



CITY COUNCIL STUDY SESSION MEMORANDUM

To: Mayor and City Council
 From: Charles Ozaki, City and County Manager
 Prepared by: Kevin Standbridge, Deputy City and County Manager

Meeting Date	Agenda Item #
June 4, 2013	1
Agenda Title	
Process to Address Issues Identified at Oil and Gas Well Town Hall Meeting	
Summary	
<ul style="list-style-type: none"> • The purpose of this study session is for the City Council to discuss and provide direction on moving forward with the discussion and any possible actions regarding oil and gas development. • The City Council conducted a Town Hall meeting on May 22, 2013, to gather information from residents regarding the development of oil and gas resources in Broomfield and potential actions to address those concerns. During the Town Hall meeting residents provided a wide-range of comments. • Prior to the Town Hall meeting, on April 16, the City Council conducted a Study Session focused on the existing regulatory framework around oil and gas development. The Study Session included presentations from the Colorado Oil and Gas Conservation Commission, the Colorado Department of Public Health and Environment, the Colorado Municipal League, and Boulder County. • At the Town Hall meeting and through additional correspondence, many residents expressed concerns regarding: their belief that there is not sufficient research on the potential dangers from oil and gas well development; groundwater contamination; the impact of emissions on air quality; use of water; truck traffic during drilling; noise and light pollution during drilling; and, the frequency of inspections by regulators. • Some residents requested that Broomfield enact a ban on fracking for oil and gas well development in Broomfield, others suggested a moratorium on fracking until recently begun studies on the health effects of fracking are completed, some suggested that Broomfield update its regulations regarding oil and gas well development, others suggested that no additional actions regarding oil and gas well development are necessary. A summary of the issues compiled by CDR Associates, who provided the facilitation services at the Town Hall meeting, is Attachment 1 to this memorandum. Copies of correspondence received by the City Council, at the Town Hall meeting and via e-mail, regarding this issue, a video of the Town Hall meeting, and additional information can be found on Broomfield's web site at http://www.broomfield.org/index.aspx?NID=1820 • The video is also being broadcast on Broomfield's Channel 8. • To provide the City Council with the range of actions taken by some other Front Range communities, staff has prepared a document identifying regulatory and other steps taken by the City of Longmont, Boulder County, the City of Fort Collins, the City of Loveland, Arapahoe County and Erie to address oil and gas issues. The document is included as Attachment 2. • The City and County Attorney's Office has also prepared a summary of the legal issues that are raised regarding the regulation of oil and gas development. A copy of the summary is Attachment 3 to this memorandum. Generally, the City and County Attorney addresses moratoriums and advises that voluntary agreements among participants are legal and that adopting drilling and operational regulations that go beyond state regulations have a relatively low probability of withstanding legal challenge. This is an approach taken by a number of Front Range communities. • Staff is prepared, if directed to do so by the City Council, to schedule a Study Session at which the City Council may begin to discuss the issues identified by the community and review methods to address each community identified issue. A working draft of scheduling for potential City Council meetings is included as Attachment 4. 	
Prior Council Action	
N/A	
Financial Considerations	
N/A	
Alternatives	
N/A	
Proposed Actions/Recommendations	
Discussion by the City Council regarding next steps and direction to staff.	

May 30, 2013

The Broomfield City Council hosted a public meeting on May 22nd to better understand the needs and concerns of Broomfield residents regarding oil and gas production and to inform future council policy decision-making. Broomfield residents presented a variety of perspectives regarding oil and gas well production, some expressed demands for a moratorium on new wells until more information is obtained and others support oil and gas production.

During the community discussion, the following notes were captured on flip-charts.

- There needs to be a disclosure of the ingredients used in fracking operations and a moratorium in Broomfield should be in place until the ingredients are known.
- The setbacks standards require more data to ensure public health and safety; a moratorium should be in place until this information is available.
- Drinking water, particularly groundwater, is contaminated by fracking chemicals and a moratorium should be in place in Broomfield until conclusive data is made available.
- Air quality impacts of fracking need to be taken into consideration.
- Air quality and emission of VOC's (volatile organic compounds) from fracking impacts public health, and contributes to lung disease.
- Public health studies are needed on the impact of methane and a moratorium in Broomfield should be in place until conclusive data is available.
- More studies are needed to understand the effect fracking has on public health and a moratorium should be put in place until conclusive data is available.
- A moratorium should be put in place in Broomfield until more research can be established regarding fracking's effect on public health.
- A moratorium should be put in place until evidence is established regarding the impact of fracking fluids on homes and schools, including a determination of appropriate setbacks.
- Concern is about the approximately 10-day well construction process.
- The uncertainty of fracking's impact on public health and environment is my concern.
- A moratorium should be put in place in Broomfield until fracking's long term impacts are understood.
- Health Impact Assessments (HIA) are needed to understand the long-term impact of fracking, because if production begins now we will only understand the impact after fracking has occurred.
- The legal authority to put a moratorium on fracking exists and Broomfield should wait to approve new applications until the completion of the three current Colorado studies on fracking.
- Information exists to make an informed decision on fracking and the Council should study the existing information.
- Oil and gas industry personnel and regulators make safety a high priority in contrast to public views to the contrary.
- Fracking is not a new technology and has existed in Broomfield for many years safely.

- An early warning system and increased monitoring of emissions or leaks can help assuage the public's fears.
- Gaps exist regarding risk assessments and measures to protect public health in regard to fracking.
- It is the Broomfield Council's mandate to protect the public and they should do so by placing a moratorium on fracking.
- The technology used today is very different than in the recent past. Vertical drilling requires 100 – 200 feet of drilling in comparison to horizontal drilling's requirement of 5 – 10 miles per well.
- Broomfield will experience negative economic impact if an oil and gas 'megasite' is approved.
- Property owners' rights need to be recognized including the right to maximize their mineral resources.
- There is sufficient regulation of oil and gas production.
- Colorado Oil and Gas Commission regulators have not adequately made public health a priority, so a moratorium in Broomfield should be put into place until further studies are conducted.
- Legal precedence exists to enact a moratorium.
- There has never been a single incident of groundwater damage throughout the country's fracking history, which includes 1.2 million 'fracks'.
- A moratorium should not be established, but any new regulations that are needed can be put into place in consultation with the applicants.
- Broomfield must ensure that emergency plans are established and in place, particularly around schools in proximity to wells.
- A moratorium should be put in place until the completion of the three current Colorado studies
- Concern with the amount of water used for fracking especially since Colorado is experiencing a drought. This is a serious problem.
- Fracking should be put on the 2013 ballot for the citizens of Broomfield to decide upon.
- A moratorium should be put into place until more information is found on the effect of fracking on health.
- Oil and gas production creates jobs in Broomfield and contrary to popular opinion, the risks can be mitigated.
- Broomfield has sufficient safety regulations in place already to manage new oil wells.
- Fees should be placed upon oil and gas production to ensure any impacts are addressed.
- The potential for contamination through well casings and the ground rock necessitate a moratorium or ban.
- While air and traffic impacts must be considered and addressed, still support oil and gas production.
- Broomfield officials should talk with Weld County officials to understand their experience in this matter.
- A moratorium should be put in place because the short term economic benefits are outweighed by long-term impacts.
- Fracking contributes to an increase in global greenhouse gas levels.
- It is important to consider long-term studies on the effect of fracking.
- Support putting fracking on the 2013 ballot.
- Concern over radon in homes.
- Proper well construction can mitigate the risks of fracking.

- Broomfield should not spend its money on litigation with the state and fight the State of Colorado on issues that have already been decided in court.
- Oil and gas is part of our lives, so we should utilize our local resources.
- The risks from fracking are manageable.
- Fracking injection disposal wells contribute to an increase in earthquakes.
- We need more long-term understanding regarding geological development and economic costs of fracking.
- A moratorium will give science a chance to catch up with policy and allow safe development of oil and gas.
- A moratorium in Broomfield will allow the development of proper regulations.
- There has never been a case of ground water contamination as a result of fracking.
- Support for a moratorium or regulations that would comply with the 2015 Clean Air Act standards.
- Fracking may jeopardize the long-term economic benefits in Broomfield, by decreasing the quality of life.
- Oil and gas companies should post a bond for emergencies and increase monitoring and the number of inspectors.

ATTACHMENT 2

STATUS OF SOME OF THE RECENT OIL AND GAS REGULATORY ACTIVITY BY CITY OR COUNTY

CITY OR COUNTY	Recent Adoption of Regulations	Recent Adoption of MOUs	Temporary Moratorium Lifted	Temporary Moratorium in Place	Bans
Arapahoe County	Adopted administrative review process for oil & gas applications in April 2013	Administrative review process includes the use of MOUs with operators			
Boulder County	Adopted new regulations on December 20, 2012; new regulations include a voluntary and shortened expedited process that eliminates a public hearing before the planning & zoning commission, and a longer standard process with two public hearings; currently commissioners are considering a proposal to phase in new regulations allowing each operator to have one application processed at a time.			Temporary Moratorium in place until June 10, 2013; Commissioners recently voted against extending the moratorium for a third time.	
Colorado Springs	Regulations adopted December 5, 2012		Temporary Moratorium lifted December 5, 2012 with the adoption of regulations		
Commerce City	Adopted new regulations in July 2012	New regulations include the use of an Extraction Agreement with operators to include Best Management Practices			
Erie		Erie adopted MOUs with Encana & Anadarko on August 28, 2012			
Fort Collins		Adopted MOU with Prospect Energy on May 8, 2013	Temporary Moratorium on all oil & gas activities expires July 31, 2013		Ban in place for all operators that have not signed an MOU; currently only operator in City is Prospect Energy, which is now exempt from the ban since signing the MOU on May 8, 2013
Gunnison County		IGA with Colorado Oil and Gas Conservation Commission (COGCC) for county to conduct inspections and COGCC retaining enforcement authority, adopted May 11, 2012			
Longmont	City adopted regulations on July 17, 2012 that included a ban of drilling in residential zones, rules on use of multi-well sites, directional & horizontal drilling, chemical reporting & setback requirements, these regulations are the subject of a legal challenge by the Colorado Oil and Gas Conservation Commission	City entered into a MOU with TOP Operating Company on July 17, 2012	City imposed a 120 day moratorium on accepting applications for oil & gas permits, which was extended to June 16, 2012 and then again through the adoption of regulations.		Citizens adopted an amendment to the City's charter on November 6, 012 that banned hydraulic fracturing and the storage of open pits or disposal of solid or liquid wastes created in connection with hydraulic fracturing that is currently subject of legal challenge by the Colorado Oil and Gas Association.
Loveland	Adopted new regulations in July 2012; new regulations include a voluntary and shortened expedited process with administrative approval, and a longer standard process with public hearings				

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Meeting	<ul style="list-style-type: none"> Pre-application conference in 30 days prior to application for COGCC permit Site visit at discretion director Consultant review at discretion of director Applicant can request operational conflict hearing within 10 days following initial development plan review decision and it requires 14 day advance notice and hearing with Board of County Commissions may extend the review process 45 days 	<ul style="list-style-type: none"> Pre-application conference 30 days prior to application for COGCC permit Site visit at discretion director Consultant review at discretion of director Planning Commission notice and hearing Board of County Commissioner notice and hearing Applicant can request operational conflict hearing within 10 days following initial development plan review decision and it requires 14 day advance notice and hearing with Board of County Commissions may extend the review process 45 days 	<ul style="list-style-type: none"> Initial meeting with city's development review team (DRT) Neighborhood meeting (can be waived if director determines duplicative of COGCC neighborhood meeting) 	<ul style="list-style-type: none"> Initial meeting director Initial meeting with city's development review team (DRT) Neighborhood meeting Planning Commission Hearing Appeal of Planning Commission to City Council 	<ul style="list-style-type: none"> Concept review with City staff no less than 30 days prior to submitting drilling application and, if possible, prior to site selection, to ensure compliance with MOU and to discuss site specific issues Neighborhood meeting for any new well, even on existing well pad; city schedules and coordinates company attends with written summary to be included with Local Government Designee comments to COGCC 	<ul style="list-style-type: none"> Regular meetings with county to discuss MOU issues 	
Notice	<ul style="list-style-type: none"> Notice mailed to surface owners where operations located, surface owners within 500 feet of gathering line, to owners and to physical address of all parcels within a half mile operations no less than 10 days prior to application submittal Notice includes description of site, applicant contact information, vicinity map, list of facilities, equipment, access roads and gathering lines, anticipated application submittal date, location for public comments, statement of county's right to access for plan review, statement of entities contacted on road maintenance, statement of how to receive written notice of drilling operations and county address 	<ul style="list-style-type: none"> Notice mailed to surface owners where operations located, surface owners within 500 feet of gathering line, to owners and to physical address of all parcels within a half mile operations no less than 10 days prior to application submittal Notice includes description of site, applicant contact information, vicinity map, list of facilities, equipment, access roads and gathering lines, anticipated application submittal date, location for public comments, statement of county's right to access for plan review, statement of entities contacted on road maintenance, statement of how to receive written notice of drilling operations and county address Notice of Planning Commission hearing 14 	<ul style="list-style-type: none"> Neighbors Land Owners Such notices sent 15 days in advance of the neighborhood meeting 	<ul style="list-style-type: none"> Neighbors Land Owners Such notices sent 15 days in advance of the neighborhood meeting 	<ul style="list-style-type: none"> Pending application mailed notice to surface owner on which operation located, surface owners within 500 of a proposed gathering line; surface owners within 2,640 feet of the parcel on which the oil and gas operation is proposed an to persons representing bona fide neighborhood groups or HOA within the notice area Pending application posted notice on property Neighborhood meeting notice to same parties as those immediately indicated above Advance City website notice of commencement of drilling operations 		<ul style="list-style-type: none"> Prior to commencement of new drilling or completion provide notice to landowners within ½ mile Operator to provide summary of operations, access points, operational time line to town for posting on city website and for informational purposes only which operator may revise during operations

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		<ul style="list-style-type: none"> days in advance • Notice of Board of County Commissioner Hearing 14 days in advance 					
Timing	<ul style="list-style-type: none"> • Pre-application conference in 30 days prior to application for COGCC permit • Director may require consultant review of application by County's consultant paid by applicant • Applicant response to Director on application issues within 30 days • Director decision within 45 days of application being deemed complete 	<ul style="list-style-type: none"> • Pre-application conference in 30 days prior to application for COGCC permit • Director may require consultant review of application by County's consultant paid by applicant • Applicant response to Director on application issues within 30 days • Director decision within 45 days of application being deemed complete • Board of County Commissioners determination on standard review or operational conflict subject to judicial review 	<ul style="list-style-type: none"> • Within 30 days of application determined to be complete by director the DRT shall complete its review and submit written report of findings and recommendation to applicant and for posting on website, applicant responds to DRT recommendation in 30 days • Neighborhood meeting within 45 days of directors determination application complete • 15 days after neighborhood meeting for public to submit comments • Director negotiates with applicant after receipt of public and DRT comments for 10 days • Director decision in 15 days • Director's decision appealable by applicant or party in interest to district court 	<ul style="list-style-type: none"> • Application completeness review meeting within 15 days of request • Written comments of staff within 10 days of meeting • Applicant response and filing of application within 3 months • Notification of application deficiencies within 15 days and continue until all issues resolved • Review by internal team within 30 days of director determination that application is complete • Neighborhood meeting within 45 days of director determination that application is complete • Planning Commission Public Hearing within 45 days of internal team determination • Planning commission determination within 30 days of hearing • Appeal of Planning Commission decision by applicant or part in interest within 10 days of decision 	<ul style="list-style-type: none"> • Concept review 30 days prior to drilling • Initial notice of concept review no more than 10 days after concept review meeting 		
Air Quality **	<ul style="list-style-type: none"> • The applicant shall submit to the county manufacture test and other data demonstrative a 98% efficiency • Compliance with Colorado Air Quality Control Program and county fugitive dust regulations • Air quality control plan that includes the following: • All continuously operated equipment, including, 	<ul style="list-style-type: none"> • Shall capture and control vapors to 98% efficiency to the maximum extent practicable and submit to county test and other data; use of flares in accordance with code • No significant degradation of air quality and in compliance with COGCC and DPHE • Provide leak detection and control program using most effect 	<ul style="list-style-type: none"> • All continuously operated equipment shall route vapors to a capture and control device with a 98% destruction efficiency; operator to submit manufacturer's data to show efficiency and such device shall be installed and maintained in accordance with manufacturer's specs • Compliance with EPA, CDPHE & COGCC 		<ul style="list-style-type: none"> • No uncontrolled gas vapors and vapor capture equipment shall operate at 98% efficiency • Flare during productions at 98% or higher VOC destruction efficiency with no visible emissions and flame present at all time • No venting of gas except per COGCC Green Completion Practices • Green completions requiring gas captured at well head and not releasing it into 	<ul style="list-style-type: none"> • Closed loop pitless system for containment and/or recycling of all drilling, completion, flowback and produced fluids is preferred • Subject to county approval would allow unlined pits when bentonite or clay additive is used in drilling and single- or multi – well water storage pits in order to 	<ul style="list-style-type: none"> • Operator to utilize closed-loop systems for drilling and completion operations to minimize the need for earthen pits • Operator to utilize pressure separation in conjunction with a vapor recovery unity (VRU) for new wells drilled. Operator may remove the VRU system at such time as operator determines that the VRU

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	<p>storage vessels, tanks, separators, pneumatic pumps, dehydrator and compressors shall route natural gas and VOC vapors to a capture and control device with at least a 98% VOC destruction efficiency, to the maximum extent practicable</p> <ul style="list-style-type: none"> Any flare, auto ignition system, recorder, vapor recovery device or other equipment used to meet the 98% VOC destruction or control efficiency requirement shall be installed, calibrated, operated and maintained in accordance with manufacturer's instructions Green completion for wells with hydraulic fracturing including re-inject recovered liquids into a well and route recovered gas into a flow line or collection system with no direct release to the atmosphere, if compliance with the prior is infeasible, applicant must capture and direct emissions to a completion combustion device equipped with a reliable continuous ignition source All flares shall be fired with natural gas, designed to ensure no visible emissions except for periods not to exceed 5 minutes during any 2 consecutive hours, contain an automatic flare ignition system with pilot flame monitored, if pilot goes out a telemetry or visible alarm must be in place, if using an electric arc ignition must pulse and be monitored continuously Applicant to develop a leak detection and 	<p>technology</p> <ul style="list-style-type: none"> Submit annual reports to director certifying compliance with air quality requirements and documenting non-compliance 	<p>requirements plus</p> <ul style="list-style-type: none"> Combustions devices with flares that comply with federal law, a pilot flame continuously monitored and recorded and automatic ignition if flare is extinguished Leak detection repair plan incorporated in local permit No or low bleed pneumatic controllers, where available In well completion stage, operator to minimize route recovered gas to pipelines or capture the recovered gas to a combustion device, maximize resource recovery and minimize releases to the atmosphere during flowback, and maintain a log for each well completion operation in accordance with EPA requirements Operator to use Best Management Practices (BMP) during well maintenance and blowdowns to minimize or eliminate venting Gas produced shall be capture and to max extent not flared or vented, except for safety Operators shall replace rod-packing from compressors the earlier of every 26,000 hours of operation or 36 months Annual report to planning on air emissions including inspection dates for leak and repair plan, record of expected and actual air emissions, emission data during well completion activities, date of maintenance activities that minimize air emissions, dates of well maintenance, if venting used explanation of why BMP could not be used, date rod-packing replaced 		<p>atmosphere or flaring it off</p> <ul style="list-style-type: none"> Well shall be drilled, completed and operated using a closed loop pitless system for containment and/or recycling of all drilling, completion, flowback and produced fluids Compliance with CDPHE regulations and all state and federal regulations on ozone, methane and hazardous air pollutants General duty to minimize emissions including development plan to consolidate product treatment and storage facilities, centralize compression facilities, liquids gathering and water delivery systems, telemetric control and monitoring systems, pipeline infrastructure In undeveloped future drilling area use vapor recovery unit for new wells, which may be removed after 1 year or when not necessary to reduce emission recoveries During well completion the capture and use of natural gas is preferred over flaring Flaring shall be continuously monitored on site per COGCC rules Develop and maintain a lead detection and repair program per EPA methods A forward-looking infrared camera shall be used as the preferred implementation method Company to notify city when camera used in event City wishes to observe Company and city shall split the costs for a one time baseline sampling and analysis or air quality The company to complete air quality sampling during well completion Periodic air monitoring City may require additional air monitoring needed to respond to emergency events such as 	<p>minimize the transport of water and promote recycling</p>	<p>system is no longer necessary due to reduced emission recoveries and/or efficiencies, but no earlier than one year after the new well is drilled</p>

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	<p>component repair program using most effective performance technologies and practices</p> <ul style="list-style-type: none"> Well shall be drilled, completed and operated using a closed loop pitless system for containment and/or recycling of all drilling, completion, flowback and produced fluids Non-flammable gas may be vented temporarily until flammable gas is encountered where capture or combustion is not feasible Operation must maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery operation For wildcat or delineation wells in a location without a pipeline must have combustion device with continuous ignition Applicant must notify county at least 2 days prior to commencement of completion including well number, latitude and longitude to accuracy of 5 decimals and planned date of drilling and completion/flowback Gas produced during production must be captured and not flared or vented to the maximum extent practicable Applicant to maintain a daily log for each well completion operation at each wellhead and contain the records specified in 40 C.F.R. section 60.5420(c)(1)(iii) Applicant shall use no bleed pneumatic controller where available for the proposed application Operational plan shall 				<p>spill, process upsets or accidental released or in response to odor complaints</p> <ul style="list-style-type: none"> Company shall respond to air quality action day advisories by CDPHE for front range area by implements air emission reduction measures like minimize vehicle and engine idling, reducing truck traffic, delaying vehicle refueling, suspend fossil fuel powered ancillary equipment or postpone construction activities Uncontrolled venting prohibited Exhaust from engines, motors and mechanized equipment vented away from closest residences Minimize dust from onsite activities so no visible dust emissions form access roads or site to extent practical given wind No produced water or other process fluid to be used for dust suppression Avoid dust suppression activities within 300 feet of high water mark of any waterbody, unless dust suppressant is water Material safety data sheet for any chemical based dust suppressant to city prior to use 		
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	<p>require technologies or practices which minimize or eliminate natural gas emissions during well maintenance or blowdowns and minimize or eliminate emissions or spills during maintenance of pipelines</p> <ul style="list-style-type: none"> Applicant shall submit annual reports to county certifying compliance with these air quality requirements and documenting any periods of noncompliance, including date, duration and compliance plan, certified as to truth accuracy and completeness 						
Water Quality**	<ul style="list-style-type: none"> Operator to implement plan that meets all the requirements below Assessment and monitoring of plugged and abandoned wells within ¼ mile of projected track of borehole of a proposed well Operator shall asses the risk of leaking gas or water to the ground surface or subsurface water resources taking into account plugging and cementing procedures described in COGCC report on plugged and abandoned wells Operator shall contact each surface owner who has an abandoned well on their property to seek permission to access the property in order to test the abandoned well; if permission is not received in 30 days then operator not required to test the well Test of abandoned well is soil gas survey prior to production of proposed well and 1 year thereafter for 3 years after production has 	<ul style="list-style-type: none"> No significant degradation of surface or groundwater by operations may use methods including provide county with information it gives COGCC to comply with water quality protection standards of rules 317(B), 910 and other applicable Comply with COGCC rules on sampling of water wells and provide county test results Notice to all water well owners in ¼ mile prior to frack and in notice state that county advises well owners to establish base line water well test in conformance with county code prior to fracking Provide plans of down hole construction details like casing and cementing design and inform county how plans prevents significant degradation of surface and drinking water aquifers 		<ul style="list-style-type: none"> COGCC groundwater sampling monitoring Rule 318.A.c Operator to identify water source and amount of water to be used with disposal of water used on site reported to the city along with haul routes and approximate number of vehicles When operationally feasible operator shall minimize adverse impacts caused by the delivery of water to the operation 	<ul style="list-style-type: none"> Water quality monitoring plan to comply with COGCC Rule 609, which requires pre- and post-drilling testing and sampling of all available water sources that owner has given consent for sampling and testing and consented to having the sample data made available to the public with a cap of four water sources within ½ mil radius of well site, with water sources including registered water wells, permitted or adjudicated springs and monitoring wells Company agrees to the following requirements beyond COGCC regulations: analyzing for dissolved metals and sampling intervals at 1, 3 and 6 years, with results to be shared with COGCC, City and landowner 	<ul style="list-style-type: none"> Water stored in pits must be fresh water or brine water free of all visible oil within 24 hours and meeting certain dissolved solid content requirements Skimming, settling, percolations, evaporation and any type of netted pits are discouraged but may be approved on a case by case basis Baseline soil sample of pits and analysis may be required if leaks or spills Multi well pits lined per COGCC standards If multi-well pits I use for over 2 years then double lined with leak detection and fluid circulated in four phase separator follow COGCC pit closure rules Additional fencing of pits may be required pre or post construction if adversely impacting residences, water wells or wildlife to comply with COGCC Rule 609, which 	

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	<ul style="list-style-type: none"> commenced Provide 30 day notice to owner of water wells that Operator will offer to sample all water wells located within 1/4 mile of the projected track of the borehole of a proposed well Samples of water wells on either side of borehole tract and in different aquifers Field observations re: damaged or unsanitary wells and potential for pollution shall be included If methane greater than 1mg/l is detected in water well then gas compositional analysis and isotope analysis of methane to determine gas type if methane increases by more than 5 mg/l between sampling periods or increases more than 10 mg/l operator notifies county, COGCC and well owner immediately If BTEX and .or TPH detected operator notifies county, COGCC and well owner immediately Operator good faith efforts to conduct initial baseline testing of water wells prior to setting conductor casing at the site; if access to wells cannot be obtained post completion tests with same parameters repeated 1, 3 and 6 years Copies of all test results to county within 3 months of collection and to the COGCC All abandoned well assessment and water well testing conducted with in house or if requested by surface owner, by qualified consultant or engineer approved by Director These requirements not 					<p>requires pre- and post-drilling testing and sampling of all available water sources that owner has given consent for sampling and testing and consented to having the sample data made available to the public with a cap of four water sources within 1/2 mil radius of well site, with water sources including registered water wells, permitted or adjudicated springs and monitoring wells</p>	
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	interpreted to impute or create liability for constituents and concentrations and admissibility in legal proceedings subject to rules of evidence						
Setbacks**	<p>FOR NEW WELL PADS:</p> <ul style="list-style-type: none"> Well head, pumping units, tanks and treaters are at least 1000 feet from occupied structure Well head, pumping units, tanks and treaters are at least 500 feet from any surface water body including ditches, reservoirs, domestic or commercial water wells Well head, pumping units, tanks and treaters are not located in a platted subdivision, except outlots of non-urban PUDs Well head, pumping units, tanks and treaters are not located in a high hazard geologic area, floodway or natural communities, natural landmarks and natural areas, including riparian corridors or critical wildlife habitat <p>FOR EXISTING WELL PADS:</p> <ul style="list-style-type: none"> Well head, pumping units, tanks and treaters are at least 500 feet from occupied structure Well head, pumping units, tanks and treaters are at least 300 feet from any surface water body including ditches, reservoirs, and at least 500 feet from any domestic or commercial water irrigation wells Well head, pumping units, tanks and treaters are not located in a platted subdivision Well head, pumping units, tanks and treaters are not located in a floodway 	<ul style="list-style-type: none"> No specific mandatory setback Applicable setback to be determined based upon application of all land use plans 	<ul style="list-style-type: none"> 500 feet from an occupied building or such greater distance as required by the COGCC except that facilities shall be 1000 from any building or outdoor assembly areas that can be occupied by 50 or more persons 200 feet from public roads, above ground utility lines, railroads or lease area line or such greater distance as required by the COGCC 500 feet from natural area, wetland, city parks, high water line of any surface water body, FEMA floodway, conservation easement or such greater distance as required by the COGCC 500 feet from any domestic or commercial water well or such greater distance as required by the COGCC 	COGCC setback Rule 603	<ul style="list-style-type: none"> Intent of company to maximize setbacks from occupied building and residences beyond the setbacks required by COGCC to extent feasible and practicable 	<ul style="list-style-type: none"> All pits within ¼ mile of residence or water well discouraged and may have additional fencing requirements 	<ul style="list-style-type: none"> Operator to maximize equipment and wellhead setbacks from occupied buildings and residences to extent feasible and practicable as determined by operator

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	BOULDER COUNTY REGULATIONS		LOVELAND REGULATIONS		FORT COLLINS MOU REQUIREMENTS	ARAPAHOE COUNTY MOU REQUIREMENTS	ERIE MOU REQUIREMENTS
	Expedited*	Standard	Expedited*	Standard			
Plugging and Abandoning	<ul style="list-style-type: none"> Comply with COGCC rules on plugging and abandonment and provided county with survey coordinates of abandoned well and leave onsite permanent marker 	<ul style="list-style-type: none"> Comply with COGCC rules on plugging and abandonment and provided county with survey coordinates of abandoned well and leave onsite permanent marker 		<ul style="list-style-type: none"> COGCC rule 319 Copies of COGCC report to city Advance notification to fire dept surveyed coordinate of location to planning and marker notice of pipeline abandon to planning 			
Road Impact	<ul style="list-style-type: none"> transportation plan designed to ensure public safety and maintain quality of life use of private roads wherever available transportation fees paid prior to issuance of construction permit access points on the site and access points to public roads to be built and maintained in accordance with specifications and standards as defined in the Transportation Standards minimize impact to county infrastructure and costs necessitate by operations responsibility of applicant; if applicant disagrees with infrastructure costs may propose alternative route and applicant may perform traffic engineering study to challenge costs obtain all transportation permits including oversize and overweight as well as CDOT permits Vehicle tracking control practices used to control sediment including road and pad design to minimize rutting and tracking and traction chains removed before entering county road 	<ul style="list-style-type: none"> transportation plan designed to ensure public safety and maintain quality of life use of private roads wherever available transportation fees paid prior to issuance of construction permit access points on the site and access points to public roads to be built and maintained in accordance with specifications and standards as defined in the Transportation Standards minimize impact to county infrastructure and costs necessitate by operations responsibility of applicant; if applicant disagrees with infrastructure costs may propose alternative route and applicant may perform traffic engineering study to challenge costs obtain all transportation permits including oversize and overweight as well as CDOT permits Vehicle tracking control practices used to control sediment including road and pad design to minimize rutting and tracking and traction chains removed before entering county road 		<ul style="list-style-type: none"> Remove chains before entering city measures to prevent mud tracking on public streets access plan, description of vehicles and weight; bonding or indemnify and insurance operator provide city \$25,000 performance security for each well to repair damages to city's public rights of way caused by operator's use access roads to be 20 feet wide with unobstructed overhead clearance of 13 feet and 6 inches thick compacted to 95% with grades to drain off of roadway 	<ul style="list-style-type: none"> Remove chains before entering city Prohibition against mud tracking onto streets and requirement to clean any streets of such Transportation and circulation plan for drilling operations on public streets and roads including weight of vehicle, number of trips etc. at concept review 		<ul style="list-style-type: none"> Operator to provide traffic management plan and site preparation, mobilization and demobilization plan to town and for informational purposes only which operator may revise during operations

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Hydraulic Fracturing**		<ul style="list-style-type: none"> Identification of all products used or stored on site, including data sheets in emergency response plan (see below) 		<ul style="list-style-type: none"> COGCC regulations 205.A file chemical disclosure with fire dept same time as COGCC 	<ul style="list-style-type: none"> file name of chemicals, volume, storage, containment and disposal methods for all drilling and completion chemicals used on site; Fracture chemicals uploaded on Frac Focus; No chemicals, flowback from fracturing or produced water to be stored on site 		
Berms					<ul style="list-style-type: none"> Steel-rim berms required around tanks and separators at new well pads; to be inspected regularly and maintained Ignitions sources installed inside secondary containment area per API Recommended Practices RP-D16 Containment berms shall be constructed of steel rings and installed to prevent leakage and resist degradation Secondary containment tanks shall be constructed with synthetic or engineered liners that contain all primary containment vessels and flowlines and is mechanically connected to the steal ring to prevent leakage For locations within 500 feet and up gradient of surface water body, tertiary containment, such as earthen berm is required around production facilities 	<ul style="list-style-type: none"> Berm inspected by operator on weekly basis for discharge and within 48 hours of a precipitation event 	<ul style="list-style-type: none"> Operator to utilize steel rim berms around tanks and separators instead of sand or soil berms, unless otherwise requested by surface owner or because of operational reasons
Pipelines Flowlines	<ul style="list-style-type: none"> Newly constructed or substantially modified pipelines on site must comply with additional provisions at Article 4-514(e)(5)(a)-(g); and comply with Article 4-514(E) if off site Not required to be located on a building lot or comply with lot size requirement for applicable district Flow lines, gathering lines and transmission lines to be buried and sited a minimum of fifty (50) feet away from residential, commercial and industrial buildings, as well as high- 	<ul style="list-style-type: none"> Newly constructed or substantially modified pipelines on site must comply with additional provisions at Article 4-514(e)(5)(a)-(f); and comply with Article 4-514(E) if off site Not required to be located on a building lot or comply with lot size requirement for applicable district Flow lines, gathering lines and transmission lines to be buried and sited a minimum of fifty (50) feet away from residential, commercial and industrial buildings, 	<ul style="list-style-type: none"> New pipelines shall be sited 50 feet from buildings and high water mark of surface water body, aligned with roads to max extent and minimize surface impacts to reduce habitat disturbance, to max extent share existing pipeline right of way, and use boring technology when crossing water or wetlands to minimize negative impacts to channel, bank and riparian areas. 		<ul style="list-style-type: none"> To maximum extent reasonable all flow lines, gathering lines and transmission line shall be sited a minimum of 50 feet from residential, commercial and industrial building and from high-water mark of any surface water body to be measured from nearest edge of pipeline To maximum extent feasible pipelines shall be aligned with established roads in order to minimize surface impacts and reduce habitat fragmentation and disturbance To maximum extent feasible operator to share pipelines and minimize negative 		

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	<p>water mark of any surface water body; lines that are within 150 feet of residential, commercial and industrial building shall have a leak detection, secondary containment or other mitigation measures in place</p> <ul style="list-style-type: none"> To the extent possible, pipelines should align with established roads to reduce surface impacts, habitat fragmentation and disturbance Applicants should share existing pipeline rights-of-way to minimize surface impacts Applicants should use boring technology or alternative director approved most effective performance techniques and practices when crossing waterways to minimize negative impacts to the channel, bank or riparian areas Operators to install wildlife crossovers and escape ramps in well defined game trails, at a minimum of ¼ mile intervals, over trenches greater than five (5) feet wide that are to be left open for more than five (5) days. Applicant of a pipeline may be required to provide a risk-based engineering study for all or part of the right-of-way that may require implementation of more stringent construction or operation standards or space between the pipeline and other structures 	<p>as well as high-water mark of any surface water body; lines that are within 150 feet of residential, commercial and industrial building shall have a leak detection, secondary containment or other mitigation measures in place</p> <ul style="list-style-type: none"> To the extent possible, pipelines should align with established roads to reduce surface impacts, habitat fragmentation and disturbance Applicants should share existing pipeline rights-of-way to minimize surface impacts Applicants should use boring technology or alternative director approved most effective performance techniques and practices when crossing waterways to minimize negative impacts to the channel, bank or riparian areas Operators to install wildlife crossovers and escape ramps in well 			<p>impacts to channels and banks of water ways, and riparian areas.</p> <ul style="list-style-type: none"> Record location of all flowlines with city and county clerk and record abandonment of flowlines within 30 days 		

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Emergency Response Plan	<ul style="list-style-type: none"> Operations shall not cause unreasonable risks of emergency situations such as explosions, fires, gas, oil or water pipeline leaks, ruptures, hydrogen sulfide or other toxic gas or fluid emissions or hazardous material vehicle accidents or spills Operator shall implement an emergency preparedness plan for each operations site which shall be approved by the sheriff, the office of emergency management, and the fire district and updated on an annual basis or as conditions change <i>i.e.</i>, ownership change Emergency plan to include 24 hour contacts As-built facilities map for county's GIS system including sizes and depths of all gathering and transmission lines and associated Surface operations and functions and transportation routes with pipeline information to be held confidentially and only used in the event of an emergency Detailed information about potential emergencies Report all spills outside of containment area or which have the potential to leave the facility ID Evacuation routes and hospitals Project specific emergency plan for any project that involves drilling zones of hydrogen sulfide gas Operator obligated to reimburse emergency response service providers the costs of any emergency Detailed information that 	<ul style="list-style-type: none"> Operations shall not cause unreasonable risks of emergency situations such as explosions, fires, gas, oil or water pipeline leaks, ruptures, hydrogen sulfide or other toxic gas or fluid emissions or hazardous material vehicle accidents or spills Operator shall implement an emergency preparedness plan for each operations site which shall be approved by the sheriff, the office of emergency management, and the fire district and updated on an annual basis or as conditions change <i>i.e.</i>, ownership change Emergency plan to include 24 hour contacts As-built facilities map for county's GIS system including sizes and depths of all gathering and transmission lines and associated Surface operations and functions and transportation routes with pipeline information to be held confidentially and only used in the event of an emergency Detailed information about potential emergencies Report all spills outside of containment area or which have the potential to leave the facility ID Evacuation routes and hospitals Project specific emergency plan for any project that involves drilling zones of hydrogen sulfide gas Operator obligated to reimburse emergency response service providers the costs of 		<ul style="list-style-type: none"> All reasonable measures to assure no unreasonable risk for explosions, fires, leaks, emissions, spills Plan to include contacts, map ID of pipelines and valves, report spill to fire dept & planning list of evac routes and hospitals project specific plan for drilling operator reimbursement of emergency response service detail info on adequate personnel, supplies and funding for emergency response operator to reimburse emergency response costs to city agency 	<ul style="list-style-type: none"> Plan to include 24 hour emergency contacts, map ID of facilities, gathering and transmission lines and equipment, isolations valves, surface operations and their functions, transportation routes suitable for input in city's GIS system; list of evac routes and hospitals information on potential emergencies associated with operations reporting plan to emergency dispatch for all spills outside containment area that have potential to leave facility project specific emergency plan for any project that involves drilling or penetrating zones of hydrogen sulfide gas Operator obligated to reimburse emergency response service providers the costs of any emergency Detailed information that the applicant has the financial ability to implement emergency response immediately and at all times Identification of all products used and stored or transported to the site including data sheets Plan by which operator engages neighbors about the risks and benefits of the 	<ul style="list-style-type: none"> Operator to provide county and all emergency services providers willing to serve well site an emergency response plan to address all potential emergencies 	

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	<p>the applicant has the financial ability to implement emergency response immediately and at all times</p> <ul style="list-style-type: none"> • Identification of all products used and stored or transported to the site including material safety data sheets • Plan by which operator engages neighbors about the risks and benefits of the operations 	<p>any emergency</p> <ul style="list-style-type: none"> • Detailed information that the applicant has the financial ability to implement emergency response immediately and at all times • Identification of all products used and stored or transported to the site including material safety data sheets • Plan by which operator engages neighbors about the risks and benefits of the operations 					
Inspection		<ul style="list-style-type: none"> • County has the right to enter any site under approved development plan provided that twenty-four (24) hours prior notice is provided to applicant’s designated contact person • Each approved plan shall contain a statement that “Applicant hereby consents to allow the County the right to inspection of this approved operation provided the County contacts the Applicant with twenty-four (24) hours prior notice of such inspection.” • Inspections shall be coordinate to ensure Applicant presence on site and conducted in accordance with all applicable Applicant safety requirements 		<ul style="list-style-type: none"> • Operations may be inspected by city inspectors limited to those matters directly enforceable by the city and city inspector may refer state issues to the COGCC • City right to enter operations area after notice to operator and opportunity for operator to be present • City’s enforcement limited to those conditions that are not in operational conflict with state law or regulations and any enhanced standards agreed to by the operator through the administrative review process 	<ul style="list-style-type: none"> • City has right to inspect company’s operations during business hours upon giving 24 hour advance written notice to all existing and new wells; City acknowledges that nothing in MOU grants City authority to asses fees for inspections of operations 	<ul style="list-style-type: none"> • Operator agrees to allow the county to access all facilities for inspections, provided county personnel in appropriate protections gear and follows operator’s safety rules, including pit locations prior to construction • County reserves right to report non-compliance issues 	
Venting/ Discharge	<ul style="list-style-type: none"> • open-ended discharge valves secured • exhaust from engines and other mechanized equipment vented up and away from closest occupied structure 	<ul style="list-style-type: none"> • open-ended discharge valves secured • exhaust from engines and other mechanized equipment vented up and away from closets occupied structure 			<ul style="list-style-type: none"> • Open-ended discharge valves on all storage tanks, pipelines and other containers and placed with interior of secondary containment tank • No discharge of fluids as required by closed looped and green completion provisions 		

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Spills	Comply with all state and federal laws	Comply with all state and federal laws		Comply with all state and federal laws	<ul style="list-style-type: none"> Spills reported in accordance with state and federal laws If spill impacts surface water or water well, company to immediately notify affected or potentially affected owner and notify the city within 24 hours 	<ul style="list-style-type: none"> Any spill or release that is reportable to COGCC simultaneously reported to county 	
Water Use				<ul style="list-style-type: none"> identify water sources and disposal methods minimize truck use and local supplier where economically feasible 		<ul style="list-style-type: none"> identify water sources and disposal methods Comply with CDPHE standards Where feasible, temporary surface water lines are encouraged Operator may utilize county road right of way and drainage culverts where practicable for temporary water lines 	
Access Roads	<ul style="list-style-type: none"> temporary access roads reclaimed and re-vegetated in 60 days after discontinued use 	<ul style="list-style-type: none"> temporary access roads reclaimed and re-vegetated in 60 days after discontinued use 		<ul style="list-style-type: none"> 20 feet wide graded & graveled 13' overhead' clearance 6 inch base 95% compact class 6 aggregate grades drain away road and cross-drainage to waterway include culvert pipe 	<ul style="list-style-type: none"> temporary access roads reclaimed and re-vegetated 	<ul style="list-style-type: none"> operator agrees to construct access road to support 75,000 pounds to accommodate emergency response vehicles roads at least sixteen feet wide and 4 inch base best efforts to improve inadequate access to existing tank batteries spot inspections of access roads by county or emergency response agencies operator to apply for permit to public roads which may include access location requirements, pre and post inspection of roadways, collateral or bond to insure damage, dust control plan, road maintenance agreement and payment of all applicable fees operator agrees to use reasonable effort to minimize heavy truck traffic within 	

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						neighborhoods between 9 pm and 6 am and work with school district to minimize traffic conflicts with school buses <ul style="list-style-type: none"> • permit all vehicles as required by law 	
Stormwater quality and dust control	<ul style="list-style-type: none"> • Minimize dust associated with traffic and operations so no visible dust emissions to the extent practical given wind and comply with county best management practices • Stormwater control plan with most effective techniques and best management practices 	<ul style="list-style-type: none"> • Minimize dust associated with traffic and operations so no visible dust emissions to the extent practical given wind and comply with county best management practices • Stormwater control plan with most effective techniques and best management practices 		COGCC rule 805	<ul style="list-style-type: none"> • Stormwater control plan to comply with city storm criteria and erosion control 		<ul style="list-style-type: none"> • Operator to provide plan for noise, light and dust mitigations to the extent feasible and practicable for informational purposes only which operator may revise during operations
Cultural, Historic, Natural, Recreational or Scenic Resources		<ul style="list-style-type: none"> • No significant degradation of cultural or historic or archaeological sites eligible for landmarking • No significant degradation to identified natural areas including plants, riparian or critical wildlife habitat or to recreational activities or scenic attributes and rural character to include buffering, maintaining natural screening, siting criteria, and low profile tanks 		No significant degradation of cultural or historic sites	<ul style="list-style-type: none"> • If significant archaeological site discovered report to city • Company responsible for mitigating disturbance of historical or cultural property through a data recovery plan approved by the City • Ecological characterization study if any new well is within 500 feet of a natural habitat or feature with mitigation so no net resource loss • Installation and operation of operations shall not cause significant degradation to the quality o and quantity of recreational activities in the city, including locating operations away from trails and property used for recreational purposes and using existing well pads 		
Wildlife Protection & Wetlands & Drainage		<ul style="list-style-type: none"> • No significant degradation to identified natural areas including plants, riparian or critical wildlife habitat • No significant degradation of wetlands and not alter historic drainage patterns or flow rates with mitigation to compensate for drainage impacts 		COGCC 1200 series rules			

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Reclamation & Abandonment	<ul style="list-style-type: none"> Local permit shall include any COGCC required interim and final reclamation procedures 	<ul style="list-style-type: none"> Local permit shall include any COGCC required interim and final reclamation procedures 		<ul style="list-style-type: none"> COGCC 1000 series rules interim and final reclaim plan 			<ul style="list-style-type: none"> Operator to provide plan for reclamation and re-vegetation of site and final reclamation of the site for informational purposes only which operator may revise during operations
Noise	Equipment must comply with maximum permissible noise levels of 25-12-103 CRS	Equipment must comply with maximum permissible noise levels of 25-12-103 CRS		<ul style="list-style-type: none"> COGCC rule 802 Exhaust vented up away from closest residence additional requirements based on location which may include insulation for equip, landscaping, solid wall or fence, plan on hours of noise and lowering level of pumps or tanks 	<ul style="list-style-type: none"> electric powered engines used to mitigate noise and reduce emissions when feasible noise mitigation measures along any edge of operations site if site is next to residential or zoned for future residential compliance with COGCC rule submittal of noise mitigation study to demonstrate noise will be decreased to maximum extent feasible 	<ul style="list-style-type: none"> operator to provide the local government designee contact information for noise complaints 24 hours a day and post that information on a sign at the entrance to operations area 	<ul style="list-style-type: none"> Operator to provide plan for noise, light and dust mitigations to the extent feasible and practicable for informational purposes only which operator may revise during operations
Fencing	Onsite fencing basic, two rung fence of iron pipe around well head unless safety or agricultural concerns require additional fencing	Onsite fencing basic, two rung fence of iron pipe around well head unless safety or agricultural concerns require additional fencing		Permanent 6 feet fence that is solid, opaque and masonry, stucco steel or other similar materials, but chain link allowed if for safety	<ul style="list-style-type: none"> Permanent perimeter fencing around production equipment Fencing to be visually interesting and landscaping may be used fro screening 		
Land Disturbance Standards	<ul style="list-style-type: none"> standard plus minimal size to satisfy present and future operations needs operations must be compatible with topography and existing vegetation minimize disturbance with wetlands minimize amount of cut and fill 	<ul style="list-style-type: none"> to maximum extent possible operations may not be located in geologic hazard area minimum pad and equipment size necessary to accommodate operations minimize cut &fill share existing infrastructure and minimize new facilities to max extent feasible drought tolerant landscape with irrigation plan for first two years and permanent irrigation if practicable written description of existing vegetation for baseline for re-vegetation on final reclaim or abandonment operations sited so compatible with surrounding land use to max extent possible using the following 		<ul style="list-style-type: none"> minimum pad and equipment size necessary to accommodate operations minimize cut &fill share existing infrastructure and minimize new facilities to max extent feasible drought tolerant landscape with irrigation plan for first two years and permanent irrigation if practicable written description of existing vegetation for baseline for re-vegetation on final reclaim or abandonment -increase buffer when within 100 feet public street 			

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		techniques: as far as possible for surrounding land use, natural features, consideration of prevailing weather patterns and avoid hilltops and ridges					
Lighting	<ul style="list-style-type: none"> except during drilling down-lighting with shields Plan indicating all lighting on site and fixtures 	<ul style="list-style-type: none"> except during drilling down-lighting with shields Plan indicating all lighting on site and fixtures 		<ul style="list-style-type: none"> COGCC rule 803 except during drilling down-lighting with shields Plan indicating all lighting on site and fixtures 	<ul style="list-style-type: none"> Except during drilling, completion and other operational activities requiring additional lighting, down lighting is requirement meaning all bulbs must be fully shielded to prevent light emissions above a horizontal plane drawn from the bottom of the fixture A lighting plan shall be developed to establish compliance 	<ul style="list-style-type: none"> Lighting at operations area directed downward and internally and temporary lighting to conform to COGCC rules 	<ul style="list-style-type: none"> Operator to provide plan for noise, light and dust mitigations to the extent feasible and practicable for informational purposes only which operator may revise during operations
Visual Mitigation	<ul style="list-style-type: none"> facilities painted in uniform, non-contracting, non-reflective color 	<ul style="list-style-type: none"> facilities painted in uniform, non-contracting, non-reflective color operations should be buffered from visual areas (<i>i.e.</i>, roads, property lines and residences) by landscaping the perimeter of the site operations should be located in areas that maximize the amount of natural screening operations should minimize the removal of and damage to existing trees and vegetation; vegetation should be feathered and thinned or moved Compatibility siting criteria of Section 12-703(J) should be used to prevent degradation of scenic attributes and rural character Use of low profile tanks and less intrusive equipment Operations should be located as far as possible from surrounding land uses Operations should be 	<ul style="list-style-type: none"> tree & shrub landscape buffer yard around entire production site at a # of plants per lineal feet 	<ul style="list-style-type: none"> paint uniform & blend to surround to max extent possible away from prominent natural features, avoid crossing hills & ridges, @ base of slopes access roads aligned existing grades may require landscape, cut and fill to natural forms and natural screen 	<ul style="list-style-type: none"> facilities painted in uniform, non-contracting, non-reflective color to blend with landscape and land rather than the sky 	<ul style="list-style-type: none"> facilities painted in uniform, non-contracting, non-reflective color that is slightly darker to blend with landscape and land rather than the sky 	

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		sited away from prominent natural features, distinctive rock formations, land forms, vegetative patterns, river and streams and other landmarks or visual or scenic resources etc.					
Permanent Equipment	<ul style="list-style-type: none"> all permanent equipment electrified from power grid or renewal resources unless county determines infeasible 	<ul style="list-style-type: none"> all permanent equipment electrified from power grid or renewal resources unless county determines infeasible 					
Equipment Removal	<ul style="list-style-type: none"> remove equipment in 30 days; no permanent storage of equipment at well site 	<ul style="list-style-type: none"> remove equipment in 30 days; no permanent storage of equipment at well site 		<ul style="list-style-type: none"> remove equipment in 30 days; no permanent storage of equipment at well site 	<ul style="list-style-type: none"> all equipment used for drilling, re-completion and maintenance removed within 30 days of completion of work unless otherwise agreed to by surface owner and no permanent storage of equipment on well pad sites 		
Weed Control	<ul style="list-style-type: none"> comply with COGCC standard on weed control 	<ul style="list-style-type: none"> comply with COGCC standard on weed control 		<ul style="list-style-type: none"> land within 25 feet of any tank, pit or structure free of dried weeds, grass or rubbish Comply with all applicable law, including city's weed control ordinance 	<ul style="list-style-type: none"> All land within 25 feet of tank or other structure containing flammable or combustible materials kept free of dry weeds, grass or rubbish and conform with fire code Company responsible for weed control 	<ul style="list-style-type: none"> Operator responsible for noxious weed control on any facility from drilling through closure 	
Miscellaneous	<ul style="list-style-type: none"> all mechanized equipment anchored to minimize transmission of vibrations through the ground copies of local, state and federal permits provided to land use department no burning of trash at operations area routine maintenance of vehicles or mobile machinery not performed within 300 feet of any water body Remove debris methods approved by county approved plan includes all operator verbal representations of record 	<ul style="list-style-type: none"> all mechanized equipment anchored to minimize transmission of vibrations through the ground copies of local, state and federal permits provided to land use department no burning of trash at operations area routine maintenance of vehicles or mobile machinery not performed within 300 feet of any water body Remove debris methods approved by county approved plan includes all operator verbal representations of record 	<ul style="list-style-type: none"> COGCC mitigation requirements of rule 604.c Meet municipal code sound limitations and provide noise mitigation study re: same and construct a noise screen along the edge of the facility between the facility and existing residential or zoned residential Applicant must request any requirements not required by COGCC to be added to COGCC permit as requirements 	<ul style="list-style-type: none"> use of electric service if available and gas or diesel generators only temporary Maintain equipment record flowline locations Remove debris comply with sign code reclaim temporary access roads comply all applicable law, including city's street, electric, water, trash & building & flood plain permit code approved plan includes all operator verbal representations of record 15 day advance notice of seismic operations to fire dept no housing on site 	<ul style="list-style-type: none"> company exempt from the ban as long as operations are in accordance with MOU all mechanized equipment anchored to resist collapse, lateral movement or flotation; identify buried anchors No open burning at the operations site Remove debris from operations area for proper disposal and maintain site free of debris No burning of materials onsite City at its discretion may conduct soil gas monitoring to assess casing integrity, typically within 90 days of well completion and with prior notification to company Trailer or office is permitted as an accessory use during drilling and completion 	<ul style="list-style-type: none"> Operator to obtain erosion permit where necessary County requirements made part of COGCC permit requirements 	<ul style="list-style-type: none"> Applicant must request MOU requirements be added to COGCC permit as requirements Provide updates of all plans required by MOU to Town

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	BOULDER COUNTY REGULATIONS		LOVELAND REGULATIONS		FORT COLLINS MOU REQUIREMENTS	ARAPAHOE COUNTY MOU REQUIREMENTS	ERIE MOU REQUIREMENTS
	Expedited*	Standard	Expedited*	Standard			
				<ul style="list-style-type: none"> • applications fees • operator to pay costs of city's consultant to review application • operator to procure comprehensive general liability insurance insuring operator and naming the city as additional insured for personal or bodily injury arising out of operators permitted operations in amount of \$1 million per occurrence 			

* Other than meeting, timing and notice requirements, the expedited requirements are in addition to the standard requirements

** Issue from Town Hall Meeting



ATTACHMENT 3

MEMORANDUM

TO: City Council
FROM: Bill Tuthill
DATE: May 31, 2013
RE: Legal Framework for Analyzing Local Government Regulatory Authority Concerning Oil & Gas Development

PROPERTY INTERESTS INVOLVED

In Colorado, the ownership of the surface of land is often severed from the subsurface or mineral estate which may then be owned by someone else. Severed mineral estates can be sold or leased just like the surface estate. The surface owner cannot prevent the subsurface owner from making reasonable use of the surface property to access and develop the underlying minerals. Conversely, the owner of the subsurface mineral estate cannot prevent development of the surface. The owners of each type of property are entitled to use and develop their property.

STATE AUTHORITY V. LOCAL AUTHORITY

In 1951, the Colorado legislature adopted the original version of the Oil and Gas Conservation Act which contains the following legislative declaration:

It is declared to be in the public interest to: 1) foster the responsible, balanced development, production, and utilization of the natural resources of oil and gas in the state of Colorado in a manner consistent with protection of public health, safety, and welfare, including protection of the environment and wildlife resources; 2) protect the private and public interests against waste in the production and utilization of oil and gas; and 3) safeguard, protect, and enforce the co-equal and correlative rights of owners and producers in a common source or pool of oil and gas to the end that each such owner and producer of the common pool or source of supply of oil and gas may obtain a just and equitable share of production therefrom.

To carry out this legislatively declared State interest, the legislature created the Colorado Oil and Gas Conservation Commission (COGCC) and gave it the power to adopt rules and regulations to help effectuate these State interests.

For the past several decades, local governments have repeatedly adopted regulations that are more restrictive of oil and gas drilling operations than those that have been adopted by the COGCC. In numerous court cases, oil and gas operators and/or the COGCC have vigorously resisted local efforts to impose rules and regulations more restrictive than those adopted by the COGCC. To the extent that local regulations have attempted to dictate the technical aspects of drilling and pumping, local regulations have generally been invalidated by the courts.

For example, when the Colorado Supreme Court invalidated a voter-approved ordinance in Greeley that banned all oil and gas drilling activity within the city, the Court stated:

We hold that the State's interest in efficient development and production of oil and gas in a manner preventative of waste and protective of the correlative rights of common-source owners and producers to a fair share of production profits, preempts a home-rule city from totally excluding all drilling operations within the city limits.

It is important to note that when considering the state's interest in preventing "waste," the concept of waste does not merely include spilling product on the ground or allowing it to escape into the air – it also involves the desire not to waste the resource by leaving it underground. To the extent that oil and gas from an underground pool is not extracted and brought to the surface, it is considered "wasted."

Although the courts have held, in the abstract, that local governments are free to adopt regulations that "harmonize" oil and gas developmental and operational activities with the State's interest in those developmental and operational activities, the Colorado Supreme Court has determined that there may be instances where the county's regulatory scheme conflicts in operation with the State statutory or regulatory scheme. For example, the Court has determined that the "operational effect of the county regulations might be to impose technical conditions on the drilling or pumping of wells under circumstances where no such conditions are imposed under the State's statutory or regulatory scheme, or to impose safety regulations, or land restoration requirements contrary to those required by State law or regulation. To the extent that such operational conflicts might exist, the county regulations must yield to the State interest." The Court has also established an approach for determining whether an "operational conflict" exists between the local government regulations and the State's interests as managed through the state regulatory scheme, indicating that that determination must be made on an ad-hoc basis under a fully developed evidentiary record. Providing guidance as to what types of local regulations would create an "operational conflict," the Court has stated unequivocally that "there is no question that the efficient and equitable development and production of oil and gas resources within the state requires uniform regulation of the technical aspects of drilling, pumping, plugging, waste prevention, safety precautions, and environmental restoration." The Court has also held that the State interest in oil and gas production is closely tied to well location, with the result that the need for uniform regulation extends also to the location and spacing of wells.

Accordingly, while the Supreme Court provides lip-service to the concept that local regulations can be adopted provided that they "harmonize" with State regulation, the conclusion to be reached from reviewing the numerous court cases is that state regulation preempts local regulation when it comes to the "technical aspects of drilling, pumping, plugging, waste prevention, safety precautions, and environmental regulation," as well as location and spacing of wells. However, because the courts have also emphasized that the determination of whether an "operational conflict" exists must be resolved on an ad hoc basis under a fully developed evidentiary record, recent local legislative efforts have sought to adopt regulatory schemes that are less likely to be challenged on their face by an operator and instead must be challenged in a tedious evidentiary litigation process to determine whether the specific local regulations conflict directly with the state regulatory requirements or create an operational conflict with the state's interests as articulated in the Oil and Gas Conservation Act. As an alternative to challenging local regulations through the litigation process, some local governments have turned to offering oil and gas operators an alternative to an expensive, uncertain litigation outcome by offering the opportunity to obtain expedited or administrative approval of well permits or land use applications if the applicant agrees to contractually undertake through a memorandum of understanding, or an administrative plan or permit, the responsibility to engage in best practices for oil and gas development operations.

These negotiated MOUs typically address technical aspects of drilling and well site operations, such as air quality emissions reduction and monitoring, groundwater monitoring, spill containment, and inspections. Because they are entered into voluntarily by the operators, they are not subject to legal challenge by those operators. The COGCC has been generally supportive of voluntary MOUs between operators and local governments and in some instances has included reference to them in the permits issued by the COGCC.

Where operators have challenged the specific regulatory authority of local jurisdictions, they have generally obtained favorable results. Most recently, in a case involving the town of Milliken, the Court of Appeals invalidated a \$400 per year fee imposed by the town in order for the town police to make routine, often daily, drive-by inspections of well site operations within the town. The town attempted to justify the fee and the inspections as reasonable so that police could determine if illegal or dangerous activities or conditions existed at the well site, such as graffiti, vandalism, openly visible damage to or leaking equipment, or drug activity was taking place at the well site. The town argued that the COGCC had not adopted any regulations that specifically addressed this type of routine safety inspection, and that therefore the town could impose a fee for its inspections in this regard. The Court of Appeals rejected this argument, holding that “oil and gas well site safety and security are matters subject to rule, regulation, order, or permit condition administered by the commission.” The Court determined that “it is irrelevant whether the Commission actually conducts inspections like those performed by the town’s police department. The relevant inquiry is whether the town’s inspection concerned ‘matters that are subject to rule, regulation, order, or permit condition administered by the Commission.’” Accordingly, the Court held that the relevant state statute regarding imposition of fees on oil and gas operators prohibited the town from imposing its own fee on a matter that was subject to regulation by the Colorado Oil and Gas Conservation Commission.

WHAT IS CLEARLY PERMITTED AND WHAT IS CLEARLY PROHIBITED

Local governments can require:

- oil and gas operators to apply for and obtain a permit prior to commencing operations
- building permits for above-ground structures and access roads
- emergency access plans
- fire plans
- traffic impact fees that are reasonably related to the impacts and are non-discriminatory
- fees to monitor for compliance with local fire codes

Local governments cannot:

- ban oil and gas operations
- charge a fee or tax to conduct inspections or monitoring of oil and gas operations with regard to matters that are subject to rule, regulation, order, or permit condition administered by the COGCC.

REGULATIONS SUBJECT TO “OPERATIONAL CONFLICT” ANALYSIS

Ban on hydraulic fracturing (almost certain to be an operational conflict because it is, in effect, a ban on drilling).

Setbacks greater than those established by COGCC –found to be invalid by Court of Appeals in Town of Frederick v. North American Resources.

Noise abatement requirements stricter than COGCC – found to be invalid in Town of Frederick case.

Visual impact regulations greater than those imposed by COGCC – also invalidated in Town of Frederick case.

Any technical regulation of drilling, pumping, plugging, waste prevention, safety precautions, and environmental restoration.

MORATORIUMS

The law surrounding moratoriums on land use does not, for the most part, stem from any specific grant of power to local governments to place moratoriums on certain land uses or types of land use applications. Most of the law in this area has been created when landowners sue local governments alleging that the result of a moratorium on processing or granting land use applications amounts to a “regulatory taking” for which the landowner seeks monetary compensation. In general, a regulatory taking has not occurred when moratoriums have been enacted for a specified period of time, during which the local government is working on developing a regulatory land use planning framework within its power to adopt. A moratorium cannot be an end upon itself – it is a timeout that allows the local government to plan effectively for development. The United States Supreme Court has held that there is no set time period that is inherently reasonable or unreasonable for a moratorium. Instead, it has held that a compensatory taking occurs only where the delay amounts to an “extraordinary” circumstance.

May 31, 2013

Working Draft - for discussion only – to be updated following June 4, 2013 Study Session

Potential Timeline for City Council to Address Oil and Gas Development Issues identified by community

June 4, 2013 – City Council Study Session to discuss next steps regarding oil and gas development

June 5 to June 14, 2013 – Broomfield staff and technical advisors continue to prepare material for City Council discussion regarding potential methods to address issues identified by community

June 18, 2013 – City Council Study Session to discuss potential methods to address issues identified by community – If City Council policy discussion to address issues identified by community is concluded – matter is scheduled, if necessary, for consideration, with public comment, at City Council meeting on July 9, 2013

July 9, 2013 – City Council meeting to consider action to address issues identified by community - if City Council is prepared to conclude discussion to address issues identified by community

June 19 to July 26, 2013 – If City Council requests additional information or analysis, following June 18, Study Session, staff and technical advisors prepare additional material for City Council discussion regarding potential methods to address issues identified by community

July 30, 2013 – If necessary, City Council Study Session to continue discussion.

July 31 to August 2, 2013 – if necessary, staff and technical advisors prepare additional material for City Council discussion regarding potential methods to address issues identified by community

August 6, 2013 - – If necessary, City Council Study Session to continue discussion.

August 7 to August 23, 2013 - if necessary, staff and technical advisors prepare additional material for City Council discussion regarding potential methods to address issues identified by community

August 27, 2013 – If necessary, City Council meeting for consideration, with public comment, of proposed methods to address issues identified by community

Note

At such time as the City Council is prepared to consider an action or actions to address the issues identified by the community, the action or actions will be scheduled for a City Council meeting. If a recommend action requires an ordinance, it must be considered at two City Council meetings (First Reading and Second Reading). If a recommend action requires a resolution, it must be considered at one City Council meeting.