

Gas Drilling Program Phase II Report



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EXECUTIVE SUMMARY

The Planning and Zoning (P&Z) Commission was privileged with the opportunity to review plans and policies on many aspects and issues related to the City of Arlington's gas drilling program. The P&Z Commission was also afforded an opportunity to report its findings to the City Council. In fact, on June 16, 2010, the P&Z Commission presented City Council Phase I of its Gas Drilling Program Report. City Council, based on the initially reported successes of the Phase I analysis, expanded its directive to the P&Z Commission before finalization of the report. The City Council asked the P&Z Commission to study and provide input on additional items of interest related to the gas drilling program.

The findings and conclusions of this Gas Drilling Program Phase II Report are being issued after nearly three months of investigation, work sessions, discussion, and deliberation. The general findings and conclusions provided to City Council in the Phase I Report are still valid today and should also be considered as part of this Phase II Report. As stated in the Phase I Report, the positive economic impact of the gas drilling program for the City cannot be denied. The very fact that it is such a financial boon to the City must be always present and accounted for in the plans, policies, and programs involving gas drilling. This financial interest on the part of the City in ensuring the monetary success of the gas drilling program should always be balanced against the potential short- and long-term impacts to the City from the industrial use of property in an urban area.

No one conclusively knows the long-term impacts of gas drilling in an urban area, but there are already signs of hope and warning. In term of short-term impacts, the financial effect has been substantial and positive and the impact to development has been minimal. These initial results may provide hope to those studying the issues that the future impacts will continue to be positive. The City, however, should still be prudent and mindful of potential long-term impacts on development – both new and existing. With an eye on the present, but mindful and prudent about the future, the P&Z Commission unanimously recommends the following possible actions to the City Council. The following section is an executive summary of the detailed findings contained in the body of this report.

Drill Site Compliance and Enforcement of Ordinance Stipulations and Zoning Conditions

- All parties recognize the needs for drill site compliance with City regulation and appear to support tightened enforcement. Tighter enforcement should include: advanced use of technology such as the internet, automated phone systems and telemetry to disseminate and receive information to and from the operators and public on all sites; monitoring of drill site status and compliance; regular monitoring of all active and inactive drill sites; and detailed records of each operator's compliance ratings and issues.

City Staffing Needs to Properly Monitor Gas Drilling, Royalty Payments, Pipeline Routes and Construction and Seismic Activities

- There should be support for administrative approval of permits to reduce permitting timeframes. Outside technical experts can be retained if additional help is needed to oversee and monitor the process.

Site Remediation

- A pre-drilling site assessment should be required for all gas drilling sites. Site restoration plans should be mandated.

Seismic Activity

- The current procedures for licensing seismic activity should continue. Two specific conditions, however, field verification of water and sanitary sewer lines at the source points before seismic testing and allowing only mini-vibe trucks on public streets, should be included in the approval process.

Pipeline Routing and Land Use

- The City should strengthen its processing of pipeline installation requests to include additional requirements such as promoting the use of right-of-way for pipeline locations and requiring routing information prior to zoning approval. Attention should be paid to developing a mechanism for disseminating pipeline routing information to the public.

Cooperative Efforts between the City and Gas Companies for Site Identification

- Competitive market forces should be considered when it comes to mineral development, but not to the exclusion of proper cooperative efforts. There should be minimal distance requirements between well sites and encouragement for operators to share facilities. An incentive program to foster greater cooperative efforts among the operators should be studied and created.

Long-Term Development and Redevelopment Impacts of Industrial Drill Sites in Urban Areas

- While the City Council has already directed staff to address a number of issues that could lessen the impacts to development, the P&Z Commission found that additional actions should be considered. These potential actions include: expanding the definition of protected uses to limit drilling in certain areas; adding a setback distance to non-protected use buildings; and requiring compliance with the City's Comprehensive Plan and area plans.

Noise

- Require noise mitigation plans for each drill site and include more restrictive requirements for monitoring reports and if the setback distance is reduced.

Open Communication and Technology

An action item for each topic could be increased technology use to enhance citizen's ability to research and gather data for Arlington drill sites. Open communication was an issue discussed at each public meeting. The P&Z Commission wants to highlight its desire to make the permitting, inspecting, monitoring, and tracking of the City's gas drilling program open to the public. Some Phase II topics include recommendations to increase technology use for better open communication with Arlington's citizenry, but the P&Z Commission felt a need to clearly articulate this important matter by adding this information to the executive summary.

CHANGE OF DIRECTION FOR THE P&Z COMMISSION REGARDING THE AIR QUALITY TOPIC

During its work session on October 6, 2010 on the Gas Drilling Program the City Council provided clear direction on how it wished to proceed on the issue of Air Quality. As a result, the P&Z Commission removed this issue from its list of topics to study and report out on in Phase II. The P&Z Commission does wish to note that it fully supports the more proactive direction the City Council is considering with respect to additional reporting requirements for the operators and pipeline companies as well additional testing. The P&Z Commission duly noted the direction of the City Council.

"If we find a well is spewing out something that it shouldn't....I think we're obligated to do something about it."

– Mayor Robert Cluck in the Star-Telegram on October 7, 2010

GAS DRILLING PROGRAM REPORT – PHASE I

PHASE I REPORT FINDINGS

At its work session on February 16, 2010, the City Council directed the P&Z Commission to conduct a review of various aspects of the City's gas drilling program. The City Council asked for the P&Z Commission's review to better understand the impacts caused by gas drilling activities on development and land use patterns in Arlington. The P&Z Commission's task was to review each issue, obtain industry and citizen input and report its findings to the City Council.

The Phase I report was presented to City Council during their June 22, 2010 work session by P&Z Chairman Victor Vandergriff. The issues investigated during Phase I are included below, and P&Z's final Commission discussion and consensus points are also provided for each topic.

- Notifications for gas drilling use Specific Use Permits (SUP) and gas well permits
 - Property owner notifications should be increased from 600 to 1000 feet.
- Setback distances for gas wells and petition processes for zoning and permitting
 - Setback distances should be discussed and decided at the SUP stage and measured from the well zone area of allowed drilling. A reduction in the setback distance should not be allowed within 600 feet of a protected use except under rare circumstances. The waiver of 60 percent or more of the property owners within the protected use zone should not be determinative in granting a reduction in the setback distance but can be considered.
- SUP time periods
 - A time limit for gas well operations should be put in place provided there is some reasonable opportunity to renew the SUP if circumstances warrant the request.
- Platting requirements and site boundary concerns
 - Gas drill sites should be platted but in a simplified or streamlined manner covering only essential dedications. Platting of a gas drill site is necessary in order to give the City the legal authority to require compliance with land use requirements by easement.
- Well fracing and gas flowback stages of drilling
 - A tiered system for frac pond design tied to adjacency to right-of-way and and/or protected uses should be implemented. A higher level of fencing and landscaping in each tier should be required.
- Landscaping and fencing requirements for drill sites
 - Landscaping and fencing requirements should be applied at the onset of a project no differently than other industrial use sites.
- Road damage cost recovery and transportation routing
 - The current road damage fee seems to be woefully inadequate. Further study should be undertaken to determine the level of damage and the fee adjusted accordingly. Asphalt or concrete paving that is required on all other industrial use sites should be required on a gas drilling site.

- Company bonding and liability
 - The blanket bond approaches considered seemed inadequate to address the risk. A bond should be required by drill site and the amount determined on a case by case basis.

CITY COUNCIL GAS DRILLING PROGRAM REVIEW AND USE OF PHASE I REPORT

City Council used the P&Z Commission's presentation as their starting point to further refine how the City should proceed to update the gas drilling program. City Council did not meet again until August 3, 2010, due to the scheduled July break. Each Council Member used the July break to review the Phase I report in detail. Council reconvened their meeting schedule after the break and continued discussing the gas drilling program. The meeting schedule and discussion topics are provided in the following City Council Work Session Schedule table.

City Council Work Session Schedule

August 03, 2010	-	Established agenda and timeline for Council's Phase I discussions
August 24, 2010	-	Reiterated the P&Z Commission's findings and overview of issues for initial discussion
September 21, 2010	-	Drilling status, summary of Phase I issues, discussion of issues, and follow-up direction
October 06, 2010	-	Finalized Council's direction and addressed implementation actions

Council provided clear direction during their October 6, 2010 work session to change policy direction for those identified issues that can be modified immediately. Council also requested revisions to the Gas Drilling and Production (GD&P) Ordinance to address the topics that need code updates for implementation. Council continued to address each issue within the context presented to the P&Z Commission and used the same three broad categories—process, site issues, and operational issues—to group each issue based on its type of concern. The implementation action Council recommended for each issue is described in the table below. In addition to the action item, each issue below includes how the City will process the update, i.e., policy direction or ordinance revision.

1. Process

- **Notifications** – No ordinance change needed because a policy update is required to increase the notification distance for SUP cases from 200 feet to 600 feet. In addition, Council recommended the creation of a management company notice list so the City can distribute the notices to them when PONs are mailed.
- **Setback reductions and timing** – Ordinance changes required, but the current setback reduction support percentage will be increased from 60 percent to 70 percent. The setback distance will be measured from the well zone area for all wells during the SUP stage and not from each surface hole location during the gas well permit stage.
- **Two-step approval approach** – The City will retain the two-step approach that requires zoning cases and the first well on a pad site to be approved during a City Council public hearing. Additional wells on a site will be administratively approved, but an operator has an ability to appeal Inspector's permit decision. The two-step approach is currently in place, but ordinance changes are required for the allowance of the administrative approval process.
- **SUP time frame** – New SUPs will be approved with a five-year time limit. The limit allows an opportunity for re-application of the SUP after 5 years to continue drilling, but approval requires a second public hearing. Ordinance changes are required to implement this change because Ordinance Number 07-071 currently defines the

City's SUP expiration policy. Until such ordinance changes are made, City Council may include as a stipulation, similar to the limit applied to Titan's Martin zoning case (SUP08-27).

2. Site Issues

- **Access drives** – Paved surfaces are required for the access roads. Bituminous Surface Treatment (chip seal) should reduce construction costs compared to asphalt or concrete applications. An ordinance change is required to update the definitions of allowable access road materials. City Council, however, could identify the required roadway materials as an approval stipulation.
- **Landscaping and fencing** – Landscaping should be installed at the start of drilling activities. In addition, the required landscaping should utilize a tiered approach to identify planting and fencing requirements according to each site's location. The SUP plan should also include a phasing plan to clearly illustrate which landscape items will be planted initially and what will be installed after the site is developed. The GD&P ordinance must be amended to require the accelerated installation timeframe and to identify the tiers. City Council can currently stipulate fencing materials and installation timing with SUP approval.
- **Platting** – A gas well development plat will be required to identify site boundary lines and verify all lots conform to size and area dimensions. The platting process helps the City obtain easements, rights-of-way, or dedications required of other development projects. Since development currently requires a plat, an ordinance change is not required if gas drilling is considered as development. The gas well development plat requires a new definition and process description in the City's subdivision regulations.

3. Operational Issues

- **Bonding** – A blanket bonding approach will be utilized per each drill site. The bonding levels will be set to use the bond as an incentive to locate more wells on existing drill sites—a graduated bonding scale. An ordinance update must define the new required bonding amounts.
- **Flowback** – This activity will be permitted in the ordinance 24 hours per day and seven days per week. Truck traffic will be restricted during nighttime hours and all other hours already restricted. Notifications must be sent to the City 24-hours prior to the flowback activity. In addition, the fracing operation will require a sign posted at the entrance of the well site advising the public of the planned activity. Ordinance updates are required to incorporate the flowback allowance and add the traffic and signage stipulations.
- **Air Quality** – Testing is planned to establish baseline air quality levels. Samples will also be taken at random for comparison between data sets to check emission levels. Ordinance changes are required to address air testing, but City Council may include stipulations with each permit.
- **Road Damage** – The formula currently used to calculate the road damage fee is being updated to include increases in construction costs and street classifications that are specific to Arlington. The new formula will also establish a minimum fee per well. An ordinance change is not required because the fee was established by a separate resolution. The revised study will be adopted under a new resolution to allow collection of the updated fees.

CITY COUNCIL'S ADDITIONAL CHARGE TO PLANNING AND ZONING COMMISSION – PHASE II REPORT

June 2010 Charge

During the P&Z Commission's review of its initial Gas Drilling Program Report in the spring of 2010, a number of concerns not on the P&Z Commission's original to-do list were either introduced by citizens, arose from presented testimony and materials, or were asked by members of the City Council. As a result, City Council expressed interest in the P&Z Commission's further study on these additional topics. The City Council then charged the P&Z Commission to review and report out on these topics by the end of the summer of 2010 in what then became known as the Gas Drilling Program Phase II Report. This additional charge was delivered in June of 2010 and Phase II presentations and review began in September 2010. The topics covered in Phase II are listed below. In some cases, the City's current procedure was noted in bullet format as well as some improvements to consider.

Compliance and Enforcement

Current Procedure

- Pre-activity meetings prior to each stage
- Notifications from operator to City prior to work
- On-site inspections
- Annual inspections of each Gas Well Permit
- Operators cited for violations of approved City ordinances
- Citizen Everest, phone and email responses within 24 hours

Consideration

- Increase enforcement and oversight of each gas well facility
- Evaluate current enforcement tools, i.e. financial penalties

Noise

Current Procedure

- Pre-drilling ambient report submitted with permit application
- Increases over ambient noise level allowed
 - 3 dB nighttime; 5 dB daytime; and 7 dB fracing
- Continuous monitoring if within 600 feet of protected uses
 - Reports emailed to City daily

Considerations

- Increased penalty for noise violations
- Continuous monitoring required for every drill site
- Reporting required to be in 1-minute intervals with overages explained
- Include ordinance requirements regulating pure tones and low frequency noise

Site Remediation

- Include a pre-drilling assessment of the proposed site to identify the current environment and conditions.
- Once the well is abandoned, within 60 days, restore the site to the same land use and land cover classification as identified in the pre-drilling assessment.
- If site grading is required, the operator must also perform this activity within 60 days after well abandonment.
 - Site equipment and all infrastructure improvements should be removed from above and below the ground surface.
- Any appurtenances the operator requests to remain should be identified prior to site restoration activities and must be approved by the Director of Community Development and Planning.
 - All appurtenances, if remaining, should be clearly identified on an as-built site plan.

Pipeline Route and Land Use

Current procedure

- The City's Real Estate Services Division handles pipeline licensing.

Considerations

- The P&Z may be asked to review the current licensing process and procedures.
- Timing concerns about pipeline installation may require questioning the approval of drill sites and gas well permits prior to identifying whether produced gas can get to market.

Seismic Activity

Current procedure

- The City's Real Estate Services Division reviews applications for Seismic Survey Licensing involving fee owned properties.
- Seismic Survey Licenses are approved by City Council and subject to specific conditions.
- Operators recently began requesting use of public rights-of-way to conduct seismic testing. The Urban Seismic Specialist Inc., in cooperation with the City of Arlington Water Utilities Department, conducted a Ground Motion Study to determine the maximum peak particle velocity that a clay pipe buried 7 feet beneath a City street would experience when using an Envirovibe Minivibe operating at high drive force. Based on the results of this test, Urban Seismic Specialists Inc. concluded that the Envirovibe Minivibe, under normal operations, will have no effect on the City of Arlington's buried infrastructure. During testing no observation of physical damage occurred to the asphalt roadway.
- A Seismic Survey License and permit were developed to set conditions and setbacks from public infrastructure and City Council is presented the final agreement for consideration.

Considerations

- The P&Z Commission may be asked to review the licensing process and procedures. Members of the City Council have expressed some concern that there is a potential for long-term economic damage that the City is not being properly compensated for.

City Staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction, and seismic activity.

Long-term impact on development and redevelopment prospects of an industrial gas drilling site in the middle of an urban area.

- There has been some work on the potential impact in value to homes from a gas drilling site located nearby. Essentially, homes under \$300,000 to 400,000 in value do not seem to be impacted as much as homes in excess of \$300,000 to 400,000 in value. If this study does conclude an impact on higher-end homes what long-term effect does this bode for Arlington in terms of attracting or keeping high-end homeowners?
- What impact will a nearby gas drill site have on potential commercial or retail development and redevelopment in terms of land use?

Cooperative efforts between the City and gas drilling and pipeline companies to identify workable drill sites or pipeline routes that are desirable from the City's perspective for development as a gas drilling location.

- Most drill sites are chosen because the land is vacant or underdeveloped and thus provides an economic advantage over razing buildings, clearing drill sites, moving businesses or resident, and like development concerns.

Air Quality – the City would like to know content and level of gas well emissions and what, if any, impacts these emissions are having on the City.

- Recent air quality studies in other communities have raised concerns that have not been definitive regarding the short and long term effects of emissions from gas wells and pipelines.

PHASE II MEETING SCHEDULE AND TOPIC OVERVIEW

Phase II issues were discussed during the P&Z Commission's work session meetings. Highlights of each meeting are described in the following table.

P&Z Meeting Schedule

September 01, 2010	-	Phase II Overview presentation that identified the primary topics, which are: <ol style="list-style-type: none">1. compliance and enforcement;2. City staffing needs to properly monitor gas drilling, royalty payments, pipeline routes and construction and seismic activity;3. site remediation;4. seismic activity;5. pipeline routing and land use;6. the proactive use of economic incentives and/or cooperative efforts between the City and gas drilling and pipeline companies to identify workable drill sites or pipeline routes that are desirable from the City's perspective for development as a gas drilling location;7. long-term development and redevelopment impacts of industrial drill sites in urban areas;8. noise; and9. air quality.
September 15, 2010	-	Compliance and enforcement, city staffing, and site remediation
September 22, 2010	-	Seismic activity, pipeline routing and land use, and economic incentives for consideration issues
September 29, 2010	-	Development impacts of industrial sites in urban areas, noise, and air quality
October 06, 2010	-	Topics reviewed and discussed proposed actions
October 15, 2010	-	Bus tour of Arlington compressor station and three drill sites
October 20, 2010	-	Proposed actions discussion
November 10, 2010	-	Draft Report Review
November 17, 2010	-	Draft Report Review
December 01, 2010	-	Draft Report Review
December 08, 2010	-	Finalized Phase II Report

The Planning and Zoning Commission was instructed to make specific recommendations after careful consideration of all the issues and the information presented by City staff, members of the gas drilling industry and concerned citizens. The Planning and Zoning Commission was guided in its action by clear signals from the City Council that tougher requirements were being considered at their policy level for the gas drilling industry.

PROCESS INPUT AND CONTEXTUAL INFORMATION

On September 1, 2010, the P&Z Commission held their first work session regarding the gas drilling issues for Phase II. Staff presented overviews of each topic during the next three meetings to provide background and contextual information for discussion. The summary presentation during the P&Z Commission's October 6, 2010 work session reviewed each of these topics and allowed for further discussion. Final discussion on October 20, 2010 provided the P&Z Commission an opportunity to collectively address each issue and clarify the consensus opinion that will be presented in the Phase II Report to City Council. In addition to the P&Z Commission's work session meetings, city staff held several meetings with various representatives of gas drilling companies currently doing business in Arlington (the Industry). The same points were raised during the Industry meetings and the input staff received is also included in this report. Public comment was also incorporated into the report based on input received via email, phone calls, or at the P&Z Commission's work sessions.

Municipal input for this project was received a variety of ways from other local cities. Ordinance requirements were identified by detailed examination of other jurisdiction's natural gas drilling and production regulations through online ordinance reviews, plus phone calls and emails to the various municipalities. Staff also initiated gas drilling round-table discussions with employees from those municipalities to further refine the details provided in this report. The jurisdictions represented in these discussions are Arlington, Burleson, Dallas, Denton, Euless, Flower Mound, Fort Worth, Grand Prairie, Grapevine, Hurst, League City, Mansfield, and Southlake. These ongoing discussions occur monthly.

The ongoing review of the City's gas drilling program will likely conclude in December 2010. City Council requested an ordinance draft by then and wanted the policy changes made by that date. This report summarizes the work performed to date during Phase I and addresses the P&Z Commission's findings for the Phase II topics. Each topic is identified separately in this report and includes summary information; current processes; municipal comparisons; Staff, Industry, and public comments, and a conclusion. Minutes from P&Z Commission work sessions are included in the appendix and the report concludes with a municipal comparison table.

The findings, conclusions, recommendations and words of caution of the P&Z Commission, as expressed in the initial sections in this Gas Drilling Program Report, Phase II (pages 12 through 27) remain in place as the P&Z Commission concludes its work on the gas drilling program. There is no need to repeat those sections in this Phase II Report since it is to be considered part and parcel with the Phase I Report. The P&Z Commission does think it worth noting that the concerns and words of caution expressed in the Phase I report have not been alleviated in the time period since the conclusion of the Phase I study by either the passage of time, information collected from other communities or the industry or new revelations. If anything, the concerns over the issues surrounding the gas drilling program have increased.

The P&Z Commission fully understands and appreciates the economic benefit that gas drilling has in the community. The City Council must balance the economic benefits of gas drilling to landowners with the well-being of its citizens and long-term impact to the community. The litany of questions including impact of industrial drill sites on the long-term development prospects of the city, road damage from heavy truck traffic, dust, noise and potential environmental impact on the air and water have not been settled. When the answers to these questions have been settled, perhaps years from now, we would like history to record that the City of Arlington took all appropriate precautions and adequately protected its citizens and the long-term economic viability of the City.

PHASE II TOPICS

DRILL SITE COMPLIANCE AND ENFORCEMENT OF ORDINANCE STIPULATIONS AND ZONING CONDITIONS

Identification of the Issues

The City is currently tasked with compliance and enforcement of ordinance stipulations and applicable zoning conditions at 55 separate drill sites. Each drill site has specific regulations, e.g., transportation routing or landscaping, that require individualized tracking and on-site inspections.

Current COA Practice

Several existing processes help the City with enforcing drill site regulations. Staff conducts a pre-activity meeting at the drill site prior to the drilling stages and before each permit is issued. Operators are also required to notify the City prior to any work at the site. In addition, random and scheduled inspections are performed at the sites to check for compliance. Operators are cited for violations of approved City ordinances, which include the approving zoning case and gas drilling chapter.

In addition, citizens are urged to contact the City to report any issue with a drill site. The City of Arlington's main webpage (www.arlingtontx.gov) provides a CONTACT US link so an individual can report a complaint online. The City's two gas well coordinators and a pipeline specialist also have their contact information available to the public on the Community Development and Planning's (CD&P) gas drilling webpage, which is also found online at: http://www.arlingtontx.gov/planning/gas_drilling.html. The City responds to citizen phone calls and emails within one business day of receipt.

Other Municipalities

City	Site Compliance
Arlington	Site must conform to GD&P Ordinance and zoning conditions.
Denton	Site must conform to Subchapter 22 of the City's Development Code, zoning conditions, and platting requirements
Flower Mound	Site must conform to Oil and Natural Gas Well Drilling and Operations Ordinance
Fort Worth	Site must conform to GD&P Ordinance
Grand Prairie	Site must conform to GD&P Ordinance
Grapevine	Site must conform to Chapter 12 of the Health and Sanitation Ordinance, Article VII Oil and Gas Well Drilling Regulations, and zoning conditions
Mansfield	Site must conform to GD&P Ordinance and zoning conditions
Southlake	No existing drill sites

Staff Comments

Compliance and enforcement efforts for all 55 drill sites require coordination with multiple departments and regulatory agencies. Staff routinely contacts state agencies such as the Texas Commission on Environmental Quality (TCEQ) and the Railroad Commission of Texas (RRC). Both entities regulate aspects of natural gas drilling in Texas. Municipal regulations supplement the existing state rules and necessitate cooperative enforcement with the state agencies. In addition, the ability for Arlington's citizenry to easily find contact information for the correct department is vital to help ensure drilling operators are in compliance with every stipulation. Monitoring each drill site daily is a challenge for regulators and the public input is greatly appreciated.

Industry Response

1. "Video camera security at each site could pose a risk to us and also increase our liability. This also is a risk of our right to proprietary work and practices on our sites.
2. I do not understand the need for drilling stage signage. Is this only meant to curb calls to the city? There is no true reason for this request from a safety and security perspective.
3. VANTAGE: Agree with points above. City already requires posting signs ahead of the major operational segments, construction-drilling-completion. Operators typically have websites now that keep area concerns informed of operations that are occurring on these sites.
4. VANTAGE: For enforcement considerations, request a 10-day corrective action period before financial penalties take place.
5. CHESAPEAKE supports increased enforcement of ordinance stipulations and zoning conditions, but would like to ensure operators are given the opportunity to correct compliance issues before a citation is issued."

Public Input

Drill site compliance is a topic often cited during the multiple daily opportunities for citizen contact. Ensuring each drill site is operating within the rules adopted for that site is a major concern expressed by the majority of citizens who contact the City regarding Arlington's gas drilling program.

Highlights of Differences and/or Common Agreement

All parties recognize the need for drill site compliance with City regulation and appear to support tightened enforcement. Vantage pointed out in their comment that the operators typically have status information on their websites. Technology use could continue to help citizens find the answers to their status questions, if the site's signage complies with the City ordinances.

Possible City Council Action Items

- Use technology, such as the City's website, to disseminate information to the public and monitor drill site status and compliance
- Utilize an automated phone system for drilling concerns
- Require that operators transmit site status information to the City via telemetry
- Support regular monitoring of every drill site, not just active locations
- Allow operator a cure period for non-safety/non-emergency offenses before issuing a citation
- Keep a history of each operator's compliance ratings
- Continue supporting the identification of compliance issues in gas well permit staff reports

CITY STAFFING NEEDS TO PROPERLY MONITOR GAS DRILLING, ROYALTY PAYMENTS, PIPELINE ROUTES, AND CONSTRUCTION AND SEISMIC ACTIVITIES

Identification of the Issues

Annual gas drilling permit application numbers increased every year since the gas drilling program's inception in 2006. In fact, in 2006 the City received only seven permit applications and through the first 10 months of 2010 the total was 120 permit applications. The City identified the need to grow staff with the rise in permit, pipeline, mineral estate regulation, and seismic activity by expanding initial gas drilling program oversight duties to multiple personnel.

Current COA Practice

The City expanded staffing levels in the past few years to include two gas well coordinator positions, a gas well inspector, and a Real Estate Representative. The P&Z Commission expressed concerns about the ability to properly address staffing needs and the City of Arlington's staffing response has kept pace with the increases in application figures.

Other Municipalities

City	Staffing
Arlington	Coordination between multiple internal departments to oversee gas drilling program, e.g., Community Development and Planning, Public Works and Transportation (PWT), the Real Estate Services arm of PWT, and Water Utilities
Denton	The Planning and Development Department is primarily responsible for gas drilling program oversight and permits are issued by the Fire Marshall
Flower Mound	The Environmental Resources Department is primarily responsible for gas drilling program oversight
Fort Worth	The Gas Division arm of the Planning and Development Department is primarily responsible for gas drilling program oversight
Grand Prairie	The Environmental Quality Division of the Environmental Services Department is primarily responsible for gas drilling program oversight
Grapevine	The Development Services Department is primarily responsible for gas drilling program oversight
Mansfield	The Planning Department is primarily responsible for gas drilling program oversight
Southlake	The Planning and Development Services Department is primarily responsible for gas drilling program oversight

Staff Comments

Staffing levels historically coincide with the requirements of the City. Support of the City's gas drilling program follows these same trends and is evaluated based on the City's overall staffing needs.

Industry Response

1. "We need to find a way to make the process for permitting in Arlington much less onerous and lengthy. The City still has not address our concerns over how long it takes to permit a well.
2. Arlington needs to adopt a staff approval of wells after a pad site has been approved at the council level.
3. VANTAGE: Support all positions already stated herein, especially the creation of a gas well team within CD&P. This is a good step toward administrative approval of well permits, after the first well permit has been approved by city council. There is no need to burden council with additional permit approvals, and the gas well team should retain the right to deny permits for enforcement actions.
4. CHESAPEAKE supports the creation of a gas well team and the opportunity to have well permits administratively approved. We commend the city staff for implementing these measures."

Public Input

No direct comments received for this issue.

Highlights of Differences and/or Common Agreement

The staffing levels have changed with the needs of the City and will likely continue to reflect this balance. The changes support in Phase I to allow administrative approval of subsequent gas well permits could help reduce permitting timeframes.

Possible City Council Action Items

- Support the administrative approval of permits
- Retain outside technical experts that can be utilized if additional help is needed
- Continue monitoring staffing levels as the gas drilling program moves forward

SITE REMEDIATION

Identification of the Issues

Estimated timelines for active drill sites exceed several decades and the wells could continue producing for approximately 30 years. The end-of-life plan for the site requires restoration of both the abandoned wells and entire pad area. Sound remediation plans can promote future development at the site when the drilling activities cease.

Current COA Practice

The City performs a pre-drilling visual assessment of the proposed site to identify the current environment and conditions. Operators are required by ordinance to complete restoration activities and repair all property damage caused by drilling operations. If site grading is required, the operator must also perform this activity within 60 days after well abandonment. Site equipment and all infrastructure improvements should be removed from above and below the ground surface. Any appurtenances the operator requests to remain should be identified prior to site restoration activities and must be approved by the Director of Community Development and Planning. All appurtenances, if remaining, should, therefore, be clearly identified on an as-built site plan.

Other Municipalities

City	Site Remediation
Arlington	Clean the drill site and operation site, complete restoration activities, and repair site within 60 days after well abandonment
Denton	Clean and repair all damage to public property within 30 days
Flower Mound	Clean the drill site and operation site, complete restoration activities, and repair all damage to public property within 30 days
Fort Worth	Clean the site, complete restoration activities, and repair all damage to public property within 60 days
Grand Prairie	Clean the drill site or operation site, complete restoration activities, and repair all damage to public property within 60 days
Grapevine	Restore site to its original condition as nearly as practicable
Mansfield	Grade land and return site to its original condition, including replanting of vegetation to match the surrounding area within 60 days
Southlake	Grade land and return site to its original condition, including replanting of vegetation to match the surrounding area within 60 days

Staff Comments

Each community compared for this analysis used similar ordinance language to address site restoration. The current requirement to restore the site to pre-drilling conditions requires an accurate assessment of how the pre-drilling conditions are determined. A clear process should be identified to ensure each site's conditions are recorded during the zoning process and prior to drilling activities. One concern with stipulating site grading is the issue that operators will likely restore the site in 20-30 years and, therefore, could be required to remove the mature landscaping that surrounds most drill sites.

Industry Response

1. "This [site remediation] is a normal business practice for all of us.
2. VANTAGE: Support remediation practices stated herein and which is more-or-less already established in the current ordinance.
3. CHESAPEAKE: Site remediation should be handled on a case by case basis. Restoring a site to its existing conditions may not be in the best interest of the community; flexibility should be provided."

Public Input

"The re-grading and forced removal of mature trees, after 20-30 years around a drill site, may not be in the best interests of the City. Why can't we look at each site to determine how it should be restored?"

Highlights of Differences and/or Common Agreement

The pre-drilling assessment is vital to determining what level of restoration is required for each site. The site restoration plan could be reviewed with the approving zoning case so each party is aware of the clear expectation for site remediation.

Possible City Council Action Items

- Require pre-drilling water and soil testing to establish a baseline dataset
- Stipulate that site restoration requires the removal of the compacted pad site rock base and that the base must be replaced with top soil and graded to not retain water
- Mandate site restoration plans that could be phased for five-year actions after the SUP expires and long-term actions that occur after all drilling activities cease

SEISMIC ACTIVITY

Identification of the Issues

Seismic surveys are geophysical surveys used to create a picture of the Earth's subsurface. A seismic vibrator source for use on land consists generally of a baseplate in contact with the ground. Seismic energy is transmitted into the ground by applying a vibratory force to the plate. Recently operators have requested the use of public right-of-way to conduct seismic testing. The Urban Seismic Specialist Inc., in cooperation with the City of Arlington Water Utilities, conducted a Ground Motion Study to determine the maximum peak particle velocity that a clay pipe buried seven feet beneath a city street would experience when using an Envirovibe Minivibe, when operating at high drive force. Based on the results of this test, Urban Seismic Specialists, Inc. concluded that the Envirovibe Minivibe, under normal operations, will have no effect on the City of Arlington's buried infrastructure. During testing no observation of physical damage occurred to the asphalt roadway.

Current COA Practice

The City's Real Estate Services (RES) Division of the Public Works and Transportation Department reviews applications for Seismic Survey Licensing involving fee owned properties. A Seismic Survey License is approved by the City Council and subject to specific conditions. The license and permit for use of right-of-way is being developed to set conditions and minimum setback perimeters from public infrastructure. Members of the City Council have expressed some concern that there is a potential for long-term economic damage that the City is not being properly compensated for.

Other Municipalities

City	Seismic Activity
Arlington	RES reviews applications and licenses activity
Denton	No permitting process identified
Flower Mound	A governing ordinance is in place and the activity is prohibited on Public Property and ROW
Fort Worth	No ordinance, but a ROW permit is required
Grand Prairie	No permitting process identified
Grapevine	No permitting process identified
Mansfield	No permitting process identified
Southlake	No ordinance, but charge a license fee of \$1,200 and require an inspector video before and after activity

Staff Comments

An extensive review of other municipalities was conducted prior to developing the City's seismic licensing requirements. The process was properly vetted and should remain.

Industry Response

1. "Notice of date of data acquisition;
2. receiver and source location points posting;
3. mini-vibes on streets only;
4. big vibrators on lots only;
5. operator to set up information website;
6. City to map out infrastructure;
7. operator to provide Peak Particle Velocity monitoring;
8. operator to video streets before and after 3D acquisition; and
9. City to map out precise permitting timeline."
10. "VANTAGE: Support measures stated herein; and
11. CHESAPEAKE supports the existing license and permitting process."

Public Input

No direct comments received for this issue.

Highlights of Differences and/or Common Agreement

The current procedures for licensing seismic activity in the city of Arlington should continue. As the Industry points out, however, specific conditions should be included during the approval process.

Possible City Council Action Items

- Require field verification of water and sanitary sewer lines at source point before seismic testing
- Allow only mini-vibes on public streets
- Support continued use of seismic survey permitting process

PIPELINE ROUTING AND LAND USE

Identification of the Issues

Concerns about pipeline routing raise a question about review and approval of drill sites and gas well permits prior to identifying appropriate means to get the produced gas from the site to market. If a drill site does not have an adjacent network of gathering pipelines that can adequately carry the produced gas, then additional pipeline must be installed to serve the site. A means to easily connect the site may not be initially recognized even though time and effort is spent reviewing applications, scheduling public hearings, and conducting City Council and P&Z Commission meetings for both the SUP and permit. All the upfront effort could still result in a drill site that cannot produce gas for several years because of no pipeline connection. A dormant site may also require additional work once a pipeline route is identified in the future if the site layout did not anticipate the required connection angle.

Current COA Practice

The City's RES Division handles pipeline licensing. The P&Z Commission may be asked to review the current licensing process and procedures. Timing concerns about pipeline installation may require questioning the approval of drill sites and gas well permits prior to identifying whether produced gas can get to market. Cities have the ability to regulate where and how gas pipelines cross rights-of-way and other public ways. This ability is derived from Texas Utilities Code, Title 3, Subtitle B, and Chapter 121. Title 49 of the Code of Federal Regulations also describes pipeline routing requirements that must be followed.

Other Municipalities

City	Development Impacts
Arlington	RES and PWT handle pipeline licensing and the CD&P Department reviews the layout of the proposed pipeline. No ordinance.
Denton	RES handles pipeline licensing and the Planning Department reviews the layout of the proposed pipeline.
Flower Mound	Pipeline ordinance. ROW crossing permit issued by Env Resources and Engineering Departments.
Fort Worth	No pipeline ordinance. Engineering, PWT, and Planning licenses crossings through a ROW Use Agreement. Council action required for ROW crossing approval.
Grand Prairie	No pipeline ordinance. Engineering Department licenses crossings through a ROW Use Agreement. Council action required for ROW crossing approval.
Mansfield	No pipeline ordinance. Planning licenses crossings through a Public ROW Use License.
Kennedale	No pipeline ordinance, but the City Manager's Office licenses crossings through a ROW Use Agreement

Staff Comments

The RRC has exclusive jurisdiction over intrastate natural gas gathering and transmission pipeline safety standards and practices. The City uses Pipeline License Agreements to require operators to:

- ✓ Communicate planned pipeline route and locations;
- ✓ Complete ROW Permit process and construction plan review;
- ✓ Provide insurance and bonding;
- ✓ Preserve future municipal expansion opportunities;
- ✓ Avoid conflict with existing and planned public infrastructure; and
- ✓ Provide "As-Built" construction plans.

These existing processes follow both existing state and federal law and should continue. In addition, the City should require producers to provide more information on available gas gathering lines at time of an SUP request, demonstrate the ability to have reasonable access to the pipeline, and show that adequate line capacity exists in order to avoid or reduce the need for the installation of additional pipelines.

Industry Response

1. "VANTAGE: Support city's permitting processes already in place for pipeline routing and land use. Do not see any reason to amend existing ordinance in this area.
2. CHESAPEAKE supports the existing pipeline permitting process as it works very well and provides the necessary flexibility."

Public Input

No direct comments received for this issue.

Highlights of Differences and/or Common Agreement

The City of Arlington should continue processing pipeline installation requests in accordance with existing policy.

Possible City Council Action Items

- Develop mechanism for disseminating information on routing of pipelines to the public via the City's website
- Promote use of rights-of-way for pipeline locations
- Require pipeline routing information prior to zoning approval
- Support continued use of existing pipeline license agreements and processes

COOPERATIVE EFFORTS BETWEEN THE CITY AND GAS COMPANIES FOR SITE IDENTIFICATION

Identification of the Issues

Most drill sites are chosen because the land is vacant or underdeveloped and thus provides an economic advantage over razing buildings, clearing drill sites, moving businesses or residents, and like development concerns. Operators may, as a result, locate drill sites in close proximity to other pads without designing their facilities to accommodate multiple operations.

Current COA Practice

No current economic incentives exist to identify drilling sites. Recent and market conditions, trending regulatory oversight towards master planning, and internal business practices all helped identify opportunities to reduce the number of drilling sites in Arlington. In addition, proposed drill site locations are often presented to the City earlier in the site identification process than they were just a few years ago. The earlier notifications may continue to allow the City to assist operators before they submit an application.

Other Municipalities

Most communities also struggle with this issue. No information was provided from any municipal representative demonstrating how existing regulations currently address this topic.

Staff Comments

Two items were presented to the P&Z Commission for consideration that may address this topic. Both items deal with the City's ability to only provide economic incentives through the City's mineral leasing process. The first consideration is relaxed pooling requirements in exchange for operator commitment to reduce pipeline footprint and drill sites. The other consideration encourages the use of sites that illustrate the ability to capture the maximum amount of mineral acres – possibly reducing the number of drill sites.

In addition, cooperative efforts to locate drill sites in Arlington could reduce the overall number of drilling locations in the city. Similar requirements exist today for telecommunication towers in the City's zoning ordinance. Currently, the telecommunication "towers shall be designed and built to accommodate a minimum of two cellular or PCS providers, if over 75 feet (23 meters) in height. The owner of the tower must certify to the City that the tower is available for use by other telecommunications service providers on a reasonable and nondiscriminatory basis." A comparable certification process for drill sites could be required to demonstrate why and how a proposed site is not able to utilize existing infrastructure.

Industry Response

1. "We have no information from the City as to what these incentives would be or what they have in mind.
2. VANTAGE: Industry should support in general, the concept of cooperative efforts in the identification of mutually beneficial sites. Nevertheless, City must recognize competitive forces in the market place when it comes to mineral development. The creation of drilling and production units, and the pace of development are most often unique to an operator's business model. So while cooperation and planning should be encouraged, it is impractical to enforce, and should not therefore be a mandate, as it would pertain to the procedural review and approval of an applicant's site.
3. CHESAPEAKE commends city staff for recommending a relaxed pooling requirement. We also support the concept of collaboration and cooperation among drilling operators, and have worked, in several instances, with many other operators. However, we do not believe this should be required by the City."

Public Input

"I would like to make a general suggestion that Arlington start encouraging the gas companies to cooperate so we can limit the number of gas wells around town. Since they can drill for miles in any direction, it makes no sense to have them less than a mile apart and scattered all over the city. It appears that they are playing games to better their bargaining positions at the expense of our city. If we start turning down some requests for sites that can be accessed easily from others, it will force the gas companies to bargain with each other. There is no harm to the city or our citizens, and we can avoid having a gas well on every corner."

Highlights of Differences and/or Common Agreement

The Industry commented that competitive market forces must be considered when it comes to mineral development. This same response was usually provided by telecommunications industry representatives when initial regulations required certification by the operator that a proposed site is available for use by another operator. If telecommunication tower design changed as a result of this requirement, then similar stipulations could logically alter how drill sites are currently planned and developed.

Possible City Council Action Items

- Draft permit review standards that provide minimum distance requirements between well sites and that encourage operators to share drill sites, pipelines, and compressors
- Require submittal of documentation outlining why a particular site is best suited for drilling operations
- Create an incentive program to support co-locating of well sites
- Require neighborhood meetings (for all neighborhoods close to the drill site, not just those under lease) prior to submittal of a Specific Use Permit
- Explore the usage of City real property and other resources to focus drilling development away from residences and prime commercial locations
- Require drill sites to comply with the City's Comprehensive Plan and area plans

LONG-TERM DEVELOPMENT AND REDEVELOPMENT IMPACTS OF INDUSTRIAL DRILL SITES IN URBAN AREAS

Identification of the Issues

There has been some work on the potential impact in value to homes from a gas drilling site located nearby. Essentially, homes under \$300,000 to 400,000 in value do not seem to be impacted as much as homes in excess of \$300,000 to 400,000 in value. The question for consideration related to this topic is if this valuation study does conclude an impact on higher-end homes what long-term effect does this bode for Arlington in terms of attracting or keeping high-end homeowners? In addition, what impact will a nearby gas drill site have on potential commercial or retail development and redevelopment in terms of land use?

Current COA Practice

Per Ordinance 07-071, gas drilling use is defined and allowed in all zoning districts by approval of an SUP. The SUPs currently expire two years after approval if drilling does not occur on the site. Drilling is allowed indefinitely, however, if the first well is drilled within two years. The proposed SUP timeline addressed within the Gas Drilling Program Phase I report should help identify how the approved site impacted surrounding development when the operator goes back to City Council. Residential properties, plus all protected uses, have a minimum distance a well head may be located from a structure. Setback distances, however, are not established for most commercial developments.

Other Municipalities

City	Development Impacts
Arlington	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades
Denton	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades
Flower Mound	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades
Fort Worth	No zoning component, but permits do not expire
Grand Prairie	No zoning component, but permits do not expire
Grapevine	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades
Mansfield	SUP expires after 5 years, but permits do not expire if the well is drilled and wells may produce for many years
Southlake	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades

Staff Comments

A consideration to promote development in prescribed areas of the city could place possible zoning district or overlay limitations to the allowed use tables in the zoning ordinance. These limits may restrict sites considered for gas drilling within small geographical areas if reasonable access to the minerals is still granted. The continued discussion of SUP time limits, as presented in Phase I discussions, will also assist the City to recognize potential development impacts. Expanding the definition of "protected use" is another possible example of how an ordinance can help the City encourage development in certain areas. In addition to the expanded definition, adding a setback distance to non-protected use buildings in the ordinance may serve the same purpose.

Industry Response

1. "We have talked at length about this issue, with no clear resolution.
2. VANTAGE: There is no quantifiable goal in this statement as presented, and should not be an ordinance provision as it pertains to the procedural review and approval of an applicant's site. As in No. 6 above, industry certainly supports a collaborative relationship with the city to the best of our ability, to present our development plans, when such plans have no potential to adversely impact a company's competitiveness in the market place, or has no potential to adversely impact the company's business plan and value to stake/share holders.
3. CHESAPEAKE: There are several active drill sites in Arlington where development and redevelopment is occurring in conjunction with drilling operations. Examples include the Rocking Horse well site (office building development), the Fulson well site (Quicktrip), and the Palos Verdes site (Carl's Junior restaurant). Long term emphasis should be placed on landscaping and site aesthetics to ensure that well site blends with surrounding environment."

Public Input

No direct comments received for this issue.

Highlights of Differences and/or Common Agreement

City Council included several of the issues included in staff's comments above during their review of the Phase I report. Impacts to development could be lessened once the implementation actions identified for these issues are finalized. For example, the proposed landscaping standards will place an emphasis on how the drill site lends with the surrounding environment—a point shared in Chesapeake's response.

Possible City Council Action Items

- Expand the definition of protected uses to prohibit drilling in certain areas. (Definition will now include residences, religious institutions, hospital buildings, medical and dental offices, nursing homes, personal care facilities, public or private schools, day cares, or public parks.)
- Consider adding a setback distance to non-protected use buildings
- Require drill sites comply with the City's Comprehensive Plan and area plans
- Endorse drill site platting requirements that increase the marketability of surrounding properties and ensure that the remainder of the property where the drill site is located complies with the City's lot size requirements for future development

NOISE

Identification of the Issues

Gas drilling activities generate noise during the various stages. Typically, operators try to reduce the sound generated as much as practicable, but the sites often require sound mitigation techniques to lessen the impact of the generated sounds. Eliminating the sound sources may not be feasible and the City's GD&P ordinance is written to protect Arlington citizens, residents, and business owners and patrons from excessive noise.

Current COA Practice

An ambient noise level is established prior to drilling at the subject site and is typically a 24-hour average reading. The GD&P ordinance allows increases over ambient level for various activities as follows:

- ✓ 3 dB during nighttime drilling;
- ✓ 5 dB during daytime drilling or other activities;
- ✓ 7 dB during fracing; and
- ✓ Maintain ambient levels during production.

Other Municipalities

City	Noise
Arlington	Ambient level reported by operator and overages allowed based on each drilling stage.
Denton	Cannot exceed 75 dB when measured 300 feet from the boundaries of the site with permitted overages of 10 dBA for 5 cumulative minutes, 15 dBA for 1 cumulative minute, and 20 dBA for less than 1 minute per any one hour.
Flower Mound	56 dB during night drilling, 70 dB during daytime hours, and Noise Management Plan required.
Fort Worth	Weekend noise levels a smaller concern because no activity allowed on Sundays except for drilling, mobilization, and demobilization. A noise management plan is required. 5 dB (daytime) or 3 dB (nighttime) increases allowed for any operations, with permitted overages of 10 dBA for 5 cumulative minutes, 15 dBA for 1 cumulative minute, and 20 dBA for less than 1 minute per any one hour. Ordinance addresses low frequency noise and pure tones.
Grand Prairie	10 dB increase allowed during fracing, 5 dB increase during nighttime backflow operations, and no more than 5 dB (daytime) and 3 dB (nighttime) for all other activities. Permitted overages of 5 dBA for 15 cumulative minutes, 10 dBA for 5 cumulative minutes, 15 dBA for 1 cumulative minute, and 20 dBA for less than 1 minute per any one hour.
Grapevine	Cannot produce a sound greater than 65 dB(a) when measured at 300 feet from the boundary of the site and no greater than 85 dB(a) during fracing.

Mansfield	5 dB (daytime) or 3 dB (nighttime) increases allowed for any operations, with permitted overages of 10 dBA for 5 cumulative minutes, 15 dBA for 1 cumulative minute, and 20 dBA for less than 1 minute per any one hour. Ordinance addresses low frequency noise and pure tones.
Southlake	Noise management plan required and 10 dB increase allowed during fracing, 5 dB increase during nighttime backflow operations, and no more than 5 dB (daytime) and 3 dB (nighttime) for all other activities.

Staff Comments

Low frequency noise octaves and pure tone pressures should be included in noise monitoring reporting requirements. Noise mitigation plans that identify site conditions and proposed sound reduction techniques could also help both the City and operator assess compliance measures per each site. Sound level increases should also more accurately reflect ambient conditions. A more accurate measurement of ambient sound levels would likely require longer sample periods and at least one weekend day included in the analysis. The ambient levels could also identify both daytime and nighttime averages so any increase is truly measured against pre-drilling daytime or nighttime conditions.

Industry Response

1. "VANTAGE: Vantage supports city's position to add low frequency and pure tones for noise monitoring, and for establishing a noise mitigation plan.
2. CHESAPEAKE: We support the use of sound mitigation plans provided they allow flexibility to the operator as changes or availability of equipment could necessitate a revision to the plan. Additionally, we could support the establishment of day/night ambient levels if adequate decibel increases are included. For example, the City of Fort Worth's noise requirements include higher increases of decibels for short increments of time. (i.e. 10 db's for 5 cumulative minutes, 15 db's for 1 cumulative minute, and 20 db's for less than minute per hour.)"

Public Input

"The City of Mansfield has a comprehensive ordinance that should be reviewed when making updates to Arlington's noise regulations," citizen comment during work session.

Highlights of Differences and/or Common Agreement

Noise complaints are one of the most frequent concerns reported in regards to drilling activities. Proven sound mitigation techniques should be used to lessen the impacts on surrounding residents and businesses. In addition, the site's mitigation plan and ambient noise levels should align with pre-existing conditions.

Possible City Council Action Items

- Modify allowable noise levels to be more restrictive if setback is reduced
- Include low frequency noise octaves and pure tone pressures in noise monitoring reporting requirements
- Require noise mitigation plans for each drill site
- Devise standards that clearly describe how ambient sound levels are established
- Stipulate the noise monitoring reports are averaged over one-minute intervals
- Eliminate the use of back-up beepers while trucks are reversing during nighttime hours and require flagmen for maneuvering on drill sites within 600 feet of protected uses

EXHIBIT 1 – WORK SESSION MINUTES

MINUTES

JOINT WORK SESSION MEETING

THE PLANNING AND ZONING COMMISSION and THE PLANNING AND ZONING COMMISSION SITTING AS THE CAPITAL IMPROVEMENTS PROGRAM ADVISORY COMMITTEE

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET
September 1, 2010
3:30 P.M.

The Planning and Zoning Commission sitting as The Capital Improvements Program Advisory Committee of the City of Arlington, Texas convened in a work session on Wednesday, September 1, 2010, in the Council Briefing Room of the City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Jeffrey Pokrifcsak	*	
Charla Vinyard	*	
Kevin McGlaun	*	
Suzanne Key	*	
Maurice Barksdale	*	
Andrew Piel	*	
Brandon Hill	*	

Absent:

Michael Forbes	*
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Staff Present:

Jim Parajon	*	Director, Community Development & Planning
Maria Sayas Carbajal	*	Planning Manager/Development
Bridgett White	*	Planning Manager/Strategic
Patia Boomsma	*	Planning Project Manager I/Strategic
Darren Groth	*	Gas Well Coordinator
Jason Grimm	*	Professional Engineer
Sharon Hurd	*	Planning Project Manager I/Development
Jennifer Ramirez	*	Planner/Development
Douglas Cooper	*	Planner/Development
Kevin Charles	*	Landscape Administrator
Kathy Zibilich	*	Assistant City Attorney
Jill House	*	Public Works and Transportation
Janette Hull	*	Public Works and Transportation
Julie Hunt	*	Water Utilities
Brad Franklin	*	Water Utilities
Terry Benton	*	Water Utilities

Chair Vandergriff called the work session to order at 3:34 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Parajon updated the Commission on Phase I of the Gas Drilling Program Report which was in review by City Council.

Mr Groth presented Phase II of the Gas Drilling Program Report. He reminded the Commission that Phase I was created in topic based work sessions with Staff presentations and discussion. Comments from industry representatives, businesses, and citizens were considered. He gave an overview of the timeline and format that topics were presented, beginning March 24, 2010, with the final report to Council on June 22, 2010. The final report of Phase I was written from the Commissions point of view and was well received by the Council.

In Phase II, starting with topic #1 that day, nine topics would be discussed:

1. Drill site compliance and enforcement of Ordinance stipulations and zoning conditions
2. City staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction and seismic activities
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use
6. Incentives or cooperative efforts between the City and gas companies for site identification
7. Long-term development and redevelopment impacts of industrial drill sites in urban areas
8. Air quality
9. Noise from site activities

Topics #2 and #3 would be addressed on September 15th, topics #3 through #5 would be discussed at the September 22nd meeting, and the final three topics would be on the September 29th agenda. The October 6th work session would include a summary of the issues and a review of the Phase II Report with additional work sessions scheduled as needed. Input from the industry, local businesses, and citizens would be included. Presentations would be made available to the public on the website.

It was noted that City Staff meets monthly with staff from other cities to share information and knowledge.

Current procedures for Compliance and Enforcement include pre-activity meetings with drill site operators occurring on site before each stage and notifications to City Staff from the operator prior to any work done. There are annual inspections done on each gas well with operators cited for violations of approved City Ordinances. Responses to phone calls and e-mails from citizens are handled by the next business day. Sound reports are forwarded to the City daily and on-site inspections for various issues are performed randomly.

Considerations for Compliance and Enforcement include:

- Increased enforcement and oversight of each gas well facility
- Evaluating current enforcement tools such as financial penalties
- Drilling stage sign notices posted at each site
- Continuous sound monitoring
- Video camera security for drill sites

There was discussion of website enhancements and ways to make gas well drilling information more accessible to citizens. Mr. Groth noted that the City was in the process of developing a map and spreadsheet that could be updated weekly and posted for the public. Real-time data of noise incidents, live video feed, and regular aerial views were also discussed along with finding the financial resources to cover the expenses.

Director Update on Previous Council Action

SUP10-4 (Cherry Creek Drill Site) was denied by Council due to the location.

SUP10-13 (George Finger Road) was a request for an extension of a cell tower which was approved by Council.

SUP10-9 (XTO Sandlin Drill Site) had been denied by the Commission. The motion to call a public hearing by City Council failed.

SUP09-25 (Braxton East Drill Site), located between two schools, had been denied by the Commission. The case was also denied by Council.

Future Meeting Dates

- a. Planning and Zoning Commission/Bus Tour Committee Two-Hour Bus Tour on September 10, 2010 - **CANCELLED**
- b. Planning and Zoning Commission Meeting, September 15, 2010, including further Gas Well Discussion
- c. Commission Training breakfast from 7:30 a.m. to 9:00 a.m. on September 16, 2010, in Conference Rooms A and B located on the 3rd floor of City Hall

There being no further business to come before the Commission, the work session was adjourned at 5:00 p.m.

NOTE: Taped recordings and minutes of all Planning and Zoning Commission work sessions are a matter of public record and are kept on file in Community Development and Planning, 101 West Abram Street, Arlington, Texas. Any Commissioner or interested party has the right to review these tapes and minutes in Community Development and Planning.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET

September 15, 2010

3:30 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, September 15, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Suzanne Key	*	
Kevin McGlaun	*	
Andrew Piel	*	
Brandon Hill	*	
Charla Vinyard	*	
Michael Forbes	*	
Staff Present:		
Jim Parajon	*	Director, Community Development & Planning
Maria Carbajal	*	Planning Manager/Development
Gincy Thoppil	*	Planning Project Manager II/Strategic
Darren Groth	*	Gas Well Coordinator
Kevin Charles	*	Landscape Administrator
Justin French	*	Planning Project Manager I/Development
Sharon Hurd	*	Planning Project Manager I/Development
Doug Cooper	*	Planner/Development
Jennifer Ramirez	*	Planner/Development
Jason Grimm	*	Professional Engineer
Chris Woodall	*	Professional Engineer
Jennifer Cobbs	*	Civil Engineer
Kathy Zibilich	*	Assistant City Attorney
Roger Venables	*	Real Estate Services

Chair Vandergriff called the work session to order at 3:35 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Groth presented a Natural Gas Program Summary, beginning with a review of Compliance and Enforcement topics covered on September 1, 2010. Since that meeting, input from Industry representatives had been received. There was a consensus that additional information and notice upfront would help inform the public

of onsite activities. A sound mitigation plan could help with site noise compliance, but video security might not be helpful and cause additional problems. Bonds serve as an enforcement tool, as well as citations for non-compliance.

In regard to staffing, current procedures were reviewed concerning permitting and applications, public hearings, responses and notices, drilling stages and technologies, and the Zoning Ordinance. Considerations were given to work assignments, web based notifications, minimum standards, easy access to reports, and mapping updates. There was discussion on ways to enhance websites in order to provide real time information for citizens in a user friendly manner. Deciding what information should be available and how it could be made available would be determined with citizen input.

Current procedures for site remediation were reviewed including screening walls and landscaping, site abandonment, roadways and right-of-ways, and the responsibility and timeline for restoration to the original condition of each site. Aerial views of sites were shown as examples of remediation and the development which can occur after a well site is no longer producing, capped, and inspected by the State.

Chair Vandergriff requested a list of the best practices of other cities and Mr. Groth said that he would provide a comparison much like the one provided in Phase I of the Gas Drilling Program Report. It was suggested that drill sites not only be restored to what they were previous to drilling, but that they be promoted to better than the original condition, dependant on the zoning and future development opportunities.

Kim Feil, 409 North Elm Street, 76011, addressed the Commission with compliance concerns, stating that there were already two examples in the field of sites with no follow-up or attention. She stated that air quality studies were done resulting in formaldehyde readings higher than the health based threshold, but that no penalties were assessed and she felt that the public was not protected. Ms. Feil suggested a system be placed in the Ordinance to make drilling operations test and provide a report, then verify with testing done by the City. She stated that the City was underbonded in regard to street and roadway damages caused by the truck traffic associated with gas drilling.

Chair Vandergriff suggested that the Commission visit a drill site in the future. Commissioner Hill suggested that a guest speaker outside of the City or Industry present to the Commission at a future meeting.

Commissioner Hill made a motion that the Sub-Committee for Education and Training consist of four members for a quorum. Seconded by Commissioner Piel, the motion carried unanimously.

Future Meeting Dates

- a. Planning and Zoning Commission and the Sub-Committee for Education and Training breakfast on September 16, 2010
- b. Planning and Zoning Commission/Bus Tour Committee Two-Hour Bus Tour on October 1, 2010

There being no further business to come before the Commission, the work session was adjourned at 4:40 p.m.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET

September 22, 2010

4:00 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, September 22, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Suzanne Key	*	
Kevin McGlaun	*	
Brandon Hill	*	
Charla Vinyard	*	
Absent:		
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Andrew Piel	*	
Michael Forbes	*	
Staff Present:		
Jim Parajon	*	Director, Community Development & Planning
Maria Carbajal	*	Planning Manager/Development
Darren Groth	*	Gas Well Coordinator
Kevin Charles	*	Landscape Administrator
Justin French	*	Planning Project Manager I/Development
Jason Grimm	*	Professional Engineer
David Barber	*	Assistant City Attorney
Ivan Bland	*	Assistant City Attorney
Roger Venables	*	Real Estate Services
Stuart Young	*	Real Estate Services

Chair Vandergriff called the work session to order at 4:10 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Venables presented a Natural Gas Program Summary, beginning with the seismic activity over the past four years, subsequent to the City's first mineral lease granted at the old landfill and other larger City owned properties. The processes by which the City allows use of the Rights-of Way to conduct seismic surveys were presented. When smaller tracts of land are surveyed, additional areas of land may be needed to place source points for seismic readings and data. Both the mineral owner and surface property owner have to consent to the placement of any seismic equipment.

Seismic Survey Permit requirements and procedures were given in regard to license agreements, plan submittals, equipment, particle velocities, and inspections. Agreement terms are for three years with a fee of \$25,000, and within that time period, an operator can apply for separate permits to conduct seismic surveys. A security instrument of \$100,000 is due upon execution of the agreement with a fee of \$7.50 for each vibe source location. In the end, a post survey inspection is done to prove there was no damage to the roadway and that the Peak Particle Velocity (PPV) threshold was not exceeded at any time during the process.

A comparison to other Municipalities was presented with the greatest similarities taking place in Fort Worth.

Pipeline routing and land use is regulated by the Texas Railroad Commission (RRC) in the way of safety and standards, but the City can regulate where and how gas pipelines cross a right-of way (ROW) or other public way. The City uses license agreements to communicate planned routes and locations, complete ROW permit processes and plan review, provide insurance and bonding, preserve future expansion opportunities, avoid conflicts, and provide "As-Built" construction plans.

The minimum license requirements were given with the typical easement width noted as a non-exclusive use area of 10- to 20 feet. Another utility could be located in the same easement, with the gas line as the deepest utility in the corridor. Terms of agreements were noted as 20 years with two additional terms of ten years each and a fee of \$2.75 per linear foot per year for a primary term. Each ten year extension could include an adjustment based on the CPI factor. Fees are subject to review by the Texas RRC and limited by the Texas Utilities Code to the cost of taking inventory, maintenance records and maps, and inspections.

It was noted that there were 57 drill sites at that time, with 51 approved sites having access to pipeline routes. Pipeline considerations included requiring producers to provide more information on available gas gathering lines at the time of the Specific Use Permit (SUP) request, demonstrating the ability to have reasonable access to pipelines, and that adequate line capacity exists in order to avoid or reduce the need for the installation of additional pipelines. Sharing of pipelines would be encouraged to reduce the pipeline footprint and number of drill sites. Additional incentives for consideration were relaxing the pooling requirements in exchange for operator commitment; thus reducing pipelines, and to encourage the use of sites that illustrate the ability to capture the maximum amount of mineral acres.

The City does not have control of pipeline locations on private properties such as UTA and the Masonic Home, but the City can be informed by the owners that the necessary easement rights were obtained. Pipelines on private properties do have the capacity to handle gas from other drill sites as well. Pipeline easements are perpetual, but license agreements are term limited and can be revoked as a penalty of enforcement.

Future Meeting Dates

- a. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee on September 29, 2010
- b. Planning and Zoning Commission's Two-Hour Bus Tour on October 1, 2010

There being no further business to come before the Commission, the work session was adjourned at 5:05 p.m.

DRAFT

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION

and the Planning and Zoning Commission's
Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET

September 29, 2010

4:00 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, September 29, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Suzanne Key	*	
Kevin McGlaun	*	
Brandon Hill	*	
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Andrew Piel	*	

Absent:

Michael Forbes	*
Charla Vinyard	*

Staff Present:

Jim Parajon	*	Director, Community Development & Planning
Maria Carbajal	*	Planning Manager/Development
Darren Groth	*	Gas Well Coordinator
Justin French	*	Planning Project Manager I/Development
Doug Cooper	*	Planner/Development
Jennifer Cobbs	*	Civil Engineer
Kathy Zibilich	*	Assistant City Attorney

Chair Vandergriff called the work session to order at 4:10 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Groth presented a Natural Gas Program Summary on the final of three sections of Phase II including development impacts, noise, and air quality.

Development impacts were discussed. Per Ordinance Number 07-071, gas drilling with a Specific Use Permit (SUP) is defined as a use and allowed in all zoning districts. The SUP's expire after two years if no drilling occurs. If a well is drilled within the first two years, the SUP is on the property indefinitely, but setback distances have to be met. A comparison to other Municipalities was given.

Considerations included possible zoning or overlay limitations, SUP time limits, expanding the definition of protected uses, and adding setbacks to non-protected use buildings and structures.

Noise ambient levels are currently established prior to drilling with, typically, a 24 hour average reading. Allowances over the ambient level are permitted for various activities.

A comparison to other Municipalities was also given and it was noted that sound barriers do absorb sound and remove decibels (dB), but the effectiveness of each wall or barrier is dependent on the rating of the material used, the size of the site, and the distance to protected areas and uses. The standard for the area is 3 dB at night, 5 dB in the daytime and 7 dB during fracing.

Considerations included having a longer sample period to establish the ambient noise level, include day and nighttime ambient levels, noise mitigation plans submitted with an application, and regulation of low frequency noise octaves. Commissioner Pokrifcsak suggested that residential areas have a higher level of noise protection. Commissioner Piel had concerns with nighttime noises and sound travelling across Lake Arlington from Fort Worth sites. Since sound travels unimpeded across a large body of water, additional sound blankets and mitigation controls might help. The City of Fort Worth was working closely with the City of Arlington to remedy the noise issue.

Air quality testing is done by the Texas Commission on Environmental Quality (TCEQ). In a 2009 study, an Arlington site near UTA was included. The Barnett Shale Energy Education Council (BSEEC) did a study that included a site in southwest Arlington. Both studies were negative for any impacts to air quality.

In a comparison to other Municipalities, only Fort Worth was conducting ongoing studies at 75 percent of their facilities in all stages of operation. Considerations included long term analysis of drill sites with various emissions tests, distinguishing on-site emissions from upwind fluxes of the measured pollutants, remote sensing techniques, and continued discussions with the City Council.

Air quality testing is done by a third party organization as opposed to a Municipality or Industry member. Commissioner McGlaun suggested that air quality base-line testing for each site be done initially, with further testing as the drill site progresses. Commissioner Piel suggested it be part of the permit process. Cliff Mycoskie with MMA, Inc. stated that testing should be independent and, in areas where there are emissions, testing had been done. Wet gasses were found in Wise and Weatherford Counties, which can be dangerous. Arlington was found to have dry gasses

Fines for non-compliance of safe practices are set by the State, ranging from \$500.00 to \$2,000.00, with the City of Arlington assessing the maximum fines allowed. Citations and work delays also serve as a deterrent to non-compliance. The City has had a high level of responses from drill site operators; although there are occasional communications problems and issues with truck routes, dust, and noise. Mr. Parajon stated that Council was considering the concept of some Administrative approval for permitting. A company with an excellent compliance record might be allowed to receive Administrative approval, saving time and money, if they are compliant and not asking for relief from any standards. Compliance history is included in all Staff Reports submitted to City Council. Assessment of site compliance can done randomly

and at any opportunity as well as during scheduled inspections. Monitoring by citizens is a helpful component of watching over the individual drill sites, with all complaints being investigated.

Commissioner McGlaun suggested that in ground water quality testing, with a base-line test as a requirement, be included in the Summary of Phase II with the other environmental issues.

Kimberly Frankland, 2708 Augusta Lane, Arlington, 76012, addressed the Commission saying she agreed that air and noise quality do need base-line testing. She stated that two wells tested by TCEQ were found to have enormous levels of toxins and that both those sites had equipment problems which were corrected. She wanted to be sure that Staff was well trained and able to recognize gas well equipment failures. She requested overall site safety inspections and air quality tests occur several times a year to ensure that industrial sites were good neighbors and she suggested the Noise Ordinance be crafted so that the citizens are protected.

Staff would be putting together a summary of the three parts of Phase II in a format similar to Phase I. Mr. Parajon noted that City Council was continuing their work with Staff on Phase I and that the Report, put together by the Commission, had been well received by Council with much discussion of the considerations brought forth by the Commission. Drill site operators were paying attention to the information in Phase I in regard to future Ordinances, trying to achieve some of the regulations in advance.

Future Meeting Dates

- a. Planning and Zoning Commission/Bus Tour Committee Two-Hour Bus Tour on October 1, 2010
- b. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee on October 6, 2010

There being no further business to come before the Commission, the work session was adjourned at 5:25 p.m.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION

and the Planning and Zoning Commission's
Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET

October 6, 2010

4:00 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, October 6, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Suzanne Key	*	
Kevin McGlaun	*	
Brandon Hill	*	
Charla Vinyard	*	
Michael Forbes	*	

Absent:

Andrew Piel	*
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Staff Present:

Jim Parajon	*	Director, Community Development & Planning
Maria Carbajal	*	Planning Manager/Development
Bridgett White	*	Planning Manager/Strategic
Darren Groth	*	Gas Well Coordinator
Clayton Husband	*	Planning Project Manager II
Kevin Charles	*	Landscape Administrator
Sharon Hurd	*	Planning Project Manager I/Development
Doug Cooper	*	Planner/Development
Jennifer Ramirez	*	Planner/Development
David Wynn	*	Engineering Operations Manager
Jason Grimm	*	Professional Engineer
Kathy Zibilich	*	Assistant City Attorney
Roger Venables	*	Real Estate Services

Chair Vandergriff called the work session to order at 4:10 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Groth presented the final Natural Gas Program Summary of Phase II, identifying the nine key issues of the previous work sessions, in an effort to prepare Phase II for review by City Council. The proposed actions for the nine issues were:

- 1) Increasing the recommended fine for drill site compliance and enforcement
- 2) Creation of a Gas Well Team of current Staff within the City
- 3) Reliance on existing rules for site remediation and clean-up using identified baselines and additional screening and landscape
- 4) Maintaining existing seismic permit and pipeline licenses
- 5) Encouraging ROW use for pipeline routing and land use when possible
- 6) Relaxing the pooling requirements and encourage sites that capture maximum mineral acreage as a location incentive
- 7) Establish long-term viability of sites and set time limits regarding the impact on future development
- 8) Require baseline testing and random analysis of air quality
- 9) Add low frequency and pure tones in noise monitoring, require noise mitigation plans, and establish both day and nighttime ambient sound levels

Mr. Parajon pointed out that pipeline companies are not treated the same as gas well companies in regard to landscaping and impact. One is covered by a license and the other is covered by a permit, but Council would prefer a closer alignment particularly in landscaping issues, requesting that the Commission consider the matter. He also clarified that Council had addressed the issue of air quality and would not need input from the Commission. They were requested to compose a sentence they could generally agree upon as a recommendation for each of the remaining eight issues.

In discussion of the issues, it was recommended the City use the maximum penalties for a Class C Misdemeanor for gas drilling Ordinance violations. Commissioner Pokrifcsak noted that the increase in fines was not intended as revenue for the City, rather as a deterrent to infractions as well as saving Staff time with enforcement. Remediation of a site was defined as restoration to what a site was prior to drilling, with clearly identified pre-drilling conditions and third party baseline testing as proof of previous soil compaction, grading, vegetation, and pre-existing contaminants both underground and on the surface.

Future Meeting Dates

- a. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee's Tour of Drill Sites on October 15, 2010 at 8:00 a.m.
- b. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee on October 20, 2010

There being no further business to come before the Commission, the work session was adjourned at 5:25 p.m.

NOTE: Taped recordings and minutes of all Planning and Zoning Commission work sessions are a matter of public record and are kept on file in Community Development and Planning, 101 West Abram Street, Arlington, Texas. Any Commissioner or interested party has the right to review these tapes and minutes in Community Development and Planning.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION

and the Planning and Zoning Commission's
Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET

October 20, 2010

4:00 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, October 20, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Suzanne Key	*	
Kevin McGlaun	*	
Brandon Hill	*	
Charla Vinyard	*	
Michael Forbes	*	
Andrew Piel	*	
Staff Present:		
Jim Parajon	*	Director, Community Development & Planning
Michelle Hardin	*	Assistant Director, Community Development & Planning/Strategic
Bridgett White	*	Planning Manager/Strategic
Gincy Thoppil	*	Interim Planning Manager
Darren Groth	*	Gas Well Coordinator
Maria Carbajal	*	Gas Well Coordinator
Kevin Charles	*	Landscape Administrator
Justin French	*	Planning Project Manager I/Development
Sharon Hurd	*	Planning Project Manager I/Development
Doug Cooper	*	Planner/Development
Jennifer Ramirez	*	Planner/Development
David Wynn	*	Engineering Operations Manager
Jason Grimm	*	Professional Engineer
Jennifer Cobbs	*	Civil Engineer
Kathy Zibilich	*	Assistant City Attorney

Mr. Parajon called the work session to order at 4:05 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

As a reminder of the October 6, 2010, discussion of the first three issues, it was noted that drill site compliance and enforcement, City staffing needs, and site remediation were addressed and agreed upon with one exception; there needs to be a definition of previous conditions in order to achieve site remediation and restoration. Mr. Groth continued with the presentation of the final Natural Gas Program Summary of Phase II, identifying the remaining six of the nine key issues of the previous work sessions. The proposed actions for the remaining issues were:

- 4) Maintaining existing seismic permit and pipeline licenses
- 5) Encouraging ROW use for pipeline routing and land use when possible
- 6) Relaxing the pooling requirements and encourage sites that capture maximum mineral acreage as a location incentive
- 7) Establish long-term viability of sites and set time limits regarding the impact on future development
- 8) Require baseline testing and random analysis of air quality
- 9) Add low frequency and pure tones in noise monitoring, require noise mitigation plans, and establish both day and nighttime ambient sound levels

Mr. Parajon reminded the Commission that the Council currently had a position on the issue of air quality testing, but that a proposal on the level of testing would be needed from the Commission, as an advisory body. He also noted that Council was looking forward to hearing the Commission's ideas on noise remediation and testing. There was discussion of air quality and noise levels in residential areas as opposed to industrial areas. Commissioner Pokrifcsak suggested a tiered approach much like Phase I, with stricter Ordinances on ambient noise levels for residential areas and Commissioner Piel agreed. Commissioner McGlaun noted that the City of Fort Worth treated residential and industrial areas differently in regard to noise requirements.

The Commissioners agreed to the Staff compiling a draft of positions to support the issues before the November 10, 2010, work session to prepare Phase II for review by City Council in a timely manner.

Mr. Parajon stated that Council had made significant strides in regard to the Phase I Report. At Council work sessions, direction was given to set notifications at 600 feet at all stages. Staff was also directed to notify management at apartment complexes so that they could notify tenants in addition to the signage currently used as a neighborhood notification. Mr. Parajon also noted that setback reduction support petitions were currently discussed at the Specific Use Permit (SUP) stage, and didn't really matter until the permit stage, so Council's direction was to require future petitions to be presented during the SUP stage to help determine appropriate locations for drilling. The first permit for gas drilling would have the opportunity to go before City Council, with subsequent permits reviewed administratively by Staff, but Staff would not have the authority to grant relief from any standards without Council approval. This process could be used as an incentive for compliance. Council gave direction for SUP time frames as five years. Access drives on drill sites were recommended as paved roads only, but chip-seal was suggested as a minimum standard due to the cost of asphalt paving. A tiered approach to landscaping and fencing was well received and platting was necessary for drill sites. Council approved a blanket bonding approach for restoration per drill site, not per drill hole. Council had concerns with 24/7 flowback and asked that truck traffic be restricted and that notifications be issued prior to that activity. Air quality tests would be done to establish the baseline, with additional tests after production as an Ordinance

requirement. Road damages were discussed with a request to adjust fees as soon as possible and Staff was already in the process of updating the formula to reflect construction costs and the narrowing of street classifications. Mr. Parajon praised the work of the Commission on Phase I and their recommendations to the City Council.

Kim Feil, 409 North Elm Street, 76011, addressed the Commission concerning the reductions being moved up from 60 percent to 70 percent. She requested that more testing be done between the original baseline and before production due to fracing traffic. She stated that the City was currently participating in a program that looked at rosters of eco-friendly fleets using compressed natural gas. She asked for a mandate that gas drillers not use diesel in drilling and fracing and that random testing be done after fracing.

Kimberly Frankland, 2708 Augusta Lane, Arlington, 76012, addressed the Commission stating that there was discussion at the City Council meeting about boundaries and measurements, and she asked for clarification. Mr. Parajon stated that property owner notifications (PON's) are measured 600 feet from the property boundary and the petition notifications are measured 600 feet from the well hole. The question was raised at Council as to whether the two measurements should be one in the same, recognizing that if they were the same, the petition process goes out further. Council preferred to continue to measure petitions from the well hole and to measure PON's from the property boundary.

Future Meeting Dates

- a. Planning and Zoning Commission Two Hour Bus Tour on November 5, 2010
- b. Planning and Zoning Commission Meeting on November 10, 2010

There being no further business to come before the Commission, the work session was adjourned at 5:25 p.m.

NOTE: Taped recordings and minutes of all Planning and Zoning Commission work sessions are a matter of public record and are kept on file in Community Development and Planning, 101 West Abram Street, Arlington, Texas. Any Commissioner or interested party has the right to review these tapes and minutes in Community Development and Planning.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION and the Planning and Zoning Commission's Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET
November 10, 2010
3:30 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, November 10, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Suzanne Key	*	
Kevin McGlaun	*	
Brandon Hill	*	
Charla Vinyard	*	
Michael Forbes	*	
Andrew Piel	*	
Staff Present:		
Jim Parajon	*	Director, Community Development & Planning
Michelle Hardin	*	Assistant Director, Community Development & Planning/Strategic
Bridgett White	*	Planning Manager/Strategic
Gincy Thoppil	*	Interim Planning Manager
Darren Groth	*	Gas Well Coordinator
Kevin Charles	*	Landscape Administrator
Justin French	*	Planning Project Manager I/Development
Sharon Hurd	*	Planning Project Manager I/Development
Doug Cooper	*	Planner/Development
David Wynn	*	Engineering Operations Manager
Jason Grimm	*	Professional Engineer
Jennifer Cobbs	*	Civil Engineer
Alicia Winkelblech	*	Transportation Planning Manager
Mack Reinwand	*	Assistant City Attorney

Chair Vandergriff called the work session to order at 3:40 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Groth presented a draft of the Phase II Report beginning with the Executive Summary, which was awaiting further information. The City Council's charge to the Commission for Phase I was highlighted with an overview of the discussions of Phase II to date. The process input and contextual information was presented as a guide to how and why the Report was formatted, leading into the nine Phase II Topics.

1. Drill site compliance and enforcement of Ordinance stipulations and zoning conditions
2. City staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction and seismic activities
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use
6. Incentives or cooperative efforts between the City and gas companies for site identification
7. Long-term development and redevelopment impacts of industrial drill sites in urban areas
8. Air quality
9. Noise from site activities

The Commission was reminded that City Council had taken on the task of addressing air quality, relieving the Commission from in-depth discussion of that topic. It was suggested that the item be clarified on page seven of the Report.

Each topic was addressed by identification of the issue and the current concerns and practices with that issue. A comparison to other Municipalities and their processes was given. Staff comments, Industry response and public input for each issue was listed with more information forthcoming. A highlight of difference and/or common agreement was also listed at the end of each issue section.

Chair Vandergriff asked for clarity on pipeline routes and the details and differences in how cities regulate the pipelines crossing ROW's. Mr. Groth noted that the municipalities were similar due to State regulations. When asked about economic incentives, Mr. Groth noted that no information exists from other cities and that Arlington may be groundbreaking in that area. Mr. Parajon clarified that economic incentives should actually be listed as cooperative efforts as in shared or consolidated drill sites and whether or not Master Planning should be required or encouraged between entities. There was discussion on being proactive in encouragement of available or vacant drill sites and the cooperation between operators, much like the cooperative efforts among cellular towers used in the City.

Kim Feil, 409 North Elm Street, 76011, addressed the Commission regarding cooperative effort, stating that the permit by rules through the TCEQ said that if a company was a small emitter, they would not have to test or report their emissions inventory. She said that now operators had to show a permit by rule because they have an aggregate violation with 14,000 drillers in the Barnett Shale technically under the radar. COG is grappling with how to figure what the emissions are and how to get them into compliance. She felt the City should look at their space in quadrants and limit the companies within close proximity to another company. The TCEQ also does not regulate cumulative and multiple source emissions. She suggested, by Ordinance, requiring baseline studies not before the site is permitted, but before a site is recommended to City Council as appropriate. She asked the Commission to

take into consideration what is already present at a site and what is being proposed to add. She also suggested air quality testing before and during the drilling processes with regulations on compressor stations. She suggested that the states of Colorado and Pennsylvania be considered during the Commission's review of other municipalities.

Kimberly Frankland, 2708 Augusta Lane, Arlington, 76012, addressed the Commission and thanked Commissioner Forbes for his suggestion that a minimum distance be set between drill sites by Ordinance. She said that Kennedale had a similar Ordinance which does not allow sites too close to one another.

Future Meeting Dates

- a. Planning and Zoning Commission Work Session Meeting on the Gas Drilling Program Report – Phase II on November 17, 2010
- b. Planning and Zoning Commission Two Hour Bus Tour on December 3, 2010
- c. Planning and Zoning Commission Meeting on December 8, 2010

The 2011 Planning and Zoning Commission Public Hearing Schedule was adopted.

There being no further business to come before the Commission, the work session was adjourned at 5:30 p.m.

NOTE: Taped recordings and minutes of all Planning and Zoning Commission work sessions are a matter of public record and are kept on file in Community Development and Planning, 101 West Abram Street, Arlington, Texas. Any Commissioner or interested party has the right to review these tapes and minutes in Community Development and Planning.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION and the Planning and Zoning Commission's Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET
November 17, 2010
4:30 P.M.

The Planning and Zoning Commission of the City of Arlington, Texas convened in work session on Wednesday, November 17, 2010, in the Council Briefing Room of City Hall, 101 West Abram Street, Arlington, Texas, notice of said meeting being posted as prescribed by Chapter 551, V.T.C.A., Government Code, with the following members present, to wit:

Victor Vandergriff	*	Chair
Kevin McGlaun	*	
Brandon Hill	*	
Maurice Barksdale	*	
Jeffrey Pokrifcsak	*	
Andrew Piel	*	
Michael Forbes	*	
Charla Vinyard	*	
Absent:		
Suzanne Key	*	
Staff Present:		
Jim Parajon	*	Director, Community Development & Planning
Bridgett White	*	Planning Manager/Strategic
Darren Groth	*	Gas Well Coordinator
Mack Reinwand	*	Assistant City Attorney
Roger Venables	*	Real Estate Services

Chair Vandergriff called the work session to order at 4:35 p.m. and stated that the purpose of the meeting was to conduct the following items of business:

Gas Well Discussion

Mr. Parajon presented the DRAFT copy of the Gas Drilling Program Phase II Report to the Commission which included information from the Chair, comments from Industry representatives, references to telecommunications towers and how they share sites, plus the pipeline comparison information requested in the previous work session. The Commission opened discussion on the Executive Summary, beginning with Compliance and Enforcement and moving into noise issues and Staffing. It was noted that tighter enforcement could come as a result of a higher level of penalties. Mr. Parajon suggested that City Staff continue to:

- Engage in systematic monitoring and enforcement of all permitted gas well drill sites
- Support the requirements noted on Staff Reports for all cases and identify all compliance activities related to those sites
- Utilize technology to inform and provide monitoring information as it relates to each drill site

Commissioner Piel requested clarification in the Report with a list of possible Council action items added for each topic. There was discussion of quarterly and annual drill site inspections and the various City Staff who could perform those inspections on all sites, not just active sites, with no outsourcing necessary. Commissioner McGlaun suggested static reports, using the City of Flower Mound as an example, and the use of aerial views. There was discussion of placing a complaint/comment form on the website, making the website more interactive, and also providing a 24 hour automated number where citizens without internet access could call in to report concerns. The City of Arlington (COA) processes regarding Compliance and Enforcement would include information on the results following the receipt of a call.

It was suggested that revenue from gas well drilling be used to fund site monitoring and inspections as well as web enhancement. Live telemetry from a drill site to the City was suggested and Chair Vandergriff noted that operators wanted an opportunity to comply before a fine was issued to avoid having a file full of violations resulting in a bad reputation. Mr. Parajon stated that all gas well permit applications have a compliance section specific to each site and operator noting any compliance and quality issues. This practice could be added to the Specific Use Permit (SUP) application. Compliance issues as a form of public information could be posted on the website as well.

City Staffing upgrades and enhancements had been accomplished and addressed previously with a current Gas Well Team of three, plus a Supervisor. Six Inspection Personnel who are familiar with field investigations will be responsible for monitoring drill sites and reporting their findings. Various Code Enforcement Personnel along with the Police and Fire Departments have the potential to look at drill sites and report back.

Commissioner Forbes inquired about pipeline routing system, both current and proposed for the future, and what type of management tools would be used.

Mr. Venables addressed the Commission regarding the laying and routing of pipelines throughout the City. He stated that currently an access database was used and that Public Works and Transportation (PWT) inspected the pipelines during the installation process in order to protect the City's infrastructure, roadways and sidewalks. PWT also monitored pipeline markers once a year and reviewed them for adequacy. Operators are responsible for the integrity of the pipelines and they do systematic testing of the lines for safety.

Baseline testing was discussed in regard to site remediation and future development on a case by case basis. Commissioner Forbes suggested restoration be addressed on the site plan prior to drilling. It was pointed out that Council preferred a five year timeframe on a Specific Use Permit (SUP) with a restoration plan concept. Commissioner Piel mentioned that long term development would impact site restorations 20 or 30 years in the future. It was suggested that baseline soil testing be added to the permit process as a requirement and the idea of removing any compacted soil for site remediation was generally agreed upon, creating a future site better than it was originally. Commissioner Vinyard suggested letting the industry decide on pre-testing, but that out-going testing be required.

After much discussion, the suggested possible actions toward Compliance and Enforcement, Staffing, and Site Remediation were to:

- Create a systematic monitoring process and utilization of web based tools
- Review violations and corresponding fines to see if appropriate
- Keep a list of operator ratings based on the history of violations and how that impacts their future projects
- Provide an automated dial in service
- Add live telemetry from a drill site to the COA
- Add Administrative approval of permits
- Require baseline testing with restoration and analysis upon abandonment

Ed Pischedda, 1104 Auburn Drive, 76012, addressed the Commission regarding noise. He preferred a Phase I Environmental Assessment be required before permitting.

Chair Vandergriff asked that a short list of consensus points be added to the DRAFT report before the next work session. It was agreed that the working document would be posted on the website for public viewing.

Future Meeting Dates

- a. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee on December 1, 2010
- b. Planning and Zoning Commission and the Planning and Zoning Commission's Gas Drilling Briefing Committee on December 8, 2010

There being no further business to come before the Commission, the work session was adjourned at 6:00 p.m.

NOTE: Taped recordings and minutes of all Planning and Zoning Commission work sessions are a matter of public record and are kept on file in Community Development and Planning, 101 West Abram Street, Arlington, Texas. Any Commissioner or interested party has the right to review these tapes and minutes in Community Development and Planning.

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION
and the Planning and Zoning Commission's
Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET
December 1, 2010
4:00 P.M.

(to be inserted once approved at P&Z's 1/5/2011 meeting)

DRAFT

MINUTES

WORK SESSION

PLANNING AND ZONING COMMISSION
and the Planning and Zoning Commission's
Gas Drilling Briefing Committee

COUNCIL BRIEFING ROOM

101 WEST ABRAM STREET
December 8, 2010
3:30 P.M.

(to be inserted once approved at P&Z's 1/5/2011 meeting)

DRAFT

Phase II Gas Drilling Program Report - Municipal Comparison Table

	Arlington	Denton	Flower Mound	Fort Worth	Grand Prairie	Grapevine	Mansfield	Southlake
Site Compliance	Must conform to GD&P Ordinance and zoning conditions	Sub Chpt 22 of the Development Code, zoning conditions, and platting requirements	Oil and Natural Gas Well Drilling and Operations Ordinance	GD&P Ordinance	GD&P Ordinance	Chpt 12 Health & Sanitation Ord, Article 7 Oil & Gas Drilling Regs, & zoning conditions	GD&P Ordinance and zoning conditions	No existing drill sites
Staffing	Coordination with depts to oversee program (CD&P, PWT, RES, & Water Utilities)	Planning & Dev (P&D) primary program oversight, but Fire Marshall issues permits	Env Resources primarily responsible for gas drilling program oversight	Gas Division of P&D primarily responsible for gas drilling program oversight	Env Quality Division of ES primarily responsible for gas drilling program oversight	Development Services is primarily responsible for gas drilling program oversight	Planning is primarily responsible for gas drilling program oversight	P&D Services is primarily responsible for gas drilling program oversight
Site Remediation	Clean, complete restoration, and repair site within 60 days after well abandonment	Clean and repair all damage to public property within 30 days	Clean & restore site and repair all damage to public property within 30 days	Clean & restore site and repair all damage to public property within 60 days	Clean & restore site and repair all damage to public property within 60 days	Restore site to its original condition as nearly as practicable	Grade land & return site to original condition, including vegetation to match the area w/in 60 days	Grade land & return site to original condition, including vegetation to match the area w/in 60 days
Seismic Activity	RES reviews applications and licenses activity	No permitting process identified	Governing ord in place and the activity is prohibited on Public Property and ROW	No ordinance, but a ROW permit is required	No permitting process identified	No permitting process identified	No permitting process identified	No ord, but charge \$1,200 license fee & require videos before/after activity
Pipeline Routing	RES and PWT handle licensing and CD&P reviews layout. No ORD	RES handles licensing and Planning reviews layout. No ORD.	Has ORD. ROW crossing permit issued by ENV and Engineering	No ORD. Engineer, PWT, P&D use ROW Use Agreement, Council action	Engineering licenses crossings via ROW Use Agreement. No ORD	Kennedale: City Manager office uses ROW Use Agreement. No ORD	Planning licenses crossings through a Public ROW Use License. No ORD	No data included.
Economic Incentives	No current economic incentives exist to identify drilling sites	No info regarding any existing regulations	No info regarding any existing regulations	No info regarding any existing regulations	No info regarding any existing regulations	No info regarding any existing regulations	No info regarding any existing regulations	No info regarding any existing regulations
Development Impacts	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades	No zoning component, but permits do not expire	No zoning component, but permits do not expire	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades	SUP expires after 5 years, but permits do not expire if the well is drilled, wells produce for many years	Indefinite SUP and permits do not expire if drilled, but sites may exist for decades
Noise	Ambient level reported by operator and overages allowed based on each drilling stage, increases over ambeint allowed at: 3 dB during nighttime drilling; 5 dB during daytime drilling or other activities; 7 db during fracing; & maintain ambient levels during production	Cannot exceed 75 dB when measured 300 feet from the boundaries of the site with permitted overages of 10 dBA for 5 min, 15 dBA for 1 min, and 20 dBA <1 min per any 1 hr	56 dB during night drilling, 70 dB during daytime hours, and Noise Management Plan required.	No Sunday activity except drilling & (de)mobilization. 5 dB (daytime) or 3 dB (nighttime) increases allowed with permitted overages of 10 dBA for 5 min, 15 dBA for 1 min, and 20 dBA <1 min per any 1 hr. Ord also addresses low frequency noise and pure tones. Management plan required.	10 dB increase during fracing, 5 dB during nighttime backflow operations, and no more than 5 dB (daytime) and 3 dB (nighttime) for other activities. Permitted overages of 5 dBA for 15 min, 10 dBA for 5 min, 15 dBA for 1 min, and 20 dBA <1 min per any 1 hr.	Cannot produce a sound greater than 65 dB(a) when measured at 300 feet from the boundary of the site and no greater than 85 dB(a) during fracing.	5 dB (daytime) or 3 dB (nighttime) increases allowed for any operations, with permitted overages of 10 dBA for 5 min, 15 dBA for 1 min, and 20 dBA <1 min per any 1 hr. Ord also addresses low frequency noise and pure tones.	Noise management plan required and 10 dB increase allowed during fracing, 5 dB increase during nighttime backflow operations, and no more than 5 dB (daytime) and 3 dB (nighttime) for all other activities.

City of Arlington Natural Gas Program-Issues
Phase II
Discussion Topics/Review
for the
Planning and Zoning Commission Work Session
November 17, 2010

Below are comments from the gas well industry regarding the proposed changes to the City of Arlington Gas Well Ordinance.

1. COMPLIANCE AND ENFORCEMENT

Industry Comments:

1. *Video camera security at each site could pose a risk to us and also increase our liability. This also is a risk of our right to proprietary work and practices on our sites.*
2. *I do not understand the need for drilling stage signage. Is this only meant to curb calls to the city? There is no true reason for this request from a safety and security perspective.*
3. *VANTAGE: Agree with points above. City already requires posting signs ahead of the major operational segments, construction-drilling-completion. Operators typically have websites now that keep area concerns informed of operations that are occurring on these sites.*
4. *VANTAGE: For enforcement considerations, request a 10-day corrective action period before financial penalties take place.*
5. *CHESAPEAKE supports increased enforcement of ordinance stipulations and zoning conditions, but would like to ensure operators are given the opportunity to correct compliance issues before a citation is issued.*

2. STAFFING

Industry Comments:

1. *We need to find a way to make the process for permitting in Arlington much less onerous and lengthy. The City still has not address our concerns over how long it takes to permit a well.*
2. *Arlington needs to adopt a staff approval of wells after a pad site has been approved at the council level.*
3. *VANTAGE: Support all positions already stated herein, especially the creation of a gas well team within CD&P. This is a good step toward administrative approval of well permits, after the first well permit has been approved by city council. There is no need to burden council with additional permit approvals, and the gas well team should retain the right to deny permits for enforcement actions.*
4. *CHESAPEAKE supports the creation of a gas well team and the opportunity to have well permits administratively approved. We commend the city staff for implementing these measures.*

3. SITE REMEDIATION

Industry Comments:

1. *This is a normal business practice for all of us.*
2. *VANTAGE: Support remediation practices stated herein and which is more-or-less already established in the current ordinance.*
3. *CHESAPEAKE: Site remediation should be handled on a case by case basis. Restoring a site to its existing conditions may not be in the best interest of the community; flexibility should be provided.*

4. SEISMIC ACTIVITY

Industry Comments:

1. Notice of date of data acquisition
2. Receiver and source location points posting
3. Mini-vibes on streets only
4. Big vibrators on lots only
5. Operator to set up information website
6. City to map out infrastructure
7. Operator to provide Peak Particle Velocity monitoring
8. Operator to video streets before and after 3D acquisition
9. City to map out precise permitting timeline.
10. VANTAGE: Support measures stated herein
11. CHESAPEAKE supports the existing license and permitting process.

5. PIPELINE ROUTING AND LAND USE

Industry Comments:

1. VANTAGE: Support city's permitting processes already in place for pipeline routing and land use. Do not see any reason to amend existing ordinance in this area.
2. CHESAPEAKE supports the existing pipeline permitting process as it works very well and provides the necessary flexibility.

6. INCENTIVES OR COOPERATIVE EFFORTS BETWEEN THE CITY AND GAS COMPANIES FOR SITE IDENTIFICATION

Industry Comments:

1. We have no information from the city as to what these incentives would be or what they have in mind.
2. VANTAGE: Industry should support in general, the concept of cooperative efforts in the identification of mutually beneficial sites. Nevertheless, city must recognize competitive forces in the market place when it comes to mineral development. The creation of drilling and production units, and the pace of development are most often unique to an operator's business model. So while cooperation and planning should be encouraged, it is impractical to enforce, and should not therefore be a mandate, as it would pertain to the procedural review and approval of an applicant's site.
3. CHESAPEAKE commends city staff for recommending a relaxed pooling requirement. We also support the concept of collaboration and cooperation among drilling operators, and have worked, in several instances, with many other operators. However, we do not believe this should be required by the city.

7. LONG-TERM DEVELOPMENT AND REDEVELOPMENT IMPACTS OF INDUSTRIAL DRILL SITES IN URBAN AREA

Industry Comments:

1. We have talked at length about this issue, with no clear resolution.
2. VANTAGE: There is no quantifiable goal in this statement as presented, and should not be an ordinance provision as it pertains to the procedural review and approval of an applicant's site. As in No. 6 above, industry certainly supports a collaborative relationship with the city to the best of our ability, to present our development plans, when such plans have no potential to adversely impact a company's competitiveness in the market place, or has no potential to adversely impact the company's business plan and value to stake/share holders.
3. CHESAPEAKE: There are several active drill sites in Arlington where development and redevelopment is occurring in conjunction with drilling operations. Examples include the Rocking Horse well site (office building development), the Fulson well site (Quicktrip), and the Palos Verdes site (Carl's Junior restaurant). Long term emphasis should be placed on landscaping and site aesthetics to ensure that well site blends with surrounding environment.

8. AIR QUALITY

Industry Comments:

1. *VANTAGE: TCEQ is the state's regulatory body on the question of air quality, and has established standards for industry. Studies on a specific site and broader basis continue to show that industry is not a major contributor to air pollution in the metroplex area. City should not adopt an ordinance of rigid policy and enforcement when there is no supportive reason to do so. Rather, city should adopt an ordinance which is collaborative with industry, and which is focused to site specific developments. There may be instances where drilling/production occur in populated areas where it would make more sense to stipulate baseline and post production air testing and compliance with TCEQ standards as a condition of permit approval. In these cases or where otherwise identified, the operator will be required to permit that facility with TCEQ and apply emission control devices to reduce emissions and meet the compliance standards. The control devices could be up to and including vapor recovery systems. Vantage does not support and would be opposed to an ordinance which mandates across the board baseline testing.*

9. NOISE FROM SITE ACTIVITIES

Industry Comments:

1. *VANTAGE: Vantage supports city's position to add low frequency and pure tones for noise monitoring, and for establishing a noise mitigation plan.*
2. *CHESAPEAKE: We support the use of sound mitigation plans provided they allow flexibility to the operator as changes or availability of equipment could necessitate a revision to the plan. Additionally, we could support the establishment of day/night ambient levels if adequate decibel increases are included. For example, the City of Fort Worth's noise requirements include higher increases of decibels for short increments of time. (i.e. 10 db's for 5 cumulative minutes, 15 db's for 1 cumulative minute, and 20 db's for less than minute per hour.)*

EXHIBIT 4 - POWERPOINT PRESENTATIONS

P&Z Commission Work Session Presentations

- | | | |
|-----------------------|---|--------------------------------|
| 1. September 01, 2010 | - | Phase II Overview Presentation |
| 2. September 15, 2010 | - | First Three Topics |
| 3. September 22, 2010 | - | Topics Four through Six |
| 4. September 29, 2010 | - | Final Three Topics |
| 5. October 06, 2010 | - | Topic Review |
| 6. October 20, 2010 | - | Proposed Actions Discussion |
| 7. November 10, 2010 | - | Draft Report Review |



Agenda

- Overview of Phase I
- Summary of Phase II Issues
- Phase II Approach and Schedule
- Discuss first Phase II Issue: Compliance and Enforcement

Phase I Approach (Meetings)

- Regular Wednesday topic based work sessions
 - Staff presentation and discussion
 - Industry comments
 - Resident and business comments

Phase I Process Overview

- 3/24/2010: Overview presentation and Site Processes
- 3/31/2010: Site Conditions presentation
- 4/7/2010: Operations presentation
- 4/14/2010: Summary presentation

Phase I Process Overview

- 5/19/2010: Report formatting discussion
- 6/2/2010: Discussed first draft
- 6/16/2010: Discussed final draft
- 6/22/2010: Presented final report to Council

All presentations available online at:
http://www.arlingtontx.gov/planning/gas_drilling_links.html

Phase I Report Overview

- Written from P&Z Commission point of view
- Input provided by Staff regarding process knowledge and comparison data
- Input from Industry and Arlington citizenry included in report
- Report presented by P&Z Chair to City Council

Summary of Phase II Issues

1. Drill site compliance and enforcement of ordinance stipulations and zoning conditions
2. City staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction and seismic activities
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use

Summary of Phase II Issues

6. Incentives or cooperative efforts between the City and gas companies for site identification
7. Long-term development and redevelopment impacts of industrial drill sites in urban areas
8. Air quality
9. Noise from site activities

Work Session One (9/1, 9/15)

- **Compliance and Enforcement**
 - Current Procedure
 - Consideration
- **City Staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction and seismic activity**
- **Site Remediation**

Work Session Two (9/22)

- Seismic Activity
- Pipeline Routing and Land Use
- The proactive use of economic incentives or cooperative efforts between the City and Industry to identify workable drill sites and pipeline routes that are desirable from the City's perspective for development as gas drilling locations

Work Session Three (9/29)

- Long-term impacts on development and redevelopment of an industrial drill site in urban areas
- Noise
- Air Quality
 - The City would like to know content and level of gas well emissions and what, if any, impacts these emissions are having on the City

Work Session Four (10/6)

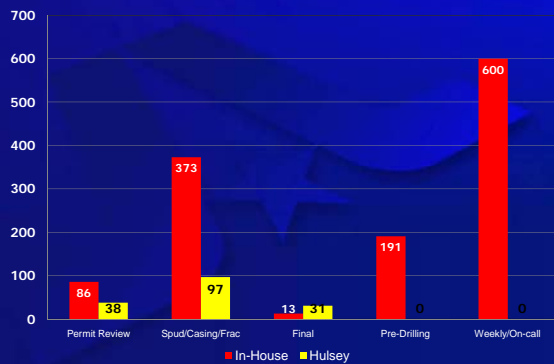
- Summarize Issues Presented
- Review Phase II Report

Compliance and Enforcement

• Current Procedure

- Pre-activity meetings prior to each stage
- Notifications from operator to City prior to work
- Annual inspection of each Gas Well Permit
- Operators cited for violations of approved City ordinances
- Citizen phone call and email response by next business day
- Sound reports forwarded to City daily
- On-site inspections for various issues

In-House and Consultant Inspections



Compliance and Enforcement

• Considerations

- Increase enforcement and oversight of each gas well facility
- Evaluate current enforcement tools, i.e., financial penalties
- Drilling stage sign notices posted at each site
- Continuous sound monitoring
- Video camera security for drill sites



Agenda

- Review of Compliance and Enforcement Topics from 9-1-10
- City staffing needs to properly monitor gas drilling, royalty payments, pipeline routes, and construction and seismic activity
- Site Remediation

Compliance and Enforcement

- **Current Procedure**
 - Pre-activity meetings prior to each stage
 - Notifications from operator to City prior to work
 - Annual inspection of each Gas Well Permit
 - Operators cited for violations of approved City ordinances
 - Citizen phone call and email response by next business day
 - Sound reports forwarded to City daily
 - On-site inspections for various issues

Compliance and Enforcement

• Considerations

- Increase enforcement and oversight of each gas well facility
- Evaluate current enforcement tools, i.e., financial penalties
- Drilling stage sign notices posted at each site
- Continuous sound monitoring
- Video camera security for drill sites

Compliance and Enforcement

• Industry Input

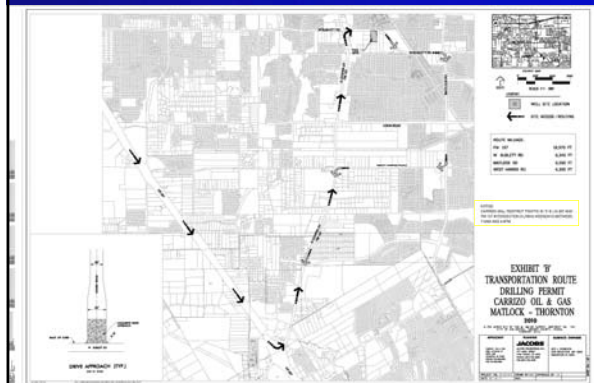
- Consensus that additional information and notice upfront helps inform public of onsite activities
- Sound mitigation plan could be a useful tool to help identify site specific noise compliance
- Video security may not address or help solve identified concerns and could cause more problems (legal, economical, monitoring, etc.) that are not initially identifiable

Staffing

• Current Procedure

- CD&P review of zoning and permitting
- Prepare applications for public hearings
- Process and respond to citizen inquiries
- Receive notices for onsite inspections during various drilling stages
- Track stages of drilling for each well
- Attend training and hold discussions to remain up-to-date with current drilling technologies
- Enforce site specific zoning and permit conditions as well as general ordinance stipulations

Staffing



Staffing

• Considerations

- Work assignments internally adjusted for adequate drilling oversight
- Utilize web based notifications to status updates
- Streamline minimum set of standards for reporting info operators must provide
- Publish reporting info in easily accessible manner
- Webpage and mapping updates to stay current with ongoing case load and drilling topics

Site Remediation

• Current Procedure

- Wall and landscaping added after completion, unless stipulated earlier
- Operator required to clear site plus grade, level, and restore property after abandonment
- Roadways, rights-of-way, and other public property must be restored to former conditions
- Restoration activities completed within 60 days
- Operator is responsible for the restoration of the well site to its original condition



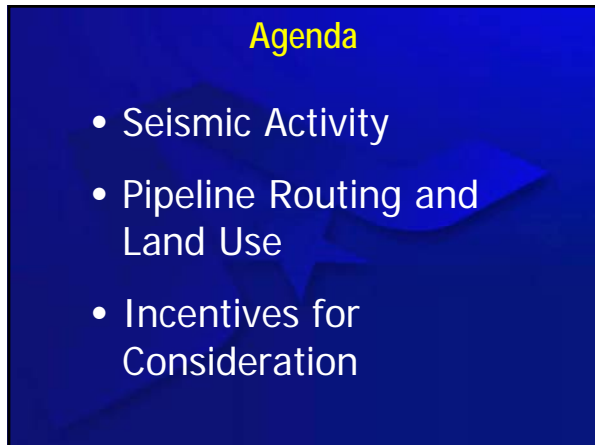


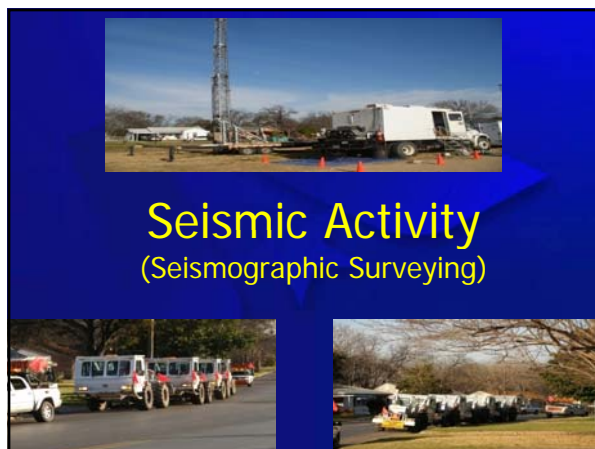


Work Session 2 Summary

- Compliance and Enforcement review
- City staffing
- Remediation







Definitions

- **Seismic Survey:** a technology employing reflective sound waves created by ground vibration used to detect and identify the structural characteristics of rock formations.
- **Minimize:** truck used in the vibing process, especially on rights-of-way-typical vehicle weight does not exceed 17,000 lbs.
- **Geophone:** (receivers) seismic recorders (plastic spikes) connected with cables-detect sound waves
- **Peak Particle Velocity (PPV):** The rate at which particle displacement changes, and is normally measured in inches/sec
 - Standard measure of particle velocity caused by vibration waves

Seismic Survey Permit Requirements

Seismic Survey License Agreement	<ul style="list-style-type: none"> • Execution of a revocable license agreement approved by City Council
Plan Submittal	<ul style="list-style-type: none"> • Operators to identify water and sewer line locations that coincide with proposed source locations
Equipment	<ul style="list-style-type: none"> • Mini-vibe truck only on public roads • No cables across roadways-geophones located back of curb
Maximum Peak Particle Velocities	<ul style="list-style-type: none"> • 0.35 inches per second
Inspection	<ul style="list-style-type: none"> • Require field verification of water and sanitary sewer lines at source point before seismic testing
Term of Agreement	<ul style="list-style-type: none"> • Three (3) years
License Fee Structure	<ul style="list-style-type: none"> • \$25,000 for license • \$100,000 security instrument due upon execution of Seismic Survey License Agreement • \$7.50 for each vibrate source location at time of permit
Post Survey Inspection	<ul style="list-style-type: none"> • Video Tape • PPV recording summary

Seismic Survey Right-of-Way Permit Procedure



Municipality, etc.	On public property	On right-of-way	Ordinance in place	RPV Index	Frequency, Hz	Minimum distance to PI	Minimum distance to structures	Type of test vehicle	Maximum weight, lbs.	Comments
Arlington	YES	YES	NO	0.35	10-125	3 feet separation	N/A	Mini-vibe only within ROW	<17,000	License Agreement + ROW Permit + \$7.50 per source point
Carrollton	YES	YES	NO	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	ROW permit & insurance
Farmers Branch	YES	YES	YES	Not Measured	Not Measured	Per City Discretion	Not Measured	Not Measured	Not Measured	\$500 permit fee
Flower Mound	NO	NO	YES	N/A	N/A	N/A	N/A	N/A	N/A	Prohibited on Public Property and ROW
Fort Worth	YES	YES	NO	0.35	10-125	N/A	N/A	Mini-Vibe	<17,000 (on ROW)	ROW permit
Inving	YES	NO	YES	Not Measured	Not Measured	Per DPW Approval	Show Locations	Not Measured	Not Measured	Permit: \$360 fee
N Richland Hills	YES	YES	YES	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	\$2500 permit fee
UTA	YES	N/A	NO	Not Measured	Not Measured	Not Provided	Not Provided	Not Provided	Not Provided	
Southlake	YES	YES	NO	Not Measured	Not Measured	Not Provided	Not Provided	Not Provided	Not Provided	License Fee \$1,200 Inspector Video Before and After

Municipality, etc.	On public property	On right-of-way	Ordinance in place	PPV, In/vec	Frequency, Hz	Minimum distance to PI	Minimum distance to structures	Type of test vehicle	Maximum weight, lbs	Comments
Arlington	YES	YES	NO	0.35	10-125	3 feet separation	N/A	Mini-Vibe only w/o ROW	<17,000	License Agreement + ROW Permit \$7.50 per source point
Carrollton	YES	YES	NO	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	ROW permit + Insurance
Farmers Branch	YES	YES	YES	Not Measured	Not Measured	Per City Discretion	Not Measured	Not Measured	Not Measured	\$500 permit fee
Flower Mound	NO	NO	YES	N/A	N/A	N/A	N/A	N/A	N/A	Prohibited on Public Property and ROW
Fort Worth	YES	YES	NO	0.35	10-125	N/A	N/A	Mini-Vibe	<17,000 (on ROW)	ROW permit
Inving	YES	NO	YES	Not Measured	Not Measured	Per DPW Approval	Show Locations	Not Measured	Not Measured	Permit: \$360 fee
N Richland Hills	YES	YES	YES	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	Not Measured	\$2500 permit fee
UTA	YES	N/A	NO	Not Measured	Not Measured	Not Provided	Not Provided	Not Provided	Not Provided	
Southlake	YES	YES	NO	Not Measured	Not Measured	Not Provided	Not Provided	Not Provided	Not Provided	License Fee \$1,200 Inspector Video Before and After

Pipeline Routing and Land Use



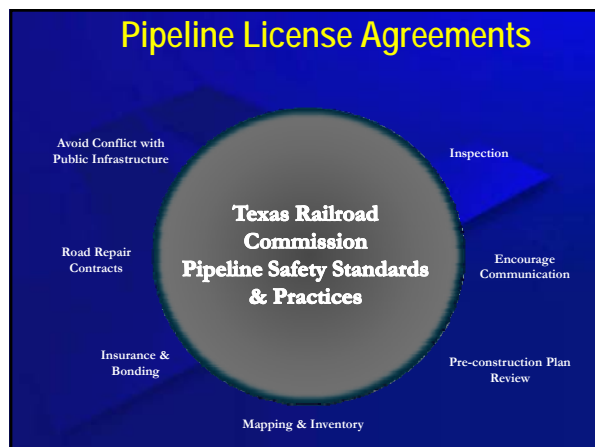
Regulatory Authority

- Texas Railroad Commission (RRC) has exclusive jurisdiction over intrastate natural gas gathering and transmission pipeline safety standards and practices
- The City can regulate where and how gas pipelines cross rights-of-way and other public ways

- Texas Railroad Commission (RRC) has exclusive jurisdiction over intrastate natural gas gathering and transmission pipeline safety standards and practices
- The City can regulate where and how gas pipelines cross rights-of-way and other public ways

The City uses Pipeline License Agreements to require operators to:

- ✓ Communicate planned pipeline route and locations
- ✓ Complete ROW Permit process and construction plan review
- ✓ Provide insurance and bonding
- ✓ Preserve future municipal expansion opportunities
- ✓ Avoid conflict with existing and planned public infrastructure
- ✓ Provide "As-Built" construction plans



Minimum License Requirements

Construction	<ul style="list-style-type: none"> • Permit issued upon final review and approval of detailed construction plans by CD&P-One Start • Minimum pipeline depth of 6 feet (public property and ROW) • Pipeline constructed below all public utilities
Insurance	<ul style="list-style-type: none"> • In accordance with limits outlined in the City's Gas Drilling and Production Ordinance
Bonds	<ul style="list-style-type: none"> • Performance Bond – based on estimated construction cost • Maintenance Bond – based on constructed cost within ROW or public property
Road Repair Contract	<ul style="list-style-type: none"> • Cash Escrow or Letter of Credit in the amount of \$30K per operator
Term	<ul style="list-style-type: none"> • Primary term of twenty (20) years with two (2) additional options for ten (10) years each
As-Built Plans	<ul style="list-style-type: none"> • Provide "As-built" construction plans to City within 90 days of completion
License Fee	<ul style="list-style-type: none"> • \$2.75 per linear foot per year for primary term and each ten (10) year extension plus adjustment based on CPI factor

Reasonable Annual Charge

The City has limited authority to assess a reasonable annual charge for natural gas pipelines that cross public property or rights-of-way

Fee is limited by Texas Utilities Code to the cost of :

1. Taking Inventory
2. Maintaining records and maps
3. Inspection

Fees are subject to review by the Texas RRC

*** So long as none of the above activities are in conflict with State or Federal laws**

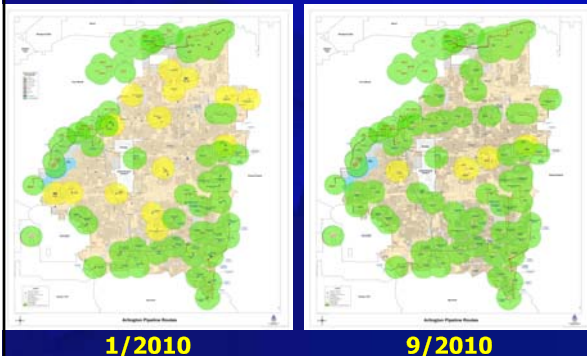
Pipeline Process Matrix

	Real Estate Services	City Council	City Attorney	Parks	CD&P (One Start)	Public Works	Water Utilities
Route Review & Comment	✓	✓	✓	✓	✓	✓	
License Agreements	✓	✓	✓				
Road Repair Contracts	✓		✓				
Construction Plan Review and Approval				✓	✓	✓	
Inspection						✓	
Mapping					✓		✓

Municipal Comparison

Municipality	License Agreement	ROW Permit	Road Repair Contract	Insurance	Bond	Fee	Inspection	As-Built Drawings
Arlington	✓	✓	✓	✓	✓	✓	✓	✓
Fort Worth	✓	✓		✓	✓	✓	✓	✓
Kennedale	✓	✓		✓	✓	✓		✓
Mansfield	✓			✓		✓		✓
North Richland Hills	✓	✓		✓	✓		✓	✓
Grand Prairie	✓			✓	✓	✓		✓
Denton	✓			✓	✓	✓		✓
Flower Mound		✓		✓	✓	✓	✓	✓
Haltom City	✓	✓	✓	✓	✓	✓		✓

Approved Drill Site Locations with Identified Pipeline Routes



Pipeline Considerations

- Producers provide more information on available gas gathering lines at time of SUP request:
 - Demonstrate the ability to have reasonable access to the pipeline; and
 - That adequate line capacity exists in order to avoid or reduce the need for the installation of additional pipelines

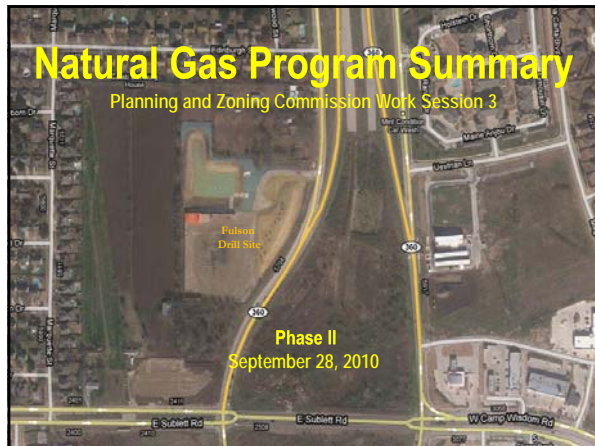
Incentives for Consideration

Public Property Mineral Leases

- Relaxed pooling requirements in exchange for operator commitment to reduce pipeline footprint and drill sites

SUP

- Encourage the use of sites that illustrate the ability to capture the maximum amount of mineral acres - possibly reducing the number of drill sites



Agenda

- Development impacts of industrial drill sites in urban areas
- Noise
- Air Quality

Impacts on Development

- **Current Procedure**
 - Per Ordinance 07-071, gas drilling use defined and allowed in all zoning districts
 - SUPs expire two years after approval
 - Drilling allowed indefinitely if first well drilled within 2 years
 - Setback distance measured from defined protected uses and not commercial development

Municipal Development Comparison

- **Fort Worth**
 - Open to private property, City Council must first approve use of public lands
- **Mansfield**
 - Allowed through zoning in any district, as long as the setback distances can be met
- **Burleson**
 - Permissible if located in a manner to fully meet ordinance requirements. Otherwise, requires Gas Well Ordinance Variance Request approved by City Council
- **Grand Prairie**
 - Must meet ordinance or requires variance
- **Denton**
 - Approved gas well development plat

Impacts on Development

- **Considerations**
 - Possible zoning or overlay limitations to allowed use tables regarding gas drilling
 - Continue discussion of SUP time limits, as presented in Phase I discussions
 - Expand definition of protected use term
 - Add setback distances to non-protected use buildings and structures

Noise

- **Current Procedure**
 - Ambient level established prior to drilling
 - Typically a 24-hour average reading
 - Allowances over ambient level for various activities
 - 3 dB during nighttime drilling
 - 5 dB during daytime drilling or other activities
 - 7 dB during fracing
 - Maintain ambient during production

Municipal Noise Comparison

- **Fort Worth**
 - 72-hour ambient, noise management plan, pure tones, low frequency, permitted increases
- **Mansfield**
 - 72-hour ambient, pure tones, low frequency, permitted increases
- **Burleson**
 - 72-hour ambient, noise management plan, pure tones, low frequency, permitted increases
- **Grand Prairie**
 - 48-hour ambient, noise abatement study, pure tones, permitted increases
- **Denton**
 - Adequate nuisance prevention measures to control noise

Noise

- **Considerations**
 - Longer sample period to establish ambient level
 - Daytime and nighttime ambient levels
 - Noise mitigation plan submitted with application
 - Regulate low frequency noise octaves

Air Quality

- **Current Procedure**
 - No comprehensive test in Arlington
 - TCEQ tests Arlington wells on-call basis and 2009 study included one site (Carrizo's UTA Drill Site)
 - BSEEC study included one well site in Arlington (XTO's Rose Drill Site)

Municipal Air Quality Comparison

- **Fort Worth**
 - Ongoing air quality study at nearly 75 percent of facilities
- **Mansfield**
 - not performing any tests, TCEQ checked 5 of drill sites (one with a comp station), negative results
 - City Council added a condition to an SUP requiring an air quality check before drilling and another test after drilling
- **Burleson**
 - TCEQ performs tests on-call, no reported issues
- **Grand Prairie**
 - Awaiting results from outside tests, rely on TCEQ
- **Denton**
 - Not performing tests, rely on TCEQ

Air Quality

- **Considerations**
 - Longer term analysis of drilling activities to identify impact for a site during all stages, including compression
 - Measure emissions for key compounds: VOCs (BTEX), formaldehyde, and nitrogen oxides
 - Clearly distinguish on-site emissions from upwind fluxes of the measured pollutants
 - Remote sensing techniques that can operate in the field continuously for prolonged time periods
 - Continue discussions with City Council

QUESTIONS?



Agenda

- Phase II topics identified
- Items discussed in three groups, as initially presented
- Proposed action or implemented change
- Questions

Phase II Topic Review

1. Drill site compliance and enforcement
2. City staffing needs
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use
6. Incentives for locating sites
7. Impacts on Development
8. Air Quality
9. Noise

Work Session 1 Issues

1. Drill site compliance and enforcement
2. City staffing needs
3. Site remediation

Proposed Action

1. Increased recommended fine
2. Gas well team created within CD&P
3. Rely on existing rules for clean-up

Work Session 2 Issues

1. Seismic activity
2. Pipeline routing and land use
3. Incentives for locating sites

Proposed Action

1. Maintain existing seismic permit and pipeline license
2. Encourage ROW use when possible
3. Relax pooling requirements and encourage sites that capture maximum mineral acreage

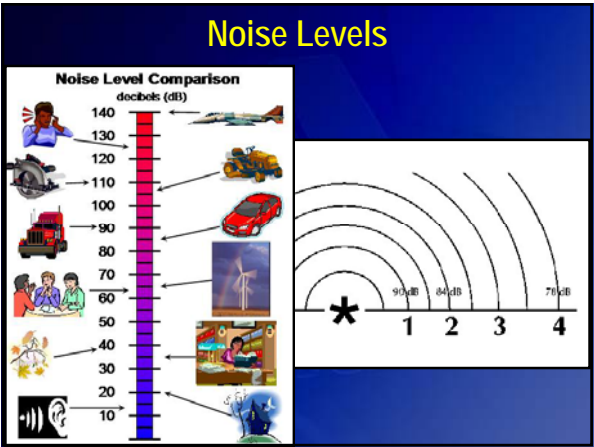
Work Session 3 Issues

1. Impacts on Development
2. Air Quality
3. Noise

Proposed Action

1. Long-term viability of a site (time limits)
2. Baseline test and random analysis
3. Add low frequency and pure tones in noise monitoring, require noise mitigation plans, and establish both daytime and nighttime ambient sound levels





October 20, 2010

– Proposed Actions Discussion



Agenda

- Phase II topics identified
- Continue discussion from October 6 work session
- Proposed action or implemented change
- Questions

Phase II Topic Review

1. Drill site compliance and enforcement
2. City staffing needs
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use
6. Incentives for locating sites
7. Impacts on Development
8. Air Quality
9. Noise

Work Session 1 Issues

1. Drill site compliance and enforcement
2. City staffing needs
3. Site remediation

Proposed Action

1. Increased recommended fine
2. Gas well team created within CD&P
3. Rely on existing rules for clean-up, but define previous condition

Work Session 2 Issues

1. Seismic activity
2. Pipeline routing and land use
3. Incentives for locating sites

Proposed Action

1. Maintain existing seismic permit and pipeline license
2. Encourage ROW use when possible
3. Relax pooling requirements and encourage sites that capture maximum mineral acreage

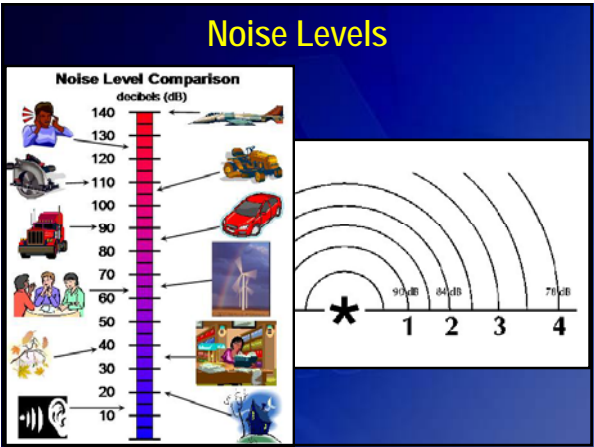
Work Session 3 Issues

1. Impacts on Development
2. Air Quality
3. Noise

Proposed Action

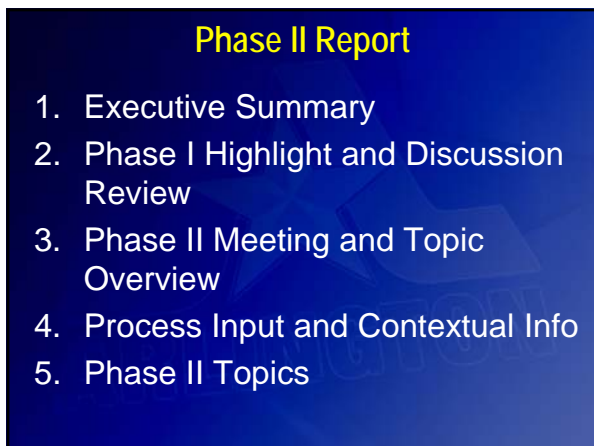
1. Long-term viability of a site (time limits)
2. Baseline test and random analysis
3. Add low frequency and pure tones in noise monitoring, require noise mitigation plans, and establish both daytime and nighttime ambient sound levels











Phase II Topics

1. Site compliance and enforcement
2. City staffing needs
3. Site remediation
4. Seismic activity
5. Pipeline routing and land use
6. Site identification incentives
7. Impacts to development
8. Noise

Topic Information

1. Identification of the issue
2. Current City practices
3. Other municipalities
4. Staff comments
5. Industry response
6. Public input
7. Differences or agreements

QUESTIONS?
