Response to City, Public, and Referral Agency Comment Project Number PZ #22-00181
Prepared by MRG, LP
February 21, 2023

In accordance with City of Loveland Unified Development Section 18.14.03.08.D.(1), MRG, LP ("MRG") respectfully submits the follow response comments to public and referral comment regarding MRG's CE Pad oil and gas permit application (Project Number PZ #22-00181).

Comments from City of Loveland ("City") Staff

Responses to comments from City Staff are included in our concurrently submitted revised application.

General Public Comment

Introduction

MRG carefully reviewed and considered all public comments received. After reviewing all public comments received, the following categories of concern have been identified and are addressed below: Permitting Process Questions, General Support for Oil and Gas Activity, General Opposition to Oil and Gas Activity, Air Resources/Public Health and Safety, Public Welfare (impacts such as traffic, noise, and light), Public Health and Safety, Water Resources, Wildlife Resources, Cumulative Impacts, and Location. MRG summarizes below the categories of concerns expressed in public comments and responds to each category. No public comment alleged the CE Pad oil and gas permit application does not meet any specific applicable local, state, or federal law regulating oil and gas development.

Permitting Process Questions

Several questions/comments involved members of the public asking to be registered for the January 16, 2023, Neighborhood Meeting or otherwise asking about the City's permitting process. MRG understands the City registered all those who requested to be registered for the January 16, 2023 Neighborhood Meeting and notes that both the City and MRG explained the City's permitting process at the Neighborhood Meeting.

General Support for Oil and Gas Activity

There were five comments in support of the project. One commenter shared his experience that his relatives had oil and gas production located less than 100 yards away from their home for over 25 years with no health problems. Another commenter living within 3,800 feet of the proposed CE Pad and less than 3,000 feet from an existing well that was hydraulicly fractured shared his experience that he and his family have experienced no adverse impacts from the drilling of the well 3,000 feet away. Another commenter discussed the tax revenue benefits of the development and noted that the location maximizes wells drilled while minimizes surface disruption. Another commenter similarly expressed support for the tax revenues, jobs, and energy that the proposed development will generate. Another commenter made a general statement of support for oil and gas.

General Opposition to Oil and Gas Activity

Many comments expressed an overall general opposition to continued oil and gas activity in Colorado and/or City of Loveland without making project specific comments. Both state and local law permit the development of oil and gas resources, and state and local bans on hydraulic fracturing are illegal. One commenter suggested the City's FAQ regarding the illegality of bans on hydraulic fracturing is incorrect, suggesting that hydraulic fracturing bans may be permissible after the passage of Senate Bill 19-181 (SB 19-181). This suggestion is incorrect as a matter of law. It remains illegal to ban hydraulic fracturing, and SB 19-181's sponsors were patently clear on this point. Indeed, Senator Fenberg, the Senate sponsor of Senate Bill 19-181 (SB 19-181), stated when he introduced the legislation to the Colorado Senate Committee on Transportation and Energy "I want to spend a little bit of time on what this bill is not. **This bill does not allow a de facto ban whether at the state level or at the local level**." Colorado Senate Committee on Transportation and Energy March 5, 2019, audio at 9:50-10:35, available at https://leg.colorado.gov/committee/granicus/1474856 (emphasis added). Senator Fenberg later reiterated to the Colorado Senate Finance Committee floor that the bill does not allow bans, stating, "**What this bill does not do is allow a de facto ban.**" Colorado Senate Finance Committee March 7, 2019, audio at 9:15-10:10, available at https://leg.colorado.gov/committee/granicus/1474831 (emphasis added). When Representative KC Becker, another of SB 19-181's sponsors, introduced the legislation to the Colorado House Energy and Environment Committee, she likewise acknowledged that bans are impermissible under SB 19-181, explaining that the bill "**is not a de facto ban at the state level or local level**." Colorado House Energy and Environment Committee March 18, 2019, audio at 19:55-20:50, available at https://coloradoga.granicus.com/MediaPlayer.php?view_id=16&clip_id=13741 (emphasis added).

Air Resources/Public Health and Safety

Several comments expressed concerns about air pollution. The proposed CE Pad contains numerous BMPs, several of which exceed state and local legal requirements, designed to avoid, minimize, or mitigate adverse impacts to air resources, public health, and safety. These include, as discussed below, pipeline takeaway of oil and produced gas to reduce emissions from truck traffic; use of electric drill rigs; use of combustion devices with a rated 98% destruction efficiency, reduced oil field activity on forecasted high ozone days, and enhanced air quality monitoring.

The proposed location will be electrified for drilling operations and production operations. The site will be connected to natural gas and oil gathering pipelines to minimize truck traffic to and from the location. Connection to hydrocarbon gathering pipelines not only reduces emissions because it drastically reduces vehicle emissions, but it also reduces emissions because, by not storing hydrocarbons onsite in tanks, the potential for fugitive VOC emissions is significantly reduced. All piping connections are flanged or welded and subject to routine Leak Detection and Repair monitoring.

The location will regularly undergo Audio-Visual-Olfactory inspections. MRG has also committed to not conducting routine, non-essential activities during high ozone days.

The location will comply with CDPHE Regulation 7 and have air monitoring that will begin 10 days prior to any drilling activities. CDPHE requires air monitoring to continue for 6 months after the last well is drilled; MRG has committed to 3 years post-drilling monitoring.

MRG will utilize telemetry on location to remotely monitor the location. This will help in reducing routine site visits and truck traffic in the area. Telemetry will also enable MRG to remotely monitor onsite conditions. Wellheads will be equipped with remote shut-in capabilities. Tanks will have sensors to monitor volume levels. Alarms will be programmed into the telemetry system to alert MRG of potential upset conditions.

Public Welfare

MRG notes that traffic will be limited primarily to the temporary drilling and completions phases, as MRG will utilize pipelines for hydrocarbon takeaway. The highest traffic load for the CE Pad will occur as flowback water is hauled off during the 60-day flowback period. Approximately 56 loads of water per day will be hauled off the pad during this period This is 2.3 truckloads of water per hour, significantly less than the level of construction traffic required to build a housing subdivision. In the first year after the wells come on production, there will be an average of 35 loads of production water hauled off per day, or 1.5 loads per hourIn this first year total traffic including pickup and light truck traffic will average 65 trips per day (2.7 trips per hour). This counts each time a truck enters the site as two trips (one in and one out). The truck traffic required to service the CE pad drops off quickly, with 6 loads of water per day hauled off in Year #2, dropping to 1.1 load per day in the 6^{th} year.

MRG will connect the location to natural gas and oil gathering pipelines to minimize truck traffic during the production phase of the location. MRG is also seeking to source temporary surface water delivery pipelines to transport water during the completions phase of the project.

MRG will comply with the recently updated COGCC 700 series rules and will provide bonds to COGCC as required by COGCC's 700 series rules prior to constructing or drilling any wells. In addition to the financial bonds that MRG will provide, all operators in Colorado annually contribute an Orphan Well Mitigation fee in accordance with COGCC Rule 205.c. The City of Loveland and Loveland taxpayers will not be required to retire the wells at the end of their lives or reclaim the location.

MRG is working with the Centerra Design Review Committee (DRC) to design an interim reclamation and landscape plan to provide vegetative screening of the production location. MRG will utilize recommended seed mixes to comply with DRC and City of Loveland landscape and reclamation standards.

Public Health and Safety

MRG is a new entity that does not currently own or operate wells; while MRG is a new entity, its employees have robust experience in the industry. MRG's team is a diverse group of professionals who have decades of industry experience, including drilling horizontal wells in the DJ Basin.

No seismic activity has been measured from drilling and completing thousands of horizontal wells in the DJ Basin. The induced seismicity that has been measured in Oklahoma and Texas has been from over-injection into disposal wells. The Rules and Regulations promulgated by the COGCC preclude that from happening in Colorado, and there will be no injection disposal wells drilled and completed on the CE Pad.

Water Resources

The average CE Pad well will use approximately 8 million gallons of water during its life cycle. The water will come from industrial water rights that have been acquired around the region and will be stored in industrial reservoirs. Domestic, recreational or agricultural water sources will not be used. Municipal water will not be used, nor will its supply be affected.

Hydraulic fracturing in Colorado uses approximately 0.001% of the total water used in the state in a given year. To understand this scale, we note that this amount is less than what is used on Colorado golf courses.

Hydraulic fracturing in the CE Pad's target minerals will occur in oil and gas bearing formations located thousands of feet below the groundwater zones. In properly constructed wells with this large separation between the formations being fractured and the groundwater, the U.S. EPA concluded in a 2016 study that "under these conditions, fractures created during hydraulic fracturing are unlikely to grow through thousands of feet of rock into underground drinking water resources."

https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990

Additionally, the CE Pad is not within a surface water supply area or within 2,640 feet of a Public Water Supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1). Furthermore, the CE Pad is not within the boundaries of, or immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor. The CE Pad is located 2.4 Miles from the Lakes of Centerra. The horizontal sections of the wells are about 1.3 miles below ground. This means that the closest point that the wells will be to the Lakes is no less than 1.4 miles through solid rock; ¼ mile away on a 2D plane and 1.3 miles deep.

Wildlife Resources

One public comment asked about habitat for herons and osprey and some mentioned Centerra's Community Wildlife Habitat Designation [response to heron and osprey]. The proposed oil and

gas development does not affect Centerra's Wildlife Habitat Designation and the High Plains Environmental Center ("HPEC") is aware of the proposed oil and gas development. In fact, the Director of the HPEC is also on the Development Review Committee for Centerra and reviewed the landscape plans for both of MRG's proposed oil and gas developments in Loveland. The Director confirmed with MRG that the proposed oil and gas developments would not affect Centerra's Wildlife Habitat Designation if approved. Centerra well exceeds the designation requirements, and MRG's location is outside of habitat areas identified by Colorado Parks and Wildlife ("CPW") and the Colorado Oil and Gas Conservation Commission as needing special protections to protect breeding, nesting, foraging, migrating, or other uses by wildlife. CPW also received notice of the proposed development and did not identify any concerns.

Cumulative Impacts

MRG has worked diligently to propose a project that would efficiently develop the target minerals while minimizing the potential impacts on public health, safety, welfare, wildlife, and the environment, and

MRG has taken several measures to reduce the cumulative impacts of the proposed CE Pad. MRG's proposed CE Pad reduces cumulative impacts by developing 1,685-mineral acres from just one (1) well pad of just eight (8) acres of disturbance during operations. The location of the CE Pad also reduces cumulative impacts because the site allows for the development of the drilling and spacing unit with just fifteen (15) horizontal wells. Originally another operator targeting the same minerals would have required fifty (50) wells and five (5) locations to develop the same mineral acreage. The choice of the CE Pad, however, allows MRG to minimize the number of wells and surface disturbances required to efficiently, safely, and responsibly develop the mineral acreage. Cumulative air impacts are also reduced because MRG will use pipelines for hydrocarbon take away, use an electric drilling rig, and electrify all production equipment that may be electrified. No significant amounts of potable water will be used during any stage of this project. Potable water will be limited to servicing accommodation trailers during the temporary drilling and completions phases and for irrigating landscaping. Other measures reducing cumulative impacts include that:

MRG will not store hydrocarbons on location.

MRG will electrify its drilling and production operations to minimize air emissions.

MRG will have natural gas and oil pipeline takeaway to minimize truck traffic to the location as well as air emissions.

MRG intends for the location to be a single drilling and single completions occupancy to minimize the heavier traffic phases of the project.

Location

This mineral development project has been in the process for several years, and MRG has worked closely with the developers to strategically locate and schedule development of the area in order to protect public health, safety, welfare, and the environment. Previous iterations of this project would have required multiple oil and gas locations to target the same proposed mineral development area. MRG has narrowed that down to just one location to fully develop the project area. Not only does using one pad substantially reduce the surface footprint necessary to access the target minerals but the location also is in an area that allows MRG to utilize pipelines to take away produced oil and gas. This further reduces the location's footprint because oil storage tanks are unnecessary. The CE Pad will allow operations to be conducted in a reasonable manner to avoid, minimize, and mitigate adverse impacts to public health, safety, welfare, the environment, and wildlife resources while avoiding the drilling of unnecessary wells, preventing waste of oil and gas resources, and protecting correlative rights.

When planning the CE Pad, MRG focused efforts on avoiding residents, consolidation of well pads, minimizing surface disturbance, maximizing the mineral development, planning operations to occur in a safe manner, and working collaboratively with the Centerra Development/McWhinney Real Estate (McWhinney) group for the Centerra/Kinston surface development planned community. MRG has made coordinated planning efforts over the past several years to limit the surface impacts in this OGDP and has been successful in working in concert with the Centerra/Kinston surface owners to reduce the surface disturbance to a single site with eight (8) acres of disturbance during operations. The choice of the CE location allows MRG to minimize the number of wells and surface disturbance required to efficiently develop the mineral acreage.

Some commenters asked about the proposed development in relationship to the Lakes at Centerra and/or Kinston communities. The potential for oil and gas development was fully disclosed to homebuyers in these communities. Any homebuyer that purchased a home in the Lakes at Centerra or Centerra's Kinston development where the lot was acquired by a builder in 2017 or later was informed in clear language under the express, underlined and italicized heading of "Oil and gas" that future development of minerals underneath the surface of their properties was possible from a location off-site from the surface of their property. Specifically, (i) such homebuyers received from their builder a copy of a recorded Disclosure Statement notifying them under the above-mentioned "Oil and gas" heading that there was the potential for oil and gas activity within the community and (ii) such homebuyers were required to execute an Acknowledgment and Release Form (a "Homebuyer Acknowledgment") at their closing, certifying that they had received the Disclosure Statement and understood all matters contained therein. The Disclosure Statement explicitly explained that drilling and hydraulic fracturing were possible. Additionally, for homebuyers receiving the Disclosure Statement in Kinston (the CE Pad is not located within the Lakes at Centerra; it is located within the Kinston development, but not on any homebuyer's properties), the Disclosure Statement specifically stated that while there would be no oil and gas operations on the surface of the buyer's property, there may be new oil and gas operational areas that use portions of the surface within the Kinston Development. No homes in Kinston were on the market before 2017, and, accordingly, all home buyers received the Disclosure Statement and were required to execute a Homebuyer Acknowledgement.

Response to Larimer County Public Comment

General Response and Relevant Background

MRG appreciates Larimer County providing public comment in which Larimer County jointly addressed MRG's City of Loveland and COGCC permitting applications for its proposed CE Pad oil and gas development plan. *See* Larimer County Public Letter dated January 4, 2023, filed as Exhibit 1 to Larimer County Request for Party Status. MRG spoke with Larimer County's LGD regarding the County's comment letter on January 4, 2023, and MRG met with Larimer County to discuss the project again on February 8, 2023. MRG shared written responses to Larimer County's comment letter in advance of the meeting, and the meeting was constructive. MRG sent a follow-up email to Larimer County on February 8, 2023, thanking the County for the meeting and indicating MRG's belief that the February 8, 2023, meeting satisfactorily resolved all Larimer County's concerns specific to the CE Pad application. MRG specifically invited Larimer County to have a further discussion with MRG if after the meeting Larimer County believed it had outstanding concerns that the parties' dialogue did not address. As of the date of this response Larimer County has not reached out to indicate outstanding concerns, though MRG remains open to further discussion with Larimer County.

MRG looks forward to continuing to collaborate productively with Larimer County in its role as Proximate Local Government moving forward. MRG responds to Larimer County's specific comments below, but as a threshold, general matter, MRG observes that many of the Best Management Practices ("BMPs") Larimer County requests are neither requirements under applicable law—i.e City of Loveland ("CoL") Code or COGCC Regulations— nor are they requirements under Larimer County's own Code, though MRG does agree to requested BMPs that are reasonable to implement as discussed below, including several that are not required by applicable or inapplicable law.

To be sure, Larimer County acknowledges that its Code does not apply to the CE Pad. *See Larimer County Comment Letter* (January 4, 2022) ("Comment Letter") at p. 1. However, as Larimer County stated that it was evaluating the CE Pad pursuant to County standards, *see id.* at p. 2, and then continued to make several requests that CoL and/or COGCC impose conditions of approval ("COAs") or BMPs that are not required by Larimer County's Code, MRG clarifies below where the County makes requests that exceed its own Code, which, again, does not apply to the CE Pad in any event.

As a second general matter, MRG is proud to offer several best-in-class BMPs that exceed CoL Code, COGCC Regulations, and even the inapplicable Larimer County Code. Indeed, as explained below, even where not required by any applicable or inapplicable law, MRG does commit to many of the BMPs suggested by Larimer County. Where MRG cannot commit to a proposed BMP it is because that BMP is unreasonable and/or unnecessary, as discussed further below. Comments from Larimer County are quoted verbatim below in blue font where unique to the Comment Letter and in grey font where duplicating prior Larimer County public comment in an unrelated docket, with citations omitted.

Location Analysis

The location is within the City of Loveland in an area that is currently agricultural. There is one home within 2,000 feet but that resident (the homeowner) has signed an informed consent agreeing to the oil and gas location. The location is not within known critical wildlife habitat and is sufficiently far away from water sources, steep slopes, schools, and outdoor recreation areas.

If approved the location of the proposed oil and gas facility is situated near a substantial level of planned residential development (north, west, and south), and while this development has not been platted at this time it does appear to have tentative approval by the City. Given the potential for this future housing the County would recommend that the City consider limiting any new housing construction within 2000 feet of the oil and gas facility boundaries for the first three years of production, as emissions from oil and gas facilities pose the greatest health impacts to residents during this time. This recommendation would only be for a three-year time frame during the initial production phase following the site development construction.

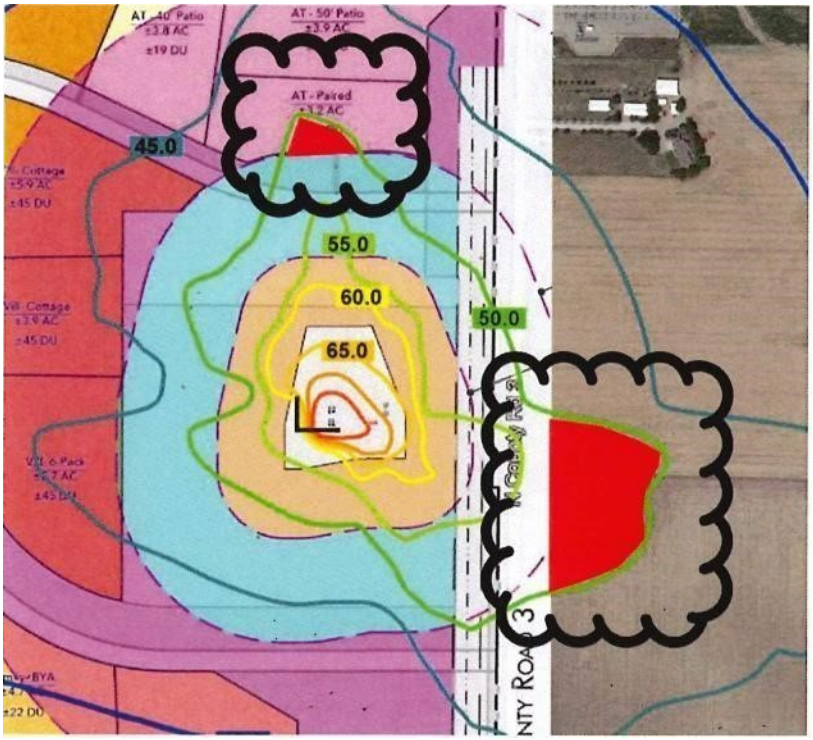
Response: MRG appreciates that Larimer County appears to agree that the location is well-chosen in that the County states the CE Pad's location "appears to meet the County's siting requirements." The County acknowledges that the area is currently rural, that there is only one residential building unit ("RBU") within 2,000' feet, and that that individual signed informed consent agreeing to the siting of the location. The County also correctly notes that the location is not within known critical wildlife habitat and "is sufficiently far away from water sources, steep slopes, schools, and outdoor recreation areas."

With respect to future residential development, MRG notes that Larimer's request for City of Loveland not to allow homes to be built within 2,000' of the CE Pad boundary is not a requirement under CoL Code, or even Larimer County's Code. *See* Larimer County Code at 2.9.4.G. Larimer County acknowledged at the February 8, 2023, meeting that its Code does not contain a 2,000' reciprocal or "reverse' setback. A condition of approval prohibiting development within 2,000' is also inappropriate on a permit application for oil and gas applications, as permit COAs or BMPs only apply to the oil and gas operator and not others. Additionally, a 2,000' setback during the first three years of the initial production phase is unnecessary to protect public health because production operations are anticipated to involve very few impacts—and certainly not impacts as far away as 2,000'—because of the BMPs MRG proposes, including piping away hydrocarbons and electrifying all production equipment that may feasibly be electrified. Please also see responses to comment nos. 3 and 4 above.

Noise

The CE Pad Form 2A Noise Mitigation and Monitoring Plan dated July 8, 2022, evaluated ambient noise levels for the area around the proposed well pad and modeled noise levels for compliance with COGCC Rules for various stages of the site development using agricultural decibel limits. Agricultural levels would be appropriate for the pre-production stages assuming no additional residential development exists but are not suggested for the decibel parameters for the life of the working well pad. The Master Plan for the surrounding land use has been approved by Loveland as a residential development which decreases decibel limits by 5 compared to agriculture. In addition, Loveland's Municipal Code for noise evaluates noise in relation to the property line and not the residential structure like COGCC.

The mitigated noise levels for the working well pad are displayed using contour mapping over the proposed Master Plan residential development site plan layout (Figure 7-6). The contour mapping demonstrates that the producing well pad will remain within the residential day time limits of 55 dbA, but not the night-time level of 50 dbA. The 50 dbA contour line extends into the future residential properties to the north (shown within black cloud below), indicating that decibels could potentially exceed 50 dbA in the evening for the small area of red within the future residential area. The land to the east across North County Road 3 is proposed as mixed-use development under Johnstown zoning which could include residential development, but a layout is not provided. The noise evaluation indicated that ambient levels measured at Receptor 1 are currently below 50 dbA in the evening.



In preparing for future residential development, it is recommended that additional mitigation be required for the northern area of the working well pad to ensure the site is compatible with future residential development and align with Loveland's Municipal Code. An alternative could require a condition of approval for the operation to re-evaluate noise to determine if additional mitigation is needed as the residential properties are developed to ensure decibels from the working pad site are below day and night-time decibels as stated in the Loveland Municipal Code.

Per the noise evaluation, the decibel levels would comply with the construction allowances for both A and C-weighted decibels. The operator has committed to continuous monitoring during pre-production/construction for the existing residential structure within 2,000 feet to monitor compliance.

Response: MRG has worked with their acoustic consultant to incorporate the landscape berms into the modeling. The updated modeling confirms compliance with COGCC Rule 423. MRG will continue to monitor their noise levels throughout the life of the project and will adjust as necessary to maintain compliance with required decibel levels, including abiding by applicable noise standards for zoning standards as they may change in the future.

Emergency Response Plan
The Emergency Response Plan should be revised. It does not comply with the Larimer County Code, nor industry standards, and is inadequate to ensure the protection of public health and safety.

In its Emergency Response Plan, MRG stated that it would not provide emergency response equipment on location.' Oil and gas fires are typically not fought with water but with foam. MRG should demonstrate that it, and the local fire department, has a cache of foam units available that can be accessed quickly in the event of an oil and gas fire. Larimer County requires a "Resource Mobilization / Cache Plan" with every oil and gas application "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.'" Larimer County urges that a similar "Resource Mobilization / Cache Plan" be required in this case.

Weld County hosts quarterly "Local Emergency Planning Committee" (LEPC) meetings with operators and emergency responders to ensure equipment, training, and mutual aid and support plans are in place in the event of an oil and gas fire. The Weld County LEPC meetings have also created a number of useful templates for operators and local emergency responders. As a result, operators throughout the Front Range routinely provide "Tactical Response Plan Cards" for each well pad location. These cards are meant to be readily available and to be carried in fire trucks. The Weld County LEPC website has templates but there are also numerous examples available on the COGCC website as well: Kerr McGee — Weld County site (Page 17-18); Verdad — Weld County site (Page 18-19); and Crestone — City of Aurora site (page 144¬145).

Response: MRG consulted with Loveland Fire Rescue Authority ("LFRA") prior to submitting its application to COGCC and City of Loveland. During the initial review, LFRA made some recommendations to improve the Emergency Response Plan, which were incorporated. LFRA deferred a second review, expressing their intent to wait until MRG had made a formal application to City of Loveland before they would review again. MRG is actively engaged with LFRA to ensure the Emergency Response Plan complies with Loveland Unified Code regulations and will continue to update the plan as items are updated. MRG intends for its Emergency Response Plan to be a living document, that will be reviewed, revised, and updated as necessary throughout the life of the project.

Toward this end, MRG and LFRA met again on February 8, 2023. Addressing Larimer County's questioning about how LFRA would work with Larimer County authorities, LFRA stated it works seamlessly with Larimer County agencies, including Larimer County's Office of Emergency Management, and that LFRA anticipated no problem continuing to do so with respect to the CE Pad. MRG passed along LFRA's remarks to Larimer County.

CDPHE Requested BMPs

Colorado Department of Public Health and Environment (CDPHE) has requested numerous best management practices (BMPs) and has received responses from MRG. The County comments are listed below each proposed BMP.

Response: Larimer County has commented on BMPs CDPHE raised during an initial consultation. MRG and CDPHE began its consultation discussions on November 23, 2022. On December 8, 2022, CDPHE, MRG, and COGCC met to discuss the BMPs raised by CDPHE. MRG walked through CDPHE's initial BMP list and explained what MRG could commit to and what would not be feasible at the location. After this meeting, on December 22, 2022, MRG provided an updated list of BMPs to CDPHE that solidified items that were confirmed. The BMP list was updated to reflect MRG's commitment to items such as Tier IV engines and electrification of drilling and production activities.

CDPHE provided a comment letter to COGCC on January 10, 2023. Notably, CDPHE did not re-raise or suggest any of the few initial BMPs CDPHE raised to which MRG cannot commit. CDPHE noted that it "appreciates MRG LP's commitment to implement BMPs, including use of electric drilling rigs, tankless design, use of tier IV engines for hydraulic fracturing, and ozone mitigation on forecasted high ozone days." CDPHE stated that it "believes that implementation of the following BMPs will reduce the relative risk of impacts at and near the proposed location[,]" and then recited MRG's many BMPs proposed for the CE Pad. CDPHE expressly stated that it has "no additional recommendations at this time[;]" and did not recommend COGCC deny the OGDP application. MRG looks forward to continuing to collaborate cooperatively with CDPHE and other relevant agencies.

Air Quality Comment No. 1.

1) Operator will implement ambient air quality monitoring on site — YES — "10 days prior to construction and operate 3 years post last wells drilled"

Comment: This is an appropriate BMP, but adequate information was not provided regarding how the extended monitoring and reporting will be managed once the required timeline with APCD has been completed. At this time, APCD will not accept and review monitoring reports past the timeline outlined in Regulation 7. It is recommended that specific language or a condition of approval by Loveland be required to mandate the extended monitoring and reporting. Suggested language could include: *Per AQCC Regulation 7, APCD will review the monthly reports of the air quality monitoring plan through the six months of early production after the last well is drilled. After the six-months is completed, the operator shall retain a third-party consultant to implement the APCD approved monitoring plan to monitor air quality for the remaining 2.5 years. Reports from the monitoring shall be made available to the City of Loveland, Lorimer County Government, Air Pollution Control Division, and COGCC, upon request (or submitted monthly (or preferred frequency) to the City of Loveland by the specified due date*.

Response: As noted by Larimer County, MRG has voluntarily agreed to conduct ambient air quality monitoring in excess of applicable state and local regulations. Specifically, MRG will conduct ambient air quality monitoring for 3 years after the last well is drilled on location. MRG has offered to share the air quality monitoring data collected in exceedance of applicable law to Larimer County and City of Loveland.

Air Quality Comment No. 2.

2) Operator will appropriately time activities associated with high emissions to reduce the potential for exposure (e.g. if development is occurring near a high occupancy building unit, such as a school, then hydraulic fracturing, flowback or hydrocarbon liquids loadout will only occur when school is not in session) — YES — "Near RBU and will commit to appropriate timed activities"

Comment: Peak ozone season is three months - June through August. It is now well established that drilling and completion engines are one of the largest unregulated sources of Nitrogen Oxides — a key component of ozone creation. Drilling and hydraulic fracturing of one well is estimated by the state to create 6.5 tons of Nitrogen Oxides (NOx) — a key component in ozone creation. For reference, 6.5 tons is the equivalent NOx emissions of 7.4 million miles of highway vehicle driving.

The operator has already agreed to electrify drilling rigs. The County requests that MRG also commit to timing completion operations so they do not occur during peak ozone season.

Response: As noted by Larimer County, MRG has also voluntarily agreed to CDPHE's recommendation to appropriately time activities associated with high emissions to reduce potential emissions. MRG will not schedule routine maintenance activities on high ozone days. Larimer County's comment exceeds CDPHE's request relating to appropriately time activities to request that MRG not conduct completion operations from June through August. This recommendation, which is not required by CDPHE, COGCC, CoL, or Larimer County, is impractical because it could delay drilling and/or completions operations. MRG notes that there are very few receptors in proximity to the location that might potentially be affected by drilling and/or completions emissions during peak ozone season, as, for example, there is only one RBU within 2,000' of the CE Pad. Additionally, emissions from drilling will be lower than from traditional oil and gas drilling because MRG will be using an electrified rig.

Air Quality Comment No. 3.

3) Electrification: Operator will use electric drilling rigs — YES — "If technically feasible and available" Comment: "If technically feasible and available" is not an appropriate or accurate response. The Operator committed to electric drilling rigs in the Form 2A. Electric drilling rigs should therefore be an unwaivable condition of approval on the COGCC permit. As part of the application packet to the City of Loveland, the applicant provided an attested Agreement for Electrical Service document indicating that they are finalizing electrical service for drilling and production with the City of Loveland, therefore it is recommended that this be a condition of approval for Loveland.

Response: Though not required by COL or COGCC Regulation, MRG has committed to CDPHE's and Larimer County's recommendation to use electric drilling rigs. MRG has

confirmed with City of Loveland that the electric load required for the drilling rig will be available to the location. This BMP was confirmed with CDPHE on December 22, 2022. MRG also notes that Larimer County's code expressly states that electric drilling is not required if there is not an adequate electricity source available or if electric drilling is technically infeasible. Larimer County Code at 11.3.3.I.

Air Quality Comment No. 4.
4) Electrification: Operator will use electric pumps for hydraulic fracturing — YES — "If technically feasible and available"
Comment: In the County's discussion with the COGCC and CDPHE, the County does not believe this is likely and may not be possible given the electric load required for hydraulic fracturing engines. The County understands there are "e-fracking" technologies that may be available, but the electricity load required may necessitate additional battery assistance that may not be available. The other way to address the issue is to simply plan for the hydraulic fracturing to occur outside of the three months of peak ozone season.

Response: With respect to electric pumps for hydraulic fracturing, MRG notes that CDPHE no longer is recommending electric fracking, understanding that it is unavailable for the CE Pad. MRG has confirmed with City of Loveland that the electric load required for electric completions is not available. Indeed, that Larimer County's own Code recognizes that electrifying equipment can only be done if there is an adequate electricity source and if it is technically feasible. Larimer County Land Use Code 11.3.3.I.

Air Quality Comment No. 5.
5) Electrification: Operator will use electric equipment and devices (e.g. vapor recovery units or VRUs, fans, etc.) to minimize combustion sources on site (if yes, operator will provide a list outlining which equipment and devices will be electrified) — YES.— "If technically feasible and available"
Comment: This is an absolute must. There is no reason the operator cannot electrify the site for production equipment. It is recommended that this be a condition of approval for the City of Loveland as it is being agreed to in the attested Agreement for Electrical Service document.

Response: MRG has committed to CDPHE's and Larimer County's recommendation to use electric equipment and devices. MRG has confirmed with City of Loveland that the electric load required for the production equipment will be available to the location. This BMP was confirmed with CDPHE on December 22, 2022. Indeed, that Larimer County's own Code recognizes that electrifying equipment can only be done if there is an adequate electricity source and if it is technically feasible. Larimer County Land Use Code 11.3.3.I.

Air Quality Comment No. 6.
6) Engines: Operator will use Tier IV or better engines for hydraulic fracturing — YES — "If technically feasible and available. Comment: The Operator committed to Tier IV engines in the Form 2A.8 Electric drilling rigs should therefore be an unwaivable condition of approval on the COGCC permit. The County understands that Tier IV hydraulic fracturing engines are now readily available and should therefore be routinely required in the ozone non-attainment area.

Even with Tier IV engines, the County still requests that hydraulic fracturing occur outside of peak ozone season of June 1— August 31.

Response: Although required neither by Larimer County's Code or any applicable law, MRG has also committed to CDPHE's and Larimer County's recommendation to use Tier IV engines for completion operations, as confirmed on December 22, 2022.

Form 2B Cumulative Impacts: Ozone

Note: To avoid confusion between Larimer County's Comment Letter on the CE Pad application and its other comment the County provided to COGCC in an unrelated docket, MRG has stylized in grey font the portion of Larimer County's Comment Letter that verbatim duplicates Larimer County's public comment filing in a recent petition for rulemaking denied by the COGCC in Docket No. 220800233. Larimer County's comments in that docket are general in nature, applicable to all oil and gas production, and not specific to the CE Pad.

Senate Bill 19-181 requires the COGCC, in coordination with the Colorado Department of Public Health and Environment, ("CDPHE") to adopt rules to "evaluate and address the potential cumulative effects of oil and gas development."' Those rules were adopted during the mission change rulemaking at COGCC Rule 303.a(5); 304.c.(19); and 904. In this case, it appears that MRG has not adequately evaluated nor addressed cumulative air quality impacts from its proposed oil and gas development.

First, it does not appear that the operator is using accurate emission estimates in its Form 2B "Cumulative Impacts Data Identification." On page 4, MRG states there is an estimated 5.8 tons of NOx from preproduction "non road internal combustion engines" for all 15 wells. Even assuming electric drilling units, this is still a gross underestimate of emissions from hydraulic fracturing engines which the state estimates at 4.575 tons / well.

Second, the proposed BMPs or conditions of approval do not adequately address cumulative air quality impacts. Much of Colorado's Front Range has been out of attainment with the 2008 8-hour Ozone National Ambient Air Quality Standard (2008 Ozone NAAQS) of 75 parts per billion (ppb), since May 21, 2012. Effective November 7, 2022, the U.S. EPA downgraded the "Denver Metro / Northern Front Range" to "severe non-attainment." The area has been out of attainment with the 2015 8-hour Ozone National Ambient Air Quality Standard (2015 Ozone NAAQS) of 70 parts per billion (ppb) since June 4, 2018.

Reducing ozone levels is accomplished by targeting "precursor" pollutants: Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx), that combine in the presence of sunlight to form ozone. Limiting those precursor emissions within the Denver Metro / Northern Front Range ozone nonattainment area, at least during the June through August ozone season, is the only solution to the persistent problem of ozone exceedances.

According to the Air Pollution Control Division, the oil and gas sector is by far the largest source of anthropogenic (human-caused) VOCs and NOx through 2026.11 The oil and gas industry is responsible for 38.2% of the VOC emissions and 44% of the NOx emissions within the Denver

Metro / Northern Front Range. For perspective, all highway vehicles within the Denver Metro / Northern Front Range are responsible for 20.1% of NOx emissions. Simply stated, the ozone crisis can only be solved by reducing or off-setting oil and gas emissions during the ozone season.

Ozone has real health implications, particularly for the youngest and oldest in our population and anyone with compromised breathing such as those who suffer from asthma. As stated in the Ozone State Implementation Plan,

> "Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. People with chronic lung and heart diseases, children, older adults, and even healthy people who are active outdoors can be affected when ozone levels are elevated above background concentrations. Ozone can worsen symptoms for those who have pre—existing conditions such as bronchitis, emphysema, asthma, chronic obstructive pulmonary disease, and heart disease. Ozone can also reduce lung function and inflame the linings of the lungs, and repeated exposure may permanently scar lung tissue. Ozone exposure can also increase the mortality risk for susceptible individuals, including the elderly and those with pre—existing conditions."'

Larimer County has been suffering the effects of high ozone for decades. In 2021, levels of the 8 hour — A 4th highest readings were well above both the 2015 NAAQS of 70 ppb ozone and the 2008 NAAQS of 75 ppb ozone at every air monitoring station within Larimer County.

Larimer County is particularly impacted by oil and gas development due to the upslope flows that are well documented and described in published research. The Front Range Atmospheric Photochemistry Experiment (FRAPPE) conducted in 2014, with a final report published in 2017, determined that oil and gas emissions are the largest contributor to local ozone production in the northern part of the nonattainment area and northern foothills. The FRAPPE concluded that the elevated ozone levels along the Larimer County foothills were the result of mountain-valley winds resulting from thermally driven, terrain-induced diurnal flow patterns. During summer days with low wind, warm temperatures create upslope winds that move pollutant-laden air from the east to west and into the mountains. As temperatures drop late day and into the evening, the pollutant-laden air begins to downslope and drain into the foothills. The cycle repeats, mixing fresh and existing pollutants that form ozone.

The following visualization from the final 2017 report demonstrates how ozone elevations were highest in the mountains for a single day in August 2014 as the result of thermally induced upslope. (Figure 1).

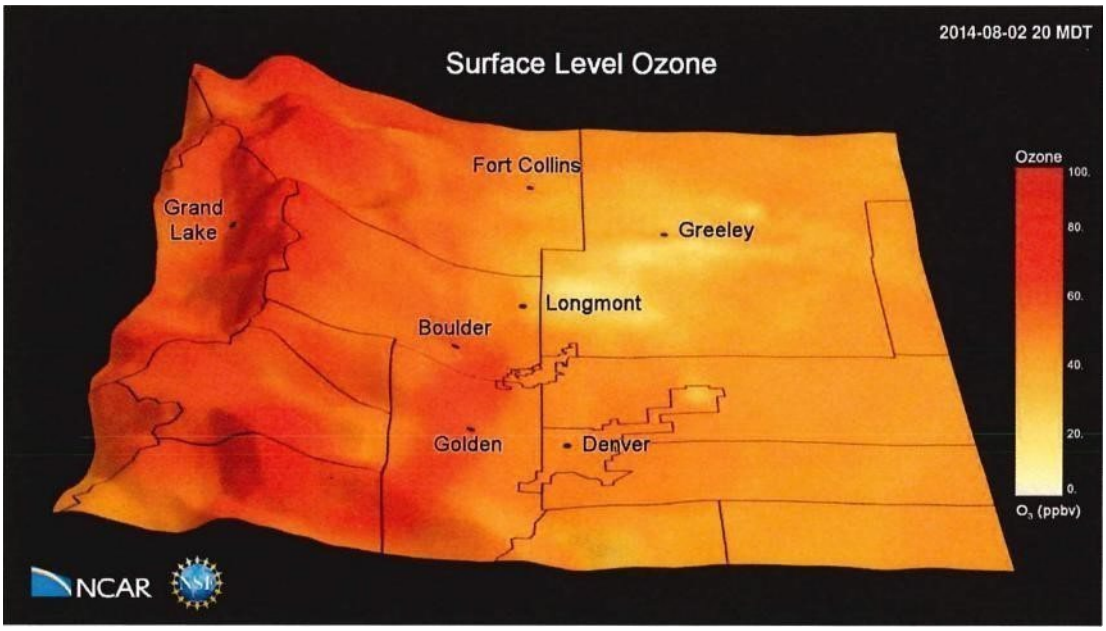


Figure 1. NCAR Image. "This visualization of surface ozone across the Front Range on an August afternoon shows how ozone pollution can sometimes be more acute in the high mountains than on the populated plains, depending on local winds."'

Despite the fact that the majority of ozone precursor pollution within Larimer County is coming from oil and gas sources outside the county (Figure 2), Larimer County is aggressively combating the problem of high ozone by increasing regulations on the oil and gas industry, building additional air quality monitoring sites, and in the process of purchasing an optical gas-imaging camera to enhance routine inspections and complaint investigations for oil and gas operations in an effort to reduce ozone precursor emissions.

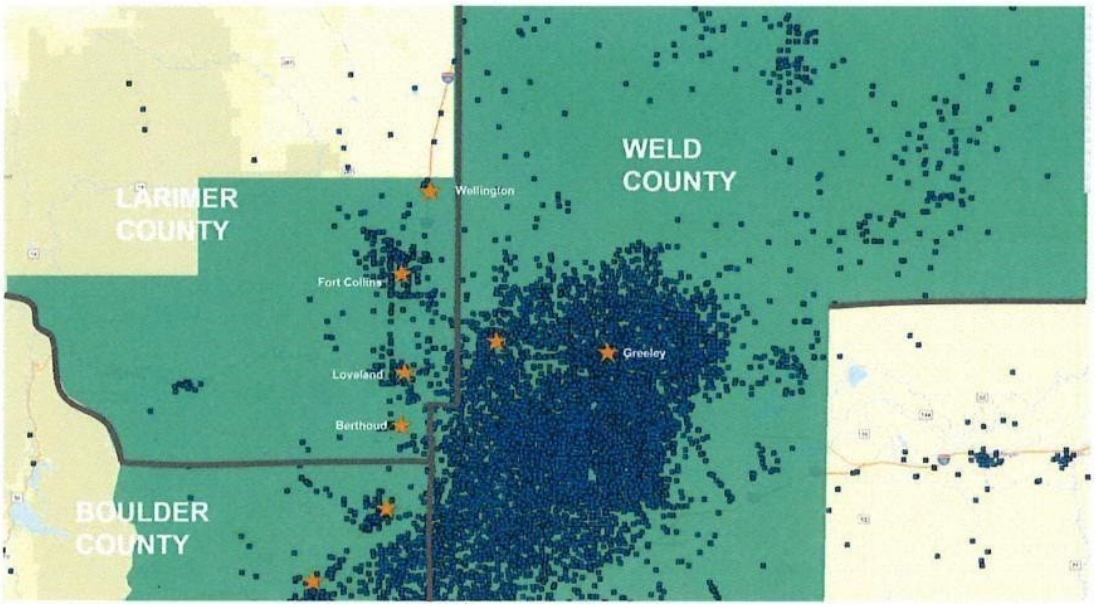


Figure 2. Colorado EnviroScreen Image depicting permitted sources of pollution on the Front Range. The vast majority of permitted pollution sources are in Weld County from the oil and gas sector. (https://cdphe.colorado.gov/enviroscreen Visited on November 6, 2022)

To address the cumulative effects of the oil and gas industry on high ozone, the COGCC should require electrification of well sites, including electric drilling and hydraulic fracturing when possible. If not possible, those preproduction activities should only be allowed outside of the June 1-August 31 peak ozone season.

Response: Please see response to Larimer County Air Quality Comments #4-6 above.

Air Quality:
MRG's proposed operation will involve drastically fewer emissions than traditional oil and gas development because the proposed location will be electrified for drilling operations and production operations and because the site will be connected to natural gas and oil gathering pipelines. The use of pipelines is significant for two reasons. First, the use of pipelines minimizes truck traffic to and from the location for the takeaway of produced hydrocarbons. Second, by not storing hydrocarbons onsite in tanks, the potential for fugitive VOC emissions is significantly reduced. All piping connections are flanged or welded and subject to routine Leak Detection and Repair monitoring.

The location will also be subject to the state's extremely stringent air quality control rules. Among other things, the location will comply with CDPHE Regulation 7 and have air monitoring that will begin 10 days prior to any drilling activities. CDPHE requires air monitoring to continue for 6 months after the last well is drilled; MRG, however, has voluntarily committed to 3 years of post-drilling air monitoring.

Compliance: MRG's intent is to work cooperatively with state and local government to ensure its operations protect the well-being of Coloradans, are in compliance with all regulatory requirements, and exceed requirements where possible.

High Priority Habitat: The proposed location is over 1 mile from the nearest designated High Priority Habitat. It is 2.34 miles from the High Plains Environmental Center.

Cumulative Impacts: MRG is not in a position to plug and abandon wells as part of its project because it does not currently own or operate any wells. MRG has, however, taken several measures to reduce the cumulative impacts of the proposed CE Pad. MRG's proposed CE Pad reduces cumulative impacts by developing 1,685-mineral acres from just one (1) well pad of just eight (8) acres of disturbance during operations. The location of the CE Pad also reduces cumulative impacts because the site allows for the development of the drilling and spacing unit with just fifteen (15) horizontal wells. Originally another operator targeting the same minerals would have required fifty (50) wells and five (5) locations to develop the same mineral acreage. The choice of the CE pad, however, allows MRG to minimize the number of wells and surface disturbances required to efficiently, safely, and responsibly develop the mineral acreage. Cumulative air impacts are also reduced because MRG will use pipelines for hydrocarbon take away, use an electric drilling rig, and electrify all production equipment that may be electrified. No significant amounts of potable water will be used during any stage of this project. Potable water will be limited to servicing accommodation trailers during the temporary drilling and completions phases and for irrigating landscaping.

MRG, during consultation with CDPHE, was advised of a pre-production non-road engines calculation example. MRG utilized this example to recalculate emissions data and submitted the revised data to CDPHE and COGCC on January 6, 2023.