

Discussion Draft 5/12/21

This discussion draft of the oil and gas regulations for Larimer County includes suggested changes from the April 5, 2021 and April 28, 2021 discussion draft (**Blue text**) as well as new suggested changes (**Red text**). None of these suggested changes have been finalized but are being tracked so that the reader can stay informed as to all suggested changes without having to look at multiple drafts.

The new suggested changes (**Red text**) will set the agenda for the public workshop on May 18, 2021 at 6:00 PM. These suggested changes include focus on purpose, fees, inspections, financial assurances and insurance.

Please keep in mind that not all suggested changes have been proposed and additional changes to various parts of these regulations are yet to be addressed.

Additional information and schedule changes may occur throughout this ongoing process so please keep up to date by visiting our web page at <https://www.larimer.org/planning/luc2020/phase-ii-larimer-county-land-use-code/oil-gas-regulations-phase-ii-update>

Article 11.0. Oil and Gas Regulations

This draft includes older draft changes shown in blue that address land use and siting topics, which have not yet been updated. The newer changes in red address health, safety, welfare, and environment topics. The Intent and Purpose and remaining sections will be comprehensively updated in the next draft(s).

Article 11.0 Oil and Gas Facilities

11.1. Intent and Purpose

11.1.1. Intent

The intent of this section of the Land Use Code is to establish a regulatory framework for new ~~and existing~~ oil and gas facilities (O&GFs) ~~to be proposed or~~ located in the unincorporated areas of Larimer County ~~in a manner that acknowledges private property rights and to protect~~ the public health, safety, and general welfare, ~~protects the~~ environment, and wildlife ~~resources, and minimizes adverse impacts.~~

11.1.2. Authority

~~This article is authorized by C.R.S. §§ 25-8-101 et seq., 29-20-101 et seq., 30-28-101 et seq., 34-60-101 et seq., 25-7-101 et seq., 30-15-401, Colorado common law related to public nuisances, and other authority as applicable. C.R.S. 29-20-104 (1) provides the County authority to regulate and review applications pertaining to the surface development of O&GFs.~~

11.1.3. Purpose

These regulations are necessary to:

- A. Protect public health, safety, and welfare, and environment and wildlife resources in unincorporated Larimer County.
- B. Ensure a comprehensive land use process and transparent public process for the development of new O&GFs, in the unincorporated areas of the County.
- ~~C. Provide for the managed development, installation, maintenance, modification, reclamation, and removal of O&GFs, while acknowledging the interests of oil and gas developers and operators, or mineral interest owners.~~
- D. Avoid impacts to public health, safety, welfare and the environment and wildlife resources through application of reasonable siting requirement and land use regulations.
- E. Minimize to the maximum extent possible the nuisance effects of O&GFs through the application of best available techniques and technologies.
- ~~F. Promote and protect the public health, safety, and welfare, and protect the environment and wildlife by minimizing the adverse impacts of O&GFs.~~
- G. Maximize protection of natural and cultural resources and public facilities.
- ~~H. Encourage O&GF's to strategically locate where adverse impacts from such operations can be avoided.~~
- ~~I. Minimize and mitigate the extent and severity of adverse impacts that cannot be avoided.~~
- J. Confirm the financial, indemnification and insurance capacities of the oil and gas developer/operator to ensure timely and effective construction, production, removal and reclamation of O&GFs and infrastructure.

11.1.4. Applicability

These regulations shall apply to all new ~~and greenfield~~ O&GFs, to be constructed on any property in all zoning districts in the unincorporated portions of Larimer County. [Regulations shall be applied to existing O&GFs where specified.](#)

11.1.5. Severability

If any section, clause, provision, or portion of these regulations should be found to be unconstitutional or otherwise invalid by a court of competent jurisdiction, the remainder of the regulations in this section shall not be affected thereby and is hereby declared to be necessary for the public health, safety, and welfare.

11.2. Review Procedures and Required Permits

11.2.1. General Requirements

No person, firm or corporation shall establish, construct, or build a new O&GF, without first having obtained required land use approval(s) and permits as required by this Code. Applications to the County for new O&GFs, may be submitted simultaneously with the Colorado Oil and Gas Conservation Commission (COGCC) permitting process.

11.2.2. County Review Process

All new O&GFs, in the unincorporated portions of Larimer County shall require approval of a Special Review application for the proposed facility as set forth in §6.4.2 *Special review*, of this Code. Application and submittal requirements for O&GFs are specified in the following Community Development Department application handouts:

- A. Sketch Plan Review Application and Submittal Requirements for Oil and Gas Facilities.¹
 1. The requirements found in 12.2.3;
 2. Preliminary Site Analysis. The applicant shall prepare and submit a Preliminary Site Analysis to the County for the Sketch Plan Review. The Preliminary Site Analysis shall include the following information:
 - a. All drilling and spacing units proposed by the applicant within one (1) mile of the County's boundaries;
 - b. The proposed location or route for the oil and gas facility and all features defined below, completely contained within, or within ¼ mile of all drilling and spacing units proposed by the applicant;
 - c. Any existing residential, platted residential, or property currently entitled for residential use, not including properties zoned for agricultural use over five (5) acres in size;
 - d. Any facility classified as a high occupancy building as defined by the COGCC;
 - e. Any school, nursing facility as defined in § 25.5-4-103(14), C.R.S., hospital, life care institutions as defined in § 12-13-101, C.R.S., or correctional facility as defined in § 17-1-102(1.7), C.R.S.;

¹ The requirements for a “preliminary site analysis” and “alternative location analysis” listed here are more appropriately located in the “Oil and Gas Application and Submittal Requirement handout.” They are listed here for discussion purposes.

- f. Any operating child/elderly care center or child/elderly care home as defined in the Land Use Code;
 - g. Community Park Land, Public Parks, Regional Park Land, and Trails and Trailheads as defined in the Land Use Code
 - h. Areas within the FEMA 100-Year Floodplain boundary;
 - i. The centerline of all USGS perennial and intermittent streams;
 - j. Reservoirs and public and private water supply wells;
 - k. Wetlands;
 - l. High priority wildlife habitat; and
 - m. Disproportionately impacted communities.
3. Alternative Location Analysis. All applicants must submit an alternative location analysis. The alternative location analysis will include, at a minimum, the following information:²
- a. A map depicting the following elements within three miles of the proposed surface location or pipeline route:
 - b. All mineral rights held or controlled by the applicant;
 - c. All drilling and spacing units proposed by the applicant; and
 - d. The location of all features listed in the "Preliminary Site Analysis."
 - e. Unless waived by the Community Development Director, the analysis shall evaluate a minimum of three potential locations or routes that can reasonably access the mineral resources within the proposed drilling and spacing unit(s), including the following information for each site or pipeline route:
 - i. General narrative description of each location or pipeline route;
 - ii. Any location restrictions that the site does not satisfy;
 - iii. Off-site impacts that may be associated with each site or route;
 - iv. Proposed truck traffic routes and access roads for each location; and
 - v. Any information pertinent to the applicable review criteria that will assist the Community Development Director in evaluating the locations or routes.
- B. Neighborhood Meeting Submittal Requirements and Guidelines for Oil and Gas Facilities.
 C. Special Review Application and Submittal Requirements for Oil and Gas Facilities.
 D. Registration and Submittal Requirements for Oil and Gas Facilities.

11.2.3. Notification

All O&GF applications shall have a minimum APO notification boundary of ½ mile (2,640 feet) for all neighbor referral, neighborhood meeting and public hearing notices, as outlined §6.3 *Common Review Procedures*.

11.2.4. County Permits

Prior to the commencement of any construction activity for an O&GF, all required permits for such facilities shall be approved. Required permits include, but are not limited to:

² The COGCC now requires an Alternative Location Analysis (Rule 304.b(2)) as do Adams County, Broomfield County, and numerous municipalities including Brighton, Aurora (draft), Commerce City, and Erie. Boulder County and Weld County do not require an alternative location analysis.

- A. Access permits,
- B. Development construction permit,
- C. Building permits for all qualifying buildings and structures,
- D. Electrical permits, and
- E. All federal, state, and local permits.

11.2.5. Non-County Permits

County approval of an O&GF shall not relieve the landowner or applicant of the responsibility for securing other permits or approvals required by any other applicable County Departments, local fire district, municipalities, or other applicable federal, state and public agencies.

11.2.6. Technical Expert Review

Applications for O&GFs may involve complex technical issues that require review and input that is beyond the expertise of County staff. If such a situation arises, the Director may commission a third-party review of the relevant subject matter and require the applicant to pay reasonable costs for the third-party review. Selection of a third-party expert(s) to review portions the proposal will be at the discretion of the County.

11.2.7. Application to Existing Facilities.

O&GFs that were legally established prior to the effective date of this Article will be allowed to continue but will be subject to public health, safety, welfare, and environmental requirements as specified in this Article.

- A. Any modification of oil and gas operations or facilities that the Director determines to be substantial requires a separate Special Review Application under this Article.
- B. Registration. Operators with existing O&GFs in Larimer County prior to the effective date of this Article will submit the Registration and Submittal Requirements for Oil and Gas Facilities materials within 90 days after the effective date of this article; or, if not already operating wells in Larimer County, at least 60 days prior to assuming responsibility for operating existing O&GFs. Operator registration must be updated and renewed annually by January 1.

11.3. Standards Required for Oil and Gas Facilities.

11.3.1. General

- A. In addition to the standards and requirements of this section, all other relevant standards and regulations set forth in this Code shall also apply.
- B. All applications for new O&GFs, shall meet all applicable federal, state, and local standards and regulations pertaining to the development and operation of such facilities.

11.3.2. Setbacks Location Restrictions:

Oil and gas locations (well sites and production facilities) shall only be located within the following zoning districts without obtaining a variance under Section 6.7.3.: NR – Natural Resources; FO – Forestry; A – Agriculture; ACE – Agricultural Commercial Enterprise; O – Open; IH –

Heavy Industrial; AP – Airport; and PD-Planned Development and RPD – Rural Planned Development where oil and gas development is a specified use.³

- A. Oil and gas locations shall be at least two thousand (2,000) feet from the property line of any school facility or child care center.
- B. Oil and gas locations shall be at least one thousand (_____) feet from the following unless a variance is obtained:⁴
 - 1. Building unit(s) that are not subject to a waiver from all building unit owner(s) explicitly agreeing with informed consent to the proposed oil and gas location;
 - 2. Community Park Land, Public Parks, Regional Park Land, and Trails and Trailheads as defined in the Land Use Code.
 - 3. Public water supply surface intakes or public water supply wells; and
- C. No oil and gas locations may be located between one thousand 1,000' and two thousand 2,000' of any platted residential buildings, unless one or more of the following conditions are satisfied:
 - 1. All existing owners of any of the affected residential properties within 2,000' of the relevant point of measurement explicitly agree with informed consent to the proposed oil and gas location;
 - 2. Any wells, tanks, separation equipment, or compressors proposed on the oil and gas location will be located more than 2,000' from the relevant point of measurement; or
 - 3. The Board of County Commissioners finds, as part of their Special Review of an application, that the proposed oil and gas location and conditions of approval will provide substantially equivalent protections for public health, safety, welfare, the environment, and wildlife resources. The Board of County Commissioners will consider, without limitation:
 - a. The extent to which the oil and gas location design and any planned practices, preferred control technologies, and conditions of approval avoid, minimize, and mitigate adverse impacts, considering:
 - i. Geology, technology, and topography;
 - ii. The location of receptors and proximity to those receptors; and
 - iii. The anticipated size, duration, and intensity of all phases of the proposed oil and gas operations at the proposed oil and gas location.
 - b. The Operator's alternative location analysis conducted pursuant to section 11.2.2.B;
 - c. Related oil and gas location siting and infrastructure proposed;
 - d. How O&GFs associated with the proposed oil and gas location are designed to avoid, minimize, and mitigate impacts on the affected properties; and

³ Oil and gas development would be prohibited in all other zones. These changes would also be reflected in Sections 3.2.6 and 3.2.7 (Table of allowed principal uses, rural and urban).

Use of zoning to restrict oil and gas development is used in several municipalities including Commerce City, Erie, and Superior. Boulder County and Weld County do not restrict oil and gas development through zoning. Adams County restricts oil and gas facilities from residential areas but not from commercial areas.

⁴ COGCC has a strict 500 foot setback with the ability to locate within 500-2,000 feet by demonstrating "substantially equivalent protections" (Rule 604); Boulder County has a 2,000-foot setback requirement (with a stated preference for 2,500 feet); Adams County has a 1,000 foot setback (but may revise); Commerce City has a 1,000 foot setback with a 1,500 foot setback from 10 or more homes; Erie has a 2,000 foot setback; Brighton has a 1,000 foot setback; Weld County has a 300 foot setback.

- e. The Operator's actual and planned engagement with nearby residents, property owners, and businesses to consult with them about the planned oil and gas operations.
4. All oil and gas locations proposed within the County shall be at least five hundred (500) feet from the following:
 - a. Rivers and streams;
 - b. Existing Water Storage Facilities and approved future Water Storage Facilities as defined in the Land Use Code; and
 - c. Ditches that transport water used by, or to augment, a public water supply system.
5. Locating O&GFs within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall not be allowed unless no other location is feasible, and all other appropriate permissions are obtained.
6. All equipment at an oil and gas location located within a 100-year floodplain shall be anchored as necessary to prevent flotation, lateral movement or collapse or shall be surrounded by a berm with a top elevation at least one (1) foot above the level of a 100-year flood.
7. In addition to the requirements within Article 11, oil and gas development proposed within an area zoned within the natural resources (NR) district will also have to go through the 1041 permitting process outlined in §10.9.4. of this code.
- ~~A. Setbacks for O&GFs shall be 1,000 feet from building units, including high occupancy building units, or as required by the rules of the COGCC, whichever are greater. All other setbacks from natural and manmade feature as required by the rules of the COGCC shall apply.~~
- ~~B. To achieve the objectives of §11.1.3, the County Commissioners may, on a case by case basis, require setbacks greater than required by §0 above.~~
- ~~C. The Board of County Commissioners may, by request, allow a reduction of the setbacks required by §0 above when it has been determined that the applicant has adequately demonstrated that the setbacks prohibit access to the mineral interests being sought, or the reduced setbacks will achieve and mitigate to the extent necessary the objectives of this code or the expectations of the County Commissioners.~~

11.3.3. Air Quality

- A. **An Air Quality Report and Mitigation Plan** shall be submitted with all O&GF applications to demonstrate how the development and operation of the facility will avoid causing degradation to air quality and will minimize and ~~and/or~~ mitigate adverse impacts to air quality and demonstrate compliance with and implementation of standards in §§11.3.3 and 4.11 of this Code.
- B. **Ambient Air Monitoring.** Operator shall create and submit an air monitoring plan describing how the Operator will conduct baseline monitoring prior to construction of the O&GF. The plan shall also describe how the Operator will conduct continuous monitoring and collect periodic canister samples (or equivalent method) during the drilling, completion and production phases of development. Air pollutants monitored by canister samples shall include, but are not limited to, methane, VOCs, benzene, Oxides of Nitrogen (NOx), Particulate Matter (PM), and Fine Particulate Matter (PM 2.5). At Operator's cost, a third-party

consultant approved by the County shall conduct baseline and ongoing air sampling and monitoring. Such sampling and monitoring shall comply with the following requirements:

1. Baseline sampling shall be conducted within 500 feet of a proposed O&GF over a 90-day period. Baseline sampling shall track levels and changes in monitored air pollutant concentrations. Baseline sampling data shall be provided as part of the Oil and Gas permit submittal.
2. Continuous monitoring for hydrocarbons shall occur during the drilling and completions phase of oil and gas development. Each hydrocarbon monitor shall include a sampling device to automatically collect an air sample when the monitor levels reach a trigger level defined below. Monitors shall also include meteorological monitoring capabilities. Continuous monitoring may not cease until three years have passed from the date the last well drilled on the site has entered the production phase, unless a school, child care center, hospital, or residence is within 1,000' of the edge of the well site. In such instance, continuous monitoring shall be required until all wells are plugged and abandoned.
3. The release of methane, total hydrocarbons, and VOCs will be avoided or mitigated. An increase in the detection of these pollutants greater than the ambient levels determined during baseline sampling plus the anticipated change based on Operator-provided impacts of modeled operations shall require the Operator to collect a further sample utilizing an 8-hour canister sample immediately after detection.
4. In the event a canister sample is triggered, the County shall be notified within 24 hours after the occurrence of such event. Depending on the circumstances, expedited lab analysis may be required.

~~The report/plan shall include baseline air quality data and demonstrate how the development and operation of the facility will avoid and/or mitigate adverse impacts to air quality and demonstrate compliance with and implementation of standards in §§11.3.3 and Error! Reference source not found. of this Code.~~

- C. The Air Quality Mitigation Plan must consider the cumulative impacts to existing air quality and all planned and existing oil and gas operations within the County.
- D. In addition to all federal and state laws, rules and regulations, applications for O&GFs shall demonstrate how exploration, construction and standard operations of an O&GF will comply with the rules and regulations of the Colorado Air Quality Control Commission (AQCC). Information to be provided shall include all appropriate applications of notifications and permits for sources of emissions.
- E. Reduced Emission (Green) Completions shall be used for all completions and well workovers. Such completions shall include the use of closed loop, pitless drilling, completion systems, without permanent on-site storage tanks, for the containment and/or recycling of all drilling, completion and flowback fluids.
- F. The Following Air Quality Best Management Practices shall be required unless an equal or better system exists:
 - ~~Flaring only allowed during emergencies or upset conditions. When allowed, routing and control of all emissions to a flare or combustor shall provide at least 98% destruction or removal efficiency.~~
 1. Zero emission desiccant dehydrators.
 2. Emission controls of 95% or better for glycol dehydrators.

3. Pressure-suitable separator and vapor recovery units.
 4. No-bleed continuous and intermittent pneumatic devices.
 5. Automated tank gauging.
 6. Require dry seals on centrifugal compressors.
 7. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems.
 8. Control emissions by 98% during storage tank hydrocarbon liquids loadout (i.e. loading out liquids from storage tanks to trucks).
 9. Reduction or elimination of emissions from flowline maintenance activities such as pigging, including routing emissions to a vapor collection system.
- G.** To the extent used, all combustion devices including flares, thermal oxidizers, or emission control units shall be designed and operated as follows:
1. Any flaring that is done shall be done with a flare that has a manufacturer specification of 98% destruction removal efficiency or better;
 2. The flare and/or combustor shall be fired with natural gas;
 3. 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 minute in any fifteen minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor;
 4. The flare and or combustor shall be operated with a flame present at all times when emissions may be vented to it;
 5. All combustion devices shall be equipped with an operating auto-igniter;
 6. 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 the pilot flame and shall activate a visible and audible alarm in the case that the pilot goes out; and
 7. 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.
- H.** 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.
- I.** O&GFs shall be equipped with electric-powered engines for motors, compressors, drilling and production equipment, and pumping systems unless no adequate electricity source is available, or it is technically infeasible.
- J.** Air quality requirements for both new and existing facilities.
1. New and existing O&GF applications shall include operational provisions to reduce emissions on Air Quality Action Advisory Days posted by the Colorado Department of Public Health and Environment (CDPHE) for the Front Range area. The provisions shall include how alerts are received, outline specific emission reduction measures, and

include requirements for documenting the measures implemented. Measures should include:

- a. Minimizing vehicle traffic and engine idling,
 - b. Reducing truck and worker traffic,
 - c. Delaying vehicle refueling,
 - d. Suspending or delaying use of fossil fuel powered equipment,
 - e. Postponing construction and maintenance activities,
 - f. Postponing well maintenance and liquid unloading that would result in emission releases to the atmosphere, and
 - g. Postponing or reducing operations with high potential to emit VOCs of NOx.
2. Venting is prohibited during all phases of oil and gas development unless there is an immediate threat to public health, safety, and welfare, the environment, and wildlife.
 3. Flaring is prohibited except as allowed in COGCC rules. When allowed, routing and control of all emissions to a flare or combustor shall provide at least 98% destruction or removal efficiency.

11.3.4. Leak Detection and Repair

- A. The provisions of 11.3.4 are applicable to both new and existing O&GF.
- B. **A Leak Detection and Repair Plan** shall be submitted with all O&GF applications and once every three years as part of an Operator's annual registration. The plan shall disclose techniques, methods and protocols that will be utilized at the proposed O&GF to identify, prevent, contain, document, repair, and report leaks, and shall demonstrate how it will comply with and implement the standards in this §11.3.4.
- C. Operators shall conduct leak detection and repair inspections at every O&GF a minimum of once every year or at greater frequencies as the frequency required by the APCD (Air Pollution Control Division) for the emission source using modern leak detection technologies (infrared cameras, etc.) and equipment. The results of said inspections, including all corrective actions taken, shall be reported to the Larimer County Department of Health and Environment (LCDHE) and County Local Government Designee (LGD) upon request.
- D. Repair of verified leaks shall occur within 72 hours of detection. If it is anticipated that a repair will take longer than 72 hours, the operator shall provide a written explanation to the LCDHE and the LGD as to why more time is required and how the leak will be contained. If a leak is not repaired within 72-hours, the O&GF shall be shut-in until the leak is repaired.
- E. Equipment leaks that pose an imminent safety risk to persons, wildlife, or the environment shall undergo emergency shut down and not be allowed to operate until the Operator has provided evidence that the leak has been repaired.
- F. At least annually, Operators shall provide a 2-week notice of a routine leak inspection to the LCDHE and LGD inviting them to attend and observe the inspection.

11.3.5. Odors

- A. An Odor Mitigation Plan** shall be required for all O&GF applications indicating how the operations will prevent odors from adversely impacting the public and wildlife and further demonstrating compliance with the standards in this §11.3.5.
- B. New and existing** oil and gas operations shall comply with the CDPHE, AQCC, Regulation No. 2 Odor Emission, 5 CCR 1001-4, Regulation No. 3, 5 CCR 1001-5, and Regulation No. 7, 5 CCR 1001-9 Sections VII and VIII.
1. If a resident within 2000' of an O&GF complains of odor (either directly to the Operator, to the COGCC, or to the County) Operator shall determine whether the odor is caused by Operator's operations. Operator will provide a complete description of all activities occurring at the oil and facility at the time of the complaint. Operator shall report its conclusions, including the factual basis for the conclusions, to the County and the complainant. If the odor is caused by Operator's operations, Operator shall resolve the odor concern to the maximum extent practicable within 24 hours. Operators may be required to cease Proposed O&GFs shall provide protocols for immediate response to odor complaints that include options for ceasing operations, notify ication of affected residents, or temporarily and temporary relocation relocate of residents until the source of the odor is identified and resolved.
 2. For both existing and new O&GF, the Operator shall communicate the schedule/timing of well completion activities to adjacent and nearby all residents within 2,000 feet which could include an online portal by mail. As part of the a new application, Operator will provide information on as to how notifications will be communicated to the public.
 3. The County may require an Operator to collect and analyze a speciated air sample to measure for volatile organic compounds or hazardous air pollutants in response to an odor-related complaint. Speciated air sample collection shall be done utilizing a third-party vendor approved by the County.
- C.** The Odor Mitigation Plan shall include control strategies which shall be implemented upon receipt of an odor complaint(s) or as required by the County depending on the size, location, and nature of the facility. These Odor control strategies may include the following:
1. Odorants, that are not a masking agent, shall be added to chillers and/or mud systems.
 2. Additives to minimize odors from drilling and fracturing fluids except that Operators shall not mask odors by using masking fragrances.
 3. Filtration systems and/or additives to minimize, not mask, odors from drilling and fracturing fluids shall be utilized in the drilling and flowback processes.
 4. Increasing additive concentration during peak hours provided additive does not create a separate odor. Additives must be used per the manufacturer's recommended level.
 5. Enclosed shale shakers shall be utilized to contain fumes from exposed mud where safe and feasible.
 6. Drilling activities shall utilize minimum low odor Category III or better drilling fluid or non-diesel-based drilling muds that do not contain benzene, toluene, ethylbenzene, or xylene (BTEX). Operator will employ the use of drilling fluid with low to negligible aromatic content during drilling operations after surface casing is set for the protection of fresh water aquifers.
 7. Wipe down drill pipe as they exit the well bore each time.

11.3.6. Water Quality and Water Bodies

- A. **A Water Quality Report/Plan** shall be submitted with all O&GF applications. The report/plan shall demonstrate how the development and operations of the facility will avoid impacts to surface and ground waters in Larimer County, identify all private and community permitted water wells within half-mile and demonstrate compliance with and implementation of standards in §11.3.6 of this Code and the LUC Supplemental Materials.
- B. Baseline and subsequent water source tests, as typically required by and submitted to the COGCC and CDPHE, shall be provided to the LCDHE and the LGD for the life of the facility and any post-closure assessments, if approved by the owner(s) of the water well.
 - 1. Operators will test for analytes listed in Table 1 in addition to the analytes tested pursuant to COGCC rules.
 - 2. Operator shall offer baseline and subsequent water source tests free of charge to all well-owners within ½ mile (2,640 Feet) from O&GF.
- C. The application shall provide documentation indicating how the COGCC waterquality protection standards are being implemented.
- D. Locating O&GFs within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall not be allowed unless no other location is feasible, and all other appropriate permissions are obtained.
- E. The requirements of this §11.3.6 shall not prevent discharges reviewed and permitted by the CDPHE Water Quality Control Division, the EPA, and the Army Corps of Engineers.

TABLE 1

<u>GENERAL WATER QUALITY</u>
<u>Alkalinity, Conductivity & TDS, pH, Dissolved Organic Carbon (or Total Organic Carbon), Bacteria, Perfluorinated Compounds (PFCs), and Hydrogen Sulfide</u>
<u>MAJOR IONS</u>
<u>Bromide, Chloride, Fluoride, Magnesium, Potassium, Sodium, Sulfate, and Nitrate + Nitrite as N</u>
<u>METALS</u>
<u>Arsenic, Barium, Boron, Chromium, Copper, Iron, Lead, Manganese, Selenium, Strontium, Mercury, Uranium, and Radium</u>
<u>DISSOLVED GASES and VOLATILE ORGANIC COMPOUNDS</u>
<u>Methane, Ethane, Propane, BTEX as Benzene, Toluene, Ethylbenzene and Xylenes, Total Petroleum, and Hydrocarbons (TPH)</u>
<u>OTHER</u>

[Water Level, Stable isotopes of water \(Oxygen, Hydrogen, Carbon\), Phosphorus.](#)

11.3.7. Risk Management

A Risk Management Plan shall be submitted with all O&GF applications. The plan shall include risk identification, responsibilities, assessment, response, planning mitigation and, methods of risk avoidance and control that implement techniques to prevent the accident/loss and reduce the impact after an accident/loss occurs. Operators shall periodically update and revise the plan, but at least every three years and after any incident.

- A.** Operator shall develop a risk identification in a risk table which will identify the particular site by name, describe the risk, identify any health, safety, or environmental impact, identify any impact to Operator's development schedule, provide a description of the risk area and associated factors, and whether it is an unmitigated or mitigated risk.
- B.** Operator shall assign persons or entities under its control or direction to have responsibility for the managing risk identified and plans support the risk mitigation. Such assignment shall not limit the Operator's responsibility.
- C.** Operator shall identify any planned mitigation response (including emergency response, tactical response, and notifications) for certain identified risks.
- D.** Operator will implement a compliance and audit program. The Operator shall determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected. If Operator utilizes a self-reporting mechanism to any respective agency, that self-reporting mechanism will be described in the Risk Management Plan. If Operator self-reports, any findings included in the self-reporting to any other respective agency will be provided to the County.
- E.** County may retain outside consultants, at Operator's cost, to review Risk Management Plan and may require modifications to Risk Management Plan based on its review.

11.3.8. Emergency Response

- A. An Emergency Response Plan** shall be submitted with all O&GF applications. In preparation of the Emergency Response Plan, Operator shall engage with emergency responders and prepare a plan that includes, without limitation, documentation of the communications and coordination with the County and nearby schools related to evacuation of the nearby schools and all persons residing within a one-half (1/2) mile radius from the edge of disturbance. The Emergency Response Plan must detail all criteria for persons to be notified in the event of an emergency and training for first responders.
 - 1.** Operator shall complete and implement all components of a detailed Emergency Response Plan subject to the approval of the County's Director of Emergency Management and the applicable fire district must approve of the Emergency Response Plan ("Plan") before the Drilling Phase commences.

2. Operator shall review the plan annually and file any updates with the County's Emergency Manager and the applicable fire district. If no updates to the Plan are made then Operator shall provide notice of "No Change."
3. The Plan shall include:
 - a. Name, address and phone number, including twenty-four-hour numbers for at least two (2) persons responsible for field operations as well as the contact information for any subcontractor of Operator engaged for well-control emergencies;
 - b. A process by which the Operator notifies surrounding neighbors to inform them about the on-site operations and emergencies and to provide sufficient contact information for surrounding neighbors to communicate with the Operator;
 - c. An as-built facilities map in a format suitable for input into the County's GIS system depicting the locations and type of above and below ground facilities, including sizes and depths below grade of all oil and gas flow lines and associated equipment, isolation valves, surface operations and their functions, as well as transportation routes to and from exploration and development sites, for response and management purposes. The information concerning flowlines and isolation valves shall be marked and treated as confidential and shall only be disclosed in the event of an emergency or to emergency responders or for the training of emergency responders;
 - d. Detailed information addressing each reasonable potential emergency that may be associated with the operation, including without limitation: explosions; fires; gas; oil or water pipeline leaks or ruptures; hydrogen sulfide or other toxic gas emissions; hazardous material vehicle accidents or spills; and natural disasters;
 - e. An emergency evacuation plan for the Well Site and any person within one-half (1/2) mile of the Well Site.
 - f. A provision that any spill outside of the containment area, that has the potential to leave the facility or to threaten waters of the state, or as required by the County-approved plan shall be reported to the local dispatch and the COGCC Director in accordance with COGCC regulations;
 - g. Detailed information identifying access, and health care facilities anticipated to be used;
 - h. A project-specific plan for any project that involves drilling or penetrating through known zones of hydrogen sulfide gas;
 - i. A provision obligating the Operator to reimburse the appropriate agencies for their expenses resulting from the Operator's operations; and

- j. A statement and detailed information indicating that the Operator has adequate personnel, supplies, and training to implement the plan immediately at all times during construction and operations.
 4. The Operator shall have current Material Safety Data Sheets (MSDS) for all chemicals used or stored on a Well Site. The MSDS sheets shall be provided immediately upon request to County officials, a public safety officer, or a health professional as required by COGCC Rules.
 5. All training associated with the Plan shall be coordinated with the County and the fire districts within the County.
 6. Operator shall provide the County with its shutdown protocols and promptly notify the County of any shut downs that would have an impact to any area beyond the confines of the Well Site.
- B. A Will-Serve Letter** from the applicable fire district(s) shall be submitted with all O&GF applications. The letter shall state that the Operator has agreed to provide adequate emergency response equipment, any necessary training, or fee-in-lieu satisfactory to the district, to adequately respond to potential events that may result from operations;
- C. A Resource Mobilization/Cache Plan** shall be submitted with all O&GF applications to ensure emergency responders have available the equipment necessary to respond to any emergency identified in the emergency response plan, which shall provide that the equipment be stationed in locations as to be readily available for any emergency for any O&GF covered by the plan.

11.3.9. Incident and Accident Reporting

- A. Within twenty-four (24) of any reportable safety event, as defined by the COGCC in Rule 602(g), as may be amended, or any accident or natural event involving a fire, explosion or detonation requiring emergency services or completion of a COGCC Form 22, Operator shall submit a report to the County that includes the following, to the extent available: 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 Well Site, injuries to persons, emergency response, and remedial and preventative measures to be taken within a specified amount of time. Additional reporting shall be provided after the conclusion of the event, if the event lasts longer than twenty-four (24) hours.
- B. The County may require Operator to conduct a root cause analysis of any reportable safety events or Grade 1 gas leaks, each as defined by the COGCC.
- C. Any spill or release of unrefined and refined petroleum products, hazardous substances, fracking fluids, E&P waste, or produced fluids of greater than 25 gallons outside of secondary containment areas on an O&GF, including those thresholds reportable to the COGCC, shall upon discovery, be immediately reported to the National Response Center and CDPHE as well as the following Local Emergency Response Authorities in Larimer County:
 1. Larimer County Sheriff – Public Safety Answering Point (PSAP) (9-1-1)
 2. Larimer County Department of Health and Environment,

3. Local Fire Department/District,
4. Local Municipal Police Department if within in mile of a County or Town,
5. Larimer County Oil and Gas LGD, and
6. Larimer County Local Emergency Planning Committee (within 24-hours).

11.3.10. Spills and Releases

- A. **A Spill Prevention and Containment Plan** shall be submitted with all O&GF applications. The plan shall disclose techniques, methods, and protocols to be utilized at the proposed O&GF to prevent, contain, document, and report any spills or releases, and shall demonstrate compliance with and implementation of the standards in this §11.3.10.
- ~~B. An Emergency Response Plan shall be provided that includes evacuation plans and routes, inventory of emergency response supplies, and notification requirements. The plan shall include what training opportunities that will be provided for emergency services personnel to become familiar with the site.~~
- C. Secondary containment shall be required and shall conform to the requirements of the COGCC rules and standards.
- D. Unloading areas shall be designed to contain potential spills or direct spills into other secondary containment areas
- E. Containment systems constructed of steel rimmed berms, or similar impervious surfaces that are equal to or better, shall be used for all secondary containment areas.
- ~~F. Any spill or release of unrefined and refined petroleum products, hazardous substances, fracking fluids, E&P waste, or produced fluids of greater than 25 gallons outside of secondary containment areas on an O&GF, including those thresholds reportable to the COGCC, shall upon discovery, be immediately reported to the National Response Center and CDPHE as well as the following Local Emergency Response Authorities in Larimer County:~~
 1. Larimer County Sheriff—Public Safety Answering Point (PSAP) (9-1-1)
 2. Larimer County Department of Health and Environment,
 3. Local Fire Department/District,
 4. Local Municipal Police Department if within in mile of a City or Town,
 5. Larimer County Oil and Gas LGD, and
 6. Larimer County Local Emergency Planning Committee (within 24 hours).
- G. All spills or releases, whether reportable or not, shall be cleaned up immediately and to the satisfaction of the local emergency response authorities, listed in the Spill Prevention Control and Countermeasure Plan.

11.3.11. Noise

- A. **A Noise Report and Mitigation Plan** shall be required for all O&GF applications. The plan shall demonstrate how the operations will mitigate noise and vibration impacts to comply with the noise standards contained in this §11.3.11. The report and plan shall include the following:
 1. A five-day (two days being the weekend day) baseline noise analysis.
 2. Modeled decibel levels for all phases of development shall be presented using contour maps from the O&GF site (combining noise sources) at 350 feet, 500 feet, 1000 feet, and

to the property line of the adjacent properties. Contour maps shall be provided that demonstrate both unmitigated and mitigated decibel levels.

- 3. A plan of proposed mitigation measures to be implemented by the O&GF during each phase of development shall be provided to ensure compliance with the maximum permissible noise levels as listed in 11.3.11.B below.
- B. Noise generated from both new and existing O&GFs shall comply with the following maximum permissible noise levels appropriate for the Zone Area Designation of the adjacent land uses as determined by the County. Zone Area Designations are defined by C.R.S. 25-12-102 Noise Abatement and will be used as part of the County’s determination for surrounding land uses and may be different than the County’s zone districts.

Table 0-1: Maximum Permissible Noise Levels			
Zone Area Designations	7:00 am to next 7:00 pm		7:00 pm to next 7:00 am
Residential/Agricultural/Rural	55 db(A)		50 db(A)
Commercial	60 db(A)		55 db(A)
Light Industrial	70 db(A)		65 db(A)
Industrial	80 db(A)		75 db(A)
All Areas	60db(C)		60 db(C)

In the hours between 7:00 a.m. and the next 7:00 p.m., the noise levels permitted above may be increased by ten (10) db(A) for a single period of not to exceed fifteen minutes in any one-hour period. Night-time levels between 7:00 p.m. and the next 7:00 a.m. shall not be exceeded therefore requiring strategic planning of noise-inducing activities to be conducted during daytime hours at the site.

- C. Sound levels shall be measured at or within 25 feet of the parcel boundary line where the O&GF site is located. When evaluating a noise complaint, the County shall measure sound at or within 25 feet of the parcel boundary line of the O&GF site and other property boundaries which are more representative of the noise impact.
- D. Beginning with construction and up to production, the County will require continuous noise monitoring for all oil and gas facilities located with one-half mile (1/2), or greater depending on the location, nature, and size of the facility, of the property line of any existing residences, schools, or state licensed daycares. The County may require continuous noise monitoring be conducted by an approved third-party consultant based on the location, nature, and size of the facility.
- E. O&GF activities shall be operated so the ground vibration inherently and recurrently generated is not perceptible, without instruments, at any point on a boundary line of the property on which the O&GF is located.
- F. In situations where low frequency noise is a component of the problem, a sound level measurement shall be taken 25 feet from the exterior wall of the residence or occupied structure nearest to the noise source, using a noise meter calibrated to the db(C) scale. If this reading exceeds 605 db(C), the County shall require the Operator to obtain a low frequency noise impact analysis by a qualified sound engineer, including identification of any reasonable control measure available to mitigate such low frequency noise impact to be

implemented by the O&GF. Such study shall be provided to the County for consideration and possible action.

- G. Construction of O&GFs, including drilling/well completions, recompletions, and pipeline installations, shall be subject to the maximum permissible noise levels specified for light industrial zones for the period within which construction is being conducted. Construction activities directly connected with abatement of an emergency are exempt from the maximum permissible noise levels.
- H. Quiet design mufflers (i.e., hospital grade or dual dissipative) or equal to or better than noise mitigation technologies shall be utilized for non-electrically operated equipment.
- I. Motors, Generators, and engines shall be enclosed in acoustically insulated housings or covers.
- J. To ensure the Operator controls noise to the allowable levels set forth above, one or more of the following may be required based on the location, nature, and size of the facility:
 - 1. Noise mitigation plan identifying hours of maximum noise emissions, type, frequency, and level of noise to be emitted, and proposed mitigation measures;
 - 2. Obtain all power from utility line power or renewable sources;
 - 3. 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;
 - 4. Sound walls around well drilling and completion activities to mitigate noise impacts;
 - 5. Restrictions on the unloading of pipe or other tubular goods between 6:00 p.m. and 8:00 a.m.;
 - 6. The use of electric drill rigs;
 - 7. 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;
 - 8. The use of liquefied natural gas dual fuel hydraulic fracturing pumps.
- K. All noise studies and assessments required by the County shall be completed by a qualified sound professional.

11.3.12. Dust

- A. **A Fugitive Dust Control Plan** shall be submitted with all O&GF applications. The plan shall disclose techniques and methods to be utilized at the proposed O&GF to prevent or mitigate fugitive dust generated by the construction and operations of the proposed O&GF and shall demonstrate compliance with and implementation of standards in §§11.3.12 and 4.11 of this Code. All fugitive dust (including dust generated from fracking sand) shall be contained to the maximum extent practicable.
- B. Best management practices (BMPs) for the mitigation of dust associated with on-site operations and traffic activities shall be employed at the facility. The BMPs shall be outlined in the Fugitive Dust Control Plan
- C. Produced water and other process fluids shall not be used for dust suppression unless adequately pretreated so that it does not create odors and has been approved for land application by CDPHE Water Quality Control Division.
- D. Safety Data Sheets (SDSs) shall be provided with the application for any proposed chemical based dust suppressants.

- E. Unless otherwise approved by the County Health and Engineering Departments, only water will be used for dust suppression activities within 300-feet of the ordinary high- water mark of any body of water.
- F. Both new and existing operations shall be conducted in such a manner that dust does not constitute a nuisance or hazard to public health, safety, welfare or the environment.
 - 1. If there is a complaint of dust by a nearby resident or business (including agriculture) that is made directly to the Operator, to the COGCC, or to the County, the Operator shall determine whether the dust is caused by Operator's operations. Operator will provide a complete description of all activities occurring at the oil and facility at the time of the complaint. Operator shall report its conclusions, including the factual basis for the conclusions, to the County and the complainant. If the dust is caused by Operator's operations, Operator shall resolve the dust concern to the maximum extent practicable within 24 hours.
 - 2. If deemed necessary and reasonable, the County may require additional dust mitigation efforts at any point during Operations.

11.3.13.Access

- A. **A Traffic Impact Analysis and Routing Plan** shall be submitted with all O&GF applications. The plan shall disclose routing alternatives and transportation infrastructure improvements proposed for the proposed O&GF to mitigate projected transportation impacts and demonstrate compliance with and implementation of the standards in this §11.3.13. The Traffic Impact Analysis and Routing Plan will be prepared by a vendor selected by the Operator from a County-approved list of vendors. The Traffic Impact Analysis and Routing Plan will include:
 - 1. The proposed haul routes to and from the site, and public and private roads that traverse or provide access to the proposed operation;
 - 2. The estimated number of vehicle trips per day for each type of vehicle, 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. identify and distinguish impacts to County roads and bridges related to O&GF construction, operations and ongoing new traffic generation.
 - 4. The Traffic Impact Analysis and Routing Plan shall plan to mitigate transportation impacts that will typically include, but not be limited to, a plan for traffic control, ongoing roadway maintenance, and improving or reconstructing County roads;
 - 5. Detail of access locations for each well site including sight distance, turning radius of vehicles and a template indicating this is feasible, sight distance, turning volumes in and out of each site for an average day and what to expect during the peak hour;
 - 6. Truck routing map and truck turning radius templates with a listing of required and determined that certain improvements are necessary at intersections along the route;
 - 7. Restriction of non-essential traffic to and from any Well Site to periods outside of peak am and pm traffic periods and during school hours (generally 7-8am and 3-6pm) if Well Site or access road are within 2000' of school property.
 - 8. Identification of need for any additional traffic lanes, which would be subject to the final

approval of the County's engineer.

- B. Designs for private access drives shall conform to the Local Low Volume cross section found in the Larimer County Rural Area Road Standards and shall include the following:
 - 1. The first 50 feet of access drive from the edge of pavement of the adjacent road will be paved, or made of an approved all weather surface, and the remaining portions of the access drive shall be composed of a minimum of 6 inches of compacted Class 5 road base.
 - 2. The access drive entrance shall include returns with a 30-foot radius.
 - 3. A mud and debris tracking pad shall be located at the end of the paved portion of the access drive.

11.3.14. Wildlife

- A. O&GF application must contain a map of ecologically important areas including critical wildlife habitat areas, riparian areas, rivers, water bodies, wetlands, potential conservation areas, Species of Concern listing, Tier 1 and Tier 2 species as identified by the Colorado Parks and Wildlife (“CPW”), and of federally-designated threatened or endangered species, as mapped by other applicable federal and state governmental agencies or discovered upon inspection, on and within one mile of the parcel(s) on which the oil and gas facilities are proposed to be located.
- B. New O&GFs will comply with §4.4.4 – Wildlife.

11.3.15. Chemical Handling

- A. **A Chemical and Hazardous Materials Report and Handling Plan** shall be submitted with all O&GF applications. The plan shall disclose the type of hazardous and non-hazardous materials and chemicals that will be used on the site of the proposed O&GF, including how they will be handled to prevent spills and demonstrate compliance with and implementation of standards in this §11.3.14.
- B. Prior to any hydraulic fracturing activity, the Operator shall provide the County with a copy of the Chemical Disclosure Registry form provided to the COGCC pursuant to the COGCC’s “Hydraulic Fracturing Chemical Disclosure”.
- C. Drilling and completion chemicals shall be removed from the site within sixty (60) days of the drilling completion.

11.3.16. Recycle, Reuse and Disposal of Fluids

- A. **A Waste Management and Disposal Plan** shall be submitted with all O&GF applications. The plan shall document the techniques and methods of the proposed O&GF to manage wastes generated on the site and demonstrate compliance with and implementation of the standards in this §11.3.16.
- B. Drilling, completion flowback, and produced fluids shall be recycled or reused whenever technically feasible.
- C. If not to be recycled or reused onsite, exploration and production waste may be temporarily stored in tanks for up to 30-days while awaiting transport to licensed disposal or recycling sites.

- D. Produced water shall be recycled or reused or shall be transported by pipeline unless easements are not available.
- E. The Operator shall take precautions to prevent adverse environmental impacts to air, water, soil, or biological resources to the extent necessary to protect public health, safety, and welfare, including the environment and Wildlife Resources to prevent the unauthorized discharge or disposal of oil, gas, Exploration and Production Waste, chemical substances, trash, discarded equipment, or other oil field waste.
- F. The requirements of this §11.3.14 shall not prevent discharges or beneficial uses of water reviewed and permitted by the CDPHE Water Quality Control Division or another agency with jurisdiction.

11.3.17. Lighting and Visual Impacts

- A. For all phases of the development of the site, the application shall demonstrate compliance with the visual and aesthetic rules of COGCC and this Code for landscaping, fencing, and lighting set forth in Article 4.0 *Development Standards*.
- B. All O&GFs shall be painted with colors that are matched to or slightly darker than the surrounding landscape, and shall utilize paint with uniform, non-contrasting, nonreflective color tones based upon the Munsell Soil Color Coding System.
- C. The location of all outdoor lighting shall be designed to minimize off-site light spillage and glare using best practices recognized by the International Dark-Sky Association. See §4.10 *Exterior Lighting*.
- D. For all phases of site development, fencing shall be installed for security and visual aesthetics of the use.
- E. Sound or screening wall to mitigate for noise during construction and well completion may be required if the O&GF is within 2,000 feet of residential buildings or lots, or if electric requirement is appealed.
- F. O&GFs applications shall minimize removal of trees and vegetation on the site.
- G. Landscaping and/or fencing for screening and visual quality as viewed from public rights-of-way and neighboring residential areas shall be required within 6 months from the time of well completion and in accordance with requirements for the zoning district.
- H. O&GF applications shall demonstrate compliance with weed control requirements of the County Weed District and Forestry Services Department, including for access roads serving the facility.

11.3.18. Well Plugging and Abandonment

- A. **A Reclamation Plan** shall be submitted. The plan shall demonstrate how well abandonment and reclamation shall comply with the COGCC rules and shall include the following information:
 - 1. Removal of all equipment from the well site,
 - 2. Restoration of the site surface to the conditions of the site reclamation plan,
 - 3. Notice to the County LGD of the commencement and completion of such activity, and
 - 4. Coordinates for the location of the decommissioned well(s), and any associated gathering or flow lines, shall be provided with the notice of the completion of well abandonment.

11.3.19. Well Liquids Unloading

- A. Best management practices, including artificial lift, automated plunger lifts and at least 98% emission reductions when utilizing combustion to control venting shall be employed at all facilities unless technically infeasible.
 - B. Approved manual unloading shall require on-site supervision of the unloading process.
-

11.3.20. Flammable Materials

- A. The location of flammable materials on site shall conform to all COGCC safety standards and local fire codes.
 - B. A minimum 25-foot buffer, free of weeds and dried grasses, shall be required around flammable materials or equipment.
-

11.3.21. Waste Disposal

- A. **A Waste Management and Disposal Plan** shall be submitted with all O&GF applications. The plan shall document the techniques and methods of the proposed O&GF to manage wastes generated on the site and demonstrate compliance with and implementation of the standards in this §11.3.21.
 - B. Oil and gas facilities shall remain free of debris and excess materials during all phases of operation.
 - C. Burning of debris, trash or other flammable material is not allowed.
 - D. Temporary storage of materials (up to 30-days) may be allowed with installation of screening to mitigate from aesthetic impacts from public rights-of-way or if requested by landowner.
-

11.3.22. Interim Reclamation and Removal of Equipment

- A. An Interim Reclamation Plan. Operator shall submit and implement an interim reclamation plan including:
 - 1. Site plan that defines the "working pad surface" limited to those areas necessary production,
 - 2. Written description of existing vegetation in the area,
 - 3. Plan for revegetation and any landscaping outside of working pad surface and how it will be watered and maintained,
 - B. There shall be no permanent storage of equipment (i.e., vehicles, trailers, commercial products, chemicals, drums, totes, containers, materials, and all other supplies not necessary for uses on an oil and gas location) on the site of an oil and gas facility.
 - C. When not in use, or if no longer needed for on-site operations, all equipment not being used on the site shall be removed from the site within thirty (30) days of completion of the work, weather condition permitting.
-

11.3.23. Maintenance of Machinery

- A. Statewide Best Management Practices shall be used to prevent contamination of soils and stormwater runoff, including equipment and vehicle maintenance and fluid containment.
- B. There shall be no maintenance of field equipment involving hazardous materials within 300-feet of a water body.

- C. Any fueling on-site shall occur over an impervious surface with a secondary containment berm and sump in case of a spill and shall not occur during storm events.

11.3.24. Flow Lines, Transfer Lines, and Gathering Lines

- A. The use of pipelines to transport liquid production wastes and product is required to the greatest extent practicable.
- B. All off-site lines transporting process materials, production wastes, product and any other items used or generated by the facility shall be located to avoid existing or proposed residential, commercial, and industrial buildings, places of assembly, surface waterbodies and designated open spaces. Buried pipelines shall be a minimum of four-feet deep and shall be of detectable material which could include the addition of tracer wire to ensure detection during buried utility locating.
- C. The location of pipelines shall be evaluated on a case-by-case basis, with the determining locational factor being the size and type of pipeline being proposed.
- D. Coordinates of all flow lines, gathering lines, and transfer lines shall be provided.

11.3.25. Temporary Water Lines

- A. Temporary waterlines shall be used unless development is not within a water service area.
- B. Temporary waterlines shall be buried at all existing driveway and road crossings, or utilize existing culverts, if available.

11.3.26. Financial Assurance

- A. Financial Assurance. The Operator shall provide the County with financial assurance as provided in this section and regulations established by the Director pursuant to this section.⁵
 - 1. Administrative Regulations. The Director shall establish administrative regulations for financial assurances consistent with this section. Such requirements shall include, at a minimum, standard language for each type of financial assurance; qualifications for issuing institutions; and procedures for the review, processing, acceptance, replacement, cancellation and termination, use, release, reduction, or aggregation of financial assurances and standby trusts to implement financial assurances. Such requirements shall be reviewed and updated by the Director as needed to meet the intent of this section.
 - 2. Minimum Requirements.
 - a. Amount. The financial assurance shall be in the amount of ninety thousand dollars (\$90,000.00), multiplied by the number of approved wells on the associated planned well site. The Financial Assurance (including any existing Financial Assurance) shall be adjusted for inflation on January 1, 2022, and on January 1 of each year thereafter. "Inflation" shall mean the annual percentage change in the United States department of labor, bureau of labor statistics, consumer price index for Denver-Aurora-Lakewood, all items, all urban consumers, or its successor index.
 - b. Term. The financial assurance required by this section shall be provided to the County before the commencement of any work, including Well Pad construction, and shall remain shall be provided until all wells at the well site have been plugged and abandoned and all OGFs has been adequately reclaimed, as determined by the

⁵ This entire section may be more appropriate in a "Financial Assurances Handout"

- completed operations with limits of not less than \$1,000,000 each and every occurrence.
- b. Automobile Liability insurance with limits of not less than \$1,000,000 each and every occurrence.
 - c. Workers' Compensation insurance- Statutory Workers' Compensation Coverage for the employee's normal State of employment/hire. Including Employer's Liability insurance - with limits of not less than \$1,000,000 Each Accident, Disease - Each Employee, Disease - Policy Limit.
 - d. Control of Well/Operators Extra Expense insurance - with limits of not less than 10,000,000 covering the cost of controlling a well that is out of control or experiences a blowout, re-drilling or restoration expenses, seepage and pollution damage resulting from an out of control well or blowout as first party recovery for the operator and related expenses, including, but not limited to, loss of equipment and evacuation of residents.
 - e. Umbrella/Excess Liability - in excess of General Liability, Employer's Liability, and Automobile Liability with limits no less than \$25,000,000 per occurrence; provided, however, that for so long as the Construction Phase, Drilling Phase or Completions Phase is ongoing at any Well Site under a permit, Operator will maintain such insurance with limits no less than \$100,000,000 per occurrence.
 - f. Environmental Liability/Pollution Legal Liability insurance- with limits of not less than \$5,000,000 per pollution incident, with coverage being required beginning with the date that is eight (8) years from the date of first production from each new well ("Required Date"). Coverage must include gradual pollution events. This insurance may be on a claims-made basis, however the retroactive date must precede the Required Date in order to cover all wells.
2. Operator shall waive and cause its insurers under the above policies to waive for the benefit of the County any right of recovery or subrogation which the insurer may have or acquire against the County or any of its affiliates, or its or their employees, officers or directors for payments made or to be made under such policies.
 3. Operator shall add the County and its elected and appointed officials and employees as Additional Insureds under general liability (including operations and completed operations), auto liability, and umbrella liability.
 4. Operator shall ensure that each of the policies are endorsed to provide that they are primary without right of contribution from the County or any insurance or self-insurance otherwise maintained by the County, and not in excess of any insurance issued to the County.
 5. Operator shall ensure that each of the policies above (excluding workers' compensation and OCC/COW) are endorsed to state that the inclusion of more than one insured under such insurance policy shall not operate to impair the rights of one insured against another insured and that the coverage afforded by each insurance policy shall apply as though a separate policy had been issued to each insured.
 6. All policies shall be endorsed such that they cannot be canceled or non-renewed without at least 30 days' advanced written notice to Operator and the County, evidenced by return receipt via United States mail, except when such policy is being canceled for nonpayment of premium, in which case ten (10) days advance written notice is required.

- Language relating to cancellation requirements stating that the insurer's notice obligation is limited to "endeavor to" is not acceptable.
7. Operator shall, prior to permit issuance, deliver Certificates of Insurance reasonably acceptable to the County confirming all required minimum insurance is in full force and effect.
 8. Deductibles or retentions shall be the responsibility of Operator. Deductibles or retentions must be listed on the Certificate of Insurance required herein and are subject to the reasonable approval of the County.
 9. Operator shall require any of its subcontractors to carry the types of coverage and in the minimum amounts in accordance with the requirements set out in Section 1.A, 1.B. and 1.C. Operator shall be responsible for any damage or loss suffered by the County as a result of non-compliance by Operator or any subcontractor with this section.
 10. If Operator's coverage lapses, is cancelled or otherwise not in force, the County reserves the right to obtain insurance required herein and charge all costs and associated expenses to Operator, which shall become due and payable immediately.
 11. If that the coverage required is not widely available to operators in the Denver-Julesburg Basin, in lieu of the coverage required, Operator and the County may establish a joint escrow account that shall be used to satisfy any obligations of Operator that would have otherwise have been covered by the coverage required. Operator shall fund such account with an amount equal to \$5,000.00 per new well then-producing (the "Per Well Amount"). The aggregate amount to be placed into the account shall be re-visited on an annual basis based on the then-number of producing new wells. The Per Well Amount shall be adjusted each year by the increase or decrease in the Consumer Price Index issued by the United States Bureau of Labor Statistics for the Denver - Boulder metropolitan area. Any interest accrued in the account shall be credited towards the Operator's required contributions to the account and any excess amounts in the account above and beyond the amount required by this provision shall be promptly returned and released to Operator.
- ~~C. The Applicant shall, for the life of the use, carry customary and usual environmental liability insurance.~~

11.4. Appeals

§6.7.2 Appeals, of this Code shall provide direction for all appeals to standards, processes, and provisions of this Article 11.0, *Oil and Gas Facilities*.

11.5. Enforcement and Inspections

- 11.5.1.** ~~Applications for~~ New and existing O&GFs shall demonstrate compliance with this and all other relevant Sections of this Code.⁶ Failure of an Operator to maintain compliance with the

⁶ Section 1.9 addresses enforcement, penalties, and inspections.

County approval of an O&GF may result in the revocation of the approval pursuant to the procedures in §6.3 *Common Review Procedures*.

11.5.2. The County retains the right to seek whatever remedy or redress is legally allowable.

11.5.3. The County reserves the right to inspect ~~the property any O&GF~~ for compliance. County inspections may occur without Operator present. However, unless urgent circumstances exist, the County will use best efforts to give 4 hours prior notice to the Operator's contact person at the telephone number on file. Inspections in response to odor or noise may occur as soon as feasible upon receipt of the complaint. Routine inspections will be coordinated with the Operator to allow Operator presence onsite to the extent possible and to ensure the site visit is conducted in accordance with all applicable Operator safety requirements.⁷

11.6. Fees and Security for Reclamation

Where reimbursement to the County or any other party is required by this section, such reimbursement shall be payable immediately upon invoice. The County may require a deposit to cover such costs.

The following fees are applicable to oil and gas facilities:

- A. A Capital Transportation Impact fee.
- B. Inspection fees. The applicant for a new OGFs shall agree to provide reimbursement to the County for the full cost necessary to inspect all OGFs owned by the Operator within unincorporated Larimer County. Upon completion of an inspection, the Operator shall receive an invoice for the cost of such inspection.

11.7. Termination or Modifications of Use

11.7.1. No modification to an approved O&GF shall be made without obtaining appropriate land use approvals from the County. A modification is any permanent physical change not required by law that substantially increases the site footprint or air emissions.

11.7.2. Upon termination of use, the O&GF shall be reclaimed pursuant to the reclamation plan provided.

11.8. Definitions

Unless otherwise listed herein, the definitions found within the C.R.S. and Colorado Oil and Gas Conservation Commission (COGCC) regulations shall apply.

⁷ This is intentionally different than the requirements in Section 1.9. Oil and gas facilities are an often-unattended industrial activity that, at times, may require inspections without delay.

Article 2.9.4. Setbacks

2.9.4. Setbacks

A. Setback Measurement

1. Setbacks shall be measured from the lot line, nearest edge of the road easement, nearest edge of right-of-way, or nearest edge of traveled way, whichever is greater.
2. The applicable street and road setback apply to both sides of a street or road adjacent to a lot or that goes through a lot. When an applicable side or rear setback exceeds the street or road setback, the greater setback applies.
3. Setbacks do not apply to streets or roads that are used for internal circulation in multi-family, commercial, or industrial developments.
4. No part of any structure may extend into or above any easement.

B. Setbacks for Attached Buildings

For buildings where multiple dwellings or businesses share a common wall, only the outside walls of the end units shall comply with applicable setback requirements.

C. Double-Frontage Lots

In the case of double-frontage lots, front setbacks shall apply to all frontages. See Figure 2-1,

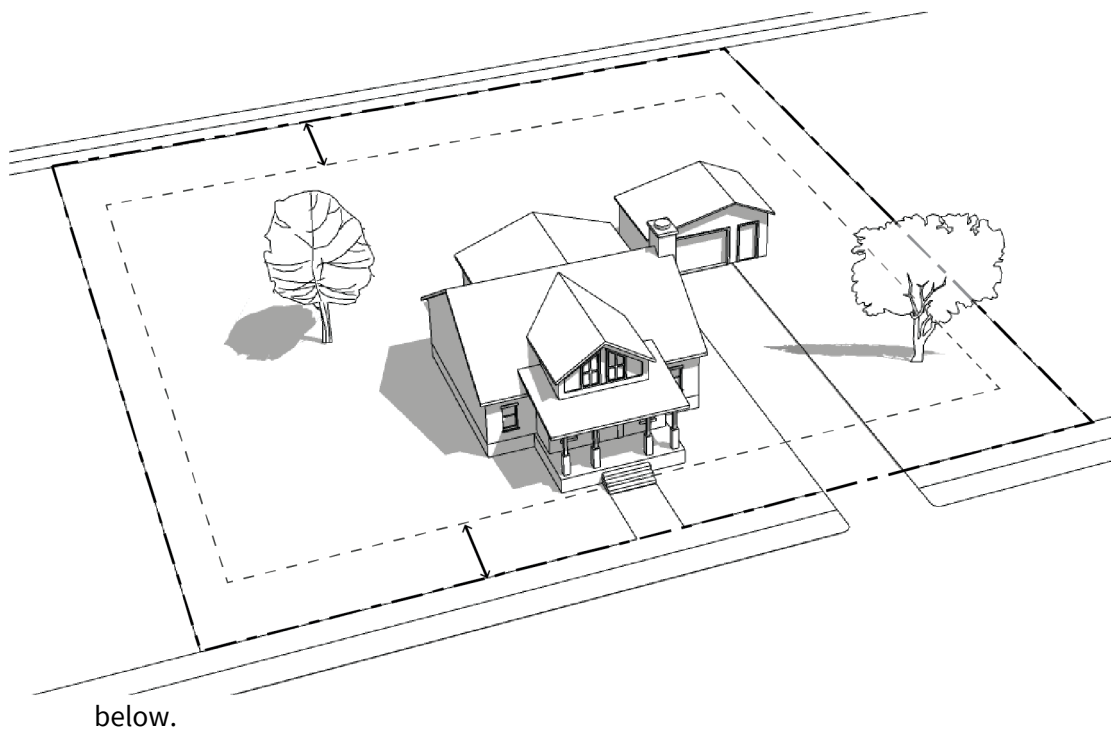


Figure 2-1: Double-Frontage Lot

D. Setbacks for Detached Accessory Buildings 200 Square Feet in Area or Less

1. Detached accessory buildings may be placed within the rear or side setbacks of a lot subject to the following requirements:
 - a. All elements of the accessory building (including eaves and decorative features) shall maintain a distance of five feet from all lot lines;
 - b. All other required setbacks, including those listed in §E and §F below, are met;
 - c. The building is not on a permanent foundation;
 - d. The height shall not exceed one story;
 - e. The building is not used for any type of commercial or residential purpose;
 - f. No part of any building may extend into or above any easement; and
2. Where a building envelope is applicable, an accessory building may only be located outside of the building envelope when defined by the approval of a specific development approval condition.

E. Setbacks from All Roads, Streets, and Highways

Setbacks from specific road types are listed below. For all other road types not listed below, setback requirements are set forth in §§2.2 through 2.5 for each zoning district. In all cases, all structures shall be located outside of any existing right-of-way.

1. Highways

Setbacks from state and federal highways are 100 feet from the right-of-way centerline or 50 feet from the right-of-way line, whichever is greater, except those highways noted below where the minimum setback is 130 feet from centerline of the right-of-way or 80 feet from the right-of-way line, whichever is greater:

- a. U.S. Highway 287 from Fort Collins city limits south to the Boulder County line.
- b. Colorado Highway 68 (Harmony Road) from Interstate 25 west to Highway 287.
- c. Colorado Highway 14 (Mulberry Street) from Fort Collins city limits east to the Weld County line.
- d. Colorado Highway 392 from Interstate Highway 25 east to the Weld County line.
- e. U.S. Highway 34 from Morning Drive east to the Weld County line.
- f. Fort Collins Expressway and those portions of U.S. Highway 287 and Colorado Highway 14 north of Fort Collins city limits that are four lanes.
- g. Colorado Highway 402 from Loveland city limits east to the Weld County line.

2. County Roads

- a. Setbacks from Larimer County roads, as identified and classified on the Larimer County Functional Road Classification Map, are measured from the original right-of-way centerline as shown in Table 2-6: *Road Classification*, before any additional right-of-way was dedicated, as determined by the County Engineer.

Table 2-1: Road Classification	
Type of Road	Setback
Arterial	110 feet
Major collector	100 feet
Minor collector	70 feet

Table 2-1: Road Classification

Type of Road	Setback
Local, numbered county roads	60 feet

- b. Setbacks for additions to existing buildings that are nonconforming with respect to county road setbacks may be eligible for a minor modification pursuant to §6.7.1, *Minor Modifications*.

3. Annexed Roads

Properties in unincorporated Larimer County along a road that has been annexed and is under the jurisdiction of a municipality have the option of utilizing the county required setbacks based on the most recent county road classification (prior to annexation) or requesting an administrative variance to allow a setback consistent with the required setback from the adjacent jurisdiction.

F. Setbacks from Streams, Creeks, and Rivers

The minimum required setback from any stream, creek or river identified on a U.S.G.S. quadrangle map is 100 feet from the centerline of the water course unless a greater setback is required by §4.4.2, *Wetlands*, §4.4.4, *Wildlife*, or Article 12.0, *Floodplain*, or unless evidence is provided documenting that the centerline has been relocated by a previously approved development; or where the centerline is a ditch managed by a ditch company. This section is not applicable to irrigation laterals.

G. Setbacks from Oil and Gas Facilities

1. **Pre-Production Phase:** For permitted or existing oil and gas locations where all permitted wells have not entered completions, no new residential, commercial, or mixed use shall be allowed within one thousand feet (1,000') of such well site. This includes, but is not limited to, school facilities, hospitals, medical clinics, senior living or assisted living facilities, or state licensed daycares. This section does not apply to industrial, agricultural, or open space uses. Measurements shall be taken from the edge of the well site.
2. **Production Phase:** For permitted working pad surfaces where all permitted wells have entered completions, or the permit has otherwise lapsed, been revoked, or forfeited, and is not subject to renewal or reissuance:
 - a. No new residential, commercial, or mixed use lots, school facilities, hospitals, medical clinics, senior living or assisted living facilities, or state licensed daycares may be platted within the following minimum setbacks:¹

<u>Oil and gas production facility</u>	<u>Setback</u>
Oil and gas production facility without wells	200'

¹ COGCC does not have a reverse setback requirement; Boulder County does not have reverse setbacks; Adams County has a 250-foot reverse setback; Brighton has a 250-foot setback; Frederick, Mead, and Ft. Lupton have 150-foot setbacks; Commerce City has a 1,000-foot reverse setback; Weld County has a 150-foot setback requirement from wellhead and 200-foot setback from tank in agricultural areas but a 350-foot reverse setback in residentially-zoned areas.

1-2 wells	200'
3-24 wells	350'
25 or more wells	500'

- b. Measurements shall be taken from the closest edge of the “working pad surface.”
- c. The setback from a flowline or gathering line shall be a minimum of 50 feet.

3. Post-production Phase:

- a. For COGCC permitted oil and gas production facilities where all permitted wells have been abandoned, no building or structure may be placed within 50 feet of the abandoned well.
- b. Vacation of Existing Easements. No easement may be vacated for a previous or existing well, flowline, or gathering line, unless documentation is provided to the Town demonstrating such well, flowline, or gathering line has been vacated in compliance with all applicable Colorado Oil and Gas Conservation Commission regulations.

4. Plat requirements. The following information shall be denoted on all preliminary and final plats:

- a. The reception number, date, and recording location of all relevant surface use agreements;
- b. The location of all oil and gas production facilities, access roads, and any associated easements;
- c. The location of any plugged and abandoned oil and gas wells;
- d. The location of any flowlines and gathering lines that are still in service; and
- e. A plat designation surrounding such flowlines and gathering lines and plugged and abandoned wells, and a note expressly prohibiting any habitable building or structure within 50 feet of those facilities.²

H. Steep Slopes

The Director may require greater setbacks for properties in the mixed-use and nonresidential districts to avoid development of steep slopes adjacent to public rights-of-way.

I. Allowed Setback Encroachments

- 1. In all cases a minimum setback of five feet shall be required from all property lines for any structural component or architectural feature.

² COGCC does not have a setback from plugged and abandoned (P&A) wells; Boulder County does not have reverse setbacks; Adams County requires a minimum setback of 50-feet for homes and no structures shall be within a 100 x 50-foot buffer from P&A wells; Weld County has a 25-foot setback requirement from P&A wells; Commerce City has a 50-foot setback from P&A wells.

2. Setback exceptions do not apply to easements.
3. Certain architectural features and improvements may encroach into required setbacks as follows:

Table 2-2: Allowed Setback Encroachments	
Type of Feature	Extent of Encroachment Allowed
Cornice, canopy, eave, awning, bay window, window well, cantilevered wall, chimney, or mechanical and electrical equipment	May extend two feet into a required setback or a setback approved by variance or administrative variance, but in no case may be closer than five feet from a property line.
Ground-mounted small solar energy facility	In any residential district, a ground-mounted small solar energy facility may extend up to five feet into the side or rear yard.
Mobility access ramp or lift	As necessary upon written request to Director.
Open unenclosed and uncovered porch or deck with a finished floor elevation 30 inches or less above the finished grade	Shall maintain a distance of five feet from all lot lines.
Porch or deck with a finished floor elevation greater than 30 inches above the finished grade	Shall meet the applicable building setbacks.
Porch or deck are located at grade	No setback restriction.

J. Setback and Survey Certification

1. All non-residential development requires a survey certification to verify compliance with the approved site plan, plat, or plot plan.
2. At the time of the footing and foundation inspection by the Larimer County Building Department, the property owner is required to clearly identify the boundary corners of the lot and/or building envelope.
3. On lots without building envelopes, the owner will be required to obtain a licensed surveyor's certification of the building location whenever the proposed setback is less than five feet beyond the required setback.
4. On lots with building envelopes, the owner will be required to obtain a licensed surveyor's certification whenever the proposed building location is less than five feet from the boundary of the building envelope.
5. The certification, when required, shall be provided by a surveyor licensed to practice in the State of Colorado. The certification may be in the form of a letter, which shall be signed and sealed by the licensed surveyor. The letter shall include the number of the building permit issued for the site in question.

Article 6.4.3. Special Review

6.4.3. Special Review

A. Purpose

The special review procedure provides a mechanism for the county to evaluate proposed development and land uses that have unique or widely varying operating characteristics or unusual site development features to ensure compatibility with surrounding areas. The procedure considers the location, design, configuration, intensity, density, natural hazards, and other relevant factors pertaining to the proposed use to evaluate the potential impacts of such uses on surrounding properties, including the environment and wildlife, and to ensure that such uses are compatible with surrounding properties and that adequate mitigation is provided to minimize potential impacts on those surrounding properties and/or the county.

B. Applicability

Special review is required for certain land uses and zoning districts as specified in §3.2, *Tables of Allowed Uses*. Special review approval is also required for modification or expansion of an existing special review use.

C. Special Review Procedure

Figure 6-3 identifies the applicable steps from §6.3, *Common Review Procedures*, that apply to the review of special review applications. Additions or modifications to the common review procedures are noted below.

Figure 6-1: Summary of Special Review Procedure

1	Pre-Application Conference	<i>Required</i>		
2	Sketch Plan	<i>Required</i>		
3	Neighborhood Meeting	<i>Director may waive meeting requirement based on response to neighbor referral</i>	Neighborhood Notice and Application Processing	
4	Application Submittal and Processing (additional pre-application conference required)	<ul style="list-style-type: none"> – <i>Submit to Director</i> – <i>Neighbor referral required</i> 		
5	Staff Review	<i>Review by Staff</i>		
6	Scheduling and Notice of Public Hearings	<ul style="list-style-type: none"> – <i>Planning Commission hearing</i> – <i>County Commissioners hearing</i> 		Hearing and Decision

7

Review and Decision

- *Planning Commission review and recommendation*
- *County Commissioners review and decision*

8

Post-Decision Actions

Special review expires if not commenced within 3 years of approval

1. Pre-Application Conference

A pre-application conference shall be held in accordance with §6.3.2, *Pre-Application Conference*.

2. Sketch Plan

Sketch plan review pursuant to §6.3.3, *Sketch Plan Review*, shall be required prior to submission of the special review application.

3. Neighborhood Meeting

A neighborhood meeting shall be held in accordance with §6.3.4, *Neighborhood Meeting*. The Director may waive the meeting requirement based on responses received to the neighbor referral.

4. Application Submittal and Processing

The application shall be submitted, accepted, and revised, and may be withdrawn, and the neighbor referral completed, in accordance with §6.3.5, *Application Submittal and Processing* with the following modifications:

- a. Special review applications may be reviewed in combination with a site plan application. However, each application shall be decided separately based upon the applicable criteria of this Code, and the site plan decision shall be approved only following approval of the special review application.

5. Staff Review

The staff shall review the application and prepare a staff report and recommendation in accordance with §6.3.6: *Staff Review*.

6. Scheduling and Notice of Public Hearings

The special review application shall be scheduled for public hearings before the Planning Commission and the County Commissioners and shall be noticed pursuant to §6.3.7: *Scheduling and Notice of Hearings*.

7. Review and Decision

a. Planning Commission Review and Recommendation

The Planning Commission shall review the special review application in accordance with the approval criteria in §6.4.2.D, *Review Criteria*, and shall forward its recommendation to the County Commissioners.

b. County Commissioners Review and Decision

The County Commissioners may review and approve, approve with conditions, or deny the special review application in accordance with the approval criteria in §6.4.2.D, *Review Criteria*.

c. Conditions of Approval

In addition to the allowed conditions of approval in §6.3.8.C, *Conditions of Approval*, the following shall apply:

- i. The Board of County Commissioners may set limits on the length of any special review use to obtain assurances that the ongoing operation of the use will comply with all of the applicant's representations and all conditions of approval, including, but not limited to, requiring an annual compliance review.
- ii. These conditions may be required to be included in a development agreement signed by the applicant and the County Commissioners and recorded with the County Clerk and Recorder. The development agreement shall comply with §6.3.9.H, *Development Agreements*.
- iii. The County Commissioners may require the applicant to post sufficient collateral to ensure the timely completion of any improvements required or needed to address potential impacts of the proposed use. The amount and type of collateral must be detailed in the development agreement and be consistent with §6.3.9: *Post-Decision Actions and Limitations*.

8. Post-Decision Actions and Limitations

All common procedures in §6.3.9: *Post-Decision Actions and Limitations*, shall apply, with the following modifications:

a. Expiration

- i. Special review approvals approved in conjunction with a site plan review shall expire following a public hearing if the use is not commenced within two years of the date of approval.
- ii. All other special review approvals expire following a public hearing if the use is not commenced within three years of the date of approval.

b. Permits Required

A building permit is required for the construction of buildings or structures on the site as required by building code. Development improvements and construction shall be approved and completed prior to commencement of the approved use.

c. Modifications

Changes to approved special review plans that the Director determines are not minor deviations require approval through the special review process. This requires a new application and receives full review under the process described below. The Director may, however, waive sketch plan review and a portion of the application fees.

D. Review Criteria

In reviewing a proposed special review application, the review bodies shall consider the general approval criteria in §6.3.6: *General Review Criteria*, and also whether:

1. The proposed use has minimal impacts on existing and future development of the area;
2. Any impacts associated with the environment, wildlife, access, traffic, emergency services, utilities, parking, refuse areas, noise, glare, odor, and other adverse impacts have been adequately addressed and/or mitigated;
3. The recommendations of referral agencies have been considered and adequately addressed;
4. Within a GMA district, the proposed use is consistent with the applicable supplementary regulations to the GMA district, or if none, with the Comprehensive Plan; and
5. The applicant has demonstrated that this project can meet applicable additional criteria listed in Article 3.0, *Use Regulations*.