



## Model Water Quality Protection Standards for Local Governments



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## TABLE OF CONTENTS

<b>I. USER GUIDE .....</b>	<b>1</b>
<b>II. WATER QUALITY PROTECTION STANDARDS .....</b>	<b>4</b>
<b>A. Standards for designing the site .....</b>	<b>4</b>
1. Stormwater runoff .....	4
2. Stormwater detention facilities.....	4
3. Impervious surfaces.....	5
4. Slope limitations.....	6
5. Waterbody buffers.....	6
6. Hazardous materials storage and use.....	8
7. Revegetation.....	9
8. Snow storage.....	9
<b>B. Standards for constructing the site .....</b>	<b>10</b>
1. Sediment control .....	10
2. Erosion control.....	11
3. Construction de-watering.....	12
4. Dust control.....	12
5. Inspection and maintenance.....	12
<b>C. Post-construction standards .....</b>	<b>12</b>
1. Inspection of erosion and sediment control devices .....	12
2. Revegetation monitoring.....	12
3. Inspection of on-site stormwater detention or treatment facilities.....	12
<b>III. RECOMMENDED PLANS AND APPLICATION SUBMITTAL MATERIALS .....</b>	<b>13</b>
<b>A. Standards for designing the site.....</b>	<b>13</b>
<b>B. Stormwater Management Plan .....</b>	<b>13</b>
<b>C. Erosion and Sediment Control Plan .....</b>	<b>14</b>
<b>D. Revegetation Plan.....</b>	<b>14</b>
<b>E. Dust Control Plan.....</b>	<b>14</b>
<b>F. Hazardous Materials Plan .....</b>	<b>15</b>
<b>G. Snow Storage Plan .....</b>	<b>15</b>
<b>H. Inspection and Maintenance Plan .....</b>	<b>15</b>
<b>IV. OTHER WATER QUALITY PROTECTION CONSIDERATIONS .....</b>	<b>16</b>
<b>V. REFERENCES.....</b>	<b>21</b>
<b>APPENDICES .....</b>	<b></b>
<b>A. Crested Butte Watershed Ordinance .....</b>	<b>A-1</b>
<b>B. Gunnison County Oil and Gas Regulations.....</b>	<b>B-1</b>
<b>C. Routt County Land Preservation Subdivision Exemptions .....</b>	<b>C-1</b>

## I. USER GUIDE

Clean water is essential to Colorado communities for a multitude of reasons, especially in the headwaters region comprising the Northwest Colorado Council of Governments Water Quality/ Quantity Committee (QQ).<sup>1</sup> Water quality and streamflows are fundamental to the region's economy.<sup>2</sup> Recreation-based tourism has become the leading economic driver in the region, where every tourist activity relies on water.<sup>3</sup> As a result, "water in its natural water course is the most significant asset of the headwaters economies."<sup>4</sup>

As the QQ region continues to grow, land use development has the potential to cause problems related to nonpoint source pollution such as degradation of fisheries and other wildlife habitat, damage to wetlands and floodplains, and increased water and wastewater treatment costs. Appropriate local government land use regulations can minimize these impacts.

The purpose of these model Water Quality Protection Standards (WQPS) is to provide municipal and county governments with model standards and requirements for land use development designed to protect water quality and quantity from nonpoint source pollution. Examples of WQPS are erosion and sediment control, stormwater control, hazardous materials management, snow storage and removal standards, and post-construction inspection and maintenance requirements.

These WQPS are based on model water quality protection standards proposed by academic and professional organizations, standards imposed by jurisdictions outside of the QQ region with similar environments and economy, and the most protective standards imposed by QQ member jurisdictions. These sources are available in Section V of this document.

### IMPLEMENTATION CONSIDERATIONS

- **Organize WQPS into one section of the land use code.** Because the types of requirements that can mitigate water quality impacts are often scattered

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<sup>1</sup> QQ membership includes municipalities, counties, and water and sanitation districts in Grand, Summit, Pitkin, and Eagle County, as well as Gunnison County, Park County, the Towns of Crested Butte and Carbondale, the City of Steamboat Springs, the Colorado River Water Conservation District, and the Upper Gunnison River Water Conservancy District.

<sup>2</sup> Coley/ Forest, *Water and Its Relationship to the Economies of the Headwaters Counties*, Northwest Colorado Council of Governments (2011), 38, [http://nwccog.org/wp-content/uploads/2015/03/qqstudy\\_report\\_jan-2012.pdf](http://nwccog.org/wp-content/uploads/2015/03/qqstudy_report_jan-2012.pdf). The main economic sectors in the region are tourism, agriculture, and mineral development.

<sup>3</sup> Id at 49. Water-based activities include skiing, fishing, hunting kayaking, rafting, hiking, and wildlife viewing.

<sup>4</sup> Id.

throughout different sections of municipal or county land use codes and do not always pinpoint water quality as their purpose, developers, decision-makers, and the public may not always understand the purpose of the requirements. When requirements that protect water quality are scattered throughout a land use code, water quality monitoring is not always imposed as a permit condition, and it becomes difficult to measure water quality impacts of development or the effectiveness of mitigation techniques.

If all requirements that affect water quality are detailed in one section of a land use code, their importance to protecting water quality is highlighted. Chapter 7 of the Summit County Land Use and Development Code, [Water Quality Control Regulations](#), is an excellent example. The approach allows local governments to better demonstrate how water quality protection is being implemented, and to evaluate whether the requirements are actually helping to protect water quality.

Depending on a local government's land use policies and regulations, these WQPS also can be separated and inserted into existing sections of local land use codes rather than being combined in one section. Where local governments have adopted a Unified Development Code, the WQPS would fit nicely in the development standards section.

- **Require applicants for land use permits to submit plans.** The plans described in Section III of this document are the backbone of application submittal materials and require a developer to demonstrate how it will satisfy each WQPS. Local governments can decide which of these plans to require based on the intensity of the proposed development. Land use codes should include a provision that requires a developer to pay for the local government to retain outside experts to review these plans as part of the application review process.

- **Local governments determine what type of development requires compliance with the standards.** Local governments generally review and approve development through an approval system designed to ensure that developers have addressed the development's impacts to public health, safety, and the environment. Land use codes come in many shapes and sizes.<sup>5</sup>

Under a traditional land use regulatory system, the code is divided into zoning and subdivision regulations. Zoning establishes uses allowed by right or by special review according to the designated zoning category. Some types of development require special review because of potential deleterious impacts,

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<sup>5</sup> Colo. Mun. League (CML) and Colo. Dep't of Local Affairs (DOLA), *Small Town Solutions: A Practical Guide for Municipal Leaders* (2013), at 14, <https://www.cml.org/Issues/Government/Municipal/Small-Town-Solutions--A-Practical-Guide-for-Municipal-Leaders/>.

such as traffic or environmental impacts.<sup>6</sup> Where a proposed use is a use-by-right, site plan and building permit processes afford an opportunity for additional requirements to mitigate impacts. Subdivision regulations, which apply to divisions of land into parcels of less than 35 acres in size, establish lot layout and design, infrastructure requirements, land dedication, and related specifications. Subdivision regulations are an additional opportunity to regulate the water quality impacts of a project.<sup>7</sup>

A Unified Development Code integrates subdivision and zoning requirements into a single document. Natural resource protection, floodplain regulation, wildlife protection, and related concerns are often addressed in unified codes.<sup>8</sup> Various development standards, typically organized into a chapter of the unified code, are triggered based on the intensity of proposed development.

Local governments approve land use changes through a variety of mechanisms. These model WQPS do not address what type of local approval might trigger compliance with water quality protection requirements. Each local government should determine what types of permits and approvals would require compliance with WQPS. Examples of approvals that might trigger compliance are:

- Site plan review
- Special use or conditional use permits
- Subdivision approval
- Rezoning
- Planned Unit Development approval (PUDs)
- Watershed protection permits
- Overlay district permits
- Building permits

The local government should also determine the location, size, nature, and intensity of a land use change that would trigger compliance with these standards. For example, certain WQPS might be required based on the area and grade of disturbed soil, proximity to sensitive areas like wetlands and waterbodies, or the use of hazardous materials.

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<sup>6</sup> Donald L. Elliott, General Ed., *Colorado Land Planning and Development Law, Tenth Ed.* (CLE in Colo., Inc. 2015), at 85.

<sup>7</sup> *Id.* at 117.

<sup>8</sup> CML and DOLA, *supra* note 3, at 14.

## II. WATER QUALITY PROTECTION STANDARDS

The following water quality protection standards are mandatory unless a waiver is granted. The applicant may submit a request for a waiver, including alternate best management practices or technology if its more protective of public health, safety, welfare, and the environment than the [insert local government name] standard.

### A. STANDARDS FOR DESIGNING THE SITE.

**1. Stormwater runoff.** Design site in accordance with a stormwater management plan to avoid direct discharge to waterbodies from development and so that the following standards are satisfied:

a. Maximize the use of on-site landscape-based [or Low Impact Development (LID)] stormwater controls.

b. Prevent the direct discharge of stormwater to a waterbody.

c. Ensure that watercourses or drainageways on the site will be kept free of trash, debris, excessive vegetation and other obstacles that pollute, contaminate or significantly retard the flow of water through waterbodies.

d. Maintain structures located in or adjacent to the watercourse so that the structure will not become a hazard to the use, function, or physical integrity of waterbodies.

**2. Stormwater detention or treatment facilities.** Design stormwater detention or treatment facilities in accordance with a stormwater management plan so that the following standards are satisfied:

**TIP:** Check out DOLA's model stormwater management standards and commentary: <https://www.planningforhazards.com/stormwater-ordinance-model-and-commentary>.

a. Construct permanent stormwater facilities concurrent with land development to minimize water quality impacts from stormwater.

b. Develop stormwater facilities to be multipurpose, i.e., attenuate flows to historic peak discharge rates and provide water quality benefits.

c. Detention facilities can be either on-site or regional in nature. Design regional stormwater conveyance and detention facilities to accommodate the projected annual additional flows from the development.

**TIP:** Local governments should consider the size of disturbance, volume of disturbed soil, and proximity to sensitive areas that trigger the need to comply with MWQPS. See Part I, Users Guide for more information.

Recommended elements of referenced plans are found in Part III.

d. Ensure the post-development discharge rate for detention facilities does not exceed the pre-development peak discharge rate for both the 2-year and 25-year return frequency, 24-hour duration storm.

e. Utilize existing drainageways to direct offsite run-off through the development site rather than treating or detaining it onsite.

f. Consider the entire area contributing runoff, including any off-site contribution (when it is not routed through the site), to determine run-off rates. Use fully-developed potential, based upon existing zoning, of the area draining into the detention facility.

g. Design detention facilities for safe passage of a 100-year storm event without causing property damage.

h. Preserve and retain wetlands in their natural state as drainageways. Preserve low lying lands along watercourses subject to flooding or overflowing during storm periods.

i. Protect channels downstream from the stormwater detention pond discharge from increased channel scour, bank instability, and erosion and sedimentation from the 25-year return frequency, 24-hour design storm.

j. Design stormwater facilities like detention basin outlets to remove pollutants.

k. The developer is responsible for costs associated with proposed off-site drainage or treatment systems and associated rights-of-way.

**3. Impervious surfaces.** Minimize the extent of impervious areas, especially directly-connected impervious areas, consistent with the stormwater management plan, so that the following standards are satisfied:

a. Design the site so the impervious surface of the land disturbed by the proposed development, not mitigated by on-site vegetated swales, infiltration

***TIP: Low Impact Development (LID)*** is a stormwater control technique that manages stormwater as close to its source as possible. LID aims to mimic natural, pre-development hydrological patterns on the development site to protect water quality by minimizing pollutant loads into waterways from developed areas. Examples include:

- vegetated swales,
- permeable pavement
- play areas, parks, and ball fields,
- constructed wetlands,
- rain gardens,
- road, parking, and driveway design requirements
- rain barrels in accordance with CRS 37-96.5-101 (allowing for up to 110 gallons of rain barrel storage on a single-family residence).
- infiltration basins,
- infiltration devices,
- sand filters,
- dry ponds,

Some communities incentivize LID techniques and develop LID guidebooks of best practices. Examples and resources are provided in Section IV.

basins, or other techniques, will not exceed the percentage of the total acreage draining to each drainage discharge point, as indicated in Figure 1.

b. Design the site so runoff is drained from fifty percent (50%) of all developed impervious surfaces (rooftops, parking lots, sidewalks, etc.) over stable, vegetated pervious areas before reaching stormwater conveyance systems. The requirement that fifty percent (50%) of the impervious area drain to vegetated pervious areas may be reduced if the outflow from the vegetated pervious area is directed to other stormwater treatment methods.

Maximum impervious lot coverage shall not exceed the following percentages:

Size of Development Project	R-1 district Low Density	R-2 district Medium Density	R-3 district High Density
Less than 15,000 sf	50 percent	50 percent	60 percent
Between 15,000 sf and 49,999 sf	40 percent	50 percent	60 percent
Between 50,000 and 200,000 sf	25 percent	50 percent	60 percent
More than 200,000 sf	10 percent	50 percent	60 percent

Figure 1. *Impervious surface limitations*: Colorado Department of Local Affairs, <https://www.planningforhazards.com/stormwater-ordinance-model-and-commentary>.

#### 4. Slope limitations.

a. Avoid cut and fill on slopes. Where cut and fill cannot be avoided, determine the slope of cut and fill banks by taking into account soil characteristics of the site to avoid erosion and promote revegetation opportunities and long term stability.

b. No development on slopes of thirty percent (30%) or greater. Where this limitation would prevent all reasonable use of the site, low intensity development might be approved based on site-specific considerations evaluated in a geotechnical analysis.

c. Divide large grade changes into a series of benches and terraces.

**5. Waterbody buffers.** Construct and develop outside of the inner and outer waterbody buffers.

a. **Inner buffer.** Maintain inner buffer of at least twenty five feet (25') from streams, wetlands and other waterbodies.

i. Development is prohibited in the inner buffer.

ii. Measure the buffer horizontally from the nearest ordinary high water mark in average hydrologic years on each side of the water feature or from the wetland boundary identified in the site plan to the edge of any disturbed area. When no ordinary high water mark is discernible, measure from the top of the streambank.

b. **Outer buffer.** Maintain a variable outer buffer of up to one hundred feet (100'), measured from the outer boundary of the inner buffer (125' total), unless a larger buffer is required to protect riparian functions and values. The size of the outer buffer may vary based on site conditions such as:

**TIP:** Check out the City of Boulder's study of various waterbody buffer systems with lots of great examples from local governments: <https://www-static.bouldercolorado.gov/docs/wetland-stream-buffers-1-201308011516.pdf>.

DOLA also has model stream buffer regulations and commentary: <https://www.planningforhazards.com/stream-buffers-and-setbacks-model-and-commentary>.

i. Slopes steeper than 15% and draining into a wetland or other water feature;

ii. Highly erodible soils;

iii. The area is needed to protect trees shrubs or other natural features that provide for streambank stability, habitat and enhancement for aquatic environments, riparian area protection, or to maintain predevelopment riparian plant or animal communities;

iv. The area provides important habitat for plants or wildlife;

v. The area is within the 100-year floodplain using best available data;

vi. The area is needed to prevent or minimize flood damage by preserving the storm water and flood water storage capacity;

vii. The area is needed to protect fish spawning, breeding, nursery and feeding grounds; or

viii. The area is needed to preserve areas of special recreational, historical, archeological, scenic, or scientific interest.

**c. Exemptions from water body buffers.** The following structures, improvements, and activities are exempt from the inner and outer water body buffer standards, subject to applicable local, state or federal permits:

- i. Structures necessary to use decreed water rights, docks, piers, and watercraft launches and ramps.
- ii. Activities and structures in wetlands associated with agricultural operations.
- iii. Structures necessary for water resource protection or restoration.
- iv. Emergency flood control measures.
- v. Maintenance, repair, or replacement of existing roads and bridges.
- vi. Single track dirt trails, allowed within the outer buffer only, if measures are taken to protect and preserve adjacent riparian areas and the proposed trails will not negatively impact the adjacent riparian areas.
- vii. Stream habitat enhancement features.
- viii. Bank stabilization structures.

**d. Buffers for activities deemed water pollution hazards.** Activities deemed water pollution hazards such as storage of hazardous materials, storage of sand and salt for road traction, routine vehicle or mobile machinery maintenance, or concentrated animal feeding operations will be setback from water bodies and wetlands at a distance necessary to prevent nonpoint pollution caused by those activities.

**e. Deed Restrictions.** Prepare and file approved deed restrictions with the County Clerk and Recorder to protect the waterbodies and waterbody buffers in perpetuity.

## **6. Hazardous materials storage and use.**

Conduct hazardous material storage and use in compliance with the hazardous materials plan. If a spill occurs it should be cleaned up immediately and disposed of properly. Notify emergency response personnel immediately of spills in accordance with the plan.

**TIP:** Facilities storing oil have required reporting under the EPA's Spill Prevention, Control and Countermeasure (SPCC) Regulation, 40 CFR 112. Smaller "qualified" facilities may self-report while larger facilities have additional requirements. See <https://bit.ly/2qSyisH> for more information from the EPA.

**7. Revegetation.** Implement the revegetation plan to ensure site is stabilized and revegetated after construction according to the following standards:

- a. Revegetate within seven (7) days after final grade is reached.
- b. Provide vegetation cover equal or greater than the extent of cover to the natural vegetation of the surrounding area.
- c. Provide vegetation cover adequate to prevent soil erosion and invasion of weeds after one (1) growing season.
- d. Provide vegetation cover of diverse, effective, long-lasting plant material capable of self-regeneration without continued dependence on irrigation, soil amendments, or fertilizer.
- e. Utilize site-appropriate native seed mixes.
- f. Crimp, track, or tack grass or straw much in place to promote surface anchoring.
- g. Reduce any irrigation to regular watering practices after one (1) growing season.
- h. Leave temporary measures for soil stability like mulch or silt fences in place until the vegetative cover has reached seventy percent (70%) of the disturbed area.
- i. Monitor and report on the effectiveness of revegetation in accordance with the Revegetation Plan.

**TIP:** Make sure any required performance guarantees cover the cost of revegetation.

**8. Snow storage.**

**a. On-site snow storage.** Set aside an area equal in size to thirty percent (30%) of the area to be plowed for on-site snow storage (i.e., within boundaries of lot and not within the right of way).

**TIP:** A smaller percentage may be more appropriate for areas receiving less snow. Vail and Crested Butte require 30%, while Summit County, Silverthorne, and Breckenridge require 25%.

**TIP:** Coordinate snow storage requirements and landscaping requirements for a given site so that landscaping does not interfere with snow storage.

- i. Uphill slopes greater than 20% may not be counted in determining compliance with snow storage requirements. Uphill slopes of five to ten percent (5-10%) count as 50% of their area.

**TIP:** Some local governments do not allow for a reduction in snow storage area for heated drives, citing icing issues and enforcement difficulties.

Also, percentages vary. For example, the Town of Vail allows 10% storage area with heated drives and 30% without.

ii. For every four hundred (400) feet of public right-of-way on avenues and streets, one (1) space at least fifty (50) by one hundred twenty (120) feet is required within each block for snow storage.

iii. If driveways are heated, then a reduction in the size of the snow storage area may be approved. Provide assurances that the systems will not be turned off.

iv. Snow storage areas are not allowed in waterbodies or within waterbody buffer areas or on compacted or poorly draining soil.

v. Contain runoff from snow storage areas so that it is directed through a detention or infiltration facility or other best management practice that removes pollutants, including vegetated areas.

**b. Off-site snow storage.** In lieu of on-site snow storage, off-site snow storage may be approved if:

i. an appropriate off-site snow storage site is available;

**TIP:** Some communities, such as the Town of Crested Butte, do not allow off-site snow storage.

ii. arrangements for the off-site removal have been made in a manner assuring the continued availability of such storage;

iii. placement of the snow storage off-site will achieve important design objectives such as consolidating or better coordinating snow storage areas, increasing landscaped areas and buffering of buildings or reducing visual obstructions caused by snow stacking on the project site; and

iv. the alternative snow storage site provides adequate water quality protection through the use of appropriate snow storage treatment practices.

## **B. STANDARDS FOR CONSTRUCTING THE SITE.**

**1. Sediment control.** Conduct surface disturbance activities in accordance with an erosion and sediment control plan so as to minimize surface disturbance, prevent erosion, and so that the following standards are met:

a. Phase staging and scheduling of earth disturbing construction activities so as to minimize soil disturbance and exposure.

b. Install sediment control measures before site grading or other construction.

c. Perform surface disturbing activities in existing disturbed areas to the greatest extent practicable.

d. Stabilize or protect disturbed areas or stockpiles to effectively control erosion.

**TIP:** The design of driveways in mountain communities deserves special attention, as runoff can be a source of sediment and pollutants such as oil, grease, and household chemicals.

The Mountain Driveway Best Practices Manual may assist in ensuring driveways meet these model water quality standards:  
<http://www.wrightwater.com/assets/8-mountain-driveway-bmps.pdf>

e. Limit grading to areas approved for infrastructure improvements, stormwater management, drainage improvements, and building envelopes unless unique topographical, geotechnical, or environmental conditions require grading outside these areas.

f. Design sedimentation basins or other sediment trapping to empty the storage volume in no less than 12 hours. Install sedimentation basins prior to any construction and remove only after successful revegetation of the site.

**2. Erosion control.** Construct and conduct activities in accordance with the erosion and sediment control plan and stormwater management plan so that the following standards are satisfied:

a. Minimize runoff from roads and driveways.

b. Protect adjacent properties from runoff.

c. Protect storm sewer inlets from entry of sediment-laden water.

d. Divert off-site runoff around construction sites.

e. Protect irrigation ditches, swales, receiving channels, and streams from accelerated erosion until conveyance system has established vegetation and is stable under flows for which the feature was designed.

f. Protect culvert outlets from erosive flows by installing velocity reducers such as gravel dikes, riprap, level spreaders, or similar measures.

**3. Construction de-watering.** Comply with the Colorado Discharge Permit System (CDPS) construction de-watering permit requirements.<sup>9</sup> Minimize discharges from construction de-watering activities.

**4. Dust control.** Implement measures to manage dust and minimize wind erosion in accordance with the Dust Control Plan.

**5. Inspection and maintenance.** Perform routine inspection, maintenance, and reporting during construction to measure effectiveness of sediment and erosion control measures, consistent with the erosion and sediment control plan.

## **C. POST-CONSTRUCTION STANDARDS**

**1. Inspection of erosion and sediment control devices.** Inspect and maintain erosion and sediment control devices according to the erosion and sediment control plan. Unless the approved plan provides otherwise, the following requirements for inspection apply:

a. For sites where construction has not been completed, inspect all erosion and sediment control devices after any precipitation that creates runoff, and make necessary repairs. At a minimum, inspect erosion and sediment control devices every 14 days.

b. For sites where all construction activities are completed but final stabilization has not been achieved because vegetative cover is not established, inspect the erosion and sediment control measures at least once every month.

c. Maintain a record of inspections on the project site at all times.

**2. Revegetation monitoring.** Monitor revegetation efforts in accordance with the revegetation plan to prevent erosion, limit sediment loading in nearby waterways, and ensure proper transition to non-revegetation irrigation practices.

**3. Inspection of permanent on-site stormwater detention facilities.** On-site stormwater detention facilities require a written arrangement which ensures that the facility is regularly inspected to ensure it is functioning properly and to provide any necessary maintenance.

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<sup>9</sup> Permit requirements and other resources available at <https://www.colorado.gov/pacific/cdphe/wq-construction-general-permits>.

### III. RECOMMENDED PLANS AND APPLICATION SUBMITTAL MATERIALS

One or more of these materials may be waived when the submittal information would not be relevant to whether the project complies with the applicable approval standards.

**TIP:** Local governments will decide which of these recommended plans are required based on the intensity of the proposed development.

**A. Site plan.** Narrative description and map of site conditions, including:

*These recommended site plan elements are only those that relate to water quality and are not intended to replace other site plan elements that should be part of an application.*

1. Existing topography at two-foot (2') contour intervals on site map. The map should extend a minimum of one hundred feet (100') beyond the property line and show the location of the property line.
2. Physical characteristics of the site, including the location of water bodies, intermittent water features, wetlands, and the 100-year floodplain boundaries, inner and outer buffer boundaries and a narrative description of soil characteristics. If wetlands are present on the site they must be described according to the applicable U.S. Army Corps of Engineers delineation map.
3. Total area of disturbance, including any construction phasing plans and temporary roads that may affect soils or create soil erosion and location of excavation, scrubbing, clearing, stockpiling, or vegetation removal.
4. Proposed development and grading. The map should show elevations, dimensions, location, extent and slope of all proposed clearing and grading, including building site and driveway grades.
5. Map and analysis of any proposed development occurring on more than 15 percent (15%) slope.

**B. Stormwater Management Plan (SWMP).** A plan that demonstrates how the project will be designed to meet the standards for stormwater control on the site, including the following:

1. Narrative description and site map of drainage features and basin boundaries, including locations of existing and proposed detention facilities, drainage structures, stormwater sewer inlets, or natural drainage features on the site, or adjacent to the site if

**TIP:** State and federal law requires a **Stormwater Construction Permit** for stormwater discharged from any construction activity that disturbs at least one acre of land (or is part of a larger common plan of development or sale that will disturb at least one acre). 5 CCR 1002-61.2(f)(ii). A stormwater permit is also required for industrial activity and discharge from a regulated municipal separate storm sewer system (MS4). 5 CCR 1002-61.2(e)(ii); 61.2(e)(vi); 61.2(f)(v).

*These permits include completion of a Stormwater Management Plan. The SWMP for the State should include compliance with local regulations and standards.*

the features may be impacted by stormwater runoff.

2. Description of receiving waters and neighboring areas, including land uses and existing pertinent features such as lakes, streams, structures, roads, etc.

3. Impervious surfaces. Narrative description and site map for minimizing and controlling runoff from impervious surfaces to meet impervious surface standards.

**C. Erosion and Sediment Control Plan.** A plan that demonstrates how the project will be designed to meet the standards for sediment and erosion control.

1. Narrative description and scaled drawings of specific erosion and sediment control measures, including approximate locations of drainage facilities and site drainage patterns. Typical erosion control measures should be depicted using standard map symbols.

2. Construction schedule, indicating the anticipated starting and completion time periods of the site grading and/or construction sequence including the installation and removal of erosion and sediment control measures, and the estimated duration of exposure of each area prior to the completion of temporary erosion and sediment control measures.

3. Estimated total cost of the required temporary soil erosion and sediment control measures to determine performance guarantees for the proposed plan.

4. Calculations made for determining rainfall, runoff, and sizing of any sediment basins, diversions, conveyance, or detention/ retention facilities.

**D. Revegetation Plan.** A plan that demonstrates how the project will be designed to meet the standards for revegetation and revegetation monitoring.

1. Describe anticipated seed source (reputable nursery is requisite).

2. Use site-appropriate native seed mixes based on hydrology, elevation, biophysical characteristics, and reference areas.

**E. Dust Control Plan.** Narrative description and site map of dust control measures. Measures may include:

1. Minimizing the disturbed area.

2. Reducing vehicle speeds.

**TIP:** The Fort Collins Dust Prevention and Control Manual is a good reference:  
<https://www.fcgov.com/airquality/pdf/dust-prevention-and-control-manual.pdf>.

3. Instituting a high wind restriction on construction activities.
4. Sprinkling access and haul roads and other exposed dust-producing areas with water or chemical stabilizers using manufacturer's recommended application rates. Avoid over-application and prevent runoff of chemical stabilizers into any public right-of-way, storm drainage facility, or waterbody.
5. Planting vegetation appropriate for retaining soils or creating a wind break.
6. Installing cover materials during periods of inactivity or during local wind speeds greater than 30 miles per hour and properly anchor the cover.
7. Placing wood chips, gravel or other effective mulches on vehicle and pedestrian use areas.
8. Maintaining the proper moisture condition on all fill surfaces.
9. Pre-wetting cut and fill surface areas.

**F. Hazardous Materials Plan.** A plan describing the use and disposal of hazardous materials including:

1. Containment measures for all fuel storage areas to prevent release to any waterbody.
2. Measures to prevent spilled fuels, lubricants or other hazardous materials from entering a waterbodies and groundwater during construction or operation of equipment and/or facility.
3. Areas used for the collection and temporary storage of solid or liquid waste that are designed to prevent discharge of these materials in runoff from the site.

**G. Snow Storage Plan.** A plan describing snow storage and removal for the site designed to meet the standards.

**H. Inspection and Maintenance Plan.** A narrative description of all proposed inspection, monitoring, maintenance, and reporting to ensure compliance with the construction, site design, and post-construction standards is effective.

## IV. OTHER WATER QUALITY PROTECTION CONSIDERATIONS

The following is a list of other tools local governments may use to protect water quality. This list is not meant to be exhaustive.

**A. Water quality in comprehensive plans.** Water quality elements of master or comprehensive plans help to incorporate water quality protection and water resource management into a community's vision of the future. Most, if not all, NWCCOG member jurisdictions reference the importance of water quality in their comprehensive or master plan. Strong water elements will:

- Establish goals for water quality protection
- Set targets to objectively measure progress
- List strategies to achieve the targets.<sup>10</sup>

**B. Water quality as a “purpose” in land use regulations.** Many land use regulations delineate the various purposes of permit requirements. Pitkin County, for example, describes the purpose of its land use code this way:

*(a) It is the policy of the County to preserve and protect its present water resources, recognizing the county's semi-arid character and that significant transmountain and transbasin diversions and the vested rights of senior appropriators have materially curtailed the availability of water resources. Furthermore, wetlands and riparian ecosystems, which are important to maintaining the overall balance of ecological systems, and are important plant communities, wildlife habitat and movement corridors, should be conserved, protected and restored. The County seeks to protect citizens' rights to permanently protected minimum stream flows in rivers and creeks, and to the preservation of remaining natural riparian areas and wetlands.*

*(b) Land uses within the region should be designed to preserve and protect present water resources, including surface and groundwater, and to avoid significant adverse effects on the quantity, quality, or dependability of water resources in the County. Land uses should protect against significant increased salinization of water, loss of minimum instream flows, and the need for future*

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<sup>10</sup> Adapted from *Coordinated Planning Guide: A How-to for Integrating Alternative Water Supply and Land Use Planning*, Brendle Group and Western Resource Advocates, 2018, <http://www.waterrf.org/PublicReportLibrary/4623B.pdf>.

*major public expenditures to reacquire or redistribute water resources.*

*(c) To protect water resources and/or riparian habitat, development in areas adjacent to water bodies, functional irrigation ditches and natural watercourse areas should maintain adequate setbacks where necessary.<sup>11</sup>*

**C. Watershed protection ordinances.** Colorado law gives local governments authority to regulate within five miles upstream of its drinking water intakes to protect its waterworks from pollution or other injury.<sup>12</sup> These ordinances include water quality protection standards. See Appendix A, Crested Butte's excerpted model watershed protection ordinance, as an excellent example.

**D. Low Impact Development (LID).** Low Impact Development (LID) is a stormwater control technique that aims to mimic natural, pre-development hydrological patterns on the development site to protect water quality by minimizing pollutant loads into waterways. LID can also protect riparian corridors, wildlife habitat, baseflow, and groundwater recharge. According to the City of Aspen, "the goal is to manage stormwater as close to its source as possible. In the past, the driving force behind stormwater management was exclusively to move water away from buildings and streets as quickly as possible without any regard to water quality. This meant using pipes and gutters to direct water to detention ponds, retention basins and rivers. This technique has caused significant damage to water quality and the environment."<sup>13</sup>

The City of Long Beach, CA incentivizes LID in its Municipal Code, providing reductions in its off-site runoff mitigation fee based on the percentage of stormwater that is managed on-site through infiltration. On-site stormwater runoff management between 50 and 74% earns a 25% fee reduction, between 75 and 89% earns a 50% fee reduction, and between 90 and 99% earns a 75% fee reduction.<sup>14</sup> Other good resources for incorporating LID into local codes and planning include a manual of [Green Infrastructure for Southwestern Neighborhoods](#) and the [Low Impact Development Toolkit](#) for Mesa, AZ, and the City of Aspen website.<sup>15</sup>

**E. Overlay districts.** Overlay districts can protect riparian corridors, flood plains, or environmentally sensitive areas. The Town of Breckenridge, for example, instituted the

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<sup>11</sup> Pitkin County Land Use Code, Section 8 of its Code, Ch. 1-60-280, available at <http://www.pitkincounty.com/DocumentCenter/View/3464>.

<sup>12</sup> C.R.S. § 31-15-707(b).

<sup>13</sup> City of Aspen website, Low Impact Development, accessed April 5, 2018, <https://www.cityofaspen.com/358/Low-Impact-Development>.

<sup>14</sup> Long Beach (California), City of. Municipal Code, Chapter 18.74, Low Impact Development Standards; Section 18.74.040(C)(2), LID Plan Review.

<sup>15</sup> <https://www.cityofaspen.com/358/Low-Impact-Development>.

[Cucumber Gulch Protection Overlay District](#) to protect sensitive wetlands systems, fen wetlands, and wildlife habitat. Eagle County has a floodplain overlay district to institute additional development requirements within the floodplain.<sup>16</sup> Within the District is a designated “preventative management area” with development and activity restrictions above and beyond the rest of the Town. Overlay districts can include water quality protection standards.

**F. Transfer of development rights (TDR) programs.** Communities may provide for the transfer of development rights away from areas designated for special protection, such as environmentally sensitive areas, to a different parcel of land. Local regulations may incentivize the transfer of development rights away from areas of specific protection through density bonuses, reduced tap fees, exemptions from certain code standards, or other incentives. Pitkin County has a well-developed Transfer of Development Rights program in conjunction with its Growth Management Quota System.<sup>17</sup>

**G. “208” Regional Water Quality Plan.** Section 208 of the federal Clean Water Act requires plans for coordinated regional approaches to water quality management (“208 Plan”). NWCCOG is the designated regional water quality management agency for Region 12, and as such NWCCOG prepares and implements the 208 Plan, which functions as a Master Plan for water quality management in Region 12.<sup>18</sup> It provides demographic information, descriptions of wastewater treatment facilities, summaries of transmountain diversions, recommendations for state water quality standards and classifications, and an overview of the Region’s water quality over time. Most importantly, it provides policy recommendations for future water quality management in the region.<sup>19</sup> NWCCOG regularly receives requests from member municipalities and counties to evaluate land use and development proposals for compliance with the 208 Plan. Because 208 Plans are adopted pursuant to federal law, and authorized by the State of Colorado, local regulations incorporating 208 policies are less vulnerable to preemption challenges.

**H. Plans for protecting river and stream corridors from land use impacts.** Local plans such as the [Brush Creek Water Management Plan](#) in the Town of Eagle identify values in the stream and riparian corridor that should be protected and then require new development to preserve those values in order to be approved for a development permit.

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<sup>16</sup> Eagle County Land Use Code, 3-350, available at [http://www.eaglecounty.us/Planning/Documents/Article\\_3\\_-\\_Zone\\_Districts\\_Revisions\\_10\\_20\\_15\\_AEW/](http://www.eaglecounty.us/Planning/Documents/Article_3_-_Zone_Districts_Revisions_10_20_15_AEW/).

<sup>17</sup> Regulations for both programs are found in Chapter 6 of Pitkin County’s Land Use Code, available at <http://www.pitkincounty.com/DocumentCenter/View/13604>.

<sup>18</sup> NWCCOG, 2012 NWCCOG Regional Water Quality Management Plan (“208 Plan”)(updated 2012), available at <http://nwccog.org/programs/watershed-services/>.

<sup>19</sup> NWCCOG, 208 Plan, Vol. 1: Policy Plan, [http://nwccog.org/wp-content/uploads/2015/04/Vol-1\\_Policy-Plan-2012-208-Plan.pdf](http://nwccog.org/wp-content/uploads/2015/04/Vol-1_Policy-Plan-2012-208-Plan.pdf).

**I. Stream Management Plans (SMPs).** Developed collaboratively with other local stakeholders, SMPs provide a framework for protecting and improving overall stream or river health, grounded in biology, hydrology, channel morphology, and alternative water use and management strategies. Grand County developed the first and best known stream management plan,<sup>20</sup> and many others in the headwaters are following suit.

**J. Impact fees.** Local governments routinely require developers to pay for the impact of their projects on the community infrastructure.

**K. River restoration and protection.** Local governments commonly support the restoration and protection of waterways damaged from past land use practices. Abandoned mines, permitted before environmental regulation imposed clean up requirements, are a common source of water quality and riparian damage. See Figure 4; see *also* the Colorado Emergency Watershed Protection Program's [Guidance on Revegetation Plans for Stream Restoration Projects](#).

**L. Invasive species regulations or best management practices (BMPs).** Non-native plants such as tamarisk and purple loosestrife, are highly aggressive invaders of wetland and streams, and can destroy wildlife habitat and crowd native vegetation. Landscape regulations may prohibit planting non-native plants or require compliance with BMPs, often in conjunction with a revegetation plan. Planning departments can coordinate with the local noxious weed department or vegetation management department to ensure their noxious weed protections also protect water quality.

**M. Coordination with recreation planning.** Local planning departments may coordinate with recreational planning and open space



Figure 4. Swan Creek restoration, top photo in 2015, pre-restoration of mine tailings, and bottom photo during restoration in 2017. Courtesy of Summit County, CO, available at <http://www.co.summit.co.us/Blog.aspx?CID=5>.

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<sup>20</sup> <http://co.grand.co.us/412/Stream-Management-Plan>

departments to ensure recreation planning near water resources, such as mountain biking or hiking trails, protect water quality and riparian corridors.

**N. Regulations for areas and activities of state interest (“1041 Regulations”).** House Bill 1041 (CRS § 24-65.1-101 et seq.), also known as the Areas and Activities of State Interest Act, allows counties and municipalities to designate and regulate areas and activities of state interest. Permit regulations are developed by the local jurisdiction to address such concerns as impacts to water quality, wildlife, local government service delivery, and land use. The purpose of 1041 Regulations is to mitigate the environmental and socio-economic impacts of a designated matter of state interest. After designating a matter of state interest in a public hearing, no development in a designated area and no designated activity can proceed without a local government permit.

**O. Additional regulations for intensive industrial development.** Local governments may establish requirements for particular uses to reduce contaminated run off. See Gunnison County’s excerpted oil and gas regulations, Appendix B, as an excellent example.

**P. Incentivizing clustered development.** Counties may enact regulations that encourage rural development to be clustered in a central area instead of spread out over a larger acreage to maximize water efficiency, avoid development in hazard areas, preserve agricultural land, protect open space and wildlife habitat, and reduce infrastructure costs. Incentives are utilized in Colorado because subdivisions of 35-acres or larger are allowed by right.<sup>21</sup> See Routt County Land Preservation Subdivision Exemptions, Appendix C; see *also* DOLA’s model cluster development regulations.<sup>22</sup>

**Q. Traffic and parking regulations.** Traffic and parking regulations may minimize impervious surfaces and potential run off through low impact development (LID) techniques including: requiring alternative residential street layouts with narrower, open section streets; limiting on-street parking to one side of the street where possible; incorporating vegetated swales, permeable paving, vegetated curb extensions, and tree-lined streets; encouraging shared driveways for certain residential uses; and reducing minimum driveway widths.

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<sup>21</sup> C.R.S. § 30-28-101(10)(b).

<sup>22</sup> <https://www.planningforhazards.com/cluster-subdivision-model-and-commentary>.

## V. REFERENCES

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Brendle Group and Western Resource Advocates, *Coordinated Planning Guide: A How-to for Integrating Alternative Water Supply and Land Use Planning*, 2018, <http://www.waterrf.org/PublicReportLibrary/4623B.pdf>.

Colorado Department of Local Affairs, *Planning for Hazards Guide: Land Use Solutions for Colorado* (2016), available at <https://www.planningforhazards.com/home>.

Colorado Emergency Watershed Protection Program, *Restoration Plans for Stream Restoration Projects*, [https://coloradoewp.com/sites/coloradoewp.com/files/document/pdf/EWP\\_RevegetationPlans\\_20160705\\_FINAL.pdf](https://coloradoewp.com/sites/coloradoewp.com/files/document/pdf/EWP_RevegetationPlans_20160705_FINAL.pdf), and *Plant Restoration Matrix*, a matrix is to provide a prioritized list of the major native plant species, and their attributes, used in the restoration of streambanks, flood terraces, and transitional zones in Colorado, including the Front Range, <https://coloradoewp.com/document/plant-restoration-matrix>.

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[https://www.epa.gov/sites/production/files/2015-12/documents/2002\\_09\\_19\\_nps\\_ordinanceuments\\_buffer\\_model\\_ordinance1.pdf](https://www.epa.gov/sites/production/files/2015-12/documents/2002_09_19_nps_ordinanceuments_buffer_model_ordinance1.pdf).

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Wright Water Engineers & Denver Regional Council of Gov'ts, *Mountain Driveway Best Management Practices Manual*, Colorado Nonpoint Source Council (Sept. 1999), <http://www.wrightwater.com/assets/8-mountain-driveway-bmps.pdf>.

## **B. Local government land use codes (LUC)**

- Aspen (City of) LUC, 26-435:  
<https://www.cityofaspen.com/DocumentCenter/View/359>.
- Boulder County, Colo. Stream, Wetland, and Water Body Regulations:  
<https://bouldercolorado.gov/plan-develop/stream-wetland-water-body-protection>.
- Bozeman (City of), Mont. Unified Development Code, 38.06.010 *et seq*:  
[https://library.municode.com/mt/bozeman/codes/code\\_of\\_ordinances?nodeId=PTIIC\\_OOR\\_CH38UNDECO](https://library.municode.com/mt/bozeman/codes/code_of_ordinances?nodeId=PTIIC_OOR_CH38UNDECO)
- Breckenridge (Town of), Colo. Development Code, Title 9:  
[http://www.sterlingcodifiers.com/codebook/index.php?book\\_id=878](http://www.sterlingcodifiers.com/codebook/index.php?book_id=878).
- Chandler (City of), Ariz. LUC, 35-1900:  
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<http://slco.org/engineering/stormwater/guidance-documents/>.
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<https://www.sanmiguelcountyco.gov/DocumentCenter/Home/View/214>.
- South Lake Tahoe (City of), Cal. City Code:  
<http://www.codepublishing.com/CA/SouthLakeTahoe>.
- Summit County, Colo., Land Use and Development Code, Ch. 7:  
<http://www.co.summit.co.us/255/Land-Use-Development-Code>.
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<http://www.tetonwyo.org/DocumentCenter/View/1669>.
- Vail (Town of), Colo. City Code, 9-1-2, Water Quality, and 14-1-2, Development Standards, [www.sterlingcodifiers.com/Vail,CO](http://www.sterlingcodifiers.com/Vail,CO).

# **APPENDIX A**

## **TOWN OF CRESTED BUTTE**

### **WATERSHED PROTECTION ORDINANCE**

#### **Chapter 14 of Town Code**

##### ***Exerpted:***

**Article 3:** Application Submittal Requirements

**Article 4:** Watershed Protection Standards

**Article 5:** Designation of Areas and Activities of State Interest in  
Watershed Protection District

### **ARTICLE 3**

#### **Watershed Permit Application Submittal Requirements \***

##### **Sec. 14-3-10. Application fees and Watershed Permit application costs and expenses reimbursement agreement.**

The applicant shall be responsible for all of the actual costs and expenses incurred by the Town in the review and processing of the Watershed Permit application, including the cost of technical experts and consultants and review by referral agencies. Any application shall be accompanied by an initial fee deposit, described in Paragraph (1) below, and an executed Watershed Permit Application Costs and

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\* The following materials must be submitted for a Watershed Permit application to be complete. Staff may waive one (1) or more of the submittal requirements when the submittal requirement would not be relevant to a determination as to whether the proposed development complies with the applicable Watershed Protection Standards in Article 4 of this Chapter. The Staff shall provide the applicant with written documentation of any waiver and document the waivers in the staff report prepared pursuant to Section 14-2-80 of this Chapter.

Expenses Reimbursement Agreement obligating the applicant to reimburse the Town for all costs and expenses incurred by the Town in connection with review and processing of the application package.

(1) The application shall be accompanied by an initial fee deposit of twenty thousand dollars (\$20,000.00), unless a different amount is approved by the Town Manager.

(2) Throughout the application review process, a minimum fee deposit balance of fifteen thousand dollars (\$15,000.00) shall be retained by the Town. The amount of the minimum fee deposit balance may be adjusted upon a determination by staff that the cost to review and process the application is likely to be less than the minimum amount set by these Regulations. If the balance falls below the minimum amount, the Town may suspend review of the application pending receipt of additional funds bringing the balance to at least the minimum amount. Suspension shall toll all deadlines imposed on the Town by these Regulations.

(3) The Town will deposit that portion of the fee deposit which is not necessary to cover current costs and expenses in an account. The Town shall obligate, encumber or use such funds at its discretion to cover the costs of processing the application. (Ord. 4 §1, 2013)

#### **Sec. 14-3-20. Information describing applicant.**

The application shall contain the following information:

(1) The name, physical and mailing addresses, email address, fax number and business of the applicant and, if different, the owners of the land that is the subject of the proposed development. All owners of land that is the subject of the proposed development shall be identified as applicants on the application. If the applicant is not the sole owner of the land, the applicant shall submit a letter signed by all other owners, or an association or corporation representing all the owners, by which all owners consent to or join in the application.

(2) If the owner is a partnership, joint venture, corporation or other such entity, the name, physical and mailing address, email and fax number of the agent of the owner to whom all legal or official assessments, liens, levies or other such notices may be properly and lawfully mailed.

(3) Documentation of the applicant's financial qualifications, technical expertise and capability to construct and operate the proposed development, including a description of the applicant's experience constructing and operating similar developments and using proposed technologies.

(4) The names, addresses and qualifications of individuals who are or will be responsible for constructing and operating the proposed development, including areas of expertise and experience with projects directly related or similar to the proposed development.

(5) Written qualifications of those individuals preparing reports and providing certifications required by these Regulations. (Ord. 4 §1, 2013)

#### **Sec. 14-3-30. Information describing proposed development.**

The applicant shall provide the following:

(1) A written description of the proposed development, including:

a. Description of any wastewater treatment system proposed to serve the proposed development and plans for operation of the system through the life of the impacts of the project, including any reclamation that is required.

b. Description of the source and capacity of the water supply to serve the proposed development, including:

1. Amount and quality of water;
2. The applicant's right to use the water, including adjudicated decrees and applications for decrees;
3. Proposed points of diversion and changes in the points of diversion; and
4. If an augmentation plan for the proposed development has been decreed or an application for such plan has been filed in court, the applicant shall submit a copy of that plan.

For a proposed development involving water storage, the applicant shall be the owner of the applicable water rights and shall provide documentation of ownership.

c. Schedules for designing, permitting, constructing and operating the proposed development, including the estimated life of the proposed development and reclamation plans, if any.

d. Operational details, including the hours of operation, number of employees on site on a daily basis and types of vehicles and equipment.

e. Discussion of the alternatives to the proposed development that were considered and rejected by the applicant, including the general degree of feasibility of each alternative and a statement explaining why there is no alternative outside the Watershed Protection District.

f. Discussion of the need for the proposed development, including existing and proposed facilities that perform the same or related function, and benefits of the proposed development versus the loss of any natural resources, recreational opportunities or agricultural lands rendered unavailable or less productive as a result of the proposed development.

(2) Vicinity map. An eight-and-one-half-inch by eleven-inch vicinity map locating the site where the proposed development will occur. The vicinity map shall clearly show the boundaries of the proposed development site and all property within a three-mile radius of the proposed development site.

(3) Site plan. A detailed site plan of the proposed development including:

a. Legal description of the proposed development site.

b. Boundary lines, corner pins and dimensions of the proposed development site, including land survey data to identify the site with section corners, distance and bearing to corners, quarter corners, township and range.

- c. Watershed Protection District boundary lines in relationship to the proposed development site.
- d. Location of any area designated as a Colorado Natural Area or Potential Conservation Area in relationship to the proposed development site.
- e. Existing and proposed topographic contours at vertical intervals sufficient to show the topography of the proposed development site and a minimum one-hundred-foot radius beyond the proposed development site as necessary to include all on-site and off-site topographical features that may affect the proposed development and storm drainage.
- f. Significant on-site and off-site features that influence the proposed development, including:
  - 1. Natural and artificial drainageways, ditches, water features and hydrologic features on site, including intermittent water features, wetlands and the one-hundred-year floodplain boundaries;
  - 2. Slopes and areas of subsidence;
  - 3. Vegetative cover; and
  - 4. Excavations and mines.
- g. Existing and proposed roads, railroad tracks, fences and utility lines on or adjacent to the proposed development site, shown by location and dimension.
- h. Users and grantees of all existing and proposed easements and rights-of-way on or adjacent to the site, shown by location and dimension.
- i. All existing and proposed structures and appurtenant facilities, shown by location and dimension.
- j. Existing and proposed parking areas, driveways, sidewalks and paths, shown by location and dimension.
- k. Wastewater treatment system proposed to serve the proposed development, including location and size of leach field, wastewater service lines and treatment facilities.
  - l. Location and size of wells and/or water lines to serve the proposed development.
- m. Calculation of the size of existing and proposed impervious surface area.
- n. Snow storage areas.
- o. Areas of disturbance and extent of impervious surfaces.
- p. Additional information that may be reasonably requested by the Town to enable an adequate evaluation of the application. (Ord. 4 §1, 2013)

**Sec. 14-3-40. Property rights, permits and other approvals.**

The applicant shall provide the following:

- (1) Description and documentation of property rights, easements and rights-of-way agreements that are necessary for or that will be affected by the proposed development.
- (2) List of all federal, state and county permits and approvals that have been or will be required for the proposed development.
- (3) Copies of any federal and state correspondence applicable to the proposed development; a description of all mitigation and financial security required by federal, state and local authorities; and copies of any draft or final environmental assessments or impact statements prepared for the proposed development. (Ord. 4 §1, 2013)

**Sec. 14-3-50. Technical and financial feasibility of project.**

The applicant shall provide the following:

- (1) Estimated construction costs and period of construction for each development component and the total mitigation costs for the proposed development.
- (2) Revenues and operating expenses for the proposed development.
- (3) Amount of any proposed debt and the method and estimated cost of debt service.
- (4) Details of any contract or agreement for revenues or services in connection with the proposed development.
- (5) Description of the persons or entities who will pay for or use the proposed development and/or services produced by the proposed development and those who will benefit from any and all revenues generated by it.
- (6) Methods and financial responsibility for continued operation of any treatment or other mitigation facility to prevent pollution from impacts of the proposed development that may go beyond the active life of the proposed development. (Ord. 4 §1, 2013)

**Sec. 14-3-60. Land use (not applicable on federal lands).**

The applicant shall provide the following:

- (1) Description of the existing land uses within and adjacent to the site where the proposed development will occur.
- (2) Description of land use policies set forth in comprehensive plans, master plans and intergovernmental agreements that are applicable to the proposed development and an assessment of whether the proposed development will be consistent with or further the objectives of these policies. (Ord. 4 §1, 2013)

**Sec. 14-3-70. Town waterworks and municipal water supply.**

(a) The applicant shall provide a description of equipment, diversion structures, dams, reservoirs, streams, trenches, ditches, watercourses, pipelines, wells, pumps, buildings, structures, roads and other facilities associated with the Town waterworks that will be affected by the proposed development.

(b) The applicant shall provide a description of the impacts of the proposed development on the Town waterworks and how the impacts will be mitigated. (Ord. 4 §1, 2013)

**Sec. 14-3-80. Surface water quality.**

The applicant shall provide the following:

(1) Map and description of all surface waters that will be affected by the proposed development, including applicable state water quality standards, existing water quality, and any Total Daily Maximum Loads for segments that have been listed on the Colorado Water Quality Control Commission 303(d) list.

(2) Map and/or description of existing minimum in-stream flows held by the Colorado Water Conservation Board.

(3) Map of all springs and seeps.

(4) Description of the impacts of the proposed development on the quality of surface water and how the impacts will be mitigated. If a Water Quality Monitoring Plan has been prepared pursuant to Section 14-3-160 of this Article, the applicant may refer to the plan. (Ord. 4 §1, 2013)

**Sec. 14-3-90. Groundwater quality and quantity.**

The applicant shall provide the following:

(1) Map and description of all groundwater that will be affected by the proposed development, including:

a. Seasonal water levels of the aquifers affected by the proposed development.

b. Artesian pressure in aquifers and a description of how the proposed development may affect adjacent communities and users on wells.

c. Groundwater flow directions and levels and how that information was determined.

d. Existing groundwater quality and classification.

e. Location of all water wells and description of their uses.

(2) Description of the impacts of the proposed development on groundwater quality and quantity and how the impacts will be mitigated. (Ord. 4 §1, 2013)

**Sec. 14-3-100. Floodplains, wetlands and riparian areas.**

The applicant shall provide the following:

(1) Map and description of all floodplains, wetlands and riparian areas that will be affected by the proposed development, including a description of each type of wetlands, species composition and biomass. Wetlands within the boundaries of the proposed development and extending at least one hundred (100) feet from the boundaries of the proposed development are presumed to be affected by the proposed development and comprise the Wetlands Study Area.

(2) Wetlands report. The wetlands in the Wetland Study Area shall be described in a Wetland Delineation Report that includes:

- a. Introduction – a brief project description and purpose for the report.
  - b. Executive summary – a summary of the whole report including significant findings and recommendations.
  - c. Site description – a summary of the general ecological setting and specific site location.
  - d. Methods – information on literature review, fieldwork, wetland classification, mapping techniques, etc.
  - e. Wetland description – detailed accounts of vegetation, hydrology and soil conditions; justification for wetland boundaries; area and classification of all wetlands; and a summary of the wetland functional analysis. Wetlands will be identified in accordance with the procedures set forth in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (U.S. Army Corps of Engineers 2008).
  - f. Literature cited.
  - g. Wetland delineation data forms.
  - h. Wetland functional analysis data forms.
  - i. Photographs of each wetland.
  - j. Detailed map of the wetlands and other water features at one (1) inch equals two hundred (200) feet scale (or similar).
- (3) Description of the impacts of the proposed development on the floodplains, wetlands and riparian areas and how the impacts to the floodplain and riparian areas will be mitigated.
- (4) Wetland Mitigation Plan, including both a compensatory plan for those wetlands permanently lost as a result of the project and mitigation measures to avoid and minimize impacts to wetlands.
- a. The intent of compensatory wetland mitigation is to replace the wetlands' ecological functions that are unavoidably lost because of the proposed development.

- b. The priority is to (in order of preference) restore, create, enhance or protect wetlands in-kind (of the same wetland type that performs the same wetland functions to the same degree or better) within the Watershed District. (Ord. 4 §1, 2013)

**Sec. 14-3-110. Terrestrial and aquatic animals and habitat.**

The applicant shall provide the following:

(1) Description of terrestrial and aquatic animals that will be affected by the proposed development, including the status and relative importance of game and nongame wildlife, livestock and other animals; and a description of threatened or endangered animal species.

(2) Map and description of wildlife habitat and livestock range that will be affected by the proposed development, including migration routes, movement corridors, feeding areas, nesting areas, calving areas, summer and winter range and spawning beds; and a description of streamflows and lake levels needed to protect the aquatic environment. The map shall include:

- a. Size and location of each habitat in the proposed development site.
- b. Size and location of open space areas in the proposed development site.
- c. Critical connections or relationships with adjoining habitats outside the site of the proposed development.

(3) Description of the impacts of the proposed development on terrestrial and aquatic animals, habitat and food chain and how the impacts will be mitigated. (Ord. 4 §1, 2013)

**Sec. 14-3-120. Terrestrial and aquatic plant life.**

The applicant shall provide the following:

(1) Map and description of terrestrial and aquatic plant life that will be affected by the proposed development, including the type and density and threatened or endangered plant species and habitat.

(2) Descriptions of the impacts of the proposed development on terrestrial and aquatic plant life and how the impacts will be mitigated. (Ord. 4 §1, 2013)

**Sec. 14-3-130. Soil and geologic conditions and natural hazards.**

The applicant shall provide the following:

(1) Map and description of soil conditions, geologic conditions and natural hazards, including soil types, drainage areas, slopes, avalanche areas, debris fans, mud flows, rock slide areas, faults and fissures, seismic history and wildfire hazard areas.

(2) Description of the impacts of the proposed development on soil and geologic conditions in the area and how the impacts will be mitigated.

(3) Description of the risks to the proposed development from soil and geologic conditions and from natural hazards and how the risks will be mitigated. (Ord. 4 §1, 2013)

#### **Sec. 14-3-140. Spill Prevention, Storage, Control, Countermeasure and Contingency Plan.**

The applicant shall provide a Spill Prevention, Storage, Control, Countermeasure and Contingency Plan that describes the measures to prevent hazardous materials, pesticides, petroleum products and other substances from entering into, harming, damaging or injuring the Town's waterworks or polluting the Town's water supply, including:

- (1) Location of storage areas for equipment, fuel, lubricants, chemicals and waste during both construction and operation of the proposed development.
- (2) Measures, procedures and protocols for spill prevention, storage and containment.
- (3) Measures, procedures and protocols for reporting spills and storage to Town, county, state and federal officials.
- (4) Measures, procedures and protocols for clean-up and contingency and description of the financial security for these provisions.
- (5) Provisions establishing that the Town, or its designee, may undertake prevention, control, countermeasure, containment and clean-up measures if the permittee fails to comply with its obligations under the Spill Prevention, Storage, Control, Countermeasure and Contingency Plan, and that the permittee will pay all costs incurred by the Town for any such measures.
- (6) Maintenance of material safety data sheets (MSDS).
- (7) Provisions for implementation of Best Management Practices to prevent and reduce pollutants, using the BMP Guide attached as Appendix 14-A to this Chapter. (Ord. 4 §1, 2013)

#### **Sec. 14-3-150. Emergency Response Plan.**

The applicant shall provide an Emergency Response Plan that addresses fire protection and other events that could pose a threat to public health, safety and welfare, including the owner's emergency contact information, proposed signage, access and evacuation routes and health care facilities anticipated to be used. The plan shall include a provision for the owner to reimburse the appropriate emergency response service providers for costs incurred in connection with the emergency. (Ord. 4 §1, 2013)

#### **Sec. 14-3-160. Water Quality Monitoring Plan.**

The applicant shall provide a Water Quality Monitoring Plan that establishes a baseline<sup>2</sup> and a process for monitoring changes to the aquatic environment and effectiveness of mitigation. The plan should be complementary to historic monitoring data, any ongoing monitoring by any entity and any monitoring required or conducted by state and federal agencies and shall include:

- (1) Stream segments, water features and groundwater to monitor.

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<sup>2</sup> The Town encourages applicants to consult *Assessment of Riparian and Aquatic Habitat with the Coal Creek Watershed, Gunnison County, Colorado*, prepared by Kevin Alexander.

(2) Locations for and frequency of sampling and monitoring to establish baseline of existing conditions prior to construction and operation of the proposed development, including existing fishery, water quality, aquatic macroinvertebrate and groundwater data.

(3) Key indicators of water quality, stream health and threshold levels that reflect decline in water quality and health of the aquatic environment.

(4) Locations for and frequency of sampling and monitoring for key indicators of water quality and stream health, including constituents regulated by the Colorado Water Quality Control Commission and constituents associated with the proposed development.

(5) Locations for and frequency of sampling and monitoring to measure effectiveness of water quality mitigation during the life of the proposed development and five (5) years after final reclamation of all disturbed areas is complete.

(6) If monitoring of key indicators reveals degradation, how mitigation will be implemented.

(7) Estimated costs of monitoring. (Ord. 4 §1, 2013)

#### **Sec. 14-3-170. Erosion and Sediment Control Plan.**

The applicant shall provide an Erosion and Sediment Control Plan that includes:

(1) Methods to minimize on-site erosion and control surface runoff, including:

a. Installing erosion and sediment control measures before site grading.

b. Stabilizing disturbed areas and soil stockpiles; protection of disturbed areas that will remain exposed and inactive for periods longer than fourteen (14) days.

c. Mulching and seeding disturbed areas with native seeds and weed-free mulch within seven (7) calendar days after final grade is reached, weather permitting.

d. Keeping temporary measures for soil stability in place, such as mulch or silt fences, until native vegetation has covered at least seventy percent (70%) of the disturbed area.

e. On-site limitation or detention of sediment-laden runoff using sediment basins, silt traps, erosion logs or other appropriate control options.

f. Controlling the rate and total volume of surface runoff during and after construction so as not exceed the level of runoff that occurred prior to construction; installing energy dissipation measures where overland flows are anticipated in excess of five (5) feet per second.

g. Controlling surface runoff from the proposed development so as to prevent discharge directly into streams or other water features, including: on-site containment and treatment of surface runoff from areas likely to contain pollutants; allowing surface runoff to infiltrate in vegetated areas if such infiltration will not result in significant degradation of groundwater or surface water quality; and groundwater monitoring, as necessary, to monitor potential subsurface transport of pollutants.

h. Diverting off-site run-on around the construction site when practical.

i. Inspection and maintenance of all erosion and sediment control devices in a manner to support their effectiveness.

(2) Construction schedule indicating the anticipated start date and date of completion for site grading, installation and removal of erosion and sediment control measures, and the estimated duration of exposure of each area prior to the completion of temporary erosion and sediment control measures.

(3) Plan view drawings of all erosion and sediment control measures showing approximate locations and site drainage patterns for construction phases and final design elements.

(4) Estimated total cost of the required temporary soil erosion and sediment control measures (installation and maintenance).

(5) Any calculations made for determining rainfall, runoff, sizing any sediment basins, diversions, conveyance or detention/retention facilities.

(6) Signature block for the owner or legal agent acknowledging the review and acceptance of responsibility, and a signature and stamped statement by the qualified individual acknowledging responsibility for the preparation of the Erosion and Sediment Control Plan. (Ord. 4 §1, 2013)

#### **Sec. 14-3-180. Drainage Plan.**

The applicant shall provide a Drainage Plan or stormwater management plan designed by a licensed professional engineer according to generally accepted storm drainage practices, that includes:

(1) Provisions to address flows from the area disturbed by the proposed development site.

(2) Diversion of the expected maximum water flows from any twenty-five-year flood event and any one-hundred-year flood event away from all buildings and other developed areas, adjacent lands and potential sources of water pollution.

(3) Description of measures to prevent pollution of existing lakes and watercourses by stormwater runoff.

(4) Locations of existing and proposed drainage structures, culverts, bridges, drainage ditches, channels and easements and natural drainage features affecting site drainage on site and within one hundred (100) feet adjacent to the proposed development site boundary, including drainage channels and other water conveyance structures, and wetlands or other water features receiving storm runoff from the proposed development site.

(5) Preliminary engineering, design and construction features for drainage structures to be constructed. (Ord. 4 §1, 2013)

#### **Sec. 14-3-190. Grading Plan.**

The applicant shall provide a detailed Grading Plan taking into account the soil and geology of the site that includes:

(1) Topography, elevations, dimensions, location, extent and slope of all proposed clearing, grading, excavating, filling or surfacing, including building site and driveway grades to occur as a result of the proposed development, and the volume of material to be removed or moved.

(2) All natural features on site and potentially affected by the proposed development.

(3) Locations of soil stockpiles and snow storage areas.

(4) Location of temporary roads designed for use during the construction period.

(5) Areas with slope of twenty percent (20%) or greater, identified by location and percentage of slope, for both the existing site conditions and the proposed development. If development is proposed to include slopes of thirty percent (30%) or greater, the plan shall include:

a. Documentation that no alternative development site is available on the property with a slope of less than thirty percent (30%).

b. Measures to prevent erosion, sloughing and other forms of instability.

c. Measures to confine cutting, filling and other grading activities to the minimum area necessary for the proposed development.

(6) Description of staging and scheduling of earth-disturbing activities.

(7) Description of slope stability. (Ord. 4 §1, 2013)

#### **Sec. 14-3-200. Revegetation Plan.**<sup>3</sup>

The applicant shall provide a Revegetation Plan that includes:

(1) Provisions to protect vegetation on neighboring property from impacts of the proposed development.

(2) Provisions to preserve tall, overly mature trees and standing dead trees (snags) at the rate of two (2) to five (5) per acre, whenever possible, as nesting and perching habitat.

(3) Provisions to reestablish vegetation so that:

a. Density is adequate to prevent soil erosion and invasion of weeds after one (1) growing season.

b. Vegetation cover will be diverse, effective and long-lasting and capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer.

c. Vegetation cover will be at least equal in extent of cover to the natural vegetation of the surrounding area.

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<sup>3</sup> This Section is not applicable to mining conducted pursuant to a current Mined Land Reclamation Board reclamation plan.

d. Vegetation cover will be capable of stabilizing the soil surface to achieve erosion control equal to predevelopment levels.

e. Initial irrigation is adequate to start growth of new vegetation.

(4) Provisions to prevent, eliminate and dispose of invasive weeds and to manage invasive weeds pursuant to Town, county and U.S. Forest Service noxious weed control operations. In the event of any inconsistency among any of these weed control operations, the strictest operation will apply.

(5) Provisions for the applicant to monitor revegetation, including extent, scope and frequency of monitoring. (Ord. 4 §1, 2013)

**Sec. 14-3-210. Additional submittal requirements for water and wastewater treatment systems.**

The applicant shall provide a description of existing domestic water and wastewater treatment facilities in the vicinity of the proposed development, including their capacity and existing service levels, location of intake and discharge points, treatment methods, service fees and rates, service plan boundaries and reasons for and against hooking onto those facilities.

**Sec. 14-3-220. Additional submittal requirements for municipal and industrial water projects.**

The applicant shall provide the following:

(a) Description of water demands that the proposed development expects to meet and basis for projections of that demand.

(b) Map and description of other municipal and industrial water projects in the vicinity of the proposed development, including their capacity and existing service levels, location of intake and discharge points, treatment methods, service fees and rates, service plan boundaries and reasons for and against hooking on to those facilities.

(c) Description of efficient water use, recycling and reuse technology the proposed development intends to use. (Ord. 4 §1, 2013)

**Sec. 14-3-230. Documentation of operational conflict waiver.**

The applicant shall provide documentation of the basis for any waiver of Watershed Protection Standards based on operational conflict that the applicant may request pursuant to Section 14-4-260 of this Chapter. (Ord. 4 §1, 2013)

**Sec. 14-3-240. Documentation of technical infeasibility or environmental protection waivers.**

The applicant shall provide documentation of the basis for any waiver of Watershed Protection Standards based on technical infeasibility or environmental protection that the applicant may request pursuant to Section 14-4-270 of this Chapter. (Ord. 4 §1, 2013)

**Sec. 14-3-250. Additional information.**

The staff may request that the applicant supply additional information related to the proposed development as may be necessary to make a determination on whether the proposed development satisfies approval standards. (Ord. 4 §1, 2013)

## ARTICLE 4

### Watershed Protection Standards <sup>4</sup>

#### **Sec. 14-4-10. Applicant has necessary expertise and financial capability.**

The applicant shall have the necessary expertise and financial capability to complete and operate the proposed development in compliance with the requirements and conditions of these Regulations. (Ord. 4 §1, 2013)

#### **Sec. 14-4-20. All property rights and easements will be obtained.**

The applicant will obtain all property rights and easements necessary for the proposed development prior to site disturbance, including surface mineral and water rights. (Ord. 4 §1, 2013)

#### **Sec. 14-4-30. No impairment of property rights (not applicable on federal lands).**

The proposed development will not impair property rights held by others. (Ord. 4 §1, 2013)

#### **Sec. 14-4-40. All county, state and federal permits and approvals will be obtained.**

The applicant can or will obtain all county, state and federal permits and approvals prior to commencing development. (Ord. 4 §1, 2013)

#### **Sec. 14-4-50. Technically and financially feasible.**

The proposed development is technically and financially feasible. Examples of factors the Town may consider in determining technical and financial feasibility include, without limitation:

- (1) Amount of debt associated with the proposed development.
- (2) Debt retirement schedule and sources of funding to retire the debt.
- (3) Estimated construction costs and construction schedule.
- (4) Estimated annual operation, maintenance and monitoring costs.
- (5) Funding sources to undertake the proposed development and the continued compliance with the Watershed Permit and these Regulations. (Ord. 4 §1, 2013)

#### **Sec. 14-4-60. Consistent with land use and water quality plans (not applicable on federal lands).**

The proposed development is consistent with land use and water quality plans applicable within the Watershed Protection District. Wherever there is a conflict between provisions of plans, the plan most protective to water quality and quantity shall apply. (Ord. 4 §1, 2013)

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<sup>4</sup> Approval of a Watershed Permit shall be based on whether the proposed development satisfies the applicable Watershed Protection Standards. The Town shall take into account the impacts of construction, operation, reclamation and cumulative impacts of the proposed development in determining whether the Watershed Protection Standards are satisfied. (Ord. 4 §1, 2013)

**Sec. 14-4-70. No significant adverse effect on Town waterworks.**

The proposed development will not have a significant adverse effect on the Town's waterworks. (Ord. 4 §1, 2013)

**Sec. 14-4-80. No significant degradation of surface water quality.**

The proposed development will not significantly degrade surface water quality within the Watershed Protection District. Examples of factors the Town may consider in determining impacts to surface water quality include, without limitation:

- (1) Changes to existing water quality, including patterns of water circulation, temperature, conditions of the substrate, extent and persistence of suspended particulates and clarity, odor, color or taste of water.
- (2) Changes in point and nonpoint source pollution loads. All nonpoint sources of pollutants caused by or associated with the proposed development will not result in any measurable increase in nonpoint source pollution loads to any water feature affected by the proposed development.
- (3) Increase in erosion.
- (4) Changes in sediment loading to water features.
- (5) Changes in stream channel or shoreline stability.
- (6) Changes in stormwater runoff flows.
- (7) Changes in trophic status or in eutrophication rates in lakes and reservoirs.
- (8) Changes in the capacity or functioning of streams, lakes or reservoirs.
- (9) Changes in flushing flows necessary to scour streambeds and spawning beds.
- (10) Changes in dilution rates of mine waste, agricultural runoff and other unregulated sources of pollutants.
- (11) Approved Water Quality Monitoring Plan prepared pursuant to Section 14-3-160 of this Chapter. (Ord. 4 §1, 2013)

**Sec. 14-4-90. Control of erosion, sedimentation and storm runoff.**

Construction and operation of the proposed development will be managed to control erosion and sedimentation and storm runoff in compliance with the approved Erosion and Sediment Control Plan prepared pursuant to Section 14-3-170 of this Chapter, the approved Drainage Plan prepared pursuant to Section 14-3-180, the approved Grading Plan prepared pursuant to Section 14-3-190 or an approved state or federal approval requirement that addresses grading, storm runoff, erosion and sediment control. (Ord. 4 §1, 2013)

**Sec. 14-4-100. Minimization of impervious areas.**

The impervious surface of the land disturbed by the proposed development will not exceed twelve percent (12%) of the total acreage affected by the proposed development. (Ord. 4 §1, 2013)

**Sec. 14-4-110. Compliance with tiered water feature buffer setbacks.**

(a) General.

(1) Development, other than stream crossings and stream bank reinforcement or repair and water diversion placement or repair, will be setback in accordance with a tiered water feature buffer described herein.

(2) Maintenance of vehicles or mobile machinery is prohibited within one hundred (100) horizontal feet of any water feature. Emergency maintenance may be conducted until the vehicle or machinery can be relocated.

(3) Storage of pesticides, petroleum products, hazardous substances, hazardous wastes, toxic substances or other substances that have the potential to degrade water quality will not occur within five hundred (500) horizontal feet of any water feature. Use and storage in consumable quantities of everyday consumer products (e.g., laundry detergent, propane, automobile fuels located in an automobile) will be excepted in the ordinary course of consumer conduct.

(4) Storage of sand and salt for road deicing and open storage of fertilizers will not occur within five hundred (500) horizontal feet of any water feature.

(5) Development in high quality wetlands is prohibited.

(b) Restrictive inner buffer zone.

(1) A setback of fifty (50) feet, measured horizontally from the typical and ordinary high water mark in average hydrologic years on each side of a water feature except that a setback of one hundred (100) feet, measured horizontally, is required from High Quality Wetlands.

(2) The only development allowed within the restrictive inner buffer zone is irrigation and water diversion facilities, flood control structures, culverts, bridges, stream restoration and structures determined by the Town to be reasonable and necessary to the viability of the proposed development or watershed protection. Development in High Quality Wetlands is prohibited.

(c) Variable outer buffer zone. Setbacks ranging from zero (0) feet to one hundred (100) horizontal feet beyond the outer edge of the restrictive inner buffer zone (i.e., up to one hundred fifty [150] horizontal feet beyond the high water mark of the water feature during average hydrologic years or the wetland boundary). The width of the variable outer buffer zone may be undulating across the subject property in order to provide protection to site-specific features. Site-specific features that could trigger the need for either a variable outer buffer zone setback, equivalent mitigation or a combination of a variable outer buffer zone setback and mitigation include, without limitation:

(1) The presence of steep slopes that drain into the water feature.

- (2) The presence of highly erodible soils.
  - (3) The presence of unstable stream bank conditions.
  - (4) The need to protect trees, shrubs or other natural features that provide for stream bank stability, habitat enhancement for aquatic environments and riparian area protection.
  - (5) The proposed development is within the one-hundred-year floodplain.
  - (6) The need to prevent or minimize flood damage by preserving stormwater and floodwater storage capacity.
  - (7) The need to protect habitat for plant, animal or other wildlife species listed by state or federal agencies as threatened, endangered, rare, species of special concern or species of undetermined status.
  - (8) The need to protect fish spawning, breeding, nursery and feeding grounds.
- (d) Exceptions to setback requirements in the tiered water feature buffer will be allowed if:
- (1) The proposed development is not prohibited.
  - (2) The proposed development cannot possibly be located outside the tiered water feature buffer and will be designed to minimize encroachment into the tiered water feature buffer.
  - (3) The proposed development is water-dependent and is authorized by the appropriate regulatory authority.
  - (4) Denial of the proposed development in the tiered water feature buffer would result in denying the landowner all economically viable use of the subject property.
  - (5) Because of physical features and other restrictions or conditions on the proposed development site, conducting the proposed development outside the tiered water feature buffer would create or substantially contribute to a hazardous condition or cause greater negative impact to the watershed than conducting the proposed development within the tiered water feature buffer. (Ord. 4 §1, 2013)

**Sec. 14-4-120. No significant degradation of groundwater.**

The proposed development will not significantly degrade groundwater quality and quantity within the Watershed Protection District. Examples of factors the Town may consider in determining impacts to groundwater include, without limitation:

- (1) Changes in aquifer discharge and recharge rates, groundwater levels and aquifer capacity, including seepage losses through aquifer boundaries and at aquifer-stream interfaces.
- (2) Changes in capacity and function of wells within the Watershed Protection District.
- (3) Changes in quality and quantity of well water and other groundwater within the Watershed Protection District.

(4) Changes in flow patterns of groundwater.

(5) Changes to wetland and buffer areas from damage due to wildlife. (Ord. 4 §1, 2013)

**Sec. 14-4-130. No significant adverse effect on designated floodplains.**

The proposed development will not have a significant adverse effect on designated floodplains. Examples of factors the Town may consider in determining impacts to floodplains include, without limitation:

(1) Changes in function and aerial extent of floodplains.

(2) Creation of obstructions from the proposed development during times of flooding and vulnerability of the proposed development to flooding.

(3) Use of flood-protection devices or floodproofing methods.

(4) Nature or intensity of the proposed development.

(5) Increases in impervious surface area caused by the proposed development.

(6) Increases in surface runoff flow rate and amount caused by the proposed development.

(7) Increases in floodwater flow rate and amount caused by the proposed development.

(8) Proximity and nature of adjacent or nearby land use.

(9) Impacts to downstream properties or communities.

(10) Impacts on shallow wells, waste disposal sites, water supply systems and wastewater disposal or septic systems. (Ord. 4 §1, 2013)

**Sec. 14-4-140. No significant degradation of wetlands and riparian areas.**

The proposed development will not significantly degrade wetlands and riparian areas. Examples of factors the Town may consider in determining impacts to wetlands and riparian areas include, without limitation:

(1) Changes in the structure and function of wetlands and riparian areas.

(2) Changes to the filtering and pollutant uptake and storage capacities of wetlands and riparian areas.

(3) Changes to aerial extent of wetlands and riparian areas.

(4) Changes in species characteristics and diversity.

(5) Transition from wetland to upland species.

(6) Changes in function and aerial extent of floodplains.

(7) Introduction of exotic, nuisance or invasive species into wetland and riparian areas. (Ord. 4 §1, 2013)

**Sec. 14-4-150. No significant adverse effect on aquatic life.**

The proposed development will not have an adverse effect on aquatic life. Examples of factors the Town may consider in determining impacts to aquatic life include, without limitation:

(1) Changes that result in loss of oxygen for aquatic life.

(2) Changes in flushing flows.

(3) Changes in species composition or density, including introduction of invasive aquatic species.

(4) Changes in number of threatened or endangered species.

(5) Changes to the aquatic food webs. (Ord. 4 §1, 2013)

**Sec. 14-4-160. No significant degradation of wildlife habitat.**

The proposed development will not significantly degrade wildlife habitat. Examples of factors the Town may consider in determining impacts to wildlife habitat include, without limitation:

(1) Changes to habitat and critical habitat, including calving grounds, mating grounds, nesting grounds, summer or winter range, migration routes or any other habitat features necessary for the protection and propagation of any terrestrial animals, taking into account:

a. Human-related activities that will disrupt necessary life cycle functions of wildlife.

b. Elimination, reduction and/or fragmentation of wildlife habitat.

c. Elimination, reduction and/or fragmentation of wildlife habitat that is identified as unique or important to the Town in that it supports wildlife species that do not commonly occur in or outside of the watershed.

d. Disruption of necessary migration or movement patterns, preventing wildlife from using their entire habitat.

e. Displacement of wildlife species into areas that cannot support or sustain the species over the long term.

f. Fragmentation of large areas of native vegetation and habitat by existing and proposed development.

g. Protection of rare landscape elements, such as locally rare vegetation, unique rock formations, sheltered draws or drainage ways.

h. Maintenance of connections among wildlife habitats and provisions to identify and protect corridors for movement.

i. Provisions for access by the Colorado Division of Parks and Wildlife for trapping, tagging, studying or otherwise managing wildlife.

j. Restrictions in scheduled construction from December first through March thirty-first if the proposed development is within one-quarter (1/4) mile of a severe winter range or winter concentration area. This restriction will also apply to winter range areas if recommended by the Colorado Division of Parks and Wildlife, or other expert acceptable to the Town, due to site-specific circumstances or cumulative habitat loss.

k. Restrictions in scheduled construction between October fifteenth and November thirtieth or between April fifteenth and May thirtieth if proposed development is in or adjacent to wildlife migration corridors.

l. Restrictions in scheduled construction between May fifteenth and June thirtieth if proposed development is in or adjacent to wildlife production areas.

m. Changes in threatened or endangered species.

(2) Changes to habitat and critical habitat, including stream bed and banks, spawning grounds, riffle and side pool areas, flushing flows, nutrient accumulation and cycling, water temperature, depth and circulation, stratification and any other conditions necessary for the protection and propagation of aquatic species. (Ord. 4 §1, 2013)

#### **Sec. 14-4-170. No significant adverse effect on terrestrial plant life or habitat.**

The proposed development will not have an adverse effect on the terrestrial plant life or habitat. Examples of factors the Town may consider in determining impacts to terrestrial plant life or habitat include, without limitation:

(1) Changes to habitat of threatened or endangered plant species.

(2) Changes to the structure and function of vegetation, including species composition, diversity, biomass and productivity.

(3) Changes in advancement or succession of desirable and less desirable species, including noxious weeds. (Ord. 4 §1, 2013)

#### **Sec. 14-4-180. Compliance with wildlife buffer setbacks.**

Structures will comply with the following minimum setbacks for wildlife habitat protection unless (i) the Colorado Division of Parks and Wildlife or appropriate federal agency requires that a different buffer is appropriate due to unusual wildlife factors or other unique features of the land, or (ii) the area in question is too small to accommodate the required buffer, in which case the buffer will be provided to the maximum extent practicable:

(1) Wildlife migration corridors. A minimum buffer of one-quarter ( $\frac{1}{4}$ ) mile is required between any building or structure and wildlife migration corridors.

(2) Severe winter range, winter concentration area. A minimum buffer of one-quarter ( $\frac{1}{4}$ ) mile is required between any building or structure and critical habitat, severe winter range and/or winter concentration areas.

(3) Production areas. If development is approved adjacent to bighorn sheep, mule deer and elk production areas, a minimum buffer of one-quarter ( $\frac{1}{4}$ ) mile is required between any building or structure and production areas. (Ord. 4 §1, 2013)

**Sec. 14-4-190. No significant risk from soil conditions and geologic hazards.**

The proposed development is not subject to a significant risk from soil conditions and geologic hazards. Examples of factors the Town may consider in determining risk from soil conditions and geologic hazards include, without limitation:

(1) Changes to the topography, natural drainage patterns, soil morphology and productivity, soil erosion potential and floodplains.

(2) Changes to stream sedimentation, geomorphology and channel stability.

(3) Changes to lake and reservoir bank stability and sedimentation and safety of existing reservoirs.

(4) Changes to avalanche areas, mudflows, debris fans and other unstable and potentially unstable slopes.

(5) Exacerbation of seismic concerns and subsidence. (Ord. 4 §1, 2013)

**Sec. 14-4-200. No significant risk from natural hazards.**

The proposed development is not subject to a significant risk from natural hazards. Examples of factors the Town may consider in determining risk from natural hazards include, without limitation:

(1) Faults and fissures.

(2) Steep slopes.

(3) Potentially unstable slopes, including landslides and rockslides.

(4) Expansive or evaporative soils and risk of subsidence.

(5) Floodplains.

(6) Wildfire hazard areas. (Ord. 4 §1, 2013)

**Sec. 14-4-210. Spill prevention, storage and containment of substances.**

Spill prevention, storage and containment of substances that have potential to degrade water quality shall be in compliance with the approved Spill Prevention, Storage, Control, Countermeasure and Contingency Plan prepared pursuant to Section 14-3-140 of this Chapter. (Ord. 4 §1, 2013)

**Sec. 14-4-220. No significant adverse effect on property designated as a Colorado Natural Area.**

The proposed development will not have an adverse effect on property designated as a Natural Area of the Colorado Natural Areas System and on the attributes for which the property is designated. (Ord. 4 §1, 2013)

**Sec. 14-4-230. Impediment of flow in watercourses.**

The watercourse within the site of the proposed development will be kept reasonably free of trash, debris, excessive vegetation and other obstacles that pollute, contaminate or significantly retard the flow of water through the watercourse. Structures legally located in or adjacent to the watercourse will be maintained so that the structure will not become a hazard to the use, function or physical integrity of the watercourse. (Ord. 4 §1, 2013)

**Sec. 14-4-240. Additional standards applicable to domestic water and wastewater treatment systems.**

In addition to the Watershed Protection Standards set forth in Sections 14-4-10 through 14-4-230 of this Article, the following standards shall apply to site selection and construction of major new domestic water and wastewater treatment systems and major extensions of existing domestic water and wastewater treatment systems:

- (1) New systems will be constructed in areas which will result in the proper utilization of existing treatment plants and will ensure the orderly development of domestic water and wastewater treatment systems.
- (2) System extensions will be constructed in areas in which the anticipated growth and development that may occur as a result of the proposed extension can be accommodated within the financial and environmental capacity of the area to sustain such growth and development.
- (3) Proposed system will not compete with existing water and wastewater treatment services or create duplicate services.
- (4) Existing water and wastewater treatment systems servicing existing and anticipated development are at or near operational capacity.
- (5) The age of existing domestic water and wastewater treatment systems, operational efficiency, state of repair or level of service is such that replacement is warranted.
- (6) Existing facilities cannot be upgraded or expanded to meet waste discharge permit conditions of the Colorado Water Quality Control Division. (Ord. 4 §1, 2013)

**Sec. 14-4-250. Additional standards applicable to municipal and industrial water projects.**

In addition to the Watershed Protection Standards set forth in Sections 14-4-10 through 14-4-230 of this Article, the project will emphasize the most efficient use of water, including, to the extent permissible under existing law, the recycling and reuse of water. (Ord. 4 §1, 2013)

**Sec. 14-4-260. Operational conflict waiver of Watershed Protection Standards.**

(a) The Town Council may waive one (1) or more of the Watershed Protection Standards set forth in Sections 14-4-10 through 14-4-250 of this Article if the application of the standard would result in operational conflict with state or federal requirements as described below:

(1) State operational conflict. A state operational conflict exists if the application of the Watershed Protection Standards to the proposed development would:

a. Conflict with a state statute, regulation or other requirement; and

b. Materially impede or destroy the State's interest in public health, safety and welfare, including protection of the environment and wildlife resources.

(2) Federal operational conflict. A federal operational conflict exists if compliance with both the federal statute, regulation or other requirement and the Watershed Protection Standards is a physical impossibility or when the application of the Watershed Protection Standards to the proposed development would stand as an obstacle to the accomplishment of the full purposes and objectives of Congress expressed in the federal statute, regulation or other requirement.

(b) Request for operational conflict waiver. The applicant may make a written request to staff for an operational conflict waiver in the Watershed Permit application or at any time during the Watershed Permit application review process, but no later than fourteen (14) days following a final decision on the Watershed Permit application by the Town Council.

(1) If the applicant makes a request for an operational conflict waiver prior to a final decision by the Town Council on the Watershed Permit application, Town Council shall consider the request during the public hearing on the Watershed Permit application.

(2) If the applicant makes a request for an operational conflict waiver following a final decision on a Watershed Permit application, within ten (10) days of receipt of a written request for operational conflict waiver the Town Manager shall schedule a public hearing by the Town Council. Notice of the public hearing shall be published at least fourteen (14) calendar days prior to the public hearing. The applicant shall provide written notice by certified mail to property owners within five hundred (500) feet of the proposed development site and to owners of mineral rights underlying the proposed development site at least fourteen (14) calendar days prior to the date of the public hearing.

(c) Decision by Town Council. Based on all the evidence on record, if the Town Council determines that the applicant has demonstrated that application of the Watershed Protection Standards to the proposed development will result in an operational conflict with a state or federal statute, regulation or other requirement, the Town Council may waive the Watershed Protection Standards to the extent necessary to avoid the operational conflict. The Town Council may impose conditions that are necessary

to minimize any negative impacts to the watershed that might occur as a result of the waiver. (Ord. 4 §1, 2013)

**Sec. 14-4-270. Waiver of Watershed Protection Standards for technical infeasibility or environmental protection.**

(a) The Town Council may waive one (1) or more of the Watershed Protection Standards set forth in Sections 14-4-10 through 14-4-250 of this Article on the basis of technical infeasibility or increased environmental protection.

(1) Technical infeasibility. Compliance with a standard is technically infeasible if there is no economical technology commercially available to conduct the proposed development in compliance with the standard; and the conduct of the proposed development, if the standard is waived, will be protective of public health, safety, welfare and the environment.

(2) Environmental protection. Compliance with a standard may be waived if protection of the watershed will be enhanced by an alternate approach not possible through compliance with the standard.

(b) The applicant may make a written request to staff for a waiver of Watershed Protection Standards for technical infeasibility or environmental protection in the Watershed Permit application or at any time up to and including the public hearing on the Watershed Permit application. The Town Council shall consider the request during the hearing on the Watershed Permit application. The Town Council may impose conditions on the waiver that are necessary to minimize any negative impacts to the watershed if the waiver is granted. (Ord. 4 §1, 2013)

**ARTICLE 5**

**Designation of Areas and Activities of State Interest in Watershed Protection District**

**Sec. 14-5-10. Designation is necessary.**

The Town Council hereby finds that:

(1) Designation and regulation of certain matters of state interest within the Watershed Protection District is necessary because of the intensity of current and foreseeable development pressures on the Watershed Protection District.

(2) Construction and operation of domestic water and wastewater treatment projects and municipal and industrial water projects in an uncontrolled manner could result in detrimental effects to water resources and municipal water supplies.

(3) The advantages of conducting such activity in a coordinated manner include:

a. To protect the Town's waterworks and the health of the municipal water supply from impacts caused by a reduction or degradation of wildlife habitat that, if unmitigated, would force wildlife to congregate in remaining habitat areas thereby increasing negative impacts by animals to the watershed. Riparian areas vary locally and regionally with unique animal-to-habitat relationships

and represent an area of maximum potential conflict among users of timber, grazing, recreation, water and wildlife resources.

b. To protect the Town's waterworks and health of the municipal water supply from impacts caused by construction and operation of domestic water and wastewater treatment projects and municipal and industrial water projects and to promote the advantages of conducting such projects in a coordinated manner. (Ord. 4 §1, 2013)

**Sec. 14-5-20. Designated matters of state interest.**

Based on the findings in Section 14-5-10 above, the Town Council hereby designates the following areas and activities of state interest in the Watershed Protection District:

- (1) Site selection and construction of major new domestic water and wastewater treatment systems and major extensions of existing domestic water and wastewater treatment systems.
- (2) Efficient utilization of municipal and industrial water projects
- (3) Wildlife habitat areas. (Ord. 4 §1, 2013)

# **APPENDIX B**

## **GUNNISON COUNTY**

### **OIL AND GAS DEVELOPMENT STANDARDS, *2012 update***

#### ***Excerpted***

#### **Section 1-104, Application Submittal Requirements**

#### **Section 1-108: Oil and Gas Operation Standards**

**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS FOR OIL AND GAS PERMITS**

- A. APPLICABILITY.** This Section shall apply to those Oil and Gas Operations not exempt under 1-103. C.
- B. PERMIT SUBMITTAL REQUIREMENTS FOR OIL AND GAS OPERATIONS.** An applicant for a permit to conduct Oil and Gas Operations shall submit the following information to the Community



## SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS FOR OIL AND GAS PERMITS

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Development Department. The applicant may provide a copy of an Application for Permit to Drill (APD) or other application submitted to COGCC and/or federal Environmental Assessment (EA) or Environmental Impact Statement (EIS) as documentation for one or more of the submittal requirements in this Section 1-104 if it contains information sufficient to demonstrate compliance with these Regulations and that information is highlighted.

1. **APPLICANT.** The name, address, telephone and fax numbers, and e-mail address for the applicant. If the applicant is to be represented by an agent, a notarized letter signed by the applicant authorizing the agent to represent the applicant and also stating the same information for the agent.
2. **SURFACE OWNERSHIP.** Documentation of surface ownership and evidence of surface owner authorization. Name, address, telephone and fax numbers, and e-mail address of the owner of the property.
3. **MINERAL OWNER.** Documentation of mineral ownership, including name, address, telephone and fax numbers, and e-mail address of the owner of the mineral rights.
4. **PARCEL LOCATION.** The legal description (referencing lot and block or tract numbers, homesteads, or metes and bounds), property address and common description of the parcel on which the Operation is proposed to be located. A copy of the recorded deed or lease to the parcel should be included.
5. **IDENTIFICATION OF PREVIOUSLY APPROVED USES.** List of any permits which have been previously approved for the parcel on which the Operation is proposed.
6. **CHARACTERISTICS AND CURRENT CONDITION OF THE OPERATION LOCATION.** Identification of physical characteristics and current conditions of the site where the Operation is proposed to occur, including streams, irrigation ditches, ponds, soils, roads, vegetation, geologic hazards, and any other characteristics requested by the Community Development Department to determine potential impacts. Indications if trees or other vegetation have been removed and changes caused either by weather-related or human activity within the past five years.



**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS  
FOR OIL AND GAS PERMITS**

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7. **LIST OF ADJACENT LANDOWNERS.** List of all landowners and land uses that are adjacent to the boundaries of the parcel on which the Oil and Gas Operation is proposed, including all properties that are separated from the parcel by a roadway or would be adjacent to the parcels except for the existence of the roadway. The source for the best-available information to identify those landowners is the Gunnison County Assessor's Office.
8. **VICINITY MAP.** A vicinity map which shall, at a minimum, include the following:
- a. **OPERATION LOCATION.** Location of the Operation on a United States Geological Survey quadrangle map or on a recorded plat if the proposed Oil and Gas Operation is within an approved subdivision, with the location highlighted so that it is easy to see.
  - b. **TOPOGRAPHIC FEATURES.** Water bodies, contour lines and elevations, within one mile of the proposed well pad.
  - c. **ROADS.** All public and private roads that traverse and/or provide access to the proposed Oil and Gas Operation, and identification of the public or private entity having jurisdiction over each road(s).
  - d. **EASEMENTS.** Easements recorded or historically used that provide access to or across, or other use of, the parcel.
  - e. **BOUNDARIES OF DISTRICTS, MUNICIPALITIES OR SUBDIVISIONS.** Locations of special district boundaries, municipalities or subdivisions within one mile of the site.
  - f. **PROXIMITY OF OTHER WELLS AND OTHER OIL AND GAS OPERATIONS.** Location of other wells and other Oil and Gas Operations within one mile of the site.
9. **SITE PLAN MAP.** A map with north arrow and appropriate scale for the parcel where the Oil and Gas Operation will occur, indicating the following:



**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS  
FOR OIL AND GAS PERMITS**

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- a. **EASEMENTS AND RIGHTS-OF-WAY.** Utility easements and rights-of-way.
  - b. **IMPROVEMENTS.** Existing improvements.
  - c. **PROPOSED FACILITIES.** Proposed facilities such as structures, pipelines, tanks, wells, pits, flow lines, impoundment facilities, staging and storage areas and equipment.
  - d. **SITE FEATURES.** Site features such as floodplains, water bodies, drainage patterns, aquatic habitat, vegetative cover, wildlife migration routes and significant wildlife habitat.
  - e. **TOPOGRAPHY.** Existing and proposed topography at five-foot intervals or some other interval established by the Community Development Department as necessary to portray the direction and slope of the area affected by the Oil and Gas Operation.
  - f. **LEASE BOUNDARY.** All boundaries of the lease(s) upon which the Oil and Gas Operation will take place.
- 10. APPLICATIONS AND PERMITS.** Copies of all local, state and federal applications authorizing or required for the Operation, and permits, when issued.
- 11. OPERATION PLAN.** A plan including the method and schedule for drilling, completion, transporting, production and post-operation.
- 12. LINEAR FEATURES.**
- a. Identification of all water bodies crossed by linear features or linear features that are located within 150 feet of a water body required for the proposed Oil and Gas Operation.
  - b. Description of and specifications for the linear element and identification of mitigation measures and/or best management practices for installation of linear features that cross or that are located within 150 feet of a water body.



**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS  
FOR OIL AND GAS PERMITS**

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- 13. WEED MANAGEMENT PLAN.** A plan for the management and prevention of noxious weeds on the site.
- 14. ACCESS AND TRANSPORTATION ROUTES.** A map that identifies the access route to, and within the parcel, and a narrative estimating the number and types of vehicles anticipated per day, including weights, that will travel over the route.
- 15. IDENTIFICATION OF WATER STRUCTURES.** Identification of irrigation ditches and other water structures, ownership of water rights appurtenant thereto where the ownership information is available through the local water commissioner for the Colorado Division of Water Resources, and evaluation of any impacts to the structures or water rights.
- 16. ROADWAY IMPACT ANALYSIS.** An analysis of the impacts of the Operation to the public roadway system within the County.
- 17. WILDLIFE AND WILDLIFE HABITAT ANALYSIS.** An analysis of existing wildlife and sensitive wildlife habitat, an evaluation of the impacts of the Operation on wildlife and sensitive wildlife habitat, and proposed mitigation.
- 18. VEGETATION.** A written description of the type, character, and density of existing and proposed vegetation on the parcel, a summary of the impacts of the Operation on vegetation, and proposed mitigation.
- 19. EMERGENCY RESPONSE PLAN.** An Emergency Response Plan that addresses events including, but not limited to explosions, fires, gas or water pipeline leaks or ruptures, leaks from well casings, pits, tank leaks or ruptures, hydrogen sulfide or other toxic gas emissions, transportation of hazardous material, vehicle accidents or spills, and including the name and contact information for the applicant's incident commander, proposed signage, access/evacuation routes, and health care facilities anticipated to be used. The plan shall include a provision for the Oil and Gas Operator to reimburse the appropriate emergency response service providers for costs incurred in connection with the emergency. The Operator shall provide



## SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS FOR OIL AND GAS PERMITS

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proof of adequate personnel, supplies, and funding to implement the emergency response plan immediately at all times during construction and operations.

### 20. WATER BODIES AND DRINKING WATER SUPPLIES.

- a. **IDENTIFICATION OF ALL WATER BODIES AND DOMESTIC WATER WELLS.** An inventory and location of all water bodies and domestic water wells within one mile of the proposed Oil and Gas Operation.
- b. **IDENTIFICATION OF INTAKE FOR A MUNICIPAL WATER SUPPLY.** Identification of all intakes for any municipal water supplies in Gunnison County downstream from the proposed Oil and Gas Operation.
- c. **IDENTIFICATION OF CLOSEST MUNICIPAL WATERSHED BOUNDARY.** Identification of all municipal watershed boundaries in Gunnison County within which the Oil and Gas Operation is located or downstream of the Oil and Gas Operation.
- d. **DESCRIPTION OF EXISTING WATER QUALITY.**
  - (1) **WATER BODIES.** A description of existing water quality of all water bodies, within one mile of the proposed Oil and Gas Operation.
  - (2) **DOMESTIC WATER WELL BASELINE AND MONITORING.** A description of water quality of domestic water wells within one mile of the proposed Oil and Gas Operation and a proposed domestic well water sampling and monitoring plan.
- e. **IMPACTS TO WATER QUALITY.** A description of potential impacts to water quality associated with the proposed Oil and Gas Operation and proposed mitigation.

### 21. WATER QUALITY MONITORING PLAN. A Water Quality Monitoring Plan that establishes a baseline and a process for monitoring, including identification of equipment, personnel,



## SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS FOR OIL AND GAS PERMITS

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scheduling and estimated costs, to measure changes to the aquatic environment and effectiveness of mitigation. The plan shall comply with the Colorado Oil & Gas Association Voluntary Baseline Groundwater Quality Sampling Program,<sup>1</sup> as it may be amended, and be complementary to any monitoring required by state and federal agencies. The plan shall, at a minimum, include the following elements:

- Key stream segments, other water bodies, and groundwater to monitor.
- Locations for and frequency of sampling and monitoring to establish baseline of existing conditions prior to the Oil and Gas Operation including existing fishery, water quality, aquatic macroinvertebrate, and groundwater data.
- Key indicators of water quality and stream health, and threshold levels that will be monitored to detect changes in water quality and health of the aquatic environment.
- Locations for and frequency of sampling and monitoring for key indicators of water quality and stream health, including but not limited to constituents regulated by the Colorado Water Quality Control Commission, and constituents associated with the Oil and Gas Operation.
- Locations for and frequency of sampling and monitoring to measure effectiveness of water quality mitigation during the life of the Oil and Gas Operation and five years after final reclamation of all disturbed areas is complete.
- Mitigation steps that will be implemented to avoid degradation of water bodies if monitoring of key indicators reveals degradation.

**22. WASTE MANAGEMENT PLAN.** A Waste Management Plan that describes the handling and storage, transportation, treatment, recycling and disposal of waste generated by the Operation, including exploration and production (E & P) waste. The COGCC Rule 910 Plan may be submitted to satisfy this requirement.

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<sup>1</sup> <http://www.coga.org/index.php/BaselineWaterSampling>



**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS  
FOR OIL AND GAS PERMITS**

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- 23. HYDRAULIC FRACTURING FLUIDS DISPOSAL AND REPORTING PLAN.**
- a. The plan shall identify the method and procedure for the disposal of all fluids used in Hydraulic Fracturing.
  - b. The plan shall include a provision for reporting to the County the chemicals, other than those protected as Trade Secret, actually used during any Hydraulic Fracturing event.
- 24. CULTURAL SURVEY.** A cultural, historical, and archeological survey of the parcel prepared by a qualified professional if permission of the surface owner is obtained.
- 25. DRAINAGE AND EROSION CONTROL PLAN.** A Drainage and Erosion Control Plan that identifies existing and proposed drainage patterns and the methods for controlling erosion during construction and operation phases of the Operation.
- 26. WILDFIRE HAZARDS.** An assessment of wildfire hazards within one mile of the site, and a plan for mitigating wildfire hazards.
- 27. GEOLOGIC HAZARDS.** An assessment of the geologic hazards within one mile of the site, and a plan for mitigating geologic hazards.
- 28. EXISTING AND FUTURE LAND USES.** A written summary of the existing uses of the parcel and the proposed future land uses of the parcel after completion of the Operation.
- 29. OPERATIONAL CONFLICT.** Documentation of the basis for any waiver of Oil and Gas Operation Standards based on operational conflict that the applicant may request pursuant to Section 1-108S of these Regulations.
- 30. TECHNICAL INFEASIBILITY OR ENVIRONMENTAL PROTECTION WAIVERS.** Documentation of the basis for any waiver of Oil and Gas Operation Standards based on technical infeasibility or environmental protection that the applicant may request pursuant to Section 1-108T. of these Regulations.



**SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS  
FOR OIL AND GAS PERMITS**

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**31. CHEMICALS USED IN OIL AND GAS OPERATION.**

- a. An inventory of all chemicals anticipated to be used for the Oil and Gas Operation. The inventory of Chemical Products shall include:
  - (1) The material safety data sheets for the chemicals, if any; and
  - (2) Chemical Abstract Service Registry Numbers for every chemical used in the Operation, if available, other than those protected as a Trade Secret.

**32. FUTURE OPERATIONS.** A map showing the location of existing facilities and the general location of facilities anticipated to be constructed by the applicant in the County over the next three years associated with Oil and Gas Operations.

**33. MISREPRESENTATION.** Any misrepresentation by the applicant may result in suspension or revocation of the Oil and Gas Permit.

**C. FEES.** Any application for an Oil and Gas Permit must be accompanied by appropriate fees. A schedule of fees is available through the Community Development Department.

**1. APPLICATION FEE SET BY BOARD.** The initial application fee is set by the Board of County Commissioners as identified on the Fee Schedule, now in effect and as may be amended in the future, attached hereto as Attachment A.

- a. **APPLICANT RESPONSIBLE FOR REFERRAL AGENCY REVIEW AND CONSULTANT FEES.** The costs of referral agency and consultant review of the application for the proposed Oil and Gas Operation, including reviews associated with the preapplication meeting and completeness determination, are the responsibility of the applicant.
- b. **DEPOSIT.** An application for a Potentially Significant Impact Operation shall be accompanied by a deposit set forth on the Fee Schedule now in effect and as



## SECTION 1-104: APPLICATION SUBMITTAL REQUIREMENTS FOR OIL AND GAS PERMITS

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may be amended in the future, attached hereto as Attachment A. The deposit shall be applied toward the costs of the preapplication meeting, referral agency review, and consultant fees. The County shall initially pay the costs of referral agency review and outside consultants retained by the County to review the application from this fund.

- (1) **BALANCE.** Throughout the application process, a minimum fee deposit balance established by the Board shall be maintained by the applicant. The amount of the initial deposit and the minimum balance required may be reduced upon a finding by the Community Development Department that the application processing and review costs are likely to be less than the minimum amount set herein.
- (2) **SUSPEND PROCESSING.** The County may suspend processing the application pending receipt of additional installments required to bring the fee deposit balance to at least the minimum balance. Suspension shall toll all deadlines imposed on the County by this Section.
- (3) **REFUND.** Within thirty (30) calendar days after the decision on the permit is made, the County shall refund any balance of the deposit not expended.



**SECTION 1-106: PERMIT REVIEW PROCEDURES  
FOR OIL AND GAS OPERATIONS.**

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**SECTION 1-108: OIL AND GAS OPERATION STANDARDS.**

For purposes of determining if an Oil and Gas Operation satisfies these standards, all proposed activities of the Operator within unincorporated Gunnison County shall be taken into consideration. An Oil and Gas Operation shall comply with the following standards and criteria unless a waiver of standards for technical infeasibility or environmental protection is granted under Section 1-108T, or an Operational Conflict is determined pursuant to Section 1-108S.



- A. DRAINAGE AND EROSION CONTROL.** The Oil and Gas Operation shall not cause significant erosion or sedimentation and shall be conducted in accordance with the drainage and erosion control plan.
- B. ACCESS ROADS.** All public access roads under the jurisdiction of Gunnison County shall be constructed and maintained in compliance with the *Gunnison County Standard Specifications for Road and Bridge Construction*, as necessary to accommodate the traffic and equipment related to the Oil and Gas Operation and emergency vehicles. All other access roads shall be constructed in accordance with the guidelines in Attachment B, *Low-Volume Roads Engineering Best Management Practices Field Guide* and *Surface Operating Standards for Oil and Gas Development: Gold Book*, to be applied on a case by case basis as appropriate.
- C. PUBLIC ROADWAY AND TRAFFIC IMPACTS.**
- 1. INGRESS AND EGRESS.** Ingress and egress points to public roads shall be located, maintained and improved to assure adequate capacity for efficient movement of existing and projected traffic volumes and to minimize traffic hazards.
  - 2. MAINTENANCE AGREEMENT OR FINANCIAL ASSURANCE.** If the projected use of the public roads resulting from the Oil and Gas Operation will result in a need for an increase in roadway maintenance or snow removal, the County shall require the Operator to: i) enter into an agreement with the County whereby the Operator provides for private maintenance and snow removal, or reimburses the County for such increased costs; and/or ii) provide a bond or other financial assurance in an amount acceptable to the County to cover the costs of impacts to the roads.
- D. WILDLIFE AND WILDLIFE HABITAT.** The Oil and Gas Operation shall not cause significant degradation of wildlife or sensitive wildlife habitat.
- E. LIVESTOCK AND LIVESTOCK GRAZING.** The Oil and Gas Operation shall not cause significant impact to livestock, grazing permits, or grazing permittees. Fencing or other agreements between private grazing operations and the Oil and Gas Operator may be used to satisfy this requirement.
- F. RECREATION IMPACTS.** The Oil and Gas Operation shall not

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Page 39 of 333  
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**SECTION 1-108: OIL AND GAS OPERATION STANDARDS.**

cause a significant degradation in the quality or quantity of recreational activities in the County such as hunting, hiking, skiing or related activities.

- G. WATER BODY QUALITY.** The Oil and Gas Operation shall not cause significant degradation of water quality of affected water bodies. Determination of effects of the Operation on water quality may include, but is not limited to the following considerations:

1. Applicable narrative and numeric water quality standards.
2. Changes in point and nonpoint source pollution loads.
3. Increase in erosion and sediment loads.
4. Changes in stream channel or shoreline stability.
5. Changes in stormwater runoff flows.
6. Changes in quality of ground water.

**H. WELLS AND PUBLIC WATER SUPPLY WATER QUALITY.**

1. **WATER WELLS.** The Oil and Gas Operation shall not cause significant degradation of the water quality or water pressure of any public or private water wells.
2. **PUBLIC WATER SUPPLY.** The Oil and Gas Operation shall not cause significant degradation of the water quality of

- I. WATER BODY BUFFERS.** There are two water body buffers, an inner buffer and outer buffer. An Oil and Gas Operation shall be in its entirety in compliance with the following water body buffer standards.

1. **INNER BUFFER.** The inner buffer shall extend 150 feet, measured horizontally, from the nearest high water mark of any down-gradient surface water body to the edge of any disturbed area
  - a. No feature of an Oil and Gas Operation shall be located within the inner buffer except linear features, or a new well on an existing pad. This prohibition cannot be waived on the basis of technical infeasibility or environmental protection.



- b. To the maximum extent feasible, linear features shall be installed to avoid crossing water bodies or being located within the inner buffer. Leak detection, secondary containment, or other mitigation, as appropriate, shall be incorporated into pipelines that are located within the inner buffer.
- 2. **OUTER BUFFER.** The outer buffer shall extend from 150 to 500 feet, measured horizontally, from the high water mark of any downgradient surface water body to the edge of any disturbed area. The following conditions shall apply to features of an Oil and Gas Operation located in the Outer Buffer. These conditions are not subject to a waiver on the basis of technical infeasibility or environmental protection.
  - a. Pad design to include most current accepted land use and environmental best management practices including berms on the downgradient side of the well pad, treatment of run-off during construction using a perimeter control such as a silt fence or sediment control log, providing a sediment trap or series of check dams, and protecting existing vegetation;
  - b. "Run-on diversion" clear water ditch on the upgradient perimeters;
  - c. Twenty-four (24) inch berm along the well pad edge nearest the affected water body and extending no less than 1/3 of the perimeter of the well pad upslope;
  - d. Well pad sloped toward the cut side of the construction;
  - e. Cut and fill slopes matted and seeded with native seed when construction is complete;
  - f. Double row of silt fences between edge of pad and each affected water body;
  - g. Daily inspection and update of inspection log by Operator during construction, drilling and recompletion of a well and well sites;



## SECTION 1-108: OIL AND GAS OPERATION STANDARDS.

- h. Conventional Reserve Drilling Pit allowed only with a Closed Loop System with dry fines cutting pit. The Conventional Reserve Drilling Pit, including its liner and contents, shall be removed within ninety (90) days of well completion;
  - i. Cuttings shall be stored in steel run off containers or placed in a lined dry fines cuttings pit;
  - j. Liners and drill cuttings shall be buried in a permitted facility;
  - k. Produced water pits are prohibited;
  - l. Fracturing flowback pits are prohibited;
  - m. Secondary containment shall be provided for hazardous materials;
  - n. Spill response apparatus must be at the well pad at all times;
  - o. No features shall be located on a slope that, on the average, is greater than forty percent (40%);
  - p. All features shall be set back as far as practicable from any water body;
  - q. Post drilling, all lighting associated with the Operation will be shielded to prevent direct visibility of the source of light from off-site; and
  - r. Additional site-specific requirements may be imposed by the County as necessary to protect water bodies.
- J. PITS.** All pits shall be lined with an impermeable membrane. Once the pit has been closed, the liner and its contents shall be removed and disposed of at a facility authorized to accept the material.
- K. MANAGEMENT OF HAZARDOUS MATERIALS.** All Oil and Gas Operations shall meet the following requirements for management of hazardous materials:
- 1. COMPLIANCE WITH STATE AND FEDERAL REGULATIONS.** At a minimum, all hazardous materials



shall be stored and used pursuant to applicable state and federal hazardous materials regulations.

2. **STORAGE NEAR WATER BODIES RESTRICTED.** Except for hazardous materials currently being used as an integral component of drilling or operation of a well, hazardous materials shall not be stored within 300 feet of any water body.
3. **SPILL PREVENTION.** Measures shall be designed and implemented to prevent spilled fuels, lubricants or other hazardous materials from entering a water body, including ground water, during construction or operation of equipment and/or a facility.
4. **MACHINE MAINTENANCE.** Routine field maintenance of vehicles or mobile machinery shall not be performed within 300 feet of any water body.
5. **FUEL STORAGE AREAS.** Containment measures shall be provided for all fuel storage areas to prevent release to any water body. Inventory management or leak detection may be required.
6. **HAZARDOUS MATERIALS STORAGE AREAS.** Containment measures shall be provided for all hazardous materials storage areas to prevent release to any water body. Inventory management or leak detection may be required.
7. **DISPOSAL OF HYDRAULIC FRACTURING FLUIDS.** The Operator shall demonstrate the ability to and shall dispose of all hydraulic fracturing fluids in accordance with the Hydraulic Fluid Fracturing Disposal Plan.

**L. RESPONSE AND REPORTING OF SPILLS AND RELEASES.** The Operator shall demonstrate the capacity to and agree to comply with the following spill and release response and reporting requirements during the life of the permit:

1. **SPILL AND RELEASE RESPONSE.** The Operator shall demonstrate the ability to control and contain all spills and releases of E&P waste, including produced fluids, immediately upon discovery. Impacts resulting from spills and releases shall be investigated and cleaned up as soon



as practicable.

**2. SPILL AND RELEASE REPORTING REQUIREMENTS.**

- a. **SPILL/RELEASE REPORT REQUIRED.** For all spills and releases reportable under COGCC Rule 906, within ten (10) days after discovery Operator shall submit to the County Manager a copy of the spill and release report (COGCC Form 19), including the topographic map showing location of the spill and any information relating to initial mitigation, site investigation, and remediation that accompany the report.
- b. **SPILLS AND RELEASES EXCEEDING TWENTY (20) BARRELS.** For spills and releases which exceed twenty (20) barrels of an E&P, the spill and release shall be verbally reported to the County Manager and/or the Local Government Designee as soon as practicable, but not more than twenty-four (24) hours after discovery.
- c. **SPILLS AND RELEASES IMPACTING STATE WATERS, RESIDENTIAL OR OCCUPIED STRUCTURES, AND LIVESTOCK.** Spills and releases of any size which impact or threaten to impact any waters of the state, residence or occupied structure, livestock, or public byway shall be verbally reported to the County Manager as soon as practicable, but not more than twenty-four (24) hours after discovery.
- d. **SPILLS AND RELEASES IMPACTING WATER SUPPLY.** Spills and releases of any size which impact or threaten to impact any water supply area shall be verbally reported to the County Manager immediately after discovery.
- e. **SPILLS AND RELEASES IMPACTING SURFACE WATER INTAKE.** Spills and releases that impact or threaten a surface water intake shall be verbally reported to the County Manager immediately after discovery.
- f. **CHEMICAL SPILLS AND RELEASES.** Chemical



## **SECTION 1-108: OIL AND GAS OPERATION STANDARDS.**

spills and releases shall be reported in accordance with applicable state and federal laws, including the Emergency Planning and Community Right To Know Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Oil and Pollution Act, and the Clean Water Act, as applicable.

- 3. SURFACE OWNER NOTIFICATION AND CONSULTATION.** The Operator shall notify the affected surface owner or the surface owner's tenant of spills and releases in conformance with COGCC Rule 906 c.
  - 4. REMEDIATION OF SPILLS AND RELEASES.** When threatened or actual significant adverse environmental impacts on any air, water, soil or other environmental resources from a spill and release exists, or when necessary to ensure compliance with state water quality standards and classifications, a copy of any COGCC approved Site Investigation and Remediation Work Plan (COGCC Form 27), shall be submitted to the County Manager and/or Local Government Designee.
- M. CULTURAL AND HISTORIC RESOURCES.** The Oil and Gas Operation shall not cause significant degradation of cultural or historic resources.
- N. WILDFIRE HAZARD.** The Oil and Gas Operation shall not cause a significant risk of wildfire hazard.
- O. GEOLOGIC HAZARDS.** The Oil and Gas Operation shall not cause a significant risk of geologic hazards.
- P. PIPELINE STANDARDS.** [reserved]
- Q. IMPACT MITIGATION COSTS.** The Operator shall bear the proportionate cost of mitigating the impacts caused by the Oil and Gas Operation.
- R. EMERGENCY RESPONSE.** The Oil and Gas Operations shall not cause an unreasonable risk of emergency situations such as explosions, fires, gas or water pipeline leaks or ruptures, hydrogen sulfide or other toxic gas emissions, and hazardous material vehicle accidents or spills.
- S. OPERATIONAL CONFLICT WAIVER.** The County may waive one



## **SECTION 1-108: OIL AND GAS OPERATION STANDARDS.**

or more of the Oil and Gas Operation Standards set forth in this Section 1-108 in accordance with the following procedure:

### **1. STATE AND FEDERAL OPERATIONAL CONFLICT DEFINED.**

**a. STATE OPERATIONAL CONFLICT.** A state operational conflict exists if the application of the County standard(s) to the conduct of the Oil and Gas Operation would:

- (1)** Conflict with a state oil and gas statute, regulation or other requirement; and
- (2)** Materially impede or destroy the state's interest in the responsible, balanced development, production and utilization of oil and gas consistent with protection of public health, safety and welfare, including protection of the environment and wildlife resources.

**b. FEDERAL OPERATIONAL CONFLICT.** A federal operational conflict exists if compliance with both the federal statute, regulation or other requirement and the County standard(s) is a physical impossibility, or when the application of the County standard(s) to the Oil and Gas Operation would stand as an obstacle to the accomplishment of the full purposes and objectives of Congress expressed in the federal statute, regulation or other requirement.

**2. REQUEST FOR OPERATIONAL CONFLICT WAIVER.** The applicant may make a written request to the Community Development Department for an Operational Conflict Waiver hearing with the Board of County Commissioners at any time during the Oil and Gas Permit application review process, but no later than fourteen (14) calendar days following a final decision on the Oil and Gas Operation.

**a. SCHEDULE PUBLIC HEARING BY BOARD.** The Community Development Department shall schedule a public hearing by the Board at the next regularly scheduled meeting for which proper notice can be accomplished following receipt of the Request for Operational Conflict Waiver.



- b. NOTICE OF PUBLIC HEARING ON REQUEST FOR OPERATIONAL CONFLICT HEARING.** The notice of public hearing on Request for Operational Conflict Waiver shall be prepared by the Community Development Department and shall include a description of the proposed Oil and Gas Operation, description of the operational conflict waiver that has been requested, and the date, time and location of the hearing.
- (1) PUBLICATION OF NOTICE OF HEARING.** Not less than fourteen (14) calendar days prior to the hearing, the Community Development Department shall publish the notice of public hearing in the County's official newspaper(s). The applicant shall be responsible for the cost of publication.
- (2) NOTICE OF HEARING TO ADJACENT PROPERTY OWNERS.** Not less than fourteen (14) calendar days prior to the hearing the applicant shall mail written notice of hearing to owners of real property within 1500 feet of the subject parcel when the Oil and Gas Operation is located on private land, and within 1500 feet of the Section (640 acres) in which the Oil and Gas Operation is located when the Oil and Gas Operation is located on public land. The list of property owners to be notified shall be compiled by the applicant using the most current list of property owners on file with the Office of the Gunnison County Assessor.
- (3) NOTICE OF HEARING TO OWNERS OF WATER RIGHTS.** Where the ownership information is available through the local water commissioner for the Colorado Division of Water Resources, not less than fourteen (14) calendar days prior to the hearing the applicant shall mail written notice of hearing to any owners of water rights in any ditches or other water structures likely to be affected by the proposed Oil and Gas Operation. The list of owners of such water rights shall be compiled



by the applicant.

- (4) NOTICE OF HEARING TO OWNERS OF NON-ADJACENT PROPERTY WITHIN AN EXISTING SUBDIVISION, OR 35-ACRE TRACT DEVELOPMENT.** Not less than fourteen (14) calendar days prior to the hearing the applicant shall mail written notice of hearing to all of the surface landowners within any existing subdivision or 35-acre tract development that is located within 1500 feet of the subject parcel when the Oil and Gas Operation is located on private land, or within 1500 feet of the Section (640 acres) in which the Oil and Gas Operation is located when the Operation is located on public land. The list of property owners to be notified shall be compiled by the applicant using the most current list of property owners on file with the Office of the Gunnison County Assessor.
  - (5) CERTIFIED MAIL.** The applicant shall mail the written notice by certified mail, return receipt requested. The applicant shall submit a list of the property owners and owners of water rights and proof of mailing to the Community Development Department one week prior to the hearing.
  - (6) VALIDITY OF NOTICE.** The applicant is responsible for the accuracy of lists of property owners and water rights owners to whom notice is provided. If the applicant makes reasonable good faith efforts to accomplish the notice responsibilities identified above, then the failure of any property owner to receive notice shall not affect the validity of hearing or other conduct of the Board.
- c. DETERMINATION ON OPERATIONAL CONFLICT BY BOARD.** If the Board determines that the applicant has met its burden of proof with a preponderance of evidence that application of the standard(s) to the Oil and Gas Operation will result in an operational conflict with a state or federal statute,



## **SECTION 1-108: OIL AND GAS OPERATION STANDARDS.**

regulation, or other requirement, the Board may waive the standard(s) to the extent necessary to avoid the operational conflict. The Board may impose conditions that are necessary to minimize any negative impacts of the waiver.

- T. WAIVER OF STANDARDS FOR TECHNICAL INFEASIBILITY OR ENVIRONMENTAL PROTECTION.** At any time during the application process the County may waive one or more of the Oil and Gas Operation Standards set forth in this Section 1-108 in accordance with the following procedures, if the Operator demonstrates to the satisfaction of the County the following:

**1. TECHNICAL INFEASIBILITY.**

- a. NO ECONOMICAL TECHNOLOGY.** There is no economical technology commercially available to conduct the Oil and Gas Operation in compliance with the standard(s); and
- b. PROTECTION OF PUBLIC HEALTH, SAFETY, WELFARE AND THE ENVIRONMENT.** The conduct of the Oil and Gas Operation if the standard(s) is waived will be protective of public health, safety, welfare and the environment

- 2. ENVIRONMENTAL PROTECTION.** Protection of public health, safety welfare and the environment will be enhanced by an alternate approach not contemplated by the standard.

- 3. DETERMINATION ON REQUEST FOR WAIVER.** The decision-maker shall consider a request for waiver during its review and final decision on the Oil and Gas Operation. The decision-maker may impose conditions on the waiver that are necessary to minimize any negative impacts.



# **APPENDIX C**

## **ROUTT COUNTY**

### **Subdivision Regulations, Chapter 5: Land Preservation Subdivision Exemption Standards**

## SECTION 5. LAND PRESERVATION SUBDIVISION EXEMPTIONS

5.1	LAND PRESERVATION SUBDIVISION EXEMPTION DESIGN STANDARDS .....	5-1
5.1.1	<i>Agricultural Lands</i> .....	5-1
5.1.2	<i>Visual Resources</i> .....	5-3
5.1.3	<i>Rivers, Lakes, Wetlands, and Riparian Areas</i> .....	5-4
5.1.4	<i>Infrastructure</i> .....	5-4
5.1.5	<i>Wildlife</i> .....	5-6
5.1.6	<i>Geologic, Fire, Flood and Slope Hazards</i> .....	5-7
5.1.7	<i>Remainder Parcel(s)</i> .....	5-7

### 5.1 Land Preservation Subdivision Exemption Design Standards

The application shall demonstrate that the proposed division of land and development of the land meets all of the Objectives set forth below by use of the Design Guidelines and Standards (the “Design Standards”) set forth opposite the Objectives. The Design Standards set forth opposite a particular Objective are intended to be alternative means of satisfying the Objective unless the Design Standards are followed by the word “and.” The applicant may also propose other alternatives to satisfy the objectives that may be accepted by the Planning Director if such alternatives satisfy the Objective that they address. The application shall be approved if the application, and any change made to it based upon discussions between the applicant and the Planning Director and acceptable to the applicant and the Planning Director, meets all of the Objectives.

In applying the Design Standards, the Planning Director shall use the most current maps, maintained in the Planning Department relating to the following characteristics: Flood Hazards, (as delineated in the Flood Insurance Rate Maps (FIRMs), published by the Federal Emergency Management Administration); Geologic Hazards; Road Classification; Slopes; Wildlife Habitat; and Wildfire Hazards.

5.1.1 Agricultural Lands	
Objectives	Design Guidelines and Standards
A. Minimize the direct, indirect and cumulative impacts of residential development on agricultural lands and agricultural operations. Maintain open rural grazing areas.	<ol style="list-style-type: none"> <li>1. Reserve commercially viable enclaves of large scale agricultural operations. OR</li> <li>2. Site and size lots and building sites to minimize impact on and from existing agricultural activities. OR</li> <li>3. Consolidate, through leases or purchase, adjacent properties to combine into adequately sized parcels for a commercial operation. AND</li> <li>4. The Remainder Parcel(s) must have physically feasible, legal access to public roads that is appropriate to the likely uses of the parcel.</li> </ol>

## Section 5 LAND PRESERVATION SUBDIVISION EXEMPTION

<p>B. Maintain the opportunity for agricultural production on the most productive and viable parcels of land.</p>	<ol style="list-style-type: none"> <li>1. Protect areas of irrigated hay meadow especially those that connect with and/or are adjacent to other irrigated meadows. AND</li> <li>2. Reserve adequate water supply to ensure irrigated meadows will remain irrigated with an adequate amount of water as identified by the State Division of Water Resources or the Routt County Extension Office or one cubic feet per second for every 35 acres, whichever is greater. Such decreed water rights shall not be severed from the land. There shall be no removal of adequate water supply to continue the historic application of water to the Remainder Parcel. AND</li> <li>3. Protect upland grazing areas needed for agricultural uses. OR</li> <li>4. Site and size lots and building envelopes to minimize impact on agricultural activities. AND</li> <li>5. To the extent practicable, avoid crossing and dividing irrigated lands with roads, fences, development and utilities.</li> <li>6. Provide adequately sized and appropriately placed culverts when crossing agricultural ditches.</li> </ol>
<p>C. Minimize residential disturbance on ranching and farming land.</p>	<ol style="list-style-type: none"> <li>1. Ensure that the residential property owners have responsibility for fence construction and maintenance and weed control. If no complete and structurally sound fencing exists, then:</li> <li>2. The applicant must agree in the Development Agreement to build a perimeter fence within one year after the approval. The applicant shall construct perimeter fencing at the property lines for the entire length where there exists actively used agricultural lands on any one side of the property line. Maintenance of perimeter fencing shall be completed on an ongoing annual basis by the development's Homeowners Association; a partnership of the development's lot owners who own the property along the perimeter of the subdivision, or other method and party identified within the Development Agreement. There shall be a separate fund set up equal to 2 years maintenance costs by the Applicant and administered by the Homeowners Association or other entity as established in the Development Agreement at time of signature of the Board on the final plat. If agricultural use on adjacent property ceases permanently (i.e., development occurs) then ongoing maintenance can cease upon notification to and inspection by the Planning Department and amendment of the Development Agreement.</li> <li>3. Developers shall provide residential property owners within their development the County Extension Service's "Guide to Small Scale Agriculture and Rural Living" at time of real estate closing.</li> </ol>
<p>D. Create an open lands system that provides substantial interconnected acreage for commercially viable agricultural lands production.</p>	<ol style="list-style-type: none"> <li>1. Locate Remainder Parcels so that they are nearby or are adjacent to (if possible) other agricultural lands, other Remainder Parcels, conservation easements, public open lands, and natural resource areas, and</li> <li>2. To the extent practicable, Cluster Buildable Lots and Residential Building Envelopes.</li> </ol>

<b>5.1.2 Visual Resources</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. Minimize negative visual impact from public rights-of-way including roads, and public open spaces.	<ol style="list-style-type: none"> <li>1. Site and size building lots and building envelopes to minimize visual impacts. AND</li> <li>2. All Buildable Lots within a Cluster should be between five (5) and seven (7) acres. AND</li> <li>3. Limit the height, amount of fixtures and direction of lighting. Require opaquely shielded, downcast lighting fixtures to protect views and the night sky from light pollution. No general floodlighting of buildings shall be allowed. AND</li> <li>4. To the extent practicable, use topographic breaks to shield building envelopes and roads from view. AND</li> <li>5. To the extent practicable, utilize the landscape or landscaping treatments to minimize visual impacts. OR</li> <li>6. For larger Clusters greater than 10 units and/or Clusters where houses are set apart by minimum setbacks, increase the distance so that both of the Clusters will have limited visibility from a point on Federal and State highways and County Roads at the same time.</li> </ol>
B. Keep structures off of highly visible places and design them so they are not obtrusive and do not "loom out" over the landscape.	<ol style="list-style-type: none"> <li>1. For ridgelines which are "skylined" from public rights-of-way:</li> <li>2. Where necessary, height of structures shall be limited so the structure will not project into the skyline when viewed from public roads.</li> </ol>
C. Select sites that are appropriately scaled for the type of proposed development without major alterations to the natural landscape. Protect natural land forms.	<ol style="list-style-type: none"> <li>1. Replace topsoil and revegetate the landscape with native plant materials of adequate quantity and quality within one growing season after disturbance of the area.</li> <li>2. Minimize the removal of existing trees.</li> <li>3. Minimize the disturbance outside of Building Envelopes.</li> </ol>
D. Maintain the rural character and scale of the area. Minimize the cumulative impact of development on adjacent rural properties.	<ol style="list-style-type: none"> <li>1. Generally presume that 10 or fewer lots per cluster are rural in character. If more than 10 lots are proposed to be in one cluster, the applicant shall demonstrate that the rural character of the area can be maintained (including the cumulative impact of development on adjacent properties) and visibility from federal and state highways, and county roads can be mitigated. AND</li> <li>2. Avoid long, uninterrupted rows of houses lining major roadways.</li> </ol>

<b>5.1.3 Rivers, Lakes, Wetlands, and Riparian Areas</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. Provide adequate buffers between water bodies and development to protect water quality, enhance wildlife habitat and improve visual quality of rivers, lakes, wetlands and irrigation ditches.	<ol style="list-style-type: none"> <li>1. All structures shall meet with the requirements of the Routt County Water Body Setback Regulations, as described in the Routt County Zoning Regulations. AND</li> <li>2. Place all roads and structures other than bridges, fences, ditches, flood control devices, and other water-related uses at least fifty (50) feet from all wetlands, unless the applicant can demonstrate that the critical riparian areas are not negatively impacted.</li> </ol>
B. Avoid sedimentation and runoff impacts during and after development including those that impact irrigation ditches.	<ol style="list-style-type: none"> <li>1. Use appropriate Best Management Practices during construction, siting and development. Avoid sedimentation with acceptable water management techniques during and after development.</li> </ol>
C. Protect the riparian environment with its diverse habitat.	<ol style="list-style-type: none"> <li>1. To the extent practicable, locate Remainder Parcels to protect the maximum amount of riparian and wetland areas.</li> </ol>
<b>5.1.4 Infrastructure</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. Reduce internal road construction costs while minimizing environmental impacts. Design lots and building sites to minimize impacts on public roads and services including snow plowing and maintenance.	<ol style="list-style-type: none"> <li>1. Minimize redundant road construction by placing and orienting new residential construction toward existing roads. Use existing infrastructure to the greatest extent possible. AND</li> <li>2. Require a minimum road width, turning radius, and grade that is less than the existing County standards and based upon Section 1100 of the CDOT low volume standards, as based on the American Association of State Highways and Transportation Officials (AASHTO) standards. AND</li> <li>3. Minimize the amount of curb cuts and driveways onto County Roads. AND</li> <li>4. Mitigate visual impacts of switchbacks and roadcuts. AND</li> <li>5. Set back roads from adjacent adjoining landowner fences an adequate amount to insure minimal damage from road maintenance activities.</li> <li>6. Construct internal roads pursuant to an approved Road Construction Permit.</li> </ol>
B. Avoid adversely impacting the condition of public roads where their capacity is insufficient to carry the additional traffic.	<ol style="list-style-type: none"> <li>7. Make improvements to public roads to meet County or CDOT requirements. AND</li> <li>8. No LPS's shall be approved on Minimal Maintenance Roads as defined in the Routt County Road Maintenance Plan.</li> </ol>

**Section 5 LAND PRESERVATION SUBDIVISION EXEMPTION**

<p>C. Ensure that new roads will be designed in accordance with the Master Plan and sub-area plans and will provide a logical and convenient extension to the road network in the area.</p>	<ol style="list-style-type: none"> <li>1. The arrangements, classification, extent, width, grade and location of all streets shall conform to the Master Plan and any sub-area plan and shall be designed in relation to existing and planned streets, topographic conditions, public convenience and safety, and the proposed uses of land to be served by such streets. OR</li> <li>2. Where such is not shown in the Master Plan and any sub-area plan, the arrangement of streets in a subdivision shall either: <ol style="list-style-type: none"> <li>a. Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or</li> <li>b. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographic or other conditions make continuance or conformance to existing streets impractical.</li> </ol> </li> </ol>
<p>D. Ensure that adequate water and sewer facilities can be developed.</p>	<ol style="list-style-type: none"> <li>1. Size lots according to State and local Health Department standards. Meet all location standards. Minimum lot size is 5 acres on well and septic. AND</li> <li>2. All sanitation systems and domestic water wells should be placed within the designated lot or within the Residential Building Envelope on the Remainder Parcel.</li> <li>3. If a central sewer system is contemplated then it must be designed and constructed to ensure that it is adequately sized to accommodate the development at build-out.</li> <li>4. The applicant shall provide an engineer's report establishing the availability of an adequate supply of water to serve the development.</li> <li>5. Where a public water system is proposed all the following requirements shall be met: <ol style="list-style-type: none"> <li>a. The availability of water sources including quality, quantity and dependability shall be explained in a written report and certified by a registered professional engineer or geologist and an attorney if necessary to substantiate water rights.</li> <li>b. Representative samples of the water source must be analyzed by a reputable laboratory to confirm satisfactory chemical quality</li> <li>c. Water supply, treatment and distribution facilities must be provided in conformance with the requirements of the Colorado Department of Public Health and Environment, the local health authority, and the Board through their designated representatives.</li> <li>d. The minimum size of a water main shall be six (6) inches in diameter unless otherwise stated by state regulations or the Uniform Fire Code (if applicable).</li> <li>e. An organization shall be formed to own and operate this system. Administration shall be by an incorporated town, homeowners association, or an approved special district whose service plan has been submitted and approved by the County.</li> </ol> </li> </ol>

E. Minimize the intrusion of subdivision infrastructure on the Remainder Parcel.	1. To the extent practicable, infrastructure shall be positioned so that they do not traverse or significantly damage the qualities of the Remainder Parcel.
<b>5.1.5 Wildlife</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. To the extent practicable, avoid areas used by Threatened or Endangered Species if the areas are critical to survival or production.	1. Limit development within known Critical Habitat of Threatened and/or Endangered species sites including nesting, roosting, mating, birthing, and feeding areas.
B. To the extent practicable, avoid Critical Winter Habitat of elk, deer, moose, bald eagles, golden eagles, sharptail grouse, and sage grouse.	<ol style="list-style-type: none"> <li>1. Restrict activities including construction, maintenance and special events to avoid seasonally critical habitat during sensitive seasons. AND</li> <li>2. Limit development allowed within these areas to the greatest extent possible. OR</li> <li>3. Submit a Wildlife Mitigation Plan and/or other legally enforceable agreement for development in Critical Habitat Areas.</li> </ol>
C. Locate development to permit wildlife movement and migration of elk, deer and moose. Maintain wildlife corridors of such animals and avoid fragmentation of habitat.	<ol style="list-style-type: none"> <li>1. Restrict any fences that obstruct historical movement patterns of wildlife. Use fences which allow free wildlife movement, as specified by the Division of Wildlife. AND</li> <li>2. No outdoor lighting adjacent to movement corridors other than what is necessary for security purposes. No general flood lighting in these areas.</li> </ol>
D. To the extent practicable, avoid areas that are Critical Wildlife production areas.	<ol style="list-style-type: none"> <li>1. Limit development within Critical Wildlife Habitat production areas including mating, nesting, and rearing area, calving, fawning, leks, and staging areas to the greatest extent. OR</li> <li>2. Submit a Wildlife Mitigation Plan and/or other legally enforceable agreement for development in Critical Habitat Areas.</li> </ol>
E. Limit wildlife harassment by domestic predators.	<ol style="list-style-type: none"> <li>1. Limit the number of domestic predators on a case by case basis to fit habitat using Development Agreements to limit wildlife harassment. Provide effective enforcement in the Development Agreement. AND</li> <li>2. Construct effective physical restraints for domestic predators such as fencing in areas near homes that are close to Critical Wildlife Habitat.</li> </ol>

<b>5.1.6 Geologic, Fire, Flood and Slope Hazards</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. To the extent practicable, locate all development outside known and/or active hazard areas. These include: Ground subsidence, potential rock fall, fault or fault zone, unstable slopes, slope failure complex, landslide, mudflow, and earthflow.	<ol style="list-style-type: none"> <li>1. Locate all residential structures outside of hazard areas as necessary to eliminate impacts to hazard areas. AND</li> <li>2. To the extent practicable, place all utilities and infrastructure outside of hazard areas.</li> </ol>
B. Provide adequate and explicit notice for development in potentially hazardous areas including potentially unstable slopes.	<ol style="list-style-type: none"> <li>1. Put potential purchasers of property on notice through legal disclosures on the plat and in the Development Agreement. For building envelopes at the edge or fringe of the hazard boundary, special studies may be required at submittal to determine the most accurate boundary. AND</li> <li>2. Mitigate with best engineering practices if possible and practical.</li> </ol>
C. Limit the impact to people and structures, on and off site, from flood damage.	<ol style="list-style-type: none"> <li>1. Locate residential structures outside of the 100-year floodplain. AND</li> <li>2. Other non-residential improvements shall meet with the requirements of the Routt County Floodplain Resolution 92-069 or any successive resolution.</li> </ol>
D. Minimize the risk of wildfires in severe hazard areas. Minimize the cost of fire fighting in these areas.	<ol style="list-style-type: none"> <li>1. Place structures outside of severe hazard areas. OR</li> <li>2. Comply with Colorado State Forester recommendations for mitigation including thinning of all nearby trees to their standards and establishing a 30' clear zone around structures. AND</li> <li>3. Use non-flammable building materials, including treated roofing materials; AND</li> <li>4. Provide on-site storage areas of at least 1000 gallon capacity (irrigation, springs, ponds, cisterns and/or underground storage tanks) for fire suppression purposes.</li> </ol>
<b>5.1.7 Remainder Parcel(s)</b>	
<b>Objectives</b>	<b>Design Guidelines and Standards</b>
A. Limit number of Remainder Parcels and establish minimum size of Remainder Parcels to receive a Density Bonus.	<ol style="list-style-type: none"> <li>1. The minimum size of a Remainder Parcel which may be used to support the Density Bonus is 100 acres, except as provided for Non-contiguous Remainder Parcels created pursuant to the Non-contiguous Parcel Process set forth in Section 2.12. However, if Remainder Parcel contiguity is broken by a significant natural feature, topographic break, river, lake or other physical boundary such as roads or railroads or other compelling reason, smaller</li> </ol>

## Section 5 LAND PRESERVATION SUBDIVISION EXEMPTION

	<p>Remainder Parcels totaling 100 acres or more may be considered in calculating the Density Bonus. Except as provided in Section 2.12, Remainder Parcels smaller than 100 acres are allowed but cannot be used toward the calculation of the Density Bonus, and</p> <ol style="list-style-type: none"> <li>2. There is no maximum size for Remainder Parcels, and</li> <li>3. Long gerrymandered Remainder Parcel boundary lines are discouraged for the purpose of determining the density bonus. Such lots may be considered as the basis for denial, and</li> <li>4. All Remainder Parcels qualifying for the Density Bonus shall be required to be held under a single owner, except as provided for Non-contiguous Remainder Parcels created pursuant to the Non-contiguous Parcel Process set forth in Section 2.12. Areas shown as road easements or rights-of-way shall not be counted towards the Density Bonus.</li> </ol>
B. Allow for limited Residential Use on Remainder parcels consistent with a traditional ranch headquarters	<ol style="list-style-type: none"> <li>1. One (1) Building Envelope is allowed on a single Remainder Parcel within the Subdivision Exemption.</li> <li>2. Any Dwelling Unit on the Remainder Parcel shall be located within a residential Building Envelope of between five (5) and seven (7) acres as shown on the plat. The acreage contained in the residential Building Envelope shall not be counted towards the Density Bonus</li> </ol>
C. Limit the award of a density bonus to lands not already subject to development restrictions	<ol style="list-style-type: none"> <li>1. Land subject to a pre-existing agreement such as conservation easement which prohibits development shall not be used toward the calculation of a Density Bonus. Land subject to a conservation easement to be granted concurrently with the Land Preservation Subdivision Exemption process need not be excluded in the calculation of the Density Bonus.</li> </ol>
D. Require additional acreage in the Remainder Parcel for certain uses that are not in keeping with the historic character of the landscape.	<ol style="list-style-type: none"> <li>1. Land used for paid commercial recreational activities shall not be counted in calculating the Density Bonus. Exclude all acreage that is used for those commercial purposes in the calculation. Any residential Building Envelopes within Remainder Parcels shall be excluded from the Density Bonus calculation</li> </ol>
E. To encourage Trail corridors for public access if the applicant so desires	<ol style="list-style-type: none"> <li>1. Do not subtract acreage for trail corridors in calculating the Density Bonus. Subtract acreage for trails used for paid commercial rides and/or tours in calculating the Density Bonus</li> </ol>