

## CUMULATIVE IMPACTS PLAN

Date: November 29, 2023

Location: OGDG SKR 698-10-BV



Development Area Legal Description (Garfield County, CO):

Township 6 South, Range 98 West, 6<sup>th</sup> P.M.

Section 3: Part of Lot 5 and Tracts 38, 48B, 49, 58, and 107  
Section 10: Part of Lots 1, 3, 4, and Tracts 72, 45, 46, 48B, 49, 50  
Section 15: Part of Tract 72

Township 5 South, Range 97 West, 6<sup>th</sup> P.M.

Section 31: Part of Lots 9, 10, 11, and Tract 58

This Cumulative Impacts Plan has been prepared in accordance with the Colorado Energy and Carbon Management Commission (ECMC or Commission) Rule 304.c.(19) and follows the resources analyzed for potential cumulative impacts pursuant to Rule 303.a.(5).

The Plan provides an overview of the OGDG SKR 698-10-BV Project, specifically the proposed drilling, completion and production of two wells on the existing SKR 698-10-BV Pad and the methodology used for determining cumulative impacts. Finally, the Plan also includes the following sections, as prescribed in Rule 304.c.(19):

**Resources Impacted (Section 3.0)** – A description of all resources to which cumulative adverse impacts are expected to be increased;

**Minimization Measures (Section 4.0)** – A description of specific measures taken to avoid or minimize the extent to which cumulative adverse impacts are increased;

**Mitigation Measures (Section 5.0)** – A description of all measures taken to mitigate or offset cumulative adverse impacts to any of the resources; and

**Additional Information (Sections 1.0 and 2.0)** – Information determined to be reasonable and necessary to the evaluation of cumulative impacts by the Operator, the Director, CDPHE, CPW, or the Relevant Local Government.

### 1.0 Project Overview

This document provides site-specific information for OGDG SKR 698-10-BV. The information in this document relates specifically to the time during the construction, drilling, completion, and production of the two proposed horizontal wells in this OGDG. The proposed location is an existing well pad in rangeland adjacent to Garfield County Road 211 (CR 211) approximately 4.1 miles north of CR 204.

A pre-application conference with Garfield County was held on October 12, 2023, and was attended by representatives from Garfield County, ECMC, CPW, CDPHE, and Chevron. Based on input from CDPHE staff during the pre-application conference, a pre-application consultation with CDPHE staff was not held for this project. CDPHE will determine whether formal consultation will be required when the OGDG has been deemed complete by ECMC.

The two proposed wells on this location will produce to initial production equipment located on the well pad. The equipment at the well pad will include separators, pigging stations, a gas meter, pipe skid, an instrument air skid, a skid drain vault, a chemical injection skid, a communication tower, solar skids, a maintenance tank, heat trace equipment, a transformer or electric generators, switchracks, and a battery box. Liquids (condensate/oil and water) and natural gas produced from these wells will be transported via underground pipelines to Chevron's existing Central Production Facility (CPF) for additional processing. Condensate/oil and natural gas will be transferred to midstream assets at the CPF and produced water will be transported to an existing, permitted disposal well via an underground pipeline.

### 1.1 Surface Disturbance

Construction associated with the OGDG SKR 698-10-BV Pad will be minimal and associated with an additional access road, flowlines, and drainage basins. This construction would result in an estimated initial disturbance of 16.4 acres (including existing and new disturbance) and long-term disturbance of 2.4 acres. Initial and long-term disturbance by project feature is summarized in Table 1. Site reclamation would be initiated for portions of the well pad not required for the continued operation of the well within six months of completion, weather permitting.

**Table 1**  
**Estimated Surface Disturbance**

<b>Project Feature</b>	<b>Initial (acres)</b>	<b>Long-Term (acres)<sup>1</sup></b>
<b>Well Pad</b>	<b>6.9</b>	<b>2.3</b>
Existing Disturbance	6.2	
New Disturbance	0.7	
<b>New Access Road Corridors</b>	<b>0.1</b>	<b>0.1</b>
<b>Flowline Corridors</b>	<b>9.5</b>	<b>0</b>
<b>OGDG Total</b>	<b>16.4</b>	<b>2.4</b>

<sup>1</sup> Residual disturbance calculations are based on the assumption that interim reclamation would be successful.

As documented in the Alternative Location Analysis (ALA) submitted with this OGDG, Chevron analyzed alternative locations for the proposed well pad, however, none of these alternative locations resulted in reduced impact. It is difficult, if not impossible, to find alternative locations that are outside of HPH or a DI community, and all alternative locations would result in new and increased surface disturbance. The use of the existing well pad minimizes surface disturbance to the maximum extent possible, and interim reclamation of this well pad will result in the disturbance being reduced by approximately 3.8 acres from what has been in use for the storage yard. Although the existing SKR 698-10-BV Pad can safely accommodate the proposed drilling and completions operations, it is smaller than what Chevron would consider as an ideal size for these operations; therefore, the use of the existing pad results in approximately 1.5 acres less of disturbance than would occur if a new pad was constructed. Additionally, most alternative locations would require significantly more disturbance for construction of access roads and flowlines.

## 2.0 Cumulative Impact Methodology

Cumulative impacts on the environment may result when the environmental effects associated with a proposed project are added to other past, current, and reasonably foreseeable future

actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The proposed OGDG SKR 698-10-BV is within an area of existing oil and gas development, and is surrounded by agricultural operations in Garfield County, Colorado. Most of the past, present, and reasonably foreseeable development in the vicinity of the OGDG SKR 698-10-BV is associated with current or planned oil and gas exploration, midstream infrastructure, and agricultural development. This area is very sparsely populated and the nearest RBU to the SKR 69-10-BV Pad is over one mile to the south. The only occupied buildings near the well pad are associated with Chevron's field office approximately 830 feet to the northwest. Information for this cumulative impact assessment was obtained from county, state, and federal websites, and other public domain sources. Specifically, the existing SKR 698-10-BV Pad has approximately 7 oil and gas locations considered "active" within a 1-mile radius to the ECMC location files online.

To provide information relevant to ECMC decision making, a practical delineation of the spatial and temporal scales is needed for an informative cumulative impacts' analysis. The geographic extent of each specific Cumulative Impact Analysis Area (CIAA) varies by resource and is larger for resources that are mobile or migrate, as compared to those that are stationary. For some resources, the CIAA is smaller due to the geographically confined nature of cumulative impacts (e.g., vegetation), while for others the CIAA is much larger (e.g., air quality). Table 2 provides the geographic extent for cumulative impact analysis that was applied for the OGDG SKR 698-10-BV location. For most resources, the temporal boundary is assumed to be the 30-year life of production. For wildlife and vegetation, the temporal boundary is extended an additional 5 years to account for the time required to reach 75-100 percent reclamation.

**Table 2**  
**Geographic Scope for Cumulative Impact Analysis**

<b>Environmental Resource</b>	<b>Cumulative Impact Assessment Area (CIAA)</b>
Air Quality	1-mile radius
Public Health	1-mile radius
Water Resources	½-mile radius
Terrestrial and Aquatic Wildlife Resources and Ecosystems	1-mile radius (specifically High Priority Habitats [HPH] within 1-mile)
Soil Resources	Limits of disturbance for the location (including access roads and pipeline rights-of-ways [ROWs])
Vegetation	1-mile radius
Public Welfare – Noise, Odor, Light	1-mile radius

### **3.0 Resources Impacted**

The following section describes the resources for which cumulative impacts are anticipated, based on the information included on the Form 2B and the site-specific plans associated with Form 2A.

#### **3.1 Air Resources and Public Health<sup>1</sup>**

Air quality in an area is generally influenced by the quantities of pollutants that are released within and upwind of the area, and it can be highly dependent upon the pollutants' chemical and

physical properties. Air quality regulations and source-specific permits limit the allowable quantities of pollutants that may be emitted. The topography, weather, and land use in an area will also affect how pollutants are transported and dispersed and the resulting ambient concentrations.

The location of the OGDG SKR 698-10-BV and broader CIAA currently contains various emission sources including agricultural fields, vehicle traffic, and oil and gas production and infrastructure. Most notably, there are no Residential Building Units (RBUs) within over 1 mile from the Working Pad Surface (WPS) of the SKR 698-10-BV Pad. The addition of the infrastructure needed to construct, drill, and operate the OGDG SKR 698-10-BV location would have a cumulative impact on air quality within the 1-mile CIAA. However, the proposed wells' contribution to cumulative effects would be minor, as demonstrated by the Emissions Inventory results reflected in Form 2B, and modeling assessment results from the October 17, 2019 *Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado* published by CDPHE.

The Air Resources impacts would be minimized and mitigated by the measures included in Sections 4 and 5 of this Cumulative Impacts Plan. Emissions would be permitted and regulated by the Colorado Department of Public Health and Environment, Air Pollution Control Division, and would be subject to appropriate controls to reduce emissions to minimal levels. However, in the context of cumulative impact assessment, any contribution to emissions, no matter how small, adds to the cumulative effects from past, present, and reasonably foreseeable future projects.

### 3.2 Water Resources

There are no public water system intakes located within a mile of the proposed OGDG SKR 698-10-BV location. Construction of oil and gas facilities and associated infrastructure and industrial development would likely have the greatest potential impact on water resources within the ½-mile radius CIAA due to the potential for increased erosion and sedimentation rates. Soils compacted on existing roads, new access roads, and well pads contribute to slightly greater runoff than undisturbed sites. Increased erosion and subsequent increased sedimentation of intermittent streams and ephemeral drainages within the CIAA is possible, especially during construction and other surface disturbing activities. These effects could have negative impacts on aquatic habitat within affected drainages.

To assess the potential of impacts to water resources, Chevron utilizes several different sources of information and field surveys to verify the location and nature of hydrologic features. The Hydrology Map included in the Form 2A submittal for this pad reflects the compilation of information available from a variety of public sources and limited information from land surveyors employed by Chevron. Chevron also utilizes the services of a third-party environmental consultant to conduct aquatic resources inventories and the results of these inventories are documented in the Aquatic Resources Inventory Report (ARIR) attached to the Wildlife Mitigation Plan included in the Form 2A submittal. This ARIR documents the results of additional desktop reviews and field surveys by qualified biologists

to verify the results of the desktop reviews and to identify any resources that may not have been identified by the desktop reviews. These field surveys are conducted to identify and formally delineate any wetlands or other aquatic features within 500 feet of the proposed location. It is not uncommon for the ARIR to provide information that appears to conflict with the initial Hydrology Maps, however, the results of the ARIR are far more definitive and Chevron updates the Hydrology Maps to include the information from the ARIR.

For the OGDG SKR 698-10-BV Pad, the nearest aquatic feature to the WPS of the pad is the intermittent stream referred to as Deer Park Gulch located approximately 148 feet to the southeast. This intermittent stream is identified as Aquatic Sportfish Management Waters HPH, however, upon reviewing the ARIR CPW determined that this drainage does not contain sufficient year-round flows to support sportfish populations. Therefore, CPW granted waivers from Rule 1202.c.(1).S. and Rule 1202.a.(3) for this project. In addition, Chevron will implement several BMPs at this location to minimize and mitigate any potential impacts to these and other aquatic features.

In addition, production activities at the OGDG SKR 698-10-BV location or other past, present, or reasonably foreseeable production facilities or industrial development could increase the potential for accidental spills of fuels, lubricants, and other petroleum products, which could contaminate surface water within the ½-mile CIAA. All production from the well pad will be transported via buried flowlines to the existing CPF where additional production equipment will be located. There will be no routine storage of condensate or produced water on the pad, however, there will be a maintenance tank on the pad that will only be used when the wells and equipment on the well pad may need to be blown down. Spills of fuels or produced fluids from well pads and pipelines also have the potential to contaminate shallow alluvial groundwater. However, oil and gas development regulatory requirements to prevent spills from reaching surface and groundwater make these impacts unlikely, and therefore, represent a negligible potential cumulative impact within the CIAA.

Total water volume needed for the Project would be approximately 1,444,000 barrels (bbls). Water for the Project would come from existing, permitted sources (both surface and groundwater) outside of the OGDG SKR 698-10-BV area; no new water wells or water storage areas are proposed – refer to the Water Plan submitted with the Form 2A for details of the water sources. The use of more than 1.4 million bbls of water for the construction, drilling and completion of wells on the OGDG SKR 698-10-BV location would cumulatively contribute to water use from other oil and gas development and agricultural activity within the CIAA. At the time of this application, the Piceance area lacks the infrastructure to source produced water for recycling. As development continues, the potential for recycled water in this region will also improve. In the interim, Chevron will continue to use water as efficiently as possible when drilling and completing these wells, to ensure that water usage is minimized.

Chevron's use of oil-based muds during drilling also reduces freshwater use at the Location. Minimization and mitigation measures intended to protect water resources within the CIAA are described in Section 4 and 5; Chevron's commitment to implementation of these measures will further limit impacts to water resources within the CIAA.

### 3.3 *Terrestrial and Aquatic Wildlife Resources and Ecosystems*

Cumulative impacts on terrestrial wildlife populations and habitats primarily result from surface-disturbing activities. Cumulative impacts to aquatic species primarily occur from water depletion and impacts to the quality of surface and groundwater, such as those discussed in Section 3.2.

#### **Wildlife Populations**

##### Surface Disturbance Impacts

Development of the OGDG SKR 698-10-BV location would temporarily incrementally increase the acres of cumulative surface disturbance from past, present, and reasonably foreseeable development within the 1-mile CIAA. Cumulative impacts to wildlife species can include habitat fragmentation, habitat loss, loss of foraging opportunities, and animal displacement; impacts that can last until successful final reclamation is completed. As summarized below and discussed in detail in the Wildlife Mitigation Plan submitted with the Form 2A, Chevron is implementing several measures to mitigate impact to wildlife. Chevron's production design also provides for all fluids to be piped from the location to the CPF, which dramatically reduces the traffic traditionally associated with transporting these fluids.

The proposed well pad and the associated access roads and flowline corridors are located within HPH, and Chevron will implement numerous wildlife-related BMPs for all development. The use of the existing well pad, which will require very little additional disturbance to accommodate the proposed wells, limits additional disturbance in HPH. Once this well pad undergoes interim reclamation, the resulting long-term disturbance will be less than exists for the storage yard currently. As noted above, CPW has granted Chevron a waiver from Rule 1202.c.(1).S. due to the fact that Deer Park Gulch cannot support sportfish populations. Additionally, Chevron is committed to performing all construction, drilling and completion operations outside of the timing limitations for Elk HPH.

As noted above, the proposed well pad will be connected to the existing CPF via buried flowlines carrying oil, gas, and water to the production facility. As a result, there will be no truck traffic required to transport liquids from the well pad when the wells are in production which will dramatically decrease the potential impact to wildlife populations.

##### Noise and Light Impacts

Noise and light from anthropogenic activities both have the potential to adversely impact terrestrial and aquatic wildlife. Artificial light can have several effects on wildlife. Nocturnal animals rely on darkness for hunting, foraging, and scavenging. Predatory animals rely on darkness for hunting, while prey animals rely on the cover of darkness for protection from predators. Artificial light can also impact migratory birds including causing them to migrate too early or too late and miss ideal climate conditions for nesting, foraging, and other behaviors. Birds can also be attracted to sources of artificial light, which can lead to collisions and bird mortality. Artificial lights can also impact aquatic species. For example, glare from artificial lights can impact wetland or riparian habitats and interfere with activities such as nighttime croaking of

frogs and toads, which can impact breeding and reproductive success and lead to reduced populations.

Noise from human activity can also have an adverse impact on wildlife. Wildlife species use sound for a variety of reasons, including to navigate, find food, attract mates, and avoid predators. Anthropogenic noise, especially loud or high frequency noise intrusions, can be perceived by wildlife as a threat, causing them to flee an area. Noise can distract foragers such as big game species, reducing their efficiency of finding and handling food. Noise may increase physiological stress levels, which can impact behaviors and result in decreased physical health of animals and decreased reproduction. Noise can have indirect effects on wildlife, such as scaring away prey from an area predators rely on, or conversely, driving predators into prey habitat. Human introduced noise can also impede acoustic communication between wildlife or mask the sounds of an approaching predator or potential prey. Noise can also hinder animal communication by reducing the distance at which a signal can be detected, limiting the ability of the signal to reach its intended receiver, and decreasing the amount of information that can be extracted from a signal. For example, anthropogenic noise can reduce the ability of birds, small mammals, and insects to collect information on their surroundings, increase their predation risk (by masking the sounds of predators), and interfere with signals that are crucial for their breeding success and parental care.

The pre-production potential for light and noise related impacts on wildlife will be decreased at the OGDG SKR 698-10-BV location because Chevron intends to down-shield lighting during drilling and completion. Chevron is also committed to performing all construction, drilling and completion operations outside of the timing limitations for Elk HPH. Additionally, limited permanent lighting will be located on the well pad and will be switched so only on when in use, so long-term light and noise related impacts would be limited to headlights and vehicle engine noise from operational vehicles on location and enroute to and from the location during production. The majority of production-related traffic at the well pad will be during daylight hours. As indicated above, the use of pipelines to transport all fluids from the well pad will result in a dramatic reduction of traffic associated with production activities.

In addition, given the existing oil and gas, industrial, and agricultural activity in and around the CIAA, local wildlife has likely become habituated, to some extent, to human presence, vehicle traffic, and operational activities (including associated noise and light from vehicle traffic) associated with these current land uses. Finally, the minimization and mitigation measures outlined in Sections 4 and 5 of this Plan would further diminish cumulative impacts on terrestrial and aquatic wildlife within the CIAA.

### **3.4 Soil Resources**

The CIAA for soils is a ½-mile radius around the Location. Construction of the OGDG SKR 698-10-BV location would result in new disturbance of approximately 10 acres of soils. The soils present at the proposed location are detailed in the Dust Mitigation Plan submitted with the Form 2A.

Cumulative impacts on soil resources can occur from any surface-disturbing activity that removes native vegetation and topsoil. These impacts can result in soil compaction, increased

erosion, and sediment yield, all of which reduce soil productivity, stability, and viability. Of these impacts, compaction may be the most deleterious. Compaction affects the movement of water and air across the soil surface boundary. Infiltration, the movement of water into the soils, is critical for plant and soil health. If water cannot move into the soil quickly, it will pond and run off, leaving vegetation dry and dying, increasing erosion, and increasing flood frequency and magnitude. Compaction can also cause a shift from aerobic to more anaerobic organisms and may increase losses of nitrogen to the atmosphere (denitrification). Surface disturbance can also impact soil biological functions and viability because the disturbance can 1) enhance or degrade the microbial habitat, 2) add to or remove food resources, and/or 3) directly add or kill soil organisms.

Most soil organisms – especially larger ones that contribute to soil health and viability – live in the top few inches of soil. Surface disturbance, compaction, and erosion disrupts and removes that habitat for soil organisms. As such, one of the most effective ways to reduce impacts to soil viability from surface disturbance is to protect and preserve topsoil. During the minimal additional construction at the location, topsoil will be segregated, stored and seeded to maximize the topsoil's viability for future reclamation activities.

Implementation of this and other minimization and/or mitigation measures listed in Sections 4 and 5 of this Plan, would help to lessen the potential for impacts to soils at the OGDG SKR 698-10-BV location, and therefore, reduce its cumulative contribution to soil disturbance and loss of soil viability.

### **3.5    *Vegetation***

The CIAA for vegetation is defined as a 1-mile buffer around the proposed OGDG SKR 698-10-BV location. Past, present, and other reasonably foreseeable activities within the CIAA that have or will continue to affect vegetation communities include oil and gas development/other industrial activities, livestock grazing, and agriculture. Construction of the OGDG SKR 698-10-BV location, when combined with all past, present, and reasonably foreseeable activities in the CIAA, would have minimal to moderate impacts on vegetation across the CIAA. Yet in the context of cumulative impacts, each acre of vegetation disturbance would incrementally add to other existing and future surface disturbances in the CIAA by increasing erosion, incrementally adding to the overall native vegetation loss, and potentially increasing invasion or expansion of invasive and noxious weeds. Cumulative impacts for general vegetation would be mitigated in accordance with ECMC requirements. Interim reclamation would reduce the location and associated access road and flowline disturbance to approximately 2.4 acres. Minimization and mitigation measures (listed in Section 4 and 5 of this Plan) used to implement noxious weed management, erosion control, and apply dust abatement, would reduce impacts to native vegetation communities by reducing the potential for competition with invasive and noxious weed species, minimizing soil erosion and sedimentation, and reducing fugitive dust on plant surfaces.



### **3.6    *Public Welfare – Noise, Odor, and Light***

The OGDG SKR 698-10-BV location is wholly located within rangeland and is zoned as Resource Lands by Garfield County. The nearest RBU to the WPS is over 1 mile to the south.

The CIAA for Public Welfare is a 1-mile radius around the Location. There are no recreation areas within a 1-mile radius, and the OGDG SKR 698-10-BV location is located in an area that has active oil and gas development meaning that visual impacts from oil and gas are already present in the CIAA. The scenic value of the location will not be impacted by the construction and operation of the OGDG SKR 698-10-BV location.

#### **Noise**

Noise during production operations at the well pad will be very limited. Visits to the pad by lease operators will be normally occur only during daylight hours. All produced gas and fluids will be piped from the well pad to the existing CPF which eliminates the trucking of fluids from the well pad and the noise impacts associated with this trucking.

#### **Odor**

Odor from existing and proposed oil and gas operations, including the OGDG SKR 698-10-BV location, within the CIAA should not have any cumulative impact on residents because the nearest RBU is over 1 mile to the south. Chevron will utilize Group III drilling fluids to reduce odors from drilling operations. Cuttings will not be stockpiled, but rather they will be removed from the location on a regular and timely basis to reduce potential odor impacts. Other exploration and production activity wastes stored onsite would be stored in compatible containers or engineered containment devices. Wastes would be transported offsite via truck by a licensed transporter, and transportation frequencies would vary based on waste volumes.

These measures would help to contain odors from being noticed within the CIAA. Additionally, the minimization and mitigation measures listed in Sections 4 and 5 would further limit the impacts of odor within the CIAA.

#### **Light**

Chevron's development of the OGDG SKR 698-10-BV location would require work activities to be performed 24 hours per day during drilling, completion, drill-out, and flowback stages; all of which require the use of temporary lighting. Lighting needed for these activities would conform to nationally recognized industry and federally mandated safety standards. However, during nighttime work activities, lighting required for safe operations may be observed from locations beyond the boundaries of the well pad site. As such, nighttime drilling and completion activities would result in a short- term contribution to cumulative light pollution within the CIAA. However, light pollution BMPs (see Section 4.7) would be used to minimize light impacts during all phases of the OGDG SKR 698-10-BV location's proposed operations, including precautions to ensure that site lighting does not directly shine outside of the site boundaries, which would decrease potential light impacts on nearby receptors. Cumulative light impacts within the CIAA during these phases would be short-term and temporary.

During production, operations would typically only occur during daylight hours. Permanent lighting on the well pad during production operations will be limited and switched so it is only on when needed. All permanent lighting will be shielded to reduce the amount of light leaving the location. Therefore, there would be little or no long-term contribution to cumulative light pollution within the CIAA from the OGDG SKR 698-10-BV location.

## **4.0 Minimization Measures**

ECMC defines “minimizing adverse impacts” as provided by § 34-60-106(2.5), C.R.S., as “providing necessary and reasonable protections to reduce the extent, severity, significance, or duration of unavoidable direct, indirect and cumulative adverse impacts to public health, safety, welfare, the environment, or wildlife resources from oil and gas operations. Minimization measures reduce impacts to the smallest amount possible and can include operational and engineering controls. Chevron has committed to the following minimization measures for resources based on the cumulative impact analysis provided in this Plan. These minimization measures are included within the operational plans submitted as attachments to Chevron’s Form 2A’s for the proposed OGDG SKR 698-10-BV location.

### **4.1 Air Quality**

- Chevron will employ practices for continuous control of fugitive dust caused by operations. These practices shall include but are not limited to:
  - Speed restrictions on lease roads and location of 10 MPH during dryer conditions (if dust is visible) and 20 when dust is not visible.
  - Regular lease road maintenance to consist of, grading and recompacting the road surface with the optimum amount of water applied when the road surface becomes deteriorated or monthly when heavy traffic is present.
  - Restriction of construction activity during high-wind days. On windy days or days when dust becomes fugitive (leaves or threatens to leave the site) construction or activities will be halted until either fresh water can suppress dust or dust is no longer visible.
  - All public roads to be utilized for this project that are not paved will be treated in coordination with Garfield County to alleviate dust concerns.
  - Chevron uses a gravity fed box proppant delivery system that meets OSHA standards, rather than the historic pneumatic trailer proppant transfer system that blows sand out of the trailer into frac sand silos on the location; a method that required supplemental dust control to meet OSHA requirements. With a gravity fed proppant delivery system, the delivery container is also a well pad storage container, eliminating the need for frac sand silos on location. Storing frac sand in containers reduces sand dust during fracing operations by dropping sand directly from the container into the blender sand hopper. As a result of the gravity fed box proppant delivery system, Chevron does not anticipate any silica dust to migrate off the proposed well pad during completion operations.

- Chevron uses automation on all new wells and production facilities to minimize truck traffic and to reduce the number of visits to location. Chevron monitors locations 24 hours a day in the Operations Control Center (OCC) and that has cut down on the need for physical location checks greatly. Chevron will also have camera coverage of the site that can be viewed remotely.
- Chevron will not flare produced gas during normal operations.
- Chevron will use supervisory control and data acquisition (SCADA) systems to monitor well operations, which will reduce emissions from vehicle traffic due to the reduced number of vehicle trips to the site.
- Chevron has 24/7 monitoring through the OCC that allows for continuous monitoring of operating conditions when personnel are not on-site to identify and correct any improper operations as soon as possible.
- Chevron will transport all fluids from the well pad to the CPF via buried pipelines which will eliminate the truck traffic associated with transporting these fluids.
- Chevron completes regular audio/visual/olfactory observations at every active location which provides early detection of equipment malfunctions thereby minimizing emissions from leaks.
- Chevron will use instrument air pneumatic control valves at the well heads.
- Chevron will implement a Leak Detection and Repair program (LDAR).
- As Chevron is committed to closed-loop drilling, there will be no emission-producing reserve pits.
- Chevron's green completions practices includes transporting all flowback fluids via buried pipelines to the CPF where they will be processed.

#### 4.2 *Public Health*

- Based on the airborne HAP concentrations estimated using HAP emission rates described in Section 3.1, no HAP is expected to exceed the target cancer risk or noncancer hazard index for chronic duration exposures within the location during pre-production or production. These results support the conclusion that HAP emissions are not expected to contribute to acute or chronic risks to human health within or beyond the location. Therefore, no additional minimization measures are required.

#### 4.3 *Water Resources*

- Chevron will implement a site-specific Stormwater Management Plan (SWMP) (included with Form 2A) to protect Waters of the State that could receive stormwater runoff from the Location.
- Chevron will manage potential pollutants located onsite by sealing, wrapping, covering, or having containment/protection while not actively being used in order to

eliminate/minimize contact with stormwater runoff, and prevent discharges of chemicals or other materials from the site.

- Chevron will practice proper storage, safe-handling, good housekeeping and spill prevention practices and procedures to prevent pollutants or contaminants from leaving the site.
- Upon surface owner authorization and per ECMC Rules 615 and 318A.e(4), Chevron will collect baseline water quality samples from an appropriate set of water wells within the vicinity of the oil and gas location. Baseline samples will be collected prior to drilling (setting of conductor casing) operations for the initial site well.
- Chevron will use SCADA to allow for rapid well shutdown in the event of a potential release.

#### *4.4 Terrestrial and Aquatic Wildlife Resources and Ecosystems*

- Chevron is committed to performing all construction, drilling and completion operations outside of the timing limitations for Elk HPH.
- Chevron will inform and educate employees and contractors on wildlife conservation practices, which includes no harassment or feeding of wildlife.
- Chevron will consolidate and centralize collection and distribution facilities to minimize impact to wildlife.
- Chevron will pipe all produced oil, water and gas from this well pad to the CPF, thereby significantly reducing traffic impacts.
- Chevron will implement fugitive dust control measures.
- Chevron will post speed limits and caution signs to the extent allowed by Garfield County.
- Chevron will use remote monitoring of well production.
- Chevron will reduce traffic associated with transporting drilling and completions water and produced liquids with pipelines, large tanks, or other measures.
- Chevron will install automated emergency response systems (e.g., high tank alarms, emergency shutdown systems).

#### *4.5 Soil Resources*

- Chevron will implement a site-specific Topsoil Management Plan and Stormwater Management Plan (Form 2A). Key control measures from those documents are included here:

- During the minimal construction required for this Location, topsoil will be stripped and segregated into stockpiles that are reseeded to maximize the viability of the topsoil for future reclamation activities.
- BMPs such as straw mulch, sediment basins, swales and perimeter ditches will be used to prevent excess erosion of soils from disturbed areas. These structures will be installed during construction and left in place and maintained for the life of the project or until the disturbed slopes have been revegetated and stabilized.
- The site will be inspected bi-weekly by a third-party contractor for BMP integrity and current installation. Any deficiencies noted will be brought to the attention of the operator and addressed in a timely manner.
- Chevron will limit construction activities during wet periods to avoid excess disturbance of areas surrounding operations.
- Chevron will regrade cut and fill areas awaiting reclamation to match pre-existing contours to the nearest extent possible to provide long term erosion control and site stability.

#### **4.6 Vegetation**

- Chevron will confirm that erosion and sedimentation controls are implemented as necessary before and after seeding operations, as detailed in the Site SWMP.
- Chevron will monitor and maintain the vegetation on disturbed surfaces to promote native vegetation and to suppress invasive and noxious weeds.

#### **4.7 Public Welfare – Noise, Odor, and Light**

##### **Public Welfare – General**

- To minimize the possibility of fires during the construction phase, equipment, including welding trucks, will be equipped with fire extinguishers and spark arresters.
- Where alignment of pipelines will cross or parallel roads, Chevron will provide warning signs to inform the public of the presence of the line.
- Vehicle users associated with the oil field will be instructed to travel at low speed and remain on existing roads and well pads at all times.
- Chevron will transport all fluids from the well pad to the CPF via buried pipelines which will eliminate the truck traffic associated with transporting these fluids.
- Chevron will not truck any water to location for completions. Rather, temporary surface pipelines will be utilized.
- Chevron will use SCADA to reduce the frequency of vehicle trips to the location to monitor well operations.

### Noise

- Chevron will utilize a quiet frac fleet for completions operations.

### Odor

- Chevron will ensure that oil and gas operations will be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII.
- Chevron will utilize a freshwater mud system for surface hole.
- Chevron will use Group III drilling fluids for this location.
- Chevron will store oil-based drilling fluid not being used in the active mud system in closed, upright tanks.
- To keep odor from oil base cuttings as low as possible, Chevron continuously hauls cuttings to an approved disposal facility throughout the drilling process. Chevron will not stockpile cuttings or store any large amount of cuttings on location. Trucks run continuously during daylight hours to keep the volume of cuttings on location at a minimum.
- Chevron will wipe the OD and ID of the drill pipe to remove any residual mud upon tripping out of the hole.
- Chevron will utilize a catch can system mounted around the BOP to catch any mud that falls through the rotary table, thereby preventing any spillage and reducing the source of odor.
- Chevron will perform emission testing, as applicable, on natural gas-powered engines to ensure emission control devices are operating properly. Additionally, catalyst monitoring and maintenance activities recommended by the manufacturer or mandated by state and federal regulations will be performed to ensure that control devices are functioning as intended.

### Light

Chevron will utilize BMPs to minimize light pollution which may include the following:

- Use of LED fixtures, as feasible, to reduce skyglow.
- Position lights in a downward direction where vertical light is not required.
- Angle light away from off-site buildings.
- Reduce lighting within well pad to the minimal level for safe pre-production activity.
- Use of light sensors that automatically switch light sensors on and off on light masts.
- Direct lights to drilling and completion tasks only.
- Minimize permanent lighting on the well pad.

## 5.0 Mitigation Measures

ECMC defines “mitigating adverse impacts” as “measures that compensate for unavoidable direct, indirect, and cumulative adverse impacts and loss of such resources from oil and gas operations.” Mitigation measures are used to offset the intensity or severity of impacts and can include compensatory actions and administrative controls. Chevron has committed to the following mitigation measures for resources based on the cumulative impact analysis provided in this Plan.

### 5.1 Air Quality

- Minimization measures listed for air quality in Section 4 will address the potential impacts to air resources within the CIAA. Therefore, no additional mitigation measures for air quality are included.

### 5.2 Public Health

- HAP emissions are not expected to contribute to acute or chronic risks to human health within or beyond the well pad Location. Therefore, no additional mitigation measures are required.

### 5.3 Water Resources

- Minimization measures included in the site-specific SWMP for the OGDG SKR 698-10-BV location and other measures included in Section 4 will address the potential impacts to water resources within the CIAA. Therefore, no additional mitigation measures are required.

### 5.4 Terrestrial and Aquatic Wildlife Resources and Ecosystems

- During final reclamation, Chevron will re-contour and re-vegetate all roads and the pad to a stable condition to restore natural habitats for wildlife species, as is compatible with ongoing agricultural operations.

### 5.5 Soil Resources

- Minimization measures listed for soil resources in Section 4 will address the potential impacts to these resources in the CIAA. Therefore, no additional mitigation measures for soil resources are included.

### 5.6 Vegetation

- Chevron will reseed disturbed areas in the first favorable season following rig demobilization with species consistent with the plant community in the vicinity of the Location.
- Chevron will monitor the site to identify areas of poor growth or areas that fail to germinate; these areas will be reseeded as needed.
- Chevron will monitor the site for the presence of noxious weeds. If encountered, Chevron will employ a third-party consultant knowledgeable in identifying such

species and implement weed control measures consistent and in compliance with the Colorado Noxious Weed Act. If necessary, Chevron will implement a weed control plan.

## *5.7 Public Welfare – Noise, Odor, and Light*

### Noise

- Chevron will respond to any noise complaints with appropriate measures to mitigate the noise.

### Odor

- Minimization measures listed for odor in Section 4 will address the potential impacts from odors in the CIAA. Therefore, no additional mitigation measures for odors are included.

### Light

- Minimization measures listed for lighting in Section 4 will address the potential impacts from lighting to the CIAA. Therefore, no additional mitigation measures for lighting are included.