

ORDINANCE NO. 2067

AN ORDINANCE AMENDING CERTAIN SECTIONS OF THE BROOMFIELD  
MUNICIPAL CODE CONCERNING BROOMFIELD OIL AND GAS REGULATIONS

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY AND COUNTY OF BROOMFIELD,  
COLORADO:

Section 1. Chapter 17-54 of the Broomfield Municipal Code is hereby repealed in its entirety  
and replaced with the following:

**Chapter 17-54**

**Oil and Gas Land Use Regulations**

*I. General Provisions*

**17-54-010 Purpose.**

This chapter is enacted to protect the public's health, safety, and welfare of all residents of the City and County of Broomfield ("City") and to safeguard the environment and wildlife resources.

In Colorado, the surface and mineral estates are separate and distinct interests in land and one may be severed from the other. Owners of subsurface mineral interests have certain legal rights and privileges, including the right to use that part of the surface estate reasonably required to extract and develop their subsurface mineral rights. Similarly, owners of the surface estate have certain legal rights and privileges, including the right to have the mineral estate developed in a reasonable manner.

As the oil and gas industry seeks to obtain approval to extract mineral resources in and around populated areas, it has begun encroaching on residential areas. Recent tragic accidents related to oil and gas development have highlighted the risks associated with this industrial activity, underlying the importance of prioritizing citizen welfare and safety.

Municipal governments have a recognized, traditional authority and responsibility to regulate land use within their jurisdiction. These regulations are intended to be an exercise of the land use authority of the City and the City's plenary authority to regulate all aspects of oil and gas development, including land use and all necessary police powers, as set forth in Broomfield Municipal Charter, Section 2.1.b. As such, the City shall condition oil and gas development permits to require oil and gas development to only occur in a manner that does not adversely impact the health, safety and welfare of Broomfield's residents in their workplaces, their homes, their schools and public parks in order to protect the public's health, safety, and welfare and to safeguard the environment and wildlife resources. Nothing in this chapter shall be construed as giving the City authority to enforce state or federal laws, rules, or regulations. In order to implement these goals, it is declared to be the policy of the City to:

Anticipate and mitigate potential environmental impacts, including to soil, groundwater, and air, associated with oil and gas development, particularly in and around other land uses.

Anticipate and mitigate potential impacts to historical and cultural resources associated with oil and gas development, particularly in and around other land uses.

Work with Operators to identify and locate alternative oil and gas locations from the perspective of protecting public health, safety, welfare, and the environment.

Gather complete information to assist Broomfield in its analysis of proposed oil and gas development.

Continuously identify and require state of the art equipment, protocols, and technology to protect the public health, safety, and welfare.

Anticipate and mitigate, through risk assessment and management, potential risks associated with Oil and Gas Facilities, processes and pipelines, including accidents and incidents, particularly in and around other land uses.

Maximize preparedness for emergency accidents and incidents related to oil and gas development through emergency preparedness and response planning.

Minimize community impacts including those related to traffic, noise, light pollution, and visual impacts.

Work with Operators to ensure availability of adequate site-specific financial insurance and bonding.

Use available methods to monitor and inspect oil and gas facilities in all phases of development and operation for the protection of public health, safety, welfare, and the environment.

Use available methods to enforce the provisions of these regulations.

#### **17-54-020 Definitions.**

All terms used in this chapter that are defined in the Act or in the Commission regulations and are not otherwise defined in this section, are defined as provided in the Act or in such regulations as of the effective date of this chapter. All other words used in this chapter are given their usual customary and accepted meaning, and all words of a technical nature, or peculiar to the oil and gas industry, shall be given that meaning which is generally accepted in said oil and gas industry. When not otherwise clearly indicated by the context, the following words and phrases used in this chapter, whether capitalized or not, have the following meanings:

- (A) *Act* means the Oil and Gas Conservation Act of the State of Colorado at section 34-60-101, et seq., C.R.S.
- (B) *Commission* or *COGCC* means the Colorado Oil and Gas Conservation Commission of the State of Colorado.
- (C) *Covered Process* means any process at an oil and gas Facility.
- (D) *Day* means a period of twenty-four consecutive hours.

- (E) *Director* means the Director of the Colorado Oil and Gas Conservation Commission of the State of Colorado or any member of the Director's staff authorized to represent the Director.
- (F) *Incident* means any event classified as a blowout, collision, explosion, fatality, fire, injury, Grade 1 gas leak, or spill greater than 5 barrels.
- (G) *Injection Well* means any hole drilled into the earth into which fluids are injected for the purposes of secondary recovery, storage, or disposal of wastewater disposal pursuant to authorizations granted by the Commission.
- (H) *Inherently Safer Systems* means feasible alternative equipment, processes, materials, lay-outs, and procedures meant to eliminate, minimize, or reduce the risk of a safety event, spill, release, or Grade 1 gas leak, by modifying a process rather than adding external layers of protection. Examples include, but are not limited to, substitution of materials with lower vapor pressure, lower flammability, or lower toxicity; isolation of hazardous processes; and use of processes which operate at lower temperatures and/or pressures.
- (I) *Inspector* means any person designated by the City and County Manager, or designee thereof, who shall have the authority to inspect an Oil and Gas Facility to determine compliance with this chapter and other applicable ordinances of the City.
- (J) *Oil and Gas Facility* or *Facilities* means oil or gas well(s) and any storage, separation, treating, dehydration, artificial lift, power supply, compression, pumping, metering, monitoring, flowline, crude oil transfer line, and other equipment directly associated with oil or gas well(s) or Injection Wells.
- (K) *Oil and Gas Location* means a definable area where an Operator has disturbed or intends to disturb the land surface in order to locate an oil and gas Facility.
- (L) *Oil or Gas Well* means any hole drilled into the earth for the purpose of exploring for or extracting oil, gas, or other hydrocarbon substances.
- (M) *Operating Plan* means a general description of a Facility identifying purpose, use, typical staffing pattern, seasonal or periodic considerations, routine hours of operating, source of services, infrastructure, and any other information related to regular functioning of such Facility.
- (N) *Operator* means any person who exercises the right to control the conduct of an oil and gas Facility.
- (O) *Owner* means the person who has the right to drill into and produce from a pool and to appropriate the oil or gas produced therefrom either for such owner or others, including owners of a well capable of producing oil or gas, or both.
- (P) *Reentering* means accessing an existing well bore for either the original or amended purpose, provided that such well has not been abandoned.
- (Q) *Root Cause* means prime reasons, such as failures of some management systems, that allow faulty design, inadequate training, or improper changes, which lead to an unsafe act or condition, and result in an incident. If Root Causes were removed, the particular incident would not have occurred.
- (R) *Process Hazard Analysis* means a qualitative, semi-quantitative or quantitative analysis of a process, involving the identification of individual hazards of a process, determination of the mechanisms by which hazards could give rise to

undesired events, and evaluation of the consequences of these events on health, property and the environment.

- (S) *Water Source* means water wells that are registered with the Colorado Division of Water Resources, including household, domestic, livestock, irrigation, municipal/public and commercial wells, permitted or adjudicated springs, and monitoring of wells for the purpose of monitoring water quality changes that are not associated with oil and gas activities.

#### **17-54-030 Inspections.**

In recognition of the potential impacts associated with oil and gas facilities, all wells and accessory equipment and structures may be examined by the Inspectors of the City at reasonable times to determine compliance with applicable provisions of this chapter, the International Fire Code, the International Building Code, and all other applicable standards in this title. For the purpose of implementing and enforcing the provisions of this chapter, the Inspector and other authorized personnel have the right to enter upon private property after reasonable notification to the Operator, which provides the Operator an opportunity to be present. The City may use the information collected on the inspections to enforce the requirements of this chapter. The City may also report this information to appropriate state and federal officials, including but not limited to information regarding alleged violations of state and federal rules. Operator shall make available to City, upon request, all records required to be maintained by these rules and by the Colorado Department of Public Health and Environment (CDPHE), including permits, Air Pollutant Emission Notices (APENs) and other documents required to be maintained by CDPHE and these rules.

#### **17-54-040 Review required.**

Within all zoning districts, including a PUD (planned unit development) district, when an applicant wishes to drill a well or construct a facility that has not been previously permitted under this chapter, it is unlawful for any person to perform any such activity, unless a use permitted by special review has first been approved by the city council pursuant to chapter 17-54-050, B.M.C., or approval of an Agreement by city council in accordance with section 17-54-200. When a use permitted by special review or administrative approval by Agreement has been approved for a well, the reentering of such well for the purposes of deepening, recompleting, or reworking shall not require a subsequent approval under this chapter unless such work requires a new or modified permit from COGCC. The approval of such use by special review or administrative approval by Agreement does not relieve the Operator from otherwise complying with all applicable regulatory requirements of the City, state, and federal governments.

#### *II. Use by Special Review*

#### **17-54-050 Use by special review application requirements.**

- (A) Pre-submittal Materials submitted by Operator to staff. Prior to the submission of an application for a use permitted by special review, the Operator is required to submit Operator name, parent companies or related companies, demonstration of financial capability of Operator, previous violations of the Operator, proposed location of facility, number of wells and access points, size of well pad, amount and type of equipment, and any previous spacing unit approvals.

- (B) Pre-submittal meeting. Following the submission of pre-submittal materials, the Operator is required to schedule a meeting with the City to review the proposed new well or facility. The goal of this meeting shall be for the City staff and the Operator to review the proposed oil and gas facility in a manner that ensures compliance with these regulations and applicable state and federal regulations. The pre-submittal meeting shall also allow the Operator and City staff to explore, to the extent commercially reasonable, site-specific concerns, discuss project impacts and potential mitigation methods, including field design and infrastructure construction to minimize impacts, to discuss coordination of field design with other existing or potential development and Operators, to identify sampling and monitoring plans for air and water quality, and other elements as required by these rules. Operators are encouraged to schedule this meeting prior to entering into any surface use agreements.
- (C) Notice of pre-application. The Operator shall mail pre-application notices ninety days prior to submission of any spacing or density applications. Operator shall pay for the cost of mailing notices. Notice shall include number of wells, size of well pad, type and measurements of proposed major equipment. Owners of record shall be ascertained according to the records of the Broomfield Assessor's Office. Notice shall be made as follows:
- (1) To the City and to surface owners of the parcels of land on which the oil and gas facility is proposed to be located;
  - (2) To the surface owners of the parcels of land in the City and County of Broomfield within 2,640 feet of the parcel on which the oil and gas facility is proposed to be located;
- (D) Alternative Site Analysis. At the pre-submittal meeting, Operator shall identify distance of proposed facility to residences, occupied buildings, water bodies, floodplains, and roadways in order to consult with the City to identify alternative sites. Possible alternative locations identified shall be evaluated based upon a set of factors identified by the City, or other mutually agreed methodology. To the extent reasonably feasible, Operator shall consult with the City on the alternative site analysis prior to submittal of any spacing application to the COGCC.
- (E) Application Submittal. All requests for a use permitted by special review shall be submitted in writing to the Planning Division and shall include an application fee of \$5000.00 and a report that discusses the results of the Alternative Site Analysis required by 17-54-050(C).
- (F) Neighborhood Meeting. Following the submission of an application to the Planning Division, and before submitting an application to COGCC, Operator will schedule and notice a neighborhood meeting. A neighborhood meeting shall be required on any Oil and Gas Facilities, even on existing well pads, that require an application for a use permitted by special review. The Operator shall notice, attend and conduct the neighborhood meeting. The public may submit comments on the application to the Operator at the neighborhood meeting. Operator shall prepare a written summary of the neighborhood meeting, including a summary of any public comments received, and submit to staff.
- (G) Notification of Application. The Operator shall mail notice of the application no more than ten working days after an application has been submitted to the City.

Operator shall pay for the cost of mailing notices. Notice shall include number of wells, size of well pad, type and measurements of proposed major equipment. Owners of record shall be ascertained according to the records of the Broomfield Assessor's Office. Notice of the application shall include reference to the neighborhood meeting and be made as follows:

- (1) Mailed notice.
    - a. To the surface owners of the parcels of land on which the oil and gas facility is proposed to be located;
    - b. To the surface owners of the parcels of land in the City and County of Broomfield within 2,640 feet of the parcel on which the oil and gas facility is proposed to be located;
  - (2) Posted notice. The real property proposed to be developed shall also be posted with a sign, giving notice to the general public of the proposed development. For parcels of land exceeding fifteen acres in size, two signs shall be posted. The size of the sign required to be posted shall be as established in the supplemental notice requirements of chapter 17-52 of the City's Land Use Code. Such signs shall be provided by the City and shall be posted on the subject property by the applicant in a manner and at a location or locations reasonably calculated by the City to afford the best notice to the public, which posting shall occur a minimum of ten calendar days prior to the neighborhood meeting. City shall post notice on its website and Operator shall post notice on its website, if one exists.
- (H) Staff Review. Following receipt of the Operator's written summary of the neighborhood meeting, City staff shall review the application. An application may require review by outside agencies such as the U.S. Army Corps of Engineers, if the project impacts a floodplain, and may also be referred to any life-safety providers, adjacent jurisdictions, local public health department, and other as may be deemed appropriate by staff. The City may require that the application materials, including requests for variances based on operational conflicts, be submitted to a technical consultant deemed by the City to be appropriate and necessary to complete the review. Reasonable costs associated with such review shall be paid by the Operator. The applicant will be notified of any outstanding issues in connection with application materials upon completion of this review and will be required to address any issues or deficiencies in connection with the application materials. If necessary, a meeting will be held to discuss any issues that need to be resolved. If necessary, the applicant will then submit an amended application, plan or other submittals, as appropriate, to staff for verification that deficiencies have been addressed by the applicant. If revisions were necessary, staff shall review such revised application. Upon determination by staff that all issues have been resolved, staff will submit the application to the Planning and Zoning Commission.
- (I) Staff Recommendation. After completing its review, staff shall submit its written report and comments to the City council, along with the Alternative Site Analysis report required by 17-54-050(D). The recommendation shall either be a recommendation to approve, to approve with conditions, or to deny the request. If the recommendation is to approve with conditions, the recommendation shall set forth the conditions and those requirements as deemed necessary to protect the health, safety, and welfare of the community.

- (J) Notice and Hearing before the Planning and Zoning Commission. Upon public notice as required by the Municipal Code, the Planning and Zoning Commission will hold a public hearing. Planning and Zoning Commission may decide to recommend to approve, to approve with conditions, or to deny the application. If the recommendation is to approve with conditions, the recommendation shall set forth the conditions and those requirements as deemed necessary to protect the health, safety, and welfare of the community and the environment. If necessary, the applicant will then submit an amended application to staff to address any deficiencies identified by the Planning and Zoning Commission.
- (K) City Council. The City council shall consider staff and the Planning and Zoning Commission's recommendations and the testimony and evidence of record at the public hearing and shall make a final decision of approval, or approval with conditions, or of denial. Factors to be considered are those specified in this Chapter. The City council shall hold a public hearing prior to making its final decision. Notice shall be given in accordance with chapter 17-52.
- (L) Decision to be stated in official minutes. Any decision of the Planning and Zoning Commission or City council on special reviews shall state in the official minutes the reasons for such decision.
- (M) Duration. All special review requests approved by City council after July 22, 2018, shall be valid for one year from the approval date. If the approved use is in operation by the end of the specified period, the approval shall remain valid so long as the use continues. If the approved use is not in operation at the end of the specified period, or if it thereafter ceases, the approval shall be deemed void and of no further force and effect, and no permits shall be issued until and unless the special review request is reapproved by the City council.

**17-54-060 Use by special review criteria.**

All applications for use permitted by special review are subject to review and approval by the City and City council pursuant to chapter 17-54-050, B.M.C. All applications for use permitted by special review shall include the following information which is subject to review and approval by City council:

- (A) The Operator's and surface owner's names and addresses, COGCC Form 2, and designation of agent, if applicable.
- (B) A list of all permits or approvals obtained or to be obtained from local, state, or federal agencies other than COGCC.
- (C) A detailed site plan for all facilities that includes submittal to the City of all documents required to be submitted with COGCC Form 2A, a depiction of all visible improvements within 500 feet of the proposed location, to include buildings/residences, public roads and trails, major above-ground utilities, railroads, pipelines, mines, oil/gas/injection/water/plugged wells, etc. as required by COGCC Rule 303.d(3)C, and the site plan requirements of the Broomfield Municipal Code, as amended.
- (D) A summary of planned operations, including identified access points and operational timeline for posting to a local community information web-page.

- (E) A site plan for site preparation, mobilization and demobilization.
- (F) A plan for interim reclamation and revegetation of the well pad and final reclamation of the well pad.
- (G) The vicinity maps for a Facility submitted with an application for a use permitted by special review shall be submitted on one or more plats or maps showing the following information:
  - (1) Location of all existing water bodies and watercourses, including direction of water flow. This information shall be submitted on USGS 7.5 minute series or assessor base maps which indicate topographic detail and show all existing water bodies and watercourses with a physically defined channel within a 500-foot radius of the proposed well for applications for use by special review or a ½ mile radius of the proposed well for applications for administrative approval by Operator agreement.
  - (2) Location of existing Oil and Gas Wells or Injection Wells as reflected in COGCC records. This information shall be submitted on a map and shall include any and all wells within a 1,000-foot radius of the proposed location for the well.
  - (3) Location of drill site. The information to be submitted shall be on Commission Form 2 and shall include the parcel tax identification number.
- (H) Project schedules for all phases, including site construction, pipeline construction, drilling, completions (broken down into activity-based components), commissioning, operations, reclamation and abandonment.
- (I) Administrative fees.
- (J) Information demonstrating that the Operator is capable of fulfilling and is likely to fulfill the obligations imposed by this Section and the Oil and Gas Conservation Act, including:
  - (1) A certified list of all instances within the past ten years where the COGCC, other state agency, City, or county found that the Operator has not complied with applicable state or local requirements with respect to drilling, operation, or decommissioning of a well. The list shall identify the date of the determination, the entity or agency making the determination, the nature of the non-compliance, and, if applicable, the final resolution of the issue and procedural or policy changes that were implemented to prevent future infractions and which adequately demonstrate effectiveness. If no such instances of non-compliance exist, the Operator shall certify to that effect.
  - (2) A list of all near-misses and incidents within the past ten years that occurred at Facilities owned or operated by Operator, an Operator's legacy companies, or a subsidiary of Operator, including events involving contractors. Operator shall also list any Root Causes analysis conducted and corrective actions taken in response to the near-misses and incidents, including internal changes to corporate practices or procedures, such as modifications to Safety Management Plans.
- (K) Protocol to conduct noise modeling for each Facility for pre-construction and active drilling, hydraulic fracturing, flowback and operations.

- (L) Noise Impact Mitigation Plan that demonstrates compliance with the standards of section 17-54-070.
- (M) A plan for light and dust mitigation that demonstrates compliance with the standards of section 17-54-070.
- (N) Protocol for Air Modeling Plan that demonstrates that emissions from the proposed Facilities meet the following:
  - (1) EPA and state emission standards, including demonstrating compliance with 2017 Centers for Disease Control Agency and Toxic Substances and Disease Registry and USEPA Integrated Risk Information System ambient air quality guidelines or future more stringent guidelines for benzene, toluene, ethylbenzene, and xylene, and other air toxics.
  - (2) Facility emissions inventories and air quality impact studies for drilling, completions and operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment.
- (O) Protocol for Air Monitoring Plan that describes how the Operator will conduct baseline monitoring within 500 feet of a proposed Facility prior to construction and during the drilling, completion and production phases of development. The plan shall include monitoring for all potential emissions, including but not limited to, methane, VOCs, Hazardous Air Pollutants (HAPs), Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), and Carbon Monoxide (CO). Operator shall pay for the baseline and ongoing monitoring. Baseline testing shall be done by a consultant approved by the City.
- (P) An Air Quality Mitigation Plan that demonstrates compliance with the following:
  - (1) EPA, CDPHE and COGCC standards for emissions and odors. If these rules become more stringent in the future, the Operator will update its Air Quality Mitigation Plan to comply with the revised guidelines as such regulations exist now or future, more stringent, regulations.
  - (2) Compliance with 2017 CDC Agency for Toxic Substances and Disease Registry and USEPA Integrated Risk Information System ambient air quality guidelines. If these guidelines become more stringent in the future with more restrictive guidelines for benzene, toluene, ethylbenzene and xylene (BTEX), and other air toxins, the Operator will update its Air Quality Mitigation Plan to comply with the revised guidelines.
  - (3) The provisions of section 17-54-070.
- (Q) Electrification Plan. A plan identifying all sources of electricity that will be brought to or used at the Facility during all phases of operations.
- (R) Emergency Preparedness and Response. Each applicant with a Facility in the City is required to complete the City's detailed Emergency Preparedness and Response Plan template. In addition, each Operator shall submit an Emergency Preparedness and Response Plan that shall be approved by the City and North Metro Fire Rescue District (NMFRD) in order to be deemed complete and shall be updated on an annual basis or as conditions change, and that that demonstrates compliance with the following:
  - (1) The standards of section 17-54-070.

- (2) Contains adequate provisions to ensure Operator will cover all costs associated with training, response and remediation, including any additional on-site and regional specialized equipment and supplies necessary to respond to any emergency incident at its Facilities.
  - (3) Operator shall cooperate and train with Broomfield and NMFRD emergency responders as requested.
  - (4) Operator shall immediately notify Broomfield, surrounding communities, and any nearby schools of an emergency event and develop emergency protocols with the NMFRD, Broomfield's Department of Public Health and Environment, and the Broomfield Police Department.
  - (5) Operator shall provide to Broomfield safety and security protocols for the Facility site.
  - (6) Operator shall provide a copy of any Spill Prevention, Control, and Countermeasures (SPCC) plan to Broomfield if required by USEPA rules and a copy of a listing of hazardous chemicals used on site if required by USEPA CERCLA Community Right to Know rules.
  - (7) Operator shall maintain onsite storage of aqueous film forming foam, absorption boom and granulated materials for ready deployment in case of leaks or other emergencies. Operator shall notify first responders of the location of said materials.
  - (8) Operator shall identify and provide 24-hour contact information for contractors and subcontractors
  - (9) Operator shall coordinate with the NMFRD regarding evacuation routes. Evacuation routes will include any schools that are within proximity to the oil and gas facility, based on guidance from the NMFRD.
- (S) A weed control plan that demonstrates compliance with the standards of section 17-54-070.
- (T) A traffic study and management plan. Operator shall submit reasonable bond to cover any damage to public infrastructure during active drilling, completion and operation. Prior to the start of construction, Operator shall complete traffic study and provide detailed traffic plan to determine any operational changes and geometric modifications necessary for extraction activities. This will include, but is not limited to:
- (1) Detail of access locations for each Facility including sight distance, turning radius of vehicles and a template indicating feasibility, turning volumes in and out of each site for an average day and what to expect during the peak hour.
  - (2) Estimated weights of vehicles when loaded, a description of the vehicles, including the number of wheels and axles of such vehicles and trips per day.
  - (3) Anticipated truck traffic volumes will be converted to equivalent single axle loads and compared with existing volumes.
  - (4) Core drill or boring samples of City roads will be used to determine the adequacy of the existing roadway structure and determine if the roadway section is adequate for extraction activities.

- (5) Truck routing map and truck turning radius templates will be used to determine if improvements are necessary at intersections along the route.
  - (6) Identification of the need for any additional traffic lanes.
  - (7) Restriction of traffic to and from facilities to periods outside of peak am and pm traffic periods (generally 7-9am and 3-6pm).
  - (8) Require a traffic study to determine impacts to City streets.
- (U) Landscaping and Visual Mitigation Plan. A preliminary visual mitigation plan in compliance with COGCC Rule 804, including but not limited to a list of the proposed colors for the production Facilities, regardless of construction date, which are observable from any public highway, providing for paint that is uniform, noncontrasting, nonreflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape, a listing of operations' equipment, proposed fencing, and screening. Plan shall indicate the location of all outdoor lighting on the site and any structures and include cut sheets of all proposed fixtures.
- (V) Water Supply Plan that demonstrates compliance with the standards of section 17-54-070. Applicant shall submit estimated water supply requirements and usage for the proposed development including:
- (1) An estimate of the amount of water needed for all phases of the oil and gas facility;
  - (2) A list of all available physical sources of water for the project, and if multiple sources are available, analysis of which source is least detrimental to the environment;
  - (3) A description of the physical source of water that the applicant proposes to use to serve the oil and gas facility;
  - (4) Water conservation measures, if any, that may be implemented within the oil and gas facility; and
  - (5) An estimate of the amount of water that will be used at the site, where and how the water will be consumed, the amount of wastewater produced, and disposal plans for wastewater.
- (W) Water Quality Plan that demonstrates compliance with the standards of section 17-54-070. Plan may include details such as Operator's plans for water quality testing, prevention of illicit or inadvertent discharges, stormwater discharge management, containment of pollutants, and spill notification and response as required by federal and state agencies. The Owner or Operator shall provide the City with the information it provides to the COGCC ensuring compliance with the water quality protection standards contained in COGCC Rule 317(B), 609, Rule 910, and any other applicable COGCC rules governing water quality protection. The Owner or Operator shall provide all water source test results to the City and maintain records of such results. The Owner or Operator shall provide its plans concerning downhole construction details and installation practices, including casing and cementing design, and shall inform the City how the plans establish that the facility does not create significant degradation to surface waters or drinking water aquifers.

- (X) Grading, drainage, & erosion control plan that demonstrates compliance with the standards of section 17-54-070.
- (Y) Stormwater Management Plan that identifies possible pollutant sources that may contribute pollutants to stormwater, Best Management Practices (BMPs), sampling procedures (if required), and inspections that, when implemented, will reduce or eliminate any possible water quality impacts.
- (Z) Risk Management Plan that demonstrates compliance with the standards of section 17-54-070.
- (AA) Abandoned Wells Plan that demonstrates compliance with the standards of section 17-54-070.
- (BB) Wetlands Protection Plan that demonstrates compliance with the standards of section 17-54-070.
- (CC) Hazardous Materials Management Plan that identifies hazardous materials that will be used or stored at the Facility or site, (including those disclosed through the "Frac Focus" process), the physical hazards they present, the quantity on hand (daily and maximum), the storage method and location, and any other pertinent information that is of value to employees exposed to the materials and/or first responders in the event of an accident or incident.
- (DD) Waste Management Plan that identifies waste types and associated hazards, the approximate quantities, storage method(s), transportation and management method(s), communication and training of employees, identification of individuals responsible for waste management by Facility or site, spill and release prevention methods, emergency management strategies (including spill containment), and inspection types and frequencies.
- (EE) Historical and Cultural Resources Plan that demonstrates compliance with the standards of section 17-54-070. Operator to assess historical and cultural resources in and around the proposed oil and gas development and share such information and proposed mitigation measures with Broomfield for advance approval prior to start of site construction. If a significant surface or sub-surface archeological site is discovered during construction, the Operator shall be responsible for immediately contacting the City to report the discovery. If any disturbance of a site deemed by the State Historic Preservation Office to be a historical or cultural resource occurs, the Operator shall be responsible for mitigating the disturbance to the cultural or historical property through a data recovery plan in consultation with the City's Historic Landmark Board and the State Historic Preservation Office.
- (FF) Financial Assurance. Require Operator to provide any insurance disclosure documents required by COGCC.
- (GG) Environmental Assessment. Require operator to provide a third-party baseline environmental impact assessment of the proposed oil and gas facility, prior to any construction on the site that includes but is not limited to the following:
  - (1) At least one on-site evaluation within one month of the submittal to the City.
  - (2) A map and photographs of the site.

- (3) Identification and assessment of potential impacts to the environment and wildlife including wetlands; floodplain; ponds; creeks, streams and drainageways; migratory birds and raptors; ground nesting birds; prairie dogs; burrowing owls; state and federal threatened and endangered species for both flora and fauna; any other applicable wildlife issues including den sites for mammals, like coyotes and foxes; fish and other aquatic life; wildlife corridors; significant habitat; natural landmarks and prominent natural features such as distinctive rocks and land forms; vegetation including grasses, shrubs and trees; and visual or scenic resources.
- (4) Confirmation that the proposed project shall comply with the City's Policies for Prairie Dog Conservation and Management.
- (5) Identification of proposed project design measures or other relevant mitigation measures to avoid unacceptable impacts or to reduce impacts to levels of insignificance.

Prior to construction, Operator shall submit a 20-Day Environmental Clearance Letter confirming that any environmental and wildlife conditions identified in the environmental assessment have been mitigated and addressed.

- (HH) Additional Information. If the City and County Manager determines that the City needs additional information to determine whether the proposed oil and gas facility meets the criteria in Chapter 17-54-070 B.M.C., the City and County Manager may require the applicant to submit such information.

#### **17-54-070 Use by special review criteria.**

In considering an application for a use permitted by special review pursuant to chapter 17-54, B.M.C., the City and City council shall consider the following requirements and standards to determine if an application for use by special review meets the requirements of this chapter and is approvable:

- (A) The site plans for a Facility application comply with the requirements of section 17-54-050.
- (B) The vicinity maps for a Facility application comply with the requirements of section 17-54-050.
- (C) The narrative for a Facility application complies with the requirements of section 17-54-050.
- (D) The well location and setbacks comply with the setback requirements of COGCC.
- (E) All plans have been submitted in compliance with section 17-54-050.
- (F) The application complies with all applicable COGCC, AQCC, EPA, CDPHE, and local laws and regulations, including sections 17-54-030 through 17-54-100.
- (G) The application complies with all other site-specific requirements as determined necessary by City council that are not in operational conflict, and are otherwise consistent with applicable law.

- (H) Noise. The Facility shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimize noise and noise impacts to surrounding land uses.
- (I) Light and dust. The Facility shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimize dust and light pollution.
- (J) Air Quality. The construction and operation of any oil and gas facility shall avoid causing degradation to air quality. To the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, the installation and operation of any oil and gas facility shall eliminate, capture, or minimize all potentially harmful emissions, minimize dust associated with onsite activities and traffic, and demonstrate how the Operator will prevent and mitigate gas leaks and air emissions.
- (K) Emergency Preparedness and Response. Oil and gas operations shall avoid risks of emergency situations such as explosions, fires, gas, oil or water pipeline leaks, ruptures, hydrogen sulfide or other toxic gas or fluid emissions, and hazardous material vehicle accidents or spills. Oil and gas operations shall ensure that, in the event of an emergency, adequate practices and procedures are in place to protect public health and safety and repair damage caused by emergencies.
- (L) A weed control plan that to the maximum extent possible, and to prevent adverse impacts to the environment, avoids causing degradation to vegetation.
- (M) Adequate Water Supply. Development applications for proposed oil and gas facilities shall demonstrate that the available water supply is the least detrimental to the environment among the available sources and adequate to meet the needs of the development. Approval may be conditioned upon sufficient proof of adequate water supply. Use of City water is prohibited.
- (N) Water Quality. Oil and gas Facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment avoid causing degradation to surface or ground waters within the City.
- (O) Grading, drainage, & erosion. To the maximum extent possible, and to prevent adverse impacts to the environment, oil and gas facilities shall not cause significant erosion or sedimentation and shall be conducted in accord with the grading, drainage and erosion control plan.
- (P) Risk Management Plan that anticipates potential risks associated with oil and gas development, particularly in and around land uses, and maintains appropriate safety management plan and emergency response and preparedness plans in place.
- (Q) Abandoned Wells Plan that, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, minimizes risks associated with abandoned wells.
- (R) Wetlands Protection. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to the environment, avoid causing degradation to wetlands within City of Broomfield. Among other methods to achieve compliance with this standard, the proposed oil and gas facility shall not

alter historic drainage patterns and/or flow rates or shall include acceptable mitigation measures to compensate for anticipated drainage impacts.

- (S) Cultural and Historic Resources. Oil and gas facilities shall avoid causing degradation of cultural or historic or archaeological resources, sites eligible for City designation as an historical landmark, or sites in the National Historic Register. Operator shall have approval from the State Historic Preservation Office detailing required protection and mitigation measures to be implemented to preserve any historical or cultural resources potentially affected by the proposed facility, and to provide a copy of such approval to Broomfield, in consultation with the surface owner and subject to any confidentiality requirements.
- (T) Floodplains and Floodways. Facilities and equipment are prohibited in floodways, as defined by the Federal Emergency Management Agency. Facilities and equipment shall not be located in the 100-year floodplain unless all alternate locations outside of the floodplain that allow for extraction or transportation of the resource are more detrimental to health, safety, welfare or the environment than the proposed location in the floodplain. All above-ground oil and gas facilities approved in a floodplain shall comply with the flood protection measures in B.M.C. section 17-40. Tanks in the 500-year floodplain also require flood protection measures.
- (U) Geologic Hazard Areas Other than Floodplains and Floodways. To the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, oil and gas facilities shall not be located in geologic hazard areas.
- (V) Land Disturbance. The installation and operation of any oil and gas facility shall, to the maximum extent possible, and to prevent adverse impacts to the environment, avoid causing degradation to the surface of the property used for the oil and gas facility. Considerations for application of this standard include, but are not limited to, the natural topography and existing vegetation, unnecessary or excessive site disturbance, and minimization of the amount of cut and fill.
- (W) Natural Resources. The installation and operation of any oil and gas facility, pipeline, workover site, or oil and gas access road shall, to the maximum extent, avoid causing degradation to the environment and wildlife including wetlands; floodplain; ponds; creeks, streams and drainageways; migratory birds and raptors; prairie dogs; burrowing owls; state and federal threatened and endangered species for both flora and fauna; any other applicable wildlife concerns including den sites for mammals, like coyotes and foxes; fish and other aquatic life; wildlife corridors; significant habitat; natural landmarks and prominent natural features such as distinctive rocks, outcroppings, and landforms; vegetation including grasses, shrubs, and trees; and visual or scenic resources as identified in the Comprehensive Plan, Open Space, Parks, Recreation and Trails Master Plan; the site's Environmental Assessment or 20-Day Environmental Clearance Letter; or City-owned open spaces.
- (X) Odor. Oil and gas facilities shall comply with Colorado Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emissions, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, and Regulation No. 7, 5 CCR 1001-9 sections VII and VIII. The Operator shall notify

the City and County Manager no later than 24 hours after receiving an odor complaint. Odor emitting from sites shall be controlled. Operator to prevent odors from oil and gas facilities from affecting the health and welfare of the public by proactively addressing and, to the fullest extent, resolving complaints filed by impacted members of the community, in coordination with City and County of Broomfield public health staff.

- (Y) Recreational Activity. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, avoid causing degradation to the quality and quantity of recreational activities in the City. Considerations for application of this standard include, but are not limited to, designated environmental resources, trails, and recreational uses, as identified in the Comprehensive Plan or identifiable on or near the site.
- (Z) Scenic Attributes and Character. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, avoid causing degradation to the scenic attributes and character of the area.
- (AA) Surrounding Buildings. Oil and gas facilities shall be, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, sited and operated in a manner so that the facility is compatible with surrounding buildings. In applying this standard, separation from surrounding buildings shall be considered the most effective measure to ensure compatibility between proposed oil and gas facilities and existing buildings. Considerations for application of this standard may also include, but are not limited to, impacts on used or occupied structures; the natural topography and existing vegetation; the location of surrounding buildings, prevailing weather patterns, including wind directions; and hilltops, ridges, slopes, and silhouetting.
- (BB) Transportation, Roads, and Access. Oil and gas facilities shall, to the maximum extent possible, and to prevent adverse impacts to public health, safety and welfare, and the environment, be designed and implemented to minimize or mitigate impacts to physical infrastructure of the City transportation system, ensure public safety, and maintain quality of life for other users of the City transportation system, adjacent residents, and affected property owners. Where available, existing private roads shall be used to minimize land disturbance unless traffic safety, visual concerns, noise concerns, or other adverse surface impacts dictate otherwise. Operator shall fund infrastructure improvements required to support extraction activities and pay for significant degradation caused by operations and the resulting cost of repairs. Operator shall comply with hazmat regulations and obtain adequate insurance for exposure related to potential truck accidents.
- (CC) Waste Management Plan. Operator shall recycle drilling, completion, flowback and produced fluids to the maximum extent possible. Waste shall be stored in tanks, transported by tanker trucks and/or pipelines and disposed of at licensed disposal or recycling sites. No disposal of wastewater within the City.

**17-54-080 Final plans required for approval.**

All use permitted by special review applications approved by the City council pursuant to 17-54-050 B.M.C., shall require compliance with the final plans listed below. Such final plans shall be approved by the City and County Manager and City Council prior to the commencement of drilling. Operator shall provide written notice to the City no less than thirty (30) days prior to the commencement of construction, drilling, completion or any recompletion, re-drilling or plugging and abandonment of a well, for all approved facilities.

- (A) A response letter that outlines how the permit requirements have been met;
- (B) A list of all permits or approvals obtained or to be obtained from local, state, or federal agencies other than the COGCC;
- (C) Copies of all permits requested, including any exceptions;
- (D) A detailed site plan for all Facilities that includes submittal to the City of all documents required to be submitted with COGCC Form 2A, a depiction of all visible improvements within 500 feet of the proposed location, to include buildings/residences, public roads and trails, major above-ground utilities, railroads, pipelines, mines, oil/gas/injection/water/plugged wells, etc. as required by COGCC Rule 303.d(3)C, and the site plan requirements of the Broomfield Municipal Code, as amended;
- (E) A summary of planned facilities, including identified access points and operational timeline for posting to a local community information web page;
- (F) A site plan for site preparation, mobilization, and demobilization;
- (G) A plan for interim reclamation and revegetation of the well pad and final reclamation of the well pad;
- (H) Vicinity maps for each Facility, including maps that show the following information:
  - (1) the location of all existing water bodies and watercourses, including direction of water flow;
  - (2) the location for existing oil and gas wells or injection wells as reflected in COGCC records; and
  - (3) the location of the drill site.
- (I) Final project schedules for all phases, including site construction, pipeline construction, drilling, completions (broken down into activity-based components), commissioning, operations, reclamation, and abandonment;
- (J) Information demonstrating the Operator is capable of fulfilling and is likely to fulfill the obligations imposed by section 17-54-050 and the Oil and Gas Conservation Act;
- (K) A final alternative site analysis;
- (L) A final noise modeling protocol;
- (M) Noise Impact Mitigation Plan;
- (N) A final plan for light and dust mitigation;
- (O) A final traffic management plan and a reasonable bond to cover any damage to public infrastructure during active drilling and completion;

- (P) A final detailed traffic plan that determines any operational changes and geometric modifications necessary for extraction activities;
- (Q) A final Air Quality Mitigation Plan that demonstrates compliance with the following:
  - (1) EPA, CDPHE, and COGCC standards for emissions and odors;
  - (2) 2017 CDC Agency for Toxic Substances and Disease Registry and USEPA Integrated Risk Information System ambient air quality guidelines; and
  - (3) The provisions of section 17-54-060;
- (R) A final Air Modeling Plan that demonstrates that emissions from the proposed Facility meet the following:
  - (1) EPA and state emission standards;
  - (2) Facility emissions inventories and air quality impact studies for drilling, completions and operations based upon proposed equipment use, and operation phases, and any emissions reductions associated with plugging and abandonment; and
  - (3) Demonstration that the Facility will not result in any increase of VOCs from Operator's existing and planned development in the City;
- (S) A final Air Monitoring Plan that describes how the Operator will conduct baseline and subsequent monitoring within 500 feet of a proposed Facility;
- (T) A final Electrification Plan;
- (U) A final Emergency Preparedness and Response Plan;
- (V) A final weed control plan;
- (W) A final Landscaping and Visual Mitigation Plan;
- (X) A final Water Quality Plan;
- (Y) A final grading, drainage, and erosion control plan;
- (Z) A final Stormwater Management Plan;
- (AA) A final Risk Management Plan;
- (BB) A final Abandoned Wells Plan;
- (CC) A final Wetlands Protection Plan;
- (DD) A final Hazardous Materials Management Plan
- (EE) A final Waste Management Plan;
- (FF) A final assessment of historical and cultural resources in and around the proposed oil and gas development, including proposed mitigation measures;
- (GG) A final Water Supply Plan;
- (HH) A 20-day letter confirming that any environmental and wildlife conditions identified in the environmental assessment have been addressed; and
- (II) Additional information. If the City and County Manager determines that the City needs additional information to determine whether the proposed oil and gas

facility meets the criteria in Chapter 17-54-070 B.M.C., the City and County Manager may require the applicant to submit such information.

**17-54-090. Conditions of approval applicable to use by special review applications.**

The following oil and gas Facility operational requirements and mitigation measures are likely necessary to meet the approval criteria in section 17-54-070. Accordingly, unless the City council deems a condition unnecessary to establish compliance with this section, all of the following shall apply to all oil and gas facilities in the form of conditions of approval applicable to each use by special review permit:

- (A) Color. Facilities shall be painted in a uniform, non-reflective color that blends with the surrounding landscape.
- (B) Anchoring. Anchoring is required within floodplain or geological hazard areas, as needed to resist flotation, collapse, lateral movement, sinking, or subsidence, and in compliance with Federal Emergency Management Agency (FEMA). All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.
- (C) Burning. No open burning of trash, debris or other flammable materials.
- (D) Chains. Traction chains shall be removed from heavy equipment on City streets.
- (E) Discharge Valves. Discharge valves shall be secured, inaccessible to the public and located within the secondary containment area. Open-ended discharge valves shall be placed within the interior of the tank secondary containment.
- (F) Dust Suppression and Fugitive Dust. Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the site to the extent possible given wind conditions.
- (G) Emergency Preparedness and Response Plan. The applicant shall implement the Emergency Preparedness and Response plan approved by the City and County Manager and City council. The plan shall be updated on an annual basis, or as conditions change, such as responsible field personnel and ownership.
- (H) Exhaust. All exhaust, including but not limited to, exhaust from all engines, motors, coolers and other equipment shall be vented up or in a direction away from the nearest occupied building.
- (I) Air Quality.
  - (1) Flares and Combustion Devices. To the extent used, all flares, thermal oxidizers, or combustion devices shall be designed and operated as follows:
    - a. The flare and or combustor shall be fired with natural gas.
    - b. The flare and or combustor shall be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions means observations of smoke for any period or periods of duration greater than or equal to one (1) minute in any fifteen (15) minute period during normal operation,

pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor.

- c. The flare and or combustor shall be operated with a flame present at all times when emissions may be vented to it.
  - d. All combustion devices shall be equipped with an operating auto-igniter.
  - e. If using a pilot flame ignition system, the presence of a pilot flame shall be monitored using a thermocouple or other equivalent device to detect the presence of a flame. A pilot flame shall be maintained at all times in the flare's pilot light burner. A telemetry system shall be in place to monitor pilot flame and shall activate a visible and audible alarm in the case that the pilot goes out.
  - f. If using an electric arc ignition system, the arcing of the electric arc ignition system shall pulse continually and a device shall be installed and used to continuously monitor the electric arc ignition system.
- (2) Leak and Detection and Repair (LDAR). Operator shall develop and maintain a leak detection and repair program using modern leak detection technologies for equipment used at the Facility. If an infrared (IR) camera is used, Operator shall retain an infrared image or video of all leaking components before and after repair. Such records shall be maintained for two years and shall be made available to the City upon request. Any leaks discovered by Operator, including any leaks that are reported to Operator by a member of the public, shall be reported to the City immediately upon discovery. Operator shall repair leaks immediately. If the City determines that the leak presents an immediate hazard to persons or property, the Operator may not operate the affected component, equipment or pipeline segment until the Operator has corrected the problem and the City agrees that the affected component, equipment or pipeline segment no longer poses a hazard to persons or property. In the event of leaks that the City believes do not pose an immediate hazard to persons or property, if more than 48-hours repair time is needed after a leak is discovered, Operator shall contact the City and County Manager and provide an explanation of why more time is required. Continuous monitoring to detect leaks or measure hydrocarbon emissions and meteorological data may be required. Any continuous monitoring system shall be able to alert the Operator of increases in concentrations. At least once per year, the Operator shall notify the City five business days prior to an LDAR inspection of its facilities to provide the City the opportunity to observe the inspection. Plan shall include detailed recordkeeping of the inspections for leaking components.
- (3) Emission Control Regulations. To the extent used, all equipment shall comply with the following:
- a. Electrification from the power grid or from renewable sources of all permanent operation equipment that can be electrified.
  - b. Use of acoustically insulated housing or covers to enclose the motor or engine.

- c. Any flare, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- d. Dry seals on centrifugal compressors.
- e. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems.
- f. Emission controls of hydrocarbon emissions of 98% or better for centrifugal compressors and reciprocating compressors.
- g. Best management practices during liquids unloading activities including the installation of artificial lift, automated plunger lifts and at least 90% emissions reductions when utilizing combustion to control any venting. If manual unloading is permitted, Operator shall remain onsite during any manual unloading.
- h. Reduction or elimination of emissions from oil and gas pipeline maintenance activities such as pigging or blowdowns. If any maintenance activity will involve the intentional venting of gas from a well tank, compressor or pipeline, beyond routine pipeline maintenance activity and pigging, the Operator shall provide forty-eight (48) hour advance written notice to the City of such proposed venting. Such notice shall identify the duration and nature of the venting event, a description as to why venting is necessary, a description of what vapors will likely be vented, what steps will be taken to limit the duration of venting, and what steps the Operator proposes to undertake to minimize similar events in the future. If emergency venting is required, or if accidental venting occurs, the Operator shall provide such notice to the City of such event as soon as, but in no event longer than 24 hours from, the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future.
- i. Telemetric control and monitoring systems, including surveillance monitors to detect when pilot lights on control devices are extinguished.
- j. Operator agrees to participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at Facilities.
- k. Proof of compliance with state-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9.
- l. Monitoring as needed to respond to emergency events such as process upsets or accidental releases.
- m. Emission reduction measures to respond to air quality Action Day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area, including minimizing

vehicle and engine idling; reducing truck traffic and worker traffic; delaying vehicle refueling; suspending or delaying use of fossil fuel powered ancillary equipment; and postponing construction activities. Within 30 days following the conclusion of each annual Air Quality Action Day season, Operator shall submit a report to the City that details which measures it implemented during any Action Day advisories.

- n. Shutdown protocols, approved by the City, with notification and inspection provisions to ensure safe shut-down and timely notification to local communities.
  - o. Ongoing maintenance checks of all equipment to minimize the potential for gaseous or liquid leaks.
- (4) Air Quality Action Days. Operator shall respond to air quality Action Day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area by implementing suggested air emission reduction measures as feasible. Emissions reduction measures shall be implemented for the duration of an air quality Action Day advisory and may include measures such as:
- a. Minimize vehicle and engine idling;
  - b. Reduce truck traffic and worker traffic;
  - c. Delay vehicle refueling;
  - d. Suspend or delay use of fossil fuel powered ancillary equipment; and
  - e. Postpone construction or maintenance activities, if feasible.
  - f. Operator shall submit a monthly report to the City that details which measures it implemented during any Action Day advisories.
- (5) Compliance. The Operator shall submit annual reports to the City certifying (a) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, and (b) that the equipment at the Facility continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The annual report shall contain a certification as to the truth, accuracy and completeness of the reports, signed by a responsible corporate official. The Operator may satisfy this reporting obligation in whole or in part by submitting its AQCC Regulations No. 7 annual reports for the prior calendar year to the City and supplementing them as needed to meet these reporting requirements for covered facilities within the City. The Operator will also provide the City with a copy of any self-reporting submissions that Operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the Facility.
- (J) Lighting. During all phases of development and operation, all lighting shall be downward-facing and all bulbs fully shielded to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. Operator shall provide

photometric study approved by City prior to start of construction to indicate impact on surrounding properties. During the drilling and completion phases, consistent with applicable law, a minimum 32-foot wall around well pads to reduce light escaping site. Require, consistent with applicable law, best management practices, including downward shielded lighting and lumens measurement outside of facility.

- (K) Maintenance of Machinery. Routine field maintenance of equipment involving hazardous materials within three hundred (300) feet of any water body is prohibited. All fueling shall occur over impervious material and shall not be done during storm events. Operator shall operate and maintain all equipment in accordance with manufacturer specifications. Regular maintenance checks required for all equipment.
- (L) Noise. Any equipment used in drilling, completion, or production of an oil and gas facility shall comply with the maximum permissible noise levels allowed by the COGCC.
- (M) Reclamation. Operators will comply with COGCC interim and final reclamation requirements. Seeding will take place when climate is conducive to seed germination. Final Facility reclamation will ensure compatibility with neighboring land uses at the time of reclamation.
- (N) Removal of Debris. All excess debris shall be removed during construction activities. Site shall remain free of debris and excess materials at all times during operations. No burning of debris permitted for any activity on Facility, including, but not limited to, drilling, hydraulic fracturing, flowback, recompletion, redrilling or plugging and abandoning.
- (O) Removal of Equipment. No permanent storage of equipment. When no longer used, equipment shall be removed within 30 days unless surface owner agrees and City and County Manager or his designee agrees to temporary equipment remaining on site for more than 30 days.
- (P) Pipelines.
  - (1) Any newly constructed or substantially modified off-location oil and gas flow lines or crude oil transfer lines proposed as part of an applicant's oil and gas facility are subject to use by review under section 17-54-050.
  - (2) To the maximum extent possible, and subject to any provisions contained elsewhere, off-location flow lines and crude oil transfer lines shall be sited to avoid areas containing existing or proposed residential, commercial, and industrial buildings; places of public assembly; surface water bodies; and City open space.
  - (3) To the maximum extent possible, without compromising pipeline integrity and safety, applicant shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize impact.
  - (4) For off-location flow lines and crude oil transfer lines, setbacks from residential, commercial, or industrial buildings, places of public assembly, the high-water mark of any surface water body and sensitive environmental features will be determined on a case-by-case basis in consideration of the size and type of pipeline proposed and features of the proposed site.

- (5) Operator shall comply with Broomfield's Public/Private Improvement Permit and easement processes for all crude oil transfer lines and off-location flowlines installed in Broomfield owned property or rights-of-way.
- (Q) Spills and Releases. Chemical spills and releases, including spills of produced water, oil, condensate, natural gas liquids, all spills outside of secondary containment, and exploration and production waste, shall be reported and cleaned up according to applicable state and federal laws, including the Oil and Pollution Act and the Clean Water Act, as applicable.
- (R) Temporary Access Roads. Operator will assure that temporary access roads are reclaimed and revegetated within 60 days of discontinued use. Erosion shall be controlled while they are in use.
- (S) Water Quality. A water quality control plan that establishes that all facilities shall use most effective performance techniques and best management practices to minimize impacts to water quality, including plans for water quality testing, prevention of illicit or inadvertent discharges, and containment of pollutants as required by Broomfield code and state and federal agencies.
- (T) Weed Control. Required at the Facility until final reclamation and abandonment.
- (U) Well Abandonment or Decommissioning. The applicant shall comply with any COGCC rules regarding well abandonment, decommission, or reclamation. Upon plugging and reclaiming a well, the applicant shall provide the City with surveyed coordinates of the decommissioned or reclaimed well. Unless permanent physical marker of the well location. City Inspector shall be onsite during plugging and abandoning.
- (V) Regulations. An Operator shall comply with all applicable state and federal laws and regulations, as such regulations exist now and with more stringent regulations adopted in the future.
- (W) Sight Access and Security. Site shall be properly secured, including, but not limited to, security fencing or barriers to prevent unauthorized access to site. Site shall be properly secured prior to the start of drilling. Proposed fencing, barriers, and screening shall be included in visual mitigation plan.
- (X) Flammable Material. The area twenty-five feet around anything flammable shall be kept free of dry grass or weeds, conform to COGCC safety standards and applicable fire code. The Operator's pre-application and application shall be reviewed by NMFRD.
- (Y) Mud tracking. Mud tracking on City streets shall be *de minimus*. Operator shall take all practical measures to prevent mud and Operator shall clean up any mud tracked onto City streets from all construction and operations.
- (Z) Trailers. A construction trailer is permitted during active drilling and completions only. No residential trailers will be allowed. Only equipment needed for project should be on site.
- (AA) Visual Screening. Require Operator to construct a 32-foot wall to screen facility from view and provide noise and light mitigation with such walls to be colors that blend with the surrounding natural background.
- (BB) Wastewater Injection Wells are prohibited in Broomfield.

- (CC) Landscaping and berming plan approved by City that includes maintenance and irrigation requirements for planted vegetation throughout the duration of operations, including production.
- (DD) Risk Management. Operator shall submit a site-specific detailed quantitative and qualitative risk management plan for pipelines and oil and gas Facilities. Plan must identify risks, include qualitative and quantitative risk assessment, list methods of risk avoidance and control that implement techniques to prevent accidents and losses and reduce the impact or cost of an accident or loss after it occurs.
- (EE) Safety Management Plan and Management System applicable to all Covered Processes at the Facility. Safety Management System shall provide for employees and systems to oversee implementation and periodic revision of plan. Plan shall include the following elements and describe the manner in which each of the following elements will be applied to the Covered Processes:
  - (1) Process Safety Information. Compilation of written process safety information needed to conduct Process Hazard Analysis. Process safety information shall include information pertaining to hazards of substances and chemicals used by the process, information pertaining to the technology of the process, information pertaining to the equipment used in the process, and information pertaining to the hazards of the substances or chemicals in the process. Documentation that equipment used in the process complies with recognized and generally accepted good engineering practices;
  - (2) Operating Procedures. Written operating procedures that provide clear instructions for safely conducting activities involved in each Covered Process consistent with the process safety information, and at least annual review of operating procedures to ensure they reflect current operating practices;
  - (3) Employee Participation. Plan for ensuring employee participation in conduct and development of Process Hazards Analysis and access to Process Hazards Analysis;
  - (4) Training. Written procedures detailing initial and refresher employee training requirements and documentation of employee training;
  - (5) Mechanical Integrity. Written procedures designed to maintain the ongoing integrity of process equipment, ensure employees involved in maintenance are properly trained to ensure the ongoing integrity of process equipment, ensure that process equipment is tested and inspected in accordance with manufacturer specifications, correct deficiencies in equipment in a safe and timely manner, and ensure that new equipment is installed or constructed properly;
  - (6) Management of Change. Written procedures to manage changes to Covered Processes, technologies, equipment and procedures;
  - (7) Pre-Startup Reviews. Written procedures regarding pre-startup safety reviews;
  - (8) Compliance Audits. Written procedures requiring an audit every three years to verify compliance with the procedures and practices developed

under the Safety Management Plan, and procedures requiring correction of any deficiencies identified in audit; Operator will make results of audit available to Inspector upon request;

- (9) Incident Investigation. Written procedures requiring investigations of all near-misses and incidents, including Root Cause analysis of all incidents resulting in fatalities or serious environmental harm, establishing a system to promptly address and resolve the incident, and requiring that all employees and contractors whose job tasks are relevant to the investigation of the near miss or incident review the investigation report.
- (10) Hot Work. The facility shall ensure that all hot work complies with City and state fire prevention and protection requirements.
- (11) Contractors. Written procedures describing how Operator screens, oversees, shares process safety and emergency response and preparedness information with Contractors;
- (12) Process Hazard Analysis. Process Hazard Analysis for each Covered Process;
- (13) Incident History. List of all incidents that have occurred at the Operator's Facilities within the last ten (10) years, along with any investigation reports, Root Cause analysis and operational or process changes that resulted from the investigation of the accident;
- (14) Safety Culture Assessment. Written procedures requiring Operator periodically review safety culture, and at a minimum conduct such review after each major accident; and
- (15) Inherently Safer Systems Analysis. Require analysis at least every 5 years, whenever a change is proposed at the Facility that could result in an incident, after an incident if recommended by the investigation report or Root Cause analysis, and during the design of new processes, equipment or Facilities.

Safety Management Plan is subject to review by the City and County Manager and City council periodically, but at least every three years and after any incident. City may retain outside consultants to review SMP and may request modifications to Safety Management Plan based on its review and public input.

- (FF) Noise. Any equipment used in drilling, completion, maintenance, stimulation, or production of a well shall comply with COGCC Rule 802 and section 25-12-103, C.R.S. (For maximum permissible noise levels, the City may grant relief from these noise level requirements to the extent granted by COGCC.) To the extent possible, exhaust from all engines, motors, coolers, and other mechanized equipment shall be vented in a direction away from occupied buildings.

#### **17-54-100 Potential Site-Specific Mitigation Measures.**

City Council may decide to apply the following mitigation measures on a case-by-case basis, taking into consideration the potential impacts of the particular oil and gas facility, the environmental impacts of the particular oil and gas facility, the applicant's ability to undertake particular mitigation measures given the current state of technology, and consideration of any

associated standards or rules adopted by the COGCC, the Air Quality Control Commission, or the EPA.

(A) Air Quality.

- (1) To protect air quality, emissions control measures may be required during construction, drilling, hydraulic fracturing, flowback, production and abandonment and reclamation stages, including, but not limited to, one or more of the following:
  - a. Drilling activities conducted with electricity provided by utility electric line power.
  - b. The use of Tier 4 or better diesel engines, diesel and natural gas co-fired Tier 2 or Tier 3 engines, natural gas fired spark ignition engines, or electric line power for hydraulic fracturing pumps.
  - c. The use of liquefied natural gas dual fuel hydraulic fracturing pumps.
  - d. Limitations on truck traffic to and from the site.
  - e. Implementation of tankless production techniques.
  - f. Environmentally sensitive and efficient production techniques, such as using natural gas onsite rather than flaring.
  - g. Use of quiet design mufflers (also referred to as hospital grade or dual dissipative) or equivalent.
  - h. For any flares or combustion devices used, manufacture test or other data demonstrating hydrocarbon destruction or control efficiency that complies with a design destruction efficiency of 99% or better.
  - i. The use of desiccant gas processing dehydrators.
  - j. Hydrocarbon control of 99% or better for crude oil, condensate, and produced water tanks with uncontrolled actual emissions of VOCs greater than two (2) TPY VOCs.
  - k. Year-round application of odor requirements pursuant to COGCC and CDPHE regulations.
  - l. No open vents to atmosphere unless specifically approved by City after Operator proves to City that such venting is necessary for safety.
  - m. Filtration systems or additives to minimize odors from drilling and fracturing fluids except that Operator shall not mask odors by using masking fragrances.
  - n. Reduction or elimination of emissions of associated gas from hybrid gas-oil wells (i.e. gas that is co-produced from a well that primarily produces oil), including prohibition of uncontrolled venting and limits on flaring.
  - o. Consolidation of product treatment and storage facilities within a Facility.

- p. Centralization of compression facilities within a Facility.
- q. Flaring shall be eliminated other than during emergencies or upset conditions; any flaring that is done shall be done with a flare that has a manufacturer specification of 99% destruction removal efficiency or better. All flaring shall be reported to the City.
- r. Use of a pressure-suitable separator and vapor recovery unit (VRU) where applicable.
- s. Pipeline infrastructure for fresh water, produced water, natural gas, crude oil and condensate will be constructed and placed into service prior to the start of any fluid flow from any wellbore.
- t. No untreated produced water or other process fluids shall be used for dust suppression. The Operator will avoid creating dust or dust suppression activities within three hundred (300) feet of the ordinary high-water mark of any water body, unless the dust suppressant is water. Material Safety Data Sheets (MSDS) for any chemical-based dust suppressant shall be submitted to the City prior to use.
- u. EPA Reduced Emission Completions for oil wells. Daily logs documenting reduced emission completions provided to the City.
- v. EPA Reduced Emission Completions for gas wells. Daily logs documenting reduced emission completions provided to the City.
- w. Closed loop, pitless drilling, completions and production systems without permanent on-site storage tanks for containment and/or recycling of all drilling, completion, flowback and produced fluids and any required venting routed to 98% effective emissions control devices.
- x. Plugging and abandoning existing wells.
- y. Use of other Best Management Practices as they become available.
- z. The use of no-bleed continuous and intermittent pneumatic devices. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process.
- aa. A Root Cause analysis for any Grade 1 gas leaks.
- bb. 90% emissions control or better for glycol dehydrators.
- cc. Automated tank gauging.
- dd. For Operators with existing Oil and Gas Facilities in Broomfield, demonstration that Facility will not result in any increase of volatile organic compounds (VOCs) from Operator's existing and planned development in the City. Operator may include anticipated reductions from plugging and abandoning existing wells located in City when modeling total VOCs from existing and future development and related activities.

- ee. Compliance with all CDPHE permits, if any, and compliance with all OSHA work practice requirements with respect to benzene.

(B) Noise.

- (1) Where a well and well site do not comply with the required setback or other requirements of this chapter, or where the well and well site are in an area of particular noise sensitivity, additional noise mitigation may be required. An area of particular noise sensitivity includes, but is not limited to, the following: hospitals, dwelling units, nursing homes, hotels, churches, and designated wildlife preserves. In determining noise mitigation, specific site characteristics shall be considered, including but not limited to the following:
  - a. Nature and proximity of adjacent development, location, and type;
  - b. Prevailing weather patterns, including wind directions;
  - c. Vegetative cover on or adjacent to the site; or
  - d. Topography.
- (2) Based upon the specific site characteristics set forth above, nature of the proposed activity, its proximity to surrounding development, and type and intensity of the noise emitted, additional noise abatement measures may be required. The level of required mitigation may increase with the proximity of the well and well site to areas of particular noise sensitivity or the level of noise emitted by the well and well site. One or more of the following additional noise abatement measures may be required:
  - a. Acoustically insulated housing or cover enclosing the motor or engine;
  - b. Noise management plan identifying hours of maximum noise emissions, type, frequency, and level of noise to be emitted, and proposed mitigation measures;
  - c. Obtain all power from utility line power or renewable sources;
  - d. Utilize the most current equipment to minimize noise impact during drilling, completions, and all phases of operation including the use of "Quiet Fleet" noise mitigation measures for completions;
  - e. Sound walls around well drilling and completion activities to mitigate noise impacts;
  - f. Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 p.m.;
  - g. Any abatement measures required by COGCC for high-density areas, if applicable.

(C) Pipelines.

- (1) The following may be required:
  - a. To the maximum extent feasible, flow lines and crude oil transfer lines shall be located a minimum of one hundred and fifty (150) feet away from general residential, commercial, and industrial buildings, as well as the high-water mark of any surface water

body. This distance shall be measured from the nearest edge of the pipeline/flowline.

- b. Flowlines that pass within 150 feet of general residential, commercial, and industrial buildings or the high-water mark of any surface water body may be required to incorporate leak detection, secondary containment, or other mitigation, as appropriate.
- c. Conduct leak detection inspections or pressure testing in order to identify flowline leaks or integrity issues.
- d. Make available to Inspector upon request all records required to be kept by COGCC R. 1102.m.
- e. Submission to City of all records required to be submitted to PHMSA or the PUC including those related to inspections, pressure testing, pipeline accidents and other safety incidents.
- f. To the maximum extent feasible, buried pipelines shall have a minimum of four (4) feet cover.

(D) Liquid spills and releases. To minimize spills and releases from Oil and Gas Facilities, the following measures may be required, including, but not limited to, one or more of the following:

- (1) Berms or other secondary containment devices around crude oil, condensate, and produced water storage tanks enclosing an area sufficient to contain and provide secondary containment for one hundred and fifty percent (150%) of the largest single tank. Berms or other secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Inspection of all berms and containment devices at regular intervals, but not less than monthly. Maintenance of all berms and containment devices in good condition. A prohibition on the storage of ignition sources inside the secondary containment area unless the containment area encloses a fired vessel.
- (2) Construction of containment berms using steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.
- (3) Construction of secondary containment areas with a synthetic or engineered liner that contains all primary containment vessels and flowlines and is mechanically connected to the steel ring to prevent leakage.
- (4) For locations within five hundred (500) feet and upgradient of a surface water body, tertiary containment, such as an earthen berm, around oil and gas facilities.
- (5) A prohibition on more than two (2) crude oil or condensate storage tanks within a single berm.
- (6) Notification to the City of all spills of a gallon or more that leaves the facility, all spills of any material on permeable ground at the Facility that has a reportable spill quantity under any law and copies of any self-reporting submissions that Operator provides to the COGCC.

- (7) Operator shall keep a daily incident log that is to be submitted to the City monthly/quarterly;
  - (8) Prohibition of onsite storage of waste in excess of 30 days.
  - (9) No permanent storage of drilling and completions chemicals. Drilling and completion chemicals shall be removed at most 60 days after completion.
- (E) Water Quality. To minimize impacts to surface and sub-surface water bodies from oil and gas Facilities, the following measures may be required, including, but not limited to, one or more of the following:
- (1) Chemicals Dangerous to Human Health. To prevent harm to human health, limitations or prohibitions on toxic, including orally toxic, chemicals in hydraulic fracturing fluids.
  - (2) Decommissioned Oil and Gas Well Assessment. Prior to any hydraulic fracturing, and at periods following hydraulic fracturing, assessment and monitoring of plugged and decommissioned or removed from use, and dry and removed from use Oil and Gas Wells (abandoned wells) within one-quarter ( $\frac{1}{4}$ ) mile of the projected track of the borehole of a proposed well. This may include:
    - a. Based upon examination of COGCC and other publicly available records, identification of all abandoned wells located within one-quarter ( $\frac{1}{4}$ ) mile of the projected track of the borehole of a proposed well.
    - b. Risk assessment of leaking gas or water to the ground surface or into subsurface water resources, taking into account plugging and cementing procedures described in any recompletion or plugged and abandoned (P&A) report filed with the COGCC.
    - c. Notification of the City and County Manager and COGCC of the results of the assessment of the plugging and cementing procedures.
    - d. Permission from each surface owner who has an abandoned well on the surface owner's property to access the property in order to test the abandoned well. If a surface owner has not provided permission to access after thirty (30) days from receiving notice, the applicant shall not be required to test the abandoned well.
    - e. Soil gas surveys from various depths and at various distances, depending on results of risk assessment, of the abandoned well prior to hydraulic fracturing
    - f. Soil gas surveys from various depths and at various distances, depending on results of risk assessment, of the abandoned well within one (1) year and then every three (3) years after production has commenced.
    - g. Notification of the results of the soil gas survey to the City and County Manager and the COGCC within three (3) weeks of conducting the survey or advising the City and County Manager that access to the abandoned wells could not be obtained from the surface owner.



- f. An Operator may rely on existing groundwater sampling data collected from any Water Source within the radii described above, provided the data was collected within the 12 months preceding the commencement of drilling the well, the data includes measurement of all of the constituents measured in Table 1, and there has been no significant oil and gas activity within a one-mile radius in the time period between the original sampling and the commencement of drilling the well.
- g. The Operator shall make reasonable efforts to obtain the consent of the owner of the Water Source. If the Operator is unable to locate and obtain permission from the surface owner of the Water Source, the Operator shall advise the City and County Manager that the applicant could not obtain access to the Water Source from the surface owner.
- h. Testing for the analytes listed in Table 1, and subsequent testing as necessary or appropriate.
- i. Operator shall follow standard industry procedures in collecting samples, consistent with the COGCC model Sampling and Analysis Plan.
- j. Reporting the location of the Water Source using a GPS with sub-meter resolution.
- k. Field observations. Reporting on damaged or unsanitary well conditions, adjacent potential pollution sources, odor, water color, sediment, bubbles, and effervescence.
- l. Test results. Provide copies of all test results described above to the City and County Manager, the COGCC, and the Water Source owners within three (3) months after collecting the samples.
- m. Subsequent sampling. If sampling shows water contamination, additional measures may be required including the following:
  - 1. If free gas or a dissolved methane concentration level greater than one (1) milligram per liter (mg/l) is detected in a Water Source, determination of the gas type using gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen).
  - 2. If the test results indicate thermogenic or a mixture of thermogenic and biogenic gas, an action plan to determine the source of the gas.
  - 3. Immediate notification to the City and County Manager, the COGCC, and the owner of the Water Source if the methane concentration increases by more than five (5) mg/l between sampling periods, or increases to more than ten (10) mg/l.
  - 4. Immediate notification to the City and County Manager, the COGCC and the owner of the Water Source if BTEX and/or TPH are detected as a result of testing. Such

detections may result in required subsequent sampling for additional analytes.

5. Further Water Source sampling in response to complaints from Water Source owners.
  6. Timely production and distribution of test results, well location, and analytical data in electronic deliverable format to the City and County Manager, the COGCC and the Water Source owners.
- n. Qualified Independent Professional Consultant. All abandoned well assessments and Water Source testing shall be conducted by the applicant or, if requested by a surface owner, by a qualified independent professional consultant approved by the City and County Manager.

Table 1. Water Quality Analytes	
GENERAL WATER QUALITY	Alkalinity
	Conductivity & TDS
	pH
	Dissolved Organic Carbon (or Total Organic Carbon)
	Bacteria
	Hydrogen Sulphide
MAJOR IONS	Bromide Chloride Fluoride Magnesium Potassium Sodium Sulfate Nitrate + Nitrite as N (total)
METALS	Arsenic Barium Boron Chromium Copper Iron Lead Manganese Selenium Strontium
DISSOLVED GASES and VOLATILE ORGANIC COMPOUNDS	Methane Ethane Propane BTEX as Benzene, Toluene, Ethylbenzene, Xylenes

	Total Petroleum Hydrocarbons (TPH)
OTHER	Water Level Stable isotopes of water (Oxygen, Hydrogen, Carbon) Phosphorus

- (4) Waste Management. Conditions of approval that will ensure proper waste management including one or more of the following:
- a. All fluids shall be contained and there shall be no discharge of fluids.
  - b. Land treatment of oil impacted or contaminated drill cuttings is prohibited.
- (F) Land Disturbance and Compatibility. Conditions of approval that will reduce impacts to the site, residential development, natural resources, environmental resources, agricultural resources, floodways and floodplains, wetlands, and recreational activities, and will enhance compatibility with the surrounding area or scenic and rural character may be required, including, but not limited to, one or more of the following:
- (1) Location. A change of the proposed location of the Facility that allows for extraction of the resource and mitigates the Facility impacts.
  - (2) Reduction. A reduction of the number of wells on a single pad.
  - (3) Pad dimensions. Adjustment of pad dimensions to the minimum size necessary to accommodate operational needs while minimizing surface disturbance.
  - (4) Structures and surface equipment. Adjustment of structures and surface equipment to the minimal numbers and size necessary to satisfy operational needs.
  - (5) Shared infrastructure. Use of shared existing infrastructure by oil and gas operations, minimizing the installation of new Facilities and avoiding additional disturbance to lands in a manner that reduces the introduction of significant new Facility impacts to the environment, landowners and natural resources.
  - (6) Landscaping and irrigation. Operator shall submit a landscaping and visual mitigation plan to the City for approval that includes maintenance and irrigation requirements for the duration of operations until site reclamation. Operator shall be required to provide maintenance funding through bonding to ensure funds are available for upkeep. Required sound walls shall be included in the visual mitigation plan and shall comply with the color scheme approved by the City, blending with natural background.
  - (7) Buffering of visual impacts. Landscaping, berming, or other types of screening materials along the perimeter of the site between the surface equipment and surrounding areas.
  - (8) Vegetation. Maximization of the amount of natural screening available for the Facility. Natural screening includes, but is not limited to, the use of existing vegetation as a background, the construction of the facility near

screening stands of vegetation, or placement in valleys allowing topographic screening. Construction of the facility in a manner that minimizes the removal of and damage to existing trees and vegetation. If the facility requires clearing trees or vegetation, feathering and thinning of the edges of the cleared vegetation and mowing or brush-hogging of the vegetation while leaving root structure intact, instead of scraping the surface.

- (9) Equipment. Use of low profile tanks and less intrusive equipment.
  - (10) Spills and leaks. A plan to monitor for fluid leaks or spills.
  - (11) Require Operator to identify and mitigate through location of facilities and berms potential environmental impacts to drainage ways in a form acceptable by the City.
  - (12) Transportation. Conditions of approval that will ensure public safety for all modes of travel along travel routes to and from the site and maintain quality of life for other users of the City transportation system, adjacent residents, and affected property owners, including a requirement that the Applicant use a particular route for some or all of the pad construction, drilling, and completion phases of the oil and gas facility; maintenance practices on the proposed route during pad construction, drilling, and completion designed and implement to adequately minimize impacts; and compliance with City Transportation Standards.
  - (13) Review operations every 5 years and retrofit with new beneficial technology if feasible in consultation with Broomfield.
- (G) Financial assurance. Operator may be required to provide financial security to guarantee compliance with any conditions of approval imposed by the City, including any obligations stemming from leaking plugged and abandoned wells, if identified. The amount of security will be based on estimated costs to comply with the conditions of approval.
- (H) Safety and Accidents.
- (1) Incidents. For all incidents, Operator may be required to submit report to the City including the following, to the extent available:
    - a. Fuel source, location, proximity to residences and other occupied buildings, cause, duration, intensity, volume, specifics and degree of damage to properties, if any beyond the Facility, injuries to persons, emergency response, and remedial and preventative measures to be taken within a specified amount of time.
    - b. City may require Operator to conduct Root Cause analysis of any incidents.
  - (2) Automatic Safety Protective Systems and Surface Safety Valves. Operator may be required to install automated safety system prior to commencement of production. Automated safety system shall include the installation, monitoring and remote control of a Subsurface Safety Valve and shall be able to remotely shut in wells on demand. Subsurface Safety Valve shall be equipped to operate remotely via the automated safety protective system. Operator shall test automated safety system quarterly to ensure functionality.

### *III. Administrative Review*

#### **17-54-200 Enhanced standards.**

The intent of these enhanced standards is to provide the conditions under which Operator will develop and operate future Oil and Gas Facilities in the City, to protect human health, safety and welfare and to protect the environment and wildlife resources, while at the same time providing for a predictable and expeditious administrative process for obtaining City land use approvals and permits for Oil and Gas Facilities.

All applications considered in the administrative review process and all oil and gas facilities approved under this process shall be subject to and may be required to comply with any of the standards and requirements applicable to uses by special review, as applicable. The Operator shall designate any required standards and requirements as agreed upon best management practices on any application the Operator files with the Commission.

- (A) *Administrative review criteria.* In order to obtain an administrative approval by agreement, an applicant, to operate an oil and gas Facility, shall first satisfy the following criteria, except to the extent waived by the City council as provided herein:
- (1) An Operator agreement, in a form approved by the City council, shall be executed by the applicant and the City manager and currently be in full force and effect, and the oil and gas Facility as proposed shall be in compliance with the provisions of the agreement.
  - (2) The application for administrative approval by agreement and submittals to the City shall include the following:
    - a. Those submittal requirements set forth in 17-54-050 and 17-54-080 meeting the criteria in 17-54-060.
- (B) *Administrative process.*
- (1) Pre-submittal Materials submitted by Operator to staff. Prior to the submission of an application for an Operator agreement, the Operator is required to submit Operator name, parent companies or related companies, demonstration of financial capability of Operator, previous violations of the Operator, proposed location of facilities, number of wells and access points, size of well pad, amount and type of equipment, and any previous spacing unit approvals.
  - (2) Pre-submittal meeting. Following the submission of pre-submittal materials, the Operator is required to schedule a meeting with the City to review the proposed new Facility. The goal of this meeting shall be for the City staff and the Operator to review the proposed oil and gas facility in a manner that ensures compliance with these regulations and applicable state and federal regulations. The pre-submittal meeting shall also allow the Operator and City staff to explore, to the extent commercially reasonable, site-specific concerns, discuss project impacts and potential mitigation methods, including field design and infrastructure construction to minimize impacts, to discuss coordination of field design with other existing or potential development and Operators, to identify sampling and monitoring plans for air and water quality, and other elements as required

by these rules. Operators are encouraged to schedule this meeting prior to entering into any surface use agreements.

- (3) Notice of pre-application. The Operator shall mail pre-application notices ninety days prior to submission of any spacing or density applications. Operator shall pay for the cost of mailing notices. Notice shall include number of wells, size of well pad, type and measurements of proposed major equipment. Owners of record shall be ascertained according to the records of the Broomfield Assessor's Office. Notice shall be made as follows:
  - a. To the City and to surface owners of the parcels of land on which the oil and gas facility is proposed to be located;
  - b. To the surface owners of the parcels of land in the City and County of Broomfield within 2,640 feet of the parcel on which the oil and gas facility is proposed to be located.
- (4) Alternative Site Analysis. At the pre-submittal meeting, Operator shall identify distance of proposed pad to residences, occupied buildings, water bodies, floodplains, and roadways in order to consult with the City to identify alternative sites. Possible alternative sites identified shall be evaluated based upon a set of factors identified by the City, or other mutually agreed methodology. To the extent reasonably feasible, Operator shall consult with the City on the alternative site analysis prior to submittal of any spacing application to the COGCC.
- (5) Application Submittal. All requests for an Operator agreement shall be submitted in writing to the Planning Division and shall include an application fee of \$5000.00 and a report that discusses the results of the Alternative Site Analysis required by 17-54-200(B)(C).
- (6) Neighborhood Meeting. Following the submission of an application to the Planning Division, and before submitting an application to COGCC, Operator will schedule and notice a neighborhood meeting. A neighborhood meeting shall be required on any oil and gas Facilities, even on existing well pads, that require an application for a use permitted by special review. The Operator shall notice, attend and conduct the neighborhood meeting. The public may submit comments on the application to the Operator at the neighborhood meeting. Operator shall prepare a written summary of the neighborhood meeting, including a summary of any public comments received, and submit to staff.
- (7) Notification of Application. The Operator shall mail notice of the application no more than ten working days after an application has been submitted to the City. Operator shall pay for the cost of mailing notices. Owners of record shall be ascertained according to the records of the Broomfield Assessor's Office. Notice of the application shall include reference to the neighborhood meeting and be made as follows:
  - a. Mailed notice.
    1. To the surface owners of the parcels of land on which the oil and gas facility is proposed to be located;

2. To the surface owners of the parcels of land in the City and County of Broomfield within 2,640 feet of the parcel on which the oil and gas facility is proposed to be located;
    - b. Posted notice. The real property proposed to be developed shall also be posted with a sign, giving notice to the general public of the proposed development. For parcels of land exceeding fifteen acres in size, two signs shall be posted. The size of the sign required to be posted shall be as established in the supplemental notice requirements of chapter 17-52 of the City's Land Use Code. Such signs shall be provided by the City and shall be posted on the subject property by the applicant in a manner and at a location or locations reasonably calculated by the City to afford the best notice to the public, which posting shall occur a minimum of ten calendar days prior to the neighborhood meeting.
- (8) Staff Review. Following receipt of the Operator's written summary of the neighborhood meeting, staff shall review the application. An application may require review by outside agencies such as the U.S. Army Corps of Engineers, if the project impacts a floodplain, and may also be referred to any life-safety providers, adjacent jurisdictions, local public health department, and other personnel as may be deemed appropriate by staff. The City may require that the application materials, including requests for variances based on operational conflicts, be submitted to a technical consultant deemed by the City to be appropriate and necessary to complete the review. Reasonable costs associated with such review shall be paid by the Operator.
- The applicant will be notified of any outstanding issues in connection with application materials upon completion of this review and will be required to address any issues or deficiencies in connection with the application materials. If necessary, a meeting between staff and Operator will be held to discuss any issues that need to be resolved. If necessary to address any issues or deficiencies, applicant will submit an amended application, plan or other submittals, as appropriate, to staff for verification that deficiencies have been addressed by the applicant.
- If revisions were necessary, the City shall be provided ten working days to review the revised application. Upon determination by the City that all issues have been resolved, the plans shall be considered the final copy of the application and exhibits. The City's planning director shall forward the final copy of the application materials for final review by the City council.
- (9) Action to approve, conditionally approve, or deny. The administrative approval by Operator agreement can be administratively approved, approved with conditions, or denied by the City council. City council will hold a hearing on the application. Written notice of the decision shall promptly be provided to the applicant, and, if denied, the notice shall include a statement of the reason for denial.

- (10) An approval of the application for administrative approval by agreement shall only be valid for five years unless the oil and gas Facility is substantially commenced prior to the expiration of such timeframe.
- (11) An approval of an application for administrative approval by agreement shall automatically include as conditions of approval all provisions of the Operator agreement executed by the applicant and the City.
- (12) If the applicant or Operator proposes changes from the plans approved through the administrative approval by agreement, the applicant or Operator is required to submit an amendment to the application showing the changes. The proposed amendment will be reviewed by the City and, if applicable, the City may require additional information. The amended application will need to meet all requirements of this section 17-54-200, and be approved by the City council prior to implementation.

**17-54-210 Approval required.**

Development of an oil and gas Facility shall not commence until and unless any required permits from COGCC, and a use by special review permit or an administrative approval by agreement from the City, have both been approved.

*IV. Variances*

**17-54-220 Variances generally.**

- (A) *Variance request.* In both the use by special review permit and administrative approval by agreement processes, an applicant may request a variance from any provision of this chapter. A request for a variance under this subsection may be included in the applicant's application and shall be processed, reviewed and granted, granted with conditions or denied in accordance with and as part of the use by special review permit or administrative approval by agreement processes, as applicable. The variance provisions of chapter 16-36, B.M.C. shall not be applicable to a variance request under this chapter.
- (B) *Operational conflicts variance for use by special review permit.* In the case of an application for a use by special review permit, a variance from the application of any provision of this chapter shall be granted if the provision is in operational conflict with the Act or COGCC regulations, meaning the application of the provision have the effect of materially impeding or destroying a state interest as expressed in the Act or COGCC regulations. This subsection does not apply in the case of an application for administrative approval by agreement.
- (C) *Other variances grounds for variance.* A variance from the application of any provision of this chapter shall be granted on the basis of one or more of the following grounds. A variance may be in the form of a waiver or modification, as applicable:
  - (1) There is no technology commercially available at a reasonable cost to conduct the proposed oil and gas operation in compliance with the provision and granting a variance from the operation of the provision will not have an adverse effect on the public health, safety, or welfare, or on the environment.

- (2) An alternative approach not contemplated by the provision is demonstrated to provide a level of protection of the public health, safety, and welfare, and of the environment, that would be at least equivalent to the applicable provision.
- (3) Application of the provision is impractical or would create an undue or unnecessary hardship because of unique physical circumstances or conditions existing on or near the site of the oil and gas Facility, which may include, without limitation, topographical conditions, shape or dimension of the facility site, inadequate public infrastructure to the site, or close proximity of occupied buildings.

#### *V. Miscellaneous Provisions.*

#### **17-54-230 Transfer of permits or Operator Agreements.**

Use by special review permits or Operator Agreements may be assigned to another Operator only with the prior written consent of the City manager and upon a showing to the City that the new Operator can and will comply with all conditions of the transferred use by special review permit or Operator agreement and with all of the applicable provisions of this chapter. The existing Operator shall assign the use by special review permit or Operator agreement to the new Operator on a form provided by the City and the new Operator shall also sign the form agreeing to comply with all of the conditions of the permit and all applicable provisions of this chapter.

#### **17-54-240 Conflicting provisions; enforceability.**

In the event of a conflict between the provisions of this chapter and any other provision of this title, the provisions of this chapter shall control.

#### **17-54-250 Unlawful acts.**

Except as otherwise provided in this chapter, it is unlawful to construct, install, or cause to be constructed or installed, any oil and gas Facility within the City unless approval has been granted by the City either by a use of special review permit or administrative approval by agreement. The unlawful drilling or redrilling of any well or the production therefrom is a violation of this chapter.

#### **17-54-260 Suspension or revocation of use by special review permit or operator agreement.**

If the City believes the Operator has violated a condition of the use by special review permit or Operator agreement or that there are material changes in the approved oil and gas facility, the City may, for good cause temporarily suspend the use special review permit or Operator agreement. Upon oral or written notification, the Operator shall cease operations immediately. As a condition precedent to terminating the use by special review permit or Operator agreement, the City shall provide written notice to Operator specifying, in reasonable detail, the failure and the remedy required. The Operator shall then have a period of forty-five days in which to remedy the failure, or if the failure is of a nature that cannot be remedied within that forty-five-day period, the Operator shall have commenced to remedy the failure and will diligently complete the remedy. City authorization is required to re-start facilities that have been

suspended under use by special review permit or Operator agreement. If Operator fails to remedy a material default in the manner set forth above, upon written notice, the City may terminate the use by special review permit or Operator agreement and revoke any or all approvals for operations of the subject oil and gas Facilities. Upon such revocation, Operator shall cease operating such oil and gas Facilities until it obtains approval for such wells under the then-applicable City code.

**17-54-270 Penalty.**

Subject to other applicable provisions of law, any person who constructs, installs, or uses, or who causes to be constructed, installed, or used, any oil, gas, or injection well, or Facility in violation of any provision of this chapter or of the conditions and requirements of the oil and gas special use permit or administrative approval by agreement, may be punished as provided in chapter 1-12, B.M.C. Each day of such unlawful operation constitutes a separate violation.

**17-54-280 Civil action; enforcement.**

In case of any violation of this chapter, including but not limited to (a) nonconformance with an Operator agreement or special review permit, (b) nonconformance with plans submitted and approved by the City pursuant to this chapter, or (c) a building or structure is or is proposed to be erected, constructed, reconstructed, altered, or used, or any land is or is proposed to be used, in violation of any provision of this article or the conditions and requirements of the oil and gas special use permit or Operator agreement, the City attorney, in addition to the other remedies provided by law, ordinance, or resolution, may institute an injunction, mandamus, abatement, or other appropriate action or proceeding to prevent, enjoin, abate, or remove such unlawful erection, construction, reconstruction, alteration, or use. The enforcement provisions of this chapter shall apply to all special review permits, memorandums of understandings or operator agreements, adopted pursuant to this chapter and all Operator agreements adopted on or after August 1, 2013.

**17-54-290 False or inaccurate information.**

The City manager may revoke approval of a facility if it is determined after an administrative hearing, held on at least ten days' notice to the applicant, that the applicant provided information or documentation upon which approval was based, which the applicant, its agents, servants, and employees, knew, or reasonably should have known, was materially false, misleading, deceptive, or inaccurate.

**17-54-300 Severability.**

If any provision of this chapter is found by a court of competent jurisdiction to be invalid, the remaining provisions of this chapter will remain valid, it being the intent of the City council that the provisions of this chapter are severable.

**17-54-310 Prospective application.**

Unless specifically provided otherwise, this chapter shall apply only to wells which are drilled in the City on and after the date this chapter is adopted. The reentering of a well in existence prior to the date of adoption of this chapter, for purposes of deepening, recompleting

or reworking, shall not require approval of a use permitted by special review as required by this chapter, unless such work requires a new or modified permit from COGCC.

**17-54-320 Abandonment and plugging of wells.**

The approval of a use by special review or an administrative approval by agreement shall not relieve the Operator from complying with all Commission rules with respect to abandonment and plugging of wells. The Operator shall provide the City with Commission Form 4 at the time that it is filed with the Commission.

**17-54-330 Application and facility fees.**

When an application is submitted to the City for a use by special review or an administrative approval by agreement under this chapter, the applicant shall pay to the City a \$5000 oil and gas application review fee for each Facility. In addition, the applicant shall be required to pay either a use by special review fee and public notice and publication fees as required for a use by special review or a neighborhood meeting fee of \$100 for an Operator agreement. These fees are in addition to any other fees charged by the City.

**17-54-340 Coordination with Air Quality Control Commission.**

Pursuant to section 25-7-128(4), C.R.S., upon the issuance of any enforcement order or granting of any permit, the City shall transmit to the AQCC a copy of the order or permit. Pursuant to section 25-7-128(6), C.R.S., the City shall confer and coordinate its activities regarding efforts to control or abate air pollution consistent with that provision.

**17-54-350 Appeal of decisions.**

Any appeal of a decision by the City council under this chapter, to the extent allowed by law, shall be filed in the district court of this county within thirty days of the final decision on any such matter.

Section 2. This ordinance shall be effective seven days after publication following final passage.

INTRODUCED AND APPROVED after first reading on May 8, 2018, and ordered published in full.

INTRODUCED A SECOND TIME and approved, as amended, on July 10, 2018, and further ordered published in full.

THE CITY AND COUNTY OF  
BROOMFIELD, COLORADO

  
Mayor

ATTEST:

*Jennifer K. Roberts*  
City and County Clerk, Deputy



APPROVED AS TO FORM

*Jan W. Galt*  
City and County Attorney Deputy