwood Springs Electric System)
- l. Weatherproof receptacles and over current protection, as required by current edition of National Electric Code.
- m. Ground wire and electrode per National Electric Code.
- n. Insulated bushing.
- o. 6" of sand or clean dirt both above and below cable.
- p. Service cable shall be USE rated triplex (or quadplex) cable assembly, 600v. #4 AL minimum size. Conductor voltage drop from transformer to meter shall be limited to 2%.
- q. Adequate freestanding support for service equipment shall consist of a minimum of two upright supports (4x4 posts, angular steel, Unistrut, etc.). Set in concrete or tightly compacted backfill to a depth of 3 feet.
- r. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric System only.
- s. No persons other than employees or agents of Glenwood Springs Electric System may break seals, remove or relocate meter and other equipment owned by Glenwood Springs Electric System.

6.6 CONSTRUCTION TEMPORARY - UNDERGROUND

A. Illustration Notes

- a. 4" x 4" post adequately braced, buried to a depth of thirty-six (36) inches below grade.
- b. Meter provided and installed by Glenwood Springs Electric System.
- c. Conduit, GRC or Schedule 80 PVC, size as required.
- d. Appropriate meter socket, furnished and installed by consumer.
- e. When temporary service is fed from a 3-phase transformer (overhead or underground), the meter socket shall have a fifth jaw installed in the 9:00 o'clock position.



- f. Weatherproof receptacles and over-current protection.
- g. Conduit securely attached to post.
- h. Ground wire and electrode, furnished and installed by customer.
- i. Bushing.
- j. Service cable.
- k. Cable buried at a minimum of twenty-four (24) inches.
- l. Temporary services shall be restricted to as short a time as possible.
- m. Tightly compacted backfill.
- n. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric System only.
- o. No persons other than employees or agents of Glenwood Springs Electric System may break seals, remove or relocate meter and other equipment owned by Glenwood Springs Electric System.

6.7 TEMPORARY METER LOOP AT SERVICE POLE

A. Illustration Notes

- a. Top of service riser shall be approximately 6 feet below neutral wire on pole. If there is no joint use agreement for telephone or cable television.
- b. If there is telephone and/or cable television joint use on the pole, GSES must be contacted prior to service being mounted on pole.
- c. Cable tail ends must be long enough to reach transformer connection plus drip loops (as shown).
- d. Weather head
- e. Conduit riser shall be limited to one conduit per service, GRC preferred, EMT or Schedule 80 allowed.
- f. Conduit standoff brackets ARE NOT ALLOWED, but conduit must be secured to the pole with appropriate straps.
- g. Socket hub.
- h. Appropriate meter socket.
- i. Meter, provided and installed by Glenwood Springs Electric System.
- j. Rain tight, load break fused disconnect or breaker required at meter location, must be on load side of meter.
- k. Insulated bushing



- l. Allow 3' of slack in secondary cable below ground.
- m. Ground wire and ground rod, per NEC. (Provided and installed by consumer. Do not attach to Glenwood Springs Electric System pole ground). Six (6) inches of sand or clean dirt, both above and below secondary wires is recommended. Secondary cable.
- n. Pole ground and rod (Glenwood Springs Electric System owned).
- o. Minimum climbing and working space of 24" measured horizontally both along and across the line shall be provided and shall be projected vertically not less than 40" above and below consumer's attachments; or that required by the NEC.
- p. Electrocution hazard. Care must be exercised during the installation of conduit and conductors to prevent contact with Glenwood Springs Electric System wires.
- q. Glenwood Springs Electric System reserves the right to limit the quantity, size, and location of all meter loops attached to its poles and therefore should be consulted on all jobs involving attachments to its poles.
- r. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric System only.

6.8 OVERHEAD SERVICE

A. General Requirements

- a. These are typical guidelines only. GSES should be contacted prior to construction if variations are to be considered.
- b. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without the GSES approval run the risk of not being connected. Metering equipment and services shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.).

B. Sets of Service Drops

- a. Not more than one service drop will be installed to serve one building or a group of buildings on the same plot, which are owned by one individual or corporation. Wiring beyond the point of delivery, connecting one building with another on a given consumer's premises, is not classed as a service drop, and shall be owned and maintained by the consumer. The following exceptions to this rule may be recognized:
 - i. Where, in the opinion of the Glenwood Springs Electric System, the capacity requirements make multiple services desirable.
 - ii. Where a single building or group of buildings extend over a large area, special permission may be given by the GSES for additional service drops.

C. Point of Attachment



City of Glenwood Springs Electrical Standards

Glenwood Springs Electric System shall specify the location of the service entrance installation most suitable for connection to the Glenwood Springs Electric System's lines. The point of attachment of service drops should be so located that satisfactory clearance from trees, awnings, patios, foreign wires, adjacent buildings, etc. can be obtained; and damage from ice buildup on roofs negated; also, this point of attachment to any building shall be at a height above finished grade to permit a minimum clearance for service drop conductors of twelve (12) feet above residential driveways, not subject to truck traffic, or eighteen (18) feet above commercial areas, parking lots, and other areas subject to truck traffic. Under no circumstances shall there be less clearance than that prescribed in the latest version of the National Electric Safety Code (NESC). The attachment should not be more than twenty (20) feet above ground. If the specific heights and clearances cannot be maintained by attachment to a building, other than the roof, the consumer shall provide a rigid service mast to obtain a height which will conform with the required vertical clearances as specified above.

D. Length of Service Drops

The slope of the ground, intervening trees and obstructions shall govern the allowable length of service drop conductors, and the size of the conductor required. Span length from the Glenwood Springs Electric System's pole to consumer's attachment not to exceed seventy-five (75) feet.

E. Service Poles

Where the length of the service drop conductors is excessive or the size of the conductor would cause undue mechanical strain upon either the consumer's structure or the Glenwood Springs Electric System's pole line, a service pole may be required.

F. Service Entrance Conductors

- a. Service entrance conductors shall have a current carrying capacity at least as great as that required by the National Electrical Code, or the State Electrical Inspector. In view of the rapid increase on the use of electric appliances and equipment, GSES strongly recommends that some provision be made for future load increase.
- b. A sufficient length of wire, but in no case less than three (3) feet, shall extend from the weather head for connection to Glenwood Springs Electric System's service drop. No conductors, other than service conductors, shall be installed in the service conduit.
- c. The voltage drop from the Glenwood Springs Electric System transformer to the meter shall not exceed 2%.
- d. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric System only.
- e. No persons other than employees or agents of GSES may break seals, remove or relocate meter and other equipment owned by Glenwood Springs Electric System.



6.9 UNDERGROUND SERVICE

A. General Requirements

- a. These are typical guidelines only. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.). All underground services ahead of GSES metering shall be run entirely in conduit. Direct burial of conductors will not be permitted except for temporary services.
- b. If GSES's delivery point is from an underground source the consumer must extend their service cable in conduit into the bottom of the vault with sufficient cable tails to reach the secondary connectors. GSES will assist in the entrance to the vault; however, all excavation and restoration must be done by the customer. All conduits entering concrete vaults must be grouted.

B. Sets of Service Laterals

- a. Not more than one service lateral shall be installed to serve one building or group of buildings on the same plot, which are owned, by one individual or corporation. Wiring beyond the point of delivery, connecting one building with another on a given consumer's premises, is not classed as a service lateral and shall be owned and maintained by the consumer. The following exceptions to this rule are recognized.
 - i. Where, in the opinion of GSES, capacity requirements make multiple services desirable.
 - ii. Where a single building or group of buildings extend over a very large area, special permission may be given by GSES for additional service laterals.

C. Point of Entry

GSES shall specify the location of the service laterals and entrance most suitable for connection with the Electric Department's facilities.

D. Service Entrance Conductors

- a. Service entrance conductors shall have current carrying capacity at least as great as that required by the National Electric Code, or the State Electrical inspector. In view of the rapid increase in the use of electric appliances and equipment, the Glenwood Springs Electric System strongly recommends that some provision be made for future load increase.
- b. Conductors shall be installed in schedule 40, PVC conduit from point of attachment to service entrance equipment.
- c. The voltage drop from the Glenwood Springs Electric System transformer to the meter shall not



exceed 2%.

- d. Connection to or disconnection from Glenwood Springs Electric System's distribution system shall be made by the Glenwood Springs Electric System only.
- e. No persons other than employees or agents of Glenwood Springs Electric System may break seals, remove or relocate meter and other equipment owned by Glenwood Springs Electric System.

6.10 ILLUSTRATION NOTES

A. General Requirements

- a. These are typical guidelines only. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.). All underground services ahead of GSES metering shall be run entirely in conduit. Direct burial of conductors will not be permitted except for temporary services.
- b. If GSES's delivery point is from an underground source the consumer must extend their service cable in conduit into the bottom of the vault with sufficient cable tails to reach the secondary connectors. GSES will assist in the entrance to the vault; however, all excavation and restoration must be done by the customer. All conduits entering concrete vaults must be grouted.
- c. One position meter pedestal assembly illustrated. One, two, three, and four position units are similar.
- d. Meter(s) supplied and installed by GSES
- e. Circuit breaker access door
- f. Line side termination access door. Appropriate quantity of set screws termination lugs included with assembly (one per each meter position).
- g. Service entrance cables, per NEC requirements
- h. Pedestal feeder cables shall be minimum 4/0 AL, USE, 600 volt. Conductor voltage drop from the transformer to the meter shall be limited to 2% maximum. Conduit required to point of attachment.
- i. 6" of sand or clean dirt, both above and below cable is recommended.
- j. Grounding Electrode, per NEC requirements
- k. GRC, EMT, schedule 80 PVC above grade, GRC schedule 40 or 80 below grade



6.11 MULTI METERING SERVICE

A. General Requirements

- a. These are typical guidelines only. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.). All underground services ahead of GSES metering shall be run entirely in conduit. Direct burial of conductors will not be permitted except for temporary services.
- b. If GSES's delivery point is from an underground source the consumer must extend their service cable in conduit into the bottom of the vault with sufficient cable tails to reach the secondary connectors. GSES will assist in the entrance to the vault; however, all excavation and restoration must be done by the customer. All conduits entering concrete vaults must be grouted.
 - i. Every line side compartment shall accommodate provisions for a GSES wire seal whether or not the compartment is designed to house a meter.
 - ii. The electric meter will not be set until each meter socket and the premises it supplies have been properly identified by the consumer or agent. Proper identification shall mean the unit number is plainly marked by a permanent durable means at the corresponding main service breaker, tenant panel board, and doorway or entrance to the apartment, office, store or premise. The method of identifying the corresponding unit on the meter socket is with a stamped brass tag securely attached.
 - iii. A 5th jaw is required in the 9 o'clock position on all meter sockets, 120/208 volt 3 wire network.
 - iv. Each meter location must have an individual ringless cover and sealing provisions
 - v. Individual socket load side disconnects.
 - vi. All three- phase services shall be 4 wire-wye.
 - vii. Ground wire and electrode, furnished and installed by consumer.
 - viii. PVC conduit
 - ix. Service lateral conduit and conductors.
 - x. Conduit above ground shall be GRC, EMT, or schedule 80 PVC.
 - xi. Three phase multiple unit devices designed for 4-wire poly phase use, must have a seven terminal mounting block with lever type by-pass.
 - xii. Conduit below grade.
 - xiii. Conduits shall be continuous in length from the meter socket to the transformer location.



6.12 INSTRUMENT METERING SERVICE ON BUILDING

A. General Requirements

- a. These are typical guidelines only. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.). All underground services ahead of GSES metering shall be run entirely in conduit. Direct burial of conductors will not be permitted except for temporary services.
- b. If GSES's delivery point is from an underground source the consumer must extend their service cable in conduit into the bottom of the vault with sufficient cable tails to reach the secondary connectors. GSES will assist in the entrance to the vault; however, all excavation and restoration must be done by the customer. All conduits entering concrete vaults must be grouted.
- c. GSES will not connect 120/208 volt 3 wire services larger than 225 amp; 4 wire services will be required beyond that capacity.
- d. Instrument transformers shall not be installed in service disconnects, wiring gutters, junction boxes, not be directly exposed to the weather.
 - i. Appropriate meter socket obtained from GSES, 6 terminal for single phase, 13 terminal for three phase.
 - ii. 1-1/4" conduit from instrument transformer enclosure to meter housing.
 - iii. Instrument transformer enclosure, NEMA 3R rated, cabinet is to have a side-hinged or drop out, sealable door.
 - iv. When multiple conduits enter any cabinet, common phase wires must be split as shown for compliance with NEC Article #300-20.
 - v. Installation of overhead or underground service laterals is the responsibility of the consumer.
 - vi. Window type current transformers obtained from GSES, securely installed in cabinet with correct polarity (white dot towards source).
 - vii. Disconnect devices shall be installed outdoors in an accessible location on the load side of instrument transformer enclosure.



6.13 INSTRUMENT METERING SERVICE IN SWITCH GEAR

A. General Requirements

- a. These are typical guidelines only. GSES reserves the right to determine the location, type of service and metering equipment that will be utilized for each service. Services built without GSES approval run the risk of not being connected. Metering equipment and service disconnects shall be located outdoors in an accessible location which will not be subject to physical damage (ice, vehicles, etc.). All underground services ahead of GSES metering shall be run entirely in conduit. Direct burial of conductors will not be permitted except for temporary services.
 - b. If GSES's delivery point is from an underground source the consumer must extend their service cable in conduit into the bottom of the vault with sufficient cable tails to reach the secondary connectors. GSES will assist in the entrance to the vault; however, all excavation and restoration must be done by the customer. All conduits entering concrete vaults must be grouted.
 - c. GSES will not connect 120/208 volt 3 wire services larger than 225 amp; 4 wire services will be required beyond that capacity.
- B.** Appropriate meter socket obtained from GSES, 6 terminal for single phase, 13 terminal for three phase.
- C.** 1-1/4" conduit from meter housing to switch gear
- D.** Main disconnects must be on load side of CT's unless special switch gear design mandates otherwise.
- E.** Steel support frame

6.14 UNDERGROUND CONDUIT SYSTEMS

A. General

The City of Glenwood Springs Municipal Code, Article 070.040.03(e)(8). - Underground Utilities. All wires, cables or other equipment of electrical energy, and telecommunication signals with the exception of transformers, meters, junction boxes and like equipment shall be placed underground. Where subdivision or developments are approved along or with crossing existing overhead power and telecommunication facilities, energy and telecommunications may be obtained from these existing facilities. The connections to these facilities shall be placed underground unless otherwise approved by the Director of Electrical Services due to economic, engineering or aesthetic reasons. Utility easements and rights-of-way shall be provided in the subdivision or development meeting the requirements of the City of Glenwood Springs Electric System for the installation and maintenance of energy distribution and telecommunication facilities.



B. Conduit Systems

A conduit system is the combination of conduit, conduits, manholes, and/or vaults joined to form an integrated whole.

a. Routing

- i. Conduit systems should be subject to the least disturbance practical. Conduit Systems extending parallel to other subsurface structures should not be located directly over or under other subsurface structures. If this is not practical, the rule on separation should be followed.
- ii. Conduit alignment should be such that there are no protrusions that would be harmful to the cable.
- iii. Where bends are required, the bending radius shall be sufficiently large to prevent damage to cable being installed in the conduit. The maximum change of direction in any plane between lengths of straight rigid conduit without the use of bends should be limited to 5 degrees.

b. Natural Hazards

Routes through unstable soils such as mud, shifting soil, etc., or through highly corrosive soils, should be avoided. If construction is required in these soils, the conduit should be constructed in such a manner as to minimize movement or corrosion or both.

c. Highways and Streets

When conduit must be installed longitudinally under the roadway, it should be installed in the shoulder or, to the extent practical, within the limits or one lane of traffic.

d. Bridges and Tunnels

The conduit system shall be located so as to minimize the possibility of damage by traffic. It should be located to provide safe access for inspection or maintenance of both the structure and the conduit system.

e. Crossing Railroad Tracks

The top of the conduit system should be located not less than 50 inches below the top of the rails of a railroad. Where unusual conditions exist or where proposed construction would interfere with existing installations, a greater depth than specified above may be required at crossings under railroads, manholes and vaults should not, where practical, be located in the roadbed.

f. Underwater Installations

Underwater crossings should be routed, installed, or both so they will be protected from erosion by water currents.



C. Separation From Other Underground Installations

The separation between a conduit system and other underground structures paralleling it should be as large as necessary to permit maintenance of the system without damage to the paralleling structures. A conduit that crosses over another subsurface structure shall have a separation sufficient to prevent damage to either structure. The parties involved should determine these separations.

a. Separations Between Electric and Communication Conduit Systems

- i. Conduit systems to be occupied by communication conductors shall be separated from conduit systems to be used for electricity by:

- 3 inches of concrete
- 4 inches of masonry
- 12 inches of well-tamped earth

b. Sewers, Sanitary and Storm Drains

- i. If conditions require a conduit to be installed parallel to and directly over a sanitary or storm sewer, it may be done provided both parties are in agreement as to the method.
- ii. Where a conduit run crosses a sewer, it shall be designed to have suitable support on each side of the sewer to prevent transferring any direct load onto the sewer.

c. Water Lines

Conduit should be installed as far as is practical from a water main in order to protect it from being undermined if the main breaks. Conduit that crosses over a water main shall be designed to have suitable support on each side as required to prevent transferring any direct loads onto the main.

d. Gas and other lines that transport flammable material

Conduit should have sufficient separation from gas and other lines that transport flammable material to permit the use of pipe maintenance equipment. Conduit and fuel lines shall not enter the same manhole, handhole, or vault with gas or other lines that transport flammable material.

D. Excavation and Backfill

a. Trench

The bottom of the trench should be undisturbed, tamped, or relatively smooth earth. Where the excavation is in rock, the conduit should be laid on a protective layer of clean tamped backfill.

b. Quality of backfill

All backfill should be free of materials that may damage the conduit system. Class 6-backfill materials shall be used.

c. Compaction

All backfill will be done in one-foot lifts with each lift being adequately compacted to fill any voids. Moisture may be needed to add to the backfill material to achieve maximum compaction. The excavator will assume the responsibility of the trench settling for one year after the backfill has been applied.

d. Excavation

- i. Mechanical excavating equipment shall be used only in areas where there is no known danger of contacting or damaging buried facilities.
- ii. Before excavating in any area where any buried facilities are suspected, such facilities shall be located as accurately as possible
- iii. All trenches will be adequately protected by warning devices, barriers, barricades or guardrails from the public and employees.
- iv. No trench or hole will be left open overnight.
- v. In excavations which employees may be required to enter, excavated or other material shall be effectively stored and retained at least 2 feet or more from the edge of the excavation.
- vi. Sides of trenches 5 feet or more in depth shall be shored, sloped or otherwise supported by means of sufficient strength to protect employees working within them.
- vii. Excavating machines, which are parked, or operating on streets or highways shall be protected by proper warning devices. When it is necessary to leave excavating equipment unattended, the blade, bucket or scoop shall be lowered to the ground and the ignition system locked.

e. Excavation Depth

The distance between the top of a cable/conduit and the surface under which it is installed (depth of burial) shall be sufficient to protect the cable/conduit from damage imposed by expected surface usage.

- i. All conduit intended for primary voltages will be buried at no less than 4 feet from the top of pipe to the finished grade.
- ii. All conduit intended for secondary voltages will be buried at no less than 24 inches. Lesser depths than indicated above may be used where supplemental protection is provided. The supplemental protection should be sufficient to protect the cable from damage imposed by expected surface usage.

f. Burial Tape

Electrical marking tape will be installed over the electric conduit and buried 1 foot below the finished grade.

E. Conduit and Sizing

All conduit will be of the P.V.C. type, schedule 40 wall thickness or greater. It will be the conduit commonly known as “electric gray”. The conduit must be glued using approved P.V.C. glue at every joint.

a. Installations

- i. No joint may terminate in a vault or within 4 feet of the vault and must be kept off of the floor of the vault a minimum of 3”.
- ii. No conduit runs may have more than 360 degrees of bends in the entire run.
- iii. Conduits must extend into the vault at least 2” and no more than 6”.
- iv. Vault must be cleared of all debris.

b. Sizing

Primary Conduits

Cable Size	No. of Phases	Radial or Loop	No. and Size of Pipe
1/0	1	Radial	1 – 3”
1/0	1	Loop	2 – 3”
1/0	3	Radial	1 – 4”
1/0	3	Loop	2 – 4”
4/0	1	Radial	1 – 3”
4/0	1	Loop	2 – 3”
4/0	3	Radial	1 – 6”
4/0	3	Loop	2 – 6”
500	3	Radial	1 – 6”
500	3	Loop	2 – 6”

Secondary Conduit Sizing

All secondary conduits will be installed per N.E.C. Code Current Edition Table 300-5. The size will be determined from the table below.

Location	Conduit Size
From transformer to single meter pedestal	3"
From transformer to double meter pedestal	3"
From transformer to secondary pedestal	3"
From transformer to meter stacks with 3 or more meters	4"
Street light conduits	2"
100 amp services on buildings	2"
200 amp services on buildings	3"
Greater than 200 amp services	4"

Secondary runs greater than 200 feet require approval from the Electric Department.

6.15 VAULTS

A. Concrete

Concrete vaults will be placed in strategic positions to best allow the installations, operation, and inspection of the conduit system. The positions will be determined by the Electric Department.

- The installer of the vault will be given a spec sheet of the vaults to be installed to ensure proper depth and location of the vault
- All knockout holes will be grouted or blocked to prevent backfill material from entering the holes and to prevent settling of the backfill around the vault.
- When vaults are to be placed in a roadway, all precautions will be taken to ensure the vault will not be sitting too high or too low to final grade.
- No more than (2) two-inch grade rings will be allowed per vault
- All vaults that will have transformers or other electrical apparatus placed up on them will be set so the apparatus is level.
- All soil the vault is placed on will be compacted to prevent settling of the vault.
- No bends or elbows will be allowed within 10' of terminating a conduit in a concrete vault.



6.16 CLEARANCES

A. General statement

The following illustrations show clearances for the conditions most commonly encountered. For other situations and for details, see the National Electric Code, the National Electric Safety Code or contact the State Electrical Inspector in your area. (303-869-3448).

B. Safety clearance around oil filled equipment

Clearances from padmount transformers or other oil-filled equipment are measured from the nearest metal portion of the equipment to the structure or overhang. The clearance from a building is 3 feet if the building has noncombustible walls (brick, concrete, steel or stone), 10 feet if the building has combustible walls (including stucco).

C. Working Clearances

A minimum clearance of 10 feet of clear, level working space is required in front of a pad-mount transformer to allow for the use of hot sticks. Landscaping and other obstructions must not encroach on these clearances.

D. Meter clearances

- a. Meter clearances are measured from the center of the meter socket, or from the center of the face of the meter.
- b. The 10-inch clearance at the top and left side of the meter allows the meter man to see and align the meter blades to the meter socket jaws when installing the meter.
- c. Keep a clear working space 4-foot square, in front of the meter. This space must be permanently free of all obstructions, including landscaping.
- d. Allow 3 feet of clearance from gas meter, and 3 feet from windows or doors for customer privacy.

E. Guard posts

- a. It is the customer's responsibility to install and maintain guard posts where GSES equipment is exposed to vehicular traffic.
- b. Guard posts are also required where minimum clearances around equipment cannot be met. For example: Guard posts are required where pad-mounted devices cannot be given the 3 feet clearance from the back and sides of the device, and 10 feet from the front.
- c. If the post is placed in stable soil, surround it with 6 inches of concrete. If the soil is unstable or sand, surround the post with 12 inches of concrete.
- d. If several guard posts are used, locate them no more than 5 feet apart. For extra visibility, paint the posts traffic yellow.
- e. In some situations, a 6-inch diameter post is required, not the 4-inch illustrated here



6.17 EASEMENTS AND RIGHT OF WAYS

A. General

Per Municipal Code Article 070.040.030(e)(8)(c) utility easements and rights-of-way shall be provided in the subdivision or development meeting the requirements of the City of Glenwood Springs Electric System for the installation and maintenance of energy distribution and telecommunication facilities. Also, per Municipal Code Article 070.040.030(g)(1) dedications shall be made to fulfill the forgoing requirements for utility easements, drainage easements, pedestrian easements, streets and alleys.

Consumer agrees to provide, at no cost to the Glenwood Springs Electric System and at the Glenwood Springs Electric System's request, necessary easements and suitable land area or building space owned and controlled by the consumer for installation, construction, reconstruction, maintenance, and operation of Glenwood Springs Electric System's overhead and/or underground facilities, used or useful to render electric service to the consumer, and to include those facilities described as On Building Facilities (installed on the face of the consumer's building wall) or In Building Facilities (installed within the interior of the consumer's building).

B. Easements and Right of Ways

Glenwood Springs Electric System owned facilities are generally installed within an easement or right-of-way. These easements or rights-of-ways are typically gained by one of the following methods. Easements are usually granted when property is subdivided and are shown on the subdivision plat. They may also be granted by a separate document and recorded at the Garfield County Clerk and Recorder's office. Any structure, retaining wall or fence located in a easement should have by a "letter of non-objection" from all utilities allowed to use that easement. Glenwood Springs Electric System has jurisdiction over utility, public utility, public access, public use, and drainage easements located within the corporate limits. Any structure, retaining wall or fence to be located in these easements must first obtain a "letter of non-objection". The minimum width of an easement is normally 1.5 times the normal depth of bury for underground utilities, so if a line is normally buried four feet deep, the minimum easement width is six feet. Future needs for vehicular access, as well as excavation access to the utility may require a wider easement. Generally, the width determination is made on a case-by-case basis.

C. Easements by Prescription

In some situations, where there is not recorded easement, the city may claim a prescriptive easement for facilities continually operated in open, notorious and adverse use of the easement for the statutory period of eighteen years.

D. Platted/Dedicated

An easement that is provided to the Glenwood Springs Electric System by virtue of a dedication statement of each subdivision platted. A five-foot side lot and ten-foot rear lot easement is a typical platted easement. It is sometimes necessary to install power lines along the rear or down the side lot line.



E. Customer Granted Easement

An easement that is granted to the Glenwood Springs Electric System by the customer. This is generally used on commercial installations. The Glenwood Springs Electric System requires the customer to grant, at no cost to the Glenwood Springs Electric System, easements for power lines and any associated equipment before any part of a commercial installation is energized. In the event the Glenwood Springs Electric System has to cross a property other than that of the customer requesting service to extend facilities, the requesting customer may be required to obtain all easements needed.

F. Service Drop Easements

Application for electric service or receipt of service grants to the Glenwood Springs Electric System an easement on private property for electric lines, wires, conduits, meters, poles and other equipment of the Glenwood Springs Electric System necessary to render service to the customer. In order to comply with the requirements of the National Electric Safety Code, the customer shall not make grade changes, or build permanent or portable structures, (buildings, sheds, decks, swimming pools, patios, patio covers, antennas, etc.) under, over or within 5 feet measured horizontally on both side of low voltage overhead or underground service drops (under 600 volts) without prior written approval of the Glenwood Springs Electric System except that in the case of a swimming pool, the horizontal clearance must be 10 feet.

G. Right-of-way.

A right-of-way is a matter of ownership. The city owns all municipal streets and alleys. Road right-of-way is generally considered the roadway, curb, gutters, sidewalks, and open areas up to the property line. Most of the electric distribution lines and transformers are located in the roadway right-of-way. Rights-of-ways are typically dedicated to the public when property is subdivided and are shown on the subdivision plat. The right-of-way exists even if no roadway is ever constructed. Since it is dedicated to the public, no individual may claim exclusive use or possession of a public right-of-way.

H. Utility Right-of Ways

Generally, contains utilities. Strict requirements for the use of these right-of-way applications apply such as underground or overhead power, sanitary sewer, etc.

6.18 STREET LIGHTING

A. General

The Glenwood Springs Electric System is responsible for the installation and maintenance of street lights on public roadways within the City of Glenwood Springs and has the authority to approve new roadway street lights within the city limits. The City of Glenwood Springs Engineering Department



and Glenwood Springs Electric Department determine the required lighting illumination and uniformity levels. Street lighting designs shall conform to the guidelines as published by the Illuminating Engineering Society of North America (IESNA), the Glenwood Springs Electric System Construction Standards and Municipal Code Article 070.040.100 Exterior Lighting Standards.

Some governmental entities in areas outside the city limits of Glenwood Springs, but within the service territory of the Glenwood Springs Electric System, have special authority to request roadway lighting such as Garfield County and Colorado Department of Transportation.

B. Street Lights

Street lights shall comply with the general requirements as noted in Municipal Code Article 070.040.100(f)(10) Street Lighting.

- a. New street light installations shall comply with the requirements as noted in the Underground Conduit Systems.
- b. Street lights that are to be installed by a private developer but are to be turned over to the city as public street lights, will need to have the following criteria met before acceptance.
 - i. Have an overall lighting plan that is subject to the approval of the Public Works Director and the Community Development Department.
 - ii. Have Electric Department approved light fixtures.
- c. Customer request for new street light.

When a request for a new street light is received, the Glenwood Springs Public Works Director, the Glenwood Springs Community Development Department and the Glenwood Springs Electric Department will determine if a street light is necessary, the specific location, the impact on neighboring properties and the type of street light to be installed. If it is determined, at the sole discretion of the aforementioned departments, that a street light or lights are appropriate, a petition form will be sent to the requesting party. It is the responsibility of the requesting party to obtain signatures from the affected property owners. 100% of the affected property owners must agree to the light and sign the petition before any light will be installed. An easement may be requested by the Glenwood Springs Electric Department for the installation of the street light. If an easement is required, it must be granted prior to the installation of the street light. If the requested easement is not granted, the street light cannot be installed.

- d. Customer request for street light removal.

When a request for a street light removal is received, the Glenwood Springs Public Works Director, the Community Development Department and the Glenwood Springs Electric Department will determine if the removal of the street light is prudent, appropriate and what the impact on neighboring properties will be. If it is determined, at the sole discretion of the aforementioned departments, that the removal of the street light or lights is appropriate, a petition form will be sent to the requesting party. It is the responsibility of the requesting party to obtain signatures from the affected property owners. 100% of the property owners affected



must agree to the removal of the light and sign the petition before any light will be removed. If the aforementioned departments deem that the removal would not be appropriate or prudent, the light will not be removed.

C. Security Lighting

Security lights shall comply with the general requirements as noted in Municipal Code Article 070.040.100(f)(5) Security Lighting.

6.19 RECOMMENDED GUIDELINE FOR "AS BUILT" DRAWINGS

- A.** The "as-built" drawing requirement is in Municipal Code Section 070.040.030(f)(1)(g), which reads as follows: "The developer or his successor shall retain, at his sole expense, a licensed professional engineer for appropriate on-site construction inspections to ensure that all improvements as set forth in Subsections B and C are installed as required, pursuant to City standards and specifications, and as-builts shall be provided. The engineer shall certify, in writing, to the City Engineer that the improvements were installed in compliance with the approved development plan or subdivision agreement pursuant to City standards and specifications, and as-builts shall be provided."
- B.** The intent of the as-built drawings is to provide detailed and accurate information, in a useful format, to any party, public or private, that may have a need to locate or excavate installed infrastructure. With useful information available to crews, all affected parties should be able to minimize expense, damage, and interruption of service, and inconvenience to owners, customers and the general public. Questions regarding as-built drawings may be directed to the Public Works Director or the City Engineer. Discretion must be employed by the draftsman regarding the functional quality of the drawings. If so much information is included on one sheet as to make their use impractical, a second, or third, drawing sheet may be necessary.
- C.** It is recommended that the contractor maintain a full-sized set of approved plans on site, and during construction, accurately mark these plans with record information. The color red to be used to indicate all additions and the color green to indicate all deletions. Clear and concise notes and sketches should accompany changes marked on these plans. These field-managed record drawings should be provided to the engineer to assist in the preparation of the final as-built drawings.
- D.** The following requirements should be applied to each as-built developed for the City of Glenwood Springs. The submittal requirements include Mylar drawing(s) and electronic AutoCAD drawing file format, on either CD or disk. Other electronic drawing file formats shall be capable of being imported directly into AutoCAD. As-built drawings shall be prepared by revision to the original, approved Development, Subdivision or Engineering Plans. At no time will the original data be accepted as the as-built data. Each sheet shall be labeled "AS-BUILT" in one-inch-high letters and have an appropriate certification block added for a signature by the Engineer and/or Surveyor. The following items shall be required for all "as-built" drawings.

GENERAL AS-BUILT REQUIREMENTS:



City of Glenwood Springs Electrical Standards

- All as-builts for projects are required to be on Mylar, at least 24" x 36", and shall bear the name, address, and telephone number of the firm preparing the drawing and the date the as-built data is added to the original via the revision block. Electronic AutoCAD drawing files, based on the City of Glenwood Springs locale coordinate grid, are also required.
- Surveyor's/Engineer's statement (with embossed or wet seal and with an original signature on each sheet) shall verify that as-built drawings reflect the true conditions in the field.
- Contractor's statement (with an original signature on each sheet) shall verify that all construction specifications and product qualities have been met or exceeded.
- "AS-BUILT DRAWING" shall be labeled on each sheet in one inch high letters.
- Street names shall be on all streets. All easements and rights-of-way shall be shown and clearly labeled.
- If the utility system is to be private (not to be dedicated to the city), then it should be stated on each sheet.
- The location and elevation of the benchmark referenced will be shown on the drawing. If the referenced benchmark is not within the project, then a complete description of its location will be provided to assist in future locating.
- The locations and description of any utility lines and other installations of any kind or other description known to exist within the construction area. The location includes dimensions to permanent features.
- The locations and dimensions of any changes to buildings and structures.
- Correct grade or alignment of roads.
- Correct elevations to changes made in site grading.
- Changes in details of design or additional information such as approved placement details, pipe sizes, material changes, etc.
- Where drawings and/or specification allow options, only the option actually used in the construction shall be shown on the as-built drawings.

ELECTRIC/FIBER OPTIC SYSTEM - CABLE UTILITY AS-BUILT REQUIREMENTS:

- Locate and clearly label all conduit runs, fittings, splice vaults, pull boxes, meter pedestals, light bases, transformer or switch gear pads, poles and other appurtenances in two directions. Swing ties should be made from objects that are permanent in nature.
- Show all sizes and material types of pipes and conduits.
- All horizontal distances shall be shown to the nearest tenth of a foot (i.e., 205.3'). All vertical distances shall be shown to the nearest tenth of a foot (i.e., 5798.5').



- Show location and elevations on pipes and fittings where changes or deflections in direction occur.
- Special detail drawings may be required where installations are not shown on approved construction drawings for whatever reason or where required for clarity.
- Typical service installation details with deviations from original plans or standard details shall be noted on as-built drawings.



APPENDIX – ELECTRICAL STANDARD DRAWINGS

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7. Transformer and Equipment Clearance	
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9. 3 Phase Transformer Vault Detail (Large)	
10. Overhead Residential Service Meter Pole Detail	
11. Construction Temporary Detail	
12. Multi-Metering Service Detail	
13. Meter Pedestal Service Detail	
14. Meter Loop Service at Pole Detail	
15. Overhead Service Entrance to Rigid Service Mast Through Roof	
16. Residential Overhead Temporary Service Detail	
17. Underground Service Entrance to Building Detail	
18. 4 foot Square Manhole Vault Detail	
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CHAPTER 5 – TRANSPORTATION

5.1 GENERAL INFORMATION

5.1.1 GENERAL CONSIDERATIONS

The standards and guidelines established by this chapter are intended to represent the minimum standards for the design and construction of transportation facilities. The standards are intended to be applied by the City Engineer for conformance with City development regulations. The City Engineer may augment these construction standards with the latest editions of the following design documents (in order of preference):

- American Association of State Highway and Transportation Officials (AASHTO) - Policy on Geometric Design of Highways and Streets
- American Association of State Highway and Transportation Officials (AASHTO) - Guide for the Development of Bicycle Facilities
- American Association of State Highway and Transportation Officials (AASHTO) – Guide for Design of Pavement Structures
- American Association of State Highway and Transportation Officials (AASHTO) – Standard Specifications for Highway Bridges
- American Association of State Highway and Transportation Officials (AASHTO) – LRFD Bridge Design Specifications
- American Association of State Highway and Transportation Officials (AASHTO) – Guide Specifications for the Design of Pedestrian Bridges
- Colorado Department of Transportation - Roadway Design Guide
- Colorado Department of Transportation - Standard Plans – M&S Standards
- Colorado Department of Transportation - Standard Specifications for Road and Bridge Construction
- Colorado Department of Transportation – State Highway Access Code (SHAC)
- Federal Highway Administration (FHWA) - Manual on Uniform Traffic Control Devices (MUTCD)
- Transportation Commission of Colorado - Colorado Supplement to the Federal Manual on Uniform Traffic Control Devices
- The Institute of Transportation Engineers (ITE) - Traffic Engineering Handbook
- National Association of City Transportation Officials (NACTO) - Guidelines for Major Urban Street Design
- City of Glenwood Springs and State of Colorado Department of Transportation Access Control Plan

Obtaining copies of these publications shall be at the applicant's own expense.

The overall goal of this chapter is to encourage the uniform development of an integrated, fully accessible public transportation system that will facilitate present and future travel demand through a variety of transportation modes with minimal environmental impact to the community as a whole.

5.1.2 APPLICABLE SPECIFICATIONS

The following specifications shall be used in conjunction with this standard:

- A. Colorado Department of Transportation Standard Specifications for Highway and Bridge Construction, and applicable Standard Special Provisions.

5.1.3 DEFINITIONS AND TERMS

Access Control Plan: An agreement between the City and CDOT to control access points to Highway 82 (Grand Avenue/Glen Avenue) from I-70 Exit 116 to the southern City boundary. Upon new development or redevelopment that increases traffic from the proposed business by 20% or more, a CDOT Access Permit will be required. Please see City planning or engineering staff for more information.

Applicant: The person, party, firm or corporation who proposes to do the improved work.

Average Daily Traffic or (ADT): The total traffic during a given time period (in whole days), greater than one (1) day and less than one (1) year, divided by the number of days in that time period. To determine potential ADT for a local access City street, it will be assumed, for the purposes of the Chapter only, that each Single-Family Dwelling Unit will generate ten (10) traffic trips per day. Traffic generation for other uses will be in accordance with the current edition of the "Trip Generation", published by the Institute of Traffic Engineers, or other approved sources, and will include the traffic generated by the proposed development unless otherwise noted. Projects submitted to the City for review and approval will be considered to be proposed projects.

CDOT Standard Specifications: The current Standard Specifications for Road and Bridge Construction, as published by the Colorado Department of Transportation, and its amendments.

City: The City of Glenwood Springs, Colorado, the City Engineer, the Public Works Director or his/her designee.

City Engineer: The City of Glenwood Springs, the City Engineer or his/her designee.

Cul-De-Sac: A circular area symmetrical or offset about the centerline of a street.

Dwelling Unit: Any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and sanitation for not more than one family.

Emergency Vehicle Access (EV): means an all-weather drivable surface constructed and maintained in accordance with this Chapter, that provides emergency access between a public or private street and one hundred fifty (150) feet of all portions of an exterior wall of the first story of any structure requiring EV Access as measured by an approved route around the exterior of the building.

Engineer: A professional engineer currently licensed by the State of Colorado, retained by the Applicant, and acting on their behalf.

Functional Classification: is the process by which streets and highways are grouped into classes, or systems, according to the character of traffic service that they are intended to provide. There are three functional classifications: arterial, collector, and local roads. All streets and highways are grouped into one of these classes, depending on the character of the traffic (i.e., local or long distance) and the degree of land access that they allow. Refer to Section 5.2.2 for definitions of each functional classification.

Gravel Surface: Two inches of crushed surfacing top course per the current CDOT Standard Specifications.

Improved Street or Alley: A street that has been improved to full urban or suburban standard, including drainage, paving, sidewalk, and in most cases curb and gutter, as set forth in these standards. A alley that has been improved to full urban or suburban standard, including drainage and paving as set forth in these standards.

Land Surveyor: A professional land surveyor currently licensed by the State of Colorado, retained by the Applicant, and acting on their behalf.

Maintenance: The regular and continual preservation of a public facility, private street and appurtenant features within the easement in an “as new” condition.

Major Structure: Major structures are bridges and culverts with a total length of 20 feet or greater and retaining walls with both a total length greater than 100 feet and a maximum exposed height at any section of over 4 feet. The length is measured along the centerline of roadway for bridges and culverts, and along the top of the wall for retaining walls.

Planned Unit Development (PUD): A horizontal area within the exterior boundaries of the PUD, including any streets and required improvements, easements, reservations or dedications. The PUD provides for the opportunity to create self-contained residential neighborhoods with a pre-determined variety of housing choices and without following a standard system of public streets and lot design, with allowances for mixed use, residential and neighborhood commercial development that are not usually permitted in residential zones.

Private Street Easement: An easement or parcel which creates a legal source of access from a public street to an existing or proposed lot or lots of record or project, across other parcels of property.

Tract: Any parcel of land, lot, building site, or contiguous combination thereof devoted to or intended to be devoted to a principal use and any other uses customarily accessory thereto.

Unimproved Street, Roadway, or Alley: The right-of-way has been opened, the area is or could be traveled upon, but the maximum limit of improvement would consist of a gravel base roadway. This street most likely has not been graded to an established grade but generally follows the lay of the land. This street is not maintained by the City unless opened by the City.

Unopened Street or Alley: This term applies when right-of-way currently exists but no roadway improvements have been provided and travel within the right-of-way is prohibited by the fact that no clearing or grading has occurred.

5.2 PUBLIC STREETS

5.2.1 GENERAL

- A. The design of streets and roads shall depend upon their type and usage. The design elements of City streets shall conform to standards as set forth in this chapter.
- B. Street design must provide for the maximum loading conditions anticipated. The width and grade of the pavement must conform to specific standards set forth in this chapter for uniformity and safety. Typical sections for each of the various street classifications are shown in the Standard Plans included in the appendix to this chapter.
- C. Lot and block patterns shall allow for access onto a street from each lot. The use of an easement for principal access to a lot shall not be allowed. Permanent access easements may be permitted if recommended by City Staff and approved by the City Attorney.
- D. Alignment of principal arterials, minor arterials and collectors shall conform as nearly as possible with that shown in the Long Range Transportation Plan and the City of Glenwood Springs Comprehensive Plan.
- E. The layout of streets shall provide for the continuation of existing principal streets in adjoining subdivisions or of their proper projection when adjoining property is not subdivided. Access streets, which serve primarily to provide access to abutting property, shall be designed to discourage through traffic.
- F. Access points/driveways shall be in accordance with Section 5.2.10.
- G. It shall be the responsibility of the City Engineer to identify specific conditions for street improvements and/or right-of-way reservation required as a condition of development. All street improvements shall be consistent with these Standards, the Glenwood Springs Municipal Code and the Glenwood Springs Development Code.

5.2.2 FUNCTIONAL CLASSIFICATIONS

The City of Glenwood Springs has developed a Street Classification Map, indicating existing and proposed streets and their functional classifications. City streets are divided into principal arterials, minor arterials, commercial collectors, residential collectors, local streets and private roads in accordance with the regional transportation needs and the functional use that each serves. Refer to the following sections for further definitions. Function is the controlling element for classification and shall govern right-of-way width, road width, and road geometrics for the design classifications. New streets will be classified by the City Engineer.

A description of street design standards for each street classification follows. Refer to Table 5-7 in the next section for a summary of the street right-of-way standards. All elements listed are required unless specifically noted.

1. **Principal Arterials** provide for mobility through the City and for connecting the major activity centers within the City. Although principal arterials may provide access to commercial and residential properties where no other alternative is available, access is a secondary function.

Most Principal Arterials within Glenwood Springs are under the jurisdiction of the Colorado Department of Transportation. Although CDOT criteria will govern the specifications for these principal arterials, the City of Glenwood Springs requires the following specifications shown in Table 5-1 for Principal Arterials under City jurisdiction.

2. **Minor Arterials** augment the principal arterial system. They provide for mobility through the City and for connecting destinations on opposite sides of the City. Minor arterials may also provide access to properties, although the number of access points should be limited.
3. **Commercial Collectors** provide access to the primary commercial areas and gather traffic from various parts of the commercial areas and distribute it to the major street system. Different configurations with several on-street parking options are provided for residential and commercial areas.
4. **Neighborhood Collectors** provide access to neighborhood cores and gather traffic from various parts of the neighborhood and distribute it to the major street system. Different configurations with several on-street parking options are provided for residential and commercial areas.
5. **Local Streets** provide access to individual residential units and neighborhood commercial areas. Different configurations with several on-street parking options are provided for residential and commercial areas.
6. **Alleys** provide for accessibility and service to individual lots and businesses. They also serve as utility easements or corridors.
7. **Private Streets** are owned, controlled, and maintained by one or more property owners.

Table 5-1 Principal Arterial Specifications

Street Function:	Provide mobility for through traffic and connections between major activity centers
Connectivity:	Connects major activity centers and regional transportation nodes
Average Daily Traffic:	> 10,000 motor vehicle trips per day
Managed Speed:	25 mph–45 mph
Motor Vehicle Travel Lanes:	• 11'–12' travel lanes • Number of lanes based on street capacity required
Bike Lanes:	• Separated multi-use path or paths are required • 10' minimum width required for two-directional, 5' minimum width required for single-direction travel, exclusive of the gutter. • Separated paths shall be separated by a minimum 5' wide landscaping buffer
Parking:	• On-street parking generally not provided on principal arterials • Parking may be provided as a traffic calming feature and to meet parking demand when principal arterials traverse a neighborhood with existing driveway accesses or commercial properties fronting the street
Curb and Gutter: (or Shoulders with Ditches)	• 6" vertical/barrier curb required. Gutter width as needed for drainage. Minimum 1.5' gutter; <u>OR</u> • 4' minimum shoulder width with adequate ditch sections designed in accordance with the Stormwater Standards
Curb-to-Curb Width:	As necessary
Buffer Strip	• 5' landscaped strip required between sidewalk and vehicle travel lanes. • If arterial road serves a commercial area with on-street parking, then partially hardscaped planting strip is acceptable
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street unless alternative bicycle and pedestrian facilities meeting these criteria are provided within the corridor • 8 ft. width in commercial areas • 5 ft width in residential areas. 6 ft. width should be provided in high pedestrian volume areas with frequent two-way foot traffic All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Minimize number of driveways. Use current CDOT or City code criteria
Center Median:	Center medians are encouraged and may be required to restrict turning movements
Min. Right-of-Way Width:	75' minimum width required • Wider right-of-way required to accommodate parking, commercial sidewalks, shoulders and ditches
Minimum Grade	1.0%
Maximum Grade	6.0%

Table 5-2 Minor Arterial Specifications

Street Function:	Provide mobility for through traffic, access to significant destinations and, to a lesser extent, provide access to individual properties
Connectivity:	Collects traffic from collector streets and supplements the principal arterial system
Average Daily Traffic:	5,000 to 10,000 motor vehicle trips per day
Managed Speed:	25 mph–40 mph
Motor Vehicle Travel Lanes:	• 11'–12' travel lanes • Number of lanes based on street capacity required
Bike Lanes:	• To be provided on both sides of the street, unless a separated multi-use path is provided. • 5' width is preferred for one way travel. Lesser widths down to 4' may be acceptable on existing streets with width constraints, exclusive of the gutter. • Bike symbol pavement markings are required
Parking:	• On-street parking generally not provided on minor arterials • Parking may be provided as a traffic calming feature and to meet parking demand when minor arterials traverse a neighborhood with existing driveway accesses or commercial properties fronting the street
Curb and Gutter: (or Shoulders with Ditches)	• 6" vertical/barrier curb required. Gutter width as needed for drainage. Minimum 1.5' gutter; <u>OR</u> • 4' minimum shoulder width with adequate ditch sections designed in accordance with the Stormwater Standards
Curb-to-Curb Width:	As necessary to meet all uses • Additional width to be provided to accommodate parking if necessary • Additional width may be provided if necessary for drainage • Narrower width may be provided for existing constrained streets where no bike path can be provided or where a separate parallel bike path exists
Buffer Strip	• 5' landscaped strip required between sidewalk and vehicle travel lanes. • If arterial road serves a commercial area with on-street parking, then partially hardscaped planting strip is permitted
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street unless alternative bicycle and pedestrian facilities meeting these criteria are provided within the corridor • 8 ft. width in commercial areas • 5 ft width in residential areas. 6 ft. width should be provided in high pedestrian volume areas with frequent two-way foot traffic All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Minimize number of driveways. Use current City code criteria
Center Median:	A landscaped center median may be required for access control, 4' minimum width measured between back of curbs
Min. Right-of-Way Width:	75' minimum width required • Wider right-of-way required to accommodate parking, commercial sidewalks, medians, shoulders and ditches
Minimum Grade	1.0%
Maximum Grade	6.0%

Table 5-3 Collector Specifications

Street Function:	Provide access in and out of the primary commercial areas
Connectivity:	Collects traffic from within commercial areas or residential areas and connects these areas with the major street network.
Average Daily Traffic:	1,500 to 5,000 motor vehicle trips per day
Managed Speed:	20 mph–25 mph
Motor Vehicle Travel Lanes:	Two 10'–12' travel lanes
Bike Lanes:	- To be provided on both sides of the street 5' width is preferred. Lesser widths down to 4' may be acceptable on existing streets with width constraints, exclusive of the gutter.. - Bike symbol pavement markings required
Parking:	- One 8' lane for Parking One Side - Two 8' lanes for Parking Both Sides - Parking may be provided in 7' wide bays rather than a continuous on-street parking lane
Curb and Gutter: (or Shoulders with Ditches)	6" vertical/barrier curb required. Gutter width as needed for drainage. Minimum 1.5' gutter; <u>OR</u> 4' minimum shoulder width with adequate ditch sections designed in accordance with the Stormwater Standards
Curb-to-Curb Width:	- As necessary to accommodate all uses - Additional width may be provided in gutter if necessary for drainage - Narrower width may be provided for existing constrained streets where no bike path can be provided or where a separate parallel bike path exists
Buffer Strip	5' landscaped strip required between sidewalk and vehicle travel lanes. - If collector road serves a commercial area with on-street parking, then partially hardscaped planting strip is permitted
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street 8 ft. width in commercial areas 5 ft width in residential areas All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Use standards in this section
Center Median:	A landscaped center median may be required for traffic calming
Min. Right-of-Way Width:	80' minimum width required Wider right-of-way required to accommodate parking, commercial sidewalks, medians, shoulders and ditches
Minimum Grade	1.0%
Maximum Grade	8.0%

Table 5-4 Local Street Specifications

Street Function:	Provide access to individual residential units and commercial areas
Connectivity:	Connects to higher order streets
Average Daily Traffic:	1,500 or less motor vehicle trips per day
Managed Speed:	15 mph–25 mph
Motor Vehicle Travel Lanes:	10' to 11' travel lanes
Bike Lanes:	Generally not needed on low volume/low travel speed streets
Parking:	As required • One 8' lane for parking one side • Two 8' lanes for parking both sides. • Parking may be provided in 7' wide bays rather than a continuous on-street parking lane
Curb and Gutter: (or Shoulders with Ditches)	• If curb and gutter is used, it shall be 6" vertical/barrier curb. Gutter width as needed for drainage. Minimum 1.5' gutter; <u>OR</u> • If curb and gutter is not used, 2' minimum shoulder width with adequate ditch sections designed in accordance with the Stormwater Standards
Curb-to-Curb Width:	• As necessary to accommodate all uses
Buffer Strip	• 5' landscaped strip required between sidewalk and vehicle travel lanes. • If local street serves a commercial area with on-street parking, then partially hardscaped planting strip is acceptable
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street • 8 ft. width in commercial areas • 5 ft width in residential areas. All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Use standards in this section
Center Median:	None
Min. Right-of-Way Width:	75' minimum width required
Minimum Grade	1.0%
Maximum Grade	10.0%

Table 5-5 Alley Specifications

Street Function:	Provide access to the rear of individual residential units and commercial areas
Connectivity:	Connects to higher order streets
Average Daily Traffic:	500 or less motor vehicle trips per day
Managed Speed:	10 mph
Motor Vehicle Travel Width:	20' minimum total width
Bike Lanes:	None
Parking:	None
Curb and Gutter:	Concrete pan at alley center, or cross sloped alley to pan or curb and gutter on one side.
Buffer Strip	None
Sidewalks and Min. Sidewalk Widths:	None
Driveways:	Use standards in this section
Center Median:	None
Min. Right-of-Way Width:	25'
Minimum Grade	1.0%
Maximum Grade	10.0%

Table 5-6 Private Street Specification

Street Function:	Provide access to individual residential units and commercial areas
Connectivity:	Connects to higher order streets
Average Daily Traffic:	NA
Managed Speed:	25 mph
Motor Vehicle Travel Lanes:	10' to 11' travel lanes
Bike Lanes:	Based on development negotiations
Parking:	Based on development negotiations
Curb and Gutter: (or Shoulders with Ditches)	• If curb and gutter is used, it shall be 6" vertical/barrier curb. Gutter width as needed for drainage. Minimum 1.5' gutter; <u>OR</u> • If curb and gutter is not used, 2' minimum shoulder width with adequate ditch sections designed in accordance with the Stormwater Standards
Curb-to-Width:	23' minimum
Buffer Strip	Based on development negotiations
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street • 8 ft. width in commercial areas • 5 ft width in residential areas. All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Use standards in this section
Center Median:	None
Min. Right-of-Way Width:	No right-of-way required
Minimum Grade	1.0%
Maximum Grade	10.0%

5.2.3 STREET DESIGN STANDARDS

A. Goals

The City transportation system should encourage alternate mode use, especially walking and bicycling, by working toward a safe balance of all street users, including automobiles, trucks, bicycles and pedestrians.

B. Objectives

1. Standards should create safer routes for all modes.
2. Standards should optimize the use of the limited physical capacity of streets and balance street design so it does not favor motorized traffic.
3. Intermodal connections within the transportation system should be created, enhanced and improved.
4. Street design should enhance bicycle safety for its own sake and as a traffic calming measure.
5. Street design should enhance and improve the pedestrian safety and comfort and encourage non-motorized modes of travel.
6. Street design should provide safe, convenient and inviting access for transit users.
7. Standards should balance emergency service needs with other objectives.
8. Residential streets and street networks should be designed to discourage speeds above 25 mph.
9. Street standards should protect the local entity's infrastructure investment by establishing standardized design, materials, construction and repair criteria for all public improvements.
10. Standards should discourage parking on sidewalks.
11. Standards should enhance and beautify the streetscape and pedestrian environment by bringing landscaping closer to the street.
12. Standards should assure that drainage facilities do not create hazards for cyclists and pedestrians.
13. Standards should assure that bicycle, pedestrian and vehicular uses of streets are the primary uses thereof and that the streets are properly maintained during construction and repair work.
14. Standards should have streets designed to not be barriers to personal interaction.
15. Standards should be designed to minimize additional pavement in Glenwood Springs.

Table 5-7 Street Design Standards Summary

Design Criteria	Functional Classification				
	Principal Arterial	Minor Arterial	Commercial Collector	Neighborhood Collector	Local Street
Design Capacity VPD	> 10,000	5,000 - 10,000	1,500 – 5,000	1,500 – 5,000	< 1,500
Minimum R.O.W.	75'	75'	80'	80'	75'
Pavement Width, Flowline to Flowline	25' Min.	25' Min.	23' Min.	23' Min.	23' Min.
Driving Lanes	11'-12' 2 – 4 Lanes	11'-12' 2 – 4 Lanes	10'-12' 2 Lanes	10'-12' 2 Lanes	10'-11' 2 Lanes
Center Median	Preferred for Left Turns	As needed for Access Control	As needed for Traffic Calming	As needed for Traffic Calming	None
Parking	None	None	8' Lane(s) See Table 5-3	8' Lane(s) See Table 5-3	8' Lane(s) See Table 5-4
Shoulder Lanes	4' Min. w/out C&G	4' Min. w/out C&G	4' Min. w/out C&G	4' Min. w/out C&G	2' Min. w/out C&G
Bike Lanes	Not Required	2 at 5' (4' Min.)	2 at 5' (4' Min.)	2 at 5' (4' Min.)	Not Required
Curb Style	Vertical	Vertical	Vertical	Vertical	Vertical or Mountable
Gutter	18-inch	18-inch	18-inch	18-inch	18-inch
Multi-Use Path	10' or 5' See Table 5-1	10' or 5' See Table 5-2	Not Required	Not Required	Not Required
Sidewalk	5'-8' See Table 5-1	5'-8' See Table 5-2	8'	5'	5'-8' See Table 5-4
Landscape Buffer	5'	5'	See Table 5-3	5'	5'
Minimum Cross Slope	2.0%	2.0%	2.0%	2.0%	2.0%
Maximum Cross Slope	2.5%	2.5%	2.5%	2.5%	2.5%
Maximum Crown Line Cross Over	5.0%	5.0%	5.0%	5.0%	5.0%
Design Speed	45 MPH	40 MPH	25 MPH	25 MPH	25 MPH
Grade	1.0% Min. 6.0% Max.	1.0% Min. 6.0% Max.	1.0% Min. 8.0% Max.	1.0% Min. 8.0% Max.	1.0% Min. 10.0% Max.

Note: Refer to current AASHTO [Policy on Geometric Design of Highways and Streets](#) for roadway design values (e.g. vertical curve K values, minimum horizontal curve radii, etc.)

5.2.4 STREET GEOMETRIC DESIGN

A. Minimum Requirements

Except for State Highways, all City streets shall be designed in conformance with this section. The design standards outlined in this section are minimum design standards, and all new street design shall meet or exceed these standards. On streets designated as collector or arterial streets, the City Engineer may specify standards to be applied to street design that may exceed the minimum standards in this section based on functional need or to ensure safe and efficient operation of the street. Existing streets that are modified with development shall meet the minimum requirements herein, unless approved by the City Engineer.

B. Right-of-Way

Right-of-Way width is usually determined by the functional classification of a street with exceptions as noted in this chapter, or as allowed expressly by the City Engineer. The right-of-way width required for new streets shall comply with the requirements of Table 5-1 through Table 5-6; and shall include, without limitation, the following elements:

1. The paved roadway section including without limitation travel lanes, turning and speed change lanes transit lanes, bicycle lanes, and parking lanes;
2. Curbs and gutters or drainage swales;
3. Roadside and median landscaping areas;
4. Sidewalks and multi-use paths; and
5. Any necessary utility corridors.
6. Snow storage areas

Right-of-Way requirements may be increased if additional lanes, pockets for turning movements, transit lanes, bus loading zones, operational speed adjustments, bike lanes, utilities, schools, or other factors are required to be accommodated as determined by the City Engineer and CDOT.

C. Lane and Street Width

1. Street lanes shall meet the minimum width specifications shown in Table 5-1 through Table 5-6.
2. Street widths shall be measured from edge of lane to edge of lane (not including curb pan) on streets with concrete curb and gutter. Streets less than 24 feet wide may be required to be posted with "No Parking" restrictions due to the potential for restricting emergency vehicle access.

D. Horizontal Alignment

1. Extension to Property Line: All street sections shall be extended through the property to maintain connectivity, unless the street to be constructed has been approved by the City Engineer as a cul-de-sac or as a no outlet street.

2. Horizontal Curve: Street curvatures shall meet the specifications shown in the AASHTO Policy on Geometric Design of Highways and Streets.
3. Intersections and Street Spacing
 - a. Angles: To the greatest extent feasible, all streets and driveways shall intersect at right angles (90°), with no intersecting angles of less than 80° or greater than 100°.
 - b. Street Spacing for Signalized Intersections: Signalized intersections shall be spaced at half-mile intervals, although other locations may be approved by the City Engineer if adequate signal progression can be maintained.
 - c. Spacing for Non-Signalized Intersections: Spacing between adjacent intersecting streets, whether crossing or "T" should be as shown in Table 5-8.

Table 5-8 Spacing Between Adjacent Streets

Highest Classification Involved	Minimum Centerline Offset
Principal Arterial	500 feet
Minor Arterial	400 feet
Collector	300 feet
Local Street	150 feet
Alley	100 feet
Private Street	150 feet

- d. Corner Radii: The minimum property line corner and flowline radii at intersections shall meet or exceed the minimum radii specifications shown in Table 5-9. When different class streets intersect, the higher standard shall apply on offsets and curb radii. Street intersection with non-standard cross sections or not at ninety degree (90°) angles will require truck turning analysis for both the wheel base and the overhang path. The truck turning analysis shall be submitted to the City Engineer for review. Deviations require the approval of the City Engineer.

Table 5-9 Minimum Intersection Radii

Street Type	Minimum Flowline Radius
Alleys	15 feet
Private Roads	20 feet
Local Street	20 feet
Collectors	30 feet
Arterials	40 feet

- e. Traffic control will be as specified in the MUTCD or as modified by the City Engineer as a result of appropriate traffic engineering studies.
 - f. The use of offset intersections should be avoided wherever possible. Street intersections shall be laid out so as to intersect as nearly as possible at right angles. For reasons of traffic safety, a "T" intersection (three-legged) with minimum offsets preferable to a crossroad (four-legged) intersection for local access streets. For safe design, the following types of intersection features should be avoided:
 - Intersections with more than four intersecting streets.
 - Intersections adjacent to bridges and other permanent sight obstructions.
 - g. Pedestrian/Wheelchair ramps shall be provided on each quadrant of an intersection from which pedestrian movement is permitted. Ramps shall be designed in accordance with the CDOT standards or other design standards that meet the Americans with Disability Act (ADA).
 - h. Crosswalk markings will usually be installed at the following intersections:
 - At controlled intersections;
 - At any intersection located along a formally established "School Route".
 - At any intersection with a formalized bike/ pedestrian trail
 - By request, with the approval of the City Engineer.

Crosswalks shall be striped with high visibility, reflective Continental Style markings, with 2' wide crosswalk bars separated by 2' spaces. If the crosswalk is colored concrete, the crosswalk shall be striped with 1' wide transverse lines defining the limits of the crosswalk from the street or intersection. Minimum crosswalk width is 8', but the width should match the width of the connecting trail or sidewalk.
 - i. Intersections should be designed to avoid the sheet flow of water across the intersection of all roadways classified as arterial or collector streets. Where practicable, runoff water should be carried under the intersection via catch basins and storm drains.
 - j. The right-of-way requirements for intersection approaches may be increased for such special intersection elements as raised median channelization, multiple left turn lanes, exclusive and/or "free" right turn lanes, turn lanes to accommodate large wheel base vehicles, bus turn outs, etc.
 - k. Where a traffic engineering study is required and the data supports the installation of traffic circles or roundabouts, they shall be designed in accordance with *Roundabouts: An Informational Guide (Second Edition)* NCHRP Report 672.
4. Road Width Transition Tapers: Where two street sections of different widths and same number of lanes are to be connected, a redirect taper is required between the outside traveled edge of the two sections. The length of the redirect taper shall be calculated in accordance with the Colorado Department of Transportation (CDOT) State Highway

Access Code (SHAC) Table 4-9.

5. Left Turn Lanes

- a. Storage Length: Left turn lane storage length shall be determined based on traffic volumes using the Leisch nomographs provided in the ITE *Guidelines for Major Urban Street Design*. The left turn lane storage length shall not be less than 50 feet. Where dual left turn lanes are provided, the lane storage length shall be based on at least 60 percent of the single lane storage length.
- b. Taper: Left turn lane tapers shall be calculated in accordance with the CDOT SHAC Table 4-6.

6. Speed Change Lanes: Speed change lanes required for transitional access to turning lanes shall be designed according to the design standards provided in Section 4-8 of the CDOT SHAC.

- a. Speed Change Lane Tapers: It is recommended that bay tapers (asymmetrical reverse curves) be used for deceleration transition tapers and that straight transition tapers be used for acceleration transition tapers. The taper length shall be calculated using CDOT SHAC Table 4-6 and be designed in accordance with CDOT SHAC Section 4-8(5).

7. Redirect Tapers: Where it is necessary to redirect vehicles on the traveled way, redirect tapers shall be installed according to table 4-9 of the CDOT SHAC. Cul-de-sacs: Where allowed, cul-de-sacs shall have a minimum diameter of 96 feet, curb face to curb face, and a minimum right-of-way diameter of 115 feet, except for residential streets. Cul-de-sacs are prohibited on arterial and collector streets.

E. Vertical Alignment

1. Minimum Street Grade: All new street grades shall equal or exceed the minimum street grade of 1.0 percent.
2. Maximum Street Grade: All new street grades shall not exceed the maximum street grades shown in Table 5-10.

Table 5-10 Maximum Street Grades

Street Type	Maximum Street Grade
Principal and Minor Arterial	6%
Commercial and Neighborhood Collector	8%
Local Street, Alley, Private Street	10%
Driveway and Intersection Approach (Min. 50')	4%
Signalized Intersection Approach (Min. 50')	3%

3. Design Controls for Vertical Curves: Design control for sag and crest vertical curves shall meet the requirements in the current edition of the AASHTO Policy on Geometric

Design of Highways and Streets.

4. Vertical Sight Distance: Minimum vertical curve sight distance shall equal or exceed the minimum values set by speed and grade in the current edition of the AASHTO Policy on Geometric Design of Highways and Streets. Greater vertical sight distance may be required by the City Engineer to ensure safe travel and street crossings for all transportation modes.

F. Medians

The City Engineer may require raised medians or landscaped raised medians on arterial streets to restrict conflicting turning movements. Raised landscaped medians may also be required on collector streets for aesthetics or traffic calming reasons.

1. Median Widths: Medians shall be at least 4 feet wide, measured between back of curbs. If left turn lanes are installed in the median, the median width adjacent to the left turn storage lanes shall be 4 feet and the median width at the start of the left turn lane bay taper shall be at least 14 feet wide, measured between back of curbs. Median design widths shall conform to Table 5-11.

Table 5-11 Median Width Design Standards

Function	Minimum Width
Separation of Opposing Traffic	4 feet*
Pedestrian Refuge or Traffic Device Location	6 feet*
Left Turn Lane Median	12 feet

2. Landscaping in Medians: Landscaping in medians shall be designed to survive harsh roadway conditions and shall comply with the requirements of the City Municipal Code.

- G. Vertical Clearance to Structures:** Vertical clearance is measured from the high point within the entire roadway width to the lowest portion of the structure. If the undercrossing roadway or overcrossing structure may be widened in the future, adequate vertical clearance shall be provided to accommodate the future condition. The vertical clearance of structures shall be in conformance with the current edition of the AASHTO Policy on Geometric Design of Highways and Streets for the Functional Classification of the roadway. In no case shall the vertical clearance be less than 14 feet.

5.2.5 STREET FRONTAGE IMPROVEMENTS

- A.** Street frontage in this Section indicates any part of a lot that is adjacent to a public or private street.
- B.** All commercial and residential (including multi-family) developments, subdivisions and plats shall install street frontage improvements at the time of construction as required by City

standards and Municipal Code. Such improvements, meeting the requirements of the City's Standards, or as approved in writing by the City Engineer, may include curb and gutter, sidewalk, storm drainage, lighting, traffic control devices and signals, utility relocation and/or undergrounding, street trees and street widening.

C. All frontage improvements shall be made across the full frontage of the property and shall match the adjacent street improvements and install the required minimum street section. Offsite transitions (tapers) may be required to meet the existing conditions.

D. Exception: When the City determines that there are compelling reasons why all or some of the required improvements cannot be accomplished at the time of building construction, the City may allow, at its sole discretion, a recorded agreement which provides for these improvements be installed at a later date by the applicant. This may be accomplished by one of the following methods:

1. The applicant provides a Performance Bond for 125% of the estimated cost to do the work,
2. An assignment of savings is agreed upon, wherein the applicant deposits into a joint account an amount equal to the cost of the work,
3. The applicant provides a cashier's check or an irrevocable letter of credit in the amount of the estimated cost to do the work.
4. The applicant provides Payment in Lieu per the Municipal Code requirements.

Commented [MF1]: City to verify this section with City Attorney

5.2.6 TEMPORARY DEAD ENDS

Where a street is temporarily dead ended, an all-weather turn around shall be provided per the International Fire Code.

5.2.7 RIGHT OF WAY

All right-of-way shall be conveyed to the City on a recorded plat and by warranty deed.

5.2.8 NAMING AND ADDRESSES

Streets shall be numbered according to the American Society of Planning Officials (ASPO) Report Number 332, *Street Naming and Property Numbering Systems*, by Margaret A. Corwin and *Street Naming and Property Numbering for Small Cities* by Southwest Georgia Planning and Development Commission, Camilla Georgia. Names for new streets shall be submitted for approval during the platting process. Street numbers shall be included on each lot of the plat.

5.2.9 SIGNING

The developer is responsible for providing all construction traffic control signs, devices and flagging. The developer is also responsible for permanent traffic control devices, street signs and any other required signs. Traffic control signing and devices shall comply with the provisions as established in the most current edition of the FHWA *Manual on Uniform Traffic Control Devices (MUTCD)*. Street designation signs shall display street names, and be constructed in accordance with the most current MUTCD standard.

5.2.10 SITE ACCESS AND DRIVEWAYS

A. General

1. The terms “access”, “access point” and “driveway” are used interchangeably throughout this section.
2. All accesses and curb cuts proposed and constructed on City streets and alleys require a Right of Way permit.
3. All access aprons shall be constructed of concrete or asphalt, and shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction. Access aprons shall be constructed in accordance with the applicable Standard Detail (Tx.x) in the Appendix attached to this Chapter.
4. Access points at intersections shall be located as far as practical from the corner – see Access Spacing requirements in Table 5-12.
5. No access may be located so as to conflict with power poles, street lights, fire hydrants, or other above-ground public facilities.
6. Any development requiring access onto a state highway shall obtain a permit for such access in accordance with the Colorado State Highway Access Control Code before the issuance of a City permit. This provision applies to State Highway 6 and State Highway 82. On State Highway 82 (Grand Avenue/South Glen Avenue), the City and CDOT have implemented an Access Control Plan. A CDOT access permit may be required or updated for use.
7. Commercial and industrial driveways shall be designed so as to reduce the number and proximity of access points along public rights-of-way.
8. Residential driveways are limited to one access.
9. Driveways to commercial or mixed use developments that are greater than 24' wide may require a median. See Table 5-11 for median standards.
10. Access onto any arterial or collector street, as designated in the City's Street Classification Map, shall be designed such that all vehicles enter and exit in forward drive
11. Driveways giving direct access onto arterials will be denied if alternate non-arterial access is available.

B. Location of Access

1. Spacing: Table 5-12 provides the required spacing of access points and curb cuts onto different street types. Minimum spacing from corners shall be measured from point of intersection of the street flow lines.

Table 5-12 Access Spacing Requirements

For Access Onto Street Classification	Minimum Spacing (measured from edge of access*)			
	Single Family Residential	Other Residential	Commercial	Industrial
Local Streets				
- from property line	15' ¹	15'	15'	15'
- from corner*	50' ¹	50'	50'	50'
- between accesses	30' ¹	30'	30'	30'
Collector Streets				
- from property line	15' ¹	15'	15'	15'
- from corner*	50' ¹ (1)	50'	50'	50'
- between accesses	30' ¹	30'	30'	30'
Arterial Streets				
- from property line	75' ^{1 2}	75'	75'	75'
- from corner*	150' ^{1 2}	150'	150'	150'
- between accesses	250' ^{1 2}	250'	250'	250'

* City Street Classification can be found here <https://cogs.us/211/City-Maps>

Note 1: Permitted when no other access is available.

Note 2: For access onto SH-82, Access Points are set by the Access Control Plan

2. Alignment: Accesses shall intersect City streets at a right angle (90°), with no intersecting angles of less than 80° or greater than 100°. Accesses controlled by a center median or access island, shall either be aligned, or offset by at least 150 feet on collectors, or at least 300 feet on arterials. Greater offsets may be required if left-turn storage lanes are required.

C. Sight Distance

All access points and curb cuts shall provide adequate sight distance as set forth in Section 5.2.11. Restriction of Turning Movements

D. Barrier Islands and Medians

Along streets designated as arterial, or, where required by the City's Access Control Plan, or where necessary for the safe and efficient movement of traffic, the City will require access points and curb cuts to be consolidated and to provide for only limited turning movements, as follows:

1. Access with Barrier Island - Left-Turn Restrictions ("Pork Chop"): Where restricted turning movements are required by the City, and where the abutting street does not have a median, a barrier island may be required.
 - a. Barrier island design shall be approved by the City Engineer.
 - b. Access drives around barrier islands shall be at least 12 feet wide, have a radius of at least 20 feet, and be designed to accommodate the largest vehicle using the access on a daily basis or at a minimum design to accommodate the City Fire Engine. The barrier island shall provide congruent curb ramps or cut through for sidewalks.

E. Traffic Control and Signage

All accesses shall be designed and constructed with appropriate traffic control and signage conforming to the MUTCD, and these Standards.

F. Auxiliary Turn Lanes

Auxiliary turn lanes shall be required on collectors or arterials when the design hour vehicles from the access will meet or exceed the standards in Section 4.8 of the Colorado State Highway Access Code. Design of speed change lanes shall conform with these Standards.

G. Access and Curb Cut Type

1. Driveway Ramp and Curb Cut: All new accesses and curb cuts shall be designed as driveway ramps and curb cuts, using the standard ramp driveway details provided in these Standards, except along streets where no curb and gutter exists.
2. Driveway Curb Return Radii: Radii for curb return accesses will be required by the City Engineer under the following conditions:
 - a. The access is located along an arterial or collector.

- b. The access is designed to restrict turning movements, requiring the installation of an access island or center median.
- c. The roadway has no curb and gutter.
- d. The access serves an industrial property, or provides for commercial deliveries, where large truck movements are required.
- e. The City Engineer determines that a radii access is necessary to ensure adequate traffic safety and operation.
- f. The access is for a new public street

H. Access and Curb Cut Width

Access and curb cut widths shall be consistent with Table 5-13. The width of each access shall be the minimum width that is necessary to serve the property and use. All access widths are measured from edge of pavement to edge of pavement (or curb to curb) at the throat of the driveway and are not inclusive of drive cut transitions or curb return radii.

I. Access and Curb Cut Grades

Access and curb cut grades shall be consistent with Table 5-13. The initial grade (G1) shall be a positive grade, beginning at the back of the sidewalk, the back of the driveway ramp or pan section, or the edge of the pavement (where no curb and gutter exists), and shall continue at least 10 feet beyond the right-of-way. The final grade (G2) may be positive or negative, depending on the access conditions. The maximum grade break (or change in slope) shall apply at all grade changes.

Table 5-13 Access Design Specifications

	Single Family Residential	Other Residential	Commercial	Industrial
Width				
- Minimum	10' ²	15' ²	15' ²	20' ²
- Maximum	20'	30'	40'	40'
- One-Way Lane	N/A	12'-18'	12'-20'	14'-24'
Curb Cut Radii				
- Minimum	5' ¹	15'	15'	20'
- Maximum	10'	30'	30'	40'
Access Grades				
Initial Grade (G1 to a point 10 feet beyond R.O.W.)				
- Minimum	(+) 2%	(+) 2%	(+) 2%	(+) 2%
- Maximum	(+) 8%	(+) 8%	(+) 6%	(+) 6%
Final Grade (G2)				
- Minimum	(±) 2%	(±) 2%	(±) 2%	(±) 2%
- Maximum	(±) 12%	(±) 10%	(±) 8%	(±) 8%
Max. Grade Break	(±) 8%	(±) 8%	(±) 8%	(±) 8%

Note:

1. Only applicable on arterial and collector streets.
2. Unless otherwise determined by the Fire Marshal.

J. Driveways

1. Vehicle Storage: Adequate driveway storage capacity for both inbound and outbound vehicles to facilitate safe, unobstructed, and efficient traffic circulation and movements from the adjacent roadway and within the development shall be provided, except for single-family or duplex residential driveways on local streets. Adequate driveway length will be subject to approval by the City Engineer
2. Internal Circulation: Developments requiring off-street parking facilities shall provide onsite vehicular circulation allowing access to all portions of the site without using the adjacent street system, unless a joint access or parking easement with one or more of the adjacent property owners has been dedicated.
3. Backing into the Right-of-Way Prohibited: Driveways shall be designed to contain all vehicle backing movements onsite, except for single family or duplex residential uses on

local streets. Triplex and Duplex residential uses may be considered in alleyways by City Engineer approval only.

4. Shared Driveways: Shared driveways are allowed and should be designed to meet the following criteria:
 - a. Adequate turnaround for vehicles is provided on both lots.
 - b. The driveway is properly engineered and constructed to mitigate any adverse drainage conditions and is appropriately surfaced for the type of development, usage, and zoning district.
 - c. The driveway must meet Table 5.13 other residential standards.
 - d. A public access easement, a minimum fifteen feet in width, for the benefit and use of all properties and property owners accessing the shared driveway has been dedicated and recorded to ensure legal access rights in perpetuity for each property served.
 - e. Driveway spacing in conformance with the requirements in Table 5-12 of these Standards; or on State Highway 82, meeting the requirements of the Access Control Plan.

5.2.11 STREET INTERSECTION SIGHT OBSTRUCTION

Providing adequate sight distance is critical in intersection design. Unobstructed views of the intersection area shall be provided for approaching motor vehicles, bicyclists, and pedestrians for safety and for appropriate reaction time. The primary concerns for location of a new access are the sight distance along the roadway (for vehicles turning into the access) and the sight distance for vehicles entering the highway from the access point. Excerpts from Tables 4-1 and 4-2 from the latest version of the CDOT State Highway Access Code (SHAC) are provided in Table 5-14 and Table 5-15 as the minimum design standards for horizontal sight distance.

Table 5-14 Sight Distance Along Highway

Posted Speed in MPH	25	30	35	40	45	50	55
Design Sight Distance (in feet)	150	200	250	325	400	475	550
Minimum Sight Distance (in feet)	150	200	225	275	325	400	450

Ref: CDOT [State Highway Access Code](#) Table 4-1

Adjustments due to grade (SHAC Table 4-4) shall be applied

Table 5-15 Entering Sight Distance (in feet)

Vehicle expected to enter or cross highway*	Posted Speed in MPH						
	25	30	35	40	45	50	55
Two Lane Roadway							
Passenger Cars, Pickup Trucks	250	300	350	400	450	500	550
Single Unit Trucks > 10,000 lb GVW	325	390	455	520	585	650	715
Multi-Unit Trucks	425	510	595	680	765	850	935

Four Lane Roadway							
Passenger Cars, Pickup Trucks	300	360	420	480	540	600	660
Single Unit Trucks > 10,000 lb GVW	375	450	525	600	675	750	825
Multi-Unit Trucks	500	600	700	800	900	1000	1100

Ref: CDOT State Highway Access Code Table 4-2

*Vehicles determination from SHAC Table 4-3

Adjustments due to grade (SHAC Table 4-4) shall be applied

- A. General. No sign, fence, hedge, shrub, tree or other natural growth or obstruction installed, set out or maintained which obstructs the view of motor vehicle operators at an intersection within the sight areas defined in this section. For the purpose of this standard, "intersection" shall include: the intersection of two public streets; the intersection of a commercial driveway with a public street; the intersection of a residential driveway with a public street; and the intersection of a private street with a public street.
- B. The sight area at an intersection defined. The area bounded by setback lines, or bounded by setback lines and the edge of the traveled lane. Setbacks for intersection types are as specified in the following paragraphs.

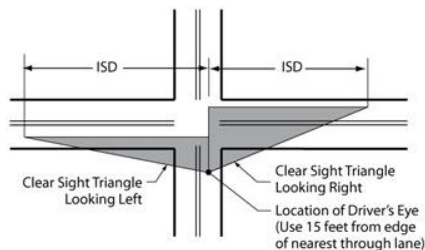


Figure 5-1 Intersection Sight Distance Triangles

- C. Sight Obstruction Height Limits. Sight obstruction, as defined in subsection D of this section, shall not be permitted above a line defined within AASHTO guidelines.
- D. Sight Obstruction Defined. Sight obstructions include, but are not limited to any object, sign, sign post, vegetation, mail box, mail box post, and fence which could obstruct a driver's view. Exceptions to this definition include street lighting, regulatory, warning and guide signs.
- E. Other Sight Obstruction Standards. Where unusual conditions preclude the application of the foregoing provisions of this section in a reasonable manner, or where a special viewing problem exists, the traffic engineer will determine when an intersection view obstruction exists, based on the intent of this section. Every obstruction of the sort prohibited in this section hereafter installed or permitted to remain shall be deemed a violation of this chapter.

5.2.12 SURFACING STRUCTURAL REQUIREMENTS

Due to the varying nature of subgrade soils and the existence of collapsible soils in the City, a geotechnical design of all roadway sections is required for any proposed new street or alley. The

roadway structural section design including Hot Mix Asphalt (HMA) or Portland Cement Concrete Pavement (PCCP), Aggregate Base Course, Geotextile Fabric, and Subgrade Stabilization shall be prepared by a Professional Engineer Registered in the State of Colorado specializing in Geotechnical Engineering and based on site specific soil and groundwater conditions. The subgrade stabilization shall be designed and constructed so that the prepared subgrade surface will comply with all of the City's Specifications including compaction and proof-rolling, and shall also be designed to maintain the stabilized condition under all anticipated traffic loading and seasonal fluctuations of temperature and groundwater conditions. Full depth pavement section is not acceptable.

Concrete pavement may be required in areas where heavy truck traffic and busses warrant additional pavement design capacity.

5.2.13 STREET, ALLEY AND SIDEWALK CUTTING, TRENCHING AND PATCHING

A. General

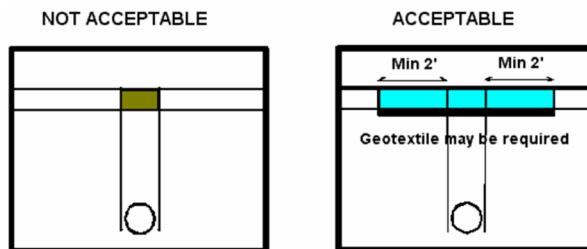
1. All work shall be done in an expedient manner. Use of fast-setting concrete and similar techniques are required unless the contractor or engineer documents in writing that the quality of repair will be compromised. Completion of the work, including replacement of pavement and cleanup, shall be accomplished within one (1) week after the repair work or activity involving the cut is done. This time frame may be adjusted if delays are due to inclement paving weather or other adverse conditions that may exist. However, delaying of the final patch or overlay work is allowable only with the City Engineer's written approval. The City Engineer may deem it necessary to complete the work within the one week time frame and not allow any time extension. If this occurs the contractor shall perform the necessary work as directed by the City Engineer or the work will be completed by the City either with its own personnel or via a secondary contractor billed out at three (3) times the rate of the cost of the city's work.
2. . Removal and replacement of work that does not meet these standards shall be completed within thirty (30) days of written notification of the deficiency unless deemed an emergency requiring immediate action. In the event the replacement work has not been completed, the City will take action upon the contractor's surety or bond to cover all related costs.
3. No metal tracked vehicles shall be allowed on asphalt or concrete.
4. Grading shall be done as necessary to prevent surface water from entering the excavation. Any water accumulation within the trench shall be promptly removed.
5. Surface drainage, driveways, fire hydrants, manholes, water valves, etc., near the work shall be unobstructed by the trenching operation when feasible.
6. In streets that are less than five (5) years old, the City reserves the right to deny any street excavation or require repairs that exceed the requirements set forth in these specifications.
7. All permanent pavement patches and repairs shall be made with "in-kind" materials. For example, concrete patches in concrete surfaces, asphalt patches in asphalt surfaces,

concrete pavement with asphalt overlay patches will be expected in permanent "overlaid" concrete streets, etc. In no case is there to be an asphalt patch in concrete streets or concrete patch in asphalt streets. Any repair not meeting these requirements will be removed and replaced by the contractor at his or her expense within the time frames mentioned above.

8. A temporary surface is required when the final surface is not immediately installed. The temporary surface installation and maintenance shall be the responsibility of the contractor or permittee until the permanent surface is completed and accepted. It shall be either a hot mix or cold mix paving material. Temporary surfaces shall be compacted, rolled smooth and sealed to prevent degradation of the repair and existing structures during the temporary period. If the contractor is unable to maintain a temporary patch for whatever reason, the City will complete repairs billed out at three (3) times the rate of the cost of the City's work at the expense of the contractor or permit applicant. Any exceptions to this requirement will be in writing and included by the City in the permit.

B. Contractor to have temporary patching in place within 24 hours of trench backfilling. Cutting in Improved Streets

1. In existing pavement, all excavations within thirty-six (36) inches of the edge of the asphalt shall require removal and replacement from the edge of asphalt to the excavation edge.
2. Concrete pavement, cross-pans, driveways, streets and alleys shall be removed to neatly sawed edges cut to full depth and cut in straight lines either parallel to the curb or perpendicular to the alignment of the sidewalk or curb. Any removal shall be done to the nearest joint.
3. The cuts in bituminous (asphalt) pavement shall be a minimum of two (2) feet on each side of the trench width required for excavation, and shall be re-sawcut to clean lines if trench failure or pavement damage has occurred.
4. In the case of older pavement where the likelihood of cracking and potholes next to the patch is greater, it will be required to extend the "shoulders" of the pavement beyond the two-foot minimum and reinforce this area with a geotextile.



5. "T" cutting is required for all repairs.

Commented [AD2]: Add in the T-patch detail add to #3,

C. Trenching

1. All excavation, shoring, trenching and the like shall comply with OSHA's "Construction Industry Standards" as well as all applicable federal and state regulations.
2. Trenches shall be excavated along the lines and grades established and in no case shall be more than one hundred (100) feet in length, or be trenched or backfilled in non-continuous sections unless approved by the City Engineer. Failure by the contractor to comply with these requirements may result in an order to stop the excavation in progress until compliance has been achieved.
3. All excavated material shall be stockpiled in a manner that does not obstruct sidewalks, streets and driveways. No stockpiled materials shall be allowed on the asphalt surface or adjacent walkways. The work shall be done in a manner that will minimize interference with traffic and/or drainage of the street.
4. The contractor at the end of each day shall close all trenches and barricade all excavations and ditch lines, remove excess material from travel ways and thoroughly clean all streets, alleys and sidewalks affected by the excavation.
5. If it becomes necessary in the judgment of the City Engineer, all streets, alleys (if asphalt or concrete) and sidewalks shall be swept or washed. If the contractor cannot maintain a clean street/sidewalk work area, the City Engineer has the right to issue a stop work order on the project until the situation can be resolved.
6. Materials encountered during excavation such as rubbish, organic or frozen material, and any other material that is not satisfactory for use as backfill shall be removed from the site and disposed of daily by the contractor at his expense. Stones, concrete or asphalt chunks larger than six (6) inches shall be considered unsatisfactory backfill and removed by the contractor.

Commented [AD3]: In chapter 1 add the stop work order definition

D. Backfill of All Trenches in Improved City Right of Way

1. Onsite testing shall be required for all backfill methods and reports provided to Engineering within one week of excavation completion and prior to final acceptance. Failure to provide documents may require removal and repair of cut.
2. A two year warranty period is required on all trenching work in the right of way. Backfill Materials
 - a. Aggregate backfill:

Aggregate backfill shall be CDOT Class 6 Structure Backfill (roadbase) meeting the specifications for this material within the CDOT specifications manual.

Backfill shall be placed in uniformly distributed layers and brought up equally on all sides of the structure or trench wall. Each layer shall not exceed 6" before compacting to the required density and before successive layers are placed. Structure Backfill Class 6 (roadbase) shall be compacted to a density of not less than 95 percent of maximum density determined in accordance with AASHTO T 180.
 - b. Flowable Fill (Flow-fill)

Commented [AD4]: Change ROW permit to materials testing and match timeline.

Flow-fill is a self-leveling low strength concrete material composed of cement, fly ash, aggregates, water, chemical admixtures and/or cellular foam for air-entrainment. The amount of water shall be such that the flow-fill flows into place properly without excessive segregation. Flow-fill shall meet the requirements of CDOT Specification 206.02. **Flow fill may be allowed in areas where expedited construction durations benefit the public or where unstable bank material make the use of backfill appropriate for safety concerns of the workers or surrounding facilities.**

- c. Flow-fill shall be prohibited as a temporary or permanent street surface.. Flow-fill trenches may be left low in cases of steel plating for a temporary crossing of the trench area until the permanent surface can be installed. Limit one (1) week duration.
- d.
- e. When soft or unstable material or rock is encountered in the trench subgrade that will not uniformly support the pipe, such material shall be excavated to additional depths and backfilled as directed by a geotechnical engineer licensed in the State of Colorado.

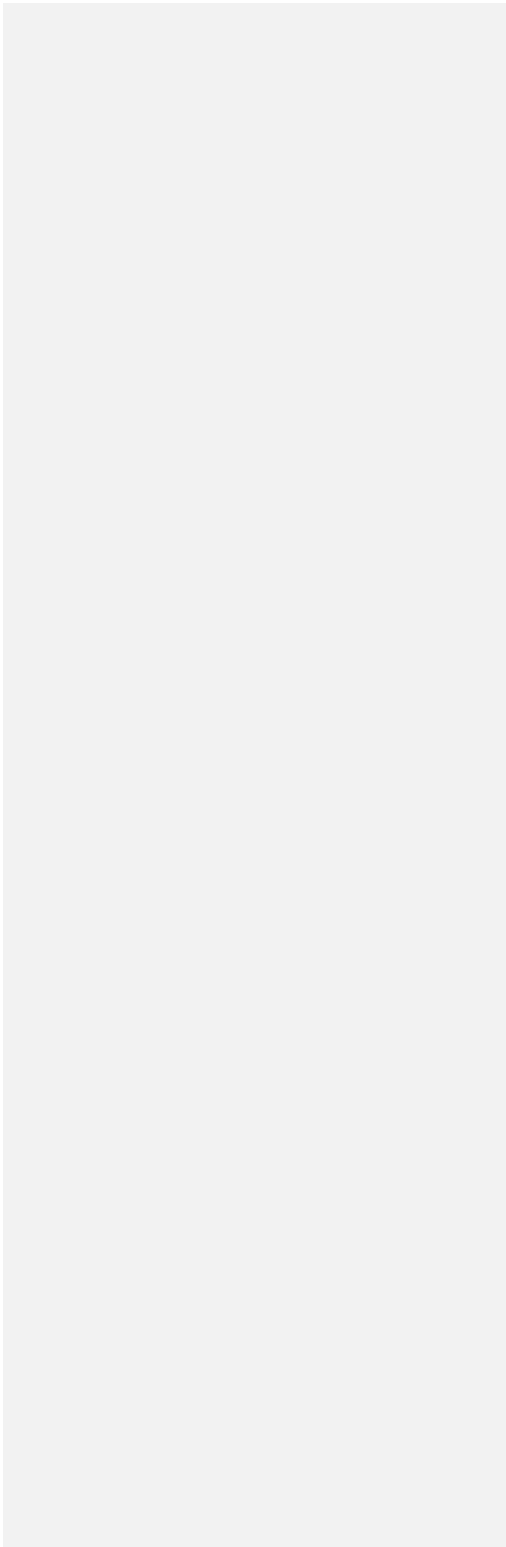
E. Filling of Bore Holes, Vertical and Horizontal

- 3. For all bore holes, the limits of repair shall be identified in the permit. Bore holes shall be filled with flowable fill to prevent entry of moisture. Surface patching material used shall match the existing pavement section.
- 4. The completed job shall be flush with the surrounding pavement and have no indentations, pockets or recesses that may trap and hold water. The sealing of bore holes is the responsibility of the contractor or person making the bore.

F. Asphalt Surface Repair

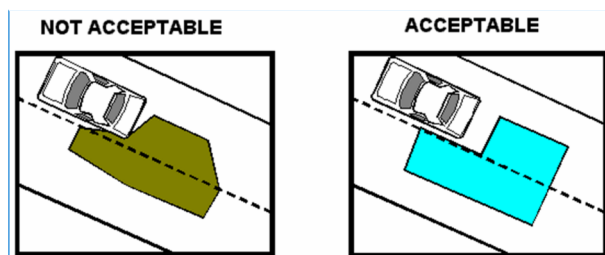
- 1. Trench restoration shall be by a patch or patch plus overlay as required by the City Engineer.
- 2. Any damage to the existing asphalt surface in the vicinity of the work shall be repaired at the expense of the contractor. Patching or mill and overlay may be required, at the discretion of the City.
- 3. The depth of asphalt patches in asphalt streets and alleyways shall be a minimum of 4 inches or the depth of the existing asphalt surface plus two (2) inches, whichever is greater. Hot mix asphalt shall be placed in accordance with CDOT Specification Sections 401 and 403, except that longitudinal joints between successive layers of asphalt shall be displaced laterally a minimum of 12 inches and asphalt over 2 inches thick shall be placed and compacted in equal lifts not to exceed 3 inches each.
- 4. For patches in asphalt, a tack coat shall be applied to all edges of the existing asphalt and all cold joints between curb and gutter before placing the new pavement in accordance with CDOT Specification Section 407. After placing the new asphalt, all seams (joints) between the new and existing pavements and curb and gutter shall be

sealed with an asphalt tack coat or rubberized crack seal material.



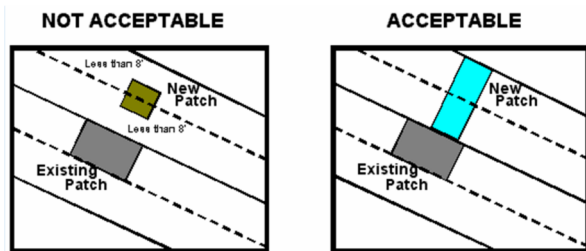
G. Asphalt Patching Standards

5. The asphalt patch area for street excavations that fall within the wheel path of the vehicular travel lane shall be increased in size to the center of the lane or adjacent lane. In no circumstance will the edge of a patch area be allowed to fall within the wheel path.
6. Existing pavements shall be removed to clean, straight lines parallel and perpendicular to the flow of traffic. Do not construct patches with angled sides and irregular shapes.



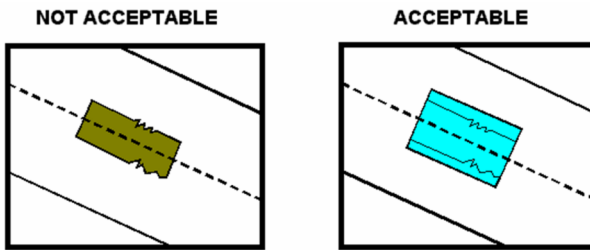
Commented [AD5]: Detail shows patch in the wheel path need to modify

7. Do not "leave" strips of pavement less than one-half ($\frac{1}{2}$) a lane in width from the edge of the new patch to the edge of an existing patch or the lip of the gutter.

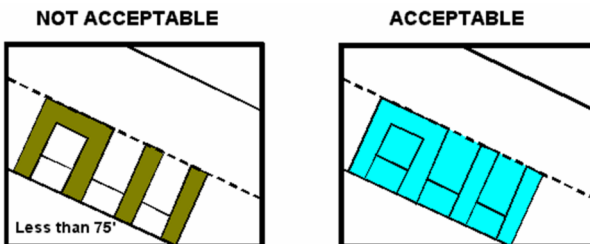


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8. Asphalt and concrete pavements should be removed by saw cutting or milling.



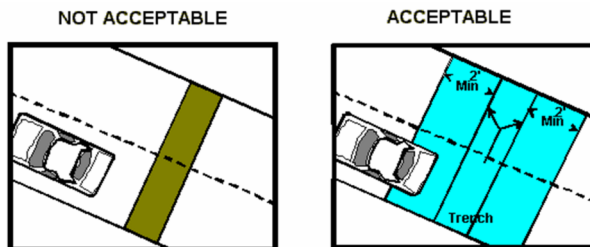
9. In the case of a series of patches or patches for service lines off a main trench, repair the pavement over the patches by milling and overlay when the spacing between the patches is less than twenty five (25) feet (in cases where the existing pavement is in poor condition and may require overlay within the next few years, this requirement may be modified or waived by the City Engineer).



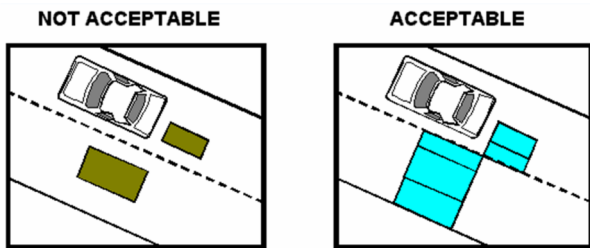
10. Street repairs should leave the pavement in a condition as good as, if not better than, the condition prior to the repairs.
11. In all cases the existing pavement condition shall be inspected by The City prior to the work. After completion of the work, The City will re-inspect the pavement condition to verify that the pavement has been maintained or improved.

- f. In the case of major projects that involve excessive haul of materials or unusually heavy construction equipment or activity, nondestructive testing of the pavement condition before and after construction may be required.

12. All trenches cut in asphalt shall be overlaid across the entire street width for a distance of two (2) feet minimum on all sides of the trench.

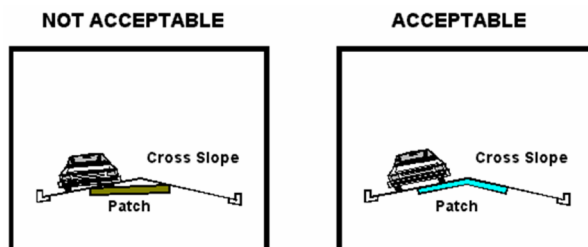


13. T-Patch (detail and description added here)

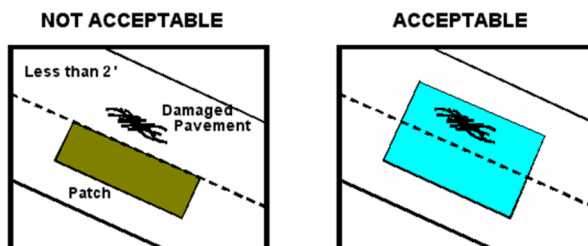


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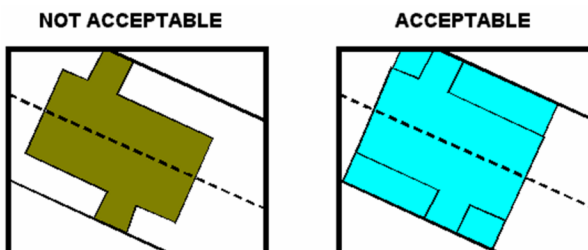
14. Patches should have a smooth longitudinal grade consistent with the existing roadway. Patches should also have a cross-slope or cross-section consistent with the design of the existing roadway.



15. When the proposed excavation falls within ten (10) feet of a section of failed pavement, the failed area shall be removed to sound pavement and patched. Scarring, gouging or other damaged pavement adjacent to a patch shall be removed and the pavement repaired.



16. Avoid frequent changes in width of patches. For future maintenance, this simplifies removal of adjacent pavement failures.



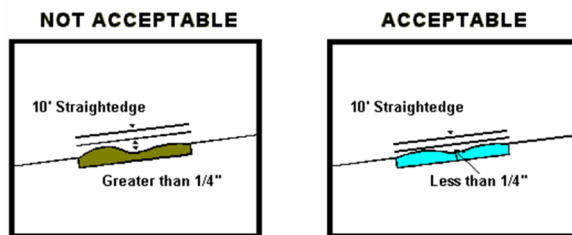
17. Consideration of pavement management issues may also identify opportunities for joint efforts between the utilities and the City. For example, suppose that the repair of a utility line requires an overlay on one-half ($\frac{1}{2}$) of a street, and that the condition of the remaining one-half ($\frac{1}{2}$) of the street might also warrant an overlay. We may decide at that point to overlay the entire street, with the City's street authority and the utility

splitting the cost of the overlay. In such a case, the utility may be able to save the cost of grinding one-half (½) the street. The City's street authority will allocate a reasonable percentage of its annual overlay program to accommodate its share of these situations. This includes minor (two-to-three-block) maintenance projects and larger capital improvement projects (major water line extension). Coordination for these types of cooperative repairs should occur as far in advance of actual construction as possible.

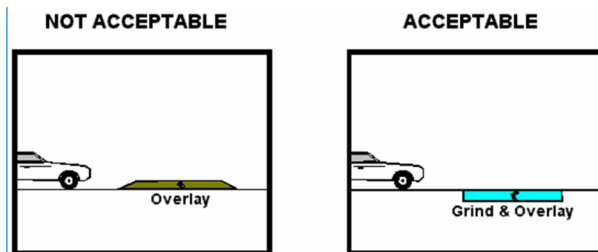
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H. Roadway Smoothness

1. Ensure that the transitions on and off of the repair are smooth. The patch itself must offer a smooth ride.
2. Surface tolerances for street repairs should meet the standard for new construction.



3. Overlays should be placed by first removing the existing pavement to the desired depth by milling, and then placing the pavement flush with the adjacent surfaces.



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4. Unacceptable paving patches shall be corrected by removal and repaving of the patched area.

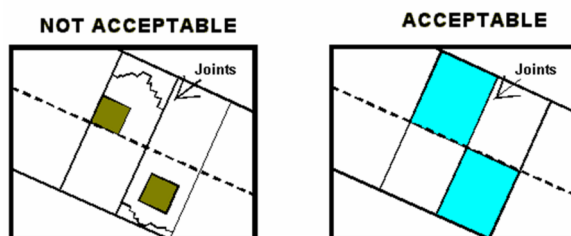
- I. EXCEPTIONS: There may be situations where the patching standards are considered inappropriate. This determination shall be made by the City Engineer.

J. Concrete Surface Repair

1. The concrete pavement shall be replaced to match existing depth and strength unless geotechnical recommendations state otherwise. All concrete construction shall be protected from vehicular traffic, including contractor vehicles, until the concrete has achieved eighty percent (80%) of its ultimate strength. Concrete shall be coated and sealed with a uniform application of membrane curing compound applied in accordance with manufacturer's recommendations. When ambient or surface temperatures are expected to fall below 45 degrees F during the next three days, special measures shall be taken to ensure subgrade materials are above 40 degrees prior to concrete placement and the concrete will not fall below 40 degrees until the concrete has attained a compressive strength of at least 2000 psi.
2. Where existing cracks or damage are adjacent to the area being repaired, the repair area shall include the cracked or damaged concrete. Pavement repairs shall include all areas of damage, including bore holes, pot holes and equipment and/or material scarring of the existing surface.
3. When repairing concrete, the removal perimeter shall be saw-cut and replacement concrete shall be doweled into the old concrete per CDOT M-Standard Plans.
4. Concrete joints shall be thoroughly cleaned of all foreign material then filled with a hot-poured elastic type joint filler conforming to M 173, ASTM D1190-80, ASTM D1751-83, D1752-84, D3405-78, D3406-78, D3407-78 or silicone sealants or others as approved by the City Engineer. Joint material shall be filled to the surface. Excess material shall be scraped off to provide a smooth riding surface.
5. In concrete pavements, remove sections to existing joints. In damaged concrete, the limits of removal should be determined in the field by the City Engineer, or representative.

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K. Gravel Streets, Alleys, Roadway Shoulders and Subgrade for Sidewalks and Curb and Gutter

1. For all roadway sections (gravel roads, trench resurfacing or base course beneath new asphalt sections), roadway shoulders and sidewalk and curb and gutter subgrades, the contractor shall replace the surfacing or subgrade with gravel conforming to a CDOT Class 6 Aggregate Base Course (CDOT Specification 703.03).
2. Some streets may have been treated with a special surface treatment to control dust

and/or bind the aggregates together. In these cases, the contractor is responsible for replacing the existing surface treatment. Such surface treatments shall be of the same chemical composition as what existed prior to the excavation work. The City Engineer shall note on the permit the surface treatment that will be required.

3. When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition.

5.2.14 TESTING AND INSPECTION OF ALL WORK IN THE RIGHT OF WAY

- A. Testing and inspection is required and will be at the developer's or contractor's expense. Twenty-four (24) hours' notice is required for all inspections.
- B. All construction work within the public rights-of-way shall be subject to inspection by the City Engineer or representative, and certain types of work may have continuous inspection. It shall be the responsibility of the contractor to provide safe access for the inspector to perform the required inspections.
- C. The City Engineer may make or require other inspections of any work as deemed necessary to ascertain compliance with the provisions of these Standards or the Municipal Code. Any work performed without the required inspections shall be subject to removal and replacement at the contractor's expense, regardless of the quality of the work.
- D. **Testing frequencies**

Following are the minimum number of tests required for each construction activity. These tests must be submitted to the City Engineer within two weeks of excavation and shall be electronically submitted as a PDF to the City.

1. Flow-fill: The Contractor shall sample and test the first three loads of Flow-fill for each placement and then once for every additional 50 cubic yards. Sampling and testing will be witnessed by the Engineer. Mix design must be submitted from the batching plant, and approved by the City Engineer.
2. Utility trench backfill (manufacturer's recommended utility bedding, then Class 6 Structural Backfill): Tests required for gravel placement may be increased if directed by the City Engineer. Proctors shall be determined prior to backfilling. The horizontal frequencies of density tests are as follows:
 - a. Utility mains: One (1) test per one hundred (100) linear feet per lift.
 - b. Service lines: One (1) test per each service per lift.
 - c. Manholes and valve boxes per each lift.
3. Concrete pavement, curbs, gutters and sidewalks: Testing to be conducted on the first truck and then once for every additional 50 cubic yards or portion thereof. Mix design must be submitted from the batching plant and approved by the City Engineer prior to placing concrete.
4. Asphalt pavement structure (new or replaced street sections and utility trenches):

Commented [AD12]: Look at CDOT testing requirements

- a. Asphalt content: One (1) test per five hundred (500) tons or fraction thereof of mix produced, minimum of one (1) test per job.
 - b. Gradation; aggregate: One (1) test per five hundred (500) tons or fraction thereof of mix produced, minimum of one (1) test per job.
 - c. In-place density: One (1) test per 1000 square feet when patch exceeds 100 square feet.
5. Class 6 Aggregate base course materials: Placement, shaping and compaction shall be in accordance with CDOT Specification Section 304. Compaction density and shaping will be verified at the following frequency:
- a. One (1) test per four hundred (400) lane feet.
 - b. No less than two (2) tests per excavation.

5.2.15 STAKING

- A. All surveying and staking shall be performed by a firm capable of performing such work. The surveyor directing such work shall be licensed by the State of Colorado.
- B. A pre-construction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to placement of materials.
- C. The minimum staking of streets shall be as follows:
 - 1. Stake centerline alignment every 25 feet (50 feet in tangent sections) with cuts and/or fills to subgrade.
 - 2. Stake top of base course at centerline and edge of pavement every 25 feet.
 - 3. Stake top back of curb at a consistent interval and offset for vertical and horizontal alignment.

5.2.16 PAVEMENT MARKING

- A. Street pavement marking shall be provided on all Arterial and Collector Streets and at the intersections of all Local Residential Streets with Arterial and Collector Streets. The streets classification map can be found [here](https://cogs.us/DocumentCenter/View/202/Street-s-Map-24x36-PDF---City-of-Glenwood-Springs-Grid-4MB?bidId=). (chrome-extension://efaidnbmnnnibpcajpcgiclfefndmkaj/https://cogs.us/DocumentCenter/View/202/Street-s-Map-24x36-PDF---City-of-Glenwood-Springs-Grid-4MB?bidId=)
- B. The work shall be accomplished in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD), the Colorado Supplement and Section 627 of the CDOT, Standard Specifications for Road and Bridge Construction.
- C. Epoxy with glass beads
- D. Bike lanes shall be striped with high-contrast, white longitudinal markings 4" wide minimum, but 6" is preferred. Sharrows may be used for bike routes where not enough adequate width (less than 4') is available for an on-street bike lane.

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- E. All stop bars and crosswalk bars shall be thermoplastic pavement marking material milled into the asphalt.

5.2.17 PHYSICAL TRAFFIC CALMING DEVICES

The following physical traffic calming devices, roundabouts, chicanes, and speedtables, may be considered for installation on non-arterial streets that are also non-emergency routes. The appropriate device depends on the roadway geometry, sight distance, and the traffic characteristics such as speed and volume. The City Engineer, in consultation with the City's Emergency Services, will determine whether a traffic calming device is appropriate for a specific location.

- A. Roundabouts- Used primarily to reduce collisions at intersections, roundabouts can also reduce speeding along residential street corridors and improve bicycle and pedestrian safety. In addition to these safety benefits, many circles can be landscaped, which can provide aesthetic enhancements to the street.
- B. Chicanes – A series of 2 or 3 curb bulbs, chicanes slow traffic by creating a narrow, winding section of roadway. Like traffic circles, many chicanes can be attractively landscaped. Since they result in the elimination of some parking, they are generally only installed where there is low demand for on-street parking.
- C. Speed Tables – Mounds that extend the full width of the street, speed tables can be effective at reducing speeds.

If calming devices are requested through the petition process, the City will perform a proper traffic analysis to determine whether an appropriate counter measure should be implemented.

The traffic calming petition can be found [here](#).

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5.3 PRIVATE STREETS

5.3.1 GENERAL

A. Purpose

The purpose of these requirements is to standardize private street design elements and to assure, so far as practical, that the minimum requirements of the public are met. These requirements include safety, welfare, convenience, aesthetics, and economical maintenance. These Standards are intended to assist, but not to substitute for competent work by professional engineers. It is expected that the professional engineer will bring to each project the best skills and abilities to ensure that the project is designed correctly and accurately.

B. Private streets may be allowed provided that all of the following conditions are met:

1. Be permanently established by dedication as private roadway during platting process
2. Include provisions for future use by adjacent property owners when applicable,
3. Meet City minimum design standards described herein, except for right of way requirements and approved deviations
4. Be accessible at all times for emergency and public service vehicle use

5. Have recorded on the plat or other legal document a statement acknowledging that the City will not be responsible for roadway maintenance costs associated with use of the road by emergency vehicles and service vehicles, including parking enforcement
6. Not result in land-locking of present or future parcels nor obstruct public street circulation
7. Develop, approve and record covenants which provide for maintenance of the private street by the owner or homeowners association or other legal entity.
8. See Table 5.6 above.

C. Acceptance as Public Streets.

Acceptance of private streets as public streets will be considered only if the street(s) meet all applicable public street standards, including dedication of right-of-way, are deemed to have a benefit to the public street system and are accepted by the City Council.

Commented [AD15]: Legal Review

5.3.2 STREET TYPES, GEOMETRICS AND DESIGN CRITERIA

A. Geometric and Design Criteria.

Individual streets within the development shall be constructed in their entirety to the highest applicable design criteria. Side street approaches shall constitute new streets for design purposes.

B. Utilities Location.

Appropriate utility easements shall be provided on the proposed project plat and recorded with the Garfield County Clerk and Recorder. Utility installation shall be the responsibility of the Applicant and shall not be installed above ground or in a manner or location that will interfere with the traveled surface and shoulder area. All work shall be coordinated with the appropriate City utility department. Utilities shall be designed and constructed in accordance with all City standards.

C. Owners to Maintain Streets -- Organization required to Guarantee Maintenance and Assessment of Costs.

All private streets subject to the terms of this Chapter shall be maintained by the owners of the property served by them and kept in good repair at all times. In order to insure the continued good repair, a declaration of covenant requiring maintenance of the private street shall be recorded with the Garfield County Clerk and Recorder's office concurrent with the recording of the subdivision or plat.

The declaration of covenants shall include the following terms:

1. The agreement for maintenance shall be enforceable by any property owner served by the street.
2. A means shall be established for assessing maintenance costs equitably to property owners served by the private street.
3. The declaration of covenants shall run with the land.
4. "Maintenance" shall include, but not be limited to, street surfacing, sidewalks, shoulders,

gates, signs, storm drainage facilities, vegetation control and snow removal.

Commented [AD16]: Legal Review

D. Cul-De-Sacs and Turnarounds

1. Shall be designed in accordance with International Fire Code requirements.
2. Cul-de-sacs shall be constructed if the street is not a through street. Cul-de-sacs or intersections must be provided at a minimum of one thousand five hundred (1,500) feet measured from centerline to centerline.
3. Parking shall be restricted in all cul-de-sacs and all turnarounds, as determined by the City Engineer.

E. Gates.

A building permit issued by the City is required when gates are installed across private streets. In order for the City to issue the building permit, the following requirements must be met:

1. Gates which serve ten (10) or more dwelling units shall have an Opticom activated opening system, or an equivalent and compatible system, which is approved by the Fire and Police Chief.
2. Gates shall have rapid-entry key capabilities (Knox box) for the Fire Department access, and access code shall be provided to the Fire Department.
3. All electrically-activated gates shall have default capabilities to the unlocked position.
4. The minimum clear width of a gate shall be compatible with the street required width.
5. Gates that might be obstructed by the accumulation of snow shall not be installed.
6. The City shall provide notice to the Fire Department of plans for a new gate. The applicant must have final approval of installed gate and function from the Fire Department prior to issuance of Certificate of Occupancy or substantial completion.
7. A turnaround shall be provided for vehicles that are not granted access through the gate. This turnaround must be outside the travel way.

F. Medians.

A street separated by a median shall have a minimum traveled surface width of ten (10) feet on each side of the median.

1. Fire hydrants shall be located on both sides of the street at a spacing acceptable to the fire department, but not within the median.

5.3.3 SIGNS

A. Speed Limit Signs.

If speed limit signs are desired by the Applicant or the property owners, they shall be approved by the City Engineer and be installed by the Applicant and maintained/enforced by the property owners.

B. Street Signs and Street Names

1. Streets shall be numbered according to ASPO Report Number 332, Street Naming and Property Numbering Systems, by Margaret A. Corwin and Street Naming and Property Numbering for Small Cities by Southwest Georgia Planning and Development Commission, Camilla Georgia. Names for new streets shall be submitted for approval during the platting process. Street numbers shall be included on each lot of the plat.

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2. Street name signs must conform to the MUTCD standards and shall be maintained by the property owners. If a sign is damaged or stolen the property owners shall replace the sign within seven calendar days of notification by the City or the City will replace and bill the property owners.

C. Fire lanes shall be installed by the applicant and maintained by the property owner. Signs and striping locations shall be approved by the Fire Chief.

D. Subdivision Signs/Monuments

1. Designed per City Municipal Code

5.3.4 COMPLIANCE

A. Certification. All private streets shall be constructed by the Applicant and inspected by the Applicant's engineer who shall issue a letter of compliance to the Applicant with a copy to the City certifying:

1. The private street has been constructed in accordance with the City's design and standards.
2. The street signs are in place and conform to the MUTCD standards.
3. The storm drainage, if applicable, has been constructed in accordance with the Engineer's design.
4. Bridges and structures have been designed and constructed in conformance with Section 5.6.

The compliance letter shall be stamped, signed, and dated by the applicant's engineer.

A set of as-built plans and inspection/testing reports must be submitted with the letter of compliance.

B. Completion. All private streets must be completed and the letter of compliance submitted to the City or a financial guarantee must be submitted to the City in the amount of one hundred twenty-five (125) percent of the Engineer's cost estimate to complete the work. The street(s) within a plat, large lot, or long subdivision must be constructed prior to the final inspection and approval of occupancy of any structures constructed within the plat, except for model home permits as authorized by the City Engineer.

5.3.5 MAINTENANCE

A. All private streets and sidewalks subject to the terms of this Section shall have a Street Maintenance Covenant recorded with the Garfield County Assessor's Office prior to or concurrent with the recording of the subdivision or plat.

- B. Private streets or easements existing, without a street maintenance covenant, prior to the effective date of this Chapter will be exempted from the Street Maintenance Covenant.

5.3.6 PRIVATE TO PUBLIC STREET DEDICATION

- A. The City has no obligation to accept any private street into the City street system for dedication or maintenance. It shall be the Applicant's responsibility to submit a preliminary site plan showing the street(s) proposed for dedication to the City and the Applicant must receive the City Council approval before proceeding with street construction or Right of Way dedication plans.
- B. Street construction plans prepared in accordance with the most recent version of these Standards and Guidelines shall be submitted for review and must be approved by the City Engineer before street construction activity commences.
- C. The Applicant must submit all necessary deeds, easements, etc., to the City for acceptance and recording by the Garfield County Clerk and Recorder's Office.
- D. Once the street has been dedicated to the City and accepted for maintenance, the street shall remain open for public use and may not be closed except by the City.
- E. It shall be the Applicant's responsibility to have the bridge and drainage structures inspected and load rated by a licensed Professional Engineer prior to City acceptance.
- F. All utility lines shall be inspected, cleaned and repaired if necessary prior to acceptance.

Commented [AD18]: Review by Lawyers

5.4 SIDEWALKS, CURB RAMPS, CURBS AND GUTTERS

5.4.1 GENERAL

- A. Sidewalks are required on both sides of the street for all street classifications, except arterials (alternate pedestrian facilities must be provided in the corridor) and alleys. See section 5.2 for standards. See the applicable Standard Detail Drawing(s) in the Appendix attached to this Chapter for more requirements.
- B. All streets constructed with curb, gutters, and sidewalks, shall have pedestrian/ADA ramps provided at street intersections and other pedestrian facility crossings. These ramps shall be constructed in accordance with CDOT Standards and Guidelines.
- C. Sidewalk construction may be required in conjunction with any new development or redevelopment of the existing structures, or plat or approval, or other land use permit.
- D. Concrete shall be an approved ready-mix use for sidewalk, curb ramps, curbs, and gutters. Hand mix concrete are not allowed unless review and approved by the City Engineer.

Commented [AD19]: Insert Details of sections in 5.2 and remove appendix notation

5.4.2 DESIGN STANDARDS

Plans for the construction of sidewalks, curbs, gutters, and curb ramps are to be submitted as part of the street plans when applicable. The minimum widths for sidewalks are contained in Table 5-7. Because these are minimum standards, the City Engineer may modify the improvement to be installed based upon the conditions specific to the site.

5.4.3 SIDEWALK CONSTRUCTION

- A. Sidewalks shall be constructed per CDOT M&S Standard Plan M-609-1. Minimum sidewalk thickness shall be 4 inches and 6 inches at driveways.
- B. Concrete for sidewalks shall be CDOT Class D, or other approved air-entrained concrete.
- C. Form and subgrade inspection by the City is required before the sidewalk is poured.
- D. Monolithic pour of curb, gutter, and sidewalk will not be allowed.
- E. Expansion joints shall be placed every 50' along concrete sidewalk.
- F. Sidewalk demolition shall be done to the nearest joint. Control joint spacing shall be between 5-8 feet depending on the sidewalk width and existing control joint pattern.
- G. Sidewalks shall be constructed of Portland Cement Concrete. Exceptions will be considered on a case-by-case basis at the discretion of the City Engineer.

5.4.4 CURB AND GUTTER

- A. A concrete curb and gutter shall be used for all street edges, unless otherwise approved by the City Engineer.
- B. All curbs and gutters shall be constructed per CDOT M&S Standard Plan M-609-1.
- C. Concrete for curbs and gutters shall be CDOT Class D, or other approved air-entrained concrete.
- D. When matching existing pavement grade, pavement shall be sawcut full depth, one foot from lip of pan, and milled 2" deep for an additional one foot. Exceptions to this may be approved by the City Engineer. See detail
- E. Joints shall be placed at all alley and driveway returns, structures, curb ramps per CDOT M&S Standard Plan M-609-1.
- F. Curb and Gutters shall be cut to the nearest joint. Control joint spacing between shall be 10 feet or to match existing control joint pattern.
- G. Form and subgrade inspection by the City are required prior to pouring the curb and gutter.

5.4.5 CURB RAMPS

- A. All sidewalks shall be constructed to provide for curb ramps in accordance with State and Federal law. Curb ramps and refuge islands shall be the same width as the crosswalk markings.
- B. All curb ramps shall be constructed per CDOT M&S Standard Plan M-608-1.
- C. Detectable warning patterns shall be cast iron and shall be on the CDOT Approved Products List.
- D. Concrete for curb ramps shall be CDOT Class D, or other approved air-entrained concrete.
- E. Form and subgrade inspection by the City are required before the ramp is poured.
- F. Any variation due to site constraints shall comply with current ADA or PROWAG requirements.

5.5 SHARED-USE PATHS, BIKE LANES, AND TRAILS

5.5.1 GENERAL

Shared-use path and trail construction may be required in conjunction with any new development or redevelopment of an existing structure, or where traffic analysis or traffic planning indicates that substantial bicycle usage which would benefit from a shared-use path or trail.

5.5.2 DESIGN STANDARDS

All new construction shall conform to the standards for bicycle lane facilities outlined in this section, the "Guide for the Development of Bicycle Facilities" prepared by AASHTO.

A. On-Street Bike Lanes - Streets without On-Street Parking

Bicycle lanes on new streets without on-street parking shall be at least 5 feet wide, measured from the edge of gutter pan.. On existing streets where on-street bike lanes are being added and available right-of-way or improvements space is restricted, the width of the bicycle lane may be reduced to a minimum of 4 feet wide.

B. On-Street Bike Lanes - Streets With On-Street Parking

Bicycle lanes on new streets with on-street parking shall be at least 5 feet wide, exclusive of the parking lane.

C. Off-Street Bike Paths or Trails

Off-street bike trails or paths shall be at least 10 feet wide and shall conform to the Guide for the Development of Bicycle Facilities. Where space is limited 8 feet may be accepted.

D. Bicycle Parking –reference [Glenwood Springs Development Code Article 070.040.060\(f\)](#)

Commented [AD20]: Add link to code

E. Vertical Clearance to Structures

Vertical clearance is measured from the high point within the entire trail width to the lowest portion of the structure. If the undercrossing trail or overcrossing structure may be widened in the future, adequate vertical clearance shall be provided to accommodate the future condition. The vertical clearance of structures shall be in conformance with the AASHTO *Guide for the Development of Bicycle Facilities*.

5.5.3 SHARED USE PATH AND TRAIL CONSTRUCTION

A. Off-Street Bike Paths and Trails shall be constructed per CDOT M&S Standard Plan M-609-1. Minimum concrete thickness shall be 6 inches.

B. Bike paths and trails shall be CDOT Class D, or other approved air-entrained concrete.

C. Root barrier fabric shall be placed under bike path or trail prior to placing of the materials.

Form and subgrade inspection by the City is required before the sidewalk is poured.

D. Apply broom finish perpendicular to trail. Use ¼" sawcut joints cut 1-1/2" deep, minimum every 10' along the trail. Contraction joints shall be constructed every 50' along the trail.

5.6 BRIDGES AND STRUCTURES

5.6.1 GENERAL

This section applies to new bridge and drainage structures.

5.6.2 DESIGN STANDARDS

A. Existing Bridges

Existing vehicular bridge and drainage structures shall be capable of carrying a minimum design load of HS-20 per the AASHTO *Standard Specifications for Highway Bridges*.

Commented [AD21]: Confirm the design loading

B. New Bridges

New vehicular bridge and drainage structures shall be designed in accordance with the current AASHTO *LRFD Bridge Design Specifications*.

1. The Design and As-built Drawings for all new bridges shall be certified by a professional structural engineer.
2. Design and Rating calculation packages shall be provided by a professional structural engineer for all new bridge and drainage structures.
3. Additional information may be required from the Structural Engineer of Record for bridges that are included, or will be included in the National Bridge Inventory. Refer to CDOT for additional information.

C. Bridge Width

1. The clear width for all new bridges on streets with curbed approaches should be the same as the curb-to-curb width of the approaches.
2. For streets with shoulders and no curbs, the clear width of the bridge should be the same as the approach roadway width.
3. Sidewalks on the approaches should be carried across all new structures. There should be at least one sidewalk on all street bridges.

D. Bridge Railing

Any new and/or rehabilitated bridge shall be provided with crash-tested bridge rails that have been formally approved by FHWA. CDOT Type 7 and Type 10 bridge rails are examples of FHWA-approved railings.

E. Pedestrian Bridges

New pedestrian bridges shall be designed by a professional engineer in accordance with the current AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges.

5.7 SIGNALS, TRAFFIC CONTROL AND TRAFFIC CALMING

5.7.1 GENERAL

This work shall be the furnishing and installing of a complete and functional traffic control system consisting of controllers, signals, and appurtenances as required by the City Engineer.

- A. Temporary traffic control to ensure public safety during construction activities must be provided. A plan meeting the requirements of the Federal Highway Administration's Manual on Uniform Traffic Control Devices, must be developed, signed and stamped by a licensed Traffic Control Supervisor in the State of Colorado prior to starting construction activities that require traffic control.
- B. The developer is responsible for supplying and installing all necessary permanent traffic control devices such as but not limited to, street name signs, stop signs, speed limit signs, and channelization.
- C. Neighborhood traffic control devices such as speed humps, traffic circles, curb extensions, etc., are devices used to control vehicle speeds and cut-through traffic. Installation of these devices will be permitted by approval of the City Engineer.

5.7.2 DESIGN STANDARDS

- A. Signal systems shall be designed in accordance with NCHRP Report 812, Signal Timing Manual and materials and placement shall be in accordance with Section 614 in the CDOT S-Standard Plans, S-614-40, unless otherwise authorized by the City Engineer.
- B. All public signal design shall be prepared by an engineering firm capable of performing such work. The engineer shall be a licensed Professional Traffic Operations Engineer in the State of Colorado.

Commented [AD22]: Lee to confirm

5.7.3 VEHICLE DETECTION

Video detection is the preferred equipment of new signal installations at traffic actuated signals. When allowed by the City Engineer, detection loops shall be designed in accordance with the NCHRP Report 812, Signal Timing Manual. Materials and placement shall be in accordance with Section 614 in the CDOT S-Standard Plans. Detection Loops shall be sawcut into pavement.

5.7.4 STAKING

See Section 5.2.15 for staking requirements. In addition, the minimum staking of signals shall be as follows:

1. Location, with cut or fill to center of all pole bases.
2. Location and elevation of each service disconnect.
3. Location of pull boxes.
4. Location of all corners of controller base.

5.7.5 TESTING

- A. All signals shall be subject to any necessary electrical inspections as well as requirements as set forth in the most recent edition of the NCHRP Report 812, Signal Timing Manual and the CDOT Specifications.
- B. A signal system shall not be approved or accepted by the City until the signal has performed correctly to the City's satisfaction for a 30 day "check-out" period as outlined below.
- C. Controller and cabinet testing may be required by CDOT and or the City of Glenwood Springs. All specifications and material samples shall be submitted to the City for review and approval prior to installation.

5.7.6 CHECK-OUT PROCEDURE

- A. The contractor shall call for an intersection check-out after completing the controller cabinet installation along with all other signal equipment complete with wiring connections. All parts and workmanship shall be warranted for two years from date of acceptance. A performance bond shall be obtained by the applicant for this purpose.
- B. New signals shall operate without any type of failure for a period of 30 days. The contractor shall have personnel available to respond to system failure within 6 hours during this 30 day period.
- C. Failure of any control equipment or hardware within the "check-out" period shall restart the 30 day period again.

5.8 ROADSIDE FEATURES

5.8.1 GENERAL

Miscellaneous features included herein shall be developed and constructed to encourage the uniform development and use of roadside features wherever possible and feasible.

5.8.2 SURVEY MONUMENTS

- A. All existing survey control monuments which are disturbed, lost, or destroyed shall be replaced with the proper monument as outlined below by a Professional Land Surveyor registered in the State of Colorado. All such work shall be at the expense of the responsible builder or developer and in accordance with State Law.
- B. Monument Locations. Survey monuments shall be set in accordance with Colorado Revised Statutes .Bus Stops
- A. Population density and system planning dictate the number and the placement of the Ride Glenwood Springs (RGS) bus stops and the Roaring Fork Transportation Authority (RFTA) bus

stops. The City and RFTA will determine the spacing and location of stops. In general, new service will not be initiated prior to the establishment of designated bus stops for an area.

B. The City of Glenwood Springs and the Roaring Fork School District will determine the location of school bus stops in new developments using the general criteria that follows:

1. A school bus stop shall be required for each new residential subdivision or apartment complex where school children are to be boarding or un-boarding, unless it is determined that a new stop is not required due to adjacent facilities already existing that can serve the site.
2. School bus stops shall be designed to complement the residential environment and provide a safe and convenient location and access for neighborhood children, including sidewalk access.

Commented [AD23]: Lee follow up

C. The physical location of any bus stop shall be primarily determined by the following considerations:

- maximizing safety
- operational efficiency
- minimizing impacts to adjacent property and public right of way

D. Bus pullouts may be required on all arterial and collector roads for safe bus berthing and to minimize impacts to traffic flow by buses stopping.

E. All RGS and RFTA shall be identified with signage. This may include pavement marking and bus stop signs.

F. Passenger shelters may be required for some bus stops. Such shelters shall be designed to RGS and or RFTA standards and the location shall be approved by the City Engineer and Transportation Engineer prior to installation.

5.8.3 MAILBOXES

A. During construction, existing mailboxes shall be accessible for the delivery of mail or, if necessary, mail will be held at the local post office. The mailboxes shall be reinstalled at the original location or, if construction has made it impossible, to a location as approved by the U.S. Postal Service Post Master.

B.

C. Cluster boxes built to accommodate mail for more than 5 street addresses are not allowed in public right-of-way without the express written approval of the City Engineer. Requests to place these types of structures in the ROW must include site specific reason(s) why a standard US Postal Service-approved mailbox or mailbox cluster cannot be used.

5.8.4 GUARDRAILS

For the purposes of design and location, all guardrails along roadways shall conform to the criteria of the most recent versions of the CDOT M&S Standard Plans. Guardrails shall be installed by an approved guardrail contractor.

Commented [AD24]: Add 60.....

5.8.5 RETAINING WALLS

- A. Retaining walls in the public right of way over 4 feet in total height shall be designed by a Colorado licensed structural professional engineer and submitted to the City for approval.
- B.
- C. All walls over 4' in total height require a building permit.
- D. If a wall greater than 4 foot is constructed without approval, applicant will be responsible for supplying all above material and shall be charged for work without permit.

5.9 PARKING DESIGN

The following design standards of this Section shall be met for all public and private parking areas, except where the parking area is to serve a single-family or two-family dwelling unit. The number of parking spaces required is included in the Glenwood Springs Municipal Code Article 070.040.060.

- E. Parking Stall Design Standards: Parking stalls shall meet the following standards, based on stall type. Table 5-16 Standard Parking Dimension Standards

Parking Angle (degrees)	Curb Length C	Stall Depth D	Aisle Width		Bay Width	
			One Way A1	Two Way A2	One Way B1	Two Way B2
90	9'	19'	24'	24'	62'	62'
60	9'	21'	18'	22'	60'	64'
45	9'	19.8'	13'	20'	52.6'	59.6'
30	9'	17.3'	12'	20'	45.6'	54.6'
0	22'	8'	12'	20'	20'	36'

Table 5-17 Compact Car Parking Dimension Standards

Parking Angle (degrees)	Stall Width C	Stall Depth D	Aisle Width		Bay Width	
			One Way A1	Two Way A2	One Way B1	Two Way B2
90	8'	15'	24'	24'	54'	54'
60	8'	17'	18'	22'	52'	56'
45	8'	16'	13'	20'	29'	36'
30	8'	14'	12'	20'	26'	34'
0	18'	8'	12'	20'	20'	28'

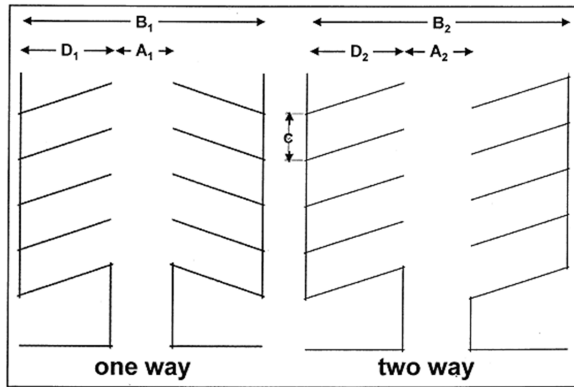


Figure 5-2 Parking Dimension Diagram

- F. Spaces shall be designated for compact vehicle parking by means of a permanent, raised identification sign.
- G. Outdoor parking areas shall not exceed eight percent (8%) of grade and shall be not less than one percent (2%) of grade. The cross slope of any parking or loading space shall not exceed five percent (5%) of grade.
- H. Accessible parking spaces shall be in accordance with the Americans with Disabilities Act. Accessible parking spaces are to be located to maximize convenience of access to the facility and minimize the need to cross the flow of vehicular traffic.

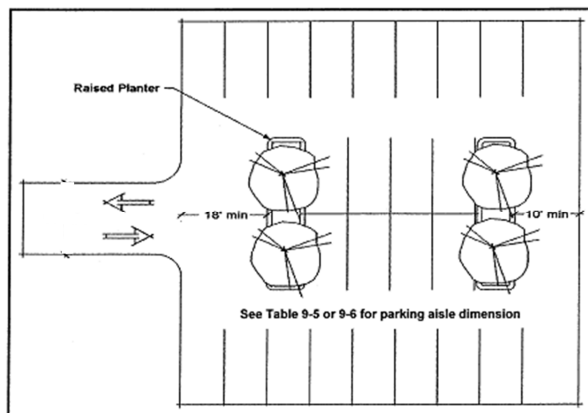


Figure 5-3 Drive Aisles

- I. For any drive-in or drive-through retail or service use, there shall be provided stacking space for vehicles waiting for service, which space is sufficient to prevent any such vehicles from

extending onto the public right-of-way at any time. A minimum of (4) such stacking spaces be provided for each such service bay, window or counter on the entrance side, and one (1) such space on the exit side where an exit is provided. Parking spaces required for such service bay uses may be counted among the required stacking spaces.

- J. Turnarounds are provided for dead-end parking bays.. Turnarounds must be identified with a sign or surface graphic and marked "no parking." The use of accessible parking spaces as the required turnaround is not permitted.

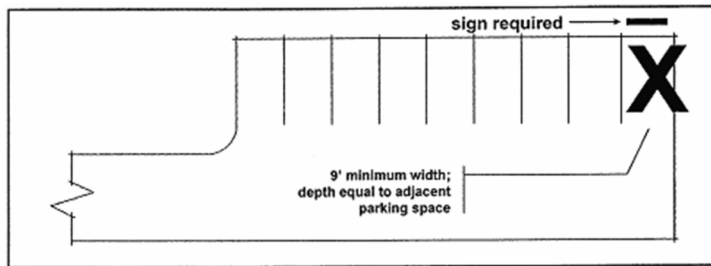


Figure 5-4 Parking Turnaround Spaces

Commented [AD26]: Edit to do so the proper design

K. Parking Access:

1. No parking stall is located so as to block access by emergency vehicles.
2. Suitable curbs or barriers to protect public sidewalks and to prevent parking in areas where parking is not permitted shall be provided.

- L. Vehicle Overhang and Parking Area Walkway Design - Wheel or bumper guards must be located so that no part of a vehicle extends beyond a parking area boundary line, intrudes on a pedestrian way, or contacts any wall, fence, or planting. A vehicular overhang may, however, intrude into a private pedestrian way located on the perimeter of a parking lot if the pedestrian way is greater than six feet in width. Walkways shall have a minimum effective (exclusive of vehicle overhang) width of four (4) feet.

1. Walkways within the site shall connect areas or points of pedestrian origin and destination and shall not be located and aligned solely based on the outline of a parking lot configuration. The on-site pedestrian system must be designed to provide connections to major pedestrian and bicycle destinations such as parks, schools, trail connections, bicycle facilities and transit stops that are located either within the development or adjacent to the development. Walkways shall link street sidewalks with building entries through parking lots.
2. Where it is necessary for the primary pedestrian access to cross drive aisles or internal roadways, a pedestrian crossing shall be placed and shall emphasize and place priority on pedestrian access and safety. The material and layout of the pedestrian access shall

be continuous as it crosses the driveway with the break occurring in the continuity of the driveway paving. The pedestrian crossings must be well marked using pavement treatments, signs, striping, signals, lighting, traffic calming techniques, median refuge areas and landscaping.

- M. Parking Study: At the discretion of the City Engineer, a parking study may be required to demonstrate that adequate parking is provided either for parking provided per zoning requirements or in conjunction with a parking reduction request. The scope of a parking study may consist of analysis of any or all of the following factors: joint use of parking areas, peak parking demand for each land use, unusual parking demand based on type of land use, availability of nearby on-street parking, vicinity of high frequency transit, and Institute of Transportation Engineers Parking Generation estimates.
- N. Loading areas – reference Glenwood Springs Development Code Article 070.040.060.
- O. Garages and carports. Parking requirements may be met by garages and carports covering or enclosing spaces which comply with minimum space size provisions of these Standards. Minimum vertical clearance between driving surface and ceiling shall be seven (7) feet.
- P. Location of parking spaces – reference Glenwood Springs Development Code Article 070.040.060.

5.10 TRAFFIC IMPACT ANALYSIS STANDARDS

5.10.1 GENERAL CONSIDERATIONS

Reference Documents and Acronyms

Glenwood Springs Long Range Transportation Plan (2015-2035) (**L RTP**)

State Highway 82 Access Control Plan, CDOT (**ACP**)

State Highway 82 Corridor Optimization Plan, CDOT (**COP**)

Intermountain 2040 Regional Transportation Plan, CDOT (**IMTPR**)

State Highway Access Code, CDOT (**SHAC**)

Trip Generation Manual, Institute of Transportation Engineers (**ITE**)

Parking Generation Manual, (**ITE**)

Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way, US Access Board (**PROWAG**)

Glenwood Springs Comprehensive Safety Action Plan (**CSAP**)

5.10.2 TRAFFIC STUDY

Any development that ultimately accesses a CDOT Right of Way may be required to obtain a CDOT access permit. Traffic studies for single-family and duplex developments are not required by the City.

A. Traffic Assessment

A Traffic Assessment (TA) is required for any proposed development that is expected to generate less than 100 peak hour trips for commercial/industrial sites or less than 20 peak hour trips for residential sites. The City Engineer will require an applicant to submit a Traffic Assessment. The Assessment shall include a peak hour and daily trip generation study projection (compared to existing condition if site triggered change of use), proposed parking supply, an accessibility plan, and may require additional information as determined by the City Engineer.

B. Traffic Impact Study

1. A Traffic Impact Study (TIS) is required for any proposed development that is expected to generate 100 or more peak hour trips for commercial/industrial sites or 20 or more peak hour trips for residential sites to evaluate the overall impacts of the site on the transportation system.
2. For any site adjacent to State Highway 82 within the City Limits is governed by the SH 82 Access Control Plan. The ACP defines future access conditions along the corridor and can be amended only through a comprehensive study and consequent agreement by all parties (CDOT and the City) to approve the change. All applications for redevelopment along this corridor require review by CDOT and should adhere to state requirements, guidelines, and principles. For development along US 6 within the City Limits, excluding the section from Donegan Road to Laurel Street CDOT is also the

primary reviewer and studies should adhere to state requirements, guidelines, and principles.

C. Responsibilities for Traffic Impact Studies

The Applicant for development or redevelopment approval shall be responsible for assessing all traffic impacts associated with a proposed development, including impacts during construction. The City and/or the City and State will serve in a review and approval capacity.

D. Preparation and Certification

Traffic Assessments and Traffic Impact Studies shall be prepared by an Engineer registered in the state of Colorado with adequate experience and expertise in transportation planning and engineering. The Engineer shall be identified in the TA or TIS and shall stamp the final report.

E. Coordination with the City

Transportation consultants and Engineers preparing Traffic Assessments or Traffic Impact Studies shall discuss proposed development projects with the City Engineer prior to gathering data or initiating the study in a Pre-TIS Meeting. Issues to be discussed include, without limitation, the LRTP, definition of the study area, relevant subarea plans, collection of traffic data, methods for projecting build-out volumes, background traffic conditions, trip generation, trip reductions, directional distribution of traffic, trip assignment, transit considerations, and bicycle and pedestrian accessibility. These aspects of the Traffic Impact Study shall be approved by the City Engineer prior to study preparation.

F. Submittal

A Traffic Assessment and a Traffic Impact Study shall be prepared in conformance with the information required in the following section of these Standards.

5.10.3 TRAFFIC STUDY FORMAT

A. Study Requirements

The information provided in the Traffic Impact Study shall include the following sections as outlined below. The study shall be typed in electronic form and clearly identify the data and information in the appropriate sections. In addition, the study shall contain a table of contents, lists of figures, list of tables, and appendix that includes all data, calculations, and capacity worksheets necessary to document the analysis. The information provided in the Traffic Assessment shall only include sections B, C, J, K and L below.

B. Introduction

The Study shall provide an introduction with an overview and specific discussion of the project or development proposal.

C. Site Location and Zoning

The study shall include a vicinity map detailing the property location; a conceptual site plan reflecting the boundaries of the project or development, access points, pedestrian facilities; and

information detailing the designated zoning district, general terrain and physical features of the site and the surrounding area.

D. Study Area Boundaries

The study shall include the Study Area Boundaries as determined based on discussions with the City Engineer in the Pre-TIS meeting and include all roadways and transportation routes providing access to the site and the surrounding transportation system.

E. Existing Transportation System

The study shall describe and include roadway orientations, functional classifications and geometries, intersection geometries, and traffic controls, including without limitation signage and striping, speed limits, parking restrictions, sight distance, transit routes and stops, the presence of on- and off-street bicycle and pedestrian facilities, and any other related traffic operations information and improvements approved or planned by government agencies. For identified improvements scheduled by government agencies, include the nature of the improvements, extent, implementation schedule, and the agency or funding source responsible.

F. Existing and Projected Roadway and Intersection Traffic Volumes

1. The study shall include diagrams that map existing daily and peak hour traffic volumes, and each variation of projected traffic volumes, for all roadways and peak hour volumes including pedestrian and bicycle volumes at intersections within the study area. Also provide diagrams that map the existing intersection and roadway laneage and traffic control devices within the study area.
2. Existing traffic volumes shall be collected during a mid-week day (Tuesday – Thursday) preferably during the school year, unless the City Engineer agrees that the site is minimally affected by school traffic. Data collected for traffic studies shall include general traffic, pedestrian and bike traffic, transit and school vehicles, and heavy vehicle percentages. Peak hour factors established during the traffic counts shall be considered for use in the capacity analysis by approach. The existing counts shall be factored by the seasonal factors established at the CDOT Automatic Traffic Counter #000214 on the south end of SH 82, which will be provided by the City Engineer.
3. Traffic projections and forecasting methodology shall be discussed at the Pre-TIS Meeting and approved by the City Engineer. Traffic counts shall be scheduled with the City Engineer at least two days in advance of deploying traffic counters in the field.

G. Existing and Proposed Site Uses

The study shall include an identification of the existing (or previous) land use and proposed land use or the highest potential land use based on zoning and maximum trip generation where a specific use has not been determined. If rezoning is proposed, the study shall provide a comparison between the highest trip generation uses for the existing zoning and the highest trip generation uses for the proposed zoning. If actual trip generation volumes can be observed and documented from the existing site, these volumes shall be used over those estimated using *ITE Trip Generation* for comparative purposes.

H. Existing and Proposed Land Uses in the Study Area Boundaries.

The study shall document any vacant land or potential redevelopment that may result in a change in traffic volume conditions within the study area during each traffic scenario studied. Perform and provide trip generation on these parcels and include the trips generated from these parcels in the trip volume diagrams and level of service analyses for each appropriate traffic scenario studied. If available, information in approved Traffic Impact Analyses within the last two years may be used instead of performing trip generation on these parcels.

I. Trip Generation

Traffic estimates for the proposed project and potential developed or redeveloped properties in the study area shall be obtained by performing trip generation using the procedures outlined in the most current edition of Trip Generation Manual of the Institute of Transportation Engineers (ITE). If adequate Trip Generation Manual data is not available for a specific land use, the procedures used to estimate trip generation data shall be approved by the City Engineer. Include the following specific trip generation information:

1. **Summary Table:** List each proposed (or approved) land use that requires trip generation analysis, including the project and any developed or redeveloped land uses within the study area. For each trip generation summary include land use type, amount, size, intensity, average trip generation rates for total daily traffic and peak hour traffic entering and exiting the site (a.m., noon and/or p.m. peak hour traffic generation may be required), and the resultant total peak hour and daily trips generated for each time period and each land use.
2. **Calculations:** Calculation of projected trip generation for any land use, used to determine study area impacts, shall be based on the following:
 - a. Trip generation formulas (or rates, if formulas are not available) published in the most recent version of the Trip Generation Manual. Trip generation reports from other industry publications may be considered but are subject to the approval of the City Engineer.
 - b. A local trip generation study conducted within the last two years, following procedures outlined in the most recent version of the Trip Generation Manual, if no published rates are available and similar land uses can be studied.
 - c. Additional data or studies from other similar jurisdictions. Trip generation obtained in this fashion is subject to the review and approval of the City Engineer.
3. **Trip Generation Reductions:** Credit for any trip reductions is subject to review and approval in advance by the City Engineer. Anticipated trip reduction assumptions should be discussed and approved by the City Engineer at the Pre-TIS meeting. Trip reductions typically fall into one of two categories: those that reassign some portion of the trip generation from the surrounding roadway network (passerby and diverted trip reductions), and those that remove trips generated from the land use trip generation (internal and modal split reductions).

- a. Use of passerby and diverted trip reductions may be evaluated and considered in reducing the additional estimated total trip generation of a new land use. However, passerby and diverted trip reduction factors are not to be applied directly to reduce trip generation and turning movement volumes at driveways serving the studied land use. These factors are subject to the approval of the City Engineer.
- b. Internal trip reductions and modal split assumptions may reduce the total trip generation of a land use. These factors considered in the Traffic Study shall supply analytical support and detailed documentation to demonstrate how the estimates were derived and incorporated, and are subject to the approval of the City Engineer.

J. Trip Distribution, Trip Assignment, and Modal Split

Trip distribution and assignment of any generated traffic estimates shall be clearly summarized and illustrated for each access route entering and exiting the generating land use, using the study area transportation system and existing traffic splits as a basis. If applicable to the site, a modal split may be assumed to further reduce the vehicular trip generation of the site, and the resultant non-vehicular trips shall be documented in the study. Include the following specific trip distribution and assignment information:

1. **Trip Distribution:** The trip distribution for each site shall be identified and illustrated with a graphical figure detailing the percentages making each movement, at each access and intersection in the study area. The trip distribution shall be logically based upon factors such as the site's location within the City, existing traffic volume data in the study area, market analyses, applied census data, and/or professional engineering judgment. Trip distribution assumptions are subject to the approval of the City Engineer upon review of the existing traffic volumes.
2. **Trip Assignment:** Trip assignment shall be done by applying the trip generation totals for each scenario studied, to the trip distribution percentages developed. The trip assignment shall develop anticipated traffic volumes for each of the movements identified by the trip distribution and each of the scenarios identified in the analyses. The resulting traffic volumes shall be illustrated with graphical figures detailing the anticipated volumes making each movement, at each intersection in the study area, during each scenario studied.
3. **Modal Split:** The number of vehicular trips generated by the site may be reduced by a modal split assumption approved by the City Engineer. Modal splits account for trips made by a mode other than a car, i.e. transit, bicycle, or pedestrian trips. Modal splits are highly influenced by the site's use, surrounding topography, and its proximity to transit routes, connective sidewalks, and trails.

K. Existing and Projected Traffic Volumes

Traffic Volume Scenarios: Five traffic volume scenarios and three separate times of the day may be required to be included in a Traffic Impact Study analysis. The applicant shall meet with the City Engineer to determine the scenarios and time periods to be studied, prior to the development of the Traffic Impact Study. The potential scenarios and time periods include the following:

- a. Scenario 1 – Existing Conditions: An operational analysis of existing traffic conditions will be required in the Traffic Impact Study. Existing Conditions analysis should attempt to model traffic conditions at the time the traffic study is being prepared. Traffic counts that are older than the year the study is being prepared shall be factored up or adjusted to existing year volumes by a factor provided by the City Engineer.
 - b. Scenario 2 – Anticipated Project Completion Year Without Project Traffic: Include an analysis of the anticipated traffic conditions during the year the project is intended to be finished and traffic is generated. The analysis shall anticipate the increase in background traffic volumes and the generation of other related projects that are not present in the existing condition, but would likely be completed, and generating trips in this time period. The trip generation for the proposed project shall not be included in this scenario. If the project is intended to be completed the same year that the Traffic Study is being prepared, then this scenario is the same as Scenario 1 - Existing Conditions.
 - c. Scenario 3 – Anticipated Project Completion Year With Project Traffic: This scenario is the same as Scenario 2, except that the project volumes are assigned to the roadway network and included in the analyses.
 - d. Scenario 4 – Future Buildout Conditions Without Project Traffic: An analysis of the anticipated traffic conditions, using the projected buildout year defined as 20 years from the Existing Conditions scenario, based on the applicable CDOT 20-year growth factor. The analysis shall anticipate the increase in background traffic volumes and the generation of other related projects that are not present in the existing condition, but would likely be completed and generating trips in this scenario. The trip generation for the proposed project should not be included in this scenario.
 - e. Scenario 5 – Future Buildout Condition With Project Traffic: This scenario is the same as Scenario 4, except that the project volumes are assigned to the roadway network and included in the analyses.
4. **Traffic Volume Projections:** The traffic volume projections shall identify existing and projected daily traffic counts and peak hour turning movement counts for each access point, intersection and street identified in the traffic study area for each of the aforementioned scenarios required in the study.
 5. **Time Periods:** Each scenario may be required to look at three different time periods (the a.m., noon and p.m. peak hour conditions). The City Engineer will determine which time periods and scenarios are required for each Traffic Impact Study depending upon the project's size, location, types of land uses and other pertinent factors.
 6. **Raw Traffic Count Data:** Include all raw traffic-count data for average daily and peak hour conditions and traffic analysis worksheets in the appendices of the Traffic Impact Study for review and reference. Traffic analysis software output may be used for this part of the report.

NOTE: All total daily traffic counts must be actual machine counts for a 24-hour period,

not based on factored peak hour sampling. The latest available machine counts from the City, and other agencies, may be acceptable if they are not more than 2 years old. Use of CDOT seasonal factors to increase raw volumes to seasonal peaks may be applied in establishing the Existing Conditions volumes if determined necessary by the City Engineer prior to conducting the study.

L. Level of Service and Queuing Analysis

1. The City has adopted LOS D as the minimum acceptable level of service for all movements and approaches when evaluating intersection operations. However, we are aware that the LOS for many of the City's intersections with SH 82 is controlled by SH 82 signal timing. Project impacts that maintain LOS D or better for all intersections and street segments may not be required to provide LOS related traffic mitigation improvements. Improvements at SH 82 intersections shall be evaluated and may become part of a developer improvement agreement for implementation at the time the project is constructed, or potentially with partners in the future, dependent upon the traffic impact and responsibility.
2. LOS E and lower peak hour conditions require the implementation of one or more transportation management strategies consistent with the goals and objectives of the LRTP. A transportation management strategy plan required to address and mitigate these conditions may include travel demand management, land use intensity reduction, site design, layout and access modifications, parking reduction measures, or transportation infrastructure improvements.
3. The Traffic Impact Study shall provide LOS analyses for all study area intersections (signalized, roundabout controlled, and unsignalized) using methodologies outlined in the current Highway Capacity Manual or other nationally accepted methods. The analyses should be performed for Scenarios 1 through 5, described in Section 5.10.3(K), "Existing and Projected Traffic Volumes," and for each time period (a.m., noon and/or p.m. peaks) that is required in the Traffic Impact Study, unless otherwise required by the City Engineer.
4. Level of service analyses shall consider the appropriate infrastructure, lane usage, traffic control and any other pertinent factors for each scenario to be studied. Intersections with planned improvements, discussed in City planning documents, may have those improvements implemented in the level of service analyses.
5. Signalized intersection level of service analyses shall use the existing timing and phasing of the intersections for all scenarios. If the analyses are to deviate from existing timings or phasing, then a detailed signal progression analyses for the affected corridor shall also be provided.
6. The results of the level of service analyses for each scenario and each time period shall be summarized into one or more tables that illustrate the differences in level of service for each scenario. At a minimum, these tables shall list the level of service results for each intersection to include the level of service for each movement and approach and the total intersection level of service, as well as the appropriate delay values for each

movement and approach and the total intersection. These tables shall highlight any locations where the addition of project traffic has caused any approach of any intersection to fall below the LOS D standard for the City.

7. In addition to Level of Service, the 95th percentile queue lengths shall be calculated for all movements affected by project traffic. The 95th percentile queue lengths determined for Scenario 5 represent the future turn lane demand (needs) and should be utilized for design or extension of any turn lane.

M. Traffic Counts and Analysis Worksheets

The Study shall provide capacity analysis calculations based on the planning or operational analysis techniques contained in the current Highway Capacity Manual or subsequent highway capacity techniques established by the Federal Highway Administration, including the following:

1. **Raw Traffic Count Data:** Include all raw traffic count data for average daily, hourly Average Daily Traffic (ADT), and peak hour conditions and traffic capacity analysis output or worksheets in the appendices of the traffic study for reference. Computer programs and associated printouts may be used for this part of the report.
2. **Level of Service Analyses:** Include all level of service analyses performed for intersections. Traffic analysis software output may be used for this part of the report. If signal timing or phasing changes are proposed for traffic mitigation and the signal is currently part of a coordinated system, a progression analysis will be required to ensure that adequate progression is maintained or provided. All progression analysis and assumptions to be used shall be reviewed and approved by the City Engineer (generally with input from CDOT).

N. Traffic Control, Roundabouts, and Traffic Signals

The Traffic Study shall discuss and analyze any traffic control measures that may be necessary to serve a proposed project or development. Any traffic control measures are to be evaluated based on the requirements established in the Manual on Uniform Traffic Control Devices (MUTCD) and by the City, and will be applied as necessary to ensure safe and efficient operation of the City's transportation system. The analysis shall demonstrate the need for traffic control measures considering the objectives and policies of the LRTP, CSAP, and alternative site designs in order to minimize or mitigate traffic impacts from the proposed project or development. The following traffic control measures are to be addressed:

1. **Regulatory Signage, Markings and Islands:** These traffic control measures shall be applied as necessary in conformance with the MUTCD and City standards and policies.
2. **Traffic Signals:** The installation of new traffic signals is discouraged by the City and all possible alternatives to signalization, including roundabouts, shall be evaluated before the installation of a new traffic signal will be considered. The need for new traffic signals will be based on warrants contained in the MUTCD and on City policies. In determining the location of a new signal, safety and community traffic circulation and progression will

be the primary considerations. If a traffic signal is suggested as part of a mitigation package, and the intersection lies within a series of coordinated traffic signals, then a progression analysis will be required to ensure that adequate progression may still be provided along the corridor. Generally, a spacing of one-half mile between all signalized intersections is to be maintained, to achieve optimum capacity and signal progression. Pedestrian and bicycle movements shall be considered in all cases and adequate pedestrian clearance is to be provided in the signal design and timing plan.

3. **Intersection and Access Locations:** To provide flexibility and safety for the existing roadway system and to ensure optimum two-way signal progression, an approved traffic engineering analysis shall be made to properly locate all proposed intersections that may require signalization, and any accesses to the proposed development.

O. Transportation Demand Management Strategies

The study shall include an outline of transportation demand management (TDM) strategies to mitigate traffic impacts created by proposed development and implementable measures for promoting alternate modes of travel, including but not limited to the following:

1. **Site Design:** Incorporate design features that facilitate walking, biking, and use of transit services to access a proposed development, including features such as transit shelters and benches, site amenities, bike racks, site design layouts to increase convenience of alternate modes and reduce multiple trips to and from the site, and direct connections to existing offsite pedestrian, bicycle, and transit systems.
2. **Programs and Education:** Incorporate alternate modes programs, such as providing transit passes to employees and residents, van pooling to the site by a major employer, ride-sharing, parking pricing, and planned delivery services, and educational measures such, as promoting telecommuting, distributing transit schedules and trails maps, and providing an onsite transportation coordinator or plan to educate and assist residents, employees, and customers in using alternate modes.

Commented [MF27]: Discuss enforceability or ability to implement this requirement with the city.

P. Traffic Accident Analysis

When required, the Traffic Impact Study shall include accident analyses at one or more locations in the study area. The City Engineer shall specify whether such accident analyses are needed for each Traffic Study. Where required, estimates of increased or decreased accident potential shall be evaluated for the proposed project or development and appropriate safety related mitigation measures are to be included. Traffic accident data is available from the City of Glenwood Springs' Police Department or from the City Engineer.

Q. Recommendations

1. The Traffic Study shall include a section in the report that provides any recommendations of the Engineer. These recommendations shall include the Engineer's recommended location, nature and extent of proposed transportation improvements associated with the project or development to ensure safe and efficient roadway operations and capacity, and compatibility with the City's transportation system

and the goals of the LRTP. Proposed TDM programs and the anticipated traffic reductions associated with each program shall be documented in the Recommendations.

2. These recommendations are to be supported with appropriate documentation and discussion of the technical analyses, assumptions and evaluations used to make the determinations and findings applied in the Traffic Impact Study. In the event that any Traffic Impact Study analyses or recommendations indicate unsatisfactory levels of service at any study area intersections, a further description of proposed improvements or mitigation measures to remedy deficiencies shall be included.
3. These proposed improvements or mitigation measures may include projects by the City, County, RFTA, or The Colorado Department of Transportation for which funds have been appropriated and obligated. These proposals may also include improvements to be funded and constructed by the applicant as part of project or development construction. Assumptions regarding future roads, widths and lane usages in any analyses are subject to the approval of the City Engineer.
4. In general, the recommendation section shall include:
 - a. Proposed and Recommended Improvements: Provide a detailed description and sketch of all proposed and recommended improvements. Include basic design details showing the length, width and other pertinent geometric features of any proposed improvements. Discuss whether these improvements are necessary because of development traffic or whether they would be necessary due to background traffic. Specify the approximate timing necessary for each improvement.
 - b. Level of Service Analysis at Critical Points: Provide another iteration of the LOS analyses that demonstrates the anticipated results of making recommended improvements, such as movement LOS, operational and safety conditions and conformance with the City's transportation system goals and the LRTP. In association with LOS analyses for recommended improvements, include a comparison of these results with the background LOS analyses without the proposed project or development. Where appropriate, this step is to be provided for both near term (year of project completion) and 20-year buildout scenarios.
 - c. Assessment of Site Access: Provide a detailed assessment of the site access point(s) at the intersection of the public street and along all proposed facilities to demonstrate adequate sight distance and accessibility requirements are provided for vehicles, bicyclists and pedestrians using the driveway and sidewalk facilities. Sight distance requirements are defined in **5.2.11**.

R. Conclusion

Include a conclusion in the report that provides a clear and concise description of the study findings and recommendations, and serves as an executive summary.

S. Revisions to Traffic Study

1. Following City review, the City Engineer may require revisions to a traffic study based on

the following considerations:

- a. Completeness of the study,
- b. Thoroughness of the level of service, queuing, and impact analyses and evaluations,
- c. Compatibility of the study with the proposed access design, project or development plan and local transportation system,
- d. Compliance with local and state regulations and design standards, and
- e. An analysis of study deficiencies, errors, or conflicts.

APPENDIX – TRANSPORTATION STANDARD DRAWINGS

CITY STANDARD DRAWINGS	Filename
1. Arterial Roadway Typical Section	
2. Collector Roadway Typical Section	
3. Local Street Typical Section	
4. Alley Typical Section	
5. Private Street Typical Section	
6. Driveway Installation	
7. Driveway Installation Sidewalk Through Driveway	
8. Non-Curbed Street Driveway and Culvert	
9. Reserved	
10. Reserved	



Chapter 4

Stormwater Standards

City of Glenwood Springs Engineering

Revised 2024

Chapter 4 Stormwater Standards

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Chapter 4 Stormwater Standards

I. Introduction

The standards in this chapter are intended to be applied by The City of Glenwood Springs Engineering Department while reviewing proposed drainage facilities and stormwater discharges associated with development and redevelopment projects. They are also intended to comply with the most recent version of the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division's (WQCD) Colorado Discharge Permit System (CDPS) Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (MS4s) and the most recent version of the Mile High Flood District (MHFD) Urban Storm Drainage Criteria Manual.

A variety of stormwater management techniques shall be implemented to address the impacts of development. Proper management of stormwater runoff minimizes damage to public and private property, protects infrastructure, safeguards the public health, safety, and general welfare, and protects water resources and aquatic wildlife.

This chapter establishes design and review criteria for the construction, function, and use of stormwater best management practices (BMP's) that may be used to meet the minimum development standards. It also establishes the long-term responsibility and maintenance of BMPs to ensure that they continue to function as designed, are maintained appropriately, and protective of public safety.

The Urban Drainage and Flood Control District (UDFCD) has developed a lengthy and robust Urban Storm Drainage Criteria Manual (USDCM). Volume 3 of the USDCM (Volume 3) includes extensive language covering the importance of stormwater quality treatment and the functional mechanisms associated with various types of treatment facilities. It also includes detailed design guidance and criteria that are updated frequently based on ongoing field research on the functionality of various treatment facilities. While the climate and topography of Glenwood Springs are different from those in the Denver metro area, Volume 3 is a valuable reference and is cited throughout this Chapter.

The following is a summary of the minimum standards. This summary should only serve as a guideline for general understanding of stormwater management requirements in Glenwood Springs and for development of a conceptual design. Detailed and specific requirements are included throughout Chapter 4, that have the potential to significantly impact a site's design.



II. Minimum Standards

- A. Better Site Design – Site designs should preserve the natural drainage and treatment systems, reduce the generation of additional stormwater runoff and pollutants, and fully increase infiltration of stormwater into the ground rather than into hard infrastructure practicable.
- B. Water Quality Capture Volume (WQCV) – New development and redevelopment shall treat a volume of water equal to the 80th percentile runoff event for their site. This volume has been sized to remove 90% of particles greater than 60 microns in size by releasing the WQCV over a 12-hour period. The WQCV is determined based on the site's impervious area and can be reduced as impervious area is reduced.
- C. Detention – New development and redevelopment shall detain for the minor and major storm event up to the point that the stormwater system downstream can accommodate. In most cases, a site will be controlling the post-development peak discharge rate to the predevelopment rate for the 2-year event and 25-year event.
- D. Stormwater system – The downstream system from each site must be able to safely pass flows from the 2- or 25-year and 100-year event. A downstream hydrologic analysis must be performed to determine if there are any additional impacts in terms of peak flow increase or downstream flooding while meeting minimum standards #2 and #3. This analysis must be performed at the discharge points of the site and, at a minimum, at the next two downstream structures.
- E. Floodplains: Development and redevelopment is regulated in all floodplains and flood ways as delineated by FEMA and State regulations. Developments within these areas will be required to determine flood plain elevations for their site through a Floodplain Development Permit, see Chapter 1 for permit and guidance. Other requirements are detailed in City Municipal Code Section 070.040.020(d) Development in Waterways and Areas of Special Flood Hazards.
- F. Geologic Hazards: Development and redevelopment is restricted in those areas recognized in the Geologic Hazard Ordinance City Municipal Code Section 070.040.020(c) Development in Areas of Geologic Hazard.

III. Definitions and Abbreviations

- A. BMP-Best Management Practice: A device, practice, or method for removing, reducing, retarding, or preventing targeted stormwater runoff constituents, pollutants, and contaminants from reaching receiving waters.
- B. CDPHE-Colorado Department of Public Health and Environment: The principal department of the Colorado State government responsible for public Health and environmental agency. This is the permitting agency for water quality permits. Colorado Department of Public Health and Environment (CDPHE).
- C. CDPS-Colorado Discharge Permit System: Permitting system for all stormwater permits through CDPHE.
- D. CMP- Construction Management Plan



- E. Culvert: A transverse facility to convey water under a roadway or railway.
- F. EPA- Environmental Protection Agency: An independent executive agency of the United States federal government tasked with environmental protection matters.
- G. FILO- Fee in Lieu of: A fee designed to be paid instead of installing public infrastructure.
- H. Historic: Conditions prior to any land development (i.e., native/undisturbed).
- I. Major Storm: 100-year (1% chance) storm event.
- J. MHFD- Mile High Flood District: Denver Area stormwater management resource.
- K. MDCIA- Minimizing Directly Connected Impervious Area: A variety of runoff reduction strategies based on reducing impervious areas and routing runoff from impervious surfaces over grassy areas to slow runoff and promote infiltration. The concept of MDCIA has been recommended by MHFD as a key technique for reducing runoff peaks and volumes following urbanization.
- L. Minor Storm: 25-year (4% chance) storm event.
- M. LID- Low Impact Development: Refers to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater in order to protect water quality and associated aquatic habitat.
- N. Professional Engineer: A qualified State of Colorado registered professional engineer that ensures that a site feature (stormwater, walls, grading, etc.) are installed correctly as specified in the design.
- O. Stormwater System: Storm systems include streets, curbs, gutters, inlets, culverts, pipes, outfalls, roadside ditches (swales), detention areas, ponds, wetlands, the Roaring Fork and Colorado Rivers and their tributaries within City boundaries to which stormwater is collected and conveyed.
- P. USDCM- Urban Storm Drainage Criteria Manual: Manual (Volumes 1, 2, and 3) developed by MHFD for guidance on stormwater management.
- Q. WQCV- Water Quality Capture Volume: The runoff retention capacity of a BMP that is designed to capture and treat, at a minimum, the 80th percentile runoff event from an entire site, i.e., 80 percent of the most frequent occurring storms are fully captured and treated and larger events are partially treated.

4.1 Overview of Requirements

- A. Unless specifically exempted, no development, disturbance of land, or construction shall be undertaken without first having been reviewed, approved, and issued a permit compliant with the requirements of the Engineering Standards. Unless specifically exempted, no building shall be erected, moved, or structurally altered without a building permit issued pursuant to the Glenwood Springs Municipal Code. This Chapter provides detailed guidelines on the development and building permits that require engineering review. For complete requirements, refer to the Glenwood Springs Municipal Code



- B. All development and redevelopment projects in the City of Glenwood Springs that will:
- Increase the amount of impervious area on a site (this includes adding hard surface patios, increasing the footprint of the house, etc.)
 - Disturb more than 200 square feet of land on the site (this includes grading, even if a structure or hard surface is not added, as well as “scrape and replace” of impervious area),
- are required to an engineering review as part of the building permit, ROW permit, or grading permit application review process.

Refer to Table 1.0 for a guide on the requirements by the size of the project and subject property.

Table 1.0 General Requirements for Projects

Project Description	Area Added or Disturbed	General Requirements
Disturbing less than 200 SF	<200 SF	No Requirements
Landscaping or grading only, no impervious and or change to the drainage pattern.	200-1000 SF	• CMP
Landscaping or grading only that might include hardscape or change in grade or drainage pattern, small additions, small scrape and replace.	200-1000 SF	• WQCV or drain to green-space • CMP • Drainage Letter • FILO
Replacement of existing hardscape	Limited to footprint of existing hardscape	• CMP • WQCV or drain to green space for impervious area. • FILO
Existing Lot Coverage 50%-100%	>200 SF	• CMP • WQCV for Entire Area • Conveyance for Flows • Detention to the Undeveloped rate Drainage Report or FILO • Requires a Professional Engineer
Landscaping, grading, installing or disturbing hardscapes, additions to structures	>1000 SF	• CMP • WQCV for Entire Area • Conveyance for Flows • Detention to the Changed rate Drainage Report or FILO • Requires a Professional Engineer



Notes:

- Special Circumstances: Any work, regardless of amount or size, performed on historic properties, in environmentally sensitive areas, geologic hazard areas, in jurisdictional or non-jurisdictional floodplains may be required to submit information for permit review and may be required to provide a more detailed drainage analysis and design than suggested in the table above.
- Pre-project lot coverage is determined by dividing the total hardscape footprint on the lot (house, driveway, patios, sidewalks, etc.) by the total lot area. Interior demolition is measured by the square footage of the room renovated/modified divided by the total square footage of the structure.

4.2 Review and Acceptance

- A. The City shall review all drainage submittals for general compliance with the Engineering Standards. An acceptance by The City does not relieve the owner, engineer, or designer from the responsibility of ensuring that the design, calculations, plans, specifications, construction, and record drawings follow the criteria as stated in the owner's and engineer's certifications.
- B. The City may, but is not required to, refer submittals to other agencies that have an interest or responsibility for drainage and/or water quality issues. Other review agencies may include local or State agencies, such as the Colorado Water Conservation Board or the Colorado Geologic Survey, responsible for floodplain and water quality, slope stability, mudflow analysis, geology, water rights and other stormwater related issues.

4.3 Stormwater Fee in Lieu

- A. The city recognizes that the stormwater infrastructure requirements may be difficult to achieve due to site constraints and costs. To help mitigate these constraints The City has provided the option of payment of a voluntary fee-in-lieu of detention (FILO). The amount of the fee is based on the estimate of the cost of providing detention in Glenwood Springs. However, if a developer can show that their cost of detention is less than The City cost estimate, The City has the option of accepting this lesser amount or asking the developer to build on-site detention.
- B. The average calculations showed that the volume of detention needed is approximately 7.3 cubic feet of rainwater runoff per 100 square feet of impervious area for the maximum design storm. The city reviewed engineer cost estimates and called local contractors to determine that it cost approximately \$50.00 per cubic foot of detention in Glenwood Springs. The FILO then works out to be \$365 per 100 square feet of impervious area added or redeveloped. The fee can be referenced in the Municipal Code 70.40.30(e)(2)
- C. The fees collected through the FILO program will be used to improve conveyance and detention throughout the city and reduce impacts of urban runoff on the rivers.



- D. Exceptions can be made to the FILO or detention requirements, and any development can apply for a variance by following the procedures outlined in Chapter 1 of the Engineering Standards.

4.4 Drainage Letter and Report

- A. The purpose of the Drainage Plan and Report is to identify and refine conceptual solutions to the drainage changes that may occur onsite and offsite because of the development. These reports are required, unless determined by the City Engineer Department to be unnecessary.
- B. Preparation of plan documents shall follow the standards and guidance found in Chapter 1 of the Engineering Design Standards. For projects, all reports shall:
 - C. Be typed on 8½" by 11", electronic, pdf format.
 - D. Contain enough information to describe the existing site, proposed work, explanation of steps taken to reduce impervious area and implement low impact development strategies, pre- and post-drainage patterns, sizing calculations for stormwater management facilities, how chosen facilities should operate and be maintained.
 - E. The site plan, drawings, figures, plats, calculations, and tables shall be included in the plan set.
 - F. Contain a certification sheet that includes the following statement and Professional Engineer's stamp and signature:

"I hereby affirm that this (Type of Report/Letter) and the accompanying plans for the (type or phase design) of (Name of Development) was prepared by me (or under my direct supervision) for the owners thereof in accordance with the provisions of the City of Glenwood Springs Stormwater, Drainage, Water Quality and Erosion Control Chapter and approved variances and exceptions listed thereto. I understand that it is the policy of the City of Glenwood Springs that the City of Glenwood Springs does not and will not assume liability for drainage facilities designed by others."

License No. _____
Licensed Professional Engineer, State of Colorado (Affix Seal)

- G. Drainage Letter
 - a. A Drainage Letter is a short letter prepared for a site that has less than 1000 square feet of impervious added. The letter shall include:
 - b. Description of the existing site, including common location, topography, land use, ground cover, soil type (if known), drainage pattern, riparian areas, wetlands, and receiving system.
 - c. Description of the proposed project, including changes to land use, topography, ground cover, soil type, drainage pattern and receiving system.
 - d. Discussion of any drainage issues.
 - e. Discussion of drainage basins and drainage alterations, including increases in flow, changes in direction, outfalls, etc.
 - f. Description of proposed stormwater conveyance system
 - g. Pervious infrastructure - Description of water quality improvements. Improvements must be made for at least the project area. Describe what efforts have been made to reduce runoff and



increase infiltration (e.g. reduces impervious area, disconnect impervious area, route runoff via landscape rather than hard infrastructure). Demonstrate that 60% of the WQCV is either infiltrated or evaporated.

- h. Impervious infrastructure - Calculations to determine the WQCV and design a BMP that can treat that volume. WQCV and BMP design shall meet the requirements of USDCM Volume 3.
- i. The Drainage Letter shall be stamped and signed by a qualified professional engineer licensed in Colorado.

H. Drainage Report

- a. The Drainage Report shall provide details of the proposed drainage facilities including grading, erosion control, and stormwater treatment.
 - b. The purpose of the Drainage Report is to:
 - c. Describe the existing site, including common location, topography, land use, ground cover, soil type, drainage pattern, location of riparian areas and wetlands, upstream run on and receiving system (all downstream structures to outfall and riparian and wetland areas).
 - d. Describe the proposed project, including changes to land use, topography, ground cover, soil type, drainage pattern and receiving system.
 - e. Discuss any previous drainage studies (i.e., project master plans) for the site that influence or are influenced by the drainage design and the mitigation plan for any impacts.
 - f. Discuss the effects of adjacent drainage issues.
 - g. Provide references to major drainage way planning studies such as flood hazard delineation reports, master plans, and flood insurance rate maps.
 - h. Discuss potential drainage impact of site constraints such as streets, utilities, existing structures, riparian areas, wetlands, and development or site plan.
 - i. Identify all irrigation facilities and waterways within the watershed that will influence or be influenced by the site drainage.
 - j. Describe proposed stormwater conveyance system.
 - k. Pervious infrastructure - Description of water quality improvements. Improvements must be made for at least the project area. Describe what efforts have been made to reduce runoff and increase infiltration (e.g., reduces impervious area, disconnect impervious area, route runoff via landscape rather than hard infrastructure). Demonstrate that 60% of the WQCV is either infiltrated or evaporated.
 - l. Impervious infrastructure - Calculations to determine the WQCV and design a BMP that can treat that volume. WQCV and BMP design shall meet the requirements of USDCM Volume 3.
 - m. Discuss easements and tracts for drainage purposes, including the conditions and limitations for use.
 - n. The report must include printed copies of the input and output files for all computer models used for the analysis and design.
 - o. Reference plan drawings as needed.
- I. The location, type, and design of the stormwater system shall be identified at a construction plan level or 95% design level. The Drainage Report shall provide details of the proposed drainage facilities, including grading and stormwater treatment. Not all designs may be completely finalized during the development process, and minor changes may occur during the development of the construction documents. If changes occur during final construction plan preparation or during construction, a Drainage Report Addendum shall be submitted for review and approval along with



the construction documents. The Drainage Report shall be stamped and signed by a qualified professional engineer licensed in Colorado.

4.5 Floodplain and Geologic Hazard Requirements

- A. Development within areas of special flood hazard must adhere to the standards in City Municipal Code Section 070.040.020(d) Development in Waterways and Areas of Special Flood Hazards.
 - a. Developments within these areas are required to determine the flood plain elevations for their site and complete a Floodplain Development Permit, see the City Municipal Code for permit and guidance.
- B. Development within areas of geologic hazards must adhere to the standards in the Geologic Hazard Ordinance City Municipal Code Section 070.040.020(c) Development in Areas of Geologic Hazard.

4.6 Rainfall

This section provides regionally specific rainfall depth, duration, frequency, and intensity data; runoff data; for use in addressing stormwater management for City projects.

- A. Overview
 - a. Climate: The climate in Glenwood Springs offers mild weather with low humidity and year-round sunshine. Summer weather in Glenwood Springs starts around June or July when temperatures reach 80°F during the day, although temperatures are much cooler during the night. The occasional summer shower can occur at any time, sometimes turning into thunderstorms. Autumn in Glenwood Springs is usually dry and warm and during September daytime temperatures can reach 70°F, but night temperatures can drop to below freezing. Winter daytime temperatures typically range from 20 to 40°F in the City and from 10 to 30°F on the mountain. Once the sun goes down, the temperature drops dramatically. The City of Glenwood Springs often sees isolated short, high intensity storms leading to significant concentrated flooding and debris events.
 - b. Flooding: The current Flood Insurance Study was completed on October 15, 1985. The Mitchell Creek basin was re-mapped and a CLOMER for this floodplain was accepted in 2018. The Flood Insurance Rate Map for Glenwood Springs is, for insurance purposes, the principal product of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevations.
 - c. Peak Flow: The maximum rate of discharge during the period of runoff caused by a storm. The information about peak flows and associated volume of runoff during various floods that have been observed in the past can be compiled with the analysis of the observed discharge data and runoff hydrographs.
- B. Methodology

The methodology used to generate the rainfall data for a project shall depend on the size of the drainage basin being studied. The Design Engineer needs to provide justification for the selected runoff generation method used. Methods available to calculate urban runoff generated in the Glenwood Springs area are:

 - a. Small basins (less than 90 Acres)



- i. Rational Method: This method is the widely accepted method for determining runoff on small sites. This method uses rainfall data in the form of intensity-duration (time)-frequency curves, discussed in this section. The Rational Method becomes less valid over larger areas with larger basins.
 - b. Large Basins (greater than 90 Acres)
 - i. TR-55: A simplified procedure for estimating runoff and peak discharges in small watersheds.
 - ii. TR-20: A computer program that formulates hydrology on a physically based watershed scale runoff event model that computes direct runoff and develops hydrographs.
 - iii. Colorado Urban Hydrograph Procedure (CUHP): Used for calculating runoff for basins that are larger than 90 acres. This method is not to be used for smaller basins, as it will generally overestimate or underestimate peak runoff rates.
 - iv. Storm Water Management Model (SWMM) Version 5: A model developed by the EPA that is a dynamic rainfall-runoff-routing simulation model for single events or long term (continuous) simulation of runoff quantity and quality for primarily urban areas.
 - c. Rainfall Depth, Duration, Frequency, and Intensity

The rainfall IDF curve is a statistical formula to describe the relationship between the local rainfall characteristics and return periods. The IDF curve is used in the Rational Method for peak runoff predictions of basins smaller than 90 acres. Rainfall intensity data, which form the basis of the IDF curves.
 - d. Design Rainfall Distribution

For larger drainage areas (over 90 acres) or for sizing facilities where a hydrograph must be analyzed, such as a detention pond, a temporal distribution must be assigned to a precipitation event for calculation of runoff. Characteristics of a temporal distribution include duration and distribution (depth at a certain time) of rainfall.
- C. The rainfall and snowfall design information needed for storm and snowmelt runoff analyses in the City of Glenwood Springs is defined below. Major subjects include:
- a. Precipitation statistics for the City of Glenwood Springs.
 - b. IDF (intensity-duration-frequency) relationships for flood predictions from small watersheds.
 - c. Temporal rainfall distributions for flood flow simulation through large watersheds
 - d. snowmelt calculation methods
 - e. The derivation of WQVC

The 2-, 25-, and 100-year storms are needed for drainage designs. The IDF curves provided in the figures below are based upon data in the Precipitation-Frequency Atlas of the United States, Midwestern States, NOAA Atlas 14, Volume 8 (NOAA 2013).



Figure 7.1 Tabular Representation of Point Precipitation Frequencies

PF tabular

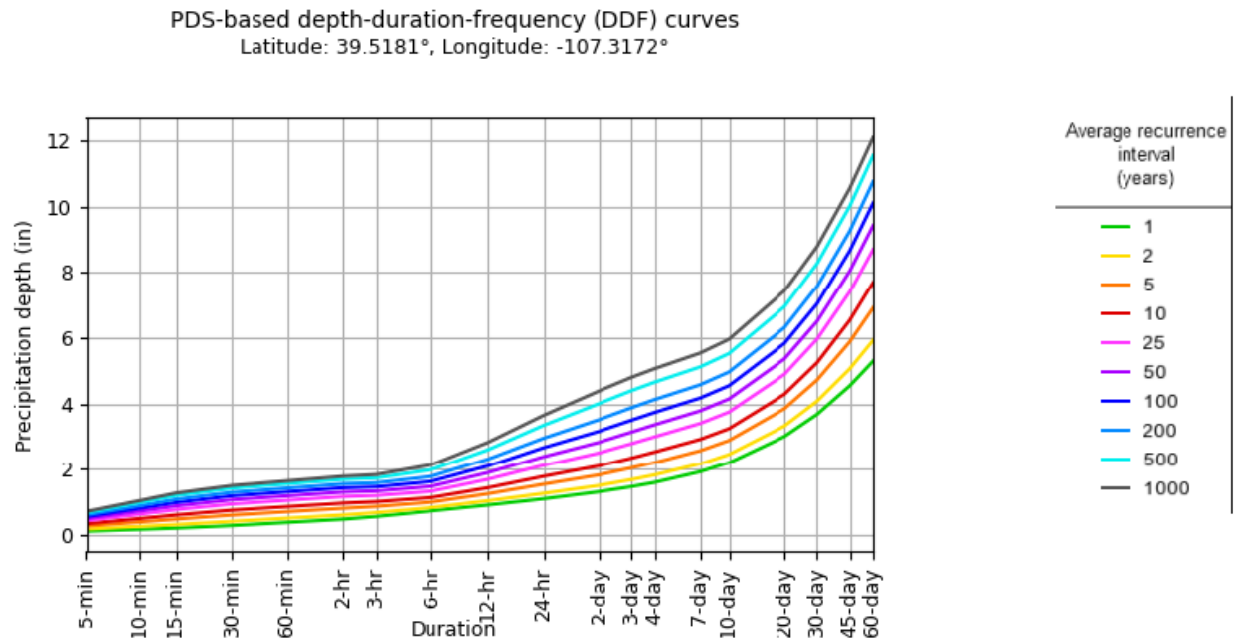
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.116 (0.092-0.150)	0.176 (0.139-0.228)	0.268 (0.212-0.348)	0.339 (0.266-0.443)	0.430 (0.320-0.573)	0.494 (0.360-0.671)	0.553 (0.388-0.773)	0.607 (0.408-0.876)	0.670 (0.432-1.00)	0.712 (0.451-1.09)
10-min	0.170 (0.135-0.220)	0.258 (0.204-0.333)	0.392 (0.310-0.509)	0.497 (0.390-0.648)	0.630 (0.468-0.839)	0.723 (0.527-0.983)	0.809 (0.569-1.13)	0.889 (0.597-1.28)	0.982 (0.633-1.46)	1.04 (0.660-1.60)
15-min	0.208 (0.165-0.269)	0.314 (0.249-0.407)	0.479 (0.378-0.621)	0.606 (0.476-0.791)	0.768 (0.571-1.02)	0.882 (0.643-1.20)	0.987 (0.694-1.38)	1.08 (0.728-1.56)	1.20 (0.772-1.79)	1.27 (0.805-1.95)
30-min	0.285 (0.226-0.369)	0.411 (0.326-0.532)	0.604 (0.477-0.784)	0.753 (0.591-0.982)	0.940 (0.698-1.25)	1.07 (0.780-1.45)	1.19 (0.836-1.66)	1.30 (0.872-1.87)	1.42 (0.916-2.12)	1.50 (0.950-2.31)
60-min	0.381 (0.303-0.493)	0.510 (0.404-0.660)	0.707 (0.559-0.918)	0.860 (0.675-1.12)	1.05 (0.784-1.40)	1.19 (0.867-1.61)	1.31 (0.923-1.83)	1.42 (0.959-2.06)	1.56 (1.00-2.32)	1.64 (1.04-2.52)
2-hr	0.478 (0.384-0.608)	0.608 (0.488-0.776)	0.810 (0.648-1.04)	0.967 (0.769-1.24)	1.17 (0.881-1.53)	1.31 (0.966-1.75)	1.44 (1.02-1.98)	1.55 (1.06-2.21)	1.69 (1.10-2.49)	1.78 (1.14-2.70)
3-hr	0.560 (0.454-0.707)	0.679 (0.549-0.858)	0.865 (0.697-1.10)	1.01 (0.809-1.29)	1.20 (0.917-1.57)	1.34 (0.998-1.78)	1.46 (1.05-2.00)	1.59 (1.09-2.24)	1.73 (1.14-2.53)	1.84 (1.18-2.75)
6-hr	0.732 (0.600-0.909)	0.833 (0.682-1.04)	1.00 (0.816-1.25)	1.14 (0.923-1.43)	1.33 (1.04-1.73)	1.48 (1.13-1.95)	1.63 (1.19-2.22)	1.78 (1.25-2.50)	1.99 (1.33-2.88)	2.14 (1.39-3.16)
12-hr	0.908 (0.754-1.11)	1.04 (0.860-1.27)	1.25 (1.03-1.54)	1.43 (1.18-1.77)	1.69 (1.34-2.16)	1.89 (1.46-2.46)	2.10 (1.56-2.81)	2.31 (1.63-3.19)	2.60 (1.76-3.71)	2.82 (1.85-4.10)
24-hr	1.10 (0.924-1.32)	1.26 (1.06-1.52)	1.54 (1.29-1.86)	1.78 (1.48-2.16)	2.12 (1.70-2.68)	2.39 (1.87-3.07)	2.67 (2.00-3.52)	2.95 (2.11-4.02)	3.35 (2.29-4.70)	3.65 (2.42-5.21)
2-day	1.32 (1.12-1.56)	1.51 (1.28-1.78)	1.83 (1.55-2.17)	2.11 (1.78-2.52)	2.51 (2.04-3.12)	2.83 (2.24-3.58)	3.17 (2.41-4.12)	3.52 (2.55-4.73)	4.01 (2.78-5.55)	4.40 (2.95-6.18)
3-day	1.47 (1.26-1.72)	1.68 (1.45-1.98)	2.04 (1.75-2.40)	2.35 (2.00-2.78)	2.79 (2.29-3.44)	3.14 (2.50-3.93)	3.51 (2.68-4.51)	3.88 (2.83-5.15)	4.40 (3.07-6.03)	4.81 (3.25-6.69)
4-day	1.60 (1.38-1.86)	1.83 (1.58-2.13)	2.21 (1.90-2.58)	2.54 (2.17-2.98)	3.00 (2.47-3.66)	3.37 (2.70-4.18)	3.74 (2.88-4.77)	4.13 (3.03-5.44)	4.66 (3.26-6.33)	5.07 (3.44-7.01)
7-day	1.92 (1.68-2.21)	2.17 (1.89-2.49)	2.58 (2.24-2.97)	2.92 (2.52-3.38)	3.40 (2.83-4.09)	3.79 (3.06-4.62)	4.18 (3.24-5.25)	4.58 (3.38-5.94)	5.12 (3.62-6.85)	5.54 (3.79-7.55)
10-day	2.20 (1.94-2.51)	2.46 (2.16-2.80)	2.89 (2.53-3.30)	3.25 (2.82-3.73)	3.75 (3.14-4.46)	4.15 (3.38-5.02)	4.55 (3.56-5.66)	4.97 (3.69-6.38)	5.53 (3.93-7.33)	5.96 (4.10-8.05)
20-day	3.01 (2.69-3.36)	3.33 (2.97-3.73)	3.85 (3.42-4.33)	4.29 (3.79-4.84)	4.90 (4.15-5.71)	5.36 (4.42-6.36)	5.83 (4.62-7.12)	6.31 (4.75-7.95)	6.95 (4.99-9.04)	7.44 (5.18-9.87)
30-day	3.68 (3.32-4.08)	4.08 (3.67-4.52)	4.72 (4.23-5.25)	5.25 (4.67-5.86)	5.96 (5.09-6.87)	6.51 (5.40-7.62)	7.04 (5.61-8.49)	7.58 (5.74-9.43)	8.27 (5.98-10.6)	8.79 (6.16-11.5)
45-day	4.55 (4.13-4.98)	5.07 (4.60-5.56)	5.89 (5.32-6.48)	6.54 (5.87-7.23)	7.41 (6.36-8.42)	8.05 (6.73-9.31)	8.67 (6.95-10.3)	9.27 (7.06-11.4)	10.0 (7.28-12.7)	10.6 (7.45-13.7)
60-day	5.30 (4.84-5.76)	5.93 (5.41-6.45)	6.92 (6.29-7.55)	7.70 (6.94-8.44)	8.70 (7.50-9.79)	9.43 (7.92-10.8)	10.1 (8.14-11.9)	10.8 (8.22-13.1)	11.6 (8.42-14.5)	12.1 (8.57-15.6)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

(NOAA Atlas 14, Volume 8, Version 2; Glenwood Springs, Colorado; Latitude 39.5455°, Longitude -107.326°, Elevation 5788.02 feet)



Figure 7.2 DDF CURVE



(NOAA Atlas 14, Volume 8, Version 2; Glenwood Springs, Colorado; Latitude 39.5455°, Longitude -107.326°, Elevation 5788.02 feet)

Table 7.1 Rainfall Intensity-Duration-Frequency, Glenwood Springs, Co

Return Period	Rainfall Intensity in inch/hr for Various Periods of Duration								
	5-min	10-min	15-min	30-min	60-min (P ₁)	2-hr	3-hr	6-hr	24-hr
2-yr	2.11	1.56	1.25	0.82	0.51	0.31	0.23	0.14	0.05
5-yr	3.17	2.35	1.88	1.20	0.72	0.41	0.29	0.16	0.05
10-yr	4.00	2.96	2.36	1.49	0.87	0.49	0.34	0.19	0.05
25-yr	5.04	3.75	2.98	1.86	1.06	0.58	0.40	0.21	0.05
50-yr	5.83	4.33	3.44	2.13	1.21	0.65	0.44	0.23	0.06
100-yr	6.50	4.83	3.84	2.36	1.33	0.70	0.48	0.24	0.06



Using the data in Table 7.1 (derived from NOAA Atlas 14 Volume 8), the following equation was used to determine intensities not shown in the IDF table or curve.

$$I = \frac{a \cdot P_1}{(b + t_c)^c} \quad \text{EQ. 7.1}$$

Where,

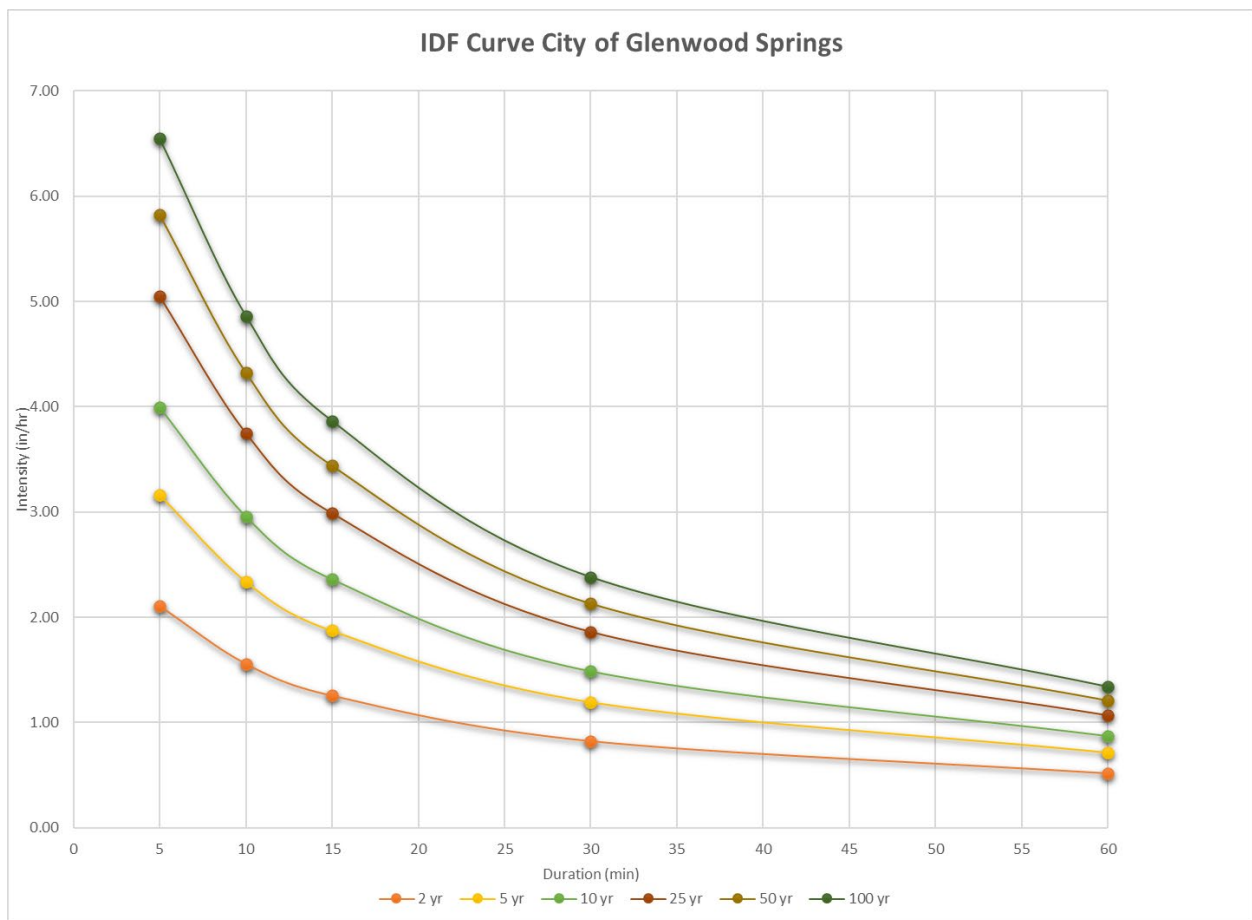
I= intensity

P1= 1-hr rainfall depth (inches

Tc= time of concentration

a,b,c= constants

Figure 7.3 IDF Curve, Glenwood Springs, Co



Note: Graphical representation of rainfall intensity, inches per hour, over a duration of time, in minutes, for several time periods, year.



4.7 Runoff

The surface in a watershed is composed of pervious or impervious areas. The pervious surface is an area where water can readily infiltrate into the ground. The impervious surface is the area that produces direct runoff as soon as it rains. As urbanization occurs, impervious areas increase. As a result, the total amount of runoff volume increases. In urban hydrology, the percentage of impervious area is the most sensitive parameter to runoff generation.

Estimates of runoff flow rates and volumes for selected levels of protection provide the basis for the design of drainage facilities for the management of flood discharges and water quality in a drainage system.

A. Hydrologic Loss

In a rain event, not all raindrops reach the ground. Raindrops can be lost to evaporation, infiltration, puddles, or land on vegetation. All major losses considered in the rainfall and runoff modeling techniques include soil infiltration and depression loss.

B. Soil Infiltration Loss

Infiltration is the penetration of water into the soil. Different soil types can affect this penetration rate. The Natural Resources Conservation Service (NRCS) has classified soils into four types (SCS 1983)

- Type A Soil – Soils having high infiltration rates such as sand and gravel.
- Type B Soil – Soils having moderate infiltration rates such as loamy soils.
- Type C & D Soil – Soils having very slow infiltration such as clay soils.

C. Depression Loss

Depression losses account for the amount that puddles in low areas, ponds, and potholes. These losses are only considered in CUHP/SWMM Modeling. Refer to the chart below for depression capacity for various land uses.

Soil Type	Initial Rate Inch/hr	Final Rate Inch/hr	Decay Coefficient 1/sec for CUHP	Decay Coefficient 1/hr for SWMM
A	5	1	0.0007	2.52
B	4.5	0.6	0.0018	6.48
C&D	3	0.5	0.0018	6.48

D. Hydraulic Criteria

Identify the hydraulic design point for closed systems tied to The City's existing collection system.

Identify flow capacity of drainage facilities, such as:

- a. Calculate culvert sizes with capacities and area of contribution.



- b. Calculate storm sewer capacity including capacity of next two downstream drainage structures (max velocity 20 ft/sec, HGL 12 inches below ground, EGL below ground, minimum velocity of 5 ft/sec at half full conduit flow).
- c. Calculate gutter capacity (max velocity 10 ft/sec, allowable spread = 4 feet minor storm, 12-inch depth at flow line for major storm, $n=.016$ for street, $n=.025$ for grass)
- d. Calculate storm inlet capacity (clogging factor = 50%).
- e. Calculate storm inlet capacity (clogging factor = 50%).

4.8 Detention

- A. Types of Detention Basins:
 - a. Dry Detention Basins
 - b. Bio-retention or sand filter facilities
 - c. Wet Detention basins
 - d. Above/Below Ground

4.9 Water Quality

The City of Glenwood Springs water quality and erosion control design criteria rely on guidance provided in the MHFD USDCM Volume 3. The procedure is outlined below:

- A. Calculate the WQCV and Volume Reduction: This section presents the hydrologic basis and calculations for the WQCV and discusses the benefits of attenuating this volume. This section also describes various methods for quantifying volume reduction when using LID practices. The use of these methods should begin during the planning phase for preliminary sizing and development of the site layout. The calculations and procedures in this section allow the engineer to determine effective impervious area, calculate the WQCV, and more accurately quantify potential volume reduction benefits of BMPs.
- B. Select Stormwater Treatment Facility for new development or redevelopment: Treatment facility selection involves many factors such as physical site characteristics, treatment objectives, aesthetics, safety, maintenance requirements, and cost. Typically, there is not a single answer to the question of which facility should be selected for a site; there are usually multiple solutions ranging from standalone treatment facilities to treatment trains that combine multiple facilities to achieve the water quality objectives.
 - i. Stormwater Treatment Facility Maintenance (MHFD USDCM Volume 3, Chapter 6): For stormwater treatment facilities to be effective, proper maintenance is essential. Maintenance includes both routinely scheduled activities, as well as non-routine repairs that may be required after large storms, or because of other unforeseen problems. Stormwater treatment facility maintenance is the



responsibility of the entity owning the facility; however, local governments with MS4 permits are responsible for ensuring that maintenance of privately owned facilities occurs within their MS4. Facilities should be designed with maintenance as one of the key design considerations. Planning-level design guidance pertaining to maintenance is included in the individual Fact Sheets contained within this chapter. This chapter focuses on maintenance of in-service facilities and provides recommendations for private facility owners, as well as for MS4 permittees responsible for ensuring proper maintenance for both public and private facilities within their MS4.

- C. Colorado Department of Transportation's (CDOT) Erosion Control and Stormwater Quality Filed Guide, provides an overview of erosion and sediment control principles and information on construction best management practices (BMPs).
<https://www.codot.gov/programs/environmental/water-quality/assets/pocket-field-guide-english>.
- D. The Construction Management Plan Checklist, provided on the City of Glenwood Springs Engineering Department Website.

4.10 Calculating WQCV

- A. The WQCV is calculated as a function of imperviousness and BMP type using Equation 11.1 and Table 11.1, and as shown in Figure 12.1:

$$WQCV = 0.70 Aa(0.91I^3 - 1.19I^2 + 0.78I)/12 \quad \text{EQ. 11.1}$$

Where:

WQCV = Water Quality Capture Volume (ft³)

A = Area draining to the treatment facility (ft²)

a = Coefficient corresponding to BMP type and from Table 4.11

I = Imperviousness (percent expressed as a decimal)

Note: The provided equation is modified from MHFD USDCM Volume 3 Equation 3-1. This equation was developed based on rainfall data from the Denver Metro area. However, in reviewing MHFD USDCM Volume 3, Figure 3-1: Map of the average runoff Producing Storm's Precipitation Depth in the United States in Inches the precipitation depth of the average runoff producing storm in Glenwood Springs is 0.30 inches, while in Denver it is 0.43 inches. The WQCV equation above includes the coefficient of 0.70 to adjust for the equation for use in Glenwood Springs.

At a planning level, the watershed imperviousness can be estimated based on the zoned density. When finalizing design, calculate imperviousness based on the site plan.

Table 11.1 Drain Time Coefficients for WQCV

Drain Time (hours)	Coefficient, <i>a</i>
12 hours (filtration BMPs)	0.8
24 hours (constructed wetland ponds)	0.9
40 hours (extended detention)	1.0
No attenuation (e.g. grass buffer or swale)	1.0

Ref: Mile High Flood District Urban Drainage Criteria Manual Volume Three Table 3-2



B. Effective Imperviousness

The imperviousness value used in the WQCV calculation for sites that implement low impact development (LID) principles such as green infrastructure and MDCIA may be reduced to reflect the site's effective imperviousness. The effective imperviousness is dependent on the level of MDCIA implemented for high-level planning applications.

- Level 1 includes designing impervious surfaces to drain over a grass buffer or other pervious surface prior to reaching any stormwater conveyance system.
- Level 2 is an enhancement to Level 1 and includes eliminating curb and gutter or using slotted curbs; low-velocity pervious grass- or rock-lined swales instead of storm sewers, and pervious street shoulders.

Guidance on calculating effective imperviousness for Level 1 and Level 2 MDCIA can be found in Volume 3 of the USDCM.

Where a detailed site plan has been developed and the square footage of directly connected impervious area, unconnected impervious area, receiving pervious area, and separate pervious area have all been defined, a more detailed effective imperviousness can be determined using the methods in Volume 3 of the USDCM.

C. Detention

When a site requires a detention facility, a single facility may be designed to serve as both the detention and stormwater quality treatment facility. Detention facilities that are also water quality treatment facilities have outlets to provide for both the stormwater quality treatment and detention release rates. For these facilities, the guidance in the USDCM for Excess Urban Runoff Volume (EURV) facilities shall be followed.

Guidance on how to design extended detention basins, sand filter basins, bioretention, and permeable pavement to meet the WQCV standard are included in the fact sheets in Volume 3 of the USDCM.

When detention storage volume is sized for a site that also incorporates a WQCV structure, WQVC may be included in the detention volume.

Example:

Detention Vol= 1500CF

WQCV= 300 CF

Total Detention Required with a WQCV Structure = 1,500 CF

4.11 Calculation WQCV Reduction

A. Runoff volume reduction is an important part of the Four Step Process for stormwater management as discussed in MHFD USDCM Volume 3, Chapter 1 and is fundamental to effectively manage stormwater runoff.

- a. The approach recommended in this section is based on the Four-Component Land Use Model that is used by the Colorado Urban Hydrograph Procedure (CUHP) and the EPA Stormwater Management Model (SWMM). This conceptual model, illustrated in Figure 4.12, represents a drainage area by four components:



City of Glenwood Springs Stormwater Standards

- b. Directly Connected Impervious Area (DCIA) – DCIA is an impervious area that drains to the storm drain system or stream without flowing over surfaces that would allow for infiltration.
- c. Unconnected Impervious Area (UIA) – UIA is an impervious area that drains to a receiving pervious area, where there is an opportunity for infiltration.
- d. Receiving Pervious Area (RPA) – RPA is a pervious area that receives runoff from UIA and allows for infiltration.
- e. Separate Pervious Area (SPA) – SPA is a pervious area that does not receive runoff from impervious surfaces.

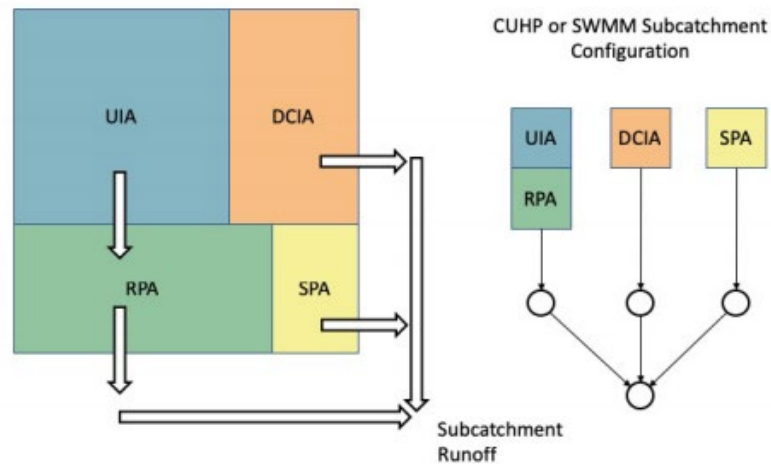


Figure 12.1: Water Quality Capture Volume (WQCV) Based on BMP Drain Time

Ref: Mile High Flood District Urban Drainage Criteria Manual Volume Three Figure 3-2.

B. Detention Criteria

- a. Detention needs to be provided for the increase in runoff from the pre- and post-developed conditions. The Design Engineer needs to provide justification for the selected detention requirement method used. Methods available to calculate detention in the Glenwood Springs area are:
 - i. Federal Aviation Administration (FAA): a Rational Formula-based procedure that is used in calculation and design of detention facilities with tributary areas of less than five (5) acres in size. This method provides sizing for one level of peak control only and not for multi-stage control facilities. The input required for this Rational Formula-based FAA volume calculation procedure includes:

The calculations are best set up in a tabular (spreadsheet) form with each 5-minute increment in duration being entered in rows and the following variables being entered, or calculated, in each column:

Determine the inflow volume by multiplying the peak flow rate (CiA) by the time of concentration (Tc) as calculated by the rational method:

$$V_i = (CiA)(T_c)60 \frac{sec}{min} \quad \text{EQ:12.1}$$



Where:

V_i = Inflow volume (ft³)

C = Rational Method runoff coefficient for the major or minor storm

i = Design Rainfall Intensity (in/hour)

A = area of the catchment tributary to the storage facility (acres)

T_c = Rational Method time of concentration for the tributary catchment (minutes) (see the Runoff chapter)

- ii. Determine the outflow volume by multiplying the allowable release (Q_o) rate by the time of concentration (T_c):

$$V_o = (Q_o)(T_c)60 \frac{sec}{min} \quad \text{EQ. 12.2}$$

Where:

V_o = Outflow Volume

Q_o = Allowable maximum release rate from the detention facility (cfs)

T_c = Rational Method time of concentration for the tributary catchment (minutes) (see the Runoff chapter)

- iii. If the entire site is not tributary to the detention pond, the allowable release rate from the detention pond must be decreased to compensate for site runoff that does not pass through the detention pond. The allowable release rate is calculated as the total site predevelopment runoff rate minus the post-development un-detained flow rate. The result will be that the post-development peak flow from the entire site will meet the pre-development runoff rate criteria. A maximum of 5% of the total site is allowed to bypass the detention pond.

$$Q_o = Q_{pre-developed} - Q_{undetained} \quad \text{EQ.12.3}$$

Where:

Q_o = Allowable maximum release rate from the detention facility (cfs)

$Q_{pre-developed}$ = Allowable maximum release rate from the site in the pre-developed condition (cfs)

$Q_{un-detained}$ = The release rate that bypasses the detention facility (cfs)

- iv. Determine the storage volume by subtracting the outflow volume (V_o) from the inflow volume (V_i):

$$V_{storage} = V_i - V_o \quad \text{EQ. 12.4}$$

- ii. Storm Water Management Model (SWMM): May be used in calculation storage facilities with tributary areas of twenty (20) acres or more.
- i. Both FAA and SWMM can be used for sizing of detention for storage facilities with tributary areas between five (5) and twenty (20) acres, but the FAA calculating should be increased by 20% to better align with the SWMM calculation.
- ii. Mile High Flood District (MHFD) Software/Spreadsheets.



4.12 Permanent Stormwater Treat Facilities

Management of stormwater quality is important for river communities like Glenwood Springs. This section presents design requirements for permanent stormwater treatment facilities, the applicability of the requirements, runoff reduction, and site planning concepts. Information specific to industrial and commercial activities, design details, and design requirements associated with maintenance are also included. The goal of the requirements outlined in this section is to keep our streams and drainageways healthy.

The city is required to comply with the Colorado Discharge Permit System (CDPS). The content of this section will be revised as The City's requirements change. The naming convention for facilities that treat stormwater quality after construction has varied over time but are most generally called "Best Management Practices" (BMPs). The City's term for these facilities is "permanent stormwater treatment facilities". The term "treatment facilities" may also be used.

A. Site Planning

To minimize detrimental impacts to water quality in the city, site planning should consider how the site will be used as well as how stormwater runoff will be conveyed and treated to mitigate the impacts of development. These planning principles are guidelines, and no specific criteria is associated with them.

General site planning goals for every development are as follows:

- a. Reduce runoff and maximize stormwater infiltration by minimizing directly connected or continuous impervious areas, slowing runoff through pervious and/or vegetated areas, and avoiding over compaction of pervious soil types.
- b. Centralize treatment facilities and integrate them with site operations to minimize land use, achieve greater economy of scale, and reduce the number of treatment facilities requiring maintenance.
- c. Minimize impacts to the natural environment including water quality, air quality, wildlife habitat, vegetation, wetlands, and natural landforms.
- d. Promote riparian habitat by utilizing broad, shallow drainageways, open areas, and existing natural channels.
- e. Include tree planting to provide canopy stormwater capture and root intrusion to augment soil infiltration rates, especially in proximity to impervious surfaces and waterbodies to enhance shading.
- f. Anticipate the risk for pollutant discharge from site operations such as washing, fueling, manufacturing, materials storage, and vehicle maintenance, among others. Develop operational procedures to minimize the risk of spills and design the site layout to prevent any spills from leaving the site.
- g. Consider the freeze/thaw nature of the City's winter climate when selecting treatment facilities and how this may impact maintenance.
- h. Limit the use of proprietary structures for water quality treatment as more frequent maintenance is typically required to maintain adequate performance. Proprietary structures often have high long-term costs.
- i. Design treatment facilities for ease of maintenance.



- j. Any portion of a site not draining to a treatment facility should have a very low pollutant load and should drain across a vegetated area prior to discharge from the site. No impervious area should discharge directly into wetlands, the Roaring Fork River, the Colorado River, or one of their tributaries.
- k. Best practices used to meet the city's site planning goals include low impact development (LID), green infrastructure, and nature-based solutions. One type of low impact development is minimizing directly connected impervious areas (MDCIA). MDCIA reduces runoff from the site by routing it from impervious surfaces to pervious areas to promote infiltration. Developing the layout of a site to reduce runoff will also reduce the required size of WQCV treatment facilities.

B. Methods of MDCIA:

Include using pervious drainage conveyances where appropriate, routing downspouts across pervious areas, and incorporating vegetated areas into locations that generate and convey runoff like parking lots and driveways. Grass buffers, grass swales, and bioretention can all be used. Other LID principles include the following:

- a. Protect areas that add value such as those with mature trees, stream corridors, wetlands, and soils with high infiltration rates.
- b. Minimize impacts by being creative with site layout to reduce the extent of paved and other impervious areas.
- c. Concentrate new impervious areas over Type C and D soils and preserve areas over Type A and B soils for landscape areas and other permeable surfaces.
- d. Maintain natural drainage patterns and implement sheet flow.
- e. Consider stormwater quality needs early in the development process to better integrate stormwater treatment facilities into the site.
- f. Select permanent stormwater treatment facility based on expected pollutant type.
- g. Volume 3 of the USDCM offers extensive text regarding planning principles and ideas to minimize site runoff. Volume 3 of the USDCM provides graphics that offer some general guidance as to the treatment facilities that are typically used for sites having specific characteristics.

C. Applicability

Permanent stormwater treatment facilities are required for all new development and redevelopment sites.

The city currently has no regional WQCV treatment facility. If the City constructs a regional WQCV treatment facility in the future, and a developer would like to use it to provide water quality treatment, Public Works must be contacted to determine the feasibility and associated requirements.



D. Design Standards

This section discusses design criteria for permanent stormwater treatment facilities that are allowed for use in the city. These treatment facilities include extended detention basins, grass swales, grass buffers, sand filter basins, bioretention (previously known as porous landscape detention or PLD), and proprietary structures. Permeable pavement is also allowed provided the maintenance agreement and the O&M Plan do not allow sanding. Retention ponds and wetland facilities are not typically allowed because water rights are a necessary component for legal standing of these facility types. Other types of treatment facilities may be proposed by the design engineer.

Proposals to use other treatment facility types are required to include detailed data and calculations showing that a proposed treatment facility meets one of the design standards listed in this section. The design of treatment facilities shall facilitate maintenance.

a. Tributary Offsite Area:

When an offsite area is tributary to a permanent stormwater treatment facility there are two options. The first option is to intercept the offsite flow and route it around or through the site in a separate conveyance system. The second option, if offsite flow cannot be separated, is to size the treatment facility for the entire tributary area. This could mean a much larger design volume for volume-based facilities or a larger peak runoff rate from the 80th percentile storm event for flow-based facilities.

b. Right-of-Way Restrictions:

Privately owned and maintained treatment facilities must be located outside the public right-of-way and offline from public stormwater conveyance systems.

c. Maintenance

Long-term maintenance requirements are a critical component of treatment facility selection and design because facilities that are not properly maintained do not function properly and/or do not treat stormwater runoff to the extent required by the MS4 permit. All new facilities shall be designed to facilitate maintenance operations.

Maintenance considerations that must be evaluated during the selection and design process include accessibility, required equipment, frequency of maintenance, special required training, and the need for replacement materials.

d. Access

An easement shall be provided in accordance with Section 5.3 to allow City staff to access the facility if the responsible agency is negligent. Access roads shall be provided to all structures including forebays, outfalls, inlets, micropools, outlet structures, and proprietary facilities. Access roads must support an 80,000-pound vehicle load, be at least 10 feet wide, and have an inside turning radius of at least 25 feet. Access roads must pass close enough to each structure that the equipment to be used will reach the structure. A backhoe with a reach of 25 feet must be able to pass within 25 feet of the structure without leaving the access road. If the access road cannot pass close enough to the structure for the equipment to reach, a concrete access ramp or



similar supportable material, such as a 6-inch layer of angular 4-inch-minus riprap, shall be provided at a slope no steeper than 10:1. Concrete ramps shall be scored for wet weather traction.

e. Forebays

Accessible forebays shall be provided at all concentrated inflow points of extended detention basins and sand filter basins for removal of accumulated sediment and floatables. The forebay must be designed in accordance with Volume 3 of the USDCM.

f. Stockpile Areas

Facilities should be designed with stockpile areas for temporary storage and drying of mucked out material. A stockpile area should be directly adjacent to each structure to be cleaned out. Stockpile areas shall be located outside the low flow area and should be as flat as possible. Total stockpile area shall be twice the square footage of all forebays and the micropool.

g. Extended Detention Basins

Extended detention basins shall include a micropool with a hard bottom against which to excavate that is accessible to a vacuum truck or backhoe. Extended detention basins shall include a trickle channel at least 48 inches wide with no cross slope. Trickle channels shall have a concrete bottom and sides at least 6 inches high to allow access for lightweight maintenance equipment if the trickle channel longitudinal slope is less than 5%

h. Infiltration Facilities

Sand filter basins have a short lifespan and shall include pretreatment to remove trash and larger sediment. If located next to a roadway, infiltration facilities shall include a barrier to prevent degradation of the roadway subgrade.

During construction and maintenance operations, special care shall be taken to avoid compaction of subsurface soils that will reduce infiltration rates.

If a full infiltration basin is not used, an underdrain system including a loading evaluation will be required and cleanouts must be provided every 300 feet. Infiltration testing shall be conducted after construction and prior to acceptance to ensure the facility functions as intended.

i. Proprietary Structures

Proprietary structures that do not require confined space entry procedures are preferred. Careful design of access to vaults and use of a vacuum truck may eliminate confined space entry requirements.

Treatment facilities require regular inspection and maintenance, to be completed by the property owner. Section 4.14 outlines the inspections and maintenance requirements. Based on site conditions, the design engineer may require additional maintenance measures, a more frequent schedule, or unique protocols for a site. Volume 3 of the USDCM should be consulted when determining the maintenance schedule, activities, and protocols to be included on the O&M Plan.



4.13 Ownership and Maintenance Plan

An Ownership and Maintenance (O&M) Plan must be developed, submitted, and approved as part of the Stormwater Quality Plan and then also included as part of the Ownership and Maintenance (O&M) Agreement. An executed O&M Agreement is required prior to facility approval and project close out.

A. Inspection and Maintenance Requirements:

An executed O&M Agreement is required prior to facility approval and project close out. The requirements of an O&M Plan are outlined in a checklist in the appendix. City staff is available for consultation during the treatment facility selection and design process to ensure the design meets the requirements in this section. Minimum required components for maintenance are presented below.

Table 15.1: Minimum Required Inspection and Maintenance Schedule

Extended Detention Basin	
Activity	Required Frequency
Inspection for debris at outlet, sediment in the forebay, and damage to structures or embankments; maintain or repair as necessary	Twice annually
Remove sediment from forebay, trickle channel(s), and micropool; aeration of vegetated areas	Annually
Mowing	As needed to maintain 6" height and control weeds
Irrigation and application of fertilizer, herbicide, and pesticide	As needed to maintain vegetative health

Note: Maintenance frequency is highly dependent on construction activity within the tributary area, associated erosion control measures, and the design of the facility. More frequent removal of accumulated sediment may be required, but detention basins are generally low maintenance facilities.

Sand Filter Basin and Bioretention	
Activity	Required Frequency
Inspection to confirm infiltration rate after rainfall; maintain as necessary. Debris and litter removal.	Twice annually
Mowing, plant care, irrigation, and application of fertilizer, herbicide, and pesticide (for bioretention only)	As needed to maintain vegetative health
Mulch replacement (for bioretention only)	As needed to maintain 3" depth
Inspection of underdrain	When ponding lasts longer than 24 hours
Sediment removal and replacement of media	When ponding lasts longer than 24 hours and underdrain is not clogged

Proprietary Structure	
Activity	Required Frequency



Inspection for debris that may cause bypass of design treatment flow rate; maintain as necessary.	Quarterly for first 2 years; as indicated based on first 2 years after that
Filter cartridge inspection; replace as necessary	Twice annually
Debris removal, filter cartridge replacement, and vacuuming	As recommended by the manufacturer

Grass Swale, Grass Buffer	
Activity	Required Frequency
Inspection for uniform cover, sediment accumulation, rill and gully development, and impacts from foot or vehicle traffic; maintain as necessary. Debris and litter removal.	Twice annually
Aeration	Annually
Mowing	As needed to maintain 6" height
Irrigation and application of fertilizer, herbicide, and pesticide	As needed to maintain vegetative health

Note: Grass swales and buffers may need to be scraped or detached to restore original cross section and infiltration rate; Reseeding or resodding may be required to restore vegetative cover.

Permeable Pavement	
Activity	Required Frequency
Inspect during rainfall event or with applied water to ensure infiltration and integrity of system components; Maintain as necessary	Annually
Sweeping to remove sediment and debris	Monthly
Vacuuming to remove sediment that has filled void spaces	Annually

Note: Avoid sealing or repaving with non-porous materials; do not apply sand as part of winter operational procedures.

If the conditions of the O&M Agreement presented in the O&M Plan are not met, city staff may inspect facilities or respond to complaints relating to facilities that may not be performing properly. Facility owners should expect notification of inspections and subsequent findings to be communicated by inspection personnel. If maintenance efforts are not properly conducted over time, the city may complete the maintenance and back-charge the owner as included in the Maintenance Agreement.



2. References

- City of Aspen, *Urban Runoff Management Plan*
- Colorado Department of Transportation's (CDOT) Erosion Control and Stormwater Quality Filed Guide, provides an overview of erosion and sediment control principles and information on construction best management practices (BMPs).
<https://www.codot.gov/programs/environmental/water-quality/assets/pocket-field-guide-english>.
- Denver Urban Drainage and Flood Control District (UDFCD). *Urban Storm Drainage Criteria Manual*
- NOAA (2013), "*Precipitation Frequency Atlas of the United States, Midwestern States*, NOAA Atlas 14 Volume 8," National Oceanic and Atmospheric Administration, Washington, D.C.: US Department of Commerce, National Weather Service, Silver Spring, Maryland.
- Station 05-3359 at Glenwood Springs #2, Daily Precipitation Record from January 1980 through December 2008, Western Regional Climate Center, Desert Research Institute 2215 Raggio Parkway, Reno, NV
- United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, 2019





Chapter 3

Water Distribution Standards City of Glenwood Springs Engineering

Revised 2026

Chapter 3 Water Distribution Standards

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Chapter 3 Water Distribution Standards

I. Introduction

This chapter shall govern all new construction, reconstruction and rehabilitation of City of Glenwood Springs (City) operated water. In addition, these standards and guidelines shall apply to all private developments within the City.

These Engineering Standards and Guidelines will also be cited in the text as the “Standards.”

II. Design Standards

The following codes and manuals shall be applicable when pertinent to the work, when specifically cited in these Standards, or when required. Refer to individual chapters for additional design standards. The content of this manual shall be used in conjunction with the latest revisions of the following supplementary standards: See appropriate websites

- a. Rules and Regulations as adopted in the City of Glenwood Springs Municipal Code (Code).
- b. American Water Works Association (AWWA).
- c. Colorado Department of Public Health (CDPHE).
 - i. Regulation 11, Colorado Primary Drinking Water Regulations.
 - ii. Safe Drinking Water Program Policy DW-005, Design Criteria for Potable Water Systems.
 - iii. Safe Drinking Water Program Policy DW-007, Backflow Prevention and Cross-Connection Control.
 - iv. Colorado Cross-Connection Control Manual.
- d. National Fire Protection Association (NFPA).
- e. International Plumbing Code (IPC).
- f. International Building Code (IBC).
- g. International Residential Code (IRC).
- h. Occupational Safety and Health Administration (OSHA).
- i. City of Glenwood Springs Fire Department requirements.
- j. American Society for Testing and Materials (ASTM)
- k. American National Standards Institute (ANSI)
- l. National Sanitation Foundation (NSF)
- m. American Standards Association (ASA)
- n. Standard Methods for the Examination of Water and Wastewater
- o. United States Geological Survey (USGS)
- p. National Geodetic Vertical Datum (NGVD)



III. Definitions and Terms

- a. **Private Water System:** Portion of the water line beginning two feet outside the outer foundation wall of the structure to the discharge side of the curb stop valve. Portion of the system located where no easements are granted to the city or in the public right-of-way if permitted. It shall be the responsibility of the owner of the property to maintain the private water line from their building up to and including the connection to the discharge side of the City's curb stop valve. (Reference Code: 080.040.010(e) – Connections to Water System/Maintenance of Service Lines)
- b. **Public Water Main:** Portion of the system located within public right-of-way or easements which are operated and maintained by the city. The City's responsibility includes the water main and appurtenances to and including the curb stop valve. (Reference Code: 080.040.010(e) – Connections to Water System/Maintenance of Service Lines)
- c. **Backflow Tester:** A person who has been certified by the State of Colorado to test and maintain backflow devices (Reference Code: 060.030.020 – Amendments to the IRC, Additional Definitions; 060.040.020 – Amendments to the IPC, Additional Definitions).

3.1 GENERAL REQUIREMENTS

- A. The Water Design Standards establish minimum design standards for designing, permitting, furnishing, installing, and maintaining the City of Glenwood Spring's public water utility distribution system, including water transmission and storage facilities for domestic, fire protection, commercial and industrial, irrigation, and other uses.
- B. Any extension/connection of the Glenwood Springs Water System must be approved by the City and shall be made in accordance with the provisions of these Standards and the supplementary standards mentioned above. Where there are conflicts or differences between these Standards and other standards listed above, these Standards shall govern. (Reference Code: 080.040.010(a) – Connections to Water System/Requirement, 080.040.030 - Line Extensions)
- C. In designing and planning for any development, it is the developer's responsibility to see that adequate water for both domestic and fire protection use is attainable. The developer must demonstrate in the proposed plans how water will be provided, whether the existing system will be adversely impacted, how adequate water will be supplied at the required pressures in the event of a fire, and where water will be stored to provide for the development's water storage requirements. Design of water system infrastructure shall be by a registered engineer in the State of Colorado and will be reviewed by the City for compliance with these Standards.
- D. Any person who wishes to connect onto the City's water system must first make an application for such connection to the City, obtain necessary permits (Reference Code:), and pay the necessary fees (Reference Code: 080.040.010(c) – Connections to water system/Tap Fee; 080.040.010(b) - Connections to water system/City Permission; 080.060.040 - Amount of System Improvements Fees) for such connection.
- E. Prior to receiving water from the City's system, all improvements must be completed, accepted by the city and approved, including granting of right-of-way or easements, and all applicable fees must



be paid. (Reference Code: 080.010.020 - Application for Service; 080.040.010 - Connections to Water System)

- F. Easements for water mains and other facilities shall be provided in accordance with Chapter 1. (Reference Code: 070.040.030(e)(7)(c) – Site Development Standards/Site Development and Improvement Standards/Underground Utilities).
- G. No person shall abandon any water service connection to the City's water distribution system without first obtaining the necessary permits and written authorization through the City.
- H. With the exception of private water systems defined in these Standards, all water lines and fire hydrants constructed pursuant to these Standards shall be and become the sole and exclusive property of the City, as well as any and all easements and rights-of-way therefore; and all such persons paying for the same shall, upon request of the City, execute and deliver any and all necessary and proper deeds of conveyance, assignments or other documents which the City may desire to perfect such ownership by the City. (Reference Code: 080.040.010(e) Connections to water system/Maintenance of Service Lines; 080.040.030(a) – Line extensions/Construction of Waterlines and Appurtenances; 080.040.030(d) - Line extensions/Ownership of Extension)
- I. The City W/WW Department staff shall be onsite to observe, inspect, and approve ANY work that may affect water or sewer mains. (Reference Code: 080.040.030(a) - Line extensions/Construction of Waterlines and Appurtenances)
- J. All work upon or in connection with any portion of the water system of the City or any utilities which connect thereto shall be done by the City or by a qualified contractor that is specifically granted permission by the City. Such work shall be performed in conformity with the Design Criteria of the CDPHE, these Standards and the rules and regulations of the City. Such work shall be inspected and approved by the City. (Reference Code: 080.040.030(a) – Line extensions/Construction of Waterlines and Appurtenances.
- K. All water service connections to existing water mains and all taps to existing mains shall be made by City personnel at the expense of the Contractor, unless the Contractor is specifically granted permission to perform the tap or service connection at the Contractor's expense. If the Contractor is granted permission by the City to perform the tap, the City shall be present at the time of the tap to observe and inspect the work. (Reference Code: 080.040.030(a) – Line extensions/Construction of Waterlines and Appurtenances; 070.040.030(a)(1) Site Development and Improvement Standards/Purpose)
- L. The City shall be given 72 hours' notice prior to scheduling a shutdown of the water system. A Contractor that requests shutdown of the water system shall be responsible for providing a minimum of 48 hours advanced notification to all customers that may be affected by the shutdown.
- M. The City equipment including valves, curb stops, and hydrants shall be operated only by City employees.



- N. During the construction of mains and services, the Contractor shall cap, plug, or secure the ends of such lines whenever the project is shut down at the end of the day so that contaminants will not enter the lines.
- O. The City shall be notified a minimum of 72 hours in advance of the time that a tap connection to an existing main or a service connection to an existing main is needed so that the water division crew may be scheduled for the work. At the time of notification, the customer must also notify the City of the requested water tap sizes. Tap size shall not be larger than what is allowed by City EQR schedule as calculated by the Building Department. (Reference Code: 080.040.010(d) – Connections to water system/Service Connections)
- P. All lines shall be disinfected and tested by the Contractor, with a representative of the City present, in accordance with the standard specifications. De-chlorination, collection, and disposal of any water used for disinfection shall be the responsibility of the Contractor. Water shall only be discharged at a location approved by the City and in accordance with the City's Wastewater Discharge Regulations (Reference Code: 080.030.030 – Wastewater Discharge Regulations).
- Q. No occupant or owner of any building or premises which obtains water from the City water system shall supply/re-sell water to other persons or families or to other premises. The water supply may be discontinued for any violation of this Section. (Reference Code: 080.040.050 – Customers not to Supply Water to Others).
- R. All public improvements require a 2-year warranty for acceptance. (Reference Code: 080.040.030(a) – Line extensions/Construction of Waterlines and Appurtenances; 070.040.030(f)(2) – Site Development and Improvement Standards/Assurance and Acceptance of Public Improvements/Acceptance by City of Public Improvements)
- S. When available, raw water should be utilized for irrigation and is required if a raw water connection is available within 400'. (Reference Code: 080.040.015 – Connections to Raw Water Irrigation System; 070.040.050(h)(2) – Landscaping, Screening, and Fencing/Installation and Maintenance/Irrigation System Design)

3.2 REQUESTS FOR WATER SERVICE AND REQUIRED PRE-CONSTRUCTION SUBMITTALS

- A. The following section covers the required submittal material required for the City to review a water project to ensure that it conforms to these standards/regulations. This information is in addition to the requirements of Chapter 1.
- B. Customers outside of the corporate limits of the City shall be subject to additional fees if the service is existing or Water Service Agreement requirements if they are seeking a new water service. (Reference Code: 080.040.030(c) – Line extensions/Restrictions on Extensions)
- C. The applicant shall provide documentation and proof that water and sewer taps have been obtained from appropriate utility district when the property will be served by a utility district other than the City. (Reference Code: 060.030.020 – Amendments to IRC; 060.020.020 – Amendments to IBC; 070.060.060(b)(3)(f)(4). – Preliminary Plat/Preliminary Plat Procedure/Review and Decision/Preliminary Plat Approval Criteria)



- D. The city requires the preparation of a water system analysis in order to assess the impacts and service demands of any project or development proposal connecting to the public water distribution system. The detailed analysis shall be prepared by an Engineer registered in the State of Colorado and include a technical report, preliminary plan, and connection and isolation plan as outlined in the following subsections.
- E. A technical report is required at the discretion of the Public Works Director. The technical report shall provide an overview of the proposed project or development, proposed water utility improvements, water service demands, system impact and feasibility, and basic design requirements, and include the following information:
- a. Water demands should include estimated water demands based on projected land use/service type, number of equivalent residential units (EQRs), and water demand per EQR.
 - b. Apply peaking factors and summarize flows for each service type for the following conditions:
 - i. Peak-Hour (gallons-per-minute),
 - ii. Maximum-Day (gallons-per-minute),
 - iii. Average-Day (gallons-per-minute),
 - iv. Insurance Service Office (ISO) or International Building Code (IBC) Fire Flows (gallons-per-minute), and
 - v. Irrigation (gallons-per-minute).
 - c. Design Criteria: The technical criteria used for design shall be summarized for City review and comment. Minimum design requirements from AWWA and CDPHE should be met. It shall include, but not be limited to, the following:
 - i. Equivalent Residential Units (EQRS) (080.060.020 - Classification).
 - ii. Flow Types and Peaking Factors to Estimate Demands
 - iii. Water Storage Requirements
 - iv. Fire Volume, Equalization Volume, Emergency Volume, Total Water Storage Volume
 - v. Pipeline Maximum Velocity
 - vi. System Water Pressures
 - d. System Layout: Describe the proposed distribution system layout, including locations for connections with the existing water utility system.
 - e. Network Analysis: Include a distribution network analysis as performed through computer simulation or appropriate manual calculation, identifying any systems impacts based on proposed demands and providing design solutions to ensure perpetuation of future water system growth, maintain system pressures, and flow rates.
 - i. If a computer hydraulic simulation is required, developer will coordinate with City consultant.
 - f. Main Sizing: Indicate the required sizing of proposed distribution mains based on water demands and/or conveyance of fire flow, whichever condition requires the larger pipe.
 - g. Design Alternatives: Discuss alternative system layouts and methods of providing water service, including an evaluation of each alternative and reasons for selecting the recommended design.



- h. **Water Storage:** Discuss storage volume necessary to serve additional EQRs and fire flow capacity. Consider the development and if the volume will be provided through excess storage in City's existing storage tanks or in new water storage tank. Storage volume shall be calculated as directed in Sections below.
- i. **Special Conditions:** Identify any special conditions, such as the presence of corrosive soils, conflicts with other utilities, unusual installation depths or oversizing requirements, that require special provisions for improvements construction.

F. **Preliminary Plan:**

A preliminary plan shall be included in the utility report to provide a plan view and reference for the proposed improvements, and identify issues addressed in the report. The preliminary plan is to include the following:

- a. **Preliminary Design:** Illustrate proposed methods and alternatives for providing site water distribution and service.
- b. **Property Boundaries:** Reflect legal boundaries of the proposed project or development site, including existing and proposed property and lot lines, existing and proposed rights-of-way and utility easements, and boundaries of abutting properties.
- c. **Topography:** Include site topography at 2-foot interval contours, and the elevation and location of City-recognized benchmarks with reference to local, USGS and NGVD data.
- d. **System Area:** Define and delineate the system area included in the network analysis.
- e. **Existing Utilities:** Illustrate existing water utilities, including fire hydrants and valves, within 400 feet of the proposed development.
- f. **Unusual Features:** Identify unusual features, such as creeks, drainage facilities, railroads, and irrigation ditches, that might influence the location of underground utilities.
- g. **Proposed System Layout:** Illustrate the general layout of the proposed water distribution mains, storage tank, valves, and fire hydrant locations, including construction phasing.
- h. **Storage Tank:** Provide design information, if required, on proposed water storage tank such as height, diameter, materials of construction, elevations, proposed tank's elevation relative to existing tank's elevations, and enough details to ensure compliance with CDPHE's Design Criteria for Potable Water Systems Finished Water Storage.
- i. **Booster Pump Stations:** Provide design information, if required, on proposed water booster pump stations such as footprint, height, pump types, operating/design points, and equipment summary for all pumps, valves, piping, HVAC, electrical, controls, and telemetry equipment. Provide sufficient detail to ensure compliance with CDPHE's Design Criteria.
- j. **Water Distribution Control Structures:** Provide design information, if required, on proposed water control structures such as footprint, height, structure type, operating/design points, and equipment summary for all valves, piping, HVAC, electrical, controls, and telemetry equipment. Provide sufficient detail to ensure compliance with CDPHE's Design Criteria for Potable Water Systems Distribution System Piping and Appurtenances (Water Distribution Control Structure shall refer to a pressure regulating/reducing valve, air release, check valve, or pressure relief valve installed within a vault).



G. Connection and Isolation Plan:

A connection and isolation plan shall be provided in the utility report to identify proposed connection points with the existing water systems and design conditions for providing required system isolation for maintenance and flushing. The connection and isolation plan is to include the following:

- a. Valve Locations: Identify all valves necessary to isolate a point of connection for the proposed water system onto the existing system. Existing system valves should be inspected for location and accessibility.
- b. Thrust Restraint: Determine and include design and construction requirements for sufficient thrust restraint for existing water mains and valves at proposed connection points (“stub outs” and terminal extensions) to allow construction while the existing water system remains in service.
- c. System Isolation: Identify water main sections that can be isolated within the proposed and existing water systems that provide for emergency maintenance and identify discharge points for system flushing.
- d.

3.3 DESIGN REVIEW POLICIES

See Chapter 1, regarding design review policies.

3.4 AS-BUILT DRAWING SUBMITTAL

In addition to the requirements of Chapter 1, the following water distribution specific information shall be included on the As-Built Drawings

- a. Pipe size, material type, and pipe profile.
- b. Service tap locations (include public or private demarcation points).
- c. Fire hydrant locations.
- d. All valves, fittings, curb boxes, hydrants, storage tanks, and other waterline appurtenances either below ground or at the ground surface shall be located via survey. All such measurements shall be recorded on the set of As-Built drawings and shall be provided to the City after the completion of the project.

3.5 CONSTRUCTION WATER USE POLICY

All water used for construction purposes must be pre-approved by the City and users must follow the protocol outlined in the City’s Construction Water and Fire Hydrant Usage policy.

3.6 CROSS CONNECTION AND BACKFLOW PREVENTION

All water services must be properly protected from contamination or pollution by backflow due to cross connections from owner water systems. Reference Code 080.040.010(f) – Cross Connection



Requirements, of the City Municipal Code for comprehensive requirements.

Note the following:

- a. Testable backflow devices shall not be installed below grade. City may consider alternate installation approaches, on a case-by-case basis, subject to the installation meeting CDPHE regulations and Colorado Cross Connection Control Manual requirements. (Reference Code: 060.040.030 - International Plumbing Code Commentary)
- b. Hazard survey is required.
- c. Annual testing required by certified tester (Reference Code: 060.030.020 – Amendments to International Residential Code)
- d. Report records must be submitted to the city on an annual basis. If reports are not submitted annually as required by CDPHE and the City, the City reserves the right to discontinue water service. Until the backflow report has been submitted.
- e. Whenever the use of an antifreeze compound becomes necessary, propylene glycol is recommended. Other antifreeze compounds may be used after written approval by the City Water Department. The use of ethylene glycol is not permitted. In areas where the use of an approved antifreeze is necessary, a readily visible, durable sign shall be posted stating "ETHYLENE GLYCOL PROHIBITED." The sign shall be in letters not less than one (1) inch high on a contrasting background. (Reference Code: 060.040.020 – Amendments to International Plumbing Code (IPC) definitions)

3.7 WATER MAIN LINES

- A. All materials including pipe, fittings, valves and fire hydrants must conform to the latest standards issued by the American Society of Testing and Materials (ASTM), the American Water Works Association (AWWA), the American Standards Association (ASA) and American National Standards Institute (ANSI) and National Sanitation Foundation (NSF), where such standards exist, and be acceptable to the City.
- B. Pipes or pipe fittings must not contain more than 0.25% lead. All products must comply with ANSI/NSF standards.
- C. Gaskets containing lead must not be used. Manufacturer approved transition joints must be used between dissimilar piping materials.
- D. All materials used for the rehabilitation of water mains must meet ANSI/NSF standards.
- E. Used materials will not be accepted.
- F. Packing and jointing materials used in the joints of pipe must meet the standards of AWWA and the City. Pipe having mechanical joints or slip-on joints with rubber gaskets is preferred.

Pipe and Fittings

- A. Refer to Ch. 7 specification, Water Transmission and Distribution Lines for comprehensive material requirements. Note the following:



- a. The City's preferred material of water mains is C900 Class DR18 minimum Polyvinyl Chloride (PVC) Pipe , Class 52 Ductile Iron Pipe may also be utilized in non-corrosive environments. Exceptions may be allowed by the city on a case-by-case basis.
- b. All pipe and services shall be installed with continuous tracer wire and tape and tied back into the valve box, fire hydrants and curb stop.

Corrosion Protection

- a. All ductile iron pipe and fittings, at a minimum, shall be encased in polyethylene. The polyethylene encasement shall be installed in such a way that it will prevent contact between the pipe and the surrounding backfill and bedding material.
- b. ductile iron pipe and fittings may be required to be epoxy-coated and utilize blue bolts at all fittings.

Joint Restraint and Thrust Protection

- a. All tees, bends, plugs, hydrants, etc. must be provided with concrete reaction blocking and joint restraint.
- b. Joint restraint shall be the applicable style of Megalug, (i.e. appropriate style for DIP or PVC).
- c. Locking pipe may be required in certain locations within the city system for all wet utility installations.

Minimum Pipe Size

- a. The minimum size for mains shall be an 8 inch inside diameter.
- b. The City shall be consulted as to the size of the water main. Larger size mains are required in specific areas. Nothing shall preclude the City from requiring the installation of a larger sized main in areas not addressed in the Plan, if the City determines that a larger size is needed to meet fire protection requirements or for future service.

Depth of Bury

- a. The minimum earth cover over water transmission and distribution lines shall be 5.5 feet. A greater depth shall be provided to avoid excessive high points in the main or where it is necessary to clear existing structures or obstructions. Water service lines shall have the same minimum cover. The Contractor shall be responsible for constructing water mains and services such that the required minimum cover is maintained.

Minimum Separation Distances from Pollution Sources or dry utilities

- a. Per current CDPHE Design Criteria , water mains shall be separated from pollution sources, as generally summarized below:
 - i. Parallel Installation of potable water mains with interceptors and sewer mains, reclaim, and irrigation (raw water) pipelines shall be accomplished in a fashion to preclude contamination of the water facilities. The separation distance shall be measured edge to edge of the interceptor or sewer main and the water pipeline. The potable water mains shall be located no less than 10 feet away from (i.e., between pipes, outside to outside) the sewer main.



- ii. Water mains crossing sewer must be laid to provide a minimum vertical distance of 1.5 feet between the outside of the water main and the outside of the sewer. This is the case whether the water main is above or below the sewer with preference to the water main located above the sewer.
- iii. At crossings, one full length of water pipe must be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.
- iv. Deviations to the horizontal separation distance are allowed, provided that the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at an elevation that the bottom of the water main is at least 1.5 feet above the top of the gravity sewer.
- v. If the interceptor or sewer main crosses over the water main but less than 1.5 feet of clear space will exist, either the sewer main or water pipe shall be installed in a pipe casing extending no less than 10 feet each side of the water main centerline. The pipe casing shall be of watertight material with no joints. The casing pipe material may be steel, ductile iron, or PVC with suitable carrier pipe supports and casing pipe end seals. Alternatively, reinforced concrete encasement of the carrier pipe extending no less than 10 feet each side of the water main centerline may be used.
- vi. If the interceptor or sewer main will cross above or over the water main, the interceptor or sewer main shall be installed in a pipe casing extending no less than 10 feet each side of the water main centerline.
- vii. If the minimum clearances cannot be satisfied, the City will consider alternative designs on a case-by-case basis.
- b. Water service pipe and the building sewer shall be separated by 5 feet of undisturbed or compacted earth (Reference IPC). Following exceptions apply:
 - i. The separation distance shall not apply where the bottom of water service pipe is a minimum of 12 inches above the top of the highest point of the sewer and the pipe materials conform to Table 702.3 in the IPC.
 - ii. Water service pipe is permitted to be located in the same trench with a building sewer, provided such sewer is constructed of materials listed in 702.2 in the IPC.
- c. The requirement for separation of sewer and water from all other utilities shall be a minimum of 4 feet of horizontal distance.

Future Connections

- a. Isolation Valve Required: When future main extensions are provided for by “stub out” or terminal connections, the stub out or terminal main extension shall be valved so that only one valve must be closed when the future main is extended. The valve shall be restrained to the existing distribution main to allow closure of the stub out or terminal main section without creating a pressure separation of the valve from the in-service distribution main.
- b. Valve Restraint: Valve restraint may be ensured by the use of a direct swivel connector or adapter, or by providing a pipeline extension that can restrain the valve through frictional resistance. Where valve restraint through frictional resistance of extended pipeline sections is



proposed, the Engineer shall determine the necessary pipe length required to provide adequate frictional resistance, subject to review and approval by the City.

- c. Thrust Restraint: Thrust restraint must be provided with concrete reaction blocking and joint restraint, i.e. Megalug or approved equal.
- d. Testing: When future connections are made, the entire main beyond the stub out or terminal main extension shall be flushed, chlorinated, and pressure tested.
- e. Service Taps Prohibited: No service taps shall be allowed on a stub out or on a terminal main beyond the isolation valve.
- f. A City standard 2" minimum blowoff assembly shall be installed on all permanent dead-end runs approved by the City, if fire hydrants are not located at the end. Wherever possible, the blowoff shall be installed in the street right-of-way, three feet from the curb and gutter. In no case shall the location be such that there is a possibility of back-siphonage into the distribution system. On water mains which will be extended in the future, the valve which operates the blowoff assembly shall be the same size as the main and provided with a concrete thrust block.

Bedding

- a. Refer to Ch. 7 specification, Trenching, Backfilling, and Compaction, for comprehensive pipe bedding requirements. Note the following:
 - i. Pipeline bedding material shall be Class 6 aggregate base course.
 - ii. Pipeline trench shall be backfilled entirely with Class 6 aggregate base course, or flow fill per engineering standards.

Encasement

- a. When water main encasements are required or requested by the City, the encasement shall be made using pipe casing in accordance with Ch. 7 specifications.
 - i. Concrete pipe encasements are not preferred. Exceptions may be allowed through City Water Department on a case-by-case basis.
 - ii. Mains to be installed inside casings shall be installed with self-restraining casing spacers. Casing spacers shall provide axial thrust restraint to prevent pipe deflection during and after installation.

Abandonment-in-Place

- a. All pipes that are to be abandoned in place shall be grout filled. The ends shall be physically cut and capped with two linear feet of non-shrink grout.
- b. All valves that are to be abandoned in place (on abandoned mainlines) shall have the top section of the valve box and valve box lid removed. The resulting cavity shall be backfilled with Class 6 aggregate base and compacted to 95%. Surface patching and restoration shall be in accordance with Chapter 5.
- c. City shall verify valve operation/position prior to abandonment.

Pipe Installation

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for additional pipe installation requirements.



Disinfection

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for disinfection requirements. Note the following:
 - i. The city prefers the tablet method for disinfection. Other methods may be allowed through the city on a case-by-case basis.
 - ii. The general disinfection procedure is as follows:
 - Disinfection performed using the concentration/time required in AWWA C651,
 - Collect high chlorine residual sample
 - Flush to background residual
 - Collect bacteriological sample
 - Let water sit undisturbed for minimum time per AWWA
 - Collect second bacteriological sample
 - iii. Bacteriological sampling must be performed by a Colorado-certified laboratory
 - iv. Contractor is responsible for all testing and record keeping. Contractor must certify in writing that all disinfection and required testing was performed. Test records must be submitted to the city.
- b. W/WW staff must be onsite to operate valves, observe high/low chlorine testing, flushing, bacteriological sampling
- c. Contractor is responsible for proper dechlorination and disposal of water used for flushing. If necessary, contractor will need to install a tap for flushing. Once finished, tap will need to be abandoned at main in accordance with these standards.

Pressure Testing

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for pressure testing requirements. Note the following:
 - i. Prior to the acceptance of the project, the water main pipe shall be flushed, subjected to a hydrostatic pressure test, and disinfected in accordance with specification, Water Transmission and Distribution Lines. The Contractor shall furnish all equipment and personnel for conducting the tests under the observation of the City inspector. The testing equipment shall be subject to approval.
 - ii. Tests shall be made after all connections have been made and the roadway section has been constructed to grade. The Contractor shall keep a record of the flushing and volume of water used from the City system in flushing and testing and shall provide the City Inspector with the report prior to acceptance of the main.
 - iii. A main shall not be tested until the lines have been flushed of chlorine. The contractor shall flush the pipelines by a means in accordance with good practice. The flushing shall be made through an open pipe end.
 - iv. At no time shall chlorinated water from a new main be flushed into a body of fresh water. This is to include lakes, rivers, streams, drainage ways, and any and all other waters where fish or other water life can be expected.
 - v. If connecting to an existing water main at an existing valve, the existing valve must be pressure tested to City standards prior to connection. If the existing valve is over 5 years old, a new valve must be installed. If an existing valve fails to pass the test, the Contractor shall



make the necessary provisions to test the new line prior to connection to the existing system or install a new valve.

- vi. All equipment used for pressure testing must be properly disinfected before being connected to the system.
- vii. City needs to be onsite to observe the entirety of the pressure test.

Inspection and Acceptance

- a. Prior to backfilling, all water lines and appurtenances shall be inspected and approved by the City. Approval shall not relieve the Contractor for correction of any deficiencies and/or failure as determined by subsequent testing and inspections. It shall be the Contractor's responsibility to notify the City for the required inspections.
- b. City will not accept the new line until records of the pressure testing and bacteriological tests are received.

3.8 VALVES

All materials including pipe, fittings, valves and fire hydrants must conform to the latest standards issued by the American Society of Testing and Materials (ASTM), the American Water Works Association (AWWA), the American Standards Association (ASA) and American National Standards Institute (ANSI) and National Sanitation Foundation (NSF), where such standards exist, and be acceptable to the City.

Materials

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for comprehensive material requirements. Note the following:
 - i. Gate valves shall be provided for sizes 4-inch through 10-inch.
 - ii. Butterfly valves shall be provided for sizes 12-inch and larger.
 - iii. Mud plugs required
 - iv. Valve boxes – see section 3.6.4 below

Minimum Spacing

- a. Valves shall be installed as necessary on water mains at the following locations:
 - i. Every intersection, all sides of tees/crosses, unless specified by city staff.
 - ii. No more than 600 feet of water main will be located between isolation valve zones (i.e., sections of main that may be taken out of service for maintenance activities). Staff may require additional valves depending on isolation requirements.
 - iii. Where necessary to ensure that no more than three valves must be closed to isolate any section of a transmission/distribution main.
 - iv. No more than two fire hydrants will be located between isolation valve zones.
- b. Valves shall not be placed in locations that may be subject to routine parking or storage and shall not be placed within public sidewalks, multi-use paths, or on-street bike lanes.



- c. Valves shall be located to provide maximum accessibility for emergency access.
- d. Valves outside of paved areas shall be marked with a flexible delineator marker post with a blue reflector, such as Carsonite markers.

Valve Boxes

- a. Valve boxes shall be centered and installed over each gate valve operator. Valve boxes shall be of such length as will be adapted, without full extension, to reach the ground surface above the pipe. The valve boxes shall be of cast iron, complete with cover, Buffalo type, two or three-piece, extension type with screw-on adjustment with #160 wide oval base to fit the valve to which it is to be used (Tyler 6850 Series). The cover shall have the word "water" cast on the top. All casting shall comply with country-of-origin marking laws. Boxes shall have 5-1/4 inch shafts. The minimum thickness of metal of the box shall be ¼ inch. Each valve box shall be fitted with a debris cap or plug, S. W. Services, or approval equal.
- b. Larger meter setters/box shall be approved by the water department.
- c. Valve boxes shall be centered on the valves. Earth fill shall be carefully tamped around the box, or to the undisturbed trench face if less than 4 feet.

Air Release Valves

The design of any air release valves/vaults must be approved by the city and will be on a case-by-case basis. All designs/calculations shall be by a professional engineer registered in the State of Colorado.

Pressure Reducing Valves

The design of any pressure reducing valves/vaults must be approved by the city, the City's consultant engineer, and will be on a case-by-case basis. All designs/calculations shall be by a professional engineer registered in the State of Colorado.

Inspection and Acceptance

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for installation requirements. Note the following:
 - i. Prior to backfilling, all hydrants and appurtenances shall be inspected and approved by the City. Approval shall not relieve the Contractor for correction of any deficiencies and/or failure as determined by subsequent testing and inspections. It shall be the Contractor's responsibility to notify the City for the required inspections.
 - ii.

3.9 FIRE HYDRANTS

Hydrant Lead Size

The minimum size hydrant lead/pipe connecting to a fire hydrant shall be 6-inches.



Easements

- a. All fire hydrants shall be installed within public rights-of-way or easements. Easements shall be a minimum of 15 feet square centered on the hydrant.
- b. Hydrant lead valve to have same easement requirements.
- c. Main line easements shall have 20' wide easement centered over pipe.

Placement and Accessibility

- a. The placement of fire hydrants shall comply with the City's most recent adoption of the International Fire Code.
- b. Snow removal (060.090.020 – Hydrant Access)

Spacing

- a. Spacing must meet minimum requirements of International Fire Code, Table C102.1. and the city fire marshal.
- b. In a single-family residential area, there shall be no more than 500 feet of fire access distance between hydrants. No dwelling unit shall be over 250 feet of fire access distance from the nearest hydrant.
- c. In all other areas, there shall be no more than 350 feet of fire access distance between hydrants. No exterior portion of any building shall be over 175 feet of fire access distance from the nearest hydrant.

Restraint and Thrust Protection

- a. All hydrants must be provided with concrete reaction blocking and joint restraint.
 - i. Joint restraint shall be the applicable style of Megalug, (i.e. appropriate style for DIP or PVC).
 - ii. Rodding between the fire hydrant and tee shall be determined on a case-by-case basis.

Depth of Bury

Fire hydrants depth of bury shall be 5.5 feet minimum.

Hydrants on Private Services

City maintains ownership of hydrants and hydrant lead lines on private service lines up to and including hydrant lead valve.

Materials

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for comprehensive material requirements. Note the following:
 - i. All fire hydrants for ordinary water works service shall be Mueller Super Centurion A423, or Kennedy K81D and conform to AWWA C 502.
 - ii. Each fire hydrant assembly shall be equipped with an auxiliary shut-off valve located between the water main and the fire hydrant as shown on the drawings. The auxiliary valve size shall be 6



inches and is bolted directly to the tee. The branch piping from the main to the fire hydrant shall be 6-inch C900 or ductile iron pipe. (A MJ x swivel tee is allowed on branch.)

Pressure Testing

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for testing requirements. Note the following:
 - i. Hydrant shall be tested up against the hydrant lead valve.

Disinfection

Refer to previous sections above for disinfection requirements. Disinfection procedures for hydrants shall be the same as water mains.

Inspection and Acceptance

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for comprehensive inspection requirements. Note the following:
 - i. Hydrants shall be bagged and marked out-of-service until accepted and approved by the City.
 - ii. Prior to backfilling, all hydrants and appurtenances shall be inspected and approved by the City. Approval shall not relieve the Contractor for correction of any deficiencies and/or failure as determined by subsequent testing and inspections. It shall be the Contractor's responsibility to notify the City for the required inspections.

3.10 SERVICE LINES

General

- a. Only City W/WW Department staff may install the water service line between the City's main up to (and including) the curbstop shut-off valve. In certain circumstances—and only with pre-authorization—the city may approve a qualified contractor to install the service line and curb stop valve while under the City's direct supervision (080.040.030(a) - Construction of Waterlines and Appurtenances).
- b. The customer is responsible for all costs incurred by the City for the installation of the service line between the water main up to (and including) the curbstop valve 080.040.010(e) - Maintenance of Service Lines.
- c. The water service connection made on the customer-side of the water curbstop valve must be inspected and approved by City staff before the new water service will be turned on.
- d. Curbstops are city ownership and may be operated only by city staff, unless preauthorization has been granted. Operations of curbstop shall be done during the Water Department's regular hours of operation. Anything outside regular business hours shall be billed at an hourly rate.

Tap size

- a. The maximum size of a water service tap shall be based on the number of equivalent units (EQRs) established in Article 080.040.010 (d) - Service Connections.



Depth of Bury

Water services are recommended to follow same depth of bury requirements as water mains.

Service Tap Abandonment

- a. Any existing service tap that is no longer active or will not be used must be abandoned at the main. For $\frac{3}{4}$ " to 2" services, the corporation stop and saddle must be removed and full circle repair clamp (12.5" width) must be installed. For services greater than 2", valve must be removed, and plug installed with thrust block, see section 3.5.4 for thrust block information.
- b. Installation of a replacement tap will not be allowed by the city until all existing service taps are properly abandoned. Alternate abandonment schedules may be allowed by the city on a case-by-case basis.

Minimum Distances from Fittings and Services

- a. The city requires a minimum of 5 feet between tap locations or any fittings along the water main line. If the minimum clearances cannot be satisfied, the city will consider alternative designs on a case-by-case basis.

Combined Fire/Domestic Services

- a. A combination fire sprinkler/domestic service line is allowed from the City's water distribution main if the following conditions are met:
 - i. All combination systems must follow NFPA 25 Standards.
 - ii. The combination line shall separate into a domestic service line (with meter) and a dedicated fire sprinkler line (without meter, but with Oriseal shutoff) within the structure.
 - iii. Fire systems shall be separate or separated from domestic systems in such a way that both systems can be operated and tested at their respective pressures.

Irrigation Services

- a. Irrigation service lines shall serve no more than one individual property, unless approved by the City under the provisions of a homeowner's association.
- b. Reference to Appendix – Water Distribution Standard Drawings for irrigation riser detail and preferred manufacturer materials.
- c. Contractors/Developers/Owners to consult Parks and Recreation department for irrigation clock specifics and requirements per location and accessibility. The preferred clock manufacturer is Rain Master.
- d. Main line irrigation to be Schedule 40 PVC piping sized appropriately for required system design.
- e. The preferred spray head manufacturer is Rain Bird.

Pressure Reduction Devices on Service Lines

If the water system pressure exceeds 80 psi, a pressure reducing valve must be installed downstream of the water meter (IPC).



Services 2-inch (2") and Smaller

- a. Refer to Ch. 7 specification, Water Transmission and Distribution Lines, for comprehensive material requirements. Note the following:
 - i. Tapping saddle – Mueller/Smith Blair or approved equal, with brass body, stainless steel straps and iron pipe thread.
 - ii. Corpstop valve - Mueller/McDonald or approved equal; Iron pipe (IP) thread; Teflon Ball with 300 psi rating.
 - iii. Pipe Type –Type K Copper or Pure-core HDPE, or approved equal.
 - iv. Curbstop Valve – Mueller or approved equal, with compression fittings.
 - v. Valve Box - Mueller/McDonald or approved equal; 1 ½" Upper for ¾' & 1"; 2" Upper for 1 ½" & 2". Residential style operating rod.
 - vi. Identification and Marking – Tracer wire and tape shall be installed.

Services Larger than 2-inch (2")

- a. Refer to specification Water Transmission and Distribution Lines for complete requirements. Note the following:
 - i. Tap – MJ tee or hot tap (stainless steel tapping saddle)
 - ii. Gate valve – reference section 3.3
 - iii. Pipe Type –C900 or ductile iron
 - iv. Valve Box – See section 3.6.4 for specifications.
 - v. Identification and Marking – Tracer wire and tape shall be installed.
 - vi. Restraint Systems - All tees, bends, plugs and hydrants must be provided with reaction blocking, tie rods or joints designed to prevent movement.

3.11 WATER METERS

General Requirements

- a. A City-approved water meter must be installed on any water service line. Requirements are defined in the Code 080.040.020 – Water meter equipment.
- b. Requests for water meters can be initiated by contacting the city. (Reference Code:080.040.020(b)(2)– Water meter equipment/Installation, Ownership and Maintenance)
- c. The meter must be installed in a location that can be accessed for inspection and future maintenance. Existing meters that are inaccessible by city staff will be required or made accessible by owner. Failure to provide accessibility to the meter will potentially result in water shut-off by city staff.



- d. A schematic showing typical meter installation, including additional requirements for isolation valves, pressure reducing valves, and cross-connection devices will be provided by plumber for city review.
- e. The meter installation must be inspected and approved by City staff before the new water service will be turned on. (Reference Code: 080.040.020(b)(1) – Water meter equipment/Installation, Ownership and Maintenance).

3.12 EARTHWORK

Site Control and Safety

Contractor to provide safe and healthful working conditions on each operation at all times. Contractor shall comply with all provisions, regulations and recommendations issued pursuant to the Occupational Safety and Health Act, and the Construction Safety Act as amended, and with laws, rules and regulations of other authorities having jurisdiction, with regard to all matters relating to the safety and health of workers and the general public. Compliance with government requirements is mandated by law and considered only a minimum level of safety performance. Perform all work in accordance with best safe work practices recognized by the construction industry.

Traffic Control

Refer to Chapter 5 for traffic control requirements.

Trenching operations

Refer to Ch. 7 specification, Trenching, Backfilling and Compaction, for additional information.

Protection of existing structures and utilities

Contractor shall protect all existing structures, utilities and improvements not designated for removal and shall restore damages or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation.

Backfill and compaction

Refer to Ch. 7 specification, Trenching, Backfilling and Compaction, for additional information.

Street Patching and Restoration

See Chapter 5 regarding patching and trench restoration.



APPENDIX – WATER DISTRIBUTION STANDARD DRAWINGS

CITY STANDARD DRAWINGS	Filename
W01. Concrete Thrust Block Details	
W02. Concrete Thrust Block Details	
W03. Fire Hydrant Assembly	
W04. Gate Valve Detail	
W05. Gate Valve and Box Assembly	
W06. Water Pipe Insulation Detail	
W07. Polyethylene Wrap Detail	
W08. Water Service Connection Detail	
W09. Water Main Concrete Encasement Detail	
W10. Line Valves at Tees and Crosses	
W11. Vertical Bend Anchor Detail	
W12. Water Meter Pit	
W13. Trench Excavation and Backfill Detail	
W14. Irrigation Connection Detail	





Chapter 2

Wastewater Collection Standards City of Glenwood Springs Engineering

Revised 2026

Chapter 2 Wastewater Collection Standards

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Chapter 2 Wastewater Collection Standards

I. Introduction

This chapter shall govern all new construction, reconstruction and rehabilitation of City of Glenwood Springs operated sewer. In addition, these standards and guidelines shall apply to all private developments within the city.

These Engineering Standards and Guidelines will also be cited in the text as the “Standards.”

II. Design Standards

The following codes and manuals shall be applicable when pertinent to the work, when specifically cited in these Standards, or when required. Refer to individual chapters for additional design standards.

- a. Rules and Regulations as adopted in the City of Glenwood Springs Municipal Code (Code)
- b. City of Glenwood Springs (City).
- c. American Water Works Association (AWWA).
- d. Colorado Department of Public Health and Environment (CDPHE).
- e. International Plumbing Code (IPC).
- f. International Building Code (IBC).
- g. Occupational Safety and Health Administration (OSHA).

III. Definitions and Terms

- a. **As-Built Drawing:** Plans that indicate the actual constructed condition as surveyed or noted by the contractor. As-Built Drawings will be required even if the system is private.
- b. **Private Sewer System:** This includes a sewer service or main for a building or development that is not maintained by the city. This shall include lift stations, pressurized systems, and gravity lines serving a development unless the system serves multiple developments and is approved for acceptance by the Public Works Director. The owner or homeowner’s association is responsible for the maintenance of the system from the building to the public main, including “broken in” connections to the main if an integrated WYE is not installed.
- c. **Public Sewer Main:** Portion of the system located within public right-of-way or easements, and which are operated and maintained by the city. The City’s responsibility includes the sewer main the integral sewer wye/factory tap.
- d. **Wastewater Systems:** Sewage facility and sewage derived from domestic, commercial, and industrial waste to which storm water and groundwater are not intentionally admitted.



2.1 GENERAL REQUIREMENTS

- A. Any extension/connection of the City's Wastewater System must be approved by the City and be in conformance with the Colorado Department of Public Health and Environment (CDPHE) regulations, and the CDPHE Recommended Standards for Wastewater Facilities (Design Criteria). (Reference Code: 080.030.010(a) – Connections to wastewater system/Requirement to Connect).
- B. Where there are conflicts or differences between these Standards and City ordinances, the more restrictive requirement shall apply according to the determination of staff.
- C. All sewer systems shall be designed as a gravity sewer whenever physically and/or economically feasible.
- D. All buildings located within the City and within four hundred (400) feet of any established wastewater line, which are used for residence or business purposes or in which people congregate or are employed, must be connected with the City wastewater system; and all plumbing fixtures in such buildings shall also be connected to the City's wastewater system. Staff may override this requirement if it is not practical or feasible. Where an established wastewater line is not so available, the building wastewater may be connected to a private disposal system in conformity with the design criteria and rules and regulations of CDPHE. All private disposal systems shall be approved by the County and reviewed by the City. (Reference Code: 070.040.030(a)(1) – Site Development and Improvement Standards/Purpose; 080.030.010(a) – Connections to wastewater system/Requirement to Connect)
- E. In designing and planning for any development, it is the developer's responsibility to see that adequate sewer systems are provided. The developer must show in the proposed plans how sewer facilities will be provided and whether the existing system will be adversely impacted. A detailed analysis of the existing and proposed system may be required. If adverse impacts are indicated, the city may require upgrading of the existing public wastewater system. Design of wastewater facilities shall be by a registered engineer in the State of Colorado and will be reviewed by the City for compliance with these Standards. (Reference Code: 080.030.010(a) – Connections to wastewater system/Requirement to Connect; 070.080.050(d)(2) – Relationship of Regulations to Other Requirements.
- F. Any person who wishes to connect onto the City's wastewater system must first make an application for such connection to the city, procure the necessary permits, and pay the necessary fees (tap fee, improvement fee, etc.) for such connection. Prior to discharge of any wastewater, all improvements must be completed, accepted by the city and approved, including granting of right-of-way or easements, and all applicable fees must be paid. (Reference Code: 060.020 – International Building Code: Section 109.2 Schedule of Permit Fees; 080.030.010(b) – Connections to wastewater system/City Permission Required; 080.060.040 – Amount of System Improvement Fee)
- G. No person shall abandon any private sewer service connection to the City's wastewater collection system without first obtaining the necessary permits and written authorization through the City. (Reference Code: 080.030.010(e) – Connections to wastewater system/Abandonment of connection)



- H. With the exception of private sewer services defined in these Standards, all wastewater lines constructed pursuant to these Standards shall be and become the sole and exclusive property of the City, as well as any and all easements and rights-of-way therefore; and all such persons paying for the same shall, upon request of the City, execute and deliver any and all necessary and proper deeds of conveyance, assignments or other documents which the City may desire to perfect such ownership by the City. (Reference Code: 080.030.020(d) – Line extensions/Ownership of Extension)
- I. The City's W/WW Department staff shall be onsite to observe, inspect, and approve ANY work that may affect water or sewer mains, including private services and mains. (Reference Code: 080.030.020(b) – Line extensions/Installation)
- J. All work upon or in connection with any portion of the wastewater system of the City or any utilities which connect thereto shall be done by the City or by a qualified contractor that is specifically granted permission by the City. Such work shall be performed in conformity with the Design Criteria of the CDPHE, these Standards and the rules and regulations of the City. Such work shall be inspected and approved by the City. (Reference Code: 080.030.040 – Work Performed)
- K. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters. (Reference Code: 080.030.030(b)(10) Waste discharge regulations/Discharge of non-acceptable wastes into wastewater system prohibited; 060.040.020 (Amendment adding Ch. 11, Section 1104.3 to the IPC) Amendments to International Plumbing Code – Combining Storm and Sanitary Drainage)
- L. The City shall be given 72 hours' notice prior to scheduling a diversion of flows in the wastewater system. Connections to existing sewer facilities where live flows exist shall be made only after consultation with and receipt of written permission from the City. No bypass of sewage to the surface will be allowed in the completion of this connection.
- M. During the construction of mains and services, the contractor shall cap, plug, or secure the ends of such lines whenever the project is shut down at the end of the day so that contaminants will not enter the lines.
- N. The City construction inspector shall be notified a minimum of 72 hours in advance of the time that a tap connection to an existing main or a service connection to an existing main is needed so that the wastewater division crew may be scheduled for the work. Failure to provide 72-hour notice of inspection will cause an additional inspection fee to be charged. The inspector shall be present at the time of the tap. All private sewer connections to existing public sewer mains and all taps to existing public mains shall be made by City personnel at the expense of the Contractor, unless the Contractor is specifically granted permission to perform the tap or service connection at the Contractor's expense. At the time of notification, the customer must also notify the city of the requested sewer tap sizes. (Reference Code: 080.030.040 – Work Performed)
- O. Any extension or enlargement installed by someone other than the City shall be guaranteed for two years from the date of City acceptance. (Reference Code: 080.030.020(b) – Line extensions/Installation; 070.040.030(f)(2) – Site Development and Improvement)



Standards/Assurance and Acceptance of Public Improvements/Acceptance by City of Public Improvements)

- P. Utility Easements and rights-of-way shall be provided for installation and maintenance of City water and wastewater facilities (Reference Code: 070.040.030(e)(7) – Site Development and Improvement Standards/ Site Development and Improvement Standards/Underground Utilities).

2.2 REQUESTS FOR SEWER SERVICE AND REQUIRED PRE-CONSTRUCTION SUBMITTALS

The following section covers the required submittal material necessary for the City to review a sewer project to ensure that it conforms to these standards/regulations. This information is in addition to the requirements of Chapter 1.

- A. The following items shall be included on all plan drawings.
 - a. Show outline of water and sewer main and service lines. Show centerline of water and sewer line with appropriate ties to centerline of street or survey control lines, curbs, property lines or right-of-way lines and easement lines.
 - b. On each sheet of the plan, show a sufficient number of typical sections to give the relative location of surface and underground improvements with respect to proposed sewer main. Indicate size, type and other appurtenant data for all improvements.
 - c. Utilities, sewers, and storm drains.
 - d. Indicate the type, size and ownership of all existing utilities in streets or rights-of-way or rights-of-way in which the water and sewer lines are to be connected. Tie utilities, sewers, house connections, and storm drains to streets rights-of-way centerline or to street property line.
 - e. Indicate portions of existing utilities that are to be abandoned because of water and sewer construction.
 - f. Details: At intersections where tees, crosses, valves and concrete reaction blocks are to be provided, or at any other sections of the lines where a large number of fittings will be involved, show a large-scale view of the appurtenances with dimensions to each separate fitting.

2.3 DESIGN REVIEW POLICIES

- A. See Chapter 1, regarding design review policies.

2.4 AS-BUILT DRAWING SUBMITTAL

- A. In addition to the requirements of Chapter 1, the following wastewater collection specific information shall be included in the as-built drawings.
 - a. Pipe size and type details
 - b. Service tap locations



- c. Manhole elevations, rim elevations, and invert elevations
- d. All tees, service wyes, and other sewer line appurtenances either below ground or at the ground surface shall have reference measurements to at least three prominent above ground objects. All such measurements shall be recorded on the set of As-Built Drawings and shall be provided to the City after the completion of the project.

2.5 CONSTRUCTION WATER USAGE POLICY

All water used for construction purposes must be pre-approved by the City and users must follow the protocol outlined in the City's Construction Water and Fire Hydrant Usage policy.

2.6 WASTE DISCHARGE REGULATIONS

- A. Waste Discharge Regulations are defined in Section 080.030.030 of the Code. Note the following:
 - a. It shall be unlawful for any person to place or cause to be placed any solids or insoluble matter of any kind or nature whatsoever within any wastewater line belonging to the City or any part thereof or within any connection thereto.
 - b. The discharge of nonacceptable wastes into the City wastewater system, whether directly or indirectly, is prohibited; and, where investigation reveals the presence in the system of nonacceptable wastes emanating from any lot, land, building or premises, the owner, lessor, renter or occupant of such lot, land, building or premises shall be required at his/her own expense to treat, neutralize or in other ways prepare the noxious substance therein to the satisfaction of the City in order to convert the same into acceptable wastes. Nonacceptable wastes are herein defined as follows:
 - i. Any liquid or vapor having a temperature higher than one hundred fifty (150) degrees Fahrenheit;
 - ii. Any water or waste having a five-day Biochemical Oxygen Demand which may contain more than five hundred (500) parts per million by weight as averaged during any twelve-hour period,
 - iii. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas;
 - iv. Any solid waste;
 - v. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch, manure, grit, brick, cement, onyx, carbide or any other solid or viscous substance capable of obstruction of the flow of the wastewater lines or other interference with the proper operation of the wastewater system;
 - vi. Any water or waste having a pH lower than six and one-half (6.5) or higher than nine (9), or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the wastewater system;



- vii. Any water or waste containing a toxic or poisonous substance in sufficient quantities to injure or interfere with the wastewater process, instituting a hazard to humans or animals or creating any hazard in the receiving water at the City's wastewater treatment facility;
 - viii. Any water or waste containing total suspended solids (TSS) of such character or quantity that unusual attention or expense is required to handle such materials at the City's wastewater treatment facility;
 - ix. Any noxious or malodorous gas or substance capable of creating a public nuisance
 - x. Any surface or ground water; or
 - xi. Any toxic or poisonous pollutant which causes an increase in the cost of operation and maintenance at the City's wastewater treatment facility. Upon violation of this Paragraph, in addition to all other remedies of the City, the City shall require the violator to pay the incremental fines as noted in Subsection (g). In the event the above-described nonacceptable wastes cannot be treated, neutralized or in other ways prepared to the satisfaction of the City Representative, the City Representative may order the building discharging such nonacceptable wastes disconnected from the City's wastewater system until such wastes can be eliminated, treated, neutralized or in other ways prepared to the satisfaction of the City Representative.
 - xii. Any water from storm drains, roof drains, window well drains, drainage collection systems, foundation drains, sumps, surface runoff, sub-surface drainage, or cooling processes.
 - xiii. Garage drains shall not be discharged into City's wastewater system prior to a sand oil separator or equivalent being installed.
- c. The city may order any building discharging such nonacceptable wastes as defined above disconnected from the City's wastewater system until such wastes can be eliminated, treated, neutralized or in other ways prepared to the satisfaction of the city.
 - d. Grease, oil and sand traps or other appurtenances shall be provided when, in the opinion of the City, they are necessary for the proper handling of any liquid waste containing grease in excessive amounts or any flammable waste, sand or other harmful ingredients. All traps shall be of a type and capacity approved by the City and shall be located as to be readily and easily accessible for cleaning and inspection. See dedicated section 2.16 for additional information about grease interceptors.
 - e. When required by the City, the owner of any property served by a private sewer service line carrying industrial waste or nonacceptable waste, as defined in this Section, shall install a suitable control manhole in the private sewer service line to facilitate observation and sampling of the waste by the City. Such manholes, when required, shall be accessible and safely located and shall be constructed in accordance with the plans approved by the City. The manholes shall be installed and maintained by the owner at their expense.



2.7 GRAVITY SEWER MAINS

A. General

- a. Sewer mains shall be sized for the ultimate development of the tributary area. New gravity sewer systems shall be designed on the basis of an average daily per capita flow of sewage of not less than 100 gallons per day plus wastewater flow from industrial plants and major institutional and commercial facilities unless water use data is available to better estimate the flow. The 100 gal/capita/day figure shall be used in conjunction with a peaking factor to cover normal infiltration. However, an additional allowance should be made where the conditions are unfavorable. If the new collection system is to serve an existing development, the likelihood of inflow and infiltration (I/I) contributions from existing service lines shall be evaluated and the wastewater facilities designed accordingly. Nothing shall preclude the City from requiring the installation of a larger sized main if the City determines that a larger size is needed to meet the requirements for future service. All additional costs for the enlargement shall be paid by the City (Reference Code: 080.030.020(c) – Line extensions/Service Line Connections or Enlargement of Use)
- b. Generally, gravity sewers shall be designed with straight alignment between manholes, however, curved alignment may be permitted when conditions warrant, upon special approval of the City.
- c. Cleanouts at the end of sewer mains will not be accepted as a substitute for a manhole.
- d. Sewer lines shall be designed to prevent damage from superimposed live, dead, and frost induced loads. Dead loads shall include at a minimum soil and potential groundwater. Where necessary, special bedding, haunching and initial backfill, concrete cradle or other special construction shall be used to withstand anticipated superimposed loading or loss of trench wall stability.
- e. A minimum of 4' of separation shall be provided when sanitary sewer is adjacent to dry utilities.

B. Pipe and Fittings

- a. Refer to Ch. 7 specification, Sanitary Sewer lines for comprehensive material requirements. Note the following:
 - i. The preferred material of sewer mains is gasketed SDR 35, SDR 26 or C900 Polyvinyl Chloride (PVC) Pipe and fittings. Exceptions may be allowed by the city on a case-by-case basis, or when bury depths require. Certain areas of the city require locking pipe; staff will make the developer aware of these areas during development review.
- b. All pipe and services shall be installed with continuous marking tape, tracer wire, backwater valve, and tracer wire box when applicable.

C. Minimum Pipe Size

The minimum size for mains shall be an 8 inch inside diameter.



D. Depth of Bury

Gravity sewer mains will typically have a minimum depth of 5.5 feet. Actual depth will be determined by slope, flow, velocity, and elevation of existing system. Any mains deeper than 15' shall be reviewed and approved or denied by the Public Works Director.

E. Minimum Separation Distances from Pollution Sources or Dry Utilities

- a. Per current CDPHE Design Criteria, water mains shall be separated from pollution sources, as summarized below.
 - i. Parallel Installation of sewer mains with potable, reclaim, and irrigation (raw water) water pipelines shall be accomplished in a fashion to preclude contamination of the water facilities. The separation distance shall be measured edge to edge of the sewer main and the water pipeline. The sewer mains shall be located no less than 10 feet away from (i.e., between pipes, outside to outside) and 1.5 feet below the potable water pipeline. The sewer mains shall be located no less than 4 feet away from and 1.5 feet below the reclaim water pipeline of irrigation (raw water) pipeline.
 - ii. If the sewer main crosses under the water main but less than 1.5 feet of clear space will exist, the sewer main shall be installed in a pipe casing extending no less than the 10 feet each side of the water main centerline. The pipe casing shall be of watertight material with no joints. The casing pipe material may be steel, ductile iron, or PVC with suitable carrier pipe supports and casing pipe end seals. Alternatively, concrete encasement of the carrier pipe bells extending no less than 10 feet each side of the water main centerline may be used if approved by the city on a case-by-case basis.
 - iii. If the sewer main will cross above or over the water main, the sewer main shall be installed in a pipe casing extending no less than 10 feet each side of the water main centerline.
 - iv. If the minimum clearances cannot be satisfied, the city may consider alternative designs on a case-by-case basis. Any variances require written approval by City.
- b. Per the IPC, water and sewer service pipe shall be separated by 5 feet of undisturbed or compacted earth. Following exceptions apply:
 - i. The separation distance shall not apply where the bottom of water service pipe within 5 feet of the sewer service is a minimum of 12 inches above the top of the highest point of the sewer and the pipe materials conform to Table 702.3.
 - ii. Water service pipe is permitted to be located in the same trench with a sewer service, provided such sewer is constructed of materials listed in Table 702.2.
- c. The requirement for separation of sewer and water from all dry utilities shall be a minimum of 4 feet of horizontal distance.



F. Slopes

- a. All sewers shall be designed and constructed to give mean velocities of not less than 2.0 feet per second when flowing at 50% capacity based on Manning's Formula using a minimum "n" value of 0.013. The following minimum slopes apply:

Table 0-1 Sewer Line Pipe Slopes

Nominal Pipe Size (Inches)	Minimum % Slope (Feet / 100 Feet)
8	0.40% - (0.0040 ft/ft)
10	0.28% - (0.0028 ft/ft)
12	0.22% - (0.0022 ft/ft)
15	0.15% - (0.0015 ft/ft)
18	0.12% - (0.0012 ft/ft)
21	0.10% - (0.0010 ft/ft)
24	0.08% - (0.0008 ft/ft)
27	0.067% - (0.00067 ft/ft)
30	0.058% - (0.00058 ft/ft)
36	0.046% - (0.00046 ft/ft)

- b. Under special conditions, slopes slightly less than those required for the 2.0 feet per second velocity may be permitted by the City. Such decreased slopes will only be considered where the depth of flow will be 0.3 of the diameter or greater for design average flow. Whenever such decreased slopes are proposed, the design engineer shall furnish with the plans his computations of the depths of flow in such pipes at minimum, average, and daily or hourly rates of flow. Larger pipe size shall not be allowed to achieve lesser slopes.
- c. Sewers shall be laid with uniform slope between manholes. Uniform slope shall be checked by using a laser beam or lamping.
- d. Where sewer mains are laid on slopes of 6.0 percent or greater or where ground water may use the trench as a conduit, check dams may be required to be placed along the pipe. The design spacing shall be noted on the plans. Installation must be documented and As-Built Drawings with a certification from a licensed engineer shall be submitted prior to issuance of a Certificate of Occupancy.
- e. For sewer mains on a slope 12 percent or greater, the city will require mechanically restrained bells, joints and fittings. Based on soil types, the city may require restrained bells, joints and fittings on a case-by-case basis on any slope.
- f. Sewer mains on 20 percent slope or greater shall be anchored securely with concrete anchors, or other approved method. The anchors shall be designed and stamped by a Colorado registered professional engineer. Installation must be documented and As-Built



Drawings with certification from a licensed engineer shall be submitted prior to issuance of a Certificate of Occupancy. The spacing shall be as follows:

- i. 20% to 35%, not over 36 feet center to center spacing
- ii. 35% to 50%, not over 24 feet center to center spacing
- iii. 50% and over, not over 16 feet center to center spacing

G. Pipe Size Change

- a. Manholes shall be provided where pipe size changes occur.
- b. Where a smaller sewer main joins a larger one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient.

H. High Velocity Protection

Any sewer installation where velocities are proposed to be over 10 feet per second shall be reviewed and approved or denied on a case-by-case basis.

I. Drops

- a. Straight grades between invert out of last manhole and connection to existing manhole are preferred over drops. Care must be taken when designing steep grades or sweeps so as not to create a situation of excessive velocity or excavation. Grade changes associated with sweeps shall not be allowed, unless otherwise approved by the City.
- b. An outside drop connection shall be provided for a sewer entering a manhole at an elevation of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert shall be filleted to prevent solids deposition in the manhole. Outside drop connections shall be constructed per City Standard Drawings. Where the slope of the sewer main connecting to a drop connection exceeds 8.0 percent, a bend fitting shall be installed on the drop connection which most closely matches the angle made from the horizontal plane by the pipe.
- c. An inside drop connection may be considered by staff on a case-by-case basis.

J. Bedding

Refer to Ch. 7 specification, Trenching, Backfilling, and Compaction for comprehensive pipe bedding requirements. Note the following:

- a. Pipeline bedding material shall be Class 6 aggregate base course. Other materials may be considered by staff on a case-by-case basis.
- b. Pipeline trench shall be backfilled entirely with Class 6 aggregate base course or CDOT approved flow-fill. Other materials may be considered by staff on a case-by-case basis.

K. Encasement

When sewer main encasements are required by the City, the encasement shall be made in accordance with Ch. 7 specifications.



- a. Concrete pipe encasements are not preferred. Exceptions may be allowed through an approval process by the City.
- b. Pipe Segment (manhole to manhole) may be adjusted to C900 PVC to provide secondary containment for sewer mains provided that the pipe bell joints are encased in concrete 10 feet each side of a water crossing location or along substandard horizontal clearance from water.

L. Abandonment-in-Place

All pipes that are to be abandoned in place shall be grout filled. The ends shall be physically cut, mechanical plug installed two linear feet into pipe, and pipe capped with two linear feet of non-shrink grout.

M. Pipe Installation

Refer to Ch. 7 specification, Sanitary Sewer Lines for pipe installation requirements.

N. Testing

Refer to Ch. 7 specification, Sanitary Sewer Lines, for comprehensive pipe testing requirements. Note the following:

- a. Prior to acceptance of the project, the gravity sewer pipe shall be subject to a low-pressure air test in accordance with Ch. 7 specification Sanitary Sewer lines, section 3.09. The Contractor shall furnish all equipment and personnel for conducting the test under the observation of the City inspector. The testing equipment shall be subject to approval.
- b. All wyes, tees, and end of side sewer stubs shall be plugged with flexible joint caps, or acceptable alternatives and securely fastened to withstand the internal test pressures. Such plugs or caps shall be readily removable, and their removal shall provide a socket suitable for making flexible jointed lateral connection or extension.

O. Cleaning, Inspection, and Acceptance

- a. Prior to backfilling, all sewer lines and appurtenances shall be inspected and approved by the City. Approval shall not relieve the Contractor for correction of any deficiencies and/or failure as determined by subsequent testing and inspections. It shall be the Contractor's responsibility to notify the City for the required inspections.
- b. Prior to acceptance, all sewer mains shall be high velocity jetted in conformance with Ch. 7 specifications, Sanitary Sewer lines, at the Contractor's expense. Hydrant flushing of lines is not an acceptable cleaning method.
- c. The Contractor shall televise the entire line as soon as the leakage and manhole tests are satisfactorily completed with the procedure outlined in the specifications. Any defects noted shall be repaired immediately. A copy of the video shall be provided to the City prior to acceptance of the project.
- d. At completion of hard surfaces, the contractor may be required to retelevise the entire line. Any defects or materials within the pipe shall be immediately cleaned and repaired, to include manhole inspections.



2.8 MANHOLES

A. Minimum Size

- a. Manholes shall be a minimum of 48" inside diameter. Minimum diameter shall be 60" where connecting mains are 18" or larger.
- b. Manhole diameter sizing shall be based upon the number of pipes entering and exiting the manhole, the ability to achieve transitions in the flow, adequate shelves, room for maintenance and television inspections, and maintain the strength of the manhole.
- c. Sewer manholes greater than 10' in depth shall have a minimum of a 60" diameter.

B. Spacing

Preferred manhole spacing is 250 feet or less but shall be no more than 300 feet. Spacing beyond this will be considered on a case-by-case basis.

C. Minimum Slope Through Manhole

Minimum slope through the manhole shall be 2/10th of one foot from the invert into the invert out. All manholes shall be channeled.

D. Castings

- a. Where lock-type castings are called for, the casting device shall be such that the cover may be readily released from the ring and all movable parts shall be made of non-corrosive materials and otherwise arranged to avoid possible binding.
- b. City will inspect and approve all manholes and manhole appurtenances.

E. Accessibility

All manholes shall be located so that they are accessible by maintenance vehicles and shall be no closer than 5 feet from any surface obstruction.

F. Materials

Refer to Ch. 7 specification, Sanitary Sewer lines for comprehensive material requirements. Note the following:

- a. Concrete Rings shall be precast concrete or adjustable, traffic-grade, plastic rings/risers when applicable.
- b. Precast concrete manhole bases are preferred. Cast-in-place bases with integrally cast-in water stops may be approved by the city on a case-by-case basis. The tops of the base shall be at least 12 inches above top of pipe.
- c. Manhole steps shall be steel reinforced copolymer polypropylene.
- d. Joints shall have a double (rubber-neck or equivalent) flexible seal. Joints shall also be grouted from the inside.
- e. Lift Holes shall be grouted from the outside and inside of the manhole.
- f. Grade Adjustment Rings shall be precast concrete



- g. Frame (manhole) rings shall be machine finished or ground-on seating surfaces so as to assure non-rocking fit in any position and interchangeability.
- h. Cover shall be grey iron stamped with "SEWER". Covers shall be machine finished or ground-on seating surfaces so as to assure non-rocking fit in any position and interchangeability.
- i. Exterior manhole coatings shall be with bituminous coating prior to delivery to the job site. All exterior manhole connections shall be wrapped with a minimum 12-inch-wide ice and water shield or equivalent product.
- j. Interior manhole coatings may be required on a case-by-case basis per water/wastewater department recommendations.

G. Manhole Installation

Refer to Ch. 7 specification, Sanitary Sewer lines, for comprehensive manhole installation requirements. Note the following:

a. Connections to Manholes

- i. Connection of manhole with pipe shall be made with flexible connector.
- ii. Extra care shall be taken by grouting or other means of sealing to assure positive watertight manholes around the inlet or outlet pipes.

b. Manhole Floor and Inverts

- i. Invert channels shall be smooth and semi-circular in shape, conforming to the inside of the incoming and outgoing sewer pipelines.
- ii. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit.
- iii. Changes in size and grade of the channels shall be made gradually and evenly.
- iv. Where large differences in invert elevations exist, sloped flow channels shall be formed so the wastewater does not undergo a vertical drop.
- v. The invert channels may be formed directly in the concrete of the manhole base.
- vi. The floor of the manhole outside the channel shall be smooth and shall slope toward the channels.

c. Finish Grade and Adjustment

Manhole cover and frame shall be no less than 6 (six) inches, and a maximum of 8 (eight) inches. To bring the manhole cover to the correct elevation, the top section of each manhole shall be constructed of pre-cast concrete grade adjustment rings.

- i. Rings shall be not less than six inches (6") wide and furnished in heights to allow for two-inch (2") adjustments.
- ii. Grade adjustment with rings shall be eight inches (8") maximum and two inches (2") minimum.



- iii. All rings shall be grouted in place with 6000 psi non-shrink grout and sealed with approved construction adhesive.

d. Manhole Stubs

- i. Pipe stubs shall be a full stick of pipe with bell end and extend approximately 20' from the outside face of the manhole, and/or approved on a case-by-case basis.
- ii. Stubs shall be capped or plugged with manufactured fittings to form a watertight installation.
- iii. The minimum connection to existing main shall be no less than 6 (six) feet.

H. Manhole Testing

Refer to Ch. 7 specification, Sanitary Sewer lines, section 3.10, for comprehensive testing requirements. Note the following:

- a. Prior to acceptance of the project, the manholes shall be subject to a leakage test. The Contractor shall furnish all equipment and personnel for conducting the test under the observation of the City inspector. The testing equipment shall be subject to approval.
- b. The city's preference is that a leak test shall be conducted prior to backfilling around the manhole.

I. Manhole Inspection Acceptance

Refer to Ch. 7 specification, Sanitary Sewer lines, for comprehensive testing requirements. Note the following:

- a. All materials (manholes, pipe) shall be inspected by staff upon arrival to the construction site and will be either approved or denied at that time.
- b. During the construction of the manholes, the Contractor shall, in accordance with good practice, ensure that no earth, sand, rocks or other foreign material exists on the joint surfaces during assembly of the section. If such materials exist, they shall be cleaned up immediately.
- c. Prior to backfilling, all manholes shall be inspected and approved by the City. Approval shall not relieve the Contractor for correction of any deficiencies and/or failure as determined by subsequent testing and inspections. It shall be the Contractor's responsibility to notify the City for the required inspections.

2.9 SERVICE CONNECTIONS

A. Service Tap Installation Policy

- a. Only City W/WW Department staff may perform a tap into the City's water and sewer mains. In certain circumstances and only with pre-authorization the city may approve a qualified contractor to install the tap while under the City's direct supervision. (Reference Code: 080.030.040 – Work Performed).
- b. The customer is responsible for all costs incurred by the City for the installation of tap(s) for a private sewer service. (Reference Code: 080.030.010(c) – Connections to wastewater system/Tap Fee)



- c. The Contractor is responsible for all shoring or trenches. City crews will not enter a trench to perform inspection or install taps unless shoring is safe and meets OSHA requirements.

B. Depth of Bury

Private sewer services are recommended to follow same depth of bury requirements as gravity sewer mains.

C. Minimum Distances from Fittings and Services

The city requires a minimum of 5 feet between tap locations or any fittings along the sewer main line. If the minimum clearances cannot be satisfied, the city may consider alternative designs on a case-by-case basis.

D. Sewer Service Connection to Gravity Sewer Main

Refer to Ch. 7 specification, Sanitary Sewer Lines, for comprehensive requirements for sewer service connections. Note the following:

- a. Full body factory wyes required for all new sewer line construction.
- b. Material for connection to existing mains shall be approved by the City on a case-by-case basis. This is dependent on the condition and material of the existing main.
 - i. All taps to existing mains shall be concrete encased.
 - ii. Preferred connections include Fernco saddles or PVC saddles, to be approved by city sewer department staff.
- c. Taps shall not be allowed to protrude in the existing main.
- d. Sewer taps shall not be placed within a minimum of 3' from a manhole.
- e. All new sewer connections to the existing system shall be physically plugged until all tests have been completed and the City approves the removal of the plug.
- f. Connections between new sewer service and an existing main of the same size shall be accomplished by the installation of a new manhole on the City sewer main. Alternate designs will be considered by the city on a case-by-case basis.
- g. Sewer services shall not enter a manhole unless it meets section 2.12.4 (A)(6) noted above. Any existing sewer services entering an existing manhole shall be removed, grouted and relocated a minimum of 3' up stream or downstream of the existing manhole if service is being replaced.
- h. All connections between pipes of different materials shall be made with approved manufactured connectors.
- i. Tracer wire shall be installed for all sewer service connections. Tracer wire boxes and ground rods shall be installed when the wire cannot be brought to the surface or ties in with existing tracer wire that is already grounded.
- j. Backwater valves are required for all sanitary sewer services. Valves will be installed on private property, out of the ROW and will be maintained by the property owner, not the City. The city will be requiring backwater valves to be installed on existing services that are being replaced if the construction allows for the valve's installation. The city will supply the owner with a Spears Backwater Valve part number S475PAK or equivalent.



E. Sewer Tap Abandonment

- a. Any existing service tap that is no longer active or will not be used must be abandoned at the main. (Reference Code: 080.030.010(e) – Connections to wastewater system/Abandonment of Connection).
- b. A sewer stopper (or sewer plug) is a device, typically made of rubber and steel, inserted into a drain pipe to create a watertight, airtight seal. It is designed to block sewage backflow, stop sewer gases from entering a building, or isolate pipe sections for maintenance.
Key details:
 - I. **Types:** Common types include mechanical gripper/test plugs (tightened with a nut to expand against pipe walls) and inflatable plugs (filled with air to seal the pipe).
 - II. **Purpose:** Primarily used for preventing backups, stopping odors, and temporarily sealing sewer lines during repairs or to stop flow, sometimes in municipal contexts to restrict service.
 - III. **Construction:** Generally made of durable rubber to create a compression fit, often reinforced with steel.
- c. Installation of a replacement tap will not be allowed by the city until all existing service taps are properly abandoned.

F. Sewer Service Connection to Pressure Sewer Main

The design of any service connection to a pressure sewer main must be approved by the city and will be on a case-by-case basis. All designs/calculations shall be by a professional engineer registered in the State of Colorado.

G. Pressure Sewer Service Connection to Gravity Sewer Main

The design of any pressure service connection to a gravity sewer main must be approved by the city and will be on a case-by-case basis.

2.10 PRESSURE SEWER MAINS (FORCE MAINS)

The design of any pressure sewer main must be approved by the City on a case-by-case basis and be in conformance with CDPHE regulations. All designs/calculations shall be by a professional engineer registered in the State of Colorado.

2.11 LIFT STATIONS

The design of any lift station must be approved by the City on a case-by-case basis and be in conformance with CDPHE regulations and Design Criteria. All designs/calculations shall be by a professional engineer registered in the State of Colorado.



2.12 ON-SITE WASTEWATER TREATMENT SYSTEMS

The design of any on-site waste disposal systems must be approved by the City on a case-by-case basis and be in conformance with CDPHE regulations and Garfield County regulations. (Reference Code: 070.040.030(e)(3) – Site Development Improvement Standards/ Site Development Improvement Standards/Lot and Block Design; 070.040.030(f) – Site Development Improvement Standards/Assurance and Acceptance of Public Improvements)

2.13 GREASE, OIL AND SAND INTERCEPTORS

Refer to section 060.040.010 of the Code adopting the International Plumbing Code; IPC Ch. 10, Section 1003, Interceptors and Separators) summarized below:

- a. Because of the impact of grease, oil and sand on the City's lines and treatment plant, grease, oil and sand interceptors are required on establishments preparing or serving food or other establishments where grease, oil and sand may be introduced into the drainage or sewage system. A grease, oil, and sand interceptor is not required for individual dwelling units or for any private living quarters, except for garage floor drains. Multi-family housing shall be reviewed on a case-by-case basis.
- b. All grease, oil, and sand interceptors shall be new. The interceptor and its installation shall be in conformance with the latest edition of the International Plumbing Code (IPC).
- c. Plans shall be submitted to and approval obtained from the City prior to the installation of any grease, oil and sand interceptor.
- d. Each plumbing fixture or piece of equipment connected to a grease, oil and sand interceptor shall be provided with an approved type flow control or restricting device installed in a readily accessible and visible location in the tail piece or drain outlet of each such fixture. Flow control devices shall be so designed that the total flow through such device or devices shall at no time be greater than the rated capacity of the interceptor. No flow control device having adjustable or removable parts shall be approved.
- e. Each grease, oil and sand interceptor required by this section shall have an approved rate of flow which is not less than that given in the City's EQR schedule for the total number and size of fixtures connected thereto or discharging thereunto.
- f. Each grease, oil and sand interceptor shall be installed and connected so that it shall be at all times easily accessible for inspection, cleaning and removal of the intercepted grease. New construction/remodels shall install interceptors on the exterior of the building and shall be reviewed on a case-by-case basis.
- g. Interceptors shall be maintained in efficient operating conditions by periodic removal of the accumulated materials. No such collected material shall be introduced into any drainage piping, public or private sewer, and it shall be disposed of in an environmentally safe manner. Maintenance and inspection shall occur every 6 months or as required and the records shall be provided to the City.
- h. The City may require such tests as may be necessary to determine the collecting efficiency of the various types and kinds of interceptors to establish the rate of flow or other rating thereof. Such test requirements may be revised or modified from time to time as may be deemed necessary by the city.



- i. No interceptor shall be installed which does not comply in all respects with a type or model of each size approved and accepted by the City. Whenever it shall come to the attention of the City that any interceptor does not so comply, the City shall immediately suspend or revoke such approval.
- j. Sump pits require visible and audible alarm systems for grease and oil contamination.

2.14 EARTHWORK

A. Site Control and Safety

Contractor to provide safe and healthful working conditions on each operation at all times. Contractor shall comply with all provisions, regulations and recommendations issued pursuant to the Occupational Safety and Health Act, and the Construction Safety Act as amended, and with laws, rules and regulations of other authorities having jurisdiction, with regard to all matters relating to the safety and health of workers and the general public. Compliance with government requirements is mandated by law and considered only a minimum level of safety performance. Perform all work in accordance with best safe work practices recognized by the construction industry.

B. Traffic Control

Refer to Chapter 5, for traffic control requirements (Also reference Code: 060.130 – Miscellaneous Permits).

C. Trenching Operations

Refer to Ch. 7 specification, Trenching, Backfilling, and Compaction.

D. Protection of Existing Structures and Utilities

Contractor shall protect all existing structures, utilities and improvements not designated for removal and shall restore damages or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation.

E. Backfill and Compaction

Refer to Ch. 7 specification, Trenching, Backfilling, and Compaction.

F. Street Patching and Restoration

See Chapter 5 regarding patching and trench restoration (Also reference Code: 060.130 – Miscellaneous Permits).



APPENDIX – WASTEWATER COLLECTION STANDARD DRAWINGS

CITY STANDARD DRAWINGS		Filename
S01.	Standard Manhole Detail	
S02.	Drop Manhole Detail	
S03.	Concrete Encasement Detail	
S04.	Casing Detail	
S05.	Sewer Clean-Out	
S06.	Sewer Service Connection	





City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Ordinance 2026-10; Municipal Code 080.040 Water Regulation Updates. Second Reading

Action Requested:

Department: Public Works

Presented By: Matthew Langhorst

Strategic Goals: Provide Efficient and Responsive City Government
Protect and Preserve our Quality of Life

Background Info: During the last drought year of 2018, the city implemented a watering schedule instead of moving to full drought plan restrictions. This schedule of odd even watering days has existed since then. In 2020, after the Grizzly Creek fire, the city reinforced the watering schedule and watering time restrictions during the day. The city has never fully codified these practices in the Municipal Code. Thus, staff would like to implement/codify these practices into the code now. This will be another dry year and the scheduling will help keep watering to a minimum and provide code enforcement standards for them to ticket against as needed. Staff is recommending that we move forward with the scheduling of watering for residential customers and most commercial customers.

The City Manager has the ability to adjust the schedules of large users on the system. Staff is, and has been for years, working with the large users in the city to put them on a site-specific watering schedule so that we can control how much water is being used by each site and when that water is being used. This process helps staff control/balance how the water plant operates during the day and night. Consistency with a water plant simplifies the operations and chemical use at the plant. The smaller users do not affect plant operations in the same way that a large park or school will, which is why you will see some parks and schools watering on an odd day, even with an even address, or slightly inside or outside the watering hours.

Staff will bring back the Drought Management Plan as a Resolution at the next Council meeting for council review of that document and approval of its planning recommendations. This is the document that is implemented by the City Manager at different emergency levels.

Issues: None at this time.

Fiscal Impact: None at this time.

Legal Review: Legal has reviewed the code amendments and written the ordinance language.

Staff Recommendation: Staff is Recommending Council Approval of Ordinance 2026-10; Municipal Code 080.040 Water Regulation Updates on second reading.

ORDINANCE NO. 10

Series of 2026

AN ORDINANCE OF THE CITY OF GLENWOOD SPRINGS, COLORADO, AMENDING SECTION 080.040.060 REGARDING WASTING WATER, WATERING SCHEDULES, AND AUTHORITY OF CITY MANAGER TO LIMIT USE OF WATER DURING WATER SHORTAGE OF THE GLENWOOD SPRINGS MUNICIPAL CODE.

WHEREAS, the City of Glenwood Springs (“Glenwood Springs” or the “City”) is a home-rule municipality organized under Article XX of the Colorado Constitution and with the authority of the Glenwood Springs Home Rule Charter; and

WHEREAS, the City has been operating under a watering schedule imposed by order of the City Manager since 2018; and

WHEREAS, Colorado and the western United States are facing unprecedented drought conditions; and

WHEREAS, the City Council finds that the water schedule has been effective in reducing water use and efficiency; and

WHEREAS, City Council finds it is necessary and proper to amend Section 080.040.060 of the Glenwood Springs Municipal Code as set forth on **Exhibit A** attached hereto; and

WHEREAS, the City Council finds and declares that it is necessary for the preservation of health and safety of the City and its residents to amend Section 080.040.060.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, ORDAINS:

Section 1. **Recitals.** The foregoing recitals are incorporated herein as if set forth in full.

Section 2. **Adoption.** Section 080.040.060 of the Glenwood Springs Municipal Code is amended as set forth in **Exhibit A** attached hereto.

INTRODUCED, READ, PASSED, AND ORDERED PUBLISHED BY TITLE ONLY
THIS ____ DAY OF MAY 2026.

CITY OF GLENWOOD SPRINGS, COLORADO

Marco Dehm, Mayor

ATTEST:

Ryan Muse, City Clerk

INTRODUCED, READ ON SECOND READING, PASSED AND ORDERED
PUBLISHED BY TITLE ONLY TO BE EFFECTIVE IMMEDIATELY THIS ____ DAY OF
_____ 2026.

CITY OF GLENWOOD SPRINGS, COLORADO

Marco Dehm, Mayor

ATTEST:

Ryan Muse, City Clerk

EXHIBIT A

Section 080.040.060 is hereby amended as follows with double underlined text added and ~~striketrough~~ text deleted.

TITLE 080 - Utilities

* * * *

ARTICLE 080.040 - Water Regulation

* * * *

080.040.060 - Wasting water, watering schedules, and authority of City Manager to limit use of water during water shortage.

* * * *

(b) Watering Schedules. Outdoor watering schedules shall be in effect year-round and are as follows:

- (1) No watering shall occur between the hours of 9:00 a.m. and 6:00 p.m.
- (2) Owners whose property address ends in an odd number may irrigate outdoors on odd days of the month by the calendar day, the 1st, 3rd, 5th, 7th, etc. days of the month only.
- (3) Owners whose property address (base number) ends in an even number (including 0) may irrigate outdoors on even days of the month by the calendar day, the 2nd, 4th, 6th, 8th, etc. days of the month only.
- (4) An owner may only water between the hours of 12:00 a.m. and 8:59 a.m. and/or between the hours of 6:00 p.m. and 11:59 p.m. on their day of the week.
- (5) The City Manager has the authority to determine watering schedules for large scale water users (those irrigating more than ½ acre) as necessary.

(c) Exceptions.

- (1) Outdoor watering by drip irrigation, or by hand using a watering can or hose with a shut-off nozzle, is permitted to water on any day, but encouraged to water in the mornings or evenings.
- (2) Trees and edible crops may be watered as needed and appropriate.
- (3) Outdoor watering of new lawns and landscaping for the first irrigation season after installation, upon the owner's application to the City for the exemption and acceptance by the City.
- (4) The City may issue not more than one exemption permit to an owner for the purpose of irrigating newly installed landscaping, lawns and trees. The owner shall prominently display a copy of the exemption permit in the area to be irrigated. The exemption permit may authorize the owner to irrigate daily and to irrigate outside of the 6:00 p.m. to 9:00 a.m. irrigation window as deemed necessary. Each permit shall contain the permitted watering schedule. The exemption permit for either the current irrigation season or the following irrigation season after the issuance of the permit.

- (5) Outdoor watering of school property (including but not limited to, school athletic fields) is permitted to water on any day but encouraged to water in the mornings or evenings.
 - (6) Outdoor watering within the City public parks is permitted to water on any day but encouraged to water in the mornings or evenings.
 - (7) City staff will work with large users, such as schools and parks, to coordinate watering days and times between all large users to minimize impacts to the water system and increase efficiencies.
 - (8) Outdoor watering for the purpose of irrigation system repairs, maintenance, or auditing.
 - (9) Resident car washing, house maintenance are permitted at any time of the day as long as the water usage is kept to a minimum to complete the task and a shutoff nozzle is used.
- (b)(d) *Water shortages.* Whenever the City Manager finds that the water available to the City or to users is insufficient in quantity or quality to provide unlimited usage to all consumers, ~~he/she~~ the City Manager is authorized and empowered to further ration and limit the usage of water for other than in-house domestic usage for such periods of time and under such actions as ~~he/she deems necessary.~~ deemed necessary by enacting the Drought Management Plan posted on the Glenwood Springs Water Department website. Notice of the rationing and of the nature of the restrictions shall be published as soon as practicable in the official newspaper of the City, and the rationing and limitation of usage shall become effective on the day following the publication of notice in the official newspaper of the City. However, if the City Manager finds that the quantity or quality of the City water is such that an acute shortage exists and impairs the ability to afford adequate fire protection or presents a substantial hazard to the public health, safety or welfare, the rationing and imposition of restrictions shall become effective immediately upon the imposition of such rationing and restrictions. As soon as practicable after the City Manager terminates the rationing and restrictions on usage, notice shall be published in the official newspaper of the City.
- (e)(e) *Termination of service for violators.* Water service shall be discontinued to all owners ~~or customers~~ who waste water or who violate any rule or regulation governing the rationing or limitation of usage of water. Such service shall not be restored until the cause of waste has been corrected or the violation of such rules and regulations has been abated and until the consumer has paid the sum of fifteen dollars (\$15.00) to cover the cost of re-establishing service.
- (d) *Penalty assessment fines.* A person who violates any rule, regulation or order issued pursuant to this section shall be subject to the penalty assessment fines outlined below. Penalty assessment fines shall be determined within a one-year period measured from the date of any prior violation of this section. Notwithstanding any penalty provision of this Code or any fines adopted pursuant to this Code to the contrary, the penalty for any offense that also constitutes a violation of similar state law shall not exceed the penalty provided for by the applicable provisions in the Colorado Revised Statutes.
- (1) First offense: Fifty dollar (\$50.00) fine.
 - (2) Second offense: One hundred dollar (\$100.00) fine.

- (3) Third offense: Two hundred fifty dollar (\$250.00) fine.
- (4) Subsequent offense: The Municipal Court may impose such fines and penalties as it is authorized pursuant to Municipal Code Section 010.020.080.

Downtown Development Authority Board Application - Submission #3879

Date Submitted: 5/20/2026

Downtown Development Authority Board Application

City of Glenwood Springs
101 W. 8th St.
Glenwood Springs, CO 81601

Steve Boyd, City Manager
steve.boyd@cogs.us
970-384-6422



Thank you for your interest in serving your community. Please answer all questions on this application.

Membership Qualifications*

You must qualify with one of the options below to be eligible to serve on the Downtown Development Authority Board. Please select the option(s) that applies to you.

- ☐ Resident within the boundaries of the DDA
- ☐ Business Lessee within the boundaries of the DDA
- ☒ Owner of property within the boundaries of the DDA
- ☒ Corporate Officer or Director of business within the boundaries of the DDA
- ☐ Manager of Assistant Manager of a business within the boundaries of the DDA
- ☐ Youth resident (under the age of 18) within the 81601 zip code or attending school within city limits.

Please select today's date*

5/20/2026

Personal Information

First Name*

Paula

Last Name*

Gorra

Occupation*

Corporate Secretary/ Treasurer at Glenwood Structural. Administration. Engineer. Construction Manager.

Home Address*

City*

Glenwood Springs

State*

CO

Zip Code*

81601

Mobile Phone Number*

Email Address*

Home Phone Number

Work Phone Number

Mailing Address (If different than home address)

City

State

Zip Code

Personal and Professional Interests

Why are you interested in serving on the Downtown Development Authority Board?*

I am interested in serving on the Downtown Authority Board because I have seen firsthand how projects such as the Six Street expansion, North Landing and alley's renovations have strengthened downtown. My professional experience with Glenwood Structural and Civil, Inc. gives me a practical perspective on the DDA's infrastructure priorities, and I would welcome the opportunity to support thoughtful public improvements and partnerships that benefit Glenwood Springs' downtown businesses and community.

What do you view as the role of a Downtown Development Authority Board member?*

I view the role of a Downtown Development Authority Board member as helping guide responsible investments in the downtown core and adjacent boundaries. A board member should ensure designated revenues are used effectively, support thoughtful public improvements, and make decisions that strengthen downtown for residents, visitors, and local businesses.

Do you have any particular areas of interest or a particular perspective relating to downtown development in Glenwood Springs?*

I am particularly interested in the confluence area and its potential to build on the momentum of the 6th Street and 7th Street projects. I believe thoughtful development there can improve connectivity, support local businesses, and strengthen downtown while preserving the character of Glenwood Springs.

Can you describe an experience making a decision that made people unhappy?*

A recent experience as a board member making a decision that made people unhappy was that of the construction of 6th street and North Landing project. Although the finished result is now widely celebrated, the construction period caused disruption for residents and had a clear impact on local businesses. While these difficulties were unfortunate, I believe they were necessary to achieve the vitality and economic development the community enjoys today. We had to look beyond the short-term inconvenience to recognize the long-term value of the project.

Can you separate yourself from your personal opinions and represent the City's goals, policies, plans and the Glenwood Springs Municipal Code in an equitable fashion?*

Yes. I understand that serving on the board requires setting aside personal opinions and evaluating each matter based on the City's goals, adopted policies, the DDA Plan of Development, and the Glenwood Springs Municipal Code in a fair and equitable manner.

The DDA Board generally meets once a month during a weekday. Do you have any existing time commitments that will hamper your ability to serve?*

Yes. I understand the importance of regular attendance and would make serving on the board a priority. I can commit to attending the monthly weekday meetings and would plan my schedule accordingly to ensure I can participate consistently and fulfill the responsibilities of the role.

What experience do you have working with people on a board, commission, or committee?*

I was appointed to the Downtown Development Authority in September 2023, which provided me with direct experience in public board service and civic decision-making. Prior to this appointment, I was actively involved in the parent association at both of my sons' schools, where I contributed to important initiatives related to school fundraising, uniform standards, and the development of the uniform code and student handbook.

Have you previously served on the Downtown Development Authority Board?*

Yes

▼

Reappointment Applicants

These questions only required for reappointment applicants.

Why do you think you should be reappointed?

I am seeking reappointment because I have seen the results of DDA investments and understand how thoughtful public improvements can support local businesses and strengthen downtown. I also bring technical expertise and continuity from my current service on the board. I would welcome the opportunity to continue contributing to future capital improvement projects, planning new projects and help ensure DDA funds are used thoughtfully and effectively.

Have you served two full successive terms on the Downtown Development Authority Board?

No

▼

Powers and Duties of the Downtown Development Authority Board

(Per the Colorado Revised Statutes; Title 31 - Government - Municipal Powers and Functions of Cities and Towns; Article 25 - Public Improvements, Part 8 - Downtown Development Authorities; § 31-25-801. Legislative Declaration)

1. The general assembly declares that the organization of downtown development authorities having the purposes and powers provided in this part 8 will serve a public use; will promote the health, safety, prosperity, security, and general welfare of the inhabitants thereof and of the people of this state; will halt or prevent deterioration of property values or structures within central business districts, will halt or prevent the growth of blighted areas within such districts, and will assist municipalities in the development and redevelopment of such districts and in the overall planning to restore or provide for the continuance of the health thereof; and will be of especial benefit to the property within the boundaries of any authority created pursuant to the provisions of this part 8.
 2. The general assembly determines, finds, and declares that because of a number of atypical factors and special conditions concerning downtown development unique to each locality, the rule of strict construction shall have no application to this part 8, but it shall be liberally construed to effect the purposes and objects for which it is intended.
-

Appointment, Removal, Term, and Vacancies of Boards and Commissions

(Per the Colorado Revised Statutes; Title 31 - Government – Municipal; Powers and Functions of Cities and Towns; Article 25 - Public Improvements; Part 8 - Downtown Development Authorities; § 31-25-805. Board - membership - term of office)

Members shall be appointed for terms expiring June 30 and shall expire four years from the expiration date of the terms of their predecessors.

(Per the Glenwood Springs, CO Municipal Code 020.020.040)

(a) Appointment and term of members. Except as otherwise provided, all appointments to the boards and commissions shall be by the City Council for terms of three (3) years each, and each member shall serve until his/her successor is appointed and takes office; provided, however, that the initial terms of office may be shortened by the City Council so as to provide overlapping terms of office. Appointments shall expire the day before the first regular meeting of the City Council in each month according to the following schedule:

1. February:

Planning and Zoning Commission;
Finance Advisory Board;
Tourism Management Board;
Building Board of Appeals.

2. March:

Transportation Commission;
Arts and Culture Board;
Parks and Recreation Commission;
Airport Board;
River Commission.

3. April:

Local Liquor Licensing Authority;
Victim's Witnesses Assistance and Law Enforcement Board;
Historic Preservation Commission;
Workforce Housing Fund Advisory Board;
Glenwood Springs Housing Commission.

(b) Alternate members. The City Council at its discretion may appoint up to three (3) persons as alternate members for each board or commission. If a regular member of a board or commission is to be absent from a meeting, the presiding officer for the meeting may select an alternate member to fill such absence and to attend and serve at the meeting. The alternate member may exercise all powers at the meeting which the absent regular member could exercise, and the alternate's powers and privileges shall terminate at the end of the meeting attended. The presiding officer may at his/her discretion select the same alternate to serve at successive meetings in the absence of any member.

(c) Limit to term of members. Unless it is deemed vital by the City Council that an appointed member of a board or commission be retained in office, no Board member shall serve more than two (2) full successive terms on the same board or commission. An individual may serve multiple non-successive terms on the same board or commission.

(d) Removal of members. All appointed members of a board or commission shall be subject to removal, at any time, by the City Council. In the event an appointed member of a board or commission ceases to qualify for membership, his or her appointment is immediately terminated.

(e) Vacancies. The City Council shall fill all vacancies on boards and commissions by appointment for the unexpired term.

Downtown Development Authority Board Application - Submission #3870

Date Submitted: 5/13/2026

Downtown Development Authority Board Application

City of Glenwood Springs
101 W. 8th St.
Glenwood Springs, CO 81601

Steve Boyd, City Manager
steve.boyd@cogs.us
970-384-6422



Thank you for your interest in serving your community. Please answer all questions on this application.

Membership Qualifications*

You must qualify with one of the options below to be eligible to serve on the Downtown Development Authority Board. Please select the option(s) that applies to you.

- ☒ Resident within the boundaries of the DDA
- ☐ Business Lessee within the boundaries of the DDA
- ☐ Owner of property within the boundaries of the DDA
- ☐ Corporate Officer or Director of business within the boundaries of the DDA
- ☒ Manager of Assistant Manager of a business within the boundaries of the DDA
- ☐ Youth resident (under the age of 18) within the 81601 zip code or attending school within city limits.

Please select today's date*

5/13/2026

Personal Information

First Name*

Alyson

Last Name*

Ackley

Occupation*

Glenwood Hot Springs Resort Sales and Marketing Manager

Home Address*

City*

Glenwood Springs

State*

CO

Zip Code*

81601

Mobile Phone Number*

Email Address*

Home Phone Number

Work Phone Number

Mailing Address (If different than home address)

City

State

Zip Code

Personal and Professional Interests

Why are you interested in serving on the Downtown Development Authority Board?*

As a young professional based in Glenwood Springs since 2019, I have built strong community ties through my current position at Glenwood Hot Springs Resort, experience as an Advertising Account Executive with the Post Independent, and working seasonally as the Learn to Skate Lesson Lead with Glenwood Springs Ice Rink. I am committed to the vitality and connectivity of our downtown development and am passionate about bridging communication between the City and its residents, as well as making our unique town welcoming for both locals and visitors.

What do you view as the role of a Downtown Development Authority Board member?*

Downtown Development Authority Board members serve as a vital link between the City’s vision and our local community. The role involves listening to diverse voices, fostering open communication, and ensuring that downtown development projects and events are clearly conveyed to residents, businesses, and visitors. With my experience in advertising communications, I will help people feel informed and engaged with the growth and evolution of downtown Glenwood Springs.

Do you have any particular areas of interest or a particular perspective relating to downtown development in Glenwood Springs?*

As someone deeply involved in Glenwood’s tourism and local recreation, I am especially interested in nurturing a downtown that equally benefits both residents and visitors. I believe downtown should remain accessible, vibrant, and representative of our City’s historic charm and progressive character. My perspective is shaped by firsthand experience listening to local concerns and also understanding the needs of our tourist economy, so I am dedicated to fostering development that drives economic vitality while preserving the essential spirit of Glenwood Springs.

Can you describe an experience making a decision that made people unhappy?*

Throughout my career, I have often had to communicate decisions that were not met with enthusiasm, such as explaining nonnegotiable rates to clients or clarifying which requests I have the authority to fulfill. For instance, at the Post Independent, I sometimes had to inform advertisers that editorial content was separate from paid ads and direct them to the appropriate contacts. I always approached these situations with empathy and transparency, focusing on clear communication. Even when people were unhappy, I aimed to maintain positive relationships by listening to concerns and offering alternatives whenever possible.

Can you separate yourself from your personal opinions and represent the City’s goals, policies, plans and the Glenwood Springs Municipal Code in an equitable fashion?*

Yes, upholding the City’s goals, policies, plans, and municipal code in an objective and equitable manner is important. I understand how to set aside personal preferences and promote broader interests. My background in sales, marketing, and community engagement has taught me how to fairly represent a range of perspectives and find common ground for the collective good.

The DDA Board generally meets once a month during a weekday. Do you have any existing time commitments that will hamper your ability to serve?*

My work schedule is flexible. I am able to step away from my day-to-day responsibilities to attend monthly Board meetings and am fully committed to make attendance and participation a top priority.

What experience do you have working with people on a board, commission, or committee?*

As a Board member on the Glenwood Springs Arts Council from 2023 to 2025, I contributed to community programming and worked collaboratively to support local arts. That experience was very fulfilling and taught me the importance of listening to diverse viewpoints and working toward consensus while managing a slim budget. Now, I am eager to use those skills to serve the broader Glenwood Springs community as a Downtown Development Authority Board member. Thank you for considering my application!

Have you previously served on the Downtown Development Authority Board?*

No

Reappointment Applicants

These questions only required for reappointment applicants.

Why do you think you should be reappointed?

Have you served two full successive terms on the Downtown Development Authority Board?

-- Select One --

Powers and Duties of the Downtown Development Authority Board

(Per the Colorado Revised Statutes; Title 31 - Government - Municipal Powers and Functions of Cities and Towns; Article 25 - Public Improvements, Part 8 - Downtown Development Authorities; § 31-25-801. Legislative Declaration)

1. The general assembly declares that the organization of downtown development authorities having the purposes and powers provided in this part 8 will serve a public use; will promote the health, safety, prosperity, security, and general welfare of the inhabitants thereof and of the people of this state; will halt or prevent deterioration of property values or structures within central business districts, will halt or prevent the growth of blighted areas within such districts, and will assist municipalities in the development and redevelopment of such districts and in the overall planning to restore or provide for the continuance of the health thereof; and will be of especial benefit to the property within the boundaries of any authority created pursuant to the provisions of this part 8.
 2. The general assembly determines, finds, and declares that because of a number of atypical factors and special conditions concerning downtown development unique to each locality, the rule of strict construction shall have no application to this part 8, but it shall be liberally construed to effect the purposes and objects for which it is intended.
-

Appointment, Removal, Term, and Vacancies of Boards and Commissions

(Per the Colorado Revised Statutes; Title 31 - Government – Municipal; Powers and Functions of Cities and Towns; Article 25 - Public Improvements; Part 8 - Downtown Development Authorities; § 31-25-805. Board - membership - term of office)

Members shall be appointed for terms expiring June 30 and shall expire four years from the expiration date of the terms of their predecessors.

(Per the Glenwood Springs, CO Municipal Code 020.020.040)

(a) Appointment and term of members. Except as otherwise provided, all appointments to the boards and commissions shall be by the City Council for terms of three (3) years each, and each member shall serve until his/her successor is appointed and takes office; provided, however, that the initial terms of office may be shortened by the City Council so as to provide overlapping terms of office. Appointments shall expire the day before the first regular meeting of the City Council in each month according to the following schedule:

1. February:

Planning and Zoning Commission;
Finance Advisory Board;
Tourism Management Board;
Building Board of Appeals.

2. March:

Transportation Commission;
Arts and Culture Board;
Parks and Recreation Commission;
Airport Board;
River Commission.

3. April:

Local Liquor Licensing Authority;
Victim's Witnesses Assistance and Law Enforcement Board;
Historic Preservation Commission;
Workforce Housing Fund Advisory Board;
Glenwood Springs Housing Commission.

(b) Alternate members. The City Council at its discretion may appoint up to three (3) persons as alternate members for each board or commission. If a regular member of a board or commission is to be absent from a meeting, the presiding officer for the meeting may select an alternate member to fill such absence and to attend and serve at the meeting. The alternate member may exercise all powers at the meeting which the absent regular member could exercise, and the alternate's powers and privileges shall terminate at the end of the meeting attended. The presiding officer may at his/her discretion select the same alternate to serve at successive meetings in the absence of any member.

(c) Limit to term of members. Unless it is deemed vital by the City Council that an appointed member of a board or commission be retained in office, no Board member shall serve more than two (2) full successive terms on the same board or commission. An individual may serve multiple non-successive terms on the same board or commission.

(d) Removal of members. All appointed members of a board or commission shall be subject to removal, at any time, by the City Council. In the event an appointed member of a board or commission ceases to qualify for membership, his or her appointment is immediately terminated.

(e) Vacancies. The City Council shall fill all vacancies on boards and commissions by appointment for the unexpired term.

Print

River Commission Application - Submission #3896

Date Submitted: 6/2/2026

River Commission Application

City of Glenwood Springs
101 W. 8th St.
Glenwood Springs, CO 81601

Jim Hardcastle; Long Range Principal Planner
james.hardcastle@cogs.us
970-384-6427



Thank you for your interest in serving your community. Please answer all questions on this application.

Membership Qualifications*

You must qualify with one of the options below to be eligible to serve on the River Commission. Please select the option that applies to you.

- ☒ Resident of Glenwood Springs within city limits.
- ☐ Resident outside of Glenwood Springs city limits, but within the 81601 zip code.
- ☐ Owner of real property or a business within Glenwood Springs city limits.
- ☐ Youth resident (under the age of 18) within the 81601 zip code or attending school within city limits.

Please select today's date*

6/2/2026

Personal Information

First Name*

Christopher

Last Name*

Sharrow

Occupation*

LCSW

Home Address*

[REDACTED]

City*

Glenwood Springs

State*

CO

Zip Code*

81601

Mobile Phone Number*

[REDACTED]

Email Address*

[REDACTED]

Home Phone Number

Work Phone Number

Mailing Address (If different than home address)

[REDACTED]

City

Glenwood Springs

State

CO

Zip Code

81601

Personal and Professional Interests

Why are you interested in serving on the River Commission?*

Love the river and live along its banks

What do you view as the role of a River Commission member?*

support and inform the community and city council about river issues

What personal or professional experience do you have relative to the mission of the River Commission (see Powers and Duties at the end)?*

previously on the commission

Do you actively participate in activities using the City's open spaces, trails or rivers?*

yes

Have you previously served in any policy advisory capacity relative to natural resource protection? If so, state your role.*

no

What do you see as the role that rivers, trails and open spaces play in the character and function of the Glenwood Springs Community?*

it is the centermost element f our community

Can you separate yourself from your personal opinions and represent the City's goals, policies, plans and the Glenwood Springs Municipal Code in an equitable fashion?*

yes

Are you able to attend a monthly meeting of the River Commission held at 7:30 a.m. on the first Wednesday of each month?*

yes

What experience do you have working with people on a board, commission, or committee?*

perviously served on several boards throughout my life

Have you previously served on the River Commission?*

Yes

Reappointment Applicants

These questions only required for reappointment applicants.

Why do you think you should be reappointed?

Did a good job on m first term

Have you served two full successive terms on the River Commission?

No

Powers and Duties of the River Commission

(as defined in Title 020 of the Glenwood Springs Municipal Code); (g) Powers and duties of River Commission.

The powers and duties of the River Commission shall be:

1. To investigate, study, and report to the City Council any and all matters concerning the use, enjoyment, conservation of the, rivers and streams in the City and its environs and the open space adjacent thereto, including water quality issues, the protection of valuable riparian ecosystems, and water rights matters.
 2. To advise the City Council on public access to and use of rivers and streams in the City and the adjacent environs and maintain and update a map related thereto as necessary.
 3. To advise the City Council on the use of municipally owned property adjacent to the rivers and City construction projects in the rivers or adjacent open space.
 4. To promote and celebrate riverfront cleanup efforts and public awareness of non-point source water pollution.
 5. To investigate, study and report to the City Council on grants, donations and other forms of funding to assist in the acquisition and improvement of the rivers and adjacent open space, and to otherwise advise the City Council on budgetary needs related to preservation of open space and river improvement.
 6. To appoint subcommittees as necessary to carry out the foregoing functions.
 7. To coordinate with the Parks and Recreation Commission, Roaring Fork Conservancy, Middle Colorado Watershed Council, and other organizations, stakeholders groups, and property owners as is necessary to carry out the foregoing functions.
 8. At the request of City Council hold an annual work session with the City Council to review the actions taken by the River Commission regarding the foregoing functions and discuss future plans.
-

Appointment, Removal, Term, and Vacancies of Boards and Commissions

(Per the Glenwood Springs, CO Municipal Code 020.020.040)

(a) Appointment and term of members. Except as otherwise provided, all appointments to the boards and commissions shall be by the City Council for terms of three (3) years each, and each member shall serve until his/her successor is appointed and takes office; provided, however, that the initial terms of office may be shortened by the City Council so as to provide overlapping terms of office. Appointments shall expire the day before the first regular meeting of the City Council in each month according to the following schedule:

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(e) Vacancies. The City Council shall fill all vacancies on boards and commissions by appointment for the unexpired term.

(Code 1971 §§ 2-63, 2-64, 2-67; 6-95 § 1; 10-07 § 2; Ord. No. 9-2018 , § 2, 4-20-2018)



PROCLAMATION

Honoring Sergeant Young

WHEREAS, **Sgt. Young** began his tenure in Glenwood Springs in November 1994, as a Police Officer; and

WHEREAS, **Sgt. Young** embodies the 'Serve and Protect' mantra. He has been the cornerstone of this department in both crisis and in good times. His vast wealth of knowledge has shaped this department and his kindness and humor have sustained his longevity.

WHEREAS, **Sgt. Young** worked tirelessly as a training officer and was critical in the development of the Department's first bicycle patrol unit, dedicating a full summer to patrolling the streets, back alleys, trails and Red Mountain all while prioritizing and building his health and fitness.

WHEREAS, **Sgt. Young** was then promoted to the rank of Sergeant in January 2003 and served this role for 23 years. During his time as a Patrol Sergeant, he was essential in fostering and mentoring over 80 officers, helping them all develop into competent officers. He took on the tasks of Department Range Master, Lead Firearms Instructor, and Field Training Officer (FTO) coordinator; and

WHEREAS, **Sgt. Young** was awarded the Terry L. Wilson meritorious medal in 2023 for his decisive and professional negotiating skills stemming from the July 2022 attempted homicide involving suspect, Craig Robbins. With his interpersonal communication skills, Sgt Young was able to negotiate a peaceful surrender.

WHEREAS, **Sgt. Young** has honorably performed his duties with unwavering dedication, professionalism, and excellence for thirty-two years with the City of Glenwood Springs;

THEREFORE BE IT RESOLVED, I, Marco Dehm, Mayor of Glenwood Springs in the State of Colorado, do hereby recognize and express our sincere appreciation to **Sergeant Michael Young** for his long-standing commitment to serving our community.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City of Glenwood Springs, Colorado to be affixed, this 4th day of June, in the year 2026.

Marco Dehm, Mayor of the City of Glenwood Springs



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Approval of Financial Advisory Board Grant Recommendations

Action Requested: Approval for staff to execute grant agreements and process checks based per the Financial Advisory Board's recommendation.

Department: Finance

Presented By: Steve Boyd

Strategic Goals: Protect and Preserve our Quality of Life

Background Info: This was the topic of an earlier work session.

Issues: None at this time.

Fiscal Impact:

Legal Review:

Staff Recommendation:

Organization Name	2024 Grant Award	2025 Grant Award	2026 Grant Request	2026 FAB Recommendation
A Way Out, Inc	\$5,000	-	\$7,500	\$5,000
Access AfterSchool	\$10,000	\$7,500	\$10,000	\$7,500
Advocate Safehouse Project	-	-	\$10,000	\$10,000
Alpine Legal Services	-	-	\$10,000	\$0
Andy Zanca Youth Empowerment Program	\$3,000	\$3,000	\$5,000	\$3,000
Aspen Dance Connection	-	-	\$5,000	\$0
Aspen Science Center	-	\$5,000	\$10,000	\$5,000
Carbondale Community Access Radio KDNK	\$1,000	-	\$5,000	\$0
CASA of the Ninth	-	-	\$5,000	\$5,000
Catholic Charities and Community Services of the Archdiocese of Denver, Inc.	-	-	\$30,000	\$10,000
College Outreach	\$3,000	\$3,000	\$7,000	\$5,000
Colorado High School Cycling League	\$5,000	\$5,000	\$5,000	\$5,000
Community Health Services Inc.	-	\$7,000	\$13,807	\$7,000
Family Resource Centers of the Roaring Fork School District	-	-	\$10,000	\$7,500
Family Visitor Program of Garfield County, Inc. dba Great Expectations	-	\$5,000	\$10,000	\$5,000
FocusedKids	-	\$10,000	\$12,892	\$0
Food Bank of the Rockies â€œ Western Slope	-	-	\$10,000	\$10,000
Glenwood Springs Arts Council	\$2,000	\$3,000	\$3,000	\$0
Glenwood Springs Citizens' Alliance	\$4,000	\$3,000	\$3,000	\$3,000
Glenwood Springs Downtown Development Authority	\$8,900	\$8,000	\$20,000	\$0
Glenwood Springs Kiwanis	-	\$500	\$1,500	\$500
Glenwood Springs Riverside Botanical Gardens	-	-	\$8,000	\$0
Glenwood Springs Youth Hockey Association	\$5,000	\$5,000	\$10,000	\$5,000
High Country Volunteers	\$7,500	\$7,500	\$7,500	\$7,500
High Fives Nonprofit Foundation	-	-	\$6,658	\$0
HomeCare & Hospice of the Valley	\$8,500	\$7,500	\$10,000	\$10,000
Junior Achievement Rocky Mountain	\$5,000	\$2,500	\$5,000	\$2,500
LIFT-UP	\$10,000	\$12,500	\$15,000	\$12,500
Mountain Family Health Centers	-	\$20,000	\$20,000	\$17,500
Mountain Valley Developmental Services, Inc	\$15,000	\$15,000	\$25,000	\$17,500
Our School Nursery and Preschool	-	-	\$5,000	\$0
River Bridge Regional Center	\$10,000	\$7,500	\$10,000	\$7,500
Roaring Fork Center for Community Leadership	-	-	\$5,000	\$0
Roaring Fork Fencers Club	-	-	\$8,500	\$0
Roaring Fork Kayaking Club	\$5,000	\$2,000	\$3,500	\$3,500
Roaring Fork Outdoor Volunteers	\$7,500	\$10,000	\$10,000	\$10,000
Roaring Fork Public Radio, Inc. dba Aspen Public Radio	\$1,000	\$1,000	\$10,000	\$0

Organization Name	2024 Grant Award	2025 Grant Award	2026 Grant Request	2026 FAB Recommendation
Roaring Fork Recovery Support Center dba The Meeting Place	\$2,000	\$5,000	\$7,500	\$5,000
Roaring Fork Schools Foundation f/b/o Roaring Fork PreCollegiate	\$5,000	\$5,000	\$10,000	\$5,000
Roaring Fork Valley Early Learning Fund DBA Raising A Reader Aspen to Parachute	\$5,000	\$5,000	\$7,500	\$5,000
Rock And Roll Academy Roaring Fork	-	-	\$4,500	\$0
Smiling Goat Ranch	\$2,500	\$2,000	\$10,000	\$2,000
Sol Theatre Company	-	-	\$8,000	\$0
Sopris Barracuda Swim Team	-	\$4,000	\$8,000	\$4,000
Sopris Sun	-	-	\$10,000	\$0
Special Olympics Colorado	-	-	\$5,000	\$1,000
Stepping Stones of the Roaring Fork Valley	\$5,000	\$7,500	\$12,000	\$7,500
The Buddy Program (TBP)	\$5,000	\$5,000	\$7,500	\$5,000
The Salvation Army Glenwood Springs Service Extension	\$10,000	\$10,000	\$12,000	\$10,000
Three Rivers Little League	-	\$5,000	\$14,700	\$5,000
Thunder River Theatre Company	-	-	\$5,000	\$0
Tom's Door	-	-	\$30,000	\$10,000
Valley Meals and More	\$7,500	\$7,500	\$15,000	\$7,500
Valley Settlement	\$7,500	\$8,500	\$9,000	\$8,500
VOICES	-	-	\$5,000	\$1,000
West Mountain Regional Health Alliance	\$10,000	\$10,000	\$25,000	\$10,000
Western Slope Fusion	-	-	\$10,000	\$0
Western Slope Veterans Coalition	-	\$5,000	\$5,000	\$5,000
YouthZone	\$20,000	\$20,000	\$20,000	\$20,000
Grant Totals	\$195,900	\$250,000	\$593,557	\$293,500

Available Funds	
2025 Carryover	\$18,200
A & I	\$257,636
Tourism	\$21,250
Total Available	\$297,086
Total Allocated	\$293,500
Balance	\$3,586

Separately Approved by Council as Ongoing		
Chamber	Strawberry Days	\$25,000
DDA	Downtown Market	\$25,000
	Summer of Music	\$10,000
	Total	\$60,000
Note: This amount is not included in the Total Available		



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item:	Ordinance 2026-12; An Ordinance Of The City Of Glenwood Springs, Colorado, Repealing And Replacing Section 080.010.060 Of The Glenwood Springs Municipal Code Regarding Utility Disconnection Notices.
Action Requested:	Approval of code change to notify utility customers of impending service shut-offs for non-payment via phone and mailing rather than staff physically hang door tags on each property.
Department:	Public Works
Presented By:	Steve Boyd, Matthew Langhorst
Strategic Goals:	Provide Efficient and Responsive City Government
Background Info:	Staff hangs between 50 and 300 door tags in our water and electric utilities each month. Many of these tags are hung monthly at the same residential locations. This is time-consuming for staff and poses a safety threat when people become angry or have dogs on the property that are unpredictable. For these reasons, many jurisdictions have discontinued the physical hanging of notices on doors and our staff would like to implement such a code change.
Issues:	While we have assessed a \$25 fee to offset the cost of door hanging, it is still an expensive and unnecessary monthly task. The fee was created to provide a non-payment deterrent, but this additional cost has not worked as staff had hoped it would. More importantly, we are seeing an increase in threats to staff safety both in our utilities and other jurisdictions.
Fiscal Impact:	This will save staff time and provide a safer working environment.
Legal Review:	Legal drafted the ordinance.
Staff Recommendation:	Staff is asking for Council to approve this ordinance.

ORDINANCE NO. 12

Series of 2026

AN ORDINANCE OF THE CITY OF GLENWOOD SPRINGS, COLORADO, REPEALING AND REPLACING SECTION 080.010.060 OF THE GLENWOOD SPRINGS MUNICIPAL CODE REGARDING UTILITY DISCONNECTION NOTICES.

WHEREAS, the City of Glenwood Springs (“Glenwood Springs” or the “City”) is a home-rule municipality organized under Article XX of the Colorado Constitution and with the authority of the Glenwood Springs Home Rule Charter; and

WHEREAS, Section 080.010.060 of the Glenwood Springs Municipal Code directs that notice of termination of utility services must be provided by first class mail, or the City may provide notice by certified mail, or posting in a conspicuous place at or near the premises served by the utility service; and

WHEREAS, City Staff has recommended updating Section 080.010.060 as set forth on **Exhibit A** attached hereto; and

WHEREAS, the City Council finds and declares that the Code amendments as set forth on **Exhibit A** is in the best interests of the City.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, ORDAINS:

Section 1. Recitals. The foregoing recitals are incorporated herein as if set forth in full.

Section 2. Amendments. Section 080.010.060 of the Glenwood Springs Municipal Code repealed and replaced as set forth in **Exhibit A** attached hereto

INTRODUCED, READ, PASSED, AND ORDERED PUBLISHED BY TITLE ONLY
THIS ____ DAY OF JUNE 2026.

CITY OF GLENWOOD SPRINGS, COLORADO

Marco Dehm, Mayor

ATTEST:

Ryan Muse, City Clerk

INTRODUCED, READ ON SECOND READING, PASSED AND ORDERED
PUBLISHED BY TITLE ONLY TO BE EFFECTIVE IMMEDIATELY THIS ____ DAY OF
_____ 2026.

CITY OF GLENWOOD SPRINGS, COLORADO

Marco Dehm, Mayor

ATTEST:

Ryan Muse, City Clerk

EXHIBIT A

Section 080.010.060 of the Glenwood Springs Municipal Code is hereby repealed and replaced with the following.

TITLE 080 - Utilities

* * * *

ARTICLE 080.010 - General Provisions

* * * *

080.010.060 - Discontinuance of service.

- (a) *Grounds for discontinuance.* If any utility service charges remain unpaid for thirty-one (31) days after their due date, the City may terminate service for the type of utility service for which payment has not been made. In addition, the City may terminate a utility service for violation of any rule or regulation concerning such utility as set forth in this Title.
- (b) *Notice of Termination.* In order to terminate any services the City shall provide the following notices prior to termination:
 - (1) If a utility charge remains unpaid for ten (15) days, the City may place a telephone call to the customer notifying the customer that they are late on payment and may receive a notice of termination if they fail to pay the utility charges within five (5) days.
 - (2) If the City has placed a telephone call to the customer and five (5) days have elapsed since the telephone call, the City may send a notice of termination by first class mail or by posting in a conspicuous place at or near the main entrance to the premises served by such utility service to the customer listed on the City records and, at the City's option, to the occupant of the premises served and/or the owner of the premises served. The notice shall include information containing the following:
 - a. The notice shall state as a heading, in bold font and capital letters: THIS IS A FINAL NOTICE OF DISCONTINUANCE OF UTILITY SERVICE AND CONTAINS IMPORTANT INFORMATION ABOUT YOUR LEGAL RIGHTS AND REMEDIES. YOU MUST ACT PROMPTLY TO AVOID UTILITY SHUT OFF.
 - b. The notice shall advise the customer of all information required to be provided in the notice, as set forth in 4 CCR 923-3-3408(c) and 4 CCR 723 -5-5408(c)
 - c. The notice shall advise the customer that they are entitled to a hearing in person before termination of service at a reasonable time and place by requesting such hearing within ten (10) days of the date of the notice of discontinuance. The City shall provide a toll-free phone number by which the customer can contact the City and request a hearing.
 - d. The notice shall advise the customer that if they fail to respond within fifteen (15) days their service will be shut off.

- e. The notice shall be provided in both English and Spanish.
 - f. Notwithstanding subsection (iii) of this Section, if the City knows that the service to be discontinued is used by customers in multi-unit dwellings, in places of business, or in a cluster of dwellings or places of business and the utility service is recorded on a single meter used either directly or indirectly by more than one unit, the notice shall advise the customer that if they fail to respond within (30) days their service will be shut off. The City shall also:
 - 1. Provide written notice to each individual unit, stating that a notice of termination has been sent to the party responsible for the payment of utility bills for the unit and that the occupants of the units may avoid discontinuance by paying the next new bill in full within 30 days of its issuance and successive new bills within 30 days of issuance; and
 - 2. Post the notice in at least one of the common areas of the affected location.
- (3) If the City has provided the notice as set forth above, the City shall place a telephone call at least 72 hours before shutting of service which notifies the customer that the notice was sent to them via first class mail, and that service will be shut off if they fail to respond.
- (c) *Dispute conference.* Upon the timely request of a recipient of a notice of termination, the Director of Finance shall meet and consult with the recipient of the notice within seven (7) days after receipt of the recipient's request to do so. If the Director of Finance is unavailable, the City Manager shall appoint other City personnel to do so, who shall then have all powers granted herein to the Director of Finance. The Director of Finance shall meet with the recipient and shall be empowered to settle the dispute with regard to utility service charges and violations of rules and regulations of a utility; however, any utility service charges which were not disputed by the recipient pursuant to Section 080.010.050(b) shall not be raised at this time, as such disputes shall have been deemed waived by the recipient. The Director of Finance shall issue a decision on the dispute at such conference and shall inform the recipient that the recipient has the right to appeal the decision of the Director of Finance to the Board of Utilities Service Appeals within three (3) business days of such conference.
- (d) *Appeal.* If a recipient files a written notice with the City Clerk to appeal the decision of the Director of Finance rendered pursuant to Subsection (c) above within three (3) business days of such decision, the City Manager shall give notice of not more than five (5) days to the members of the Board of Utility Services Appeal ("Board") and to the appellant of the time and place of a meeting of the Board to review the decision of the Director of Finance. The meeting shall be informal and, at the request of the appellant, will be recorded on the City's electronic magnetic tape system. The City and the appellant may present facts or data relevant to the dispute with or without the swearing of an oath. The Board shall consider the data and evidence before it and shall affirm, modify or reverse the decision of the Director of Finance. The decision of the Board is final. If the decision of the Board is to order discontinuance of utility service, then such discontinuation shall occur unless, on the day of the decision or the following day, the utility service charges are paid or the violation of a rule or regulation is corrected.

- (e) *Effective date of discontinuance of service.* The effective date of the discontinuance of utility service shall be the earliest of:
- (1) Fifteen (15) days after the mailing by the City of a notice of termination, if no request for hearing before the Director of Finance is made;
 - (2) Four (4) working days after the decision of the Director of Finance if no appeal of his/her decision is filed with the City Clerk; or
 - (3) Two (2) days after the decision of the Board of Utility Services Appeal.
- (f) *When utility service not discontinued.* Utility service shall not be discontinued:
- (1) If all current utility service charges are paid when due and all past due amounts are being amortized by reasonable installment payments not exceeding six (6) equal monthly installments. Current bill means that portion of the bill which is not fifteen (15) days past the due date. The minimum reasonable installment payment is that which pays a current bill in full and is at least one-sixth ($\frac{1}{6}$) of any past due balance. A reasonable installment payment plan may require that the past due balance be paid in full in no more than six (6) equal installments. The City has the right, in the event there is a breach of the installment agreement, to discontinue service on or after the second day following the mailing or posting of the notice of termination to the customer at the address supplied by the customer and to require, in order for the customer to avoid termination or to be reconnected, payment in full of the current bill and of all past due amounts and the posting of a deposit and a reconnection fee as established by City Council Resolution in order for the customer to be reconnected or for utility service to continue.
 - (2) Between 12:00 p.m. on Friday and 8:00 a.m. on the following Monday or between 12:00 p.m. on the day prior to and 8:00 a.m. on the day following any federal holiday or City holiday.
 - (3) During any period when termination of service would be especially dangerous to the health or safety of any residential customer or permanent resident of the customer's household and such customer has established that he/she was unable to pay for the service as regularly billed by the City or is able to pay for such service but only in reasonable installments. Termination of service that would be especially dangerous to the health or safety of the residential customer or a permanent resident of the customer's household means that the termination of service would aggravate an existing medical condition or create a medical emergency for the customer or a permanent resident of the customer's household. Such shall be deemed to be the case when a physician licensed by the State makes a certification thereof in writing and said certification is received by the City. In the event a medical certification is delivered to or received by the City, a nondiscontinuance of service as herein prescribed shall be effective for sixty (60) days from the date of said medical certification. One (1) thirty-day extension on nontermination of service pursuant to this paragraph may be effected by delivery to and receipt by the City of a second medical certification, as defined above, prior to the expiration of the initial sixty-day nontermination. A residential customer may invoke the provisions of this paragraph no more than once during any period of twelve (12) consecutive months. A reasonable

installment is defined as one which pays off at least one-sixth ($\frac{1}{6}$) of the past due balance and is made no less frequently than once a month.

- (4) In the event a customer at any time proffers full payment of any utility bill by cash or bona fide check to the Director of Finance.
- (5) If violations of rules or regulations concerning the receipt or use of utility service have ceased.
- (g) *Reconnection.* Nothing contained in this section shall preclude the City from charging a reconnection fee as established by City Council Resolution before reconnecting a utility service discontinued pursuant to this section. In addition, prior to reconnection, all charges for that type of utility service must be paid to the City.
- (h) *Delivery of notice.* Notwithstanding anything to the contrary in this section, whenever reference is made herein to a notice or other document being mailed or delivered, that phrase shall mean that the notice or other document is either deposited in the United States mail, postage paid, first class or certified mail, return receipt requested, at the City's option, or physically delivered to the addressee, which physical delivery will be accomplished by either handing to someone over eighteen (18) years of age at the premises served or by posting upon the main entrance of the premises served by the utility service in a conspicuous place.
- (i) If a customer receives three (3) individual or consecutive notices of termination of service in a one (1) year timeframe, an attempt will be made to contact the account holder by an automated telephone call twenty-four (24) hours prior to services being disconnected, in accordance with the PUC 4 Code of Colorado Regulations (CCR) 723-3 Part 3, Provision 3408(f).



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item:	Water Service Agreement for 50235 Highway 6 and 24
Action Requested:	Action 1 - Approval for Mayor to sign a water service agreement for 50235 Highway 6 and 24
Department:	City Administration
Presented By:	Steve Boyd, Matthew Langhorst, Trent Hyatt
Strategic Goals:	Preserve and Improve Infrastructure Ensure Public Safety
Background Info:	The City has received a request from Neils Cotter and Andrew Settle, on behalf of the property owner, Amichaux Limited Partnership LLLP, to provide water service to 50235 Highway 6 and 24. Said property is located outside the municipal limits of the City. Per Section 080.040.030(c) - Restrictions on Extensions of the Glenwood Springs Municipal Code (Municipal Code), City Council must approve any such request. Formerly, the City would have required the submittal of a pre-annexation agreement as a prerequisite of providing water service outside the City in accordance with Section 080.040.030(c)e. However, no future annexation of the property is anticipated. On February 5, 2026, City Council approved an agreement allowing for the construction/extension of an existing 8-inch waterline adjacent to Highway 6 and 24, from the City's western municipal limits (approximately 280 feet west of Center Drive) to approximately 4,500 feet west to property located at 49893 Highway 6 and 24 (said agreement is attached). At that time, it was expected that a request related to the redevelopment of property located at 50235 Highway 6 and 24, lying adjacent to said line, was forthcoming. The current request is to provide water service to two existing and 98 proposed single-family residential homes (totaling 100) on the subject property in the amount of 84.5 EQRs (or equivalent rate). A land-lease model allowing for ownership of the proposed homes is proposed by the applicant. Garfield County is responsible for review and approval of entitlements related to the proposal, which requires a can and will serve letter for water from the City. Garfield County's inclusionary housing standards will apply to the proposal and will require that 10 percent of the units (approximately 10) maintain price caps and residency deed restrictions. The new units are replacing 74 recreational vehicle/camp sites, some of which appear to provide full-time accommodations, and other supporting accessory structures. The existing and draft agreements address various Public Works Department concerns, including future ownership of the portion of the water line beyond Mitchell Creek Road, the potential for stagnant water in the line, and the recovery of initial construction costs by the applicant for future connectors (as opposed to the City). The draft agreement outlines the transfer of one of the existing wells (permit no. 25343-F allows the diversion of 40 acre feet (or 13,034,057 gallons) annually) to the City which results in a net benefit City in terms of total water rights of approximately 21 percent (1 EQR is equal to 350 gallons per day (84.5 EQRs equals 10,794,875 gallons annually)). However, the City will have to negotiate a revised diversion point with the Colorado Division of Water Resources. The applicant will retain ownership of the other well in order to irrigate the property, eliminating the need to use treated potable water therefor. Doing so is both desirable to the City and required by Section 080.040.040 of the Municipal Code.
Issues:	None at this time.
Fiscal Impact:	Staff does not anticipate any fiscal impact to the City. As outlined in the agreement, the applicant will pay water system improvement fees which assumes the impact of providing the service.

Legal Review:

Legal has reviewed the agreement.

Staff Recommendation:

Staff recommends City Council approve the request allowing the Mayor to sign the draft water service agreement for 50235 Highway 6 and 24.

AGREEMENT TO PROVIDE WATER SERVICE

THIS AGREEMENT made and entered into this ____ day of _____, 202__ by and between the CITY OF GLENWOOD SPRINGS, COLORADO, a Colorado home rule municipality (hereinafter "City") and MMME WG LLC (hereinafter "Owner").

WITNESSETH:

WHEREAS, Owner is the owner of certain real property currently located in unincorporated Garfield County, Colorado, commonly known as 49893 Highway 6 and 24, Glenwood Springs, Colorado, and legally described as Merged Parcel A & B according to the Amended Plat of the Parcels A & B, Amended Devcr Subdivision Exemption, recorded in the records of Garfield County Colorado on November 19, 2024 as Reception No. 10001948 (the "Property"); and

WHEREAS, Owner desires to expand the existing City owned waterline at Center Drive and US Highway 6 and 24 to the Property to serve the following: an existing 1,624 square foot single family home; a proposed single family residence; and an office, private bathroom, and fire flows for a 138,600 square foot storage facility approved by Garfield County as of the date of this Agreement.; and

WHEREAS, for properties outside of the Glenwood Springs corporate limits Section 080.040.030(c)(1)a of the Municipal Code of the City of Glenwood Springs ("City Code") authorizes the construction or enlargement of water lines to the City's waterworks upon approval of City Council; and

WHEREAS, the City and Owner desire to enter into this Agreement to Provide Water ("Agreement") to set forth the terms and conditions of the City's provision of water service to the Property; and

WHEREAS, the City will issue water system taps for 3 EQRs which is sufficient to serve the following: an existing 1,624 square foot single family home; a proposed single family residence; an office, private bathroom, and fire flows for a 138,600 square foot storage facility approved by Garfield County as of the date of this Agreement; and

WHEREAS, the City will continue to issue additional taps, subject to the terms of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Petitioner agree as follows:

1. Purpose. The purpose of this Agreement is to set forth the terms and conditions of the Water Service from the City. Except as expressly provided for herein to the contrary, all conditions herein are in addition to any and all requirements concerning annexation contained in the City Code. This Agreement is intended to provide a contractual relationship between the City

and Owner to ensure compliance with the City Code, state statutes, and all terms and conditions set forth herein. Owner's failure to comply with this Agreement or the City Code shall constitute a material breach of this Agreement, and the City shall be entitled to terminate this Agreement upon such breach and/or discontinue the services provided hereunder.

1.1. Owner shall be responsible for the construction of the new waterline improvements depicted in Exhibit A; and

1.2. Owner must utilize 750 gallons of water per day minimum to keep the line from going stagnant prior to any development on the adjacent parcel to the east; and

1.3. The new waterline will be owned by the City from the point of the connection to the 8-inch tee located at the Mitchel Creek Road and US 6&24 intersection. The waterline past this point will be privately owned for a duration for 15 years or sooner as set forth below. During this 15 year period, third parties may tie into said line by contributing an equitable portion of the costs of construction, plus interest, to Owner. Upon payment of such costs to Owner, Owner may notify City in writing that City may serve said parties from the water line if City has sufficient capacity. Owner may, at any point during said 15 year period, notify City that it intends to convey the water line to the City, in which case the City shall accept the same by Bill of Sale. In the event that the Owner conveys the water line to the City the cost recovery provisions of this Agreement shall terminate and Owner shall have no further right to seek reimbursement from any party.

1.3 Cost for construction of the line will be the responsibility of Owner up to the point of final inspections and testing. The City will reimburse Owner for the City owned section of line constructed noted above once final approvals and inspections have been completed.

1.4 Cost of construction for the City owned section will be agreed upon prior to construction starting. In the event that the City does not agree to the construction costs it shall be the responsibility of the Owner to pay all costs associated with the extension.

2. Effective Date and Termination. This Agreement shall be effective upon the date of execution by the City of Glenwood Springs. This Agreement shall become null and void if Owner has not commenced construction of the waterline within 18 months of the Effective Date.

3. Fees. Owner agrees to pay the following fees related to the development of the Property:

3.1. Water System Improvement Fees. Owner agrees to pay water system improvement fees in the amount of \$6,478.22 per EQR subject to an annual increase not to exceed five percent (5%) per year.

3.2. Miscellaneous. Owner agrees to pay all actual costs incurred for notice publication, recording fees, and similar reasonable administrative charges related to this Agreement. Owner agrees to reimburse the City for all engineering, legal, and associated fees and costs the City incurs in the review and implementation of this Agreement.

4. Service Fees. The City shall be entitled to charge reasonable monthly service fees for water service to the Property. Water fees shall be charged at the water rates adopted by the city.

5. Unforeseen Costs. Owner agrees to indemnify, defend and hold the City harmless against any costs or liabilities arising out of and directly connected with this Agreement.

6. Water Rights. Upon annexation of the Property, Owner shall transfer to the City by quit claim deed any water rights owned or held by Owner in connection with the Property.

7. Lien Rights. The City shall have the right to prepare and record a lien against the Property for the amount of any costs, fees and other expenses which it has advanced or which Owner is required to pay pursuant to this Agreement and/or the City Code. Such costs and fees include, but are not limited to, system improvement fees, user fees, recording, staff review and document preparation fees and costs, and engineering and attorneys' fees.

8. Assignment. The parties agree and acknowledge that the rights and obligations of Owner under this Agreement may be assigned by Owner to persons or entities acquiring title to the Property without the prior consent of the City; provided, however, such assignee agrees in writing to be bound by the terms and conditions of this Agreement, and Owner shall give notice to the City of any such conveyance, together with the assignee's written agreement to be bound by the terms and conditions of this Agreement.

9. Final Agreement. This Agreement supersedes all prior written and oral agreements and representations of the parties and is the total integrated agreement between the City and Owner.

10. Modifications. This Agreement shall not be amended except by subsequent written agreement between the City and Owner.

11. No Representations. It is expressly understood that the City cannot legally be bound by the representations of any of its officers or agents or their designees except in accordance with the City Code and the laws of the State of Colorado. Owner, when dealing with the City, acts at its own risk as to any representation or undertaking by the City officers, agents or their designees that is subsequently held unlawful by a court of law with competent jurisdiction.

12. Captions. The captions and paragraph headings in this Agreement are inserted only for convenience and in no way define, limit, or prescribe the scope or intent of this Agreement or any part thereof.

13. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors, and assigns.

14. Severability. If any provision of this Agreement shall be determined to be void or invalid by a court of competent jurisdiction, then such determination shall not affect any other provision hereof, all of which other provisions shall remain in full force and effect. It is the intention of the parties hereto that, if any provision of this Agreement is capable of two constructions, one of which would render the provision void, and the other of which would render the provision valid, then the provision shall have the meaning that renders it valid.

15. Governing Law. This Agreement shall be construed, interpreted, and enforced in accordance with the laws of the State of Colorado. Should any party institute suit or action for enforcement of any obligation contained herein, it is agreed that the venue of such suit or action shall be in Garfield County, Colorado.

16. Attorneys' Fees; Survival. Should this Agreement become the subject of litigation between the City and Owner, the prevailing party shall be entitled to recovery of all actual costs in connection therewith, including but not limited to attorneys' fees and expert witness fees. All rights concerning remedies and/or attorneys' fees shall survive any termination of this Agreement.

17. Authority. Each person signing this Agreement represents and warrants that they are fully authorized to enter into and execute this Agreement and to bind the party on whose behalf they purport to sign to the terms and conditions hereof.

18. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which, when taken together, shall be deemed one and the same instrument. This Agreement may be executed by facsimile signature; provided that the original signature page shall be transmitted to the other party by regular mail within ten (10) days of such facsimile signature.

19. Notice. All notices required under this Agreement shall be in writing and shall be sent by hand-delivery, facsimile transmission, or registered or certified mail, return receipt requested, postage pre-paid, to the addresses of the parties set forth herein. All notices by hand delivery shall be effective upon actual receipt. All notices by mail shall be considered effective seventy-two (72) hours after deposit in the United States Mail with the proper address as set forth below. All notices must also be transmitted by email, if an email address is indicated below. Either party by notice so given may change to address to which future notices may be sent.

Notice to the City: City Manager
City of Glenwood Springs
101 West 8th Street
Glenwood Springs, CO 81601

Notice to Owner: MMME WG LLC, c/o Mark Gould, Sr. PO Box 130
Glenwood Springs, CO 81602
mark@gouldconstruction.com

With Copy to: Chad J. Lee, Esq
901 Grand Ave., Suite 201
Glenwood Springs, CO 81601
chad@jvamlaw.com

20. Gender. Whenever the context shall require, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

AGREEMENT TO PROVIDE WATER SERVICE

THIS AGREEMENT made and entered into this ____ day of _____, 2026 by and between the CITY OF GLENWOOD SPRINGS, COLORADO, a Colorado home rule municipality (hereinafter "City") and AMICHAUX LIMITED PARTNERSHIP LLLP (hereinafter "Owner").

WITNESSETH:

WHEREAS, Owner is the owner of certain real property currently located in unincorporated Garfield County, Colorado, commonly known as 50235 US Highway 6 & 24, Glenwood Springs, Colorado, and more specifically described on **Exhibit A**, attached hereto (the "Property"); and

WHEREAS, the Property is currently served by well permit nos. 25343-F and 016846-F ("Water Rights"); and

WHEREAS, Owner desires to connect into an 8 inch waterline currently under construction from the intersection of Center Drive and US Highway 6&24 to the Property for 98 new single family residential homes and 2 existing homes; and

WHEREAS, for properties outside of the Glenwood Springs corporate limits Section 080.040.030(c)(1)a of the Municipal Code of the City of Glenwood Springs ("City Code") authorizes the construction or enlargement of water lines to the City's waterworks upon approval of City Council; and

WHEREAS, the City and Owner desire to enter into this Agreement to Provide Water Service ("Agreement") to set forth the terms and conditions of the City's provision of water service to the Property; and

WHEREAS, the City will issue water system taps for 84.5 EQRs which is sufficient to serve a proposed Planned Unit Development of 98 new single family residential homes and 2 existing homes which is currently pending before Garfield County as of the date of this Agreement ("Project"), as itemized in a Can and Will Serve Letter from the Director of Public Works dated _____, 20____, a copy of which is attached hereto as **Exhibit B**; and

WHEREAS, the City will continue to issue additional taps, subject to the terms of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Owner agree as follows:

1. Purpose. The purpose of this Agreement is to set forth the terms and conditions of the Water Service from the City. Except as expressly provided for herein to the contrary, all

conditions herein are in addition to any and all requirements concerning annexation contained in the City Code. This Agreement is intended to provide a contractual relationship between the City and Owner to ensure compliance with the City Code, state statutes, and all terms and conditions set forth herein. Owner's failure to comply with this Agreement or the City Code shall constitute a material breach of this Agreement, and the City shall be entitled to terminate this Agreement upon such breach and/or discontinue the services provided hereunder.

1.1. Owner shall be responsible for reimbursing MMME WG LLC for an equitable portion of the actual costs to construct the new waterline improvements depicted in **Exhibit C**, upon which time MMME WG LLC or its successor shall notify the City that the City may provide water service pursuant to this Agreement; and

1.2. After connection, Owner will work in good faith with MMME and the City to ensure the utilization of a sufficient amount of water to keep the line from going stagnant.

2. Effective Date. This Agreement shall be effective upon the date of execution by the City of Glenwood Springs.

3. Authority. The City of Glenwood Springs is authorized but not required to extend water service beyond its corporate boundaries only where the City Council has approved an agreement for such extension. City Council has the express authority under the City Code to set water rates and fees by resolution. Contemporaneously with the approval of this Agreement the City Council has set rates and fees for new residential developments of two or more units outside the corporate boundaries as set forth below.

4. Fees. Owner agrees to pay the following fees related to the development of the Property:

4.1. Water System Improvement Fees. The City's standard system improvement fee for an EQR of water service is \$6,964.91. Pursuant to City Code Section 080.060.030, the actual water use from the project will be reviewed prior to 18 months after the issuance of the final certificate of occupancy for each phase of the project. Such review shall follow the procedures set forth in Section 080.060.030 as may be amended. It shall be the Owner's responsibility to notify the City that the last Certificate of Occupancy has been issued for each phase of the project.

4.2. Miscellaneous. Owner agrees to pay all actual costs incurred for notice publication, recording fees, and similar reasonable administrative charges related to this Agreement. Owner agrees to reimburse the City for all engineering, legal, and associated fees and costs the City incurs in the review and implementation of this Agreement.

5. Water Rights Dedication. Owner shall transfer the 25343 Well (Well Permit No. 25343-F) to the City for use as part of the City's integrated water supply plan.

6. Service Fees. The City shall be entitled to charge reasonable monthly service fees for water service to the Property. Water fees shall be charged at the water rates adopted by the city.

7. Unforeseen Costs. Owner agrees to indemnify, defend and hold the City harmless against any costs or liabilities arising out of and directly connected with this Agreement.

8. Lien Rights. The City shall have the right to prepare and record a lien against the Property for the amount of any costs, fees and other expenses which it has advanced or which Owner is required to pay pursuant to this Agreement and/or the City Code. Such costs and fees include, but are not limited to, system improvement fees, user fees, recording, staff review and document preparation fees and costs, and engineering and attorneys' fees.

9. Assignment. The parties agree and acknowledge that the rights and obligations of Owner under this Agreement may be assigned by Owner to persons or entities acquiring title to the Property without the prior consent of the City; provided, however, such assignee agrees in writing to be bound by the terms and conditions of this Agreement, and Owner shall give notice to the City of any such conveyance, together with the assignee's written agreement to be bound by the terms and conditions of this Agreement.

10. Final Agreement. This Agreement supersedes all prior written and oral agreements and representations of the parties and is the total integrated agreement between the City and Owner.

11. Modifications. This Agreement shall not be amended except by subsequent written agreement between the City and Owner.

12. No Representations. It is expressly understood that the City cannot legally be bound by the representations of any of its officers or agents or their designees except in accordance with the City Code and the laws of the State of Colorado. Owner, when dealing with the City, acts at its own risk as to any representation or undertaking by the City officers, agents or their designees that is subsequently held unlawful by a court of law with competent jurisdiction.

13. Captions. The captions and paragraph headings in this Agreement are inserted only for convenience and in no way define, limit, or prescribe the scope or intent of this Agreement or any part thereof.

14. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors, and assigns.

15. Severability. If any provision of this Agreement shall be determined to be void or invalid by a court of competent jurisdiction, then such determination shall not affect any other provision hereof, all of which other provisions shall remain in full force and effect. It is the intention of the parties hereto that, if any provision of this Agreement is capable of two constructions, one of which would render the provision void, and the other of which would render the provision valid, then the provision shall have the meaning that renders it valid.

16. Governing Law. This Agreement shall be construed, interpreted, and enforced in accordance with the laws of the State of Colorado. Should any party institute suit or action for enforcement of any obligation contained herein, it is agreed that the venue of such suit or action shall be in Garfield County, Colorado.

17. Attorneys' Fees; Survival. Should this Agreement become the subject of litigation between the City and Owner, the prevailing party shall be entitled to recovery of all actual costs in connection therewith, including but not limited to attorneys' fees and expert witness fees. All rights concerning remedies and/or attorneys' fees shall survive any termination of this Agreement.

18. Authority. Each person signing this Agreement represents and warrants that they are fully authorized to enter into and execute this Agreement and to bind the party on whose behalf they purport to sign to the terms and conditions hereof.

19. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which, when taken together, shall be deemed one and the same instrument. This Agreement may be executed by facsimile signature; provided that the original signature page shall be transmitted to the other party by regular mail within ten (10) days of such facsimile signature.

20. Notice. All notices required under this Agreement shall be in writing and shall be sent by hand-delivery, facsimile transmission, or registered or certified mail, return receipt requested, postage pre-paid, to the addresses of the parties set forth herein. All notices by hand delivery or facsimile shall be effective upon actual receipt. All notices by mail shall be considered effective 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 to address to which future notices may be sent.

Notice to the City:	City Manager City of Glenwood Springs 101 West 8th Street Glenwood Springs, CO 81601
Notice to Owner:	Amichaux Limited Partnership LLLP 0 6 & 24 HWY Glenwood Springs, CO 81601
With Copy to:	Chad J. Lee, Esq 901 Grand Ave., Suite 2021 Glenwood Springs, CO 81601 chad@jvamlaw.com

21. Gender. Whenever the context shall require, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Property Description

EXHIBIT B

Can and Will Serve Letter

Memorandum



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Resolution 2026-10; Approval of Sole Source Purchase of Axon Equipment

Action Requested: Approval of Sole Source Procurement

Department: City Administration

Presented By: Steve Boyd

Strategic Goals: Ensure Public Safety

Background Info: Staff is negotiating terms of service and public safety equipment with Axon and is asking Council to approve the purchase as a sole source.

Issues: None at this time.

Fiscal Impact: Please see attachment. No 2026 appropriation is needed.

Legal Review: Legal is reviewing contract language.

Staff Recommendation: Staff is recommending we sole source this purchase.

RESOLUTION 2026 - 10

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, AUTHORIZING THE SOLE SOURCE PROCUREMENT FROM AXON ENTERPRISE, INC. OF AUTOMATED LICENSE PLATE READERS, POLICE BODY CAMERAS AND RELATED TECHNOLOGIES.

WHEREAS, the Glenwood Springs Charter authorizes the City Council of the City of Glenwood Springs (the “City”) to enter into contracts for the sole source procurement of goods and services; and

WHEREAS, the Glenwood Springs Police Department has utilized contracted body cameras and technology for several years and the contract for that equipment is ending; and

WHEREAS, Axon Enterprise, Inc., (“Axon”) provides a suite of products and technology that will enable to Glenwood Springs Police Department (“GSPD”) to be more efficient, both in public safety and with administrative processes; and

WHEREAS, Axon suite of products will include the following: 1) Cloud Storage, 2) Body Worn Cameras (BWC), 3) BWC live translation services, 4) Automatic License Plate Readers, 5) Drone First Responder (for both police and fire), 6) taser 10 non-lethal devices, 7) Axon signal sidearm sensor, 8) VR training platform, 9) Redaction Assistant (for BWC) and 10) AI report writing; and

WHEREAS, Axon’s technological platform is highly secure, and all data collected will be owned and controlled by the City; and

WHEREAS, City staff has estimated that the integrated technology provided under this contract will save GSPD staff time and eliminate certain expenses offsetting the cost of the contract by \$100,000 to \$150,000 per year; and

WHEREAS, following a good faith review of available vendors and the recommendations of other jurisdictions, City staff has determined that Axon is the most compatible source of police body cameras and related technology that best meets the City’s needs; and

WHEREAS, based on City staff’s research, including contract and pricing from other municipalities, setting up a request for proposals would be time-consuming and would not provide the City with additional options for the integrated technology it requires; and

WHEREAS, the City Council finds and declares that the foregoing is sufficient justification to authorize the sole source procurement of police body cameras and related technology.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF GLENWOOD SPRINGS, COLORADO, RESOLVES THAT:

Section 1. The foregoing recitals are hereby incorporated as if set forth in full.

Section 2. The City Manager is authorized to execute a contract with Axon an amount not to exceed amounts budgeted, appropriated, and available for police body cameras and related technology in an amount not to exceed \$2,797,5550.30 subject to final review by the City Manager and City Attorney.

INTRODUCED, READ AND PASSED THIS 4TH DAY OF JUNE 2026.

CITY OF GLENWOOD SPRINGS, COLORADO

Marco Dehm, Mayor

ATTEST:

Ryan Muse, City Clerk

GLENWOOD SPRINGS, COLORADO

Glenwood Springs Police Department

Non-Binding Budgetary Estimate

Executive Summary: Axon Officer Safety & AI Project

GLENWOOD SPRINGS POLICE DEPARTMENT

This Axon deployment delivers a critical force-multiplier strategy for a small, high-demand agency. By combining TASER 10, DFR (Drone as First Responder) capabilities, advanced Artificial Intelligence, automated evidence workflows, immersive VR training, and community transparency tools, this comprehensive technology ecosystem empowers the Glenwood Springs Police Department to do more with limited staffing while simultaneously improving officer safety and public outcomes.

Strategic Objectives & Operational Impact

Officer Safety in High-Risk Environments: The deployment of TASER 10 coupled with full VR training significantly improves real-time decision-making and de-escalation tactics under pressure. This combination is designed to reduce injuries and minimize use-of-force severity, directly leading to safer encounters for both officers and the community while reducing departmental liability.

Staffing Constraints & Operational Efficiency: AI-powered report writing (Draft One) and auto-tagging technologies eliminate hours of tedious manual administrative work. By returning 1 to 2+ hours per officer, per shift, the department achieves immediate operational relief. This enables more officers to remain visible and active in the community without the need to increase headcount.

Faster Case Resolution & Stronger Prosecution: The integration of Evidence.com with automated workflows and advanced redaction tools dramatically streamlines the case building process. By improving both the quality of evidence and the turnaround time for processing, the department can expect higher clearance rates and faster, more successful prosecution outcomes.

Transparency & Community Relations: Utilizing Community Link and secure digital evidence sharing platforms allows for the faster, controlled release of critical information. In a tourism-driven community with high public visibility like Glenwood Springs, this immediate and transparent communication is vital for maintaining and increasing public trust.

DFR (Drone as First Responder): Drone technology provides critical aerial reconnaissance and enhanced situational awareness during critical incidents. This capability improves officer safety and response effectiveness by enabling faster incident assessment and safer tactical approaches before personnel arrive on scene.

Consistent, High-Quality Training Excellence: The inclusion of a comprehensive, full VR training program enables repeatable, realistic, scenario-based learning. This immersive approach ensures better officer performance and preparedness during high-risk calls, including mental health crises, complex tourism interactions, and critical use-of-force incidents.

Future Readiness & Long-Term Modernization: Implementation of the comprehensive AI Era platform establishes a robust foundation for smarter, faster policing operations. This investment transitions the agency into a future-ready department equipped with scalable technology designed to adapt to evolving law enforcement challenges.

Implementation Timeline & Expected Outcomes

Immediate (0–90 days) & Mid-Term (3–12 months): Upon initial deployment, the department will experience an immediate reduction in the paperwork burden, accompanied by faster reporting and streamlined evidence processing. Within the first year, these efficiencies will compound, resulting in significantly increased patrol time, higher visibility, and measurable improvements in case clearance rates and judicial outcomes.

This comprehensive technology investment enables Glenwood Springs PD to protect officers more effectively, maximize limited resources, solve crimes faster, build public trust, and operate as a modern technology-enabled agency. It directly supports the core mission: protect life, improve outcomes, and maintain a safe, trusted community.

OSP10: What's Included

All-Inclusive
Premium Bundle

Full-spectrum technology ecosystem covering hardware, software, and connectivity for Glenwood Springs PD. Includes a 10-year contract with comprehensive TAP refresh program.

Core Hardware

TASER 10 (refreshes at year 5 on 10-year contract)

Signal Sidearm

Axon Body Camera 4

TAP Refreshes: Cameras every 2.5 years (4 refreshes over 10 years)

All holsters, warranties, and accessories for BWC and TASER

Evidence & Storage

Unlimited Storage

Unlimited E.Com

All Licenses included

Extended Warranties

Connectivity & Streaming

Fusus Livestream

Device Connectivity

Real-time streaming capabilities

AI Era Bundle: Overview & Feature Suite

Axon Theme • Master: feature_grid_light

Accelerate reporting, discovery, and evidence management with AI embedded across your workflow.

Core Capabilities



Faster Reporting

Draft One turns BWC audio into ready-to-review narratives.



Smarter Discovery

Smart Detection, Auto-Transcribe; Attribute Search coming 2026.



Officer-in-the-Loop

Mandatory human review and approval before submission.



Instant Answers

Policy Chat guidance; Axon Assistant for translation and help.

Available Now



Unlimited Auto-Transcribe

Multi-language transcription for review, search, redaction, audits.



Unlimited Smart Detection

Human form detection in Axon Body 3 & 4 video.



Axon Assistant

Voice assistant on Axon Body 4 for translation and help.



Brief One

Rapid transcript summaries and highlights.



Draft One

First-pass report writing from BWC audio.



Policy Chat

Instant policy answers in Evidence.com/Axon App.



Smart Capture

Scan driver's license to structured fields.



AI Auto-Tagging

Improves metadata when CAD is incomplete.

Coming 2026



Form One

Auto-completes common forms using transcripts and metadata.



Attribute Search

Find people across evidence by clothing/accessories.

All AI outputs reviewed and approved by a human officer before submission.

Officer-in-the-loop safeguards ensure accountability and accuracy.

Axon Air: Drones & DFR Dock

Comprehensive aerial solutions for indoor tactical operations and automated Drone as First Responder (DFR) programs.

R10 - Interior Drone

For SWAT and indoor ops

Remote Control

All accessories needed

Full program support

Hardware warranties and refreshes

Licensing and unlimited upload to evidence.com

X10 DFR Dock

Automated Drone as First Responder system

DFR dock and installation

Remote control

All accessories needed

Full program support

Hardware warranties and refreshes

Licensing and unlimited upload to evidence.com

What's Included in Your Quote

A comprehensive breakdown of all hardware, software, and services included in the Glenwood Springs PD ecosystem.



Supporting 27 TASERs and BWC



2 Admin Staff



1 X10 Drone



1 R10 Drone



Program Solutions

Transfer Balance (Software, Services & Goods)

Axon AI - AI Era

Officer Safety Plan T10

Outpost Plan

R10 Axon Air DFR Patrol Plan

X10 Axon Air DFR Dock Plan

Full VR Plan



A La Carte Hardware

AB4 Multi Bay Dock Bundle

AB4 Camera Bundle

Axon Air R10 Patrol Kit Bundle

AB4 1-Bay Dock Bundle



A La Carte Software

Axon Evidence - Auto Tagging License

Axon Performance - License

Axon Evidence - Redaction Assistant User License

Axon Air - Skydio Connect Data Plan for R10

Pro License Bundle



A La Carte Services

Axon Evidence - Implementation for Auto Tagging/Performance

VR Instructor Certification + Implementation

PSO 1-Day Onsite Training

Axon Taser 10 - 2 Day Instructor Course

PSO 1-Day Add On Onsite Training

Axon Accelerate Conference Registration



Full support for 5 or 10 years - all accessories, software, storage, warranties, support and training included.

QUOTE SUMMARY

10-Year Pricing Breakdown - Glenwood Springs PD

🕒 Offer Expires: June 30th, 2026

Complete solution including all hardware, software, AI capabilities, and infrastructure for 10-year term

ORIGINAL 10-YEAR PRICE

~~\$3,048,340.00~~

✓ Total Contract Savings

\$608,496.61

20% BUNDLE DISCOUNT APPLIED

FINAL INVESTMENT

\$2,439,843.39

\$243,984.34 / year



Included Components

Complete hardware and software suite (10-year term)



27 OSP10 Premium Bundles

Comprehensive officer safety plan including TASER, BWC, and Full VR Training.



1 DFR Dock & Patrol Plan

Full drone program infrastructure with automated dock deployment and patrol kit.



4 Outpost Cameras

Expanded ALPR coverage for enhanced community security.



Full Software & AI Suite

Includes 27 Axon AI Era licenses, Auto Tagging, and Redaction Assistant.

Invoice Schedule

Payment schedule for 10-year contract with \$1,000 down payment

DOWN PAYMENT

\$1,000

July 2026

10-YEAR TOTAL

\$2,439,843.39

\$243,884.34 / year

 10-Year Payment Schedule

PAYMENT DATE	AMOUNT	BALANCE	STATUS
July 2026 (Down Payment)	\$1,000	\$2,438,843	Due
January 2027	\$243,884	\$2,194,959	Pending
January 2028	\$243,884	\$1,951,075	Pending
January 2029	\$243,884	\$1,707,190	Pending
January 2030	\$243,884	\$1,463,306	Pending
January 2031	\$243,884	\$1,219,422	Pending
January 2032	\$243,884	\$975,537	Pending
January 2033	\$243,884	\$731,653	Pending
January 2034	\$243,884	\$487,769	Pending
January 2035	\$243,884	\$243,884	Pending
January 2036 (Final)	\$243,884	\$0	Complete

10-Year Value Proposition

Protect your agency against compounding 5-6% annual inflation while securing continual technology refreshes and budget predictability.

10-Year Financial Certainty

LOCKED-IN TOTAL INVESTMENT

\$2,439,843.39

One predictable contract for 2026 – 2036.

Inflation Protection

Completely avoid the estimated 5-6% annual compounding cost increases standard across the industry.

Budget Predictability

Known annual payments of \$243,884.34 (after down payment), making long-term municipality planning simple and secure.

Lifecycle Management & Refreshes

The 10-Year term includes comprehensive lifecycle management, ensuring officers always operate with optimal, fully-supported gear:

-  **Body Camera Upgrades**
Automatic hardware refreshes every 2.5 years to the latest models.
-  **TASER Refreshes**
Scheduled weapon upgrades and continuous battery replacements.
-  **Infrastructure Updates**
Dock and sensor hardware refreshed to maintain ecosystem reliability.
-  **Comprehensive Warranty Coverage**
Full hardware protection and support for the entire 10-year term.

 **NO CAPITAL EXPENDITURE SURPRISES**

Colorado Agencies on Similar Programs

 **Key Insight:** Many agencies on this program are the exact same size or smaller than Glenwood Springs PD, demonstrating the scalability and accessibility of this ecosystem.

 Denver PD

 Boulder PD

 Fort Collins PD

 Colorado Springs PD

 Glendale PD

 Erie PD

 Frederick PD

 Montrose PD

 Black Hawk PD

 Firestone PD

 Westminster CO

 Durango PD

 Vail PD

 Aurora PD

 Evans PD

 Breckenridge PD

 Lakewood PD

 Fountain PD

Data Privacy & Security

Axon is committed to the highest standards of security, privacy, and compliance to protect your agency's critical data and operations.

Security

Axon maintains a comprehensive Information Security and Privacy Program designed to ensure the robust protection of customers' data and operations when using Axon products and services. We employ industry-leading safeguards against unauthorized access.

Privacy

We implement strict data protection measures and privacy-by-design principles across our entire ecosystem. Your agency retains ownership and control over your digital evidence, while our architecture ensures strict logical separation of tenant data.

Compliance

Our solutions are built to meet or exceed necessary regulatory, compliance, and contractual requirements, including CJIS (Criminal Justice Information Services) standards, ensuring your evidence stands up in court.

Transparency

We believe in open communication regarding our security practices. Through the Axon Trust Center, we provide continuous visibility into our system status, compliance audits, and security implementations.

Visit the Axon Trust Center for detailed security documentation: <https://trust.axon.com/>

Frequently Asked Questions

Common inquiries regarding contract terms, implementation logistics, and billing.



What are Transfer Credits and Debits?

This represents the reconciliation of the previous contract. It is the total amount that was owed on the last contract for services rendered and used but not yet paid for (debits), or conversely, services that were paid for but not rendered (credits). This ensures a clean financial transition to the new 10-year program.



When will the equipment ship?

For the majority of standard hardware items (BWC, TASER, sensors), shipping occurs typically **30-60 days** after contract signature. Specialized DFR (Drone as First Responder) line items may take up to **120 days** depending on current manufacturing backlog and configuration requirements.



What does training look like?

We will be fully involved in the setup of your new program. Along with your account representative, you will be assigned a designated **Deployment Manager**. They will coordinate training for your entire PD, manage timelines, and ensure every aspect of the transition moves smoothly from day one.



What happens if the department loses funding?

Your investment is protected. **Section 17 of our MSPA** (Master Services and Purchasing Agreement) specifically entitles you to rework or cancel the contract in the event that your department or city's budget is cut. This clause provides the necessary flexibility for long-term planning.



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Q-840238-46154AP

Issued: 05/12/2026

Quote Expiration: 12/15/2026

Estimated Contract Start Date: 09/01/2026

Account Number: 111139

Payment Terms: N30

Mode of Delivery: AUTO-GND

Credit/Debit Amount: \$0.00

SHIP TO	BILL TO
City of Glenwood Springs Police Department - CO 101 8TH ST GLENWOOD SPRINGS, CO 81601-3303 USA	Glenwood Springs Police Department - CO 101 8TH ST GLENWOOD SPRINGS CO 81601-3303 USA Email:

SALES REPRESENTATIVE	PRIMARY CONTACT
Asa Perez Phone: Email: asperez@axon.com Fax:	Joseph Deras Phone: Email: joseph.deras@cogs.us Fax:

Quote Summary

Program Length	120 Months
TOTAL COST	\$2,439,840.45
ESTIMATED TOTAL W/ TAX	\$2,439,840.45

Discount Summary

Average Savings Per Year	\$110,469.38
TOTAL SAVINGS	\$1,104,693.80

Payment Summary

Date	Subtotal	Tax	Total
Aug 2026	\$1,000.05	\$0.00	\$1,000.05
Jan 2027	\$243,884.04	\$0.00	\$243,884.04
Jan 2028	\$243,884.04	\$0.00	\$243,884.04
Jan 2029	\$243,884.04	\$0.00	\$243,884.04
Jan 2030	\$243,884.04	\$0.00	\$243,884.04
Jan 2031	\$243,884.04	\$0.00	\$243,884.04
Jan 2032	\$243,884.04	\$0.00	\$243,884.04
Jan 2033	\$243,884.04	\$0.00	\$243,884.04
Jan 2034	\$243,884.04	\$0.00	\$243,884.04
Jan 2035	\$243,884.04	\$0.00	\$243,884.04
Jan 2036	\$243,884.04	\$0.00	\$243,884.04
Total	\$2,439,840.45	\$0.00	\$2,439,840.45

Quote Unbundled Price:	\$2,700,692.81
Quote List Price:	\$2,125,258.01
Quote Subtotal:	\$2,439,840.45

Pricing

All deliverables are detailed in Delivery Schedules section lower in proposal

Item	Description	Qty	Term	Unbundled	List Price	Net Price	Subtotal	Tax	Total
Program									
100553	TRANSFER BALANCE - SOFTWARE AND SERVICES	1			\$1.00	\$122.64	\$122.64	\$0.00	\$122.64
100552	TRANSFER BALANCE - GOODS	1			\$1.00	\$7,516.51	\$7,516.51	\$0.00	\$7,516.51
V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	120	\$24.73	\$14.41	\$14.41	\$46,688.39	\$0.00	\$46,688.39
HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	120			\$1,049.00	\$28,323.00	\$0.00	\$28,323.00
S00016	AXON AI - AI ERA	27	120	\$302.89	\$238.92	\$238.92	\$774,100.80	\$0.00	\$774,100.80
B00076	OUTPOST TAP PLAN	4	120	\$358.75	\$264.97	\$0.00	\$0.00	\$0.00	\$0.00
A00044	AXON AIR DFR DOCK PLAN	1	120			\$3,196.50	\$383,580.10	\$0.00	\$383,580.10
M00049	OFFICER SAFETY PLAN T10	27	120	\$341.56	\$264.13	\$264.13	\$855,780.52	\$0.00	\$855,780.52
V00023	FULL VR PLAN	27	120	\$40.81	\$28.82	\$28.82	\$93,376.79	\$0.00	\$93,376.79
A la Carte Hardware									
H00002	AB4 Multi Bay Dock Bundle	3			\$1,638.90	\$1,638.90	\$4,916.70	\$0.00	\$4,916.70
H00003	AB4 1-Bay Dock Bundle	6			\$229.00	\$229.00	\$1,374.00	\$0.00	\$1,374.00
A00030	AXON AIR R10 PATROL KIT BUNDLE	1	120		\$31,760.91	\$667.20	\$80,064.20	\$0.00	\$80,064.20
A la Carte Software									
102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	120		\$199.92	\$199.92	\$23,990.40	\$0.00	\$23,990.40
73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	120		\$12.12	\$12.12	\$39,268.80	\$0.00	\$39,268.80
73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	120		\$12.12	\$12.12	\$39,268.80	\$0.00	\$39,268.80
73739	AXON PERFORMANCE - LICENSE	27	120		\$12.12	\$12.12	\$39,268.80	\$0.00	\$39,268.80
ProLicense	Pro License Bundle	2	120		\$54.52	\$0.00	\$0.00	\$0.00	\$0.00
A la Carte Services									
102524	PSO 1-DAY ADD ON ONSITE TRAINING	1			\$4,000.00	\$0.00	\$0.00	\$0.00	\$0.00
99901	AXON ACCELERATE CONFERENCE REGISTRATION	10			\$899.00	\$0.00	\$0.00	\$0.00	\$0.00
79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1			\$3,000.00	\$3,000.00	\$3,000.00	\$0.00	\$3,000.00
102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1			\$6,400.00	\$6,400.00	\$6,400.00	\$0.00	\$6,400.00
102526	PSO 1-DAY ONSITE TRAINING	1			\$8,000.00	\$8,000.00	\$8,000.00	\$0.00	\$8,000.00
A la Carte Warranties									
102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	109		\$1,200.00	\$1,200.00	\$4,800.00	\$0.00	\$4,800.00
Total							\$2,439,840.45	\$0.00	\$2,439,840.45

Delivery Schedule

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
AB4 1-Bay Dock Bundle	100201	AXON BODY 4 - DOCK - SINGLE BAY	6	1	08/01/2026
AB4 1-Bay Dock Bundle	71104	AXON - DOCK/DATAPORT POWERCORD - NORTH AMERICA	6	1	08/01/2026
AB4 CONNECTED HARDWARE BUNDLE	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	27	1	08/01/2026
AB4 CONNECTED HARDWARE BUNDLE	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	30	1	08/01/2026
AB4 CONNECTED HARDWARE BUNDLE	100775	AXON BODY 4 - MAGNETIC DISCONNECT CABLE	30	1	08/01/2026
AB4 CONNECTED HARDWARE BUNDLE	74028	AXON BODY - MOUNT - WING CLIP RAPIDLOCK	30	1	08/01/2026
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - 8 BAY DOCK	3	1	08/01/2026
AB4 Multi Bay Dock Bundle	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	3	1	08/01/2026
AB4 Multi Bay Dock Bundle	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	3	1	08/01/2026
AXON AIR DFR DOCK PLAN	102768	AXON AIR - SKYDIO X10 DOCK DFR HW KIT	1	1	08/01/2026
AXON AIR R10 PATROL KIT BUNDLE	102471	AXON AIR - SKYDIO R10 PATROL HW KIT	1	1	08/01/2026
OFFICER SAFETY PLAN T10	100122	AXON VR - HEADSET - BATTERY	2	1	08/01/2026
OFFICER SAFETY PLAN T10	100126	AXON VR - TACTICAL BAG	2	1	08/01/2026
OFFICER SAFETY PLAN T10	100390	AXON TASER 10 - HANDLE - YELLOW CLASS 3R	27	2	08/01/2026
OFFICER SAFETY PLAN T10	100394	AXON TASER 10 - MAGAZINE - HALT TRAINING BLUE	4	1	08/01/2026
OFFICER SAFETY PLAN T10	100396	AXON TASER 10 - MAGAZINE - INERT RED	27	1	08/01/2026
OFFICER SAFETY PLAN T10	100399	AXON TASER 10 - CARTRIDGE - LIVE	410	1	08/01/2026
OFFICER SAFETY PLAN T10	100400	AXON TASER 10 - CARTRIDGE - HALT	190	1	08/01/2026
OFFICER SAFETY PLAN T10	100401	AXON TASER 10 - CARTRIDGE - INERT	270	1	08/01/2026
OFFICER SAFETY PLAN T10	100591	AXON TASER - CLEANING KIT	1	1	08/01/2026
OFFICER SAFETY PLAN T10	100611	AXON TASER 10 - SAFARILAND HOLSTER - RH	27	1	08/01/2026
OFFICER SAFETY PLAN T10	100623	ENHANCED HOOK-AND-LOOP TRAINING (HALT) SUIT (V2)	1	1	08/01/2026
OFFICER SAFETY PLAN T10	100748	AXON VR - CONTROLLER - TASER 10	2	1	08/01/2026
OFFICER SAFETY PLAN T10	101122	AXON VR - HOLSTER - T10 SAFARILAND GRAY - RH	1	1	08/01/2026
OFFICER SAFETY PLAN T10	101123	AXON VR - HOLSTER - T10 SAFARILAND GRAY - LH	1	1	08/01/2026
OFFICER SAFETY PLAN T10	101455	AXON TASER 10 - REPLACEMENT TOOL KIT - INTERPOSER BUCKET	1	1	08/01/2026
OFFICER SAFETY PLAN T10	101456	AXON TASER 10 - REPLACEMENT INTERPOSER BUCKET	2	1	08/01/2026
OFFICER SAFETY PLAN T10	101751	AXON VR - HEADSET - HTC FOCUS VISION	2	1	08/01/2026
OFFICER SAFETY PLAN T10	101755	AXON TASER 10 - MAGAZINE - LIVE DUTY BLACK V2	27	1	08/01/2026
OFFICER SAFETY PLAN T10	101757	AXON TASER 10 - MAGAZINE - LIVE TRAINING PURPLE V2	27	1	08/01/2026
OFFICER SAFETY PLAN T10	101886	SIGNAL SENSOR	27	1	08/01/2026
OFFICER SAFETY PLAN T10	101889	AXON SIGNAL - BATTERY - CR2032	27	1	08/01/2026
OFFICER SAFETY PLAN T10	102186	AXON TASER 10 - COMMAND BOX	1	1	08/01/2026
OFFICER SAFETY PLAN T10	20018	AXON TASER - BATTERY PACK - TACTICAL	3	1	08/01/2026
OFFICER SAFETY PLAN T10	20018	AXON TASER - BATTERY PACK - TACTICAL	27	1	08/01/2026
OFFICER SAFETY PLAN T10	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	1	1	08/01/2026
OFFICER SAFETY PLAN T10	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	1	1	08/01/2026
OFFICER SAFETY PLAN T10	74200	AXON TASER - DOCK - SIX BAY PLUS CORE	1	1	08/01/2026
OFFICER SAFETY PLAN T10	80087	AXON TASER - TARGET - CONDUCTIVE PROFESSIONAL RUGGEDIZED	1	1	08/01/2026
OFFICER SAFETY PLAN T10	80090	AXON TASER - TARGET FRAME - PROFESSIONAL 27.5 IN X 75 IN	1	1	08/01/2026
OUTPOST TAP PLAN	102032	AXON OUTPOST - CAMERA	4	1	08/01/2026
OUTPOST TAP PLAN	102488	AXON OUTPOST - SOLAR PANEL - 100W	4	1	08/01/2026
OUTPOST TAP PLAN	102538	AXON OUTPOST - TOP MOUNT END CAP - STANDARD	4	1	08/01/2026

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
OUTPOST TAP PLAN	102543	AXON OUTPOST - BATTERY & CHARGER ENCLOSURE - EXTENDED	4	1	08/01/2026
OUTPOST TAP PLAN	102552	AXON OUTPOST - POLE - STANDARD	4	1	08/01/2026
OUTPOST TAP PLAN	102737	AXON OUTPOST - STANDARD SOLAR HARDWARE KIT	4	1	08/01/2026
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	100832	AXON VR - CONTROLLER - HANDGUN VR19H	2	1	08/01/2026
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101294	AXON VR - TABLET	2	1	08/01/2026
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101300	AXON VR - TABLET CASE	2	1	08/01/2026
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	102389	AXON VR - MULTI-USER ROOM MARKER	2	1	08/01/2026
FULL VR PLAN	100122	AXON VR - HEADSET - BATTERY	2	1	09/01/2026
FULL VR PLAN	100126	AXON VR - TACTICAL BAG	2	1	09/01/2026
FULL VR PLAN	100748	AXON VR - CONTROLLER - TASER 10	2	1	09/01/2026
FULL VR PLAN	100832	AXON VR - CONTROLLER - HANDGUN VR19H	2	1	09/01/2026
FULL VR PLAN	101122	AXON VR - HOLSTER - T10 SAFARILAND GRAY - RH	2	1	09/01/2026
FULL VR PLAN	101123	AXON VR - HOLSTER - T10 SAFARILAND GRAY - LH	2	1	09/01/2026
FULL VR PLAN	101294	AXON VR - TABLET	2	1	09/01/2026
FULL VR PLAN	101300	AXON VR - TABLET CASE	2	1	09/01/2026
FULL VR PLAN	101751	AXON VR - HEADSET - HTC FOCUS VISION	2	1	09/01/2026
FULL VR PLAN	102389	AXON VR - MULTI-USER ROOM MARKER	2	1	09/01/2026
OFFICER SAFETY PLAN T10	100400	AXON TASER 10 - CARTRIDGE - HALT	140	1	08/01/2027
OFFICER SAFETY PLAN T10	100400	AXON TASER 10 - CARTRIDGE - HALT	130	1	08/01/2028
AXON AIR DFR DOCK PLAN	102771	AXON AIR - SKYDIO SAFE - X10 DOCK DFR OPS HW KIT - REFRESH 1	1	1	02/01/2029
AXON AIR R10 PATROL KIT BUNDLE	102466	AXON AIR - SKYDIO SAFE R10 HW KIT - REFRESH 1	1	1	02/01/2029
OFFICER SAFETY PLAN T10	101012	AXON VR - TAP REFRESH 1 - TASER CONTROLLER	2	1	02/01/2029
OFFICER SAFETY PLAN T10	20373	AXON VR - TAP REFRESH 1 - HEADSET	2	1	02/01/2029
OFFICER SAFETY PLAN T10	73309	AXON BODY - TAP REFRESH 1 - CAMERA	27	1	02/01/2029
OFFICER SAFETY PLAN T10	73313	AXON BODY - TAP REFRESH 1 - DOCK SINGLE BAY	6	1	02/01/2029
OFFICER SAFETY PLAN T10	73689	AXON BODY - TAP REFRESH 1 - DOCK MULTI BAY	3	1	02/01/2029
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	100210	AXON VR - TAP REFRESH 1 - TABLET	2	1	02/01/2029
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101009	AXON VR - TAP REFRESH 1 - HANDGUN CONTROLLER	2	1	02/01/2029
FULL VR PLAN	100210	AXON VR - TAP REFRESH 1 - TABLET	2	1	03/01/2029
FULL VR PLAN	101009	AXON VR - TAP REFRESH 1 - HANDGUN CONTROLLER	2	1	03/01/2029
FULL VR PLAN	101012	AXON VR - TAP REFRESH 1 - TASER CONTROLLER	2	1	03/01/2029
FULL VR PLAN	20373	AXON VR - TAP REFRESH 1 - HEADSET	2	1	03/01/2029
OFFICER SAFETY PLAN T10	100400	AXON TASER 10 - CARTRIDGE - HALT	140	1	08/01/2029
OFFICER SAFETY PLAN T10	100400	AXON TASER 10 - CARTRIDGE - HALT	130	1	08/01/2030
AXON AIR DFR DOCK PLAN	102770	AXON AIR - SKYDIO SAFE - X10 DOCK DFR HW KIT - REFRESH 2	1	1	08/01/2031
AXON AIR R10 PATROL KIT BUNDLE	102474	AXON AIR - SKYDIO SAFE R10 HW KIT - REFRESH 2	1	1	08/01/2031
OFFICER SAFETY PLAN T10	101013	AXON VR - TAP REFRESH 2 - TASER CONTROLLER	2	1	08/01/2031
OFFICER SAFETY PLAN T10	20242	AXON TASER - CERTIFICATION PROGRAM YEAR 6-10 HARDWARE	27	1	08/01/2031
OFFICER SAFETY PLAN T10	20374	AXON VR - TAP REFRESH 2 - HEADSET	2	1	08/01/2031
OFFICER SAFETY PLAN T10	73310	AXON BODY - TAP REFRESH 2 - CAMERA	27	1	08/01/2031
OFFICER SAFETY PLAN T10	73314	AXON BODY - TAP REFRESH 2 - DOCK SINGLE BAY	6	1	08/01/2031
OFFICER SAFETY PLAN T10	73688	AXON BODY - TAP REFRESH 2 - DOCK MULTI BAY	3	1	08/01/2031
OUTPOST TAP PLAN	102144	AXON OUTPOST - TAP REFRESH ONE - CAMERA	4	1	08/01/2031
OUTPOST TAP PLAN	102810	AXON OUTPOST - TAP REFRESH ONE - BATTERY ENCLOSURE EXTENDED	4	1	08/01/2031
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	100211	AXON VR - TAP REFRESH 2 - TABLET	2	1	08/01/2031
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101010	AXON VR - TAP REFRESH 2 - HANDGUN CONTROLLER	2	1	08/01/2031
AXON AIR DFR DOCK PLAN	102772	AXON AIR - SKYDIO SAFE - X10 DOCK DFR OPS HW KIT - REFRESH 3	1	1	02/01/2034

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
AXON AIR R10 PATROL KIT BUNDLE	102475	AXON AIR - SKYDIO SAFE R10 HW KIT - REFRESH 3	1	1	02/01/2034
OFFICER SAFETY PLAN T10	101014	AXON VR - TAP REFRESH 3 - TASER CONTROLLER	2	1	02/01/2034
OFFICER SAFETY PLAN T10	20375	AXON VR - TAP REFRESH 3 - HEADSET	2	1	02/01/2034
OFFICER SAFETY PLAN T10	73317	AXON BODY - TAP REFRESH 3 - DOCK SINGLE BAY	6	1	02/01/2034
OFFICER SAFETY PLAN T10	73345	AXON BODY - TAP REFRESH 3 - CAMERA	27	1	02/01/2034
OFFICER SAFETY PLAN T10	73347	AXON BODY - TAP REFRESH 3 - DOCK MULTI BAY	3	1	02/01/2034
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	100212	AXON VR - TAP REFRESH 3 - TABLET	2	1	02/01/2034
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101011	AXON VR - TAP REFRESH 3 - HANDGUN CONTROLLER	2	1	02/01/2034
OFFICER SAFETY PLAN T10	73318	AXON BODY - TAP REFRESH 4 - DOCK SINGLE BAY	6	1	08/01/2036
OFFICER SAFETY PLAN T10	73346	AXON BODY - TAP REFRESH 4 - CAMERA	27	1	08/01/2036
OFFICER SAFETY PLAN T10	73348	AXON BODY - TAP REFRESH 4 - DOCK MULTI BAY	3	1	08/01/2036
OUTPOST TAP PLAN	102145	AXON OUTPOST - TAP REFRESH TWO - CAMERA	4	1	08/01/2036
OUTPOST TAP PLAN	102813	AXON OUTPOST - TAP REFRESH TWO - BATTERY ENCLOSURE EXTENDED	4	1	08/01/2036

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
AXON AI - AI ERA	101740	AXON - AI SOFTWARE LICENSE	27	09/01/2026	08/31/2036
AXON AIR DFR DOCK PLAN	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	09/01/2026	08/31/2036
AXON AIR DFR DOCK PLAN	102766	AXON AIR - SKYDIO X10 DOCK DFR SUBSCRIPTION PLAN W/ DATA	1	09/01/2026	08/31/2036
AXON AIR R10 PATROL KIT BUNDLE	102467	AXON AIR - SKYDIO R10 SUBSCRIPTION PLAN	1	09/01/2026	08/31/2036
AXON AIR R10 PATROL KIT BUNDLE	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	09/01/2026	08/31/2036
FULL VR PLAN	20370	AXON VR - USER ACCESS - FULL VR	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	101180	AXON TASER - DATA SCIENCE PROGRAM	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	101703	AXON VR - USER ACCESS - TASER SKILLS	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	20248	AXON TASER - EVIDENCE.COM LICENSE	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	20248	AXON TASER - EVIDENCE.COM LICENSE	1	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	73447	AXON BODY - LICENSE - FUSUS LIVESTREAM	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	73638	AXON STANDARDS - LICENSE	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	73683	AXON EVIDENCE - STORAGE - 10GB A LA CARTE	270	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	73686	AXON EVIDENCE - STORAGE - UNLIMITED (AXON DEVICE)	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	73746	AXON EVIDENCE - ECOM LICENSE - PRO	27	09/01/2026	08/31/2036
OUTPOST TAP PLAN	102142	AXON VEHICLE INTELLIGENCE - ALPR LICENSE	4	09/01/2026	08/31/2036
Pro License Bundle	73683	AXON EVIDENCE - STORAGE - 10GB A LA CARTE	6	09/01/2026	08/31/2036
Pro License Bundle	73746	AXON EVIDENCE - ECOM LICENSE - PRO	2	09/01/2026	08/31/2036
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101909	AXON VR - USER ACCESS - TASER SKILLS TO FULL VR UPGRADE	27	09/01/2026	08/31/2036
A la Carte	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	09/01/2026	08/31/2036
A la Carte	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	09/01/2026	08/31/2036
A la Carte	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	09/01/2026	08/31/2036
A la Carte	73739	AXON PERFORMANCE - LICENSE	27	09/01/2026	08/31/2036

Services

Bundle	Item	Description	QTY
AXON AI - AI ERA	101741	AXON - AI PROFESSIONAL SERVICES	27
AXON AIR DFR DOCK PLAN	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1
AXON AIR DFR DOCK PLAN	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	1

Services

Bundle	Item	Description	QTY
AXON AIR DFR DOCK PLAN	102526	PSO 1-DAY ONSITE TRAINING	1
AXON AIR DFR DOCK PLAN	102666	AXON AIR - SKYDIO X10 DOCK DFR SERVICES - PREMIUM SOLUTION	1
AXON AIR DFR DOCK PLAN	12021	AXON AIR - PROFESSIONAL IMPLEMENTATION	1
AXON AIR R10 PATROL KIT BUNDLE	12021	AXON AIR - PROFESSIONAL IMPLEMENTATION	1
OFFICER SAFETY PLAN T10	100610	AXON SIGNAL - INSTALLATION SERVICE - VIRTUAL	1
OFFICER SAFETY PLAN T10	100751	AXON TASER 10 - REPLACEMENT ACCESS PROGRAM - DUTY CARTRIDGE	27
OFFICER SAFETY PLAN T10	101193	AXON TASER - ON DEMAND CERTIFICATION	27
OUTPOST TAP PLAN	102136	AXON OUTPOST - STANDARD INSTALLATION	4
OUTPOST TAP PLAN	102143	AXON OUTPOST - UPGRADE INSTALLATION	4
A la Carte	102524	PSO 1-DAY ADD ON ONSITE TRAINING	1
A la Carte	102526	PSO 1-DAY ONSITE TRAINING	1
A la Carte	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1
A la Carte	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1
A la Carte	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
OFFICER SAFETY PLAN T10	101686	AXON SIGNAL - EXT WARRANTY - SIGNAL SENSOR	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	80464	AXON BODY - TAP WARRANTY - CAMERA	27	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	80465	AXON BODY - TAP WARRANTY - MULTI BAY DOCK	3	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	80466	AXON BODY - TAP WARRANTY - SINGLE BAY DOCK	6	09/01/2026	08/31/2036
OUTPOST TAP PLAN	102135	AXON OUTPOST - EXT WARRANTY - CAMERA	4	09/01/2026	08/31/2036
OUTPOST TAP PLAN	102137	AXON OUTPOST - MAINTENANCE	4	09/01/2026	08/31/2036
OFFICER SAFETY PLAN T10	100197	AXON VR - EXT WARRANTY - HEADSET	2	08/01/2027	08/31/2036
OFFICER SAFETY PLAN T10	100704	AXON TASER 10 - EXT WARRANTY - HANDLE	27	08/01/2027	08/31/2036
OFFICER SAFETY PLAN T10	101007	AXON VR - EXT WARRANTY - TASER CONTROLLER	2	08/01/2027	08/31/2036
OFFICER SAFETY PLAN T10	80374	AXON TASER - EXT WARRANTY - BATTERY PACK T7/T10	3	08/01/2027	08/31/2036
OFFICER SAFETY PLAN T10	80374	AXON TASER - EXT WARRANTY - BATTERY PACK T7/T10	27	08/01/2027	08/31/2036
OFFICER SAFETY PLAN T10	80396	AXON TASER - EXT WARRANTY - DOCK SIX BAY T7/T10	1	08/01/2027	08/31/2036
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	100213	AXON VR - EXT WARRANTY - TABLET	2	08/01/2027	08/31/2036
UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	2	08/01/2027	08/31/2036
A la Carte	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	08/01/2027	08/31/2036
FULL VR PLAN	100197	AXON VR - EXT WARRANTY - HEADSET	2	09/01/2027	08/31/2036
FULL VR PLAN	100213	AXON VR - EXT WARRANTY - TABLET	2	09/01/2027	08/31/2036
FULL VR PLAN	101007	AXON VR - EXT WARRANTY - TASER CONTROLLER	2	09/01/2027	08/31/2036
FULL VR PLAN	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	2	09/01/2027	08/31/2036

Shipping Locations

Location Number	Street	City	State	Zip	Country
1	101 8TH ST	GLENWOOD SPRINGS	CO	81601-3303	USA
2	101 8TH ST	GLENWOOD SPRINGS	CO	81601-3303	USA

Payment Details

Aug 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 1	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$9.86	\$0.00	\$9.86
Annual Payment 1	102526	PSO 1-DAY ONSITE TRAINING	1	\$3.29	\$0.00	\$3.29
Annual Payment 1	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$2.63	\$0.00	\$2.63
Annual Payment 1	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$1.97	\$0.00	\$1.97
Annual Payment 1	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$16.15	\$0.00	\$16.15
Annual Payment 1	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$16.15	\$0.00	\$16.15
Annual Payment 1	73739	AXON PERFORMANCE - LICENSE	27	\$16.15	\$0.00	\$16.15
Annual Payment 1	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$1.23	\$0.00	\$1.23
Annual Payment 1	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 1	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$32.93	\$0.00	\$32.93
Annual Payment 1	A00044	AXON AIR DFR DOCK PLAN	1	\$157.71	\$0.00	\$157.71
Annual Payment 1	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 1	H00002	AB4 Multi Bay Dock Bundle	3	\$2.02	\$0.00	\$2.02
Annual Payment 1	H00003	AB4 1-Bay Dock Bundle	6	\$0.56	\$0.00	\$0.56
Annual Payment 1	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$11.65	\$0.00	\$11.65
Annual Payment 1	M00049	OFFICER SAFETY PLAN T10	27	\$351.92	\$0.00	\$351.92
Annual Payment 1	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 1	S00016	AXON AI - AI ERA	27	\$318.24	\$0.00	\$318.24
Annual Payment 1	V00023	FULL VR PLAN	27	\$38.40	\$0.00	\$38.40
Annual Payment 1	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$19.19	\$0.00	\$19.19
Invoice Upon Fulfillment	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$0.00	\$0.00	\$0.00
Total				\$1,000.05	\$0.00	\$1,000.05

Sep 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Invoice Upon Fulfillment	102524	PSO 1-DAY ADD ON ONSITE TRAINING	1	\$0.00	\$0.00	\$0.00
Invoice Upon Fulfillment	M00049	OFFICER SAFETY PLAN T10	27	\$0.00	\$0.00	\$0.00
Invoice Upon Fulfillment	V00023	FULL VR PLAN	27	\$0.00	\$0.00	\$0.00
Invoice Upon Fulfillment	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$0.00	\$0.00	\$0.00
Total				\$0.00	\$0.00	\$0.00

Jan 2027

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 1	100552	TRANSFER BALANCE - GOODS	1	\$7,516.51	\$0.00	\$7,516.51
Annual Payment 1	100553	TRANSFER BALANCE - SOFTWARE AND SERVICES	1	\$122.64	\$0.00	\$122.64
Annual Payment 2	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,330.24	\$0.00	\$2,330.24
Annual Payment 2	102526	PSO 1-DAY ONSITE TRAINING	1	\$777.06	\$0.00	\$777.06
Annual Payment 2	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$621.65	\$0.00	\$621.65
Annual Payment 2	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$466.23	\$0.00	\$466.23

Jan 2027

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 2	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,814.26	\$0.00	\$3,814.26
Annual Payment 2	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,814.26	\$0.00	\$3,814.26
Annual Payment 2	73739	AXON PERFORMANCE - LICENSE	27	\$3,814.26	\$0.00	\$3,814.26
Annual Payment 2	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$291.40	\$0.00	\$291.40
Annual Payment 2	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 2	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$7,776.80	\$0.00	\$7,776.80
Annual Payment 2	A00044	AXON AIR DFR DOCK PLAN	1	\$37,257.95	\$0.00	\$37,257.95
Annual Payment 2	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 2	H00002	AB4 Multi Bay Dock Bundle	3	\$477.57	\$0.00	\$477.57
Annual Payment 2	H00003	AB4 1-Bay Dock Bundle	6	\$133.46	\$0.00	\$133.46
Annual Payment 2	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,751.07	\$0.00	\$2,751.07
Annual Payment 2	M00049	OFFICER SAFETY PLAN T10	27	\$83,123.75	\$0.00	\$83,123.75
Annual Payment 2	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 2	S00016	AXON AI - AI ERA	27	\$75,190.08	\$0.00	\$75,190.08
Annual Payment 2	V00023	FULL VR PLAN	27	\$9,069.89	\$0.00	\$9,069.89
Annual Payment 2	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,534.96	\$0.00	\$4,534.96
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2028

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 3	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 3	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 3	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 3	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 3	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 3	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 3	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 3	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 3	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 3	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 3	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 3	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 3	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 3	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 3	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 3	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 3	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 3	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 3	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 3	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2029

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 4	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 4	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 4	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 4	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 4	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 4	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 4	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60

Jan 2029

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 4	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 4	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 4	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 4	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 4	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 4	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 4	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 4	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 4	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 4	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 4	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 4	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 4	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2030

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 5	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 5	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 5	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 5	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 5	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 5	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 5	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 5	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 5	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 5	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 5	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 5	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 5	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 5	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 5	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 5	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 5	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 5	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 5	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 5	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2031

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 6	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 6	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 6	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 6	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 6	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 6	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 6	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 6	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 6	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 6	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28

Jan 2031						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 6	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 6	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 6	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 6	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 6	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 6	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 6	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 6	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 6	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 6	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2032						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 7	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 7	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 7	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 7	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 7	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 7	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 7	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 7	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 7	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 7	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 7	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 7	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 7	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 7	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 7	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 7	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 7	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 7	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 7	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 7	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2033						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 8	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 8	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 8	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 8	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 8	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 8	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 8	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 8	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 8	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 8	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 8	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 8	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 8	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02

Jan 2033						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 8	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 8	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 8	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 8	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 8	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 8	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 8	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2034						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 9	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 9	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 9	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 9	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 9	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 9	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 9	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 9	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 9	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 9	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 9	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 9	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 9	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 9	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 9	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 9	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
Annual Payment 9	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 9	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 9	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 9	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2035						
Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 10	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
Annual Payment 10	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
Annual Payment 10	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
Annual Payment 10	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
Annual Payment 10	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 10	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 10	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
Annual Payment 10	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
Annual Payment 10	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
Annual Payment 10	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
Annual Payment 10	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
Annual Payment 10	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
Annual Payment 10	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
Annual Payment 10	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
Annual Payment 10	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
Annual Payment 10	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61

Jan 2035

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 10	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
Annual Payment 10	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
Annual Payment 10	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
Annual Payment 10	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Jan 2036

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
aDXRI000001CNZI	102468	AXON AIR - SKYDIO CONNECT DATA PLAN FOR R10	1	\$2,405.59	\$0.00	\$2,405.59
aDXRI000001CNZI	102526	PSO 1-DAY ONSITE TRAINING	1	\$802.18	\$0.00	\$802.18
aDXRI000001CNZI	102597	TASER CEW + VR INSTRUCTOR CERT + VR IMPLEMENTATION (2-DAY)	1	\$641.75	\$0.00	\$641.75
aDXRI000001CNZI	102703	AXON OUTPOST - WARRANTY - VANDALISM/ACCIDENT EXTENSION	4	\$481.31	\$0.00	\$481.31
aDXRI000001CNZI	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
aDXRI000001CNZI	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
aDXRI000001CNZI	73739	AXON PERFORMANCE - LICENSE	27	\$3,937.60	\$0.00	\$3,937.60
aDXRI000001CNZI	79999	AXON EVIDENCE - IMPLEMENTATION FOR AUTO TAGGING/PERFORMANCE	1	\$300.82	\$0.00	\$300.82
aDXRI000001CNZI	99901	AXON ACCELERATE CONFERENCE REGISTRATION	10	\$0.00	\$0.00	\$0.00
aDXRI000001CNZI	A00030	AXON AIR R10 PATROL KIT BUNDLE	1	\$8,028.28	\$0.00	\$8,028.28
aDXRI000001CNZI	A00044	AXON AIR DFR DOCK PLAN	1	\$38,462.70	\$0.00	\$38,462.70
aDXRI000001CNZI	B00076	OUTPOST TAP PLAN	4	\$0.00	\$0.00	\$0.00
aDXRI000001CNZI	H00002	AB4 Multi Bay Dock Bundle	3	\$493.02	\$0.00	\$493.02
aDXRI000001CNZI	H00003	AB4 1-Bay Dock Bundle	6	\$137.78	\$0.00	\$137.78
aDXRI000001CNZI	HWCNAB4	AB4 CONNECTED HARDWARE BUNDLE	27	\$2,840.03	\$0.00	\$2,840.03
aDXRI000001CNZI	M00049	OFFICER SAFETY PLAN T10	27	\$85,811.61	\$0.00	\$85,811.61
aDXRI000001CNZI	ProLicense	Pro License Bundle	2	\$0.00	\$0.00	\$0.00
aDXRI000001CNZI	S00016	AXON AI - AI ERA	27	\$77,621.42	\$0.00	\$77,621.42
aDXRI000001CNZI	V00023	FULL VR PLAN	27	\$9,363.18	\$0.00	\$9,363.18
aDXRI000001CNZI	V00026	UPGRADE 2026 TASER SKILLS TO FULL VR PLAN	27	\$4,681.57	\$0.00	\$4,681.57
Total				\$243,884.04	\$0.00	\$243,884.04

Tax is estimated based on rates applicable at date of quote and subject to change at time of invoicing. If a tax exemption certificate should be applied, please submit prior to invoicing.

Standard Terms and Conditions

Axon Enterprise Inc. Sales Terms and Conditions

Axon Master Services and Purchasing Agreement:

This Quote is limited to and conditional upon your acceptance of the provisions set forth herein and Axon's Master Services and Purchasing Agreement (posted at <https://www.axon.com/sales-terms-and-conditions>), as well as the attached Statement of Work (SOW) for Axon Fleet and/or Axon Interview Room purchase, if applicable. In the event you and Axon have entered into a prior agreement to govern all future purchases, that agreement shall govern to the extent it includes the products and services being purchased and does not conflict with the Axon Customer Experience Improvement Program Appendix as described below.

ACEIP:

The Axon Customer Experience Improvement Program Appendix, which includes the sharing of de-identified segments of Agency Content with Axon to develop new products and improve your product experience (posted at www.axon.com/legal/sales-terms-and-conditions), is incorporated herein by reference. By signing below, you agree to the terms of the Axon Customer Experience Improvement Program.

Acceptance of Terms:

Any purchase order issued in response to this Quote is subject solely to the above referenced terms and conditions. By signing below, you represent that you are lawfully able to enter into contracts. If you are signing on behalf of an entity (including but not limited to the company, municipality, or government agency for whom you work), you represent to Axon that you have legal authority to bind that entity. If you do not have this authority, please do not sign this Quote.

Exceptions to Standard Terms and Conditions

Agency has existing contract(s) originated via Quote(s):
Q-408375, Q-544784,

Agency is terminating those contracts effective 9/1/2026. Any changes in this date will result in modification of the program value which may result in additional fees or credits due to or from Axon.

The parties agree that Axon is applying a Transfer Balance of \$7,639.15

Shipment Timing Shipment Variance. Estimated shipment dates are provided for planning purposes only and are not guarantees. Axon may ship hardware before or after the estimated shipment date, and failure to meet an estimated shipment date will not, by itself, constitute a breach, provided Axon uses commercially reasonable efforts to meet estimated shipment dates.

Refresh Shipment Timing Technology Assurance Plan (TAP) Refresh Prior to Renewal. For Customers with expiring agreements that include TAP refresh rights, Axon may, in its discretion, ship refresh hardware under the existing contract while renewal or replacement agreements are in progress. Any such shipments will be deemed made under the terms of the existing contract until the new contract is fully executed, after which any applicable updates, fees, or adjustments will apply.

Rewrite Estimates Estimated Amounts and Contract Terminations. Any amounts stated as due under existing or terminated contracts — including contract transfer balances carried forward to new or pending contracts — are estimates based on payments received as of the calculation date. These estimates may be adjusted if new contracts are not executed on the anticipated dates or if expected payments are not made.

Rewrite Estimates

Estimated Amounts and Contract Terminations. Any amounts stated as due under existing or terminated contracts — including contract transfer balances carried forward to new or pending contracts — are estimates based on payments received as of the calculation date. These estimates may be adjusted if new contracts are not executed on the anticipated dates or if expected payments are not made.

Refresh Shipment Timing

Technology Assurance Plan (TAP) Refresh Prior to Renewal. For Customers with expiring agreements that include TAP refresh rights, Axon may, in its discretion, ship refresh hardware under the existing contract while renewal or replacement agreements are in progress. Any such shipments will be deemed made under the terms of the existing contract until the new contract is fully executed, after which any applicable updates, fees, or adjustments will apply.

Shipment Timing

Shipment Variance. Estimated shipment dates are provided for planning purposes only and are not guarantees. Axon may ship hardware before or after the estimated shipment date, and failure to meet an estimated shipment date will not, by itself, constitute a breach, provided Axon uses commercially reasonable efforts to meet estimated shipment dates.

Signature

Date Signed

5/12/2026



From: [Judy Haynes](#)
To: [City Council](#)
Subject: ICE Detention Room
Date: Sunday, May 31, 2026 9:12:45 PM

Some people who received this message don't often get email from judyjhaynes@gmail.com. [Learn why this is important](#)

Dear City Council,

On April 28th the Planning and Zoning Commission revoked the permit to operate a “Temporary Hold Room” at 100 Midland Ave.

The permit that they had been using was in fact, a temporary permit issued in 2003 and never been made permanent.

Information gathered by FOIA and CORA requests by the public revealed that ICE had been violating its lease agreement and its own rules in holding people beyond a 12 hour limit multiple times. It appeared to be a pattern that has been accelerating in the last year.

In addition, the Hold Room had been incorrectly zoned as “office space” and not as a detention center. The incorrect zoning allowed them to bypass multiple health and safety requirements.

The set up of each hold room is a stark cement floored room with no comfortable seating and no place to lie down. There are no blankets or pillows, no showers and no personal items for cleanliness and feminine health. The toilet is a stool with partial partitions for privacy which is wholly inadequate. There are no safe food preparation areas and no safe food storage areas. All violations of health and safety. There is no emergency escape plans for people who can't leave. There are no additional burn protections for exits. The facility is in retail space on the wildfire vulnerable west side of town.

No lawyers, family members, or clergy are allowed in.

Mr Hanlon was the City Attorney when the Hold Room was established. The temporary permit was never made permanent under his watch. The incorrect zoning was done on his watch then and has been repeated this year.

He is the current City Attorney and has repeatedly advised the City to let ICE remain despite their history of health and safety violations. Although ICE has allowed a Fire Marshall to inspect the premises, no other inspectors have gone in.

Mr. Hanlon has offered some toothless recommendations that that ICE needs to follow its own rules to have yearly inspections from their own agency, they have never done, in order to receive a permanent occupancy permit.

ICE has not responded to any notification of meetings. It has not responded to the revocation of its permit.. It has been arrogantly silent and opaque in its dealings with local officials.

Yet Mr Hanlon continues to take no action and recommends leaving them alone. He claims that The Supremacy Clause has tied our hands and that ICE can totally ignore any

action to defend our health and safety rules.

He is incorrect. Local health and safety laws must be obeyed by Federal agencies no matter the Supremacy Clause.

We all know that ICE is a rogue agency and that its agents have been informed that they do not have to follow the Constitution. In every part of our country they have taken and detained people with no criminal records in brutal conditions with no Due Process. They have run roughshod over local and state laws, have shot people with impunity and threatened bystanders with harm. Our Valley is not protected from these illegal evil actions.

Zoning and health and safety rules are the only leverage that we have to remove this “Heart of Darkness” in our city. Famously, the gangster Al Capone a murderous criminal, was jailed on tax evasion charges. We can use this example.

Mr Hanlon and other Administrative Staff must not be the ones who are allowed to make the decisions about this detention center. This is a matter for City Council and the public needs to be involved.

This Detention center and ICE arrogantly refuse to even engage in any of this permitting process. It is mind-blowing that our attorney tells our city to cave to the bullies. The decision was quietly made by staff and only uncovered by me in a question to Council on May 21.

Other municipalities are looking to us as a model. If one of us can stand up to ICE it encourages other towns to do the same.

When this Federal regime faces backlash and pushback they cave.

Dr. Timothy Snyder has famously said, “Don’t obey in Advance” in his important book,” On Tyranny”.

We can’t allow Glenwood Springs City staff to obey in advance. Our honor, integrity, ethics, reputation, and very souls depend on fighting against these brutal authoritarians.

Please return this decisions to the people and place this on the GSCC agenda.

Sincerely, Judy Haynes
30 year resident of Glenwood Springs

Judy Haynes



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Social Event Announcement

Action Requested: City Council will announce the location of their social event immediately following the meeting.

Department: City Clerk

Presented By:

Strategic Goals: Provide Efficient and Responsive City Government

Background Info:

Issues:

Fiscal Impact:

Legal Review:

Staff Recommendation:



City Council
STAFF REPORT
City of Glenwood Springs
June 4, 2026

Agenda Item: Adjournment

Action Requested:

Department: City Clerk

Presented By:

Strategic Goals:

Background Info:

Issues:

Fiscal Impact:

Legal Review:

Staff Recommendation: