



March 2, 2021

Colin Brown
Senior Planner
City of Aurora Planning Department
15151 E. Alameda Pkwy, Suite 2300
Aurora, CO 80018

Re: Second Submission Review – Lone Tree North Phase 2 – Oil & Gas Permit
Application Number: **DA-2093-02**
Case Number: **2017-6027-03**

Dear Mr. Brown:

We have received comments from City of Aurora Oil and Gas, Tri-County Health Department and Arapahoe County Public Works and Development for the referenced project. We have restated the comments below and addressed them per the bold, italicized responses.

PLAN SET COMMENTS

1. Plan Set

1A. Context Map on all pertinent sheets (Sheets 2-7 and Sheets 10-11): Add a Legend, limits of the 100 Year Floodplain, 500 Year Floodplain and water monitoring locations (Planning)

Response: The context map has been added to sheets 2-7 and 10-11. A legend and the limits of the 100 Year and 500 Year Flood Plain have also been added. The water wells have been updated to match the GWQMP, since no monitoring wells will be drilled for this location.

1B. Vicinity Map on Sheets 1 & 2: Use aerial background layer from Eastern Hills South (Planning)

Response: Aerial background has been added to the Vicinity Maps on sheets 1 and 2.

1C. Signage Examples on all pertinent sheets (Sheets 4-7): Update signage examples to reflect new well names/numbers.

Response: The signage examples have been updated to reflect the updated well names.

1C. Sheet 1 (Planning)

- The last sentence of Note #6 is not a complete sentence – revise or remove.

Response: The last sentence of note #6 has been removed.

1D. Sheet 2 (Planning)

- Add the Context Map inset, revised as requested above.

Response: The revised Context Map has been added to sheet 2.

- Vicinity Map – Use aerial background layer.

Response: The aerial background has been added to the Vicinity Map.

1E. Sheet 4 (Planning)

- Add fence height to all fence labels (wildlife fence, existing fence)

Response: Fence height has been added to all relevant fencing depicted on the plans.

- Add General Construction Note #8 regarding recontour, reclaim, and reseed from Eastern Hills South

Response: General Construction Note #8 has been added to sheet 4.

- Does Table 4-3 'Modeled Mitigation Scenarios' for Noise Mitigation need to be on sheet? If so, please add it back to Sheet 4 and specify that this is for noise mitigation.

Response: To be consistent with the other site plans submitted to the city the Modeled Mitigation Scenarios table has been removed. Please refer to the site-specific Noise Modeling Report reflecting the specific mitigation measures to be used on this site.

1F. Sheet 5 (Planning)

- Show/label the tank battery signage location.

Response: The tank battery signage label has been added.

- Add fence height to existing fence label.

Response: The height has been added to the fence label.

1G. Sheet 5 & 7 (Planning)

- In your Response to Comments letter, you say that you added the height to the containment wall label. I don't see a containment wall shown on the diagram or label on Sheets 5 or 7. Please show/label containment wall with height if it should be shown on both sheets.

Response: The containment wall around the tanks has been labeled as Steel Berm on sheets 5-7 and has been added to the table on sheet 5.

1H. Sheet 6 (Planning)

- Show/label the well head signage location.

Response: The well head signage with a label has been added to sheet 6.

- Add fence height to existing fence label.

Response: The height has been added to the fence label.

1I. Sheet 7 (Planning)

Add revised Context Map to sheet

Response: The revised Context Map has been added to sheet 7.

- Add the swinging gate and 23'-wide access road labels from Sheet 6

Response: The swing gate and 23' access road has been added to Sheet 7.

- Add the pad site elevation label to the layout.

Response: The pad site elevation has been added to sheet 7.

1J. Sheet 7, 8, 11, & 12 (Planning)

- Update the well names/numbers in the title of the sheet.

Response: The well names and numbers have been added to sheets 7, 8, 11, & 12.

- Sheet 11 & 12: Update well names/numbers in title block.

Response: The well names and numbers have been added to the title block on sheets 11 & 12.

2. Vicinity / Context Map (Planning)

2A. Please continue to incorporate into the overall Plan Set.

Response: Acknowledged.

3. Interim Reclamation Plan (Planning)

3A. Please continue to incorporate into the overall Plan Set.

Response: Acknowledged.

4. Visual Mitigation Plan (Planning)

4A. N/A

Response: Acknowledged.

5. Landscape Plan (Planning/Landscape)

5A. This requirement is acceptable as submitted.

Response: Acknowledged.

6. Lighting Plan (Planning)

6A. Please continue to incorporate into the overall Plan Set.

Response: Acknowledged.

7. Building and Structure Elevations (Planning)

7A. Please continue to incorporate into the overall Plan Set.

Response: Acknowledged.

LETTER OF INTRODUCTION COMMENTS

8. Project Summary (Planning)

8A. In the *Project Location* section on Page 2, update the Prosper Farms well name/number (“Prosper Farms 4-65 ~~15-16~~ 14-13”).

Response: The section numbers in the well name have been updated from 15-16 to 14-13.

8B. In the *Purpose, Well Site Construction and Access Road* section on Page 2, add a space to the first Prosper Farmswell listed (Prosper Farms 4-65 14-13 1AH).

Response: A space has been added to the Prosper Farms 4-65 14-13 1AH.

8C. In the *Purpose, Well Site Construction and Access Road* section on Page 3, the last sentence of the first paragraph should read “... ~~ten~~ fifteen (15) wellheads...”.

Response: The word ten has been revised to fifteen.

9. Applicable BMPs Addressed (Narrative List) (Planning)

9A. **Access Roads** – The 3rd sentence should read “The route was also based on the surface rights that were granted in road easement agreements, the Surface Use Agreement, and along with the local topography.”

Response: The 3rd sentence has been revised to read “The route was also based on the surface rights that were granted in a road easement agreement and in a Surface Use Agreement, along with the local topography.”

10. Neighborhood Meeting Schedule & Results / Response to Public Comments
(Planning)

10A. The Neighborhood Meeting Results summary is acceptable as submitted.

Response: Acknowledged.

10B. Additional Electronic Comments received by the City:

- Name: Kathy Boyer, REHS
Organization: Tri-County Health Department, 6162 S. Willow Drive, Suite 100, Greenwood Village CO 80111(kboyer@tchd.org)
Comment: Please see the attached letter.
Response: Acknowledged.
- Name: Donna George
Organization: Xcel Energy, 1123 West 3rd Ave, Denver CO 80223
(donna.l.george@xcelenergy.com) Comment: Please see the attached letter.
Response: Acknowledged.
- Name: Joseph Boateng
Organization: Arapahoe County Public Works and Development 6924 South Lima Street, Centennial CO 80112(publicworks@arapahoe.gov)
Comment: Please see the attached letter.
Response: Acknowledged.

11. Response to Pre-Application Comments (Planning)

11A. This requirement is acceptable as submitted.

Response: Acknowledged.

OPERATIONS PLAN COMMENTS

12. Operations Plan (Planning)

12A. The field-wide Operations Plan has been previously accepted by the City.

Response: Acknowledged.

13. Project Development Schedule

(Planning) 13A. This requirement is acceptable as submitted.

Response: Acknowledged.

14. Security Plan (Planning)

14A. The field-wide Operations Plan has been previously accepted by the City.

Response: Acknowledged.

15. Decommissioning / Final Reclamation Plan (Planning)

15A. The field-wide Operations Plan has been previously accepted by the City.

Response: Acknowledged.

EMERGENCY RESPONSE PLAN COMMENTS

16. Emergency Response Plan (Building/Life Safety)

Field-Wide Plan

16A. The field-wide Emergency Response Plan has been previously accepted by the City.

Response: Acknowledged.

Site-Specific Plan

16B. This requirement is acceptable as submitted.

Response: Acknowledged.

17. PHA-HAZOP Analysis (Building/Life Safety)

Field-Wide

17A. The field-wide PHA-HAZOP Analysis has been previously accepted by the City.

Response: Acknowledged.

Site-Specific

17B. This requirement is acceptable as submitted.

Response: Acknowledged.

COMMENTS ON OTHER REQUIRED ITEMS

18. Traffic Letter / Plan (Traffic)

18A. This requirement was satisfied at initial submittal.

Response: Acknowledged.

19. License Agreements (Real Property)

19A. As long as no equipment, culverts, etc. are encroaching on City easements, ROW's or City property then no License agreement will be required.

Response: No equipment, culverts, or otherwise will encroach upon the City's easements, ROW or property.

20. Recorded Surface Use Agreement (Real

Property) 20A. This requirement was satisfied at initial submittal.

Response: Acknowledged.

21. Property Owner Authorizations (Real

Property) 21A. This requirement was satisfied at initial submittal.

Response: Acknowledged.

22. Water Delivery Method/Water Supply Plan (Water)

Water Delivery Agreement

22A. The field-wide Water Delivery Agreement has been previously accepted by the City.

Response: Acknowledged.

Water Supply Plan

22B. This requirement was satisfied at initial submittal.

Response: Acknowledged.

23. Groundwater Quality Monitoring Plan

(Water) 23A. This requirement is acceptable as submitted.

Response: Acknowledged.

24. Fugitive Dust Suppression Plan (Water)

24A. The field-wide Fugitive Dust Suppression Plan has been previously accepted by the City.

Response: Acknowledged.

25. Fluid Disposal Plan (Water)

25A. The field-wide Fluid Disposal / Waste Management Plan has been previously accepted by the City.

Response: Acknowledged.

26. Water Use Plan CDPHE Reg. 84

26A. N/A

Response: Acknowledged.

27. Weed Control Plan (Water and PROS)

27A. The field-wide Weed Control Plan has been previously accepted by the City.

Response: Acknowledged.

28. Wildlife Impact Mitigation Plan (PROS)

28A. This requirement was satisfied at initial submittal.

Response: Acknowledged.

29. Stormwater Management Plan

29A. These Civil documents will be reviewed and commented on by the standard SWMP Review team via uploadthrough the separate Public Works portal; please contact Public Works at 303-739-7457 to set up a Pre-Submittal meeting.

Response: The SWMP has been approved by the Public Works department.

29B. *FYI:* The City of Aurora Storm Drainage Design and Technical Criteria, and by reference the Mile High Flood District Urban Storm Drainage Criteria Manual, shall be used for designing required features of any extended detentionbasins including: trickle channel, forebay, micropool, maintenance access, pond volume, emergency overflow weir andoutlet structure. It shall be noted that an approved Pond Certificate is required prior to returning Fiscal Security Deposit(as well as other conditions within the Stormwater Permit) and prior to commencement of business operations. (Public Works)

Response: The drainage design has been approved by Public Works. The Sediment basin was redesigned and approved to include an improved outlet structure, due to this application already being in process and approved prior to the extended detention basin being required.

29C. *FYI:* Profiles for gathering lateral pipelines crossing any Aurora Water utilities, ROWs, and floodplains will be required as part of the SWMP plan. (Water)

Response: The SWMP has been approved by the Public Works department, and the gathering lateral pipelines do not cross any Aurora Water Utilities, ROWs or floodplains.

29D. *FYI:* Outlet structures will be required on detention basins- detail required (Water)

Response: The revised outlet structure is included in the approved SWMP.

29E. *FYI:* An I&M plan for maintenance of all sediment and detention basins, as well as all other private stormwaterinfrastructure, is required to be submitted with SWMP plans.

Response: The amended I & M plan approved and executed 10/5/20 includes the Lone Tree North location.

30. Preliminary Drainage Report

30A. This requirement is acceptable as submitted.

Response: Acknowledged.

31. Road Maintenance / Construction (Public Works) 31A.Please address comment on redlined copy of RMA.

Response: The assignment letter executed by the Aurora City Manager has been included with this submission.

32. Air Quality Plan (Planning)

Field-Wide Plan

32A. The field-wide Air Quality Plan has been previously accepted by the City.

Response: Acknowledged.

Site-Specific Plan:

32B. Page 2 – Contents:

- ‘Section 3 – Objectives’ appears in the report, but is missing from the Contents. Please add to Contents.

Response: Section 3 Objectives has been added to the Contents.

- Capitalize “information” in Section 4.2 heading.

Response: Information has been capitalized in the heading for Section 4.2 heading.

- Capitalize “plan” in Section 5 heading.

Response: Plan has been capitalized in the heading for Section 5 heading.

32C. On Page 3, under the Scope section, please update the last sentence to reference the Lone Tree North Phase 2 location.

Response: The site-specific reference has been revised to name the Lone Tree North Phase 2.

32D. Section 4.1 – Correct the pre-construction baseline air monitoring date to line up with the construction date listed in the Project Development Schedule.

Response: The pre-construction monitoring date has been revised to align with the construction date.

32E. Section 4.2, page 3, Pre-Activity information

- Capitalize “information” in the heading.

Response: Information has been capitalized in the heading of Section 4.2.

32F. Section 4.3, bullet point 2, last sentence in sub-bullet 2 (top of Page 4)

- Revise sentence to read “During all activities, sensor placement...”.

Response: The last sentence of Section 4.3, bullet 2 has been revised to read “...activities...”.

32G. Section 4.3, bullet point 4, Page 4

- This point states “The City of Aurora indicated that they would like a monitor located near the area of high vehicular traffic/idling vehicles. Two of the three monitors are located nearest to the haul road and one is located near the facilities and tanks unloading area, which has the highest potential for vehicular emissions impacts and facility emissions.”
- Please make this point more site specific to explain the initial site placement of the monitors.

Response: Site-specific details to be added to the report to further justify the initial placement of monitors.

32H. Section 4.3, bullet point 5, Page 4

- Revise the second sentence to read “...samplers will be placed in a triangular...”.

Response: The second sentence of section 4.3, bullet 5, page 4 has been revised to read “...samplers will be placed in a triangular...”

32I. Section 4.4, bullet point 2, Page 4

- Revise the sentence to read "...samplers will be placed in a triangular...".

Response: The sentence in section 4.4, bullet 2, page 4 has been revised to read "...samplers will be placed in a triangular..."

32J. Section 4.4 – There is no section 4.5 to "see" "for more information", please add it as the re-evaluation procedure of locations and monitors after permanent equipment construction.

- If you add a Section 4.5 to the AQP, please add it to the Table of Contents as well.

Response: Section 4.5 Monitor Re-evaluation Process has been added to the body of the plan and to the Contents.

32K. Section 4.4, bullet point 5, Page 4

- Revise the third sentence to read "...if no comments are received..."

Response: The third sentence of Section 4.4, bullet point 5, Page 4 has been revised to read "Consultation will be limited to 10 business days and if no comments are received from the City of Aurora the placement changes will be considered approved."

32L. Section 4.4, bullet point 5, Page 4

- Please change 5 business days to 10 business days.

Response: Please refer to the revised sentence above noting the change to 10 business days.

32M. Section 4.4, bullet point 7, Page 4

- If the rationale for monitor placement is now to be based on "...prevailing wind patterns as sourced from an anemometer placed in the future center of the pad..." (see Rush North or Rush South AQP).
- An anemometer does not measure wind direction, only wind speed. A wind vane measures wind direction.
- This sentence should be corrected to reference "a wind vane" or "an anemometer/wind vane system" placed at the pad.

Response: The sentence has been revised to note the use of a "an anemometer/wind vane system".

32M. Section 5, bullet point 2, Page 6

- Revise the second sentence to read "...that a sensor needs to be relocated..."

Response: The second sentence of Section 5, bullet point 2, Page 6 has been revised to read "...that a sensor needs to be relocated..."

32N. Section 4.2, page 3, list of possible sources of outside interference

- The Prosper Farms 4-65 13-14 pad is directly east of Lone Tree North. This could be listed as a potential source of outside interference as well.

Response: Prosper Farms 4-65 13-14 pad has been added as a source of potential outside interference.

32O. Section 4.1, pre-construction baseline air monitoring

- The start date for pre-construction baseline air monitoring is listed as July 26, 2021, with construction activities starting February 28, 2022.
- The baseline air monitoring would begin approximately 7 months prior to construction beginning.
- This is too long of a gap. Ideally, baseline air monitoring would begin in early February.

- Per the City approved Field Wide Air Quality Plan (Version 2020.12.11), baseline air monitoring would begin at least 10 days (preferably more) prior to construction activities starting and lasting 7 days.
- Push back the start date of baseline monitoring to be closer to the start of construction activities. Revise start date for pre-construction baseline air monitoring to conform to approved Field Wide Air Quality Plan.

Response: The pre-construction baseline air monitoring start date has been revised to January 28, 2022 to align with the February 28, 2022 construction start date.

32P. Section 4.4, bullet point 7, sub-bullet point 3, Page 5

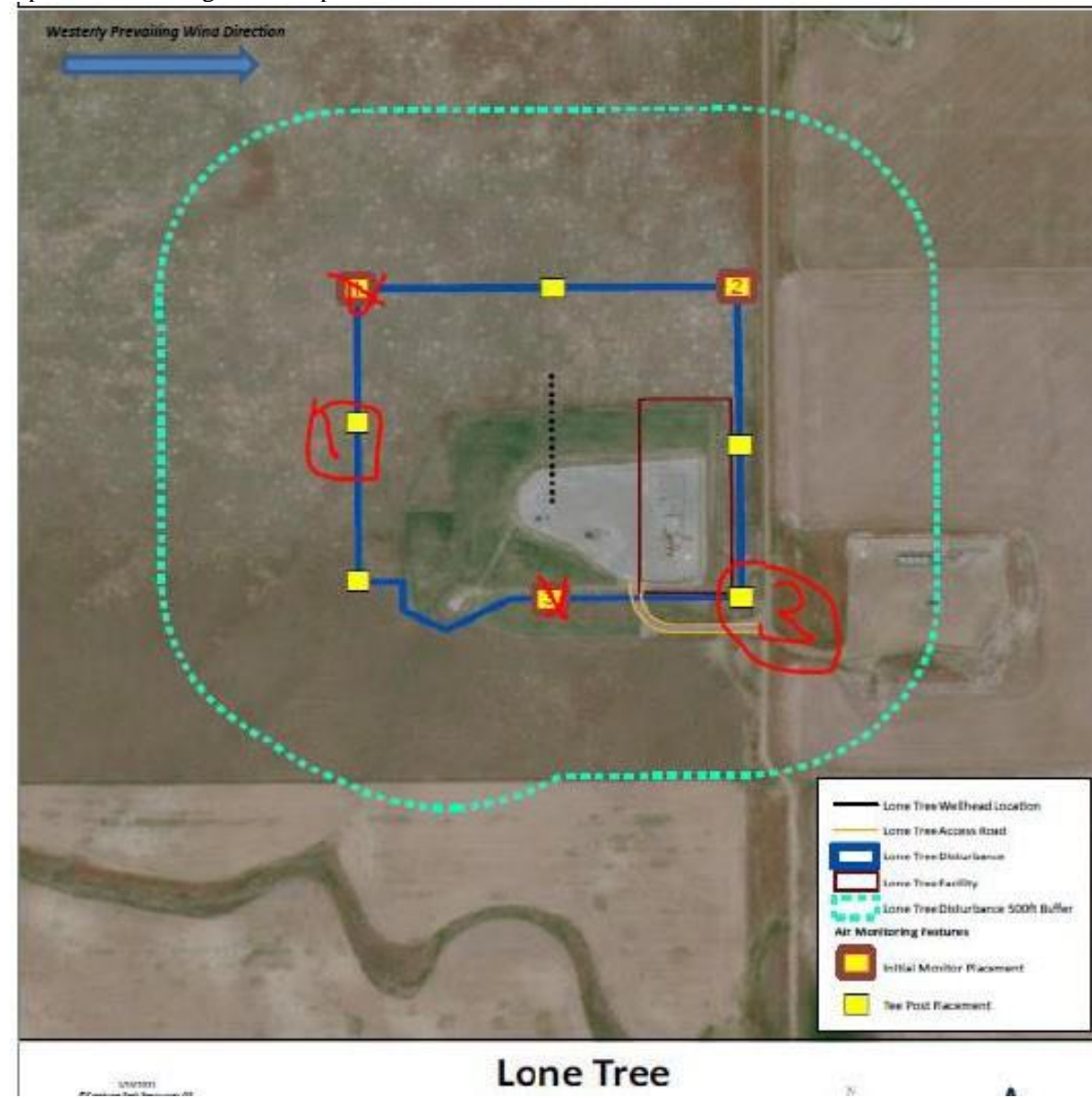
- It is better practice to evaluate windrose information off longer/more historical data than just 30 days of monitoring, which may yield non-representative data. Please utilize widely available wind direction data for more representative results.

Response: The Applicant has found that windrose information for the area is not always representative of site-specific prevailing wind data, so we have chosen to use the anemometer/wind vane system to more accurately evaluate site-specific conditions. We will continue to monitor long term windrose information throughout the life of the well site and adjust monitors accordingly.

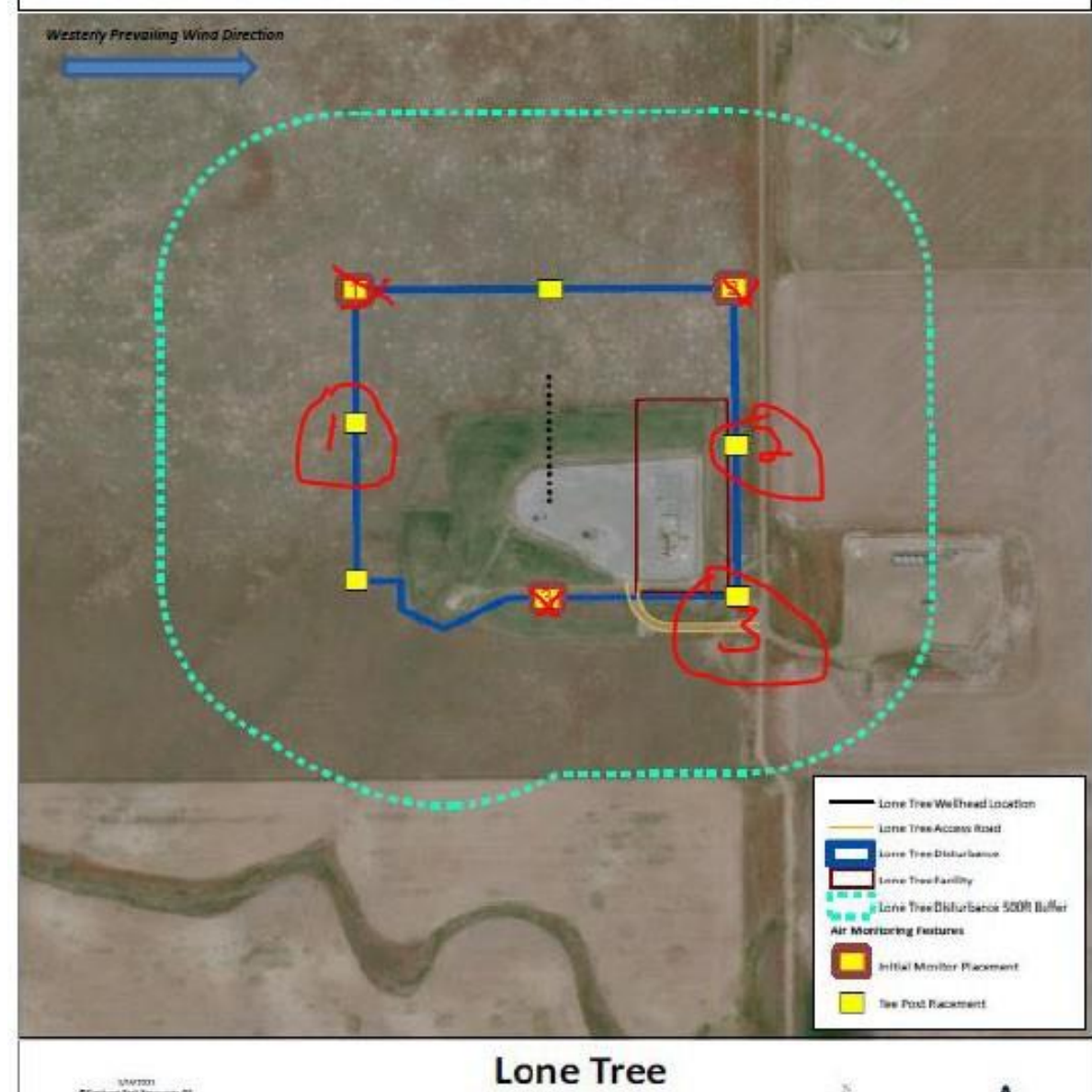
32Q. Monitor Placement comments:

Section 4.3- Roadways should only be a high priority when highly trafficked (i.e. main road) and when the well site is in close proximity. Rather than choosing monitor locations because of the possibility of lots of trucks hauling frac fluids and/or flowback during completions, it is better to choose a longer-period phase; and chosen to consider the main oil and gas processing/storage operations, such as closer to and downwind of the wells and process equipment; and chosen downwind of prevailing winds; therefore preferred 3 stations show below. There are two proposed options for the preferred station locations during different phases of operations. Option 1 is for the drilling and completions phases. Option 2 is for the production phase.

Option 1 – Drilling and Completions Phases



Option 2 – Production Phase Option 2 – Production Phase



Response: While we understand your rationale for monitor placement, the Applicant believes their proposed monitor placements along with added language further explaining the rationale used to determine these proposed locations is of equal importance and validity and has therefor left the locations unchanged. Please note that these locations are the initial choice of placement and will be moved with the city's consent if data collected indicates more suitable locations.

33. Noise Management Plan (Planning)

33A. This requirement is acceptable as submitted.

Response: Acknowledged.

34. Application Form (Planning)

Checklist

34A. This requirement is acceptable as submitted.

Response: Acknowledged.

35. 1-Mile Radius Abutters List (Planning)

35A. This requirement is acceptable as submitted.

Response: Acknowledged.

36. COGCC Forms / 2A (Planning)

36A. Please submit revised Form 2A once it is complete and you have submitted it to the COGCC.

Response: Acknowledged.

TRI-COUNTY HEALTH DEPARTMENT, Kathy Boyer, REHS

Domestic Wastewater Management

Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste that protects public health and the environment. TCHD, as the local public health agency, plays a role in reviewing whether a new proposed land use has addressed the domestic water and wastewater needs and is the regulating agency for On-Site Wastewater Treatment Systems (OWTS). Because of the nature of oil and gas operations and the typical location of this land use, not in close proximity to existing wastewater facilities, many of the oil and gas sites utilize portable above-ground wastewater storage systems.

Response: Acknowledged.

To ensure public health is protected, the system utilized for collecting and storing domestic wastewater shall be operated and maintained in a sanitary manner, to include pumping and hauling of the wastewater by a Systems Cleaner licensed by TCHD. TCHD maintains a list of licensed System Cleaners which can be found here <http://www.tchd.org/745/Finding-Certified-Septic-Professionals>. If you have any questions regarding installation or operation of a portable above-ground wastewater storage system, or the process to obtain a Systems Cleaner license, please contact Mike Weakley at 720-200-1593 or mweakley@tchd.org.

Response: Acknowledged.

Baseline Water Quality Testing

Water quality is unregulated in domestic and irrigation wells in Colorado and monitored in a limited manner for commercial wells. This means water quality testing is typically not required, and the water quality is often unknown. In general, TCHD supports baseline water quality testing to establish the existing water quality relative to the water well's permitted use and to identify water quality issues that should be known and addressed by the well's owner. Baseline water quality testing can also provide an understanding of pre-existing conditions should the water quality change in the future. Baseline and subsequent water quality testing data can support a determination of whether water treatment may be needed to protect the health of well water users and the health of the environment.

Response: Acknowledged.

Specific Recommendations for Water Wells within ½ mile:

TCHD believes that any owner of a well within one-half mile of the proposed oil and gas operation should have the opportunity to obtain a baseline water quality test prior to the change in land use. One-half mile is the area of influence established by the Colorado Oil and Gas Conservation Commission's Final Rule 609 Statewide Groundwater Baseline Sampling and Monitoring.

Response: Acknowledged.

TCHD recommends the following for well permits and water rights holders located within one-half mile of the proposed oil and gas well as they are likely used or will be used for drinking water for humans or animals.

- That the County or applicant notify owners of the wells or groundwater rights owners of the proposed application;
- That the County refer well owners who want to test their wells to TCHD for guidance on recommended testing parameters, procedures for selection of qualified sampling professionals and laboratories, and sharing of data; and
- That the County refers well owners desiring guidance for wellhead protection to TCHD.

Response: Acknowledged.

Potential Temporary Water Storage

Non-potable water is often used onsite at oil and gas sites. The storage tank should be marked with a sign indicating the water is non-potable. In addition, these very large water storage tanks have the potential to collapse if not properly constructed with appropriate quality controls. A collapse can result in significant damage to the environment, property, and individuals that may be nearby. TCHD recommends the applicant employ proper quality control techniques when constructing the water storage tank.

Response: Acknowledged.

Above Ground Storage Tanks

Fuel is often stored onsite at oil and gas sites. All storage tanks must have a secondary containment area, a routine monitoring system to check for leaks, and best management practices implemented in order to prevent the release of contaminants into the soil and water supplies.

Response: Acknowledged.

Emergency Response Plan/Spill Reporting

One of the most common environmental releases associated with oil and gas drilling operations is the inadvertent surface spill of chemicals, produced water, or flowback water. No Emergency Response Plan was available for review with the referral materials. The Emergency Response Plan should include response and notification procedures for responding to and effective strategies for minimizing the risk of hydrocarbon spills, hazardous chemical spills, and produced water spills. If a spill or incident were to occur, the emergency response to spills should be indicated in the Spill Prevention, Control, and Countermeasures Plan that is kept onsite.

Response: Acknowledged.

Specific information related directly to a potential leak or spill from the domestic wastewater system should also be addressed. In the event there is a domestic wastewater spill or leak, TCHD should be contacted immediately.

Response: Acknowledged.

Air Quality Permitting

Air pollutant emissions including flares are regulated by the Colorado Department of Public Health and Environment. Vapor recovery equipment should be used to control the release of vapors into the environment. The use of green completion technology is

strongly encouraged at every site. If the site is to use multiple flares and combustors, the oil and gas industry permits should include a regulatory analysis determining the applicability of state and federal air quality permitting requirements and air pollution control regulations for the proposed emissions source(s). More information as well as all forms can be found online at <https://www.colorado.gov/pacific/cdphe/all-permits>.

Dust Control and Mitigation

TCHD encourages the applicant to follow best management practices for erosion control on the site, specifically to minimize excessive dust from land disturbance. This will help minimize the environmental impact resulting from any construction and land disturbance on the site. TCHD encourages any reclamation, including site pad minimization, and reseeding activities to occur as early as possible. This prevents erosion, helps control excessive weeds, and can provide some benefit to air quality.

Response: Acknowledged.

Traffic Safety

Oil and gas production and monitoring wells involve significant truck traffic to and from a site during the construction and drilling process. If the trucks servicing the site will be traveling on a local school bus route, we encourage the County to work with the applicant to minimize traffic during hours when school buses are in operation.

Response: Acknowledged.

XCEL ENERGY, Donna George

Public Service Company of Colorado's Right of Way & Permits Referral Desk has reviewed the oil and gas well permit for Lone Tree North Phase Two. The property owner/developer/contractor must complete the application process for any new electric service via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

Response: Acknowledged.

Arapahoe County Engineering Services, Joseph Boateng

Arapahoe County Engineering thanks you for giving us the opportunity to review. The Engineering Division has the following comment. Grading, erosion, sediment and control Plans have to be provided.

Please know that other Divisions in the Public Works Department may submit comments as well.

If you have any questions, please feel free to contact our offices.

Response: Acknowledged.

Thank you for providing these review comments to enhance our submittal. If you have any questions, please do not hesitate to contact me at 720.249.3539.

Sincerely,

Westwood Professional Services, Inc



Melinda Lundquist, PE

Director, Private Development Colorado