

High priority -> 1 (low priority)

| Topics to Potentially Regulate at Local Level | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|--|
| | Exploration | Development | Production | Reclamation | |
| Noise | 2 | 3 | 3 | 3 | |
| Odor | | | | | |
| Dust | | 3 | 3 | 3 | |
| Lighting | | 3 | 3 | 3 | |
| Screening | | 1 | 1 | 1 | |
| Air Quality | | 5 | 5 | 5 | Top priority |
| Water Quality | | 5 | 5 | 5 | |
| Traffic Impacts | 2 | 4 | 4 | | |
| Access | | 1 | 1 | | review process/permit. |
| Access Road | | 3 | 3 | | Not familiar with |
| Drainage | | | | | |
| Well and Facility Location | | 5 | 5 | | School, residential, H2O resources, Backstop open sp |
| Setbacks | | 5 | 5 | | Zoning, Permitting |
| Health and Safety | | 5 | 5 | | Consider wildlife/CPLW eval |
| Land Use | | 4 | 4 | | Are state standards adequate? |
| Land Disturbance | | | | | |
| Reclamation | | 1 | 1 | 1 | |
| Nuisance effects and impacts | 2 | | | | |
| Inspections | | 4 | 4 | 4 | If repeat/ongoing violations |
| Enforcement | | | | | |
| Fee and Fines | | 4 | 4 | 4 | Adequate per well bonding |
| Financial Assurance | | 4 | 4 | 4 | |
| Public notification/transparency | 2 | | | | Flaring, Storage/transport, inj. wells |
| Waste | | | | | |
| Worker Certification/Training | | | | | |
| Pipelines | | | | | |
| Verification process for force pooling | | | | | |
| Emergency response training | | | | | |

Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

Considerations: Does "Exploration" include explosives, shot holes, exploration wells?
 Does "Development" include drilling or is that in "Production" phase?

Blanks don't mean I wouldn't be interested in regulating. Would hope to review all these areas, starting with high priority items

LARIMER CO DIG TASK FORCE MEMBER

| | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|----------|
| | Exploration | Development | Production | Reclamation | |
| Topics to Potentially Regulate at Local Level | | | | | |
| Noise | -5 | 2 | -5 | -5 | |
| Odor | -5 | -5 | | | |
| Dust | -5 | | | | |
| Lighting | -5 | 3 | -5 | | |
| Screening | 3 | 3 | | | |
| Air Quality | | | -5 | | |
| Water Quality | 3 | | -5 | 3 | |
| Traffic Impacts | | 4 | | | |
| Access | | | | | |
| Access Road | | | | | |
| Drainage | | | 3 | 3 | |
| Well and Facility Location | 5 | 5 | -5 | -5 | |
| Setbacks | 2 | 5 | -5 | -5 | |
| Health and Safety | 4 | 2 | 5 | 2 | |
| Land Use | | | | | |
| Land Disturbance | | | | | |
| Reclamation | | -5 | -5 | 5 | |
| Nuisance effects and impacts | | | | | |
| Inspections | | | | | |
| Enforcement | | | | | |
| Fee and Fines | | | | | |
| Financial Assurance | -5 | 3 | 5 | 5 | |
| Other Topics to Consider Regulating | | | | | |
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5 HIGH IMPORTANCE FOR DISCUSSION IN GROUP
 -5 ZERO

Highly important
most important

County Reg. should be included in list of all phases *

Don't put all the topics in the table. All should be included
by 2/28/104

| | Development Phases | | | | Comments |
|--|--------------------|-------------|------------|-------------|---|
| | Exploration | Development | Production | Reclamation | |
| Noise & Vibrations | | | | | Topics could be grouped into fewer categories by using e.g., + Air + Coaling + Land/Soil + Mining + Reclamation + Enforcement |
| Odor | | | | | |
| Dust | | | | | |
| Lighting | | | | | |
| Screening | | | | | |
| Air Quality Emissions | | | | | |
| Water Quality & Source | | | | | |
| Traffic Impacts | | | | | |
| Access | | | | | |
| Access Road | | | | | |
| Drainage | | | | | |
| Well and Facility Location | | | | | |
| Setbacks | | | | | |
| Health and Safety of Workers (public v. "OSHA-type") | | | | | For those topics specific to or included from particular phases those determinations should be secondary to work with regulatory agencies |
| Land Use | | | | | |
| Land Disturbance | | | | | |
| Reclamation | | | | | |
| Nuisance effects and impacts | | | | | |
| Inspections | | | | | |
| Enforcement | | | | | |
| Fee and Fines | | | | | |
| Financial Assurance | | | | | |
| Cultural Resources | | | | | |
| Emergency Preparedness & Security | | | | | |
| Protection of the Environment | | | | | |
| "Wildlife" | | | | | |
| Soil Contamination | | | | | |
| Chemical Spillover | | | | | |
| Waste Disposal, Transport & Storage | | | | | |

Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

Questions: What shows much resources in the County by B19-181? Willing to allocate towards regulation permitted by B19-181? Will do County commit to stricter requirements than those set by the state?

| Priority | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|------------------------|
| | Exploration | Development | Production | Reclamation | |
| Noise 14 | | X | X | | |
| Odor 13 | | X | X | | |
| Dust 10 | | X | X | X | |
| Lighting 16 | | | X | | |
| Screening 15 | | X | X | | |
| Air Quality X | | | | | State regs |
| Water Quality X | | | | | State regs |
| Traffic Impacts 9 | | X | X | X | |
| Access 12 | | X | | X | |
| Access Road 20 | | X | X | X | |
| Drainage 11 | | X | X | X | |
| Well and Facility Location 1 | X | | | | Pre Approval (Permit) |
| Setbacks 2 | X | | | | Pre Approval (Permit)* |
| Health and Safety 3 | | X | X | X | |
| Land Use 4 | X | | | | Pre approval (permit) |
| Land Disturbance 18 | | X | | X | |
| Reclamation 17 | | | | X | |
| Nuisance effects and impacts 7 | | X | X | X | |
| Inspections 6 | | | X | X | |
| Enforcement 8 | | X | X | X | |
| Fee and Fines 19 | X | X | X | X | Pre approval (permit) |
| Financial Assurance 5 | | | | | |
| *Setbacks from streams, wetlands, lakes and rivers should be established especially in low areas that are prone to flooding or near water treatment facilities. | | | | | |
| Other Topics to Consider Regulating | | | | | |

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| | | Development Phases | | | | | Comments |
|---|----------------------------|---------------------------|-------------------|------------|-------------|--|----------------------------------|
| | | Exploration | Development | Production | Reclamation | | |
| Topics to Potentially Regulate at Local Level | Noise | 5 | X, complaint only | X | X | | |
| | Odor | 4 | for all health | X | X | | |
| | Dust | 5 | safety at this | X | X | | |
| | Lighting | 5 | stage | X | X | | |
| | Screening | 3 | | X | X | | |
| | Air Quality | State | | | | | State handles well |
| | Water Quality | State | | | | | State handles well |
| | Traffic Impacts | 5 | | X | X | X | |
| | Access | 3 - privately negotiated? | | X | X | | |
| | Access Road | 4 | | X | | | |
| | Drainage | 2 | | X | X | | |
| | Well and Facility Location | 5 | X | | | | State currently handles |
| | Setbacks | 4 | X | | | | Use state or increase? |
| | Health and Safety | 5 | | | | | This is covered by the others |
| | Land Use | 5 | | X | | X | I'm assuming this means a permit |
| Land Disturbance | 3 | | | | | | |
| Reclamation | 4 | | X | | | Should be addressed in land use permit | |
| Nuisance effects and impacts | 5 | X | X | X | X | Already covered. | |
| Inspections | 2 | | X | | X | With development app and at reclamation and by complaint | |
| Enforcement | 3 | By complaint | | | | | |
| Fee and Fines | 4 | | Fee | | | Fine if not followed | |
| Financial Assurance | 1 | | | | | Here if anywhere | |
| Other Topics to Consider Regulating | | | | | | | |
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| Topics to Potentially Regulate at Local Level | Development Phases | | | | | Comments |
|---|--------------------|-------------|------------|-------------|--|----------|
| | Exploration | Development | Production | Reclamation | | |
| Noise | 1 | 4 | 2 | 1 | | |
| Odor | 1 | 5 | 2 | 1 | | |
| Dust | 2 | 3 | 1 | 3 | | |
| Lighting | 1 | 2 | 1 | 1 | | |
| Screening | 1 | 2 | 1 | 1 | | |
| Air Quality | 2 | 5 | 3 | 1 | | |
| Water Quality | 1 | 3 | 4 | 2 | | |
| Traffic Impacts | 2 | 3 | 1 | 1 | | |
| Access | 3 | 3 | 1 | 3 | | |
| Access Road | 3 | 2 | 1 | 1 | | |
| Drainage | 2 | 3 | 2 | 3 | | |
| Well and Facility Location | 5 | 5 | 2 | 1 | | |
| Setbacks | 5 | 5 | 2 | 4 | | |
| Health and Safety | 1 | 5 | 2 | 2 | | |
| Land Use | 4 | 1 | 1 | 1 | | |
| Land Disturbance | 4 | 1 | 1 | 1 | | |
| Reclamation | 4 | 1 | 1 | 4 | | |
| Nuisance effects and impacts | 2 | 4 | 1 | 1 | | |
| Inspections | 1 | 5 | 4 | 2 | | |
| Enforcement | 1 | 5 | 2 | 1 | | |
| Fee and Fines | Fees 3 | 4 | 2 | 2 | | |
| Financial Assurance | 5 | 2 | 2 | 5 | | |
| Other Topics to Consider Regulating | | | | | | |

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6/25/19

Larimer County Oil and Gas Task Force: Notes for topic priority list for regulation

Assigned 1-5 (where 1 is lowest priority and 5 is highest priority)

Exploration: Starting initial site evaluation to pad prep. Inclusion of pad prep is significant due to increased truck traffic, required roadway changes (if any), and dirt disturbance on-site. During these operations, expected emissions are similar to any building/road development site activity. The expected ambient emissions are vehicular exhaust (NOx, PM2.5, VOCs, etc.) and PM2.5 and PM10 from dust disturbance.

- I have assigned Well and Facility location, Financial Assurance (e.g., setting up a trust), and Setbacks the highest priority during this period because after the site is agreed upon and started, it is very difficult to move it after this stage. I would note that the state already has regulations for Setback distances, but these can be augmented. For example, the setback distance from schools, parks, etc. should be from the boundary of the property not the structure. In the same vein, the setback distances can change throughout the stages of well development if they are set to be from the edge of the pad and not from the wellhead. This is important as there are other activities on-site that are away from the wellhead, but still on the pad.
- I was unable to assign a priority to fines at this point (as there are more chances for inspection, enforcement, and fines at later stages of the process). However, I assigned a number to fees, as the beginning stages are where fees can be discussed better. For example, a certain amount held in trust for any environmental issues in the future which can include well plugging in ~20 years.

Development: This includes spudding, drilling, hydraulic fracturing, and flowback. Everything after spud rig is moved on site up to gas/condensate being directed to a metered line. This was the most complicated stage to assign priorities as each step has different emissions. For example, flowback is expected to have the highest emissions and drilling the lowest which are combustion, vehicular exhaust, and dust emissions but drilling can be a significant source of ambient emissions (odor) if petroleum based drilling muds/lubricants are used.

- I assigned a lower priority to water quality as state and COGCC are informed if there is a spill on-site. Underground water reservoirs can be an issue in 10-20 years, depending on when the well casing fails.
- For air quality, this is an important time for on-site monitoring, which can be done using fees/fines generated from the site.

Production: This stage can have the lowest emissions, but it is in place for the longest period of time. Also, the production rates are larger during the first year after hydraulic fracturing and slow down significantly after that.

- For air quality, less monitoring but more vigilant checks from the company for potential leaks is important. Again, fees/fines may help with this.

Reclamation: I am assuming this is when the well has stopped producing in an economically feasible manner? Although it may indicate making the pad smaller and just leaving the area around the wellheads. In either case, it is important to note that some wells will need to be re-fracked in 8-10 years.

- I assigned a higher value for the setbacks here because sometimes developments mushroom around these sites and there are minimal regulations for these. It is easier to regulate from the well-pad side so may be worthwhile to explore this option here.
- At this stage, less monitoring for air quality is needed but the resources can switch to soil vapor monitoring.

1 = IMPORTANT TO REGULATE
5 = DON'T EVEN TOUCH

| Topics to Potentially Regulate at Local Level | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|---|
| | Exploration | Development | Production | Reclamation | |
| Noise | 2 | 1 | 1 | 2 | |
| Odor | 3 | 1 | 1 | 3 | |
| Dust | 1 | 1 | 1 | 1 | |
| Lighting | 3 | 1 | 1 | 3 | |
| Screening | 5 | SEE NOTE | 1 | 1 | POST-DEVELOPMENT (R) |
| Air Quality | 5 | 5 | 5 | 5 | CDPHE |
| Water Quality | 5 | 5 | 5 | 5 | CDPHE |
| Traffic Impacts | 1 | 1 | 1 | 1 | |
| Access | 1 | 1 | 1 | 1 | |
| Access Road | 1 | 1 | 1 | 1 | |
| Drainage | 5 | 5 | 5 | 5 | COLLECT CDPHE |
| Well and Facility Location | N/A | 1 | 1 | 1 | DISCUSSION INEVITABLE |
| Setbacks | N/A | 1 | 1 | 1 | EMERGENCY RESPONSE PLAN |
| Health and Safety | 1 | 1 | 1 | 1 | |
| Land Use | 1 | 1 | 1 | 1 | |
| Land Disturbance | 1 | 1 | 1 | 1 | |
| Reclamation | 1 | 1 | 1 | 1 | SURFACE ONLY |
| Nuisance effects and impacts | 1 | 1 | 1 | 1 | |
| Inspections | 1 | 1 | 1 | 1 | NEED TO HIRE INSPECTORS |
| Enforcement | 1 | 1 | 1 | 1 | IF YOU HAVE RES + INSPECTORS YOU NEED FINES ETC |
| Fee and Fines | 1 | 1 | 1 | 1 | REQUIRE INDEMNITY |
| Financial Assurance | 5 | 5 | 5 | 5 | INSURANCE COVERAGE |
| | | | | | DMV AND COUNTY INS ADD'L |
| | | | | | INSURED |
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Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

(a) SOUNDS WHO'S DURING DEVELOPMENT PHASE COVERED UNDER NOISE; LIGHTING; TO ME SCREENING REFERS TO LONG TERM BENEFIT ON VEGETATION OR OTHER MEANS.

Other Topics to Consider Regulating

Priority 1-5 (1 being highest priority) Combined as necessary

| | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|--|
| | Exploration | Development | Production | Reclamation | |
| Topics to Potentially Regulate at Local Level | | | | | |
| Noise | | | | | Equipment Type |
| Odor | | | | | " |
| Dust | | | | | " |
| Lighting | | | | | " |
| Screening - Noise - Light | | 2 | 1 | | Sustainable Plan - ie landscaping adequately regulated |
| Air Quality | | | | | |
| Water Quality | | | | | |
| Traffic Impacts | 4 | 1 | 5 | 4 | |
| Access | 1 | | | | |
| Access Road | | | | | |
| Drainage - Erosion - Stormwater | | 4 | 3 | 1 | CDPHE vs. GOGCC vs. local |
| Well and Facility Location | | | | | |
| Setbacks - Encroachment - Security | | 3 | 4 | | Public interaction |
| Health and Safety | | | | | |
| Land Use - comp plan | | | | 5 | |
| Land Disturbance - Size | 2 | | | | |
| Reclamation - Weed Control | 5 | | | 2 | adequately regulated by GOGCC |
| Nuisance effects and impacts | 3 | 5 | | | |
| Inspections | | | | | |
| Enforcement | | | 2 | 3 | Staffing to enforce existing regs |
| Fee and Fines | | | | | |
| Financial Assurance | | | | | |
| Other Topics to Consider Regulating | | | | | |
| | | | | | - define + include NTD |
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Other considerations for topics to regulate may already be addressed in comp plan, existing construction requirements, IGAs, operator agreements (MOUs)

| | Development Phases | | | | Comments | |
|---|----------------------------|-------------|------------|-------------|----------|-------------|
| | Exploration | Development | Production | Reclamation | | |
| Topics to Potentially Regulate at Local Level | Noise | X | | X | | 802 |
| | Odor | | | | | 805 |
| | Dust | | | | X | 803 805 |
| | Lighting | X | X | X | | 803 800 |
| | Screening | X | | | | 990 |
| | Air Quality | | | | | 316A 317A |
| | Water Quality | | | | | |
| | Traffic Impacts | X | X | X | | |
| | Access | X | X | X | | |
| | Access Road | X | | | | |
| | Drainage | | | | | |
| | Well and Facility Location | X | X | | | |
| | Setbacks | | | | | |
| | Health and Safety | | | | | |
| | Land Use | X | X | X | | 368 800 804 |
| | Land Disturbance | X | | | X | 790 |
| Reclamation | | | | | state LE | |
| Nuisance effects and impacts | | X | | | 700 | |
| Inspections | | | | | | |
| Enforcement | | | | | | |
| Fee and Fines | | | | | | |
| Financial Assurance | | | | | | |
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| Other Topics to Consider Regulating | | | | | | |

Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

1-5

| Topics to Potentially Regulate at Local Level | Development Phases | | | | Comments |
|---|--------------------|-------------|------------|-------------|----------------|
| | Exploration | Development | Production | Reclamation | |
| Noise | 0 | 1 | 2 | 0 | |
| Odor | N/A | 1 | 3 | 0 | |
| Dust | 0 | 1 | 0 | 0 | |
| Lighting | 0 | 1 | 0 | 0 | |
| Screening | 0 | 1 | 0 | 0 | |
| Air Quality | 0 | 1 | 0 | 0 | |
| Water Quality | 0 | 1 | 0 | 0 | |
| Traffic Impacts | 0 | 1 | 0 | 0 | IMPORTANT |
| Access | 0 | 1 | 0 | 0 | |
| Access Road | 0 | 1 | 0 | 0 | |
| Drainage | 0 | 1 | 0 | 0 | |
| Well and Facility Location | 0 | 1 | 0 | 0 | |
| Setbacks | 0 | 1 | 0 | 0 | VERY IMPORTANT |
| Health and Safety | 0 | 1 | 0 | 0 | VERY IMPORTANT |
| Land Use | 0 | 1 | 0 | 0 | VERY IMPORTANT |
| Land Disturbance | 0 | 1 | 0 | 0 | |
| Reclamation | 0 | 1 | 0 | 0 | |
| Nuisance effects and impacts | 0 | 1 | 0 | 0 | |
| Inspections | 0 | 1 | 0 | 0 | |
| Enforcement | 0 | 1 | 0 | 0 | |
| Fee and Fines | 0 | 1 | 0 | 0 | |
| Financial Assurance | 1 | 2 | 2 | 2 | |
| Other Topics to Consider Regulating | | | | | |

Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

| | Development Phases | | | | | Comments |
|---|-------------------------------------|------------------------------|------------|-------------|---|--|
| | Exploration | Development | Production | Reclamation | | |
| Topics to Potentially Regulate at Local Level | Noise | 3 | | | | |
| | Odor | 3 | | | | |
| | Dust | 3 | | | | |
| | Lighting | 3 | | | | |
| | Screening | 3 | | | | |
| | Air Quality | 0 | | | | State Regulations |
| | Water Quality | 1 | | 1 | | State Regulations |
| | Traffic Impacts | 4 | | 4 | | |
| | Access | 4 | | 4 | | |
| | Access Road | 4 | | | | |
| | Drainage | 1 | | 1 | | |
| | Well and Facility Location | 4 | | | | |
| | Setbacks | 5 | | | | Primary tool to help with noise, dust etc |
| | Health and Safety | | | | | |
| | Land Use | 5 | | 5 | 5 | Adjust setbacks per land use zones (Water) |
| | Land Disturbance | 3 | | | | |
| | Reclamation | | | | 1 | State Regulations |
| | Other Topics to Consider Regulating | Nuisance effects and impacts | 4 | | 4 | 1 |
| Inspections * | | 4 | | 4 | 4 | Local inspections - coordinate with State |
| Enforcement | | 2 | | 2 | 2 | Coordinate with State |
| Fee and Fines | | 2 | | 2 | 2 | Coordinate with State |
| Financial Assurance | | 1 | | 1 | 1 | Coordinate with State |
| | | | | | | |

Please indicate in the table above what topics to potentially regulate as they apply to each of the development phases. Note topics can apply to more than one development phase. We will be further discussing and prioritizing these at Thursdays meeting.

* A county inspection program could allow more frequent inspections for local issues like setbacks, noise, odors, dust and allow the county the opportunity to notify state agencies of potential violations of state primary issues like air emissions, water quality, etc.