



# BROOMFIELD CITY COUNCIL

## STUDY SESSION

To: Mayor and City Council  
From: Jennifer Hoffman, City and County Manager  
Presented by: Anna Bertanzetti, Planning Director  
Tami Yellico, Director of Strategic Initiatives

Meeting Date	Agenda Item #
April 29, 2021	4(d)
<b>Council Request for Direction Regarding Reverse Setbacks Regarding Oil and Gas Facilities</b>	
<b>Summary</b>	
<ul style="list-style-type: none"><li>• This memorandum is presented to City Council for continued discussion regarding reverse setbacks from oil and gas facilities. A prior study session was held on <a href="#">March 30, 2021</a>. Reverse setbacks are land use regulations that limit where residential development can occur in proximity to oil and gas facilities.</li><li>• Broomfield currently requires new residential lots be a minimum of 1,320 feet from producing oil and gas facilities unless specific notice is recorded against the title and provided to the lot purchaser. Additionally, no residential units may be built within 200 feet of an existing oil and gas facility.</li><li>• For plugged and abandoned wells, the Municipal Code requires notice to lot purchasers within 200 feet and requires a 50 foot by 100 foot easement. Structures are not permitted within the easement.</li><li>• Background information was provided in the memo for the <a href="#">March 30, 2021</a> study session regarding how other jurisdictions in Colorado regulate setbacks for new development from existing oil and gas facilities.</li><li>• Staff is not aware of any scientific studies or reports that identify exactly what distance is necessary or recommended to maintain between residences and producing oil and gas wells or between residences and plugged and abandoned wells. Based on discussion from the <a href="#">March 30, 2021</a> study session, this memorandum provides additional details regarding potential setbacks of 2000 feet from producing/active/shut-in well facilities and 250 feet from abandoned well facilities. As an additional option for discussion, the memo also includes potentially differentiating the reverse setback from producing/active oil and gas facilities based on whether it is horizontally or diagonally/vertically drilled as further discussed in this memorandum.</li><li>• This memorandum focuses on potential reverse setbacks from residential uses (single family and multi-family units), but does not address the possibility of reverse setbacks from other land uses such as commercial, employment, institutional, or parks/open lands. If directed by Council, the draft ordinance can address other land uses and staff can provide additional analysis concurrent with the first reading of the ordinance.</li><li>• The prior memorandum from <a href="#">March 30, 2021</a> included summary information on the findings of the 2019 CDPHE Human Health Risk Assessment Study, including a summary from CDPHE of <a href="#">what the study does and does not do</a> and <a href="#">a link to staff summary about the 2019 study</a>.</li><li>• Staff is requesting direction from City Council regarding the reverse setbacks in order to draft an ordinance for future consideration by the City Council.</li></ul>	
<b>Prior Council Action</b>	
<ul style="list-style-type: none"><li>• <a href="#">July 17, 2018</a> - City Council study session regarding oil and gas regulations, including potential reverse setbacks.</li><li>• <a href="#">August 14, 2018</a> - City Council considered proposed Ordinances No. 2076 regarding reverse setbacks. Council voted to postpone the ordinance to a future study session.</li><li>• <a href="#">January 15, 2019</a> - City Council discussed setbacks from oil and gas facilities at a study session.</li><li>• <a href="#">March 12, 2019</a> - City Council approved Ordinance 2076 regarding changes to setbacks from oil and gas facilities.</li><li>• <a href="#">March 30, 2021</a> - City Council study session regarding potential reverse setbacks.</li></ul>	

<b><i>Financial Considerations</i></b>
<ul style="list-style-type: none"><li>• Depending on the scale of proposed reverse setbacks, there will be impacts to land use patterns in areas with existing producing and plugged and abandoned wells. Changes to land use development patterns will have an impact on the Long Range Financial Plan. Reductions in residential development will impact the ability to support planned non-residential development in Broomfield. If reverse setbacks are applied to residential, commercial, and parks/open lands, there will be financial impact as well. At this stage, staff was not able to quantify impacts, but additional analysis can be provided depending on the direction provided to staff regarding drafting a potential ordinance on reverse setbacks.</li></ul>
<b><i>Alternatives</i></b>
<ul style="list-style-type: none"><li>• Make no changes to the Broomfield Municipal Code.</li><li>• Make changes to the Broomfield Municipal Code as directed by City Council.</li></ul>
<b><i>Proposed Actions/Recommendations</i></b>
As desired by Council.






## INTRODUCTION

Following an executive session on March 2, 2021, that was held to receive legal advice related to reverse setbacks, City Council directed staff to prepare a study session outlining options for considering changes to reverse setbacks from oil and gas facilities.

An initial study session was held on March 30, 2021. Background information, summary of previous council action, summary information regarding the CDPHE study, and information regarding what other cities are doing in regard to reverse setbacks can be found in the [March 30, 2021](#) staff memorandum. This information has not changed and can be referenced in the prior memo. A matrix was compiled prior to the previous study session to address questions and requests for information the City Council made to Strategic Initiatives, Public Health, and Geographic Information Systems (GIS) regarding potential reverse setbacks (see [this link](#)).

Staff is not aware of any direct studies or reports that identify what particular distance is necessary and appropriate to maintain between residences and producing oil and gas wells or between residences and plugged and abandoned wells. Since a direct study or report providing a specified necessary distance is not available at this stage, staff provided City Council information regarding various setbacks (250, 500 and 1000 feet) for the purpose of discussion during the [March 30, 2021](#), study session.

Based on discussion from the initial study session, there seemed to be support from a majority of Councilmembers to further consider a setback of 2000 feet from producing/drilling wells and 250 feet from plugged and abandoned wells.

Staff also heard discussion regarding differentiating between horizontal wells and vertical and diagonal wells or wells in different stages of development (drilling/completions versus in production). Horizontal wells take longer to drill and complete and are often grouped into large pad sites. The horizontal wells in Broomfield are also the wells currently in pre-production phases (drilling/completions) while all vertical or diagonal wells are either producing, shut in or plugged/abandoned. Staff has provided differentiated setbacks for discussion of 1,320 feet or 2,000 feet from horizontal/pre-production wells and 500 feet from vertical/diagonal/producing wells.

The maps utilized in this memorandum reference status codes for maps from the Colorado Oil and Gas Commission data and the status codes (drilling, producing, active, and plugged and abandoned) are as defined by the [Colorado Oil and Gas Commission Status Codes \(Link\)](#).

This memorandum provides the following sections:

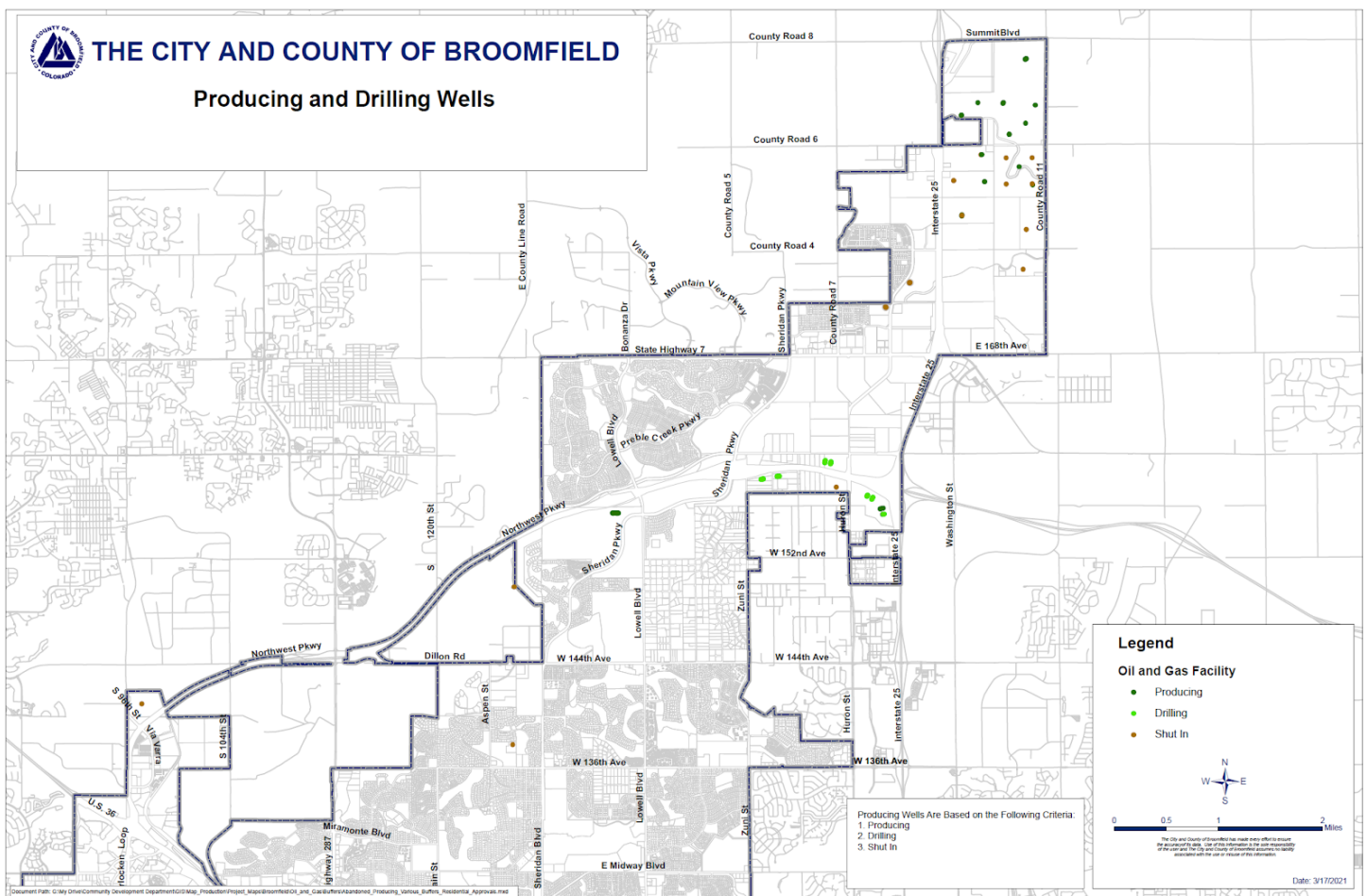
1. Reverse setbacks from active/producing/shut in oil and gas facilities

2. Reverse setbacks from plugged and abandoned oil and gas facilities
3. Regulations as they may or may not relate to existing and previously approved residential developments
4. Options for reverse setbacks for parks and open lands
5. Public comments received
6. Specific requests for direction regarding options for reverse setbacks

Staff will prepare an ordinance based on the direction of the City Council, if so directed, following the study session. A first and second reading with public hearing will be required to consider changing the Broomfield Municipal Code regulations related to reverse setbacks from oil and gas facilities.

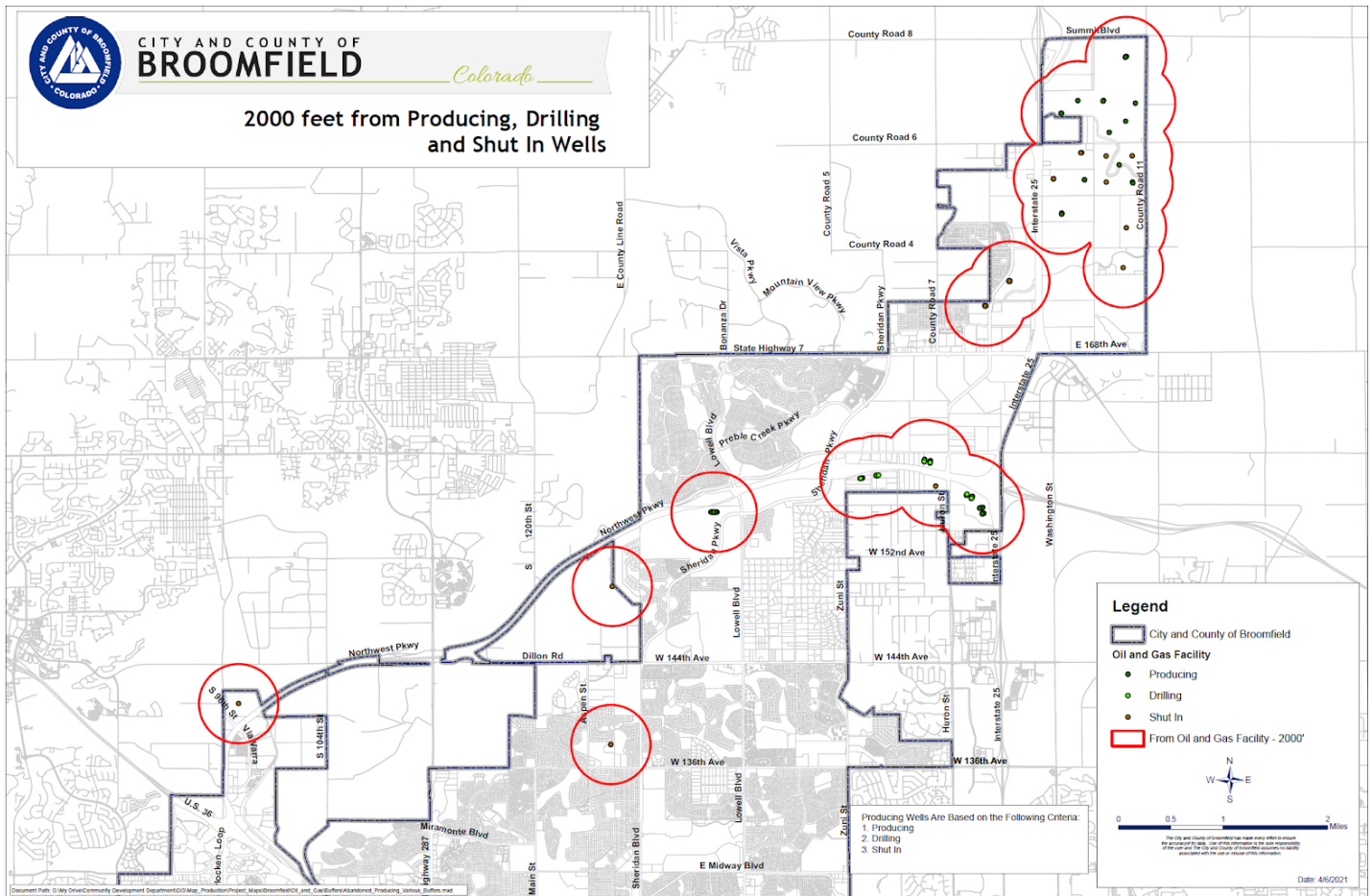
## REVERSE SETBACK OPTIONS FOR PRODUCING/DRILLING WELLS

A map showing the location of existing producing oil and gas wells is provided below and a direct link to a higher resolution version can be found here [at this link](#). The map also includes shut-in wells. Most producing/drilling wells are located north of W. 144th Avenue and many are along Northwest Parkway or east of I-25.



The map below shows the area impacted by a 2000 foot reverse setback from active/producing/drilling well facilities. For the purpose of this study session, only wells located within Broomfield are shown. Staff will modify the final maps presented with the first reading of an ordinance to include additional wells outside of Broomfield if any fall within the final proposed setback distance.

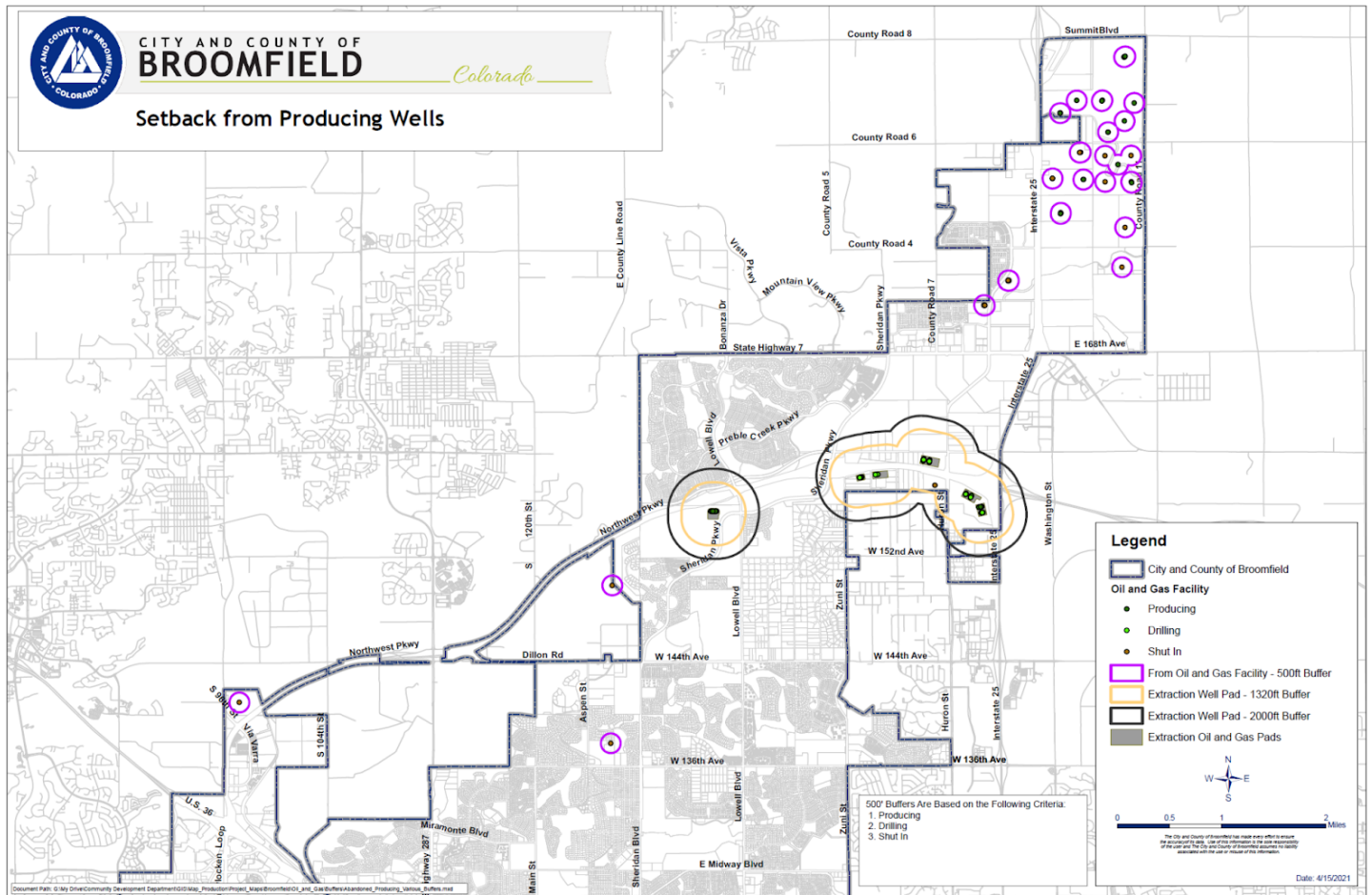
[2000 feet from Producing, Drilling, and Shut In Wells \(Linked\)](#)



Prior to 2018, most wells in Broomfield were vertically or diagonally drilled with a limited number of wells per site, resulting in a wider spatial distribution of wells. More recently operators have begun using horizontal wells which cluster a larger number of wells into single well pads. Given the scale of operations at these well pads and the longer period of time to drill and complete the horizontal well pads, staff is providing an option to differentiate setbacks based on the type of well. The map below provides a 500 foot setback from vertical and diagonal wells. The maps also show two setbacks of 1,320 and 2000 feet from horizontal well pads.



### [Setback from Producing Well Based on Well Type \(Linked\)](#)



### REVERSE SETBACK OPTIONS FOR PLUGGED/ABANDONED WELLS

Broomfield requires plugged and abandoned wells to be centered within a workover easement with minimum dimensions of 50 feet by 100 feet. Structures are not allowed to be placed within the easement area and therefore the easement itself serves as the current required reverse setback of new residential, commercial, and industrial buildings from the plugged/abandoned well site.

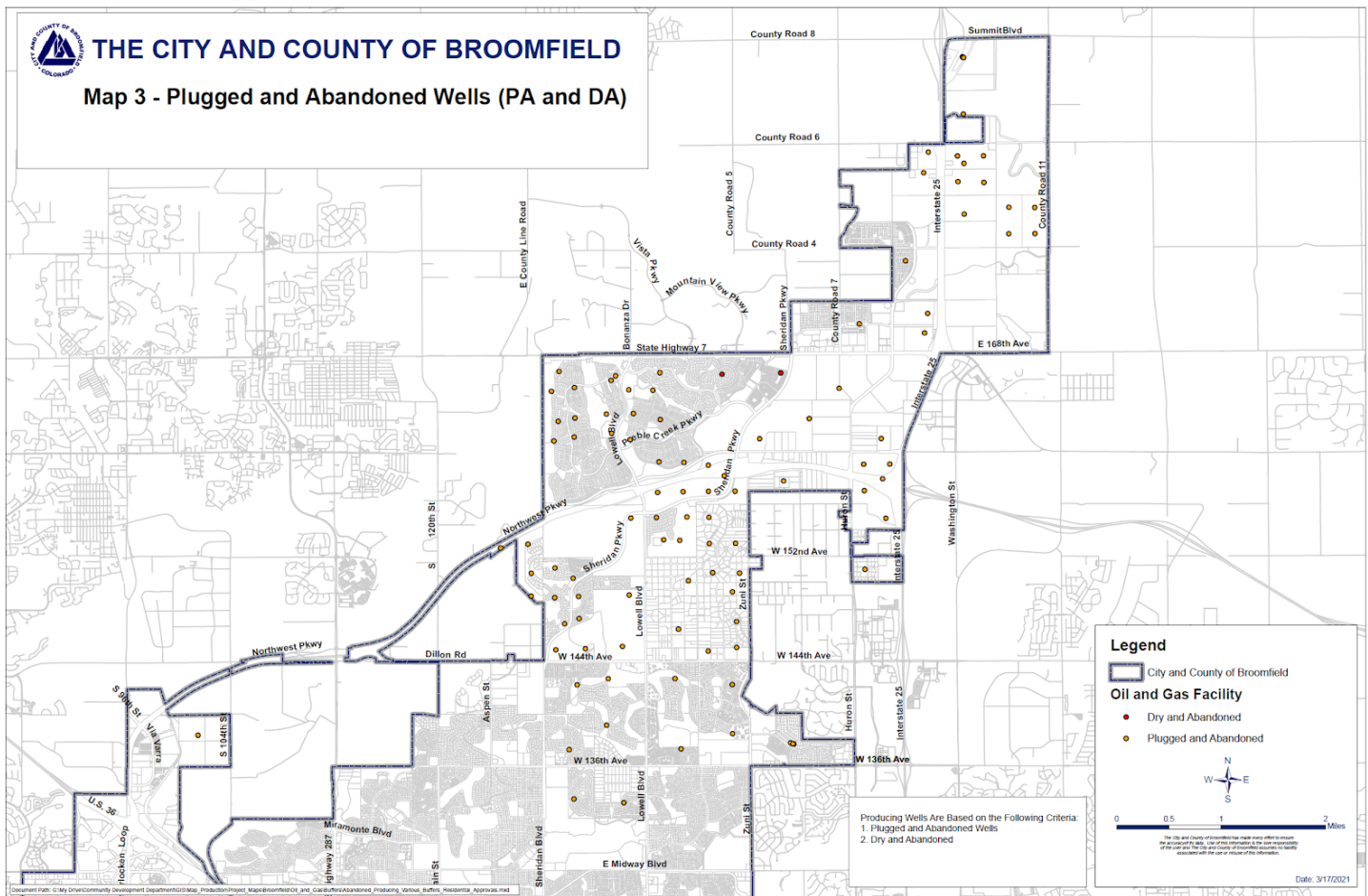
Many of the plugged/abandoned wells are located north of W. 136th Avenue and are located in streets, drives, parking lots, or landscaped areas of individual lots.

In 2019, one well, Davis 43-6, was found to be a site of a methane leak based on Broomfield's soil gas monitoring and testing. The well is located in the right-of-way within the Anthem neighborhood in an area under development. This [public notice](#) has been posted to Broomfield's oil and gas webpage and summarizes the history of the Davis 43-6 well since the methane leak was discovered.

A map showing the location of existing plugged/abandoned oil and gas wells is provided below and a direct link to a higher resolution version can be found [here at this link](#). Operators have recently plugged and abandoned oil and gas wells within Broomfield and additional wells may be plugged and abandoned in the future.

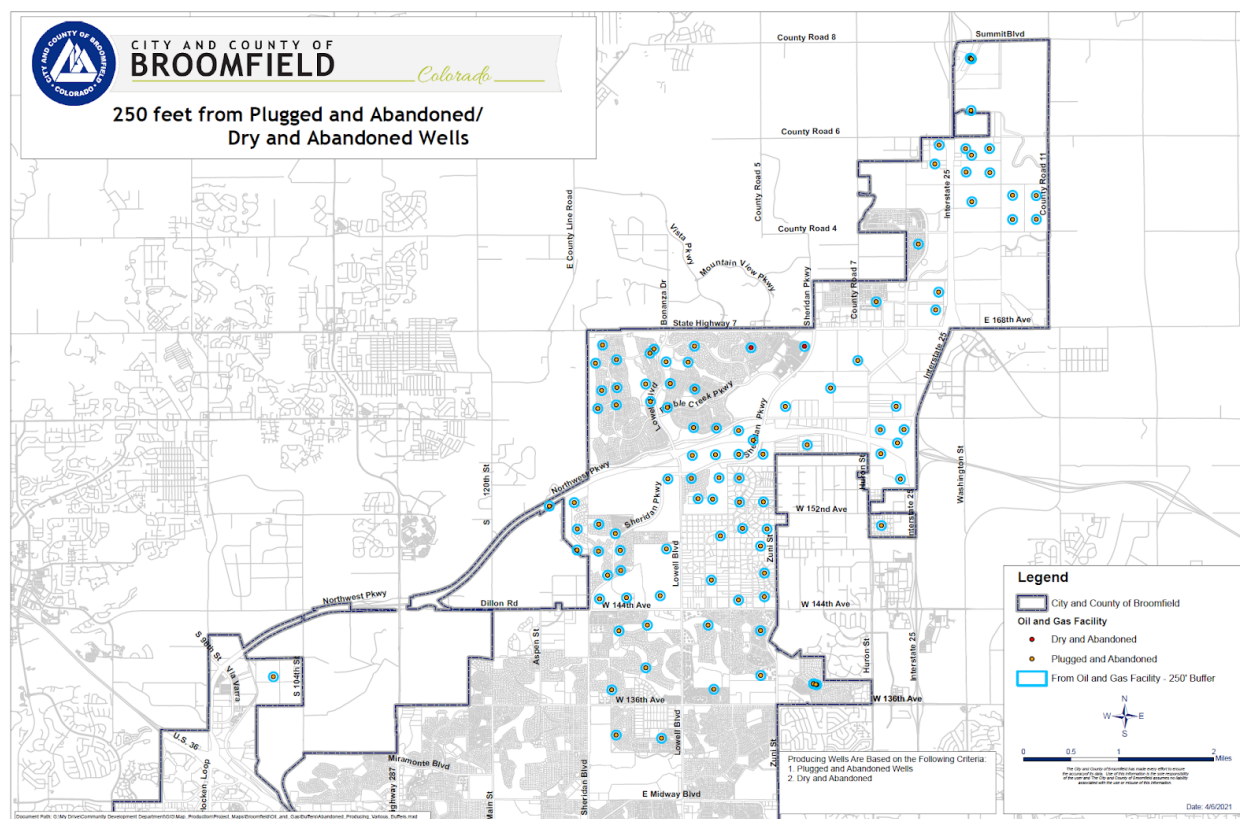
Surface owners do not typically control when an operator will plug and abandon a well, but some surface owners have worked with operators to provide monetary compensation for plugging and abandoning producing or shut in wells in order to allow surface development to occur.

### [MAP of plugged/abandoned wells](#)



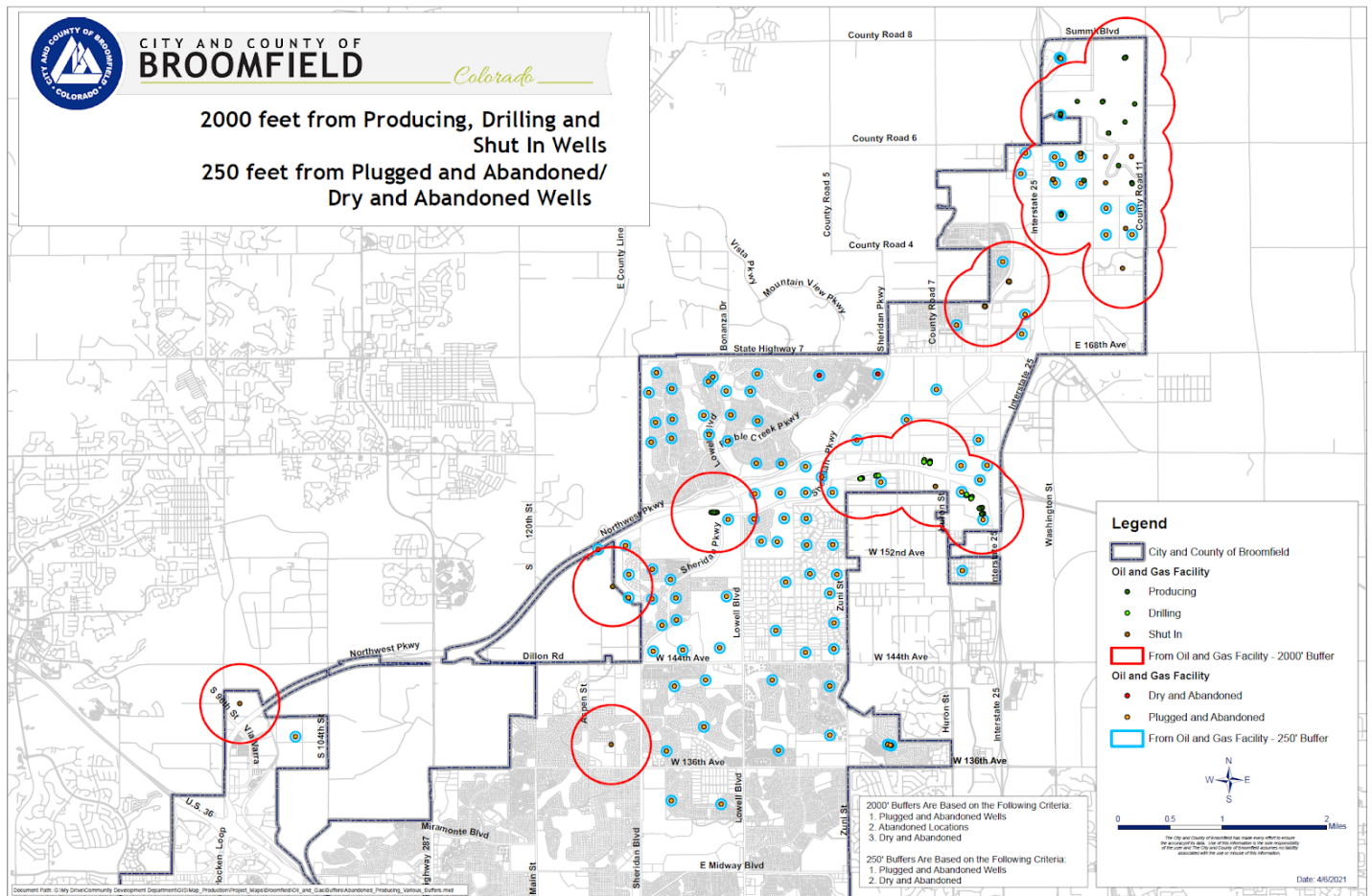
The following map shows a setback of 250 feet from plugged and abandoned well facilities.

**250 feet from Plugged and Abandoned Wells (Linked)**



The following map is a composite showing the setbacks of 2,000 feet from producing, drilling, shut In wells and 250 feet from Plugged and Abandoned wells.

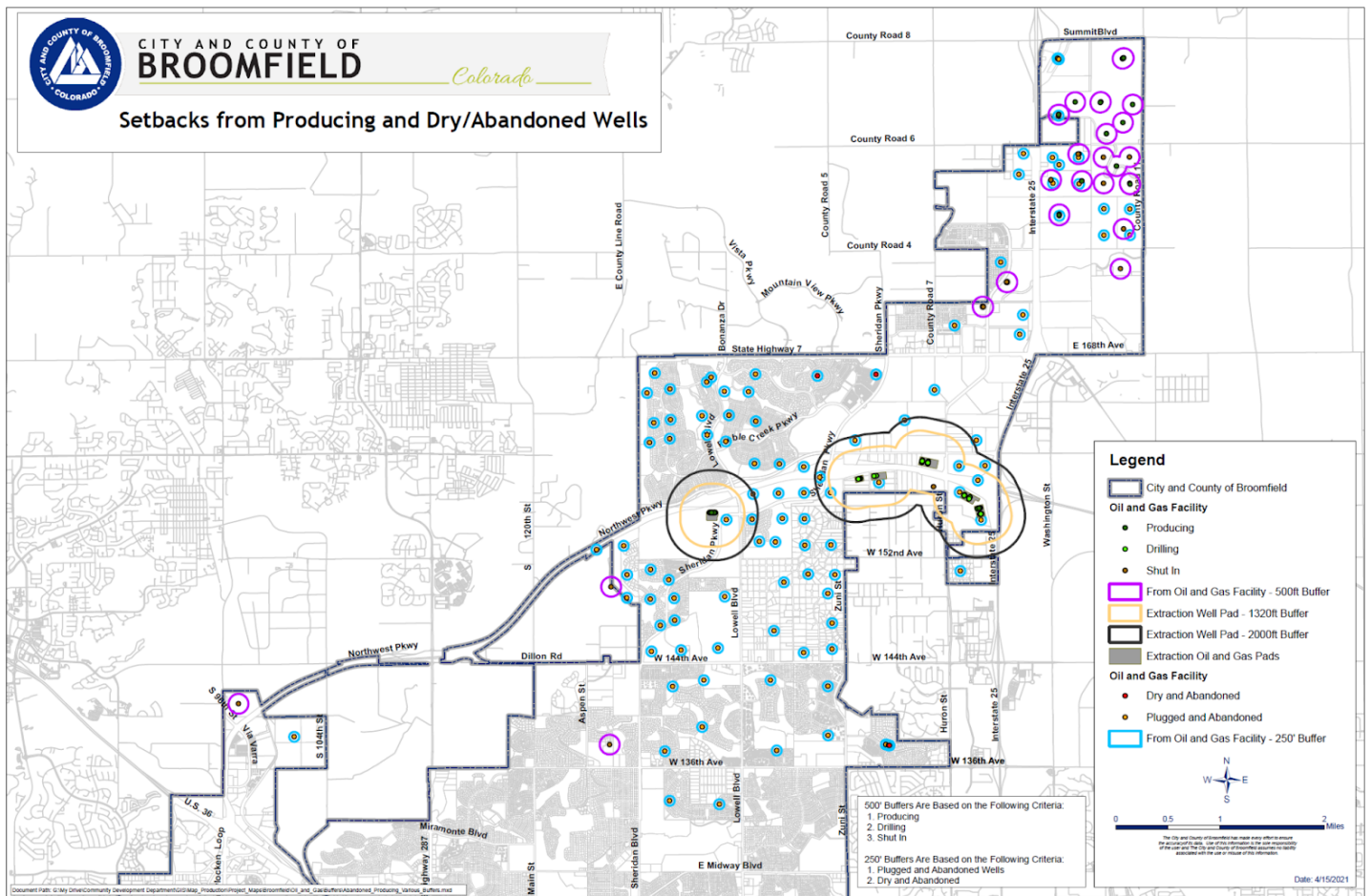
**2000 feet from Producing, Drilling, and Shut In Wells and  
250 feet from Plugged and Abandoned Wells (Linked)**



The following map is a composite showing the setbacks of 1,320 and 2,000 feet from producing, drilling, shut in wells which were/are horizontally drilled, 500 foot setback from producing, drilling, shut in wells which were vertically or diagonally drilled, and 250 feet from Plugged and Abandoned wells.



Setbacks from Producing, Drilling, and Shut In Wells and  
Plugged and Abandoned Wells Based on Well Type (Linked)



## REVERSE SETBACKS AND PLANNED, EXISTING, AND APPROVED DEVELOPMENT

Implementation of reverse setbacks will impact the available land able to be utilized for land uses prohibited from locating within the specified distance of an oil and gas facility. Depending on the scale of the setback, it may be appropriate to re-evaluate areas for future development. If reverse setback implementation results in reduced residential dwelling units, this could impact Broomfield's ability to support the planned density of commercial and employment uses. Staff will provide additional analysis regarding potential impacts based on the direction of the City Council.

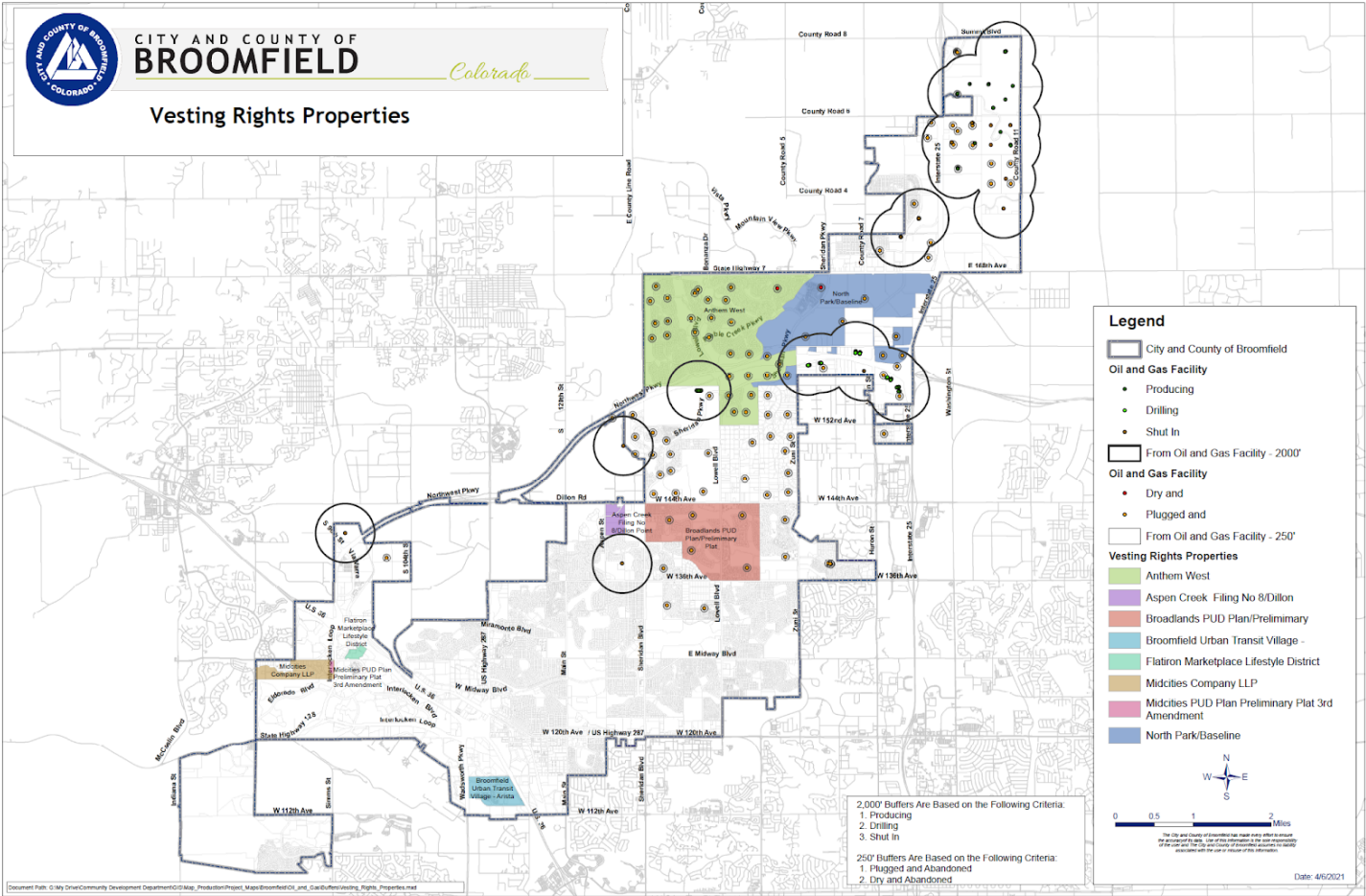
### Approved and Planned New Development

Since Planned Unit Development Plans are reviewed for consistency with the Comprehensive Plan Land Use Map, many PUD plans have previously been approved in areas surrounding oil and gas facilities which allow for residential use or mixed-use with both non-residential and residential uses. Developments are at various stages of development review within 2,000 feet of oil and gas facilities.

Broomfield has several existing developments with Vested Property Rights Agreements in place. A Vested Property Rights Agreement prevents Broomfield from changing the zoning or previously approved development plans for a property for a specified period of time, provided that the developer also meets specified development milestones. If an ordinance implementing reverse setbacks is approved, the ordinance would not be applicable

to properties with previously approved vested property rights. The map below shows the location of vested property rights agreements in place.

Properties with Vested Property Rights (Linked)



Staff has compiled a list of potential projects below. We have divided the table into those upcoming residential proposals without vested rights and those with vested rights are in a separate table.

Pending Residential Projects (No Vested Rights Agreement)				
Development	Location	Proximity to Oil and Gas Facility	Use	Status
Palisade Park Brownstones	South of 169th Avenue and West of CR 7	Some units are less than 200 feet from p/a well, within 2000 feet of shut-in wells	Apartments	SDP Approved Under Construction
Northlands	East of Huron Street and North of CO7	Residential units could be within 750 feet of a shut in well (anticipated to be p/a in future)	Apartments	PUD Approved

Varra Estates	North of Northwest Parkway and East of 96th Street	All planned homes within 1000 feet of a shut in well, some planned homes just over 200 feet of shut in wells	Single Family	PUD Approved SDP and Plat in Review
Westbrooke Preserve	East of Huron Street and South of 152nd Street	All homes within 1000 feet of a plugged and abandoned well, some homes just over 200 feet of p/a well	Single Family	PUD Approved SDP and Plat Approved
257 Land	East of I25 and North of Colorado 7	Plugged and abandoned locations within the PUD area with some residential units within 500 feet	Single and Multi-Family	PUD Approved
Wilcox Annexation not Wilcox neighborhood)	East of I25 and North of Colorado 7	Plugged and abandoned locations within 500 feet of the PUD area	Multi-Family	PUD Approved
Wilcox Neighborhood	North of W. 144th Avenue and East of Lowell	Some undeveloped lots are within 250 feet of plugged and abandoned wells. Some land owners may be interested in subdividing larger lots within 250 feet of plugged and abandoned wells	Rural Residential	Final Plat (lots) approved, A-1(A) zoning in place

#### Pending Residential Projects with Vested Rights Agreements

Development	Location	Proximity to Oil and Gas Facility	Use	Status
Baseline (Future)	South of CO7 and West of I25	Some units could be under 200 feet from a p/a well location	Single and Multi-family	PUD Approved
Baseline Apartments	West of Sheridan Parkway and South of CO7	Some units within 500 feet from p/a wells, all units within 2000 feet of p/a wells	Apartments	SDP Approved Under Construction
Anthem Filing No. 24	South of Sheridan Parkway and West	Some homes within 200 feet from p/a	Single-Family Residential	SDP Approved Under Construction

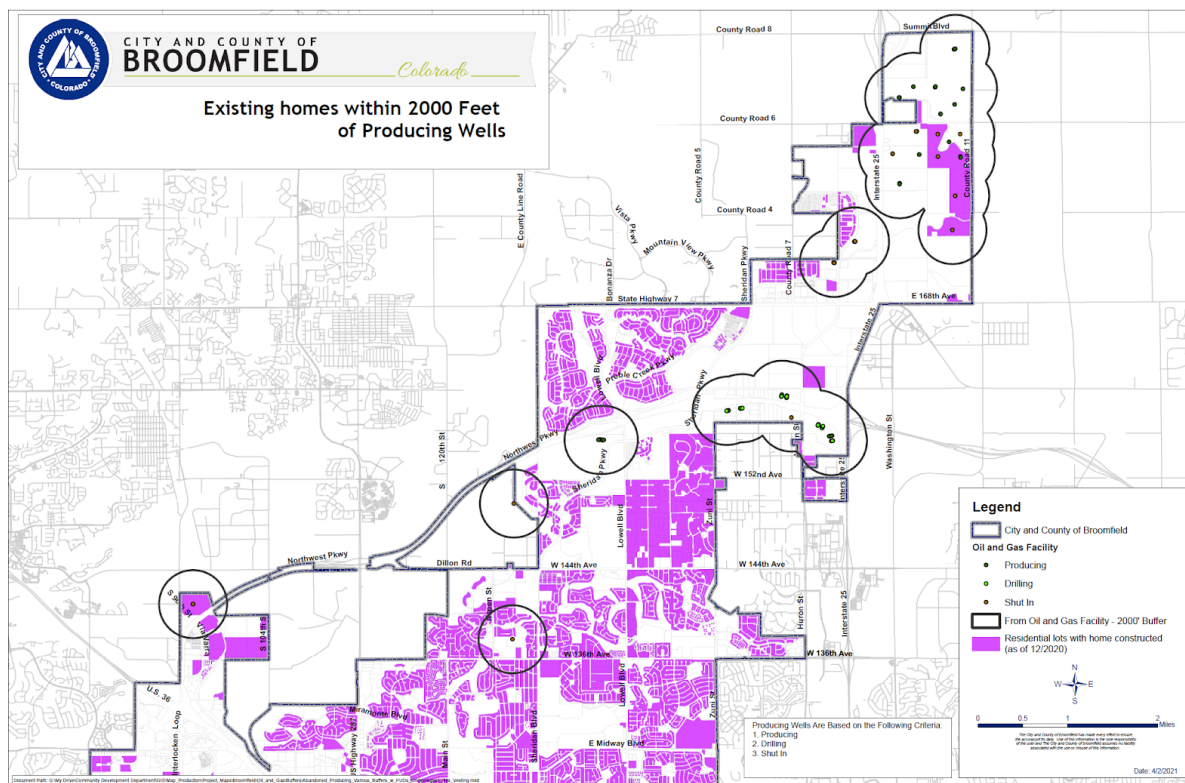
	of Lowell Blvd.	wells, all homes within 2000 feet of p/a wells		
Anthem Filing No. 20	North of Preble Creek Parkway and West of Lowell Blvd.	Some homes within 200 feet from p/a wells, almost all homes within 2000 feet of p/a wells	Single-Family Residential	SDP Approved Under Construction
Baseline (North Park) West Village	West of Sheridan Parkway and North of Preble Creek Parkway	Some units within 200 feet from p/a wells, more than half of units within 2000 feet of p/a wells	Single-Family Attached and Detached Residential	SDP Approved Under Construction

### **Existing Residential Within Reverse Setbacks**

As identified in the prior study session memo, there are homes and vacant residential lots already created within the area impacted by the potential reverse setbacks.

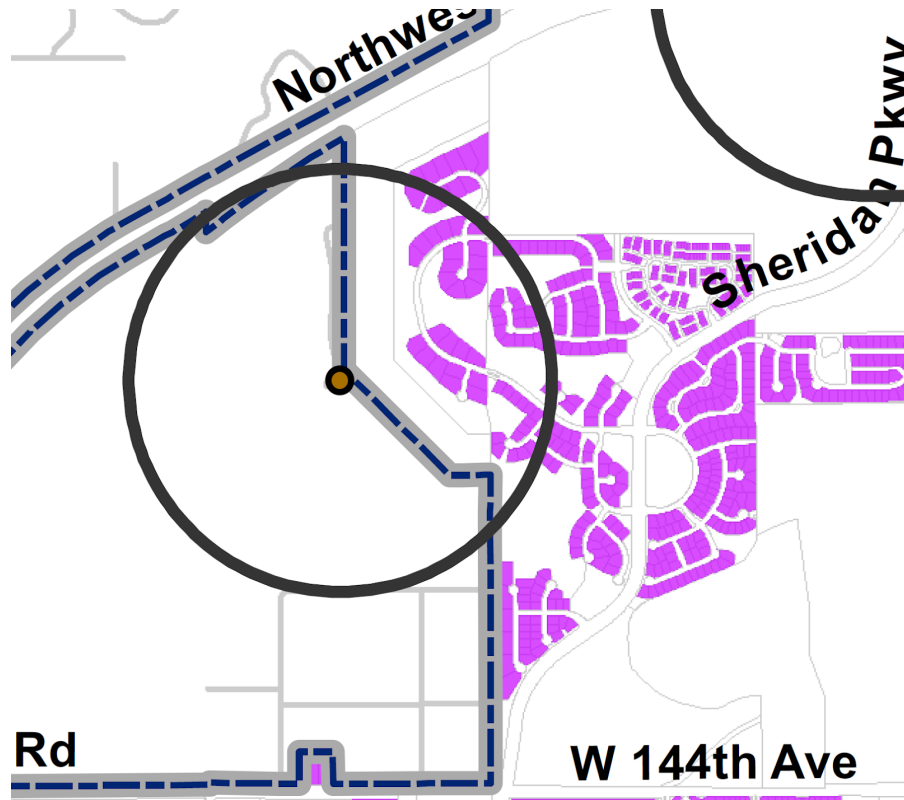
The map below shows lots within existing residential homes within 2000 feet of producing/shut in/active well facilities.

[Existing Homes within 2000 Feet of Producing/Shut In/Active Wells \(Linked\)](#)



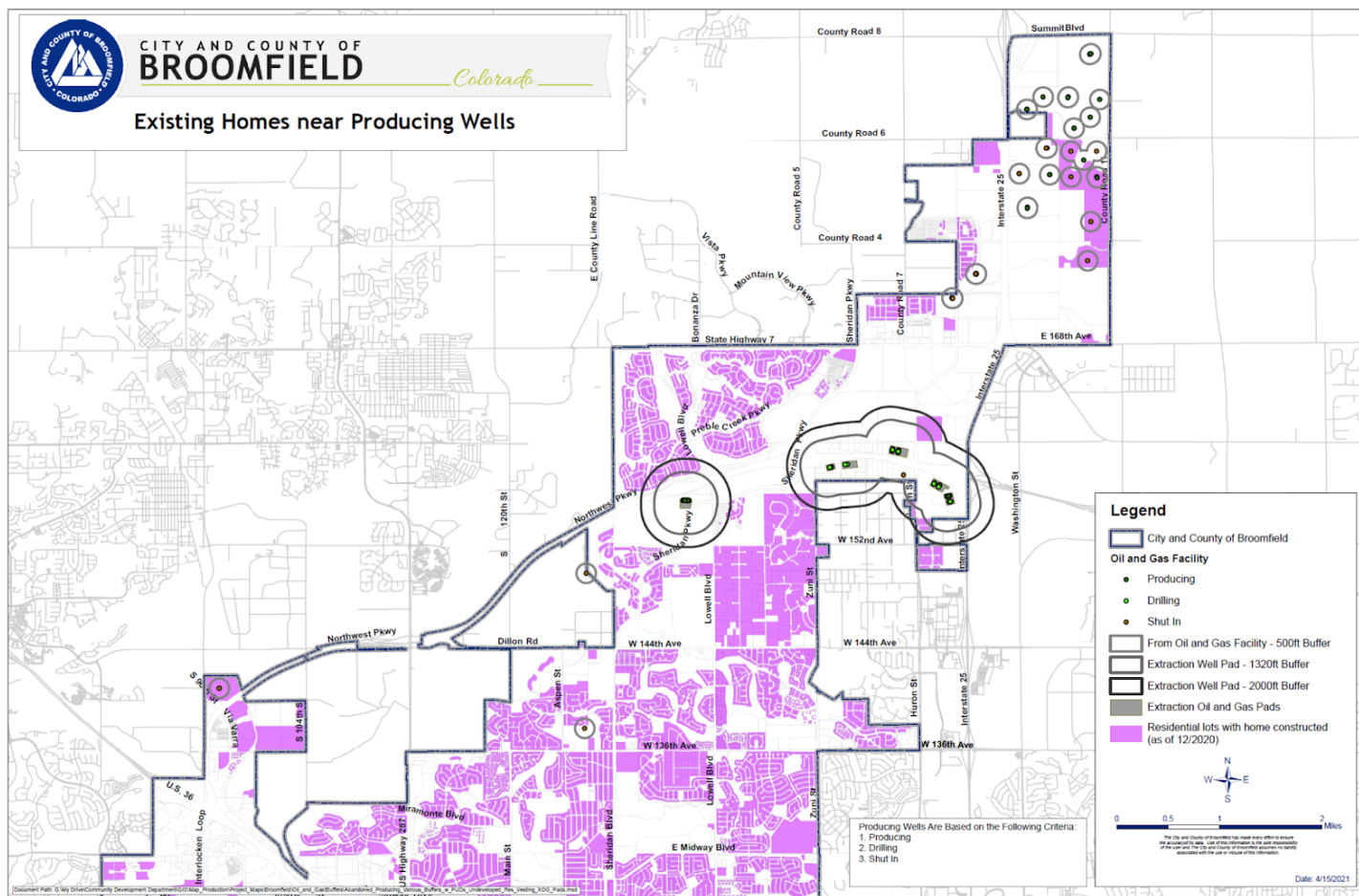


An example of one location where there are existing homes outside of an area with vested property rights is the Wildgrass subdivision. A close-up view of this subdivision is provided below to show impacted lots.



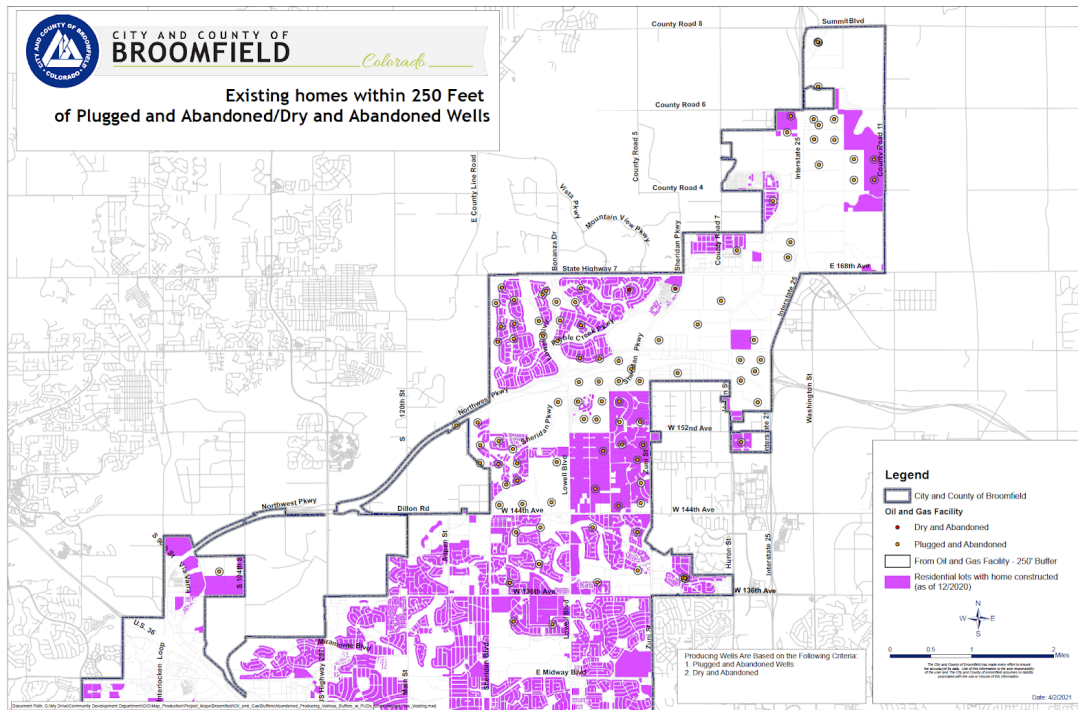
The number of existing residential lots impacted would be reduced if the reverse setback is differentiated between horizontal and vertical/diagonal drilled wells. The map below shows this area and as can be seen, the existing homes within Broomfield are

[Existing Homes with Reverse Setback Differentiated by Well Type \(Linked\)](#)

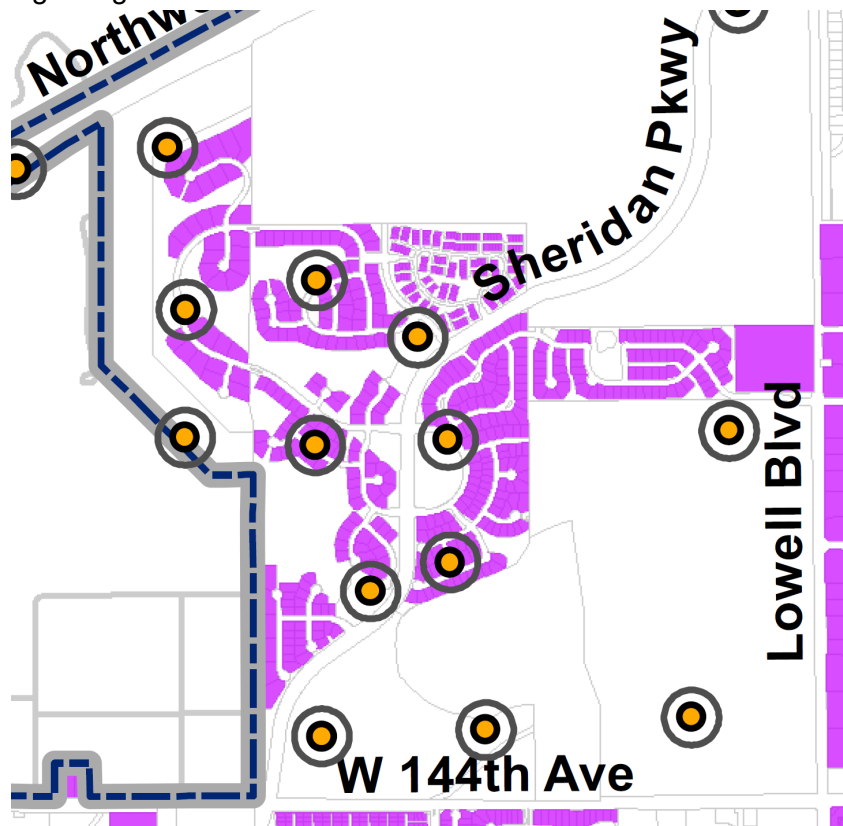


There are also homes within 250 feet of existing plugged and abandoned well facilities. The following map shows existing lots with homes within 250 feet of existing plugged and abandoned well facilities.

[Existing Homes within 250 feet of Plugged and Abandoned/Dry and Abandoned Wells \(Linked\)](#)



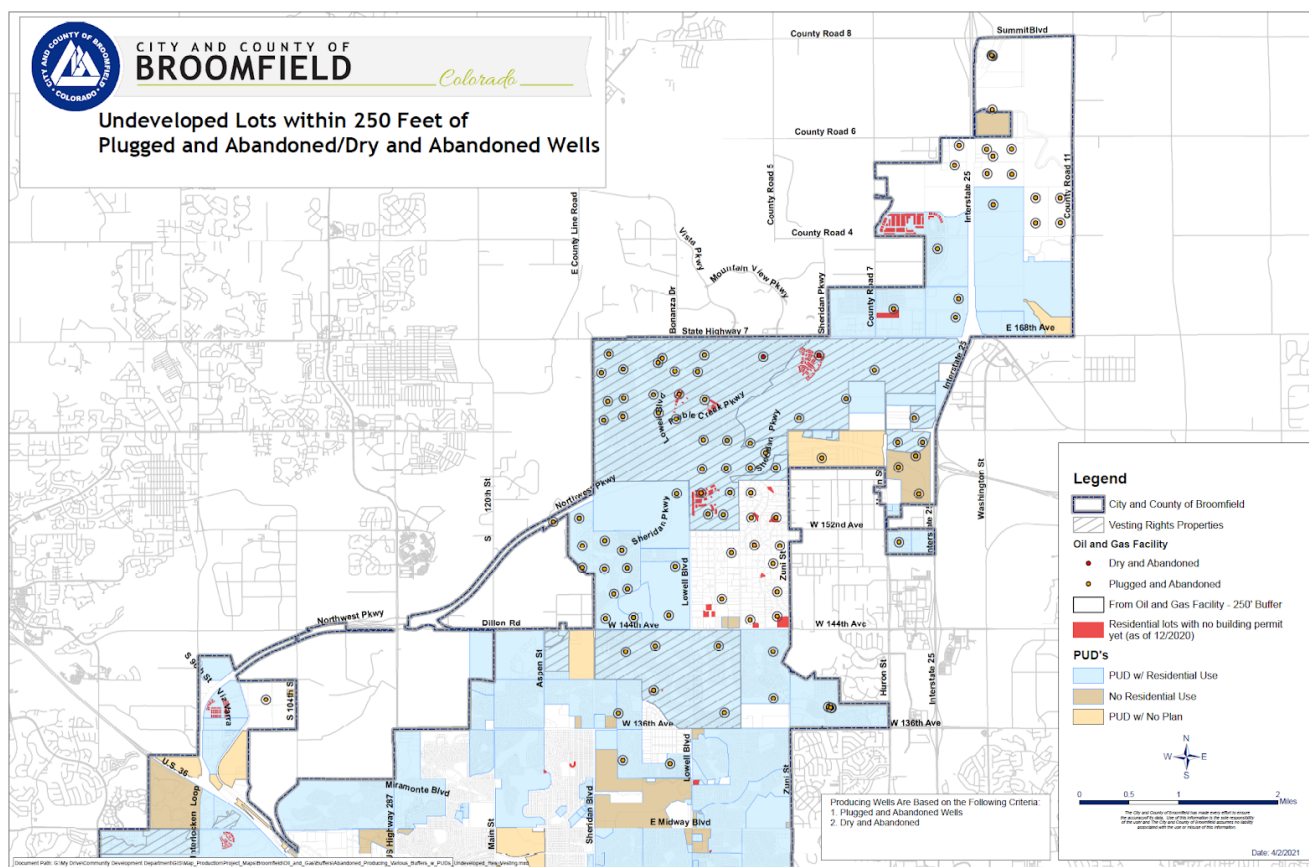
Using the Wildgrass subdivision as an example again, we have provided a close-up view of lots within this subdivision since there are multiple plugged and abandoned wells within the subdivision and the subdivision does not have a vested rights agreement.



In some areas there are previously approved residential lots within 250 feet of plugged and abandoned wells that do not have a home constructed yet. Most of these lots are within the Wilcox and Spruce Meadows

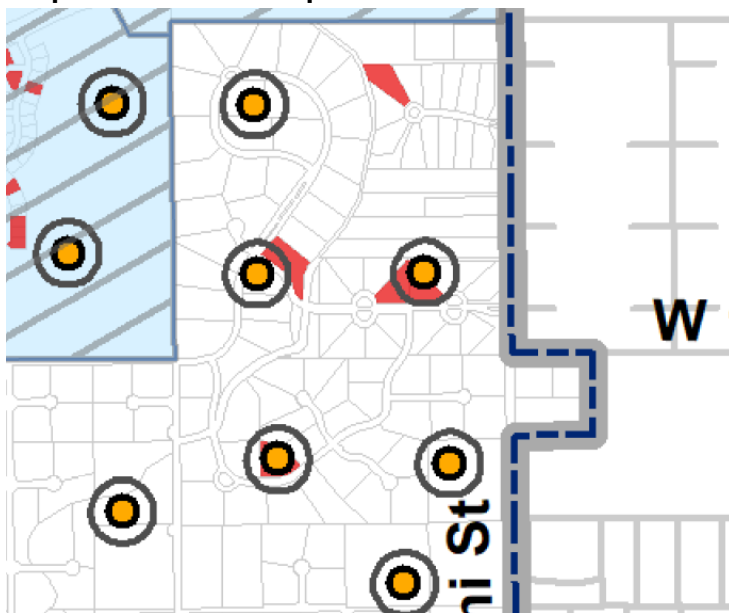
neighborhoods. The map below identifies existing residential lots (platted lots) which have not had a home constructed on them. It also shows properties with vested rights and lot location of plugged and abandoned wells. Some property owners, especially of larger lots (5 or more acres) within the Wilcox subdivision may intend to subdivide into smaller rural residential lots in the future. These properties are not identified in the map since a home may already exist on the larger lot.

**Undeveloped Residential Lots (Platted Lots) with No Home Constructed and  
250 Foot Reverse Setback Shown from Plugged and Abandoned Wells (Linked)**



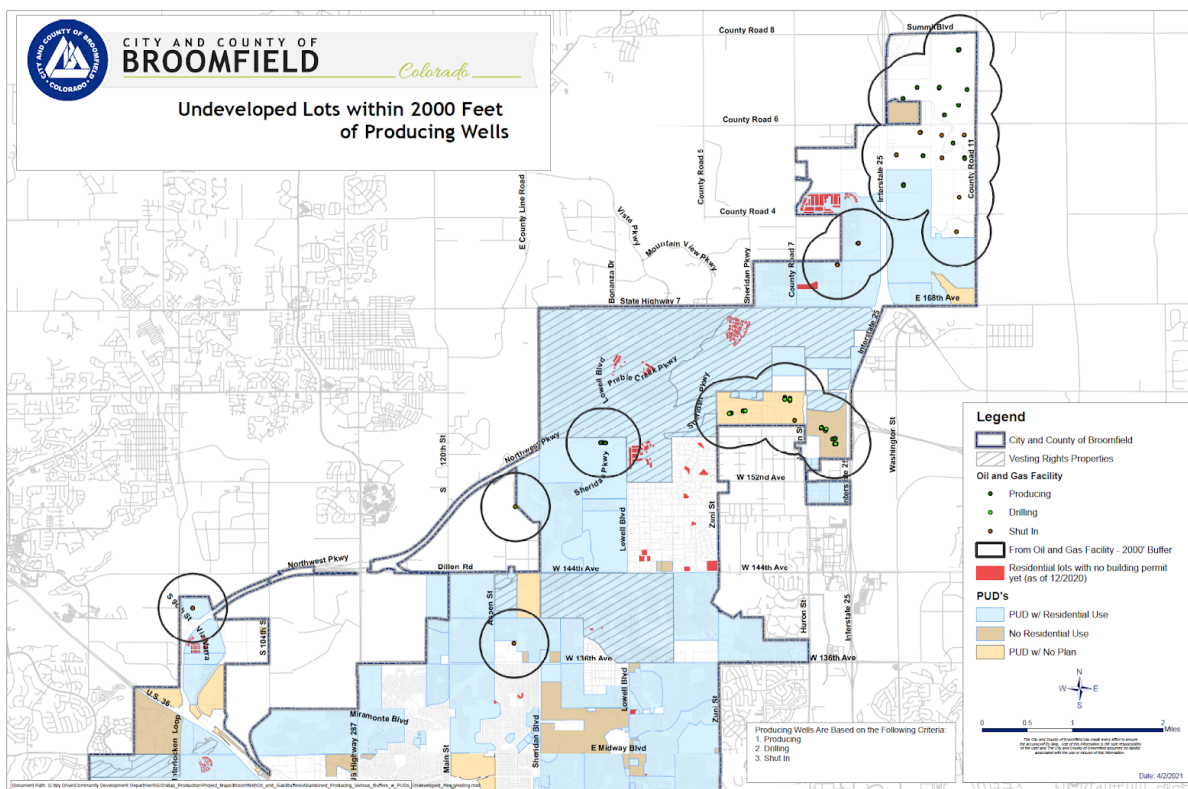


### Close Up for Wilcox and Spruce Meadows Area of Above Map

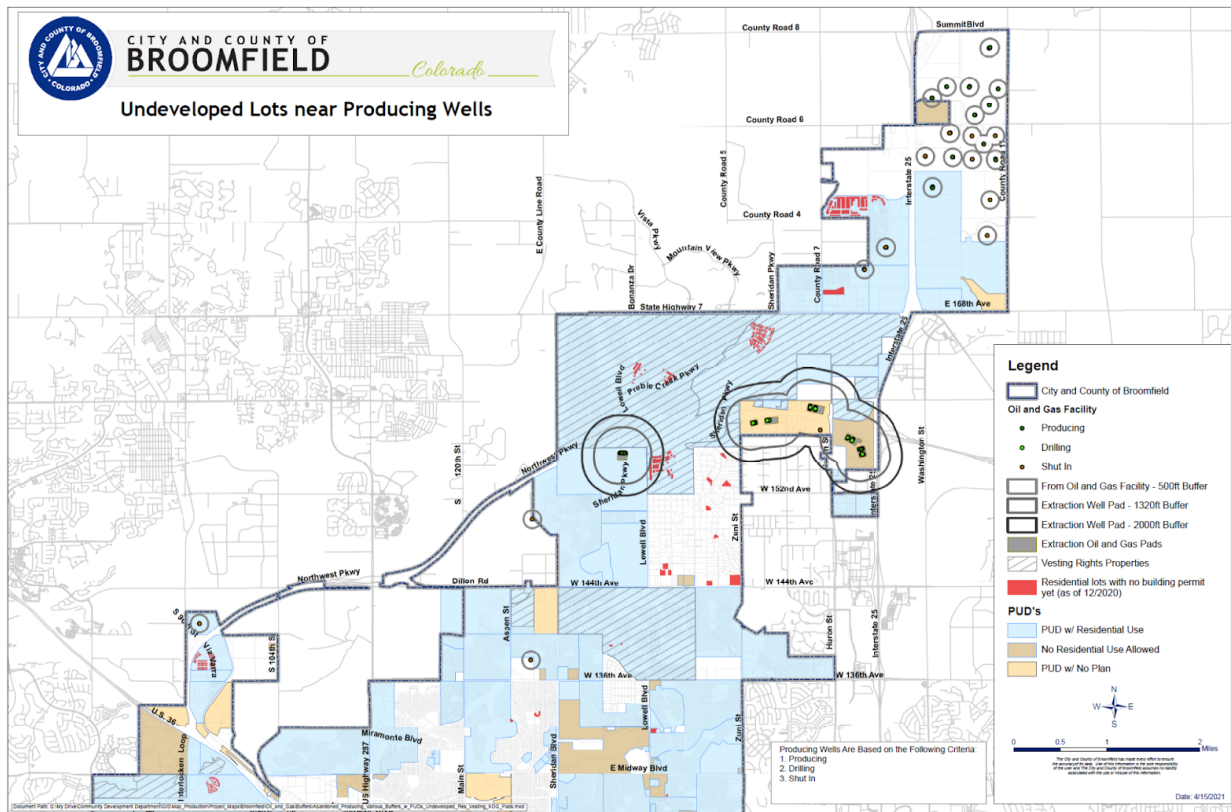


There are fewer previously approved and platted residential lots without homes constructed within 2000 feet of active/producing/shut in wells. The map below shows the location of these lots. Key areas where there are such previously approved lots are within the Vive at Via Varra (Northwest Parkway and Via Varra).

### [Undeveloped Residential Lots \(Platted Lots\) with No Home Constructed and 2000 Foot Reverse Setback Shown from Producing/Shut In/Active Wells \(Linked\)](#)



**Undeveloped Residential Lots (Platted Lots) with No Home Constructed and  
with Reverse Setback Differentiated by Well Type (Linked)**



City Council will need to consider how these residential units will be considered moving forward. Some options include:

- If the desire is to allow previously constructed residential structures to remain with no impact to the future ability of homeowners to modify, rebuild, and remodel their structures:
  - Do not apply the new regulations to any residential dwelling unit issued a building permit prior to the effective date of the reverse setback ordinance.
- If the desire is to allow previously approved residential lots and development plans to be exempted from the new regulations to allow property owners to proceed with development as previously anticipated/approved Council can do all or any of the following:
  - Do not apply the new regulations to any property within a site development plan approved by City Council prior to the effective date of the reverse setback ordinance.
    - However, the ordinance could still apply if the property owner authorizes an application for rezoning or substantial modification to the site development plan following adoption of the ordinance.
  - Do not apply the new regulations to any residential lot (regardless of whether there is a home constructed on the lot) approved prior to the effective date of the reverse setback ordinance.
  - Do not apply the new regulation within a planned unit development plan approved prior to the effective date of the ordinance.
    - However, the ordinance could apply if the property owner authorizes an application for rezoning or substantial modification to the planned unit development plan following adoption of the ordinance.

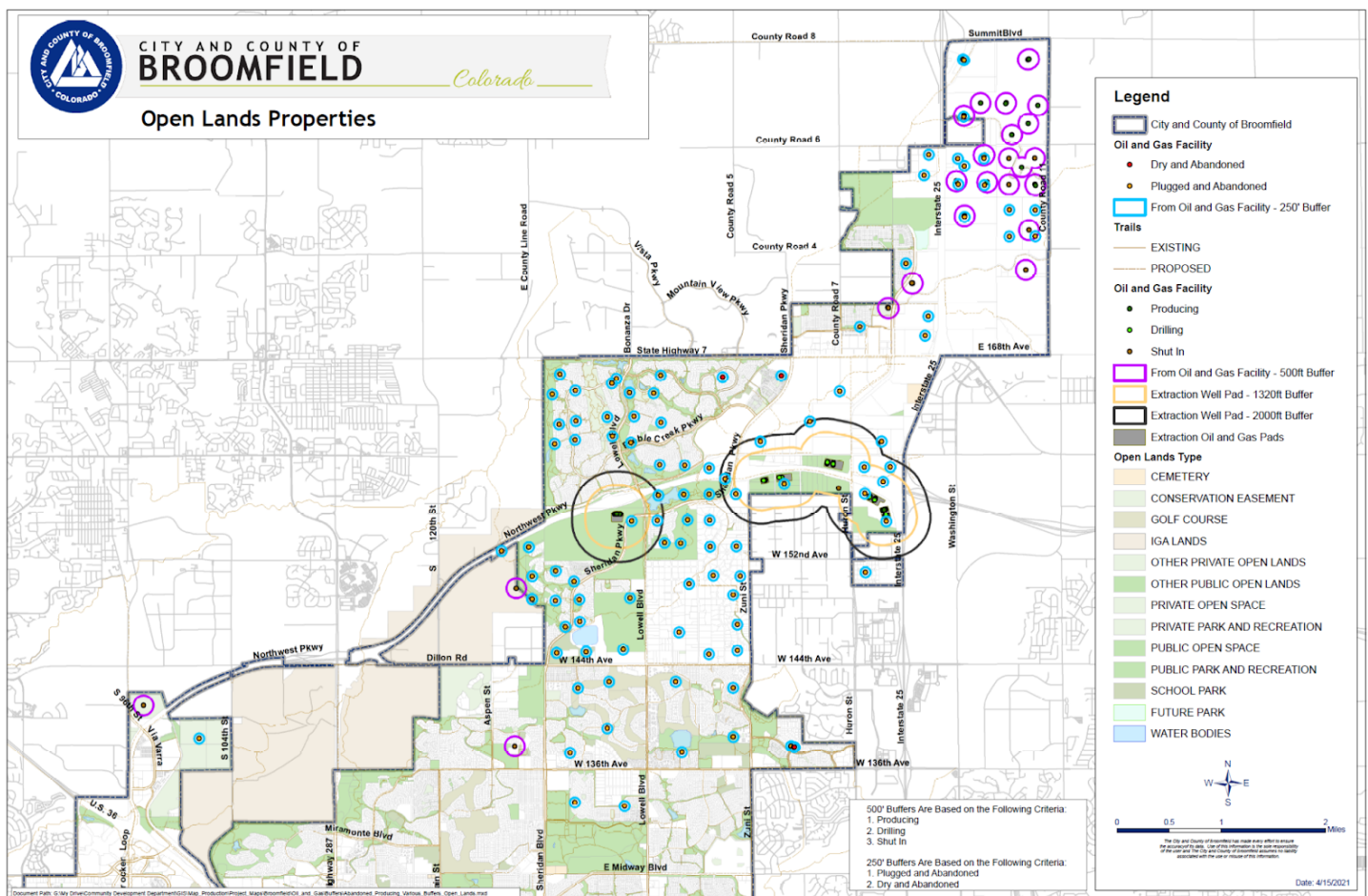
- If the desire is to ensure construction of residential structures will not occur within the setbacks regardless of development status:
  - Apply the new regulations across Broomfield to all properties (exception: properties with vested rights). The Municipal Code allows non-conforming uses to remain in place, but places limitations on the owner's ability to modify or replace the use unless a specific language is included in the ordinance to ensure an owner's ability to repair, modify, and replace the structure as necessary in the future even though it is within the reverse setback distance (see [BMC 17-36, Non Conforming Uses](#)). The issue regarding existing homes already located within setback distances from plugged and abandoned well sites would also be an issue in Lambertson Farms, Anthem, Wildgrass, Redleaf, and Broadlands neighborhoods.

## OPTIONS FOR REVERSE SETBACKS AND PUBLIC OPEN LANDS

During prior discussions, some City Council members have expressed concern regarding placing public parks/open areas, specifically play fields and gathering areas, proximate to operating oil and gas facilities. Based on these comments, staff is requesting direction from Council regarding whether to include a reverse setback for public parks from oil and gas facilities.

The map below shows the location of public and private parks and open space within Broomfield in relation to well facilities with well setbacks differentiated by type (horizontal versus vertical/diagonal) of active/drilling/shut in wells and 250 feet from plugged and abandoned wells.

### [Open Lands and Potential Reverse Setbacks \(Linked\)](#)



Since many areas near existing wells have previously been developed or have vested rights (Baseline as a key example), reverse setbacks from oil and gas facilities would primarily impact the distribution of public parks on the east side of Interstate 25. Broomfield staff would also need direction as to Council's intent to exempt existing public parks from the reverse setback regulations or whether these parks should be non-conforming uses, which would allow the park to remain and be maintained, but not expanded (additional amenities for example).

One key area to note is the property in close proximity to the Livingston well pad (northwest corner of Lowell and Sheridan). This area has been planned for a future reservoir and may include recreation amenities and uses. The reverse setback from the Livingston pad site could impact future public use of the property around the reservoir.

### Public Comments

Staff has received public comments regarding potential reverse setbacks. Many comments relate to concerns regarding creating non-conforming structures and uses if reverse setbacks are applied to existing residential development in Broomfield. Public comment can be found [at this link](#).

### NEXT STEPS

Staff is requesting direction regarding the reverse setbacks.

First, staff is asking if the City Council is interested in moving forward with a draft ordinance requiring reverse setbacks.

If City Council desires to review such an ordinance:

1. Setbacks from producing, active, drilling, and shut in wells
  - a. What residential setback for active (pre-production meaning drilling or completion phases)?
    - i. 2000'
    - ii. 1320' (current distance for setback if there is no notice on plat)
    - iii. 1000'
    - iv. 500'
    - v. 200' (current)
  - b. What residential setback for producing wells?
    - i. 2000'
    - ii. 1320' (current distance for setback if there is no notice on plat)
    - iii. 1000'
    - iv. 500'
    - v. 200' (current)
  - c. What residential setback for shut-in wells?
    - i. 2000'
    - ii. 1320' (current distance for setback if there is no notice on plat)
    - iii. 1000'
    - iv. 500'
    - v. 200' (current)
  - d. Does Council want separate or different setbacks for wells depending on if the well is horizontal or vertical/diagonal?
2. What residential setback for plugged and abandoned wells?
  - i. 2000'
  - ii. 1320'



- iii. 1000'
  - iv. 500'
  - v. 250' (current distance requiring notice on plat)
3. Does Council want to exempt the following from this ordinance?
    - a. Residential units constructed prior to the effective date of the ordinance
    - b. Residential lots within a plat approved prior to the effective date of the ordinance
    - c. Residential lots/units planned within a site development plan approved prior the effective date of the ordinance
    - d. Residential lots/units planned within a planned unit development plan approved prior to the effective date of the ordinance
  4. Reverse setbacks from non-residential uses
    - a. Does Council want to proceed with a reverse setback for public parks or other non-residential land uses?
    - b. If a reverse setback is desired, what distance should be provided?
  5. Does Council want to consider changes to the notices provided for new residential lots within 1,320 feet of active wells and 200 feet of plugged/abandoned well facilities in conjunction with or in lieu of changes to reverse setbacks?
    - a. Require a larger notice area?
      - i. 1320' for all
      - ii. 2000' for all
    - b. Require a notice as part of leases for multi-family development?
    - c. Make changes to the required method or content of existing notices?
      - i. Disclosure requirement imposed on the seller (seller must confirm disclosure to prospective buyers)
        1. Requirement would be on the seller; CCOB cannot regulate real estate broker's activities. This is an area preempted by the state regulatory scheme.
      - ii. Consent requirement imposed on a prospective buyer (a prospective buyer must confirm to CCOB that they received a disclosure; more challenging to regulate and enforce)

If directed by the City Council, staff will bring forward an ordinance for consideration on first reading, with the potential changes to the reverse setbacks from oil and gas facilities. A public hearing will be scheduled with the second reading of the ordinance.