



## COGCC FORM ATTACHMENT INSTRUCTIONS

### FORM 2A

### LAYOUT DRAWINGS

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#### Rule Citation - 304.b.(7).B. Layout Drawings

Location construction and operations layout drawings, location construction, and operations cross-section plots including location and finish grades and operations facility layout drawings. These drawings will include, as applicable to the proposed Oil and Gas Location:

- i. The Working Pad Surface and surrounding disturbed area making up the entirety of the Oil and Gas Location;
- ii. A preliminary Drill Rig Layout;
- iii. Preliminary Well Completion and Stimulation Layout;
- iv. If a Well is proposed to be hydraulically fractured, a preliminary layout drawing of the flowback equipment, including the equipment and connections to comply with reduced emission completion requirements pursuant to Rule 903.c.(1); and
- v. The location of all existing and proposed Oil and Gas Facilities listed on the Form 2A.

#### Purpose of Attachment

The purpose of the Layout Drawing is to demonstrate that the Operator has thoroughly and thoughtfully considered all safety, logistical, integrity, process, timing, and efficiency aspects of constructing and operating their proposed Oil and Gas Location, and that the proposed Location will be built and operated in compliance with all applicable COGCC Rules.

#### Attachment Requirements

The Layout Drawing attachment will be a single multi-page document, attached to the Form 2A Oil and Gas Location Assessment, and will include at a minimum, the following five individual and unique drawings as required by Rule 304.b.(7).B:

1. Construction Layout Drawing (for initial site construction, well drilling, and completions operations);
2. Preliminary Rig Layout Drawing (for well drilling operations);

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3. Preliminary Well Completion and Stimulation Layout Drawing (for onsite well casing installation, well perforating, hydraulic stimulation and fracturing operations (frac), and, if relevant or required, a separate drawing for offsite remote completions support pad operations);
4. Preliminary Flowback Equipment Layout Drawing (for flowback operations); and
5. Facility Layout Drawing (for production operations).

Additional drawings may be included in the Layout Drawing attachment if the Operator wishes to provide supplemental information that will further help staff understand the proposed Location's physical layout or any operations that are proposed. This may be especially helpful where the topography, site complexity, ancillary remote related Oil and Gas facilities, or areas of disturbance are unusual or complex. Zoomed-in inset graphics may also be included to further illustrate certain details that are difficult to review at the full scale; such graphics are not required, but may help staff determine the adequacy of the overall proposal.

Portable Document Format (PDF) attachments are not limited to 8-½ x 11" page size and larger size figures may be appropriate for some Oil and Gas Locations.

### General Drawing Requirements

All of the individual drawings will include:

1. A scale bar, selected to optimize the amount of detail to clearly show the planned Oil and Gas Location and all surrounding features;
2. A north arrow, aligned to allow for maximum visibility of the required features of the individual drawing;
3. A legend of all symbols to identify pertinent features on the attachment;
4. A title block that identifies the Operator's name, Oil and Gas Location name, location identification (quarter/quarter, section, township, range, county), and any other relevant location information.

### Specific Drawing Requirements

#### **Construction Layout Drawing (including Plan and Cross-Sections):**

Purpose: The Construction Layout Drawing(s) for initial site construction, modification or re-construction, well drilling, and well completions operations are intended to provide the COGCC with detailed plan views and cross-sections that show the operator's plans for constructing the Oil and Gas Location.

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### Requirements:

1. Clearly show the boundaries of the Oil and Gas Location as defined by the edges of disturbance, the Working Pad Surface, all cut and fill slopes, all areas disturbed during construction, cuttings management areas, existing and proposed wellhead(s), pit(s), topsoil and excess soil stockpile area(s), locations for long term production equipment, and stormwater and erosion control measures.
2. Show the pre-construction contour lines beyond the proposed location boundaries to include any adjacent features that may be impacted by the construction (such as drainage channels).
3. Clearly label pre-construction contour lines and list the contour interval.
4. Show cut and fill thicknesses and the cut/fill boundary line.
5. List cut and fill volumes, including excess soil volumes.
6. List total disturbance acreage and the following breakdown:
  - a. Oil and Gas Location total disturbance acreage;
  - b. Working Pad Surface acreage;
  - c. Access Road disturbance acreage; and
  - d. Pipeline and/or Utility Corridor disturbance acreage.
7. Indicate pre-disturbance and final grade elevations.
8. Indicate overall dimensions of the Working Pad Surface, any planned pits and areas designated for cuttings management, as well as distances from the proposed wells and areas of locations of production equipment to the edge of the Working Pad Surface and between pad facilities (areas for storage tanks and separators).
9. Include a minimum of two cross-section plots oriented 90 degrees from each other, through the approximate center of proposed location. Include as many additional plots as necessary to show the planned construction on variable terrain. Include the boundaries of the proposed Oil and Gas Location and any areas beyond the proposed location that are necessary to show how the terrain will impact the construction plans.

### **Preliminary Drill Rig Layout Drawing**

Purpose: The Preliminary Drill Rig Layout Drawing is intended to provide the COGCC with a detailed plan showing the location of necessary equipment and temporary structures for conducting well drilling operations, management of all fluids, and management and containment for all exploration and production (E&P) wastes and materials generated during the drilling process. This drawing should show how the planned Working Pad Surface will be used so that operations are conducted safely. This drawing is listed as preliminary, and should represent the Operator's best

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assessment of what the rig layout will be; if a drilling contract changes, or different rig than originally planned will be used, the Operator should update the drawing by submitting a Form 4, Sundry notice prior to move-in, rig-up (MIRU).

### Requirements:

- 1) Clearly show and identify the Working Pad Surface, and all major equipment and structures planned for use during drilling, including, but not limited to:
  - a) Drilling Rig and Catwalk
  - b) Drilling Rig Control Room (Dog House)
  - c) Pump House
  - d) Generators / Fuel Tanks and associated secondary containment
  - e) Drilling Mud Tanks and associated secondary containment
  - f) Potable Water Tank
  - g) Non-Potable Water Tanks and associated secondary containment
  - h) Cuttings Management Areas, Cuttings Trenches, Containment Equipment and associated secondary containment
  - i) Flare Stack
  - j) Chemical Tanks and associated secondary containment
  - k) Site Security and Exclusionary Features
  - l) Perimeter Sound Mitigation Structures (Sound Walls)
  - m) Pipe Racks (optional)
  - n) Parts and Drill Bit Storage (optional)
  - o) Support Trailers (optional)
  - p) Any required additional equipment or information for safe well drilling
- 2) Indicate overall dimensions of the Working Pad Surface, any planned pits, and any areas designated for cuttings management as well as distances from the drilling rig to the flare stack and the edge of the Working Pad Surface.
- 3) Optionally, the extent of the Oil and Gas Location and the cut/fill boundary line may be included.

### **Preliminary Well Completion and Stimulation Layout Drawing**

**Purpose:** The Preliminary Well Completion and Stimulation Layout Drawing is intended to provide the COGCC with a detailed plan showing the location of necessary equipment and temporary structures and connections for conducting well completions and stimulation operations, including management of all fluids and emissions, and management and containment for all E&P wastes and materials generated during this process.

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### Requirements:

- 1) Clearly show and identify the Working Pad Surface, and all major equipment and structures associated with planned well completions, including, but not limited to:
  - a) Modular Large Volume Tank(s) (include the number, diameter, and volumes in barrels)
  - b) Frac Tanks with associated secondary containment (include the number of tanks and volumes in barrels)
  - c) Hydraulic Stimulation Control Room / Trailer
  - d) Generators / Fuel Tanks and associated secondary containment
  - e) Perimeter Sound Mitigation Structures (Sound Walls)
  - f) Water Pump(s)
  - g) Chemical Mixing Tank(s)
  - h) Sand (solids) Mixing Tank(s) and sand management area
  - i) Diesel Frac Pump Trucks
  - j) Blending Equipment
  - k) Temporary Surface Water Supply Pipeline(s)
  - l) Chemical Storage Containers
  - m) Support Trailers
  - n) Site Security and Exclusionary Features
  - o) Connecting Lines Between Equipment (optional)
  - p) Any additional equipment required for well completions
- 2) If another adjacent or nearby oil and gas location will be used as a remote frac pad or for frac support, a second drawing will be required that shows any of the facilities and equipment listed above as well as all permanent and temporary pipelines between the two locations that will be used to transfer fluids. Any related equipment or facilities (booster pumps, containment structures over drainages or streams, surface riser pipes, or other midstream facilities) should be identified and shown at a suitable scale to clearly show proximity and relationship between these locations.
- 3) Optionally, the extent of the Oil and Gas Location and the cut/fill boundary line may be included.

### **Preliminary Flowback Equipment Layout Drawing**

**Purpose:** The Preliminary Flowback Equipment Layout Drawing is intended to provide the COGCC with a detailed plan showing the placement of necessary equipment and temporary structures and connections planned for flowback operations, including management of all fluids and emissions, and management and containment for all E&P wastes and materials generated during this process.

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### Requirements:

- 1) Clearly show and identify the Working Pad Surface, and all major equipment and structures for flowback operations, including, but not limited to:
  - a) High Pressure Four-Phase Separator(s)
  - b) Low Pressure P-Tank(s)
  - c) Enclosed Flowback Fluid Tank(s)
  - d) Flowback Tanks or Modular Large Volume Tank(s) if approved for use
  - e) Combustors (i.e. High Pressure Flare Unit(s), and Low Pressure Combustor(s))
  - f) Manifolds
- 2) Optionally, the extent of the Oil and Gas Location and the cut/fill boundary line may be included.

### Facility Layout Drawing

Purpose: The Facility Layout Drawing is intended to provide the COGCC with a detailed plan to illustrate the exact nature and layout of the proposed (planned) and existing Oil and Gas Facilities that will be on the Oil and Gas Location primarily for the production phase of the pad. This drawing should illustrate not only the Working Pad Surface, but also the post-interim reclamation long-term *Production Pad Surface*, which may be smaller than the Working Pad Surface. The Production Pad Surface is that portion of the Working Pad Surface that remains after interim reclamation is complete, and is the surface that all remaining production operations take place on. This drawing should not include the equipment from drilling, completion, or flowback operations, unless that equipment will also be used for long term production.

### Requirements:

- 1) Clearly show and identify the Working Pad Surface, and optionally, the extent of the Oil and Gas Location and the cut/fill boundary line. Clearly show and label the boundaries of the Production Pad Surface, the area intended for interim reclamation, and the post-interim reclamation stormwater and erosion control measures, including surface roughening and seeded/mulched areas.
- 2) Indicate acreages of the original disturbed area, reclaimed area, and unreclaimed areas.
- 3) The Facility Layout Drawing must depict all existing and proposed Oil and Gas Facilities that will be permanently installed on site including those listed in the equipment and facilities section of the Form 2A Oil and Gas Location Assessment.
- 4) Temporary production equipment (anticipated to be on location for not more than 12 months after Commencement of Production Operations on the last

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well drilled on the Oil and Gas Location or in a given occupation) should be shown and indicated as temporary.

- 5) All site security and exclusionary features.
- 6) Indicate overall dimensions of the Working Pad Surface and Production Pad Surface, as well as distances from the wells to the edge of the Working Pad Surface and storage tanks, separators, heater treaters, and ECDs.

### Definitions (from the 100-series Rules)

**Best Management Practices (BMPs):** are practices that are designed to prevent or reduce impacts caused by oil and gas operations to air, water, soil, or biological resources, and to minimize adverse impacts to public health, safety and welfare, including the environment and wildlife resources.

**Commencement of Production Operations:** means the date that product consistently flows to a sales line, Gathering Line, or Tank from a Well.

**Cuttings Trench:** means a depression used specifically for the onsite storage and disposal of dried cuttings generated from drilling a Well.

**Flowback:** means the process of allowing Fluids and entrained solids to flow from a Well following Stimulation, either in preparation for a subsequent phase of treatment or in preparation for cleanup and placing the Well into production. The term Flowback also means the Fluids and entrained solids that emerge from a Well during the Flowback process.

**Flowline:** means a segment of pipe transferring oil, gas, or condensate between a wellhead and processing equipment to the load point or point of delivery to a U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration or Colorado Public Utilities Commission regulated gathering line or a segment of pipe transferring produced water between a wellhead and the point of disposal, discharge, or loading. This definition of flowline does not include a gathering line.

**Gathering Line:** means a gathering pipeline or system as defined by the Colorado Public Utilities Commission, Regulation No. 4, 4 C.C.R. 723-4901, Part 4, (4 C.C.R. 723-4901) or a pipeline regulated by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration pursuant to 49 C.F.R. §§ 195.2 or 192.8. 49 C.F.R. §§ 195.2 or 192.8 and 4 C.C.R. 723-4901 in existence as of the date of this regulation and does not include later amendments.

**Hydraulic Fracturing Fluid:** shall mean the fluid, including the applicable base fluid and all hydraulic fracturing additives, used to perform a hydraulic fracturing treatment.

**Hydraulic Fracturing Treatment:** shall mean all stages of the treatment of a well by the application of hydraulic fracturing fluid under pressure that is expressly designed to

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initiate or propagate fractures in a target geologic formation to enhance production of oil and natural gas.

**LACT:** (“Lease Automated Custody Transfer”) shall mean the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage vessels or automated transfer facilities to pipelines or any other form of transportation.

**Off-Location Flowline:** means a flowline transferring produced fluids (crude oil, natural gas, condensate, or produced water) from an oil and gas location to a production facility, injection facility, pit, or discharge point that is not on the same oil and gas location. This definition also includes flowlines connecting to gas compressors or gas plants.

**Oil and Gas Facility:** means equipment or improvements used or installed at an oil and gas location for the exploration, production, withdrawal, treatment, or processing of crude oil, condensate, E&P Waste, or gas.

**Oil and Gas Location:** shall mean a definable area where an operator has disturbed or intends to disturb the land surface in order to locate an oil and gas facility.

**Pit:** shall mean any natural or man-made depression in the ground used for oil or gas exploration or production purposes. Pit does not include steel, fiberglass, concrete or other similar vessels which do not release their contents to surrounding soils.

**Stormwater Runoff:** shall mean rain or snowmelt that flows over land and does not percolate into soil and includes stormwater that flows onto and off of an oil and gas location or facility.

**Tank:** shall mean a stationary vessel constructed of non-earthen materials (e.g concrete, steel, plastic) that provides structural support and is designed and operated to store produced fluids or E&P waste. Examples include, but are not limited to, condensate tanks, crude oil tanks, produced water tanks, and gun barrels. Exclusions include Containers and process vessels such as separators, heater treaters, free water knockouts, and slug catchers.

**Working Pad Surface:** means the portion of an Oil and Gas Location that has an improved surface upon which Oil and Gas Operations take place.