

SUBJECT

Second Reading of Ordinance No. 032, 2013, Amending the City Code to Impose a Ban on Oil and Gas Operations and Hydraulic Fracturing and Certain Storage of Waste Within the City (Option 1 or 2).

EXECUTIVE SUMMARY

On February 5, 2013 City Council directed staff to prepare City Code changes prohibiting the use of hydraulic fracturing and certain storage of waste within the city limits. Those changes are reflected in Ordinance No. 032, 2013. On February 19, 2013, Council amended Ordinance No. 032, 2013 to include a ban on oil and gas operations as well as hydraulic fracturing. The amended Ordinance was adopted on First Reading by a vote of 5-2 (nays: Kottwitz, Troxell). Council also directed staff to prepare methods to repeal Ordinance No. 145, 2012 which would remove the moratorium on the submission, acceptance, consideration and approval of all applications for City licenses, permits and other approvals in any way to oil and gas uses within the City, or at a minimum permit oil and gas operations if Council authorizes an "operator agreement" for such.

BACKGROUND / DISCUSSION

Ordinance No. 032, 2013 – Ban

On February 26, 2013 Council directed staff to prepare two options for consideration at the March 5, 2013 meeting. **Option 1** is the amended version from the February 19, 2013 meeting and subsequently bans all oil and gas operations in the city limits – see definition below. **Option 2** is the original option requested by Council on February 5, 2013 and limits a ban to hydraulic fracturing. Both options permit oil and gas operations and hydraulic fracturing to occur when a Council authorized operator agreement is in place, prohibit storage of waste within the city.

Option 1

Second Reading of Ordinance No. 032, 2013 amending the City Code to impose a ban on oil and gas operations and hydraulic fracturing and certain storage of wastes within the City (except with a Council-approved operator agreement).

Or

Option 2

Second Reading of Ordinance No. 032, 2013 amending the City Code to impose a ban on hydraulic fracturing and certain storage of wastes with in the City (except with a Council-approved operator agreement).

"OIL AND GAS OPERATIONS" as defined by the Colorado Oil and Gas Commission: means exploration for oil and gas, including the conduct of seismic operations and the drilling of test bores; the siting, drilling, deepening, recompletion, reworking, or abandonment of an oil and gas well, underground injection well, or gas storage well; production operations related to any such well including the installation of flowlines and gathering systems; the generation, transportation, storage, treatment, or disposal of exploration and production wastes; and any construction, site preparation, or reclamation activities associated with such operations.

During the Council discussion, questions arose regarding whether the existing moratorium was needed if either of the above mentioned options were adopted. The following is the information provided previously regarding the purpose of the moratorium and the work directed by Council to be completed during the time of the Moratorium.

Ordinance No. 145, 2012 - Moratorium

On December 4, 2012, Council considered regulation of oil and gas exploration and production and unanimously voted to impose a six-month moratorium on the submission, acceptance, consideration and approval of any all applications

for City licenses, permits and other approvals related in any way to oil and gas uses within the City and on City-owned lands. The moratorium was intended to allow staff and Council time to further investigate the extent of the City's authority to regulate such uses and is set to expire July 31, 2013.

City Council direction for additional work during moratorium:

- Monitor and present City Council recommendations to the Colorado Oil and Gas Conservation Commission (COGCC) during the rulemaking process as described above. Incorporate, as needed any changes into proposed Land Use Code (LUC) amendments.
- Monitor and present City Council recommendations to any relevant bills considered during the 2013 State of Colorado Legislative Session especially as any further legislation is considered related to air or water quality.
- Develop materials including additional location maps that identify the geological formations present within the City and the Growth Management Area. Identify the locations of oil and shale gas deposits including the various formations. Map the locations of all wells within those areas and locations currently seeking permits to drill. Include mineral ownership information.
- Extend the set-back criteria into the Growth Management Area and create new mapping that identifies areas currently exempt from drilling and those that would be if additional set-back criteria were adopted by the COGCC.
- Evaluate the impact of regulations proposed on existing and future oil and gas operations and consider code amendments as needed for addressing the differences in oil extraction compared to gas or methane production. Specifically consider whether soils testing is needed for both.
- Update the Best Practice Matrix dated August 27, 2012, to include LUC Option A and B as well as more specific information on street maintenance, financial consequences, local impact fee, cultural resource rule m reclamation areas and water sourcing.
- Propose an intergovernmental agreement with Larimer County that ensures that any oil and gas activity within the GMA would be considered new development and as such annexed into the city and permitted under the city's development process.
- Negotiate and present a proposal for adopting an operator agreement with Prospect Energy, the owner and operator of the Fort Collins Field.
- Re-engage the boards and stakeholder groups and seek their recommendations regarding Option A or Option B.
- Provide additional information regarding surface use agreements especially as the agreement relates to habitat fragmentation and restoration; include photos and examples.
- Identify areas that may be considered for a Designated Outside Activity area and as such further exempt from oil and gas activities.

Staff has begun work on many of these items, however, there is still work to be completed for the drafting of LUC amendments and it is uncertain what actions the Colorado Air Quality Control Commission will be enacting as part of proposed revisions to regulations affecting oil and gas owners and operators. As part of this process, the Colorado Department of Public Health and Environment (CDPHE) is holding stakeholder meetings through May 2013. CDPHE is the agency that governs air quality once an oil or gas well is in production. Revisions made by the COGCC will be in effect beginning in May for water quality and in August for set-backs. There may also be changes during the 2013 General Assembly that affect local regulations for oil and gas operations.

Staff was also directed to provide information on whether the City is working with the Larimer County Board of Health regarding air quality impacts from oil and gas development. Lucinda Smith, Director of Environmental Services provided the following:

"City staff has been in touch with Doug Ryan, Larimer County Department of Health and Environment, about oil and gas issues. Both City and County staff are supportive of the upcoming Front Range emissions study. This study is awaiting funding and will enable CSU to conduct a three (3) year study of oil and gas emissions very similar to the current ongoing study in Garfield County. The project is expected to begin in July 2013 and continue through June 2016. While no contact between City staff and the Larimer County Board of Health has occurred, staff members are sharing information that is of concern to the boards."

Longmont Resolution Options

Staff was also asked to provide options for Council consideration regarding Resolution 2013-012 (City of Longmont).

Staff suggests the following options:

- Provide Longmont a copy of the Resolution
- Extend an offer to work jointly on legislative changes related to providing clarity on home rule authority
- File an amicus brief

STAFF RECOMMENDATION

If the Council wishes to ban, staff recommends the ban be limited to hydraulic fracturing and storage in the City limits—Option 2.

Staff recommends that the Moratorium continue except in situations where a Council-approved operator agreement is in place.

ATTACHMENTS

1. Copy of First Reading Agenda Item Summary - February 19, 2013
(w/o attachments)
2. Copy of First Reading Agenda Item Summary – December 4, 2012 (LUC & Moratorium)
(w/o attachments)
3. Copy of Ordinance No. 145, 2012 establishing the Moratorium
4. Powerpoint presentation

DATE: February 19, 2013
STAFF: Laurie Kadrach, Dan
 Weinheimer, Wanda Nelson

AGENDA ITEM SUMMARY
 FORT COLLINS CITY COUNCIL

26

SUBJECT

Items Relating to a Ban of Hydraulic Fracturing and Certain Storage of Waste within the City.

- A. First Reading Ordinance No. 032, 2013 Amendment to the City Code Which Would Impose a Ban on Hydraulic Fracturing and Certain Storage of Waste within the City.

OR

Resolution 2013-011 Submitting to the Registered Electors of the City a Proposed Amendment to the City Code Which Would Impose a Ban on Hydraulic Fracturing and Certain Storage of Waste Within the City (Operator Agreement in place).

AND

- B. Resolution 2013-012 Requesting Statutory Power to Regulate Oil and Gas Exploration and Production, Supporting the City of Longmont in its Litigation with the State of Colorado Concerning the Regulation of Oil and Gas Exploration and Production and Authorizing Negotiations with Larimer County Regarding Oil and Gas Regulations in the City's Growth Management Area.

Staff also requests Council direction regarding which option(s) to prepare for future Council consideration regarding City-owned lands outside the city limits.

EXECUTIVE SUMMARY

On February 5, 2013, City Council directed staff to prepare City Code changes prohibiting the use of hydraulic fracturing, and limiting the open pit storage of waste or flowback created in connection with the fracturing process in the city limits. Those changes are reflected in the proposed Ordinance No. 032, 2013. If no action is taken on Ordinance No. 32, 2013, staff prepared an optional resolution for Council to consider:

- Resolution 2013-011 Submitting to the Registered Electors of the City a Proposed Amendment to the City Code Which Would Impose a Ban on Hydraulic Fracturing and Certain Storage of Waste With the City (Operator Agreement in place).

In addition to the options presented banning hydraulic fracturing, staff developed Resolution 2013-012:

- requesting the Governor and Attorney General support the Colorado General Assembly in enacting legislation that will explicitly grant power for home rule cities in the State of Colorado to regulate oil and gas exploration and production within municipal boundaries
- supporting the City of Longmont in its litigation with the State of Colorado concerning the power of home rule cities to regulate the exploration for and production of oil and gas development
- directing negotiation with the Board of Commissioners of Larimer County for the establishment of County regulations on oil and gas exploration outside the City, but within the Fort Collins Growth Management Area.

BACKGROUND / DISCUSSION

In December 2012, City Council authorized a moratorium preventing any further drilling of oil and gas wells in the city limits or on City-owned lands until July 31, 2013. Since that time, citizens asked the Council to consider banning hydraulic fracturing in the city. During the January 22, 2013 Work Session, Council discussed the pros and cons related to banning hydraulic fracturing (Attachment 10). Following this discussion staff was directed to prepare a Resolution banning hydraulic fracturing and storage of related waste materials for the February 19, 2013 regular Council meeting.

Council also asked that the staff report include more information on local geology, scientific data relative to hydraulic fracturing, the likelihood of local earthquakes due to fracturing, and the financial impacts of a ban or an adverse incident if hydraulic fracturing were not banned.

Staff was further directed to pursue an operator agreement with Prospect Energy seeking compliance with the strictest measures proposed for Land Use Code adoption prior to the implementation of a moratorium. During a Council meeting on February 5, 2013, staff was asked to prepare an Ordinance banning hydraulic fracturing and open pit storage except on existing well or operating pad sites, or if the pad site becomes the subject of an operator agreement with the City. Council also asked staff to develop options for regulating or banning hydraulic fracturing on City-owned lands outside the city limits.

On February 11, 2013, the Colorado Oil and Gas Commission (COGCC) adopted rule changes moving setbacks from well pads to 500 feet in most areas and 1000 feet from buildings that house larger numbers of people. This change reduces the area that may be subject to oil and gas development to 11% inside the City limits.

Geology

Staff was asked to review the geology beneath Fort Collins and adjacent lands to determine what potential oil and gas resources may exist. Staff reviewed information provided by geologists at Colorado State University (CSU), the Colorado State Geologist, and the United States Geological Survey (USGS). Most of the academic and professional mapping and articles available on the North Front Range focus on the Greater Wattenberg Area (GWA); very few mention Fort Collins or the Fort Collins Field by name. Geologists cite the lack of information as an indication of a low probability of oil and gas production within the community. In 2009, the Natural Areas Department, as part of the Energy by Design project, developed a map depicting potential oil and gas development (Attachment 8). Mapping of oil and gas development potential indicates that the most likely production area is expected in the northern part of Fort Collins, where the present field exists (Attachment 9). Recent activity in Northern Colorado has focused on the Niobrara formation ; in Fort Collins, the Niobrara development potential is estimated as "moderate" (Attachments 8 or 9).

Potential Fort Collins Oil and Gas Activity

To determine oil and gas potential, staff reviewed the historic record of drilling in Fort Collins, the current operations, and the regional geological information.

- The historic record indicates that the Muddy "J" has been the only productive formation in Fort Collins. Niobrara development has been the focus of the recent activity in the Greater Wattenberg Area.
- Prospect Energy indicates that current operations have targeted the Niobrara formation but those efforts have not proved economical.
- The geologic record indicates that the Niobrara is located near the surface in Fort Collins and the Niobrara is not deep enough to yield quality gas or oil.

Fort Collins

The wells drilled within the Fort Collins Field were drilled with several target formations in mind. Initially, wells drilled in 1925 sought to reach the Hygiene (Pierre Shale) or the Muddy "J" sandstone. This is consistent with the discovery in 1923 of oil from the Muddy "J" in the Wellington Field to the north of Fort Collins. The Wellington Field was the first set of wells producing from the Muddy "J" in the Denver Basin. Muddy "J" sandstone near Fort Collins exists at a depth of approximately 4,500 feet with an average thickness of 25 feet. Going east from Fort Collins, there is greater depth beginning along Interstate 25. The shallow portions of the rock to the west of the City are not likely to have marketable oil and gas supplies. Prospect Energy's operations in the Fort Collins Field are in the Muddy "J" formation. The company tested the Niobrara in the Fort Collins Field but has not yet found a well that would be profitable. These results reflect the historical development of oil and gas in Fort Collins where operators attempted to produce oil and gas from the Lyons, Lakota, Dakota, Codell, Niobrara and the Hygiene formations. A detailed review of Colorado Oil and Gas Conservation Commission (COGCC) records indicates the Muddy "J" is the only formation that has ever profitably produced within Fort Collins. As hydraulic fracturing and drilling technology advance it remains possible that other formations lying beneath Fort Collins might produce oil and gas. For a more detailed analysis, see Attachment 1.

ENVIRONMENTAL IMPACTS

Air Quality

Several current studies pertinent to the Front Range or Rocky Mountain region were reviewed to support the following conclusions (citations are provided in Attachment 2):

- Measurable emissions of several pollutants attributable to drilling, construction, material storage and treatment, production, and transmission activities from oil and gas operations have been detected, including the following:
 - Nitrogen oxides (NO_x) and volatile organic compounds (VOCs) which are ozone precursors
 - Hazardous Air Pollutants (HAPS) including several carcinogens (primarily benzene and formaldehyde) and other air toxics associated with chronic and sub-chronic health effects (respiratory and neurologic disease and head, throat, and eye irritation)
 - Particulate matter including dust and aerosols
 - Odors (hydrogen sulfide and odiferous hydrocarbons)
 - Nitrogen and sulfur compounds that contribute to visibility impairment (haze) and atmospheric deposition (acid rain)
 - Methane, a potent greenhouse gas and ozone precursor.
- Oil and gas development activities can emit raw (non-combusted) natural gas which has a unique signature that can be differentiated from motor vehicle emissions and other industrial or combustion sources. Elevated levels of volatile organic compounds associated with natural gas operations (drilling and venting) were found in the Front Range area.
- Hydrocarbons emitted from oil and gas activities along the Front Range (primarily propane and other alkanes) comprise some of the highly reactive precursors important in the complex atmospheric chemistry responsible for winter ozone formation. Winter ozone formation is a recently discovered phenomenon that has clearly been attributed to emissions from oil and gas development and production activities in the Green River Basin (Wyoming) and Uintah Basin (Utah).
- Associated impacts to human health including excess cancer risk and chronic non-cancer health impacts have been measured at locations within 0.5 miles of active well pad sites. Additional studies, many of which are currently ongoing, will help to define the potential risk to human health, effectiveness of air emission control strategies, and potential impacts to air quality from oil and gas development activities.

Water Quality Environmental and Health Concerns

- While there is no scientific consensus and studies are few, there is some indication of a potential link between high-pressure underground injection (i.e., underground injection wells for wastewater) and gas migration near the well (movement of methane into groundwater.) The associated risk to humans is that methane that is found in drinking water sources could potentially build up in confined spaces and cause explosions. Methane gas is not considered toxic if consumed in drinking water and is not regulated by the Environmental Protection Agency (EPA) under the Safe Water Drinking Act (SWDA).
 - A USGS study by Ellsworth near wastewater wells (Class II Underground Injection Control (UIC) wells) in Menlo Park, CA suggests the high pressure injection might make well cement cracks more likely. Findings by other researchers suggest a similar finding, but conclude further research is needed. Although this may have implications for high pressure injection techniques used in hydraulic fracturing, there is no scientific consensus on the probability of its occurrence or the mechanisms involved. Local wells classified as UICs are actually injecting at sub-fracturing pressures; see more below under earthquakes.
- Most shallow water contamination resulting from hydraulic fracturing and conventional oil and gas production has been linked to surface activities resulting in releases of wastewater due to accidents, poor management of wastewater storage and disposal, and illicit dumping.
- Most aquifer contamination (i.e., potential drinking water resources) from conventional oil and gas production has been linked to well casing failures. There is not enough research for hydraulic fracturing operations to show a similar link.

In response to public concern and industry growth, the US House of Representatives requested in 2009 that the US EPA conduct scientific research to examine the relationship between hydraulic fracturing and drinking water resources. The project planning phase involved agency consultation with other federal agencies, state and interstate regulatory agencies, industry, non-governmental organizations, and others in the private and public sector to determine the focus of the study regarding potential impacts on human health and the environment. The primary research focused on

investigating impacts to drinking water resources. The first progress report on the results of this research was published by the EPA, December 2012, Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources, Progress Report, EPA 601/R-12/011, Office of Research and Development.

The research consists of 18 research projects and is organized around five stages of the hydraulic fracturing water cycle:

1. Water acquisition: What are the possible impacts of large volume water withdrawals from ground and surface waters on water resources?
2. Chemical mixing: What are the possible impacts of hydraulic fracturing fluid surface spills on or near well pads on water resources?
3. Well injection: What are the possible impacts of the injection and fracturing process on water resources?
4. Flowback and produced water: What are the possible impacts of both types of wastewater surface spills on or near well pads on water resources?
5. Wastewater treatment and waste disposal: What are the possible impacts of inadequate treatment of hydraulic fracturing wastewater on water resources?

The results from the study, which are not expected until 2014, are intended to inform the public and provide policymakers at all levels with high-quality scientific knowledge that can be used in decision-making. The research involves collection and analysis of existing data from 24,925 wells that have been hydraulically fractured, complex modeling conducted by the Lawrence Berkeley National Laboratory, toxicity assessments of 1,858 chemicals associated with hydraulic fracturing, and case studies. The EPA also manages the two most comprehensive databases on toxicological data that are used for risk assessments nationally and internationally.

The literature reviews for this study are subject to a separate quality review that assesses the soundness, applicability and utility, clarity and completeness, uncertainty and variability, and evaluation and review of the data and information before inclusion in the research. Attachment 3 includes references accepted for inclusion in the EPA report that are organized by research topic related to water quality. This list is a subset of references reviewed to date that cover the most relevant research topics being investigated; for a complete list refer to the 2012 EPA report cited above. The EPA has compiled and continues to search for literature relevant to the research questions posed in this report including a recent Federal Register notice requesting peer-reviewed data and publications relevant to this study. There has not been any preliminary data released from this effort.

Waste and Wastewater Environmental Concerns

- Hydraulic fracturing produces higher volumes of wastewater that surface as flowback in a shorter period of time than conventional drilling techniques. This creates more challenges for capture, storage, and disposal of wastewater and associated emissions than for conventional drilling operations (e.g., more VOC emissions if not captured adequately, more potential for accidental spills).
- Wastewater management and disposal may be the single most important issue associated with environmental and human health protection. The Bureau of Land Management has proposed new requirements for submission of wastewater management plans prior to drilling. Deep injections of wastes in Class II UIC wells, not fracturing operations, have been linked to earthquakes to date.

Earthquake Potential in Fort Collins

Water disposal in the oil field involves injecting waste water into a deep disposal well. This process usually increases pressure in the rock above the native state (pre-water disposal) of the rock. Usually there is not any fluid removed from the rock, only fluid (wastewater) added, thereby increasing reservoir pressure. Many other industries and the Federal government also use water disposal wells. There have been noted cases of water disposal wells causing seismic activity. National Academies of Science concluded a study in 2012 and listed three major findings:

1. "the process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events;"
2. "injection for disposal of wastewater derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation"; and
3. "Carbon Capture and Storage (CCS) due to the large net volumes of injected fluids, may have potential for inducing larger seismic."

The factor that appears to have the most direct consequence in regard to induced seismicity is the net fluid balance.

The Bureau of Reclamation stated it has not done any independent studies regarding hydraulic fracturing or deep injection wells. However, it did state that the work done between 1999 and 2004 on all the Horsetooth Dams was performed as mitigation for major seismicity that it defines as much greater than what research reveals is a risk due to deep injection wells. Locally, a process called waterflooding is used and, in general, operators are required to maintain pressures that are below fracture gradient and even further lower, based on the last mechanical integrity test, according to COGCC regulations. In other words, at the Fort Collins Field waterflooding (recycled water), the Muddy formation maintains pressures near or slightly below original reservoir pressures.

Waterflooding started in the Fort Collins Field as a smaller pilot test in September 1979 after obtaining COGCC approval. Upon success of the pilot, COGCC approved expansion and the expanded project started in July 1985. According to the current operator, "We've been injecting water for a long time at fairly steady rates without any recorded seismic events."

Habitat Fragmentation Resulting From Oil and Gas Development

Several current studies pertinent to the Front Range or Rocky Mountain region were briefly reviewed to support the following conclusions (For further information and citations see Attachment 4):

- Wildlife impacts and habitat fragmentation from oil and gas activities have been documented, largely for the Greater Yellowstone and Western Wyoming regions. Species studied include mule deer, pronghorn, and greater sage-grouse. The studies largely focused on how migration patterns and winter habitat use could be or have been affected by oil and gas development.
 - Mule deer migration patterns changed in the initial year of oil and gas development. Migration patterns did not appear to acclimate three years after well establishment. Instead, mule deer migration patterns continued to drift further from the well pad development areas. High value habitat areas prior to the study shifted to low habitat values throughout the study.
 - A further study found that mule deer abundance for the herds in the same area had declined by 23% during 2001-2010, where the oil and gas development had expanded.
 - One recent study has also examined the impact of oil and gas development on sagebrush-dependent songbirds (Gilbert and Chalfoun 2012). Some species, which are generally more tolerant to disturbance, such as the Horned lark (*Eremophila alpestris*) did not respond to increases in well densities. However other species, such as the Brewer's sparrow (*Spizella breweri*) and sage sparrow (*Amphispiza belli*) which are dependent on sagebrush communities, had significant population decreases as oil and gas well density increased, suggesting there may be significant impacts to sagebrush-obligate species. A comprehensive synthesis of oil and gas impacts was recently compiled by The Wildlife Society in 2012. In addition to the issues addressed above, the report also identifies increased noxious weed invasions, impacts to waterfowl from wetland impacts, and the potential for increased competition between deer and elk as highly valued habitat is used for oil and gas development. The report also highlights that the cumulative effects of habitat fragmentation, overall loss, and degradation may prove to have the most impact on wildlife.
- Horizontal drilling may reduce the overall impacts of habitat fragmentation, as multiple areas of land can be accessed from a single well pad. However, it is difficult to know the extent of this reduction without further study.
- Based on the studies available, habitat fragmentation effects from oil and gas development appear to be better understood at the landscape level, e.g., how oil and gas development affects pronghorn and mule deer migration patterns. Thus, the findings from these studies may be best applied at the regional scale, e.g., Larimer County and the Rocky Mountain Foothills.
- Staff did not find any research that compared the habitat fragmentation effects of oil and gas development in rural or open undeveloped lands with those in more traditional urban development.

FINANCIAL AND SOCIAL IMPACTS

A true triple bottom line analysis includes an assessment of environmental, social, and economic impacts. Staff analysis to date has focused on potential and possible environmental impacts if hydraulic fracturing is allowed. Staff however, was unable to conclusively determine financial impacts of any health and safety hazard related to hydraulic fracturing due to the significant number of variables that relate to the hydraulic fracturing process, transportation of material and waste produced, and removal of waste materials. A social impact analysis has not yet been undertaken

for this discussion. It is assumed that social impacts of hydraulic fracturing are discussed and addressed in terms of concerns about health impacts, impacts to property and housing values, and quality of life.

Should hydraulic fracturing be banned, the City would likely need to prepare for the costs associated with a lawsuit since similar ballot measures have resulted in lawsuits being filed. The City of Longmont is being sued by the State of Colorado for its regulation of drilling, and by the industry (Colorado Oil and Gas Association (COGA)) for its citizen-approved ban on hydraulic fracturing.

If the City bans hydraulic fracturing, this action would prohibit any use of this treatment in the Fort Collins Field. Whether the local operator, Prospect Energy, would be able to present a claim for damages is unknown. There are other fracturing technologies that have seen limited use and for which there may be limited equipment available for field use (See Attachment 5).

There could be a loss of local revenues generated from oil and gas development within the city limits. Revenues for the last two years average \$215,460 annually. This revenue is based on state formulas that include well sites, jobs, roads and other measures to determine the revenues sent to individual communities. It is difficult to estimate what impact the loss of future wells or reduced production would have on this amount received by the City.

STATUS OF OPERATOR AGREEMENT

Prospect Energy and City staff have discussed possible terms of an agreement but no formal option is ready for Council review at this time.

OPTIONS FOR RESTRICTING HYDRAULIC FRACTURING ON CITY-OWNED LANDS OUTSIDE THE CITY LIMITS

1. Include restrictions on City-owned lands outside of the city limits in the ban on hydraulic fracturing.
2. Include these restrictions in any Land Use Code requirements following the moratorium.
3. Extend the moratorium on City-owned lands and apply for Designated Outside Activity Areas status through the COGCC.
4. Utilize the Energy by Design Process for mineral rights owned by the State Land Board (SLB) and extend those requirements to other mineral owners through the adoption of surface use agreements.
5. Utilize the Energy by Design Process for mineral rights owned by the SLB and develop surface use agreements for other mineral interests that reflect best practice or meet the Land Use Code during the time the mineral right is extracted rather than committing to the Energy by Design process at this time.

Natural Areas staff was consulted about the potential for a hydraulic fracturing or drilling ban on lands owned by the City that are outside the city limits, including Soapstone Prairie Natural Area and other natural areas. Natural Areas staff recommends against a ban. The recommendation is based on a variety of factors, but in particular relates to Soapstone and Meadow Springs Ranch (a Utilities property) for the following reasons:

Staff learned that, in the absence of horizontal hydraulic fracturing, there is a some likelihood that smaller companies will lease minerals and drill vertically. Vertical wellheads could be placed on the ground at densities of one well per 20 to 35 acres. That density of activity would be very destructive to the surface of Soapstone and Meadow Springs. Hydraulic fracturing densities potentially could be kept to perhaps one five to ten acre well pad (with multiple wellheads) per section (640 acres), or perhaps even less. This would be far better for the natural, cultural, and scenic resources the City is trying to protect.

The City Council approved a Memorandum of Understanding with the State Land Board (SLB) regarding a cooperative effort to undertake an Energy by Design (EBD) process. The attached memo (Attachment 7) describes that effort. The final EBD report was presented to the public in September, and is to be reviewed by the SLB commissioners this month. The SLB took an unprecedented and major step forward by engaging in the EBD process, partly in response to the strong urging of the City of Fort Collins. Implementation of Energy by Design would place strict limits on mining activities, far stricter than any regulation or practice that staff is aware of in the State of Colorado in a similar environment.

Staff is concerned about the implications of an effort by the City to ban drilling or hydraulic fracturing on these lands and the negative impact that would have on the collaborative relationship the City has built with the SLB, as well as on the Energy by Design approach that has been developed and is being reviewed. It is difficult to predict how the SLB would approach leasing of minerals on the City's property in this event, but the collaborative approach developed

through the EBD process would be put in jeopardy. Under the terms outlined in the EBD, mineral owners and /or lessees will be required to enter into an Operator Agreement or Surface Use Agreement with the City prior to any surface disturbance associated with exploration or production. This agreement will contain requirements much stricter than current State regulations and will implement the avoidance and mitigation strategies outlined in Energy by Design. The State Land Board is a partner in the planning process and will recognize and support the use of EBD. Further, Council approval is required for the City to enter into the Operator Agreement or Surface Use Agreement.

In summary, Natural Areas negotiated with the SLB to create a potentially much better on-the-ground situation. Further, Natural Areas believes that patient planning, negotiations, and the use of multiple strategies will obtain the best possible long-term results. While there are substantial risks associated with this approach, staff believes they are far less than those posed by a hydraulic fracturing or drilling ban.

STAFF RECOMMENDATION

Staff recommends the following actions:

- Adoption of Ordinance No. 032, 2013, on First Reading and Resolution 2013-012, as opposed to placing the question on the ballot.
- Limit restrictions to lands within the city's boundary and not include restrictions on City-owned lands outside the city boundaries
- Direct staff to continue developing Code language regulating oil and gas exploration to the greatest extent of its home rule authority
- Direct staff to prepare an operator agreement for Council consideration with Prospect Energy.

BOARD / COMMISSION RECOMMENDATION

There has not been any additional board or commission review since the moratorium was authorized in December 2012.

PUBLIC OUTREACH

There has not been any additional public outreach specific to the Ordinance and Resolutions proposed.

ATTACHMENTS

1. Geology Memorandum, Dan Weinheimer, City of Fort Collins Policy and Project Manager
2. Air Quality Memorandum, Melissa Hovey, City Senior Environmental Planner
3. Water Quality Memorandum, Bonnie Pierce, City Environmental Data Analyst
4. Habitat Fragmentation Memorandum, Lindsay Ex City Environmental Planner
5. Options to Hydraulic Fracturing, Bonnie Pierce, City Environmental Data Analyst
6. Natural Areas Memorandum of Understanding
7. Natural Areas Memorandum, John Stokes, City Natural Areas Director
8. Map Oil and Gas Potential
9. Map (detailed Fort Collins) Oil and Gas Potential
10. January 22, 2013 Work Session Summary
11. Powerpoint presentation

DATE: December 4, 2012
STAFF: Laurie Kadrich
 Dan Weinheimer

AGENDA ITEM SUMMARY
 FORT COLLINS CITY COUNCIL

26

SUBJECT

Items Relating to Oil and Gas Exploration and Production Regulations.

- A. First Reading of Ordinance No. 144, 2012, Amending the Land Use Code Pertaining to Oil and Gas Exploration and Production Regulations (Option A or B).

AND/OR

- B. First Reading of Ordinance No. 145, 2012, Establishing a Moratorium on the Acceptance or Processing of Land Use Applications, Permit Applications, and Other Applications Seeking Approval to Conduct Oil and Gas Extraction or Related Operations Within the City of Fort Collins (Option C).

EXECUTIVE SUMMARY

City Council directed staff to evaluate methods by which the City may regulate oil and gas exploration and production. Since oil and gas operations are governed primarily by the state and federal governments, staff will provide an overview of what regulations exist and where the City may be effective in both filling existing regulatory “gaps” and strengthening existing regulations in order to better protect the health and safety of residents. Discussion includes development review criteria, water and air quality, environmental protections, and emergency services. Staff also presents information on non-regulatory ways to respond to residents’ concerns including options such as surface-use and operator agreements, legislative advocacy, regional cooperation, and active participation in related state and federal rulemaking processes.

Staff is providing three options for Council’s consideration:

- Option A: Dual-track development review process
- Option B: Single-track development review process
- Option C: Moratorium

BACKGROUND / DISCUSSION

Existing oil and gas activity in the city:

Oil production is currently limited to the Fort Collins Field, located in the northeast portion of the city. The Fort Collins Field is regulated by the Colorado Oil and Gas Conservation Commission and has been in production since about 1925. In the City limits, the field consists of seven producing wells and seven injecting wells within the City limits, all of which are managed by one operator. Four residential subdivisions have developed around the Fort Collins field, with an additional subdivision planned in the area.

In addition to the Fort Collins field, well development has historically occurred southward along the I-25 corridor. There are no active wells in this area today. As all wells were subsequently annexed into City boundaries, there have been no permits issued to date in the City of Fort Collins.

Two recent developments may result in significant changes in oil and gas exploration in Larimer County. The first is the successful exploration of the Niobrara formation, which lies deep under much of northeastern Colorado, and the second is the advancing technology of hydraulic fracturing to extract the resource from within deeply located shale deposits. This has raised considerable public concern.

Existing regulations

Because oil and gas exploration and production is regulated by the state in Colorado, local jurisdictions are limited in their ability to control the location, procedures, and impacts of oil and gas drilling in and around their boundaries.

A combination of the state's laws and several court cases have resulted in the preemption of local control over various aspects of oil and gas activities, and the scope of that preemption is the subject of ongoing litigation..

Accordingly, existing oil and gas regulations in the Land Use Code are limited to a single paragraph in Section 3.8.14 and reads as follows:

“Any use that is not permitted under the provisions of Article 4, but that must be allowed because of preemption by a sovereign jurisdiction or because of a court order, shall be processed as a Planning and Zoning Board Review (Type 2 review) and shall be approved, with or without conditions, as necessary to ensure that such use complies with all general standards as set forth in Article 3 and zone district standards as set forth in Article 4 as are or may reasonably be interpreted to be applicable to such use, provided that such standards are not preempted or ordered by a court not to be applied.”

This section indicates that all oil and gas operations are subject to a Type 2, or Planning and Zoning Board review. This paragraph also suggests that oil and gas operations are subject to the standards set forth in the Land Use Code, to the extent that they are not preempted by the state.

DISCUSSION - Proposed Framework for Oil and Gas Operations:

As discussed above, the City has a shared authority with the state and other agencies for controlling how oil and gas operations occur both above and below ground. Typically, the City's Land Use Code serves as the primary mechanism for land development in the City. However, because of the shared authority with the state, staff has identified a number of methods to address specific community concerns and better address oil and gas operations at local levels. Staff recommends that the City engage at the federal, state and regional levels, as well, to better affect regulations or ensure compliance with regulations.

Federal

The federal level options are aimed at influencing the Environmental Protection Agency and other regulatory bodies to gain more stringent oversight of oil and gas operations. The EPA intends to have a new set of operating criteria for oil and gas in place in 2015 and City of Fort Collins staff intends to comment on whether those policies are implemented at a statewide or local level. Significant costs may be incurred by the City if implemented locally rather than utilizing existing statewide resources.

In addition to influencing governmental agencies at the federal level, the City can also utilize federal research, programs, and services to ensure oil and gas operations both within the City's boundaries and at a regional level do not degrade quality of life.

State

Colorado permits oil and gas activity through the Colorado Oil and Gas Conservation Commission (COGCC). In addition to the COGCC, two other state agencies have a role in oversight of oil and gas operations – the Colorado Department of Public Health and the Environment (CDPHE) and the Colorado Department of Parks and Wildlife (DPW). CDPHE's oversight is focused upon the potential and actual impacts of oil and gas activity on human health, specifically with regards to air and water quality. The DPW, a sister agency of the COGCC under the Department of Natural Resources, has oversight of habitat and wildlife protection.

The state-level options include the following opportunities for City involvement:

- **Engage in stakeholder processes** – As with the federal level engagement opportunities, the City can participate in stakeholder processes to affect the rules at the state level that affect oil and gas operations.
- **Local Government Designee** – This tool establishes a staff representative who participates in the state's review of oil and gas applications and provides local comments onto the oil and gas applications at the state level.
- **Intergovernmental Agreement (IGA) with the state** – An IGA could allow for the City to have inspection authority, which would increase the oversight of oil and gas operations within city limits.

- **Advocating for legislative change** – The City can engage in legislative discussions to influence the state and other municipalities. Fort Collins' Legislative Policy Agenda calls for supporting legislation to provide communities with more tools to address the industry and more power over local land use.
- **Designated Outside Activity Areas** – This tool allows for an area, e.g., City Park, to receive the same 350-foot setback that high density areas receive. The City applies for this designation through the state on areas in the City that meet certain qualifications, e.g., a certain number of users per day or per year. Longmont has successfully received approval for two City park complexes.

Regional

Regional solutions include addressing some impacts of oil and gas activity collaboratively with other local governments. These collaborations include hiring a shared inspector to effectively balance the ability to inspect local wells with the number of existing wells and anticipated activity. Staff initiated conversations with several jurisdictions about sharing an inspector.

The regional level also presents a partnership opportunity with other municipalities, counties, and researchers to address issues that go beyond our city borders, e.g., air quality. Intergovernmental agreements to share monitoring resources and equipment for air quality are one tool the City could explore. From a research perspective, faculty at Colorado State University is examining air emissions from well sites in Garfield County beginning in spring 2013 through fall 2015. The results of this study, funded jointly by the County and industry, are anticipated to provide a better understanding of the toxicity of well emissions. Staff met with the faculty associated with this study, as well as others at CSU who are examining air emissions and regional impacts from oil and gas operations, and will utilize the lessons learned from these research efforts to recommend changes to local regulations.

Local

The local solutions include at least five mechanisms to address oil and gas operations to ensure community concerns are addressed and residents' quality of life is protected:

- **Local Government Designee** – This tool establishes a staff representative who participates in the state's review of oil and gas applications and provides local comments onto the oil and gas applications at the state level.
- **Operator Agreements** – A negotiated agreement between the City and any operator wishing to conduct oil and gas operations in the City. The agreement could include additional, prescriptive requirements such as enhanced baseline and ongoing monitoring.
- **Intergovernmental Agreement with the state** – An IGA could allow for the City to have inspection authority, which would increase the oversight of oil and gas operations within city limits. It also provides opportunities for partnering with our surrounding municipalities on a regional basis for inspection authority.
- **Surface Use Agreements** – A negotiated agreement between the landowner and any operator wishing to conduct oil and gas operations providing another mechanism to obtain enhanced conditions.
- **Land Use Regulations** – A set of regulations and control mechanisms that are protective of public health and the environment. The Land Use Code amendments before Council include Option A (a dual-track development review process) and Option B (a single-track development review process). The regulatory options are described in greater depth below.

Land Use Regulations – Review Processes

Two options are presented related to Land Use Code regulations:

- **Option A:** Dual-track development review process, which includes both an expedited and standard review process
- **Option B:** Single-track development review process – This option combines the prescriptive criteria in the expedited review track with the standard review process. Under this option, all development review

applications would be processed under a single review track and required to meet the same criteria. All decisions would be made by the Planning and Zoning Board.

The review processes for the dual-track development review processes are outlined in Table 1 below (see Table 2 for the single-track review process). The Standard Review process requires the operator to locate a well and operate in a manner that does not degrade quality of life (e.g., adjacent land uses, natural resources, water quality, air quality, visual and scenic resources, etc.). The Standard Review process also requires operators to attend a neighborhood meeting and a hearing in front of the Planning and Zoning Board, pursuant to the Type 2 standards currently outlined in the Land Use Code. The regulations outlined in the Standard Review process however, are more goal-based than prescriptive.

Alternatively, the Expedited Review process requires operators (who voluntarily choose this option) to meet specific, objective criteria prescribed in the review process. By meeting these more prescriptive standards, staff proposes that public comments only be taken in a written format and that the Director of Community Development and Neighborhood Services has the final decision-making authority.

This dual-track review process is a model utilized by other local governments to address oil and gas development and has achieved some success in engaging operators in meeting specific objective criteria.

Table 1: Option A: Dual-track review process, including the standard and expedited review processes, notice requirements, and decision-making authority.

Element	Standard Review Process (Type 2 Review)	Expedited Review Process (Basic Development Review)
Regulations	Must locate a well and operate in a manner that does not degrade quality of life	Must meet ALL specific, prescriptive criteria
Notice Requirements	Notification sent when an application is received, prior to a neighborhood meeting and prior to the hearing	Notification sent when an application is received and if an application is approved
Public Comments	Written comments can be provided prior to or at the public hearing Residents and affected parties can testify at the public hearing	Written comments can be provided after the notification that an application has been received
Decision-making authority	Planning and Zoning Board approval	Director approval
Setbacks		If not located on an existing well pad, all operations must be 500' from an occupied structure, water well, Natural Area or City Park and 150' from any property line
Appeals	Decisions are appealable to City Council	Decisions can be appealed in District Court

Table 2: Option B: Single-track review process

Element	Review Process
Regulations	Must meet ALL specific, prescriptive criteria
Notice Requirements	Notification sent when an application is received, prior to a neighborhood meeting and prior to the hearing
Public Comments	Written comments can be provided prior to or at the public hearing Residents and affected parties can testify at the public hearing
Decision-making authority	Planning and Zoning Board approval
Setbacks	If not located on an existing well pad, all operations must be 500' from an occupied structure, water well, Natural Area or City Park and 150' from any property line

Appeals	Decisions are appealable to City Council
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Land Use Regulations – Proposed Standards

All new oil and gas operations will be subject to the requirements in either the standard review or expedited review track, (Table 3) unless Option B is adopted by Council and then the standards in expedited review will prevail.

Common areas for oil and gas operators to address in submittals include air quality, water quality, and natural resource protection. Within each area the standards differ based upon the review process. The conditions offered for standard review consist largely of plans and information about proposals for preventing or mitigating community impacts.

Table 3: This table outlines the standards for air quality, water quality, natural resources standards, general standards and reciprocal setbacks associated with both the standard and expedited reviews.

Regulation	Option A		Option B
	Standard Review	Expedited Review	
Air Quality			
Minimize all emissions	95% VOC (Volatile Organic Compounds) destruction	98% VOC destruction	98% VOC destruction
Flares and combustion devices	-No open flares -Automatic flame ignition system	-No open flares -Automatic flame ignition system with surveillance	-No open flares -Automatic flame ignition system with surveillance
Pollution Prevention	-Leak Detection Program Required	-Air Quality Mitigation plan required - Leak Detection Program required -Reduce methane emissions during maintenance	-Air Quality Mitigation plan required - Leak Detection Program required -Reduce methane emissions during maintenance
Containment	Must ensure no significant degradation	Require Closed Loop Pitless systems	Require Closed Loop Pitless systems
Pneumatic Controllers	Must ensure no significant degradation	Use no or low bleed devices	Use no or low bleed devices
Electric Engines	Required for pumping units and compressors	Required for pumping units and compressors	Required for pumping units and compressors
Green Completions	Must ensure no significant degradation	Capture gas during completion or use completion combustion devices rather than flare or vent	Capture gas during completion or use completion combustion devices rather than flare or vent
Air Quality Monitoring	Must ensure no significant degradation of air quality	Baseline and well completion monitoring required, <u>and</u> additional post-completion testing may be required if changes in air quality are identified	Baseline and well completion monitoring required, <u>and</u> additional post-completion testing may be required if changes in air quality are identified

Regulation	Option A		Option B
	Standard Review	Expedited Review	
Water Quality			
Water Quality Monitoring Plan	Must ensure no significant degradation of water quality	Baseline monitoring within ½ mile: -Sample four sites -Sample multiple aquifers -Sample up and down gradient	Baseline monitoring within ½ mile: -Sample four sites -Sample multiple aquifers -Sample up and down gradient
Conduct Subsequent Monitoring	Must ensure no significant degradation of water quality	Monitor at same locations 1, 3, and 6 years after well completion	Monitor at same locations 1, 3, and 6 years after well completion
Soil Gas Monitoring	Must ensure no significant degradation of water quality	-Monitor soil gas within 90 days of well completion -Results may trigger additional groundwater monitoring	-Monitor soil gas within 90 days of well completion -Results may trigger additional groundwater monitoring
Natural Resources			
Natural Resources Protection	Must ensure no significant degradation	-Must be set back 500 feet from a waterbody, stream, wetland, Natural Area or Park -Compliance with all buffer standards	-Cannot qualify if within 500 feet of a waterbody, stream, wetland, Natural Area or Park -Compliance with all buffer standards
Existing Vegetation	Minimize disturbance	Preservation of existing vegetation, mitigation requirements	Preservation of existing vegetation, mitigation requirements
General Conditions that apply to all oil and gas operations, regardless of the review track selected			
Emergency Response	Must have a plan in compliance with the International Fire Code - Include emergency contact information for the operator - Trigger/threshold levels identified to determine when a state of emergency should be declared - Spills shall be immediately reported - Establish a process for the operator to notify neighbors regarding risks and establish a communication process		
Transportation	- Access roads and access points shall be provided, reviewed, and approved by the City - A traffic impact analysis shall be submitted; all street frontage shall be improved in accordance with the Larimer County Urban Area Street Standards, including street trees, sidewalk, curb and gutter - Transportation fees and securities, i.e., bond or letter of credit, provided to ensure no damage to City streets, including any access routes		
Lighting	Except during drilling, completion or other activities where worker safety is a concern, all lighting shall be fully shielded and not spill off the site		
Spills	Chemical spills and releases shall be reported in accordance with local, state, and federal laws		
Chemical Disclosure	All Material Safety Data Sheets (MSDS) shall be provided to the City and Emergency Personnel		

Regulation	Option A		Option B
	Standard Review	Expedited Review	
Noise	Use an acoustically insulated cover to enclose the motor or engine All production equipment used shall comply with the noise levels in our Municipal Code in residential zones		
Reciprocal setbacks – applies to future residential development proposals in proximity of oil and gas operations			
Abandoned and plugged wells	Setback ranges from 20-50 feet from the abandoned and plugged well, based on screening, berming, and fencing options		
Any oil and gas well that has not been plugged and abandoned	Setback ranges from 150-250 feet from all other wells, based on screening, berming and fencing options From a safety perspective, the minimum setback should never be less than 150'		

FINANCIAL / ECONOMIC IMPACTS

Adoption of the Land Use Code regulations, in either Option A or Option B will require interdisciplinary oversight in the development review process beyond the typical development review process. For example, additional staff time from representatives from Environmental Sustainability and Utilities will be required to evaluate the air and water quality elements of any proposed oil and gas operation.

If Council indicates staff should continue to pursue the non-regulatory options, e.g., the Local Government Designee, Intergovernmental Agreements for inspection authority, etc., then the financial requirements from the City will increase. Funds for these efforts have been allocated through the 2013-2014 Budget (Offer 197.2 Oil and Gas Liaison).

ENVIRONMENTAL IMPACTS

While the proposed Land Use Code regulations are designed to protect the City’s quality of life, sense of place, and public health, oil and gas drilling within the city still could have significant impacts on air quality and water quality, and there is also concern about the increased risk of spills and releases of hazardous materials due to an increase in use, storage and transportation of such materials. In addition, there are high volumes of truck and heavy equipment associated with oil fields.

In addition to these impacts, well pads and service roads are fragmenting wildlife habitat, on a massive scale in northeastern Colorado and in other communities throughout the western United States. The City’s Natural Areas, both within and outside of the City, are threatened by this fragmentation. While there is conflicting technical information regarding air and water quality threats, there is little doubt that oil and gas drilling would negatively affect the environment in the community and does not support the City’s goals for sustainability.

STAFF RECOMMENDATION

Staff presents the following options to the Council for consideration:

Option A: Dual-track development review process

This option includes both expedited and standard review.

- The expedited review track requires operators to meet specific, objective criteria and agree to increased setbacks, e.g., 500 feet from an occupied structure, water body, natural area, or City park and 150 feet from any property line. By electing to meet these more prescriptive standards, a public hearing and neighborhood meeting are not required. Instead, notification is provided when an application is received, and if an

application is approved. Written comments can be submitted to the Director during the review process. The Director has the final decision-making authority.

- The standard review track requires the operator to locate a well and operate in a manner that does not significantly degrade our quality of life. All standard review applications are subject to a neighborhood meeting and a public hearing before the Planning and Zoning Board. All Board decisions are appealable to the City Council.

Option B: Single-track development review process

This option combines the prescriptive criteria in the expedited review track with the standard review process. Under this option, all development review applications would be processed under a single review track and be required to meet the same criteria. All decisions would be made by the Planning and Zoning Board.

Option C: Moratorium

Local governments have considered the use of moratoriums to prevent new oil and gas operations within their jurisdictions, citing the need to craft and adopt local land use regulations and/or to allow the state to address its rulemaking process as it relates to setbacks and water quality regulations.

Current State Efforts Related to Oil and Gas regulation

The Colorado Oil and Gas Conservation Commission is currently addressing its rules by considering amendments to water sampling and monitoring as well as addressing well setbacks and noise. The City secured Party Status for both rulemaking hearings, making Fort Collins the only city with such status and providing the City with an opportunity to submit comments on the state's proposals, recommend alternatives, and a greater length of time to speak before the Commission.

The state is reviewing its existing setback rules. New rules are anticipated to be in place early in 2013. Setbacks for new wells from existing homes are an important consideration for several reasons – there is uncertainty about emissions from well sites and the process of drilling and maintaining a well site could cause noise, traffic and light impacts. The current setbacks for new wells are 150 feet from an occupied structure, 350 feet from a high density area and 500 feet from some structures like hospitals, schools, and nursing homes. Many groups recommend increasing the state setbacks from homes to 1,000 or even 2,000 feet. The City of Fort Collins will seek additional setback distance, greater powers for residents in influencing site location proposals, and protection for community assets like natural areas and parks.

Water quality is another area that the Commission is currently addressing. The proposal under consideration adopts an industry-sponsored voluntary program and makes that program mandatory. Under the program, baseline groundwater quality samples will be collected from two existing groundwater features, such as permitted and registered groundwater wells or groundwater seeps and springs, which are located within 1/2 mile of the surface location of new oil and gas well pads, or additional wells on existing well pads. These samples will be collected before drilling begins. A second sample will be collected from each groundwater feature within one to three years after drilling is completed. If the state's rules on water quality monitoring are amended, the City may also need to modify proposed Land Use Code regulations as presented in Option A or B or in development submittal requirements.

Staff also requests direction on suggested state, regional, and "other" local options, including:

- Engage in stakeholder processes
- Continue with Local Government Designee
- Pursue an intergovernmental agreement with the State for inspection authority
- Pursue an intergovernmental agreement with the County for the GMA
- Advocate for more legislative change
- Consider entering into an operator agreement with the producer of the Fort Collins Field
- Develop a "model" surface use agreement that can be used for any city-owned lands

BOARD / COMMISSION RECOMMENDATION

City staff presented the proposed Land Use Code regulations and associated non-regulatory options to numerous City boards and commissions.

Formal recommendations were made by the Water Board (8-1), the Natural Resources Advisory Board (6-1), and the Air Quality Advisory Board (7-0) to support the Standard (Type II) and Expedited (Basic Development Review) processes and associated regulations.

The Land Conservation and Stewardship Board voted 6-0 to support the use of standard review when considering applications on City-owned Natural Areas. The Board further recommended a six month temporary moratorium on new oil and gas applications to provide staff with additional time to develop additional options.

While the Air Quality Advisory Board indicated support for the Standard and Expedited review, the Board also expressed additional non-regulatory options that staff should pursue. These recommendations are included in Attachment 14.

PUBLIC OUTREACH

A multidisciplinary City staff team worked to develop an understanding of the oil and gas industry, community concerns related to industry practices, and the statewide regulatory processes in place. This group researched industry exploration and extraction practices, working closely with peer municipalities throughout the Front Range to identify and incorporate the best practices of other Colorado municipalities into local regulation of the industry. The research process included local focus group meetings, formation of an Oil and Gas Advisory Committee that included representatives from eight City boards and commissions, talking with state experts and meetings with Colorado State University professors and researchers, Colorado Oil and Gas Conservation Commission staff, and the local oil and gas operators.

The Oil and Gas Advisory Committee was created to gather input from a diverse group of boards and commissions. The group met three times as public meetings and provided input to staff on draft regulations. The Committee included self-selected representatives from eight City boards and commissions, including the Air Quality Advisory Board, Economic Advisory Commission, Energy Board, Land Conservation and Stewardship Board, Natural Resources Advisory Board, Parks and Recreation Board, Planning and Zoning Board, and Water Board.

Staff conducted meetings with small groups of interested citizens. Residents of the Hearthfire subdivision met with staff and continued to communicate over the course of the project. Outreach included a focus group with representatives of local environmental groups before and after the development of draft regulations. Staff met with Don't Frack the Fort, a group generated by mutual concern over hydraulic fracturing in the community, four times.

Staff attended numerous public meetings on the subject of oil and gas development hosted by other groups.

ATTACHMENTS

1. Maps associated with Oil and Gas activity
2. Council Work Session Summary, August 14, 2012
3. Matrix comparing best practices of communities
4. Oil and Gas Manual*
5. Oil and Gas Development Review Guide*
6. Advisory Group Summary
7. Letter to Larimer County
8. Public Comments
9. Planning and Zoning Board minutes, November 1, 2012
10. Water Board minutes, October 18, 2012
11. Water Board memo re: proposed Land Use Code regulations
12. Land Conservation and Stewardship Board minutes, October 10, 2012
13. Land Conservation and Stewardship Board minutes, November 14, 2012

- 14. Natural Resources Advisory Board minutes, October 17, 2012
- 15. Air Quality Advisory Board minutes, October 15, 2012
- 16. Air Quality Advisory Board minutes, November 19, 2012
- 17. Powerpoint Presentation

(*NOTE: Attachment 4, Oil and Gas Manual, and Attachment 5, Oil and Gas Development Review Guide, are draft documents and only illustrate Option A, the dual-track review process. If Option B is adopted by Council, the documents will be revised accordingly.)

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ORDINANCE NO. 145, 2012
OF THE COUNCIL OF THE CITY OF FORT COLLINS
ESTABLISHING A MORATORIUM ON THE ACCEPTANCE OR
PROCESSING OF LAND USE APPLICATIONS, PERMIT APPLICATIONS,
AND OTHER APPLICATIONS SEEKING APPROVAL TO CONDUCT
OIL AND GAS EXTRACTION OR RELATED OPERATIONS
WITHIN THE CITY OF FORT COLLINS

WHEREAS, the City Council recognizes that the oil and gas industry is important to the Fort Collins community, and also recognizes the important of minimizing, through appropriate regulation, the adverse impacts that oil and gas exploration and extraction or any other industry may have on the health, safety, and welfare of the City and its citizens; and

WHEREAS, there has been growing interest in the exploration of oil and gas resources underlying portions of the City, including property owned by the City; and

WHEREAS, oil and gas exploration, extraction, production, transportation and related operations and activities, including, without limitation, all those oil and gas activities regulated by the Colorado Oil and Gas Conservation Commission (collectively "Oil and Gas Uses") may negatively impact Fort Collins citizens and the use and integrity of local water supplies and water infrastructure, air quality, roads and transportation infrastructure, wastewater infrastructure, land resources, wildlife and aesthetic values; and

WHEREAS, the health and safety issues presented by the exploration for and extraction of liquid and gaseous hydrocarbon resources and related activities may not be adequately addressed in the City's zoning and land use regulations and it is imperative that those regulations be reviewed in light of current regulatory best management practices consistent with the Colorado Oil and Gas Conservation Commission ("Commission") Rules and with industry technologies to determine whether they are sufficient to protect the public health, safety, and welfare, or whether different or additional regulations are necessary to address the impacts of such activities; and

WHEREAS, if land use applications, permit applications, or any other applications for Oil and Gas Uses are approved within the City limits before City staff and the City Council have an opportunity to thoroughly examine the impact of such uses and take all steps necessary to protect the public health, safety, and welfare, irreparable harm may be done to the residents of the City; and

WHEREAS, municipalities throughout Colorado are struggling to address the potential adverse impacts of proliferating Oil and Gas Uses in urban and suburban environments on their citizens' health, safety, and welfare, and several municipalities have enacted moratoria to allow a period of time to evaluate those impacts of Oil and Gas Uses in order to assess and determine the appropriate local regulation of such; and

WHEREAS, although staff has, at the direction of City Council, been diligently researching best practices in this area and has prepared proposed new regulations, additional research and review are necessary in order for the City Manager and City Attorney and their

respective staffs to clarify the extent of the City's legal authority with regard to local regulation of such Oil and Gas Uses and to formulate any recommended amendments to the City Code to deal with those uses in an appropriate manner; and

WHEREAS, the Commission is presently engaged in a rule making proceeding that may result in new regulations being established; and

WHEREAS, in preparing its regulations, the City should consider such new rules as may be promulgated by the Colorado Oil and Gas Conservation Commission; and

WHEREAS, the imposition of a seven-month moratorium on the submission, acceptance, consideration, and approval of any and all applications for City licenses, permits and other approvals related in any way to Oil and Gas Uses within the City, except on existing well heads, will allow City staff and the City Council the time needed to further investigate the extent of City's authority to regulate such uses, to consider any new regulations adopted by the Commission, and to develop and implement appropriate regulations; and

WHEREAS, seven months is a reasonable period of time and is no longer than necessary for the City to determine the extent to which Oil and Gas Uses may be locally regulated and to properly investigate, develop, and, if appropriate, adopt and implement any local regulations related to Oil and Gas Uses in Fort Collins in order to protect and preserve the public's health, safety and welfare; and

WHEREAS, existing Oil and Gas Uses in Fort Collins will not be unduly prejudiced by the imposition of such a moratorium, since the ongoing operation of such uses will not be prohibited or terminated by this moratorium; and

WHEREAS, Colorado Revised Statutes Section 31-25-216 provides that the City has "full police power and jurisdiction and full municipal control and full power and authority" to manage, control, and improve and maintain any parks acquired by the City outside of the City's municipal limits; and

WHEREAS, the City's natural areas that are open to the public fall within the purview of Section 31-25-216 C.R.S.; and

WHEREAS, accordingly, the City Council has further determined that this moratorium should apply to all City-owned parks and natural areas outside of the City limits.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the preceding recitals contained in this Ordinance are hereby adopted and incorporated by reference as findings of fact of the City Council.

Section 2. That the City Council further hereby finds as follows:

a. That the submittal of land use applications, permit applications, or applications requesting approval to conduct oil and gas exploration, extraction, and related operations and activities within the City limits may be imminent, and that the City's existing regulations in this area do not adequately take into consideration current industry technologies so as to properly mitigate the impacts of these types of activities, to protect and preserve the public health, safety, and welfare.

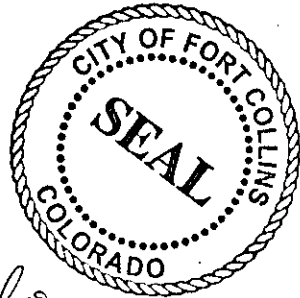
b. That a seven-month moratorium on the acceptance or processing of any land use application, permit applications, or any other application requesting approval to conduct oil and gas exploration, extraction, and related operations and activities within the City limits, is necessary and reasonable for the purpose of studying the impacts of these types of uses and new rules expected to be promulgated by the Colorado Oil and Gas Conservation Commission, and determining whether additional land use and zoning regulations are necessary to protect and preserve the public health, safety, and welfare.

Section 3. That, to address this situation, there is hereby imposed, as of midnight December 28, 2012, a moratorium on the acceptance or processing of any land use application, permit application, or any other application requesting approval to conduct an Oil and Gas Use within the City limits and within any City-owned parks or natural areas outside of the City limits that are open to the public; provided, however, that this moratorium shall not apply to applications to conduct maintenance operations on oil and gas wells existing in the City as of December 4, 2012. This moratorium shall terminate as of midnight July 31, 2013, or on such earlier date as may be established by the City Council by ordinance.

Section 4. That this Ordinance shall control over any conflicting ordinance of the City, but only to the extent of the conflict.

Section 5. That if any section, paragraph, sentence, clause or phrase of this Ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affecting the validity or constitutionality of and shall be severable from the remaining portions of this Ordinance. The City Council hereby declares that it would have adopted this Ordinance and each part or parts hereof irrespective of the fact that any one part or parts may be declared unconstitutional or invalid.

Introduced, considered favorably on first reading, and ordered published this 4th day of December, A.D. 2012, and to be presented for final passage on the 18th day of December, A.D. 2012.

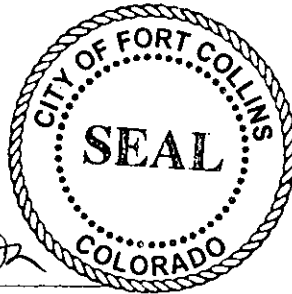


Karen Wittkuset
Mayor

ATTEST:

Wanda Nelson
City Clerk

Passed and adopted on final reading on the 18th day of December, A.D. 2012.



Karen Wittkuset
Mayor

ATTEST:

Wanda Nelson
City Clerk

Second Reading Ordinance No. 032, 2013

Laurie Kadrach

Director, Community Development & Neighborhood Services

Dan Weinheimer

Policy and Project Manager

March 5, 2013 City Council Meeting

Items for City Council Consideration:

Option 1: First Reading Ordinance No. 032: Amend City Code to Ban Oil and Gas Operations and Hydraulic Fracturing and Storage within the City (operator agreement in place).

OR

Option 2: Impose a Ban on Hydraulic Fracturing and Storage within the City (operator agreement in place).

And

Repeal Ordinance No. 145, 2012

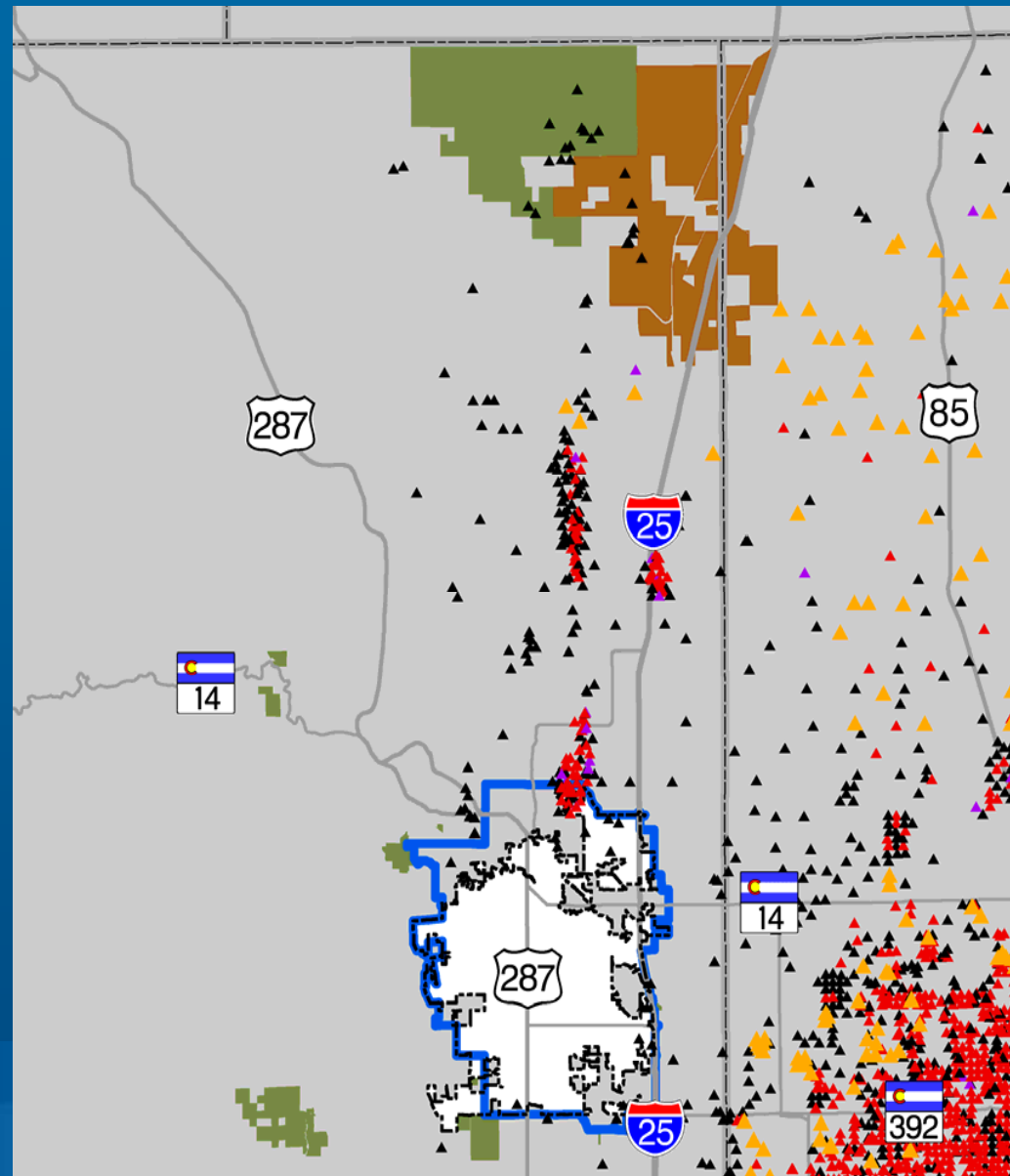
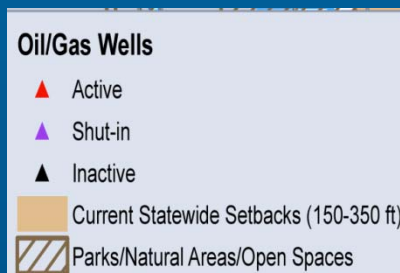
What are Oil & Gas Operations?

- Means exploration for oil and gas, including the conduct of seismic operations and the drilling of test bores; the siting, drilling, deepening, recompletion, reworking, or abandonment of an oil and gas well, underground injection well, or gas storage well; production operations related to any such well including the installation of flowlines and gathering systems; the generation, transportation, storage, treatment, or disposal of exploration and production wastes; and any construction, site preparation, or reclamation activities associated with such operations. Colorado Oil and Gas Commission (COGCC) definition

What is Hydraulic Fracturing?

- A treatment used by the oil and gas industry to stimulate oil and gas recovery by:
 - Injecting fluids, including chemicals, under pressure into the well
 - Designed to fracture geological formations
 - Enhance production of oil & gas
 - Commonly referred to as “fracking”

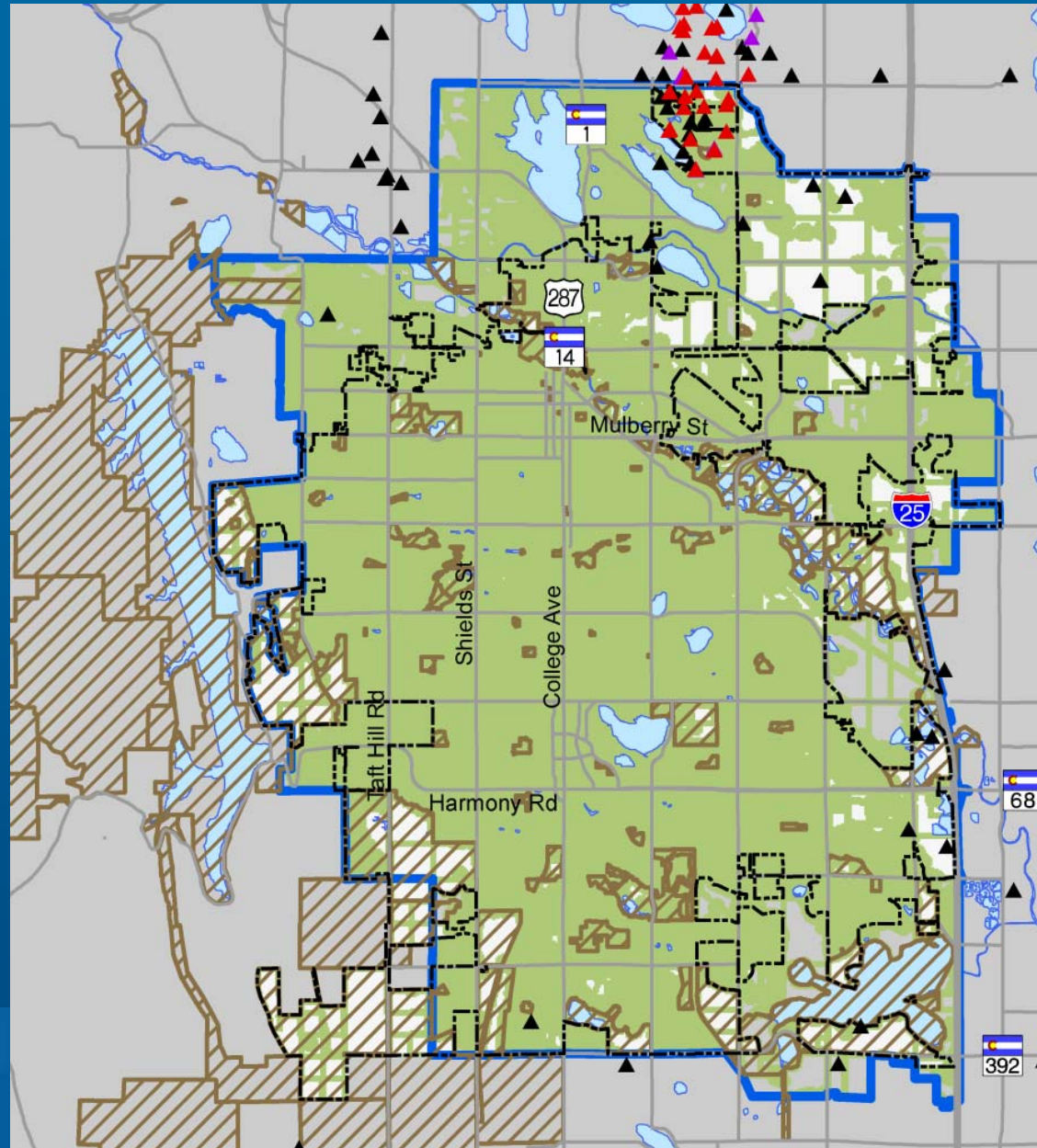
Well Activity City Limits & City-owned Natural Areas



**New
COGCC
Rules
89.33% City
Limits
Excluded
from Drilling
(effective 8/1/13)**

Oil/Gas Wells

- ▲ Active
- ▲ Shut-in
- ▲ Inactive
- Current Statewide Setbacks (150-350 ft)
- Parks/Natural Areas/Open Spaces



Moratorium Ordinance No. 145, 2012

- Included City-owned property
- In effect until July 31, 2013
- Purposes:
 - Primary: to study the impact of uses and new rules expected by the COGCC and determine whether additional land use and zoning regulations are necessary.
 - Develop legislative policies
 - Draft intergovernmental and operator agreements
 - To complete a new Public Engagement process for LUC regulations

Status of rule-making

- New rules have been adopted for set-back criteria, August 2013
- Water quality in May 2013
- Rule-making is underway for Colorado Department of Public Health and Environment - Air Quality
- General Assembly Bills
 - May 8, 2013 Session Ends

County Board of Health

- Discussion occurring at a Staff level
- Both are supportive of the Front Range Emissions study
- Staff are sharing information that is of concern to both City and County boards

Items for City Council Consideration:

First Reading Ordinance No. 032: Amend City Code to Ban Oil and Gas Operations and Hydraulic Fracturing and Storage within the City (operator agreement in place).

OR

Impose a Ban on Hydraulic Fracturing and Storage within the City (operator agreement in place).

And

Repeal Ordinance No. 145, 2012

Items for City Council Consideration:

Provide direction to staff on what option(s) to consider for supporting Resolution 2013-012 supporting the City of Longmont:

1. Provide the City a copy of the Resolution
2. Extend an offer to work jointly on legislative changes related to providing clarity on home rule authority
3. File an amicus brief

OPTION 1

ORDINANCE NO. 032, 2013
OF THE COUNCIL OF THE CITY OF FORT COLLINS
AMENDING THE CODE OF THE CITY OF FORT COLLINS
TO IMPOSE A BAN ON **OIL AND GAS OPERATIONS AND**
HYDRAULIC FRACTURING AND CERTAIN
STORAGE OF WASTE WITHIN THE CITY

WHEREAS, in December 2012, the City Council authorized a moratorium preventing any further drilling for oil and gas in the City until July 31, 2013; and

WHEREAS, since that time, citizens have requested that the City Council consider imposing a ban on hydraulic fracturing in the City; and

WHEREAS, the City Council has determined that in order to preserve the health, safety and welfare of the City residents, **oil and gas operations and** hydraulic fracturing should be banned within the City, as well as the storage in open pits of solid or liquid wastes and/or flowback created in connection with the hydraulic fracturing process; and

WHEREAS, the City Council has further determined that in order to respect the rights of existing oil and gas operators in the City, the proposed ban on **oil and gas operations and** hydraulic fracturing and storage should not apply to any oil or gas wells or pad sites existing within the City as of February 19, 2013, provided that the operators of such wells and/or pad sites enter into satisfactory agreements with the City to regulate their existing and future operations;

WHEREAS, because the City Council has imposed a ban on all oil and gas operations in the City, the moratorium imposed by Ordinance No. 145, 2012, should be repealed.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS **as follows:**

Section. 1. That Chapter 12 of the Code of the City of Fort Collins is hereby amended by the addition of a new Article VIII which reads in its entirety as follows:

ARTICLE VIII.

OIL AND GAS OPERATIONS AND HYDRAULIC FRACTURING

Sec. 12-135. Oil and gas operations/Hydraulic fracturing/open pit storage prohibited.

All oil and gas operations (as that term is defined in the Rules and Regulations of the Colorado Oil and Gas Conservation Commission) including, without limitation, the use of hydraulic fracturing to extract oil, gas or other hydrocarbons, and the storage

in open pits of solid or liquid wastes and/or flowback created in connection with the hydraulic fracturing process ~~is~~^{are} prohibited within the City.

Sec. 12-136. Exemptions.

The prohibitions contained in §12-135 shall not apply to any oil or gas wells or pad sites existing within the City on February 19, 2013, ~~provided that any such wells or pad sites~~ become the subject of an operator agreement between the operator of the same and the City, ~~which~~^{as long as such} agreement includes strict controls on methane release and, in the judgment of the City ~~Manager~~^{Council}, adequately protects the public health, safety and welfare.

Section 2. That Ordinance No. 145, 2012, of the Council establishing a moratorium on the acceptance or processing of land use applications, permit applications, and other applications seeking approval to conduct oil and gas extraction or related operations within the City is hereby repealed.

Introduced, considered favorably on first reading, and ordered published this 19th day of February, A.D. 2013, and to be presented for final passage on the 5th day of March, A.D. 2013.

Mayor

ATTEST:

City Clerk

Passed and adopted on final reading on the 5th day of March, A.D. 2013.

Mayor

ATTEST:

City Clerk

OPTION 2

ORDINANCE NO. 032, 2013
OF THE COUNCIL OF THE CITY OF FORT COLLINS
AMENDING THE CODE OF THE CITY OF FORT COLLINS
TO IMPOSE A BAN ON
HYDRAULIC FRACTURING AND CERTAIN
STORAGE OF WASTE WITHIN THE CITY

WHEREAS, in December 2012, the City Council authorized a moratorium preventing any further drilling for oil and gas in the City until July 31, 2013; and

WHEREAS, since that time, citizens have requested that the City Council consider imposing a ban on hydraulic fracturing in the City; and

WHEREAS, the City Council has determined that in order to preserve the health, safety and welfare of the City residents, hydraulic fracturing should be banned within the City, as well as the storage in open pits of solid or liquid wastes and/or flowback created in connection with the hydraulic fracturing process; and

WHEREAS, the City Council has further determined that in order to respect the rights of existing oil and gas operators in the City, the proposed ban on hydraulic fracturing and storage should not apply to any oil or gas wells or pad sites existing within the City as of February 19, 2013, provided that the operators of such wells and/or pad sites enter into satisfactory agreements with the City to regulate their existing and future operations;

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS that Chapter 12 of the Code of the City of Fort Collins is hereby amended by the addition of a new Article VIII which reads in its entirety as follows:

ARTICLE VIII.
HYDRAULIC FRACTURING

Sec. 12-135. Hydraulic fracturing/open pit storage prohibited.

The use of hydraulic fracturing to extract oil, gas or other hydrocarbons, and the storage in open pits of solid or liquid wastes and/or flowback created in connection with the hydraulic fracturing process is prohibited within the City.

Sec. 12-136. Exemptions.

The prohibitions contained in §12-135 shall not apply to any oil or gas wells or pad sites existing within the City on February 19, 2013, ~~provided that any such wells or pad sites~~ become the subject of an operator agreement between the operator of the same and the City, ~~which~~ **as long as such** agreement includes strict controls on

methane release and, in the judgment of the City ~~Manager~~ **Council**, adequately protects the public health, safety and welfare.

Introduced, considered favorably on first reading, and ordered published this 19th day of February, A.D. 2013, and to be presented for final passage on the 5th day of March, A.D. 2013.

Mayor

ATTEST:

City Clerk

Passed and adopted on final reading on the 5th day of March, A.D. 2013.

Mayor

ATTEST:

City Clerk