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WOODBURY COUNTY
COMMUNITY & ECONOMIC DEVELOPMENT

620 DOUGLAS STREET – SIOUX CITY, IA 51101

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**ZONING COMMISSION FINAL REPORT 12-6-22
HAZARDOUS LIQUID PIPELINES ORDINANCE
ZONING ORDINANCE TEXT AMENDMENT PROPOSAL**

Report Contents

- Summary and Zoning Commission Recommendation
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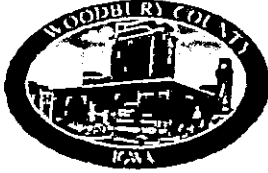
SUMMARY AND ZONING COMMISSION RECOMMENDATION

On October 11, 2022, the Woodbury County Board of Supervisors unanimously approved a motion to direct staff and the Zoning Commission to initiate a review process and provide a recommendation of a Zoning Ordinance Text Amendment to the Zoning Ordinance to address the permitting of Hazardous Liquid Pipelines. There is already a process in place to address the permitting of pipelines, however, the intent is to review the current process and consider supplemental language to the ordinance that would account for specific separation distances from occupied structures due to concerns about the health and safety of residents being located in close proximity to pipelines. Informational discussion items were placed on the Woodbury County Zoning Commission agenda on October 24, 2022 and the Woodbury County Board of Adjustment agenda on November 7, 2022 to discuss the Board of Supervisor's direction.

ZONING COMMISSION RECOMMENDATION

On Monday, November 28, 2022, the Woodbury County Zoning Commission conducted a public hearing where they considered a Zoning Ordinance Map Amendment proposal. Subsequent to public testimony, the Zoning Commission voted 5-0 to stay with the existing process with the Conditional Use Permit instead of going with the draft amendment ordinance proposal (see enclosed).

In consideration of the proposed zoning ordinance text amendment, members of the Commission discussed the proposed setbacks while taking questions and clarifying information for the public. The conditional use permit application process currently on the books, including the criteria used by the Zoning Commission and Board of Adjustment to make a determination were discussed including the ability to institute conditions as part of the approval process. The Commissioners remain open to further guidance from the Board of Supervisors including any language/questions to assist the Zoning Commission and Board of Adjustment in analyzing the Conditional Use Permit criteria in the Zoning Ordinance. The Board of Supervisors may choose to accept the Commission's recommendation or proceed with consideration of the Zoning Ordinance Text Amendment. A copy of the draft minutes from this meeting are available in this report.



WOODBURY COUNTY
ZONING COMMISSION
WOODBURY COUNTY COURTHOUSE
620 DOUGLAS STREET
SIOUX CITY, IA 51101

Woodbury County Board of Supervisors
620 Douglas Street
Sioux City, Iowa 51101

RE: Zoning Commission Recommendation to the Board of Supervisors:

Zoning Ordinance Text Amendment Proposal
Hazardous Liquid Pipelines

Dear Board of Supervisors:

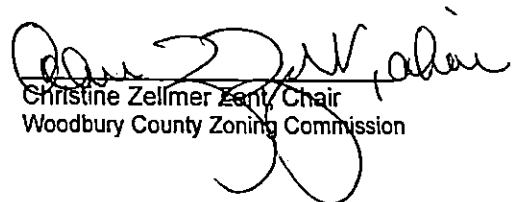
This letter is to inform you that the Woodbury County Zoning Commission reviewed the proposed Zoning Ordinance Text Amendment proposal concerning *Hazardous Liquid Pipelines* at the regularly scheduled meeting on November 28, 2022 at 6:00 PM CT.

A public hearing was conducted during this meeting where concerns were obtained from the public present regarding the placement of hazardous liquid pipelines. **Subsequently, a motion was passed 5-0 to stay with the existing process with the Conditional Use Permit instead of going with the draft amendment ordinance proposal.**

In consideration of the proposed zoning ordinance text amendment, the Commission received feedback from the public, answered questions, and clarified information about the current Conditional Use Permit application procedure. The process currently on the books, including the criteria used by the Zoning Commission and Board of Adjustment to make a determination were discussed including the ability to institute conditions as part of the approval process. As per Section 2.02.9 of the Zoning Ordinance, it is the duty of the Zoning Commission to offer a recommendation to the Board of Adjustment after a thorough review of the six criteria or standards and two other considerations of a conditional use. The Board of Adjustment is vested with the authority to approve, approve with conditions or limitations, or deny requested conditional use permits based on the ordinance standards and considerations.

The Commissioners remain open to further research or guidance from the Board of Supervisors including language / questions to assist the Zoning Commission and Board of Adjustment in analyzing the Conditional Use Permit standards and considerations in the Zoning Ordinance.

____ day of Dec., 2022


Christine Zellmer Zent, Chair
Woodbury County Zoning Commission

Minutes - Woodbury County Zoning Commission – November 28, 2022

The Zoning Commission (ZC) meeting convened on the 28th of November at 6:00 PM in the basement of the Woodbury County Courthouse. The meeting location in the Courthouse was moved from the first-floor boardroom to the basement due to limited seating in the first-floor boardroom. The meeting was also made available via teleconference.

ZC Members Present:

Christine Zellmer Zant, Tom Bride, Barb Parker, Jeff O'Tool, Corey Meister

County Staff Present:

Dan Priestley

Public Present:

Carole Hennings, Deb Main, Axel Johnston, Britany Heath, Karen Keath, Vicki Hulse, Jana Martens, Diane Weaver, Sandi Brouwer, Stee Maxwell, Gayle Palmquist, Doyle Turner, Jim Colyer, Renee Colyer, Barb Petersen, Loren Peterson, Luke Grigg, Christine Gant, Kyle Karrer, Ron Karrer, Dennis Karrer, JoAnn Sadler, Brian Sadler, Dan Bittinger, Alan McGaffin, Terri McGaffin, Jody Wilson, Todd Grohs, Curt Grigg

Call to Order

Chair Christine Zellmer Zant formally called the meeting to order at 6:00 PM CST.

Public Comment on Matters Not on the Agenda

None.

Approval of Previous Meeting Minutes – October 24, 2022 Meeting

Motion by Meister second by Parker to approve the minutes of the October 24, 2022 meeting. Carried 5-0.

PUBLIC HEARING: Zahnley First Addition, Minor Subdivision Proposal

Priestley read the staff report summary into the record. Phirman E. Zahnley has filed for a one-lot minor subdivision including Parcel #894227200001 as referenced above. The purpose is to split the house from the farm ground. This proposal has been properly noticed in the Sioux City Journal Legals Section on November 12, 2022. The neighbors within 1000 FT have been duly notified via a November 9, 2022 letter about the November 28, 2022 Zoning Commission Public Hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot has adequate access to the road system. Extraterritorial review, as required by Iowa Code 354.9, was completed by the City of Correctionville on October 10, 2022. The property is not located in the floodplain. The proposed lot contains both the well and septic system. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. It is the recommendation of staff to approve this proposal as proposed. Surveyor Axel Johnston was present on behalf of the applicant and reported that the structure to the north of the property was 22.5 FT from the north property line. Motion by O'Tool second by Bride to close the public hearing. Carried 5-0. Motion by O'Tool second by Meister to recommend approval of the Zahnley First Addition to the Woodbury County Board of Supervisors as proposed. Carried 5-0.

PUBLIC HEARING: Zoning Ordinance Text Amendment for Hazardous Liquid Pipelines

Priestley read the staff report summary into the record. On October 11, 2022, the Woodbury County Board of Supervisors unanimously approved a motion to direct staff and the Zoning Commission to initiate a review process and provide a recommendation of a Zoning Ordinance Text Amendment to the Zoning Ordinance to address the permitting of Hazardous Liquid Pipelines. There is already a process in place to address the permitting of pipelines, however, the intent is to review the current process and consider supplemental language to the ordinance that would account for specific separation distances from occupied structures due to concerns about the health and safety of residents being located in close proximity to pipelines. Priestley referenced a report prepared by staff including a review of literature that considers a series of studies as it relates to the consequences of pipeline failures including the impact to the population as well as measures local communities can employ for mitigation. The report describes the county's existing conditional use permit procedure and makes the recommendation to institute a setback of 330 FT as rooted in the Emergency Response Guidebook (2022) from residential structures or dwellings. The recommendation also includes a 50 FT setback in commercial and industrial zoning districts. It is also recommended to institute 1000 FT planning areas and consultation zones to foster collaboration among landowners, pipeline operators, government officials, and other stakeholders. Priestley stated other counties in Iowa such as Shelby County and Story County have passed ordinances for the regulation of hazardous liquid pipelines including the establishment of separation distances. On Monday, November 14, 2022, a federal court case was filed in the United States District Court for the Southern District of Iowa Central Division between William Couser and Summit Carbon Solutions, LLC (Plaintiffs) v. Story County, Iowa: Story County Board of Supervisors... The case considers questions of whether the local ordinance No. 306 is preempted by federal and state measures.

Carole Hennings, 1970 Garner Avenue, Merville, IA; Deborah Main, 1026 Charles Avenue, Sioux City, IA; Alan McGaffin 1122 S. Paxton, St., Sioux City, IA; Gayle Palmquist, 1848 130th St., Lawton, IA; Jana Martens, 2678 110th St., Merville, IA; Karen Heath, 4809 Oxford Drive, Sioux City, IA; Jim Collyer, 1650 Old Hwy 141, Sergeant Bluff, IA; Viki Hulse, 2700 100th Street, Merville, IA; Stee Maxwell, 248 Pearl St. S, Merville, IA; Doyle Turner, 2738 200th St., Merville, IA; Dan Bittinger, 2901 Sunset Circle, Sioux City, IA; Jody Wilson, 1449 Charles, Avenue, Lawton, IA; Todd Grohs, 1661 180th St., Sioux City, IA; Curt Grigg, 1261 Delaware Ave., Lawton, IA addressed the board with concerns regarding the placement of hazardous liquid pipelines and the ordinance proposal.

Motion by Bride second by Meister to receive documents from Deborah Main. Carried 5-0. Copy filed.



Motion by Meister second by O'Tool to receive documents from Gayle Palmquist. Carried 5-0. Copy filed.



Motion by Parker second by Bride to close the public hearing. Carried 5-0.

In consideration of the proposed draft zoning ordinance text amendment, members of the Commission discussed the proposal including the proposed setbacks while taking questions and clarifying information for the public during the executive session. The consequences of the proposed setbacks were referenced including the potential establishment of reverse setbacks thereby establishing a class of legal nonconforming structures along pipeline corridors. The conditional use permit process currently on the books, including the criteria used by the Zoning Commission and Board of Adjustment to make a determination were discussed and shared including the ability to institute conditions as part of the permit application approval. The current criteria was referenced as reviewing applications based on the situation and relevant circumstances as they relate to the ordinance criteria. The options for moving forward with a recommendation were discussed.

Motion by Bride second by Parker to stay with the existing process with the Conditional Use Permit instead of going with the draft amendment ordinance proposal. Carried 5-0.

Meister stated he would like more time to review the case. Priestley responded that the motion passed is sticking with the current process but some questions rooted in the criteria could be formulated to assist with the Conditional Use process.

Bride indicated that he remains open to further guidance from the Board of Supervisors including any language/questions to assist the Zoning Commission and Board of Adjustment in analyzing the Conditional Use Permit criteria in the Zoning Ordinance.

Priestley indicated that the Board of Supervisors, even with the rejection of this draft ordinance amendment by the Zoning Commission, have the ability to consider this ordinance language or adjustments to it. The Board also has the ability to direct the Zoning Commission to look into the issue further.

Priestley stated that this will be brought up as an information item at tomorrow night's Board of Supervisors meeting (11/29/22).

Information / Discussion: Application process for positions on the Board of Adjustment and Zoning Commission

Priestley discussed the application process for membership on the Zoning Commission and Board of Adjustment. Applications are due in the Board of Supervisors office before December 15, 2022. The Board of Supervisors make appointments to both boards.

Public Comment on Matters Not on the Agenda

None

Commissioner Comment of Inquiry

None

Staff Update

The Zoning Commission recommendation on a hazardous liquid pipelines zoning ordinance amendment will be brought to the Board of Supervisors as an information item tomorrow, Tuesday, November 29 to update the Supervisors about tonight's proceedings.

Adjourn

Motion by Meister second by O'Tool to adjourn the meeting. Carried 5-0. Meeting ended at 8:42 PM CST.

Filed with the Iowa Utilities Board on October 28, 2022, HLP-2021-0001

Next eight (or 16 - 2 sided) pages received by Deborah Main into the Zoning Commission 11/28/22 Minutes.

Jessica Wiskus
Linn County
October 26, 2022

Dear Members of the Iowa Utilities Board:

For over a year now, Summit Carbon Solutions has made public its proposal to transport supercritical liquid CO₂ to North Dakota via pipeline.

My neighbors and I have been organizing to take a stand against the use of eminent domain for this and, indeed, all three of these CO₂ projects. We've distributed yard signs, we've cheered each other on at public meetings, we've sent letters to the Iowa Utilities Board, and contacted all of our Iowa legislators, multiple times. And our little group has grown in numbers, joining with a state-wide non-profit organization to help us fight against the abuse of eminent domain.¹



Why are we so opposed to these CO₂ pipeline projects? First of all, all three pipeline companies are seeking to use eminent domain for their projects. Now, eminent domain is a power granted by the government to take away your property or the use of your own property, against your will. Eminent domain, as an extraordinary governmental power that condemns your private property for someone else's use, can be used ONLY for "public convenience and necessity," at least, according to the law.

¹ <https://iowaeasement.org/>

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What is “public convenience and necessity”? In Iowa, an individual’s or a corporation’s economic development is not enough to warrant eminent domain. In a legal case brought before the Iowa Supreme Court in 2019, the court found that “trickledown benefits of economic development are not enough to constitute a public use.”² And the Court spelled out: “If economic development alone were a valid public use, then instead of building a pipeline, [a company] could constitutionally condemn Iowa farmland to build a palatial mansion, which could be defended as a valid public use so long as 3100 workers were needed to build it, it employed twelve servants, and it accounted for \$27 million in property taxes.”³ But in Iowa, this kind of thing simply *is not allowed*.

Therefore, we have to look closely at what Summit is claiming about its project. Do these CO₂ pipelines promote “public convenience and necessity”?

This general question breaks down into three specific questions:

1. Are these pipeline projects safe? I ask this because it cannot be convenient nor necessary to force the public to live under conditions of unreasonable risk.
2. Are these projects a necessary public good for the environment?
3. Are these projects a necessary public good for the future of ethanol?

So, these three questions will be explored in this document.

1. Are these CO₂ pipelines safe for rural Iowans and our communities?

I want to begin by focusing on safety concerns. Many of us already live near gas or petroleum pipelines, and we don’t give them a second thought. They are established infrastructure, and we willingly live with the minimal risks that they pose. But as it turns out, pipelines that transport supercritical CO₂ are quite different from any other kind of pipeline that currently runs through Iowa.

What is this CO₂? Is it the stuff in the atmosphere, a gas in its natural state? No. According to Det Norske Veritas, (or DNV) the industry’s leading risk management research company, the typical amount of CO₂ in the air that we breathe, by volume, is 0.04%.⁴ This does not harm us.

But what will be transported via these pipelines is quite different. It is 99.9% or “pure” CO₂ in what scientists call a “supercritical” or “dense-phase” state: this is kind of a fancy way to talk about a gas that has been put under so much pressure—1300-2100 psi—that it is forced into a different state (sometimes referred to as a liquid state).⁵

And liquid, pressurized, dense-phase carbon dioxide is uniquely unstable and dangerous. The liquified carbon dioxide that these projects will capture is 99.9% carbon dioxide (what the industry calls, “pure” CO₂)—compare that to the 0.04% that we breathe as a gas in the air.

² Puntenney v. Iowa Utilities Board, 928 N.W.2d 829 (2019).

³ *Ibid.*

⁴ <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

⁵ *Ibid.*

many of us will not sign voluntarily easements with these pipeline companies—no matter the dollar amount. **AND THE STATE OF IOWA SHOULD STAND WITH US, NOT AGAINST US.**

Respectfully,

Jessica Wiskus

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And Linn county's Farm Bureau, citing "potential infringement on the private property rights of Iowans," submitted an objection to the Iowa Utilities Board against Navigator's proposed pipeline, stating:⁴⁴

"Representing Linn County Farm Bureau members, we are requesting the Iowa Utilities Board to deny the use of eminent domain for Navigator LLC at this time."

It is not every day that the Farm Bureau and the Sierra Club agree! They agree because there is something really fundamental that is at risk here.

Let me close with one last thought. Look, maybe you think that this issue is about *his* back yard or *her* back yard—that this issue just boils down to money. After all, everyone knows that a farmer's wealth is in the land... But, my experience in the last months, listening to my neighbors, has shown me how this issue cuts to the very core of our values.

Private corporations want to take the part of the wealth that is seen on a property deed, but they disregard what the land really means—they disregard the part that is the true gift. Land, for many of us, means something more than just a line on a balance sheet. Many of us come from families who have lived here and farmed here for generations—I am the 7th generation in my family to live on the good Iowa soil.

As the descendent of pioneers, it is not lost upon me that the land never truly "belonged" to my family in the first place. The taking of land from Native peoples was one of our nation's original sins. This crime against nations was sanctioned according to the rules of the "common carrier"—the railroad. The "justification" for the CO₂ pipelines—because they clearly do not meet any kind of public good—is strikingly similar.⁴⁵ Will ours be the generation to see that crime repeated?

You see, Mother Nature is more powerful than any history, than any people. Over the course of seven generations, like a flowing river, she has worn away the sharp edges of our pride, corrected us, and put us in our place: so that we, too, know that the land does not belong to us—we belong to the land.

And so, we're fighting these pipelines not just because *we* are affected; it's about more than just us. It's about all those who lived and loved the land before us, and those who will come after us. It's about the grandparents, the great-grandparents, and the more ancient ancestors; it's about the children, the grandkids, and the lives to come. It's about heritage, and it's about hope. And it's about our neighbors—about what it means to be a community, and to treat one another with respect. "Land," for us, is about the abundance of life that is rooted in the earth, and that, fundamentally, is not of our own making. We live our lives in relation to something that is greater than just ourselves—that is the true gift, the true wealth, that the land gives to us. It's because of this that so

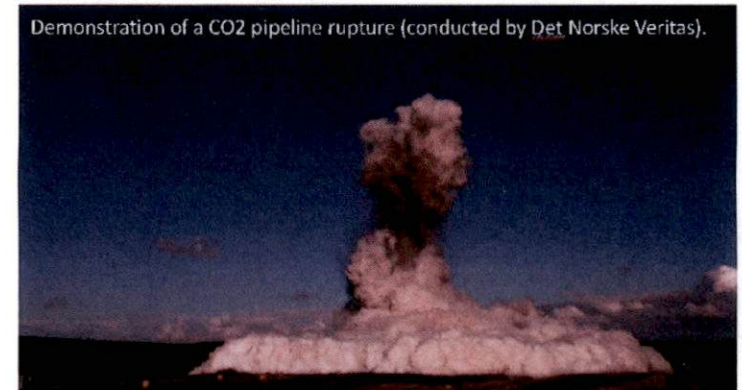
⁴⁴ Filed on the Navigator docket at the IUB and dated December 14, 2021.

⁴⁵ However, the following distinction between a railroad track for a railcar and a pipeline for CO₂ should be made: whereas the railroad car transports goods for commerce, thereby potentially benefiting the consumer by lowering prices, the CO₂ pipeline transports nothing but industrial waste, doing nothing but *raising* the costs for the consumer through the tax-payer subsidized 45Q credits. It therefore does not meet the criteria for eminent domain.

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According to DNV's research, concentrations of 10-15% carbon dioxide can cause, "headache, increased heart rate, dizziness, rapid breathing, and unconsciousness," in less than *one minute*. At higher concentrations, within one minute it can cause "unconsciousness, convulsions, coma, and death."⁶

Carbon dioxide is an asphyxiant—it displaces the oxygen in your lungs. Only about 5,000 miles of CO₂ pipelines exist in the US—**less than 1%** of the total pipelines in our country.⁷ CO₂ pipelines are not like other oil and gas pipelines. As it turns out, *what travels through the pipe and under what pressure matters*—a lot. While a typical gas pipeline is under 500-1400 psi, a CO₂ pipeline operates under 1300 - 2100 psi.⁸ The extra high pressure means that a rupture would release CO₂ at an explosive force. We know that carbon pipeline ruptures can and do happen.⁹ DNV has conducted testing to see what this would look like and posted a short video of one such test demonstration conducted in England.¹⁰



⁶ Ibid.

⁷ <https://www.phmsa.dot.gov/data-and-statistics/pipeline/annual-report-mileage-hazardous-liquid-or-carbon-dioxide-systems>. This tiny proportion of pipelines has been responsible for 61 accidents involving the release of CO₂ over the past ten years (2011-2021), as reported to the Pipeline and Hazardous Materials Safety Administration. See <https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-incident-and-incident-data>. That's about one accident every 82 miles.

⁸ This is according to Navigator's materials.

⁹ <https://climateinvestigations.org/co2-pipelines-and-carbon-capture-the-sartaria-mississippi-accident-investigation/>

¹⁰ <https://brandcentral.dnvg.com/mars/embed?o=4D2E198D781A6E6F&c=10651&a=N>

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A peer-reviewed, scientific article published in July 2021, called “Risks and Safety of CO₂ Transport via Pipeline,” reports the results.¹¹ I will compare them to Navigator’s CO₂ pipeline project because they have released specific details about their project, and we expect Summit’s to be similar. The rupture of an 8”-diameter steel pipe, buried underground, under pressure and temperature parameters equivalent to Navigator’s pipeline project, resulted in 136 ton of CO₂ released in 204 seconds—that’s under 4 minutes; the visible plume caused by the CO₂ went up approximately 197 feet and spread out, horizontally across the ground, approximately 1312 feet—a ¼ of a mile.

What is the visible plume? It’s a solid form of CO₂, basically like dry ice. In section 3.4.5 of the industry standard publication, “Design and operation of carbon dioxide pipelines” from September 2021, DNV warns that, “Inhalation of air containing solid CO₂ particles within a release cloud is particularly hazardous since this could result in cryogenic burns to the respiratory tract as well as additional toxicological impact due to sublimation in the lungs.”¹²

Representatives from both Navigator and Wolf have admitted at their public informational meetings that, by default, the minimum setback for habitable structures would be 25 feet from the pipeline. It is the same for Summit.

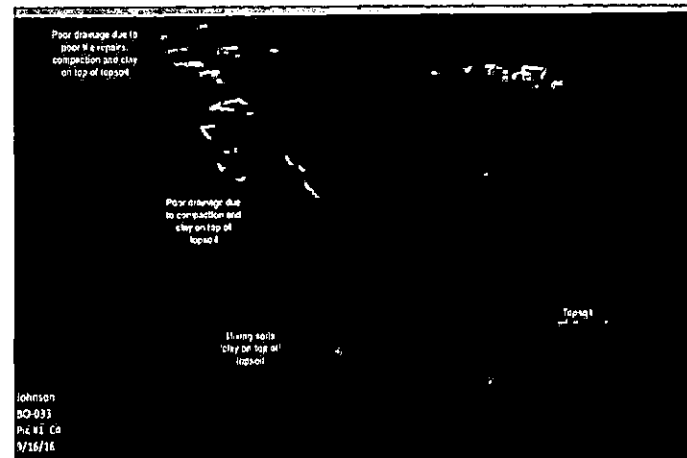
Until now, carbon pipelines in the US have been routed through sparsely-populated areas. And while some people think that Iowa is just a fly-over state, we know that Iowa’s history of settling in 40-acre parcels means that our rural areas have quite a few farmhouses and thriving small-town communities. This places us at risk when it comes to carbon pipelines. As an example, Navigator’s route put Iowa farmhouses, ballfields, churches, historic sights, and even schools in the pipeline corridor (for example, the College Community School District in Linn County). The figures, indicated below, offer such examples.

¹¹ <https://www.mdpi.com/1926-1073/14/15/4601>

¹² <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

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And yet, hundreds of Iowans, including me, continue to contact our legislators and asked them to stop the use of eminent domain for private projects like these, because the threat of eminent domain has a host of consequences for rural landowners. As it turns out, Iowa recently experienced a kind of “test case” of modern pipeline construction when Dakota Access came through our state in 2016.



Photos, graciously provided by an Iowa farmer who went through it, show evidence of mixing of soils, compaction, draining of water into surrounding fields, damage to the tiling, and more. You see, the pipeline company obeyed the letter of the law when they separated out the topsoil from the subsoil, but then they drove over the topsoil while they were building the pipeline—mixing the soils—and they worked the land under extremely wet conditions—compacting the soil. The tiling never was made right, and farmers were left with reduced fertility, problems with erosion, and lowered yields—you can see the scar two years later. All of this has direct financial consequences for rural families, of course.

For example, this letter from State Farm Insurance warns an affected landowner that:⁴³

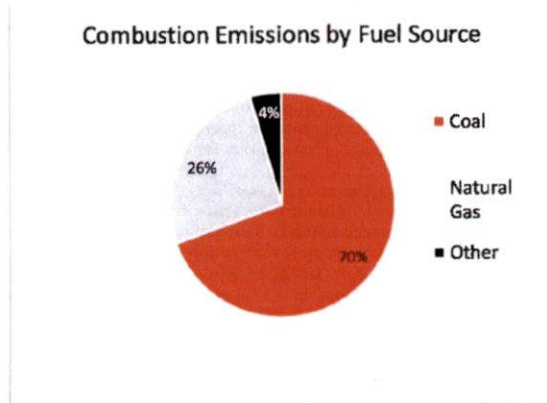
“As history has proved, any pipeline has a chance to fail, leak and seep resulting in significant damage to life and property. To place this type of risk or burden upon unwilling landowners, like yourselves, is tantamount to placing a risk to your livelihood without your permission.

“In summary, having a pipeline running through your property, carrying CO₂, a pollutant, subjects you to substantial uninsurable exposure.”

⁴³ Private letter from State Farm to landowner; identity protected.

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biogenic CO₂ is actually a relatively small portion of ethanol's own carbon footprint. 70% of ADM's on-site emissions comes from coal.⁴⁰



The real problem is coal, not corn—but emissions from coal cannot be captured and sequestered.

No surprise, then, that ADM's report concludes that the most effective way that they can lower their carbon footprint, is to wean themselves off of coal. That, and increase other efficiencies around their facility. POET, another giant in the ethanol industry, also has alternative ways to *actually stop producing more carbon dioxide in the first place*, rather than capturing and transporting it for the oil industry.⁴¹

In other words, to "go green," they don't need an interstate pipeline that would transport hazardous waste through rural Iowa countryside—and they don't need to take our land through eminent domain.

What motivates these projects is not "necessity" but rather a personal business decision by Bruce Rastetter, the head of Summit. And a personal business decision is not a public good. When a bill to stop the use of eminent domain came up in the Iowa State Senate last winter, SF 2160, neither ADM nor POET registered opposition to the bill.⁴² Clearly, they know that the CO₂ pipelines aren't necessary. They're just being forced to get on board and push this through because their competitor, Summit, seems unstoppable. (Former Governor Terry Branstad is paid to sit on the corporate board of Summit; the son of former Governor Tom Vilsack, Jess Vilsack, serves as one of Summit's corporate lawyers.)

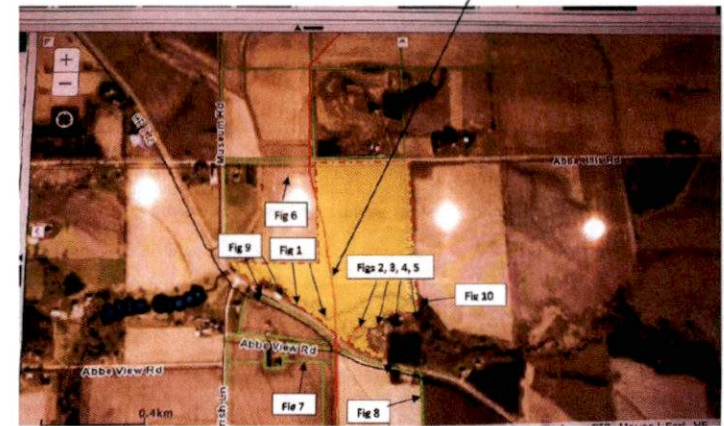
⁴⁰ See page 7 of the report.

⁴¹ <https://poet.com/sustainability/report>. Recently, POET did sign with Navigator for CCS.

⁴² <https://www.legis.iowa.gov/lobbyist/reports/declarations?ga=89&ba=SF2160>

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Pipeline Route Highlighted in "Red" Below



We live here. Our families live here. Our communities are built here. And we deserve respect.

What about PHMSA, the federal Pipeline and Hazardous Materials Safety Administration? PHMSA's job is to regulate the pipe itself within the 50-foot right-of-way (hence the 25-foot distance between the pipe itself and our houses). PHMSA has no regulatory authority over the siting of the pipelines—where they are built. States that have experience with carbon pipelines—states like OK, TX, and WY—have recognized this safety loophole and, according to an article called, "Siting Carbon Dioxide Pipelines," from the *Oil and Gas, Natural Resources, and Energy Journal*, have passed their own legislation to regulate the siting of these pipelines, for example, a required minimum distance from a school.¹³ But we have no such protections in Iowa because, frankly, CO₂ pipelines are less than 1% of all pipelines in this country, and in Iowa we have no experience with them *at all*.

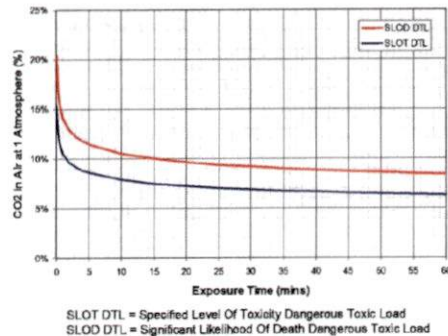
Are the proposed pipeline routes *safe*? DNV, the world's leading authority on recommended practice for the design and operation of CO₂ pipelines, does not specify a distance from the pipeline that would be safe in case of a rupture. *That is because even they do not know*.

No one knows. It depends on many different factors, not just the diameter of the pipe, the pressure under which the CO₂ was traveling, or the distance between safety valves, but also the local topography, soil composition, ambient temperature, wind speed, and other highly variable factors. In the end, it's not about distance; it's about concentration and time.

¹³ <https://digitalcommons.law.ou.edu/cgi/viewcontent.cgi?article=1129&context=onej>

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DNV developed a graph to show how this works.¹⁴



The red line indicates “significant likelihood of death,” while the blue line indicates a scientifically-specified level of toxicity—when you will suffer harmful effects. At concentrations of 10%, you will likely die in 15 minutes. At a concentration of 15%, you will likely die within 1 minute. How long do you have to escape? (By the way, unless you have an electric vehicle, car engines will stall out and fail if they are in an area of high CO₂ concentration because combustible engines, too, need oxygen to survive.)

How do we site these pipelines, safely? At the most recent public informational meetings—with Wolf and the IUB in August—Wolf’s engineer said, “The industry doesn’t have a standard.” And, “The results aren’t in on the dispersion modelling.” And when asked to estimate what distance he would recommend to avoid death from a pipeline rupture, he said something in the “800 to 1500 foot range.”¹⁵ That’s a really large range because so much is unknown about how supercritical CO₂ disperses—but notice that 25 feet is not a recommended option.

What we do know is that the day scientists conducted the test demonstration of a CO₂ pipeline rupture under the auspices of DNV, the visible plume of CO₂ travelled ¼ of a mile—1312 feet—in under 4 minutes. And now, thanks to a real-life accident, we also know that *the gas form of CO₂* can travel much farther.

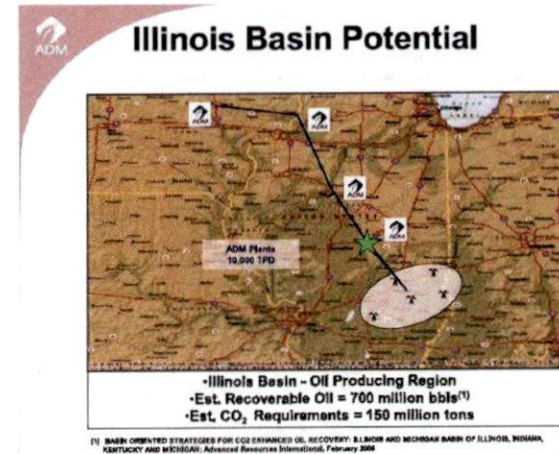
We learned that, unfortunately, when a CO₂ pipeline owned by Denbury Resources suddenly ruptured on a Saturday night in February of 2020 in Satartia, Mississippi.¹⁶ The rupture of the 24”

¹⁴ <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

¹⁵ Comments from Wolf’s engineer, recorded on August 29th and 30th, 2022.

¹⁶ https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f

Filed with the Iowa Utilities Board on October 28, 2022, HLP-2021-0001



The presentation as a whole contains research as recent 2020, and so I believe that we can consider this a fairly current source of information. The “Illinois Basin Potential,” describes the millions of barrels of oil that will be recoverable by injecting liquid CO₂ into the ground of depleted oil fields in Illinois. Indeed, there have been multiple studies by the oil and gas industry about the *quote* “stranded oil prize” that waits, underground, in Illinois. However, there is no such “oil prize” for Iowa...

So, that leads me to my third question: what about ethanol?

3. **Are the CO₂ pipelines necessary for ethanol’s future?** As it turns out, ADM knows the answer to this question, as well.

A report from March of 2020 was commissioned by ADM to look at several options for reducing CO₂, including the option of carbon sequestration.³⁸ But in this report, carbon sequestration comes in *dead last* of all the options.³⁹ You see, right now, the carbon that the technology can capture is only the CO₂ from biogenic sources—from the corn fermentation. That’s because the corn fermentation produces a very “pure” stream of CO₂—CO₂ not mixed with other gasses—that is the easiest to capture, dehydrate, and pressurize for transport through a pipeline. Indeed, that’s why the oil and gas industry wants it from ethanol facilities for the use of enhanced oil recovery. But this

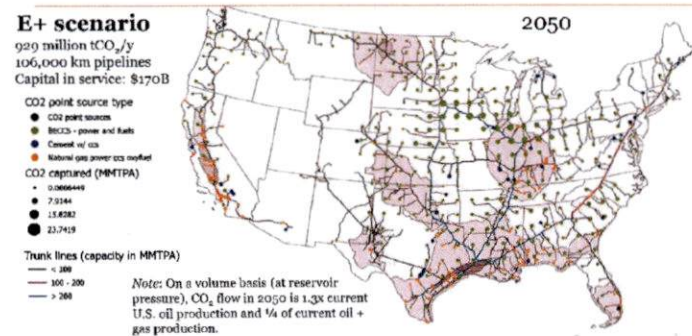
³⁸ <https://assets.adm.com/Sustainability/2019-Reports/ADM-WSP-Feasibility-Study-and-Goal-Document.pdf>

³⁹ See page 9 of the report.

Filed with the Iowa Utilities Board on October 28, 2022, HLP-2021-0001

for enhanced oil recovery,³⁵ and David Giles, COO of Navigator, admitted at public meetings in December 2021 and January 2022 that, because the pipeline company simply transported the liquid CO₂ but didn't, technically, own it, he could not say what would be done with it, in the end. Wolf has verbally denied that they intend to pursue EOR, but we have no binding document from them, and it doesn't bode well that both Summit and Navigator began saying the same thing before they changed their tunes.

It's rather telling to look at this map, from a study under the auspices of Princeton University but funded by Exxon Mobile and BP—funded by the oil and gas industry.³⁶



The green dots represent bio-energy sources of CO₂ like ethanol and fertilizer facilities in the Midwest, and the gray shading show the location of oil fields where enhanced oil recovery could be used. Please notice, North Dakota and Illinois on this map—precisely the destinations for the Summit, Navigator and Wolf pipelines. The lines connecting them are the pipelines necessary for CO₂ transport.

And what, for example, does an ethanol company like ADM know about this national plan for enhanced oil recovery? Well, here is a slide from a PowerPoint presentation by Scott McDonald, Biofuels Development Director at ADM, housed at the Department of Energy website.³⁷

³⁵ <https://www.mprnews.org/story/2021/03/02/iowa-company-wants-to-store-carbon-dioxide-under-north-dakota>

³⁶ <https://netzeroamerica.princeton.edu/the-report> Please see page 218 from the full report for the map. Also note that Exxon Mobile and BP fund this report.

³⁷ https://www.energy.gov/sites/prod/files/2017/10/f38/mcdonald_bioeconomy_2017.pdf see slide 36.

Filed with the Iowa Utilities Board on October 28, 2022, HLP-2021-0001

pipe released 9,532 barrels (401 ton) in the 8 minutes before the pipeline was shut down.¹⁷ Photos show that after the rupture, there is not even a speck of life, a speck of grass, left. Yet, because the rupture happened in a densely-wooded area one mile from the town center, with no houses nearby, and because the town had a tiny population (38 people) that emergency responders were able to evacuate, there were no deaths—only people sent to the hospital;¹⁸ [*] still, emergency responders later described what they found: [*] some people “choking,” some “unconscious,” some in a “seizure,” and others “foaming at the mouth.”¹⁹ In this case, distance was the difference between hospitalization... and death because distance from the pipeline rupture determined the concentration of CO₂ in the air.

The gas form of CO₂ released from the pipeline rupture travelled over 5,000 feet to the center of Satartia, Mississippi. But in Iowa, many of us will be forced to live, work, learn, and play *within tens* of feet of these pipelines—forced by the power of eminent domain.

Recently, PHMSA announced that it must “strengthen its safety oversight of carbon dioxide (CO₂) pipelines around the country to protect communities from dangerous pipeline failures,” a move they are making as “a result of PHMSA’s investigation into a CO₂ pipeline failure in Satartia, Mississippi in 2020.”²⁰ But the “new rulemaking to update standards for CO₂ pipelines” that PHMSA describes will take several years to put into place, since the research funding opportunities they offered have a timeline of 24-36 months.²¹ **Why are CO₂ pipelines being built in Iowa before the necessary safety studies have been completed? How can we consider such willful risk-taking to be a public good?**

Recently, California—a state also considering a build-out of CO₂ pipelines—passed a law that prohibits the construction of any new CO₂ pipelines *until PHMSA has issued its new safety rules*. This makes sense, doesn't it? If you must do something, don't you want to do it safely? Here is the law:

71465. (a) Pipelines shall only be utilized to transport carbon dioxide to or from a carbon dioxide capture, removal, or sequestration project once the federal Pipeline and Hazardous Materials Safety Administration has concluded the rulemaking (RIN 2137-AF60) regarding minimum federal safety standards for transportation of carbon dioxide by pipeline (Parts 190 to 199, inclusive, of Title 49 of the Code of Federal Regulations) and the carbon dioxide capture, removal, or sequestration project operator demonstrates that the pipeline meets those standards.²²

¹⁷ <https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-logging-and-liquid-incident-and-incident-data>

¹⁸ <https://www.phmsa.dot.gov/news/phmsa-failure-investigation-report-denbury-gulf-coast-pipelines-llc>

¹⁹ <https://www.clarionledger.com/story/news/local/2020/02/27/yazoo-county-pipe-rupture-co-2-gas-leak-first-responders-rescues/4871726002/>

²⁰ <https://www.phmsa.dot.gov/news/phmsa-announces-new-safety-measures-protect-americans-carbon-dioxide-pipeline-failures>

²¹ <https://www.grants.gov/web/grants/view-opportunity.html?oppld=338415>

²² https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB905

Iowans deserve the same protection. CO₂ pipelines should not be built unless PHMSA closes the knowledge gap on safety.

2. Are these projects a “public convenience and necessity” for the environment?

The reason that the CO₂ will be captured is to sequester it—bury it underground. In Iowa, we are being told that that would reduce the carbon footprint of ethanol and help address concerns about climate change. But there is more to this story, as it turns out.

Like all three of the projects under review in Iowa, Summit’s would transport liquid CO₂ to a facility out of state, where it will be injected or sequestered underground. It sounds “green,” but unfortunately, it’s only *one* part of the story. *Liquid CO₂*—which is what we’re talking about with these projects—is a commodity. It’s worth something, it’s sold and bought, as the oil and gas industry itself will tell you. That’s because it is used as a tool for more oil and gas extraction. Most people have probably heard of fracking, but maybe they haven’t heard of “Enhanced Oil Recovery” (EOR). Enhanced Oil Recovery has been used by the oil industry for decades, mainly down in Texas and Louisiana, but also now in places like Wyoming, Colorado, and North Dakota. By injecting the liquid CO₂ into the ground (where it is stored, by the way—that part of the industrial cycle is true), oil companies extract barrels of oil out of fields that were otherwise depleted. How much oil? A lot. For example, at a facility called Petro Nova, the *Journal of Petroleum Technology* reports that in less than one year they “captured 1 million tons of CO₂ and increased oil production [at a field some 80 miles away] by 1,300%.”²³ For over a decade, the oil and gas industry has been searching for a reliable source of CO₂ with which to pursue enhanced oil recovery. Indeed, the *Oil & Gas Journal* reports back in 2010 that: “Tracy Evans, president of Denbury Resources Inc., said the largest deterrent to expanding production from CO₂-EOR is the lack of large volumes of reliable, affordable CO₂.”²⁴ Indeed, the article goes on to state that, “Most CO₂ for EOR today comes from natural reservoirs, which are limited in capacity”—i.e. this industrial process has nothing to do with limiting our carbon footprint. (This article dates before the oil and gas industry hit upon the idea of using CO₂ from ethanol as their supply for Enhanced Oil Recovery—but I’ll tell you more about that later.)²⁵ What is important to note, for now, is that oil, when used, generates more CO₂—as it turns out, more than what was sequestered in the first place. According to an article in the *Proceedings of the National Academy of Sciences of the United States of America*, for every *one* ton of CO₂ they pump into the ground, they pull out two to three barrels of oil, which generate about 1.2 tons of new CO₂.²⁶ The process adds more CO₂ to the atmosphere than it takes out.

²³ <https://jpt.spe.org/co2-eor-could-be-industrys-key-sustainable-future-or-its-biggest-missed-opportunity>

²⁴ <https://www.ogj.com/general-interest/companies/article/17282591/ari-carbon-capture-could-boost-eor-projects>

²⁵ <https://www.pnas.org/doi/10.1073/pnas.1806504115>

²⁶ <https://www.pnas.org/doi/10.1073/pnas.1719695115>. Note that this is the article that pioneered the use of CO₂ from ethanol for EOR and that the authors make the oft-repeated argument from oil and gas that EOR is *necessary* to battle climate change. It is only necessary, however, for the industry itself; carbon capture transforms an existential threat to the fossil fuel industry into a lucrative opportunity—no matter that it fails to address the problem of actually continuing to generate CO₂ from industrial processes.

This article from *Biophysical Economics and Sustainability* confirms that, although “fossil fuel interests have moved to reframe an old oil extraction technique (“enhanced oil recovery”) as a new climate mitigation method,” they found that this process is “net CO₂ additive: CO₂ emissions exceed removals.”²⁷

Over 90% of liquid CO₂ in the world is currently used for Enhanced Oil Recovery. This is according to the “Global CCS Institute,” an “international think tank” headquartered in Melbourne, Australia.²⁸ The article mentioned, above, states directly that: “Major carbon dioxide capture and pipeline infrastructure projects based on CO₂-EOR [...] benefit the oil and gas industry and oil-producing states.”²⁹ Indeed, an article from 2014 in *The American Oil & Gas Reporter*, says it all in the title: “Industrial CO₂ Supply Crucial for EOR,” stating that, “The main barrier to growth in oil production from CO₂ EOR is insufficient supplies of affordable CO₂. [...] While a number of efforts have been under way to alleviate this supply shortage, new CO₂ supplies are absorbed quickly.”³⁰ Indeed, the article goes on to say that Texas (Navigator’s home base) is working “to encourage increasing CO₂ supplies from industrial sources to serve the EOR market.”³¹

Even most “demonstration” or “pilot” programs are driven by the fossil fuel industry, but one in the US—connected to ADM’s facility in Decatur, Illinois—pursued storage, only.³² This project (which didn’t require much of a pipeline—the company injected the CO₂ onsite) was funded by the federal government to the tune of hundreds of millions of federal tax dollars. From November 2011 to November 2014, they injected liquid CO₂ down into the ground (where, by the way, it doesn’t just “stay put” or solidify into rock—it migrates).³³ And did they *lower* their greenhouse gas emissions? No. According to data tracked by the EPA, in 2010—the year before carbon capture and sequestration began—their annual Total Facility Emissions in metric tons of CO₂ was 4,431,508. In 2011, the year they began sequestering, it went up to 4,662,337 tons. In fact, every year from 2011 to 2014 (the years of their sequestration project), CO₂ emissions actually increased rather than decreased, peaking at 4,695,431 in 2014. In 2015, when they *stopped* capturing and sequestering the CO₂, their emissions decreased to 4,462,580.³⁴ You see, the process of capturing, dehydrating, and injecting requires a tremendous amount of energy, and that generates additional CO₂.

The net addition of CO₂ to the atmosphere is not a “public convenience and necessity.”

Do we know, for certain, that Iowa’s CO₂ will be used for enhanced oil recovery? We don’t know for certain, but according to Minnesota Public Radio in 2021, Bruce Rastetter, the head of Summit, admitted that his economic model for the pipelines wouldn’t be viable without federal tax dollars

²⁷ https://www.bu.edu/eci/files/2020/10/2020_Article.pdf

²⁸ <https://co2re.co/FacilityData>

²⁹ <https://www.pnas.org/doi/10.1073/pnas.1719695115>

³⁰ <https://www.ogr.com/magazine/editors-choice/industrial-co2-supply-crucial-for-eor>

³¹ *Ibid.*

³² <https://co2re.co/FacilityData>

³³ See slides 14-22,

https://www.energy.gov/sites/prod/files/2017/10/138/mcdonald_biocconomy_2017.pdf

³⁴ <https://ghgdata.epa.gov/ghg/service/facilityDetail/20107id=1005661&d=E&ctr&popup=true>

Next four pages received by Gayle Palmquist into the Zoning Commission 11/28/22 Minutes.



Dear [Redacted]

Thank you for your liability coverage inquiry into the Navigator CO2 pipeline that is expected to run through your property. There is specific exclusions for liability protection involving the release of any contaminants per the following policy language:

Coverage & insurability does not apply to:

bodily injury or property damage arising out of the actual, intended, or threatened removal, discharge, dispersal, escape, migration, seepage, leakage, or exposure to contaminants or pollutants at or from any site or location

We also do not cover:

any loss, cost, or expense resulting from any request, demand, order, or violation of applicable regulations that are created or issued post-loss, whether cleanup, removal, remedial, hazard, abatement, mitigation, remedial design or, as in any law, regulation or otherwise the effects of contamination or pollutants;

any loss, cost, or expense resulting from any request, demand, order, or violation of a governmental authority or design regulation of bearing, use, maintenance, installation, operation, monitoring, testing, remedial, remedial design, remediation, dismantling or, as in any law, regulation or otherwise the effects of contamination or pollutants;

While I am personally not privy to any proposed hold harmless agreements or the contract between the pipeline owners and yourselves, regardless of any agreements in place, there is significant personal liability exposure for yourselves while using your land for farming operations, for your own enjoyment and for your benefit renting the land out for others to do the same.

An example of some of the benefits of such an agreement is that the potential damage may be apportioned to the responsible party.

As time passes, nearby landowners may change hands, the pipeline owners and operators may change, future technology may render the pipeline useless or ineffective. All of these factors among others, increase the potential that you may be held personally liable in the future for cleanup, removal and other activities that could cause damage as a result of this pipeline being installed.

As history has proved, any pipeline has a chance to fail, leak and seep resulting in significant damage to life and property. To place this type of risk or burden upon unwilling landowners, like yourselves, is tantamount to placing a risk to your livelihood without your permission.

In summary, having a pipeline running through your property, carrying CO2, a pollutant, subjects you to substantial uninsurable exposure.

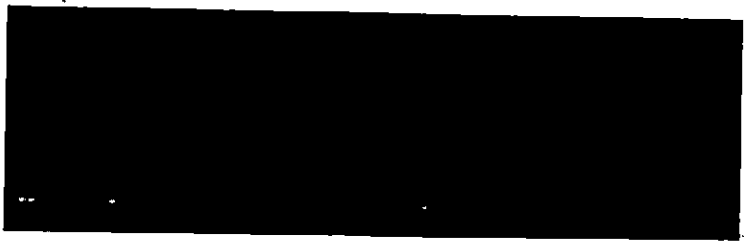
Sincerely,

[Handwritten signature]

1/11/2022

State Farm Agent

[Redacted]



We've done the research and we oppose pipelines.

Des Moines Register, Sept. 25 2022

We've done the research, and we oppose pipelines



Your Turn

Mott Liebman, Elizabeth Garst and Neil Hamilton
Guest columnists

We are a group of concerned Iowans, farmland owners, academics, non-profit leaders, and environmental advocates who have urged the Iowa Utilities Board to reject permit applications for carbon dioxide pipelines that would run across Iowa. We recognize that climate change is driven by emissions of greenhouse gases, including carbon dioxide, and we support clean, safe, sustainable, and locally controlled and locally owned energy. But we can do better than the proposed pipelines. Science indicates that they are poor investments and unlikely to have a meaningful effect on reducing greenhouse gas emissions.

We filed a letter on July 29, 2022, with the Iowa Utilities Board and laid out four science-based objections to the projects proposed by Summit Carbon Solutions, Navigator CO2 Ventures, and Archer Daniels Midland partnered with Wolf Carbon Solutions. Our objections are based on publicly funded scientific and engineering studies; links to these studies can be found in our letter to the board.

Soil degradation, reduced crop yields. Iowa State University scientists recently published a study that examined crop yields in areas of fields affected by underground oil pipeline construction. They found that subsoil compaction reduced corn yields by 15% and soybean yields by 25% for at least several years after pipeline completion. Farmers are aware of these effects and are reluctant to allow degradation of their land by pipeline construction. To date, at least 40 county boards of supervisors in Iowa have filed objections

See CO2, Page 40P

More opposition to hazardous CO2 pipelines in Woodbury County.

Landowners in Midwestern states are fighting against large corporations to preserve rights and liberties guaranteed in our constitution. CO2 companies want to cash in on billions made available to them by the recent Infrastructure Bill. If allowed, these hazardous pipelines that have no guaranteed results to improve the net effect on the atmosphere will desecrate over 5000 miles of valuable farmland that has taken centuries for nature to build, and ruin some of the most valuable land in the world.

HAZARDOUS CO2 pipelines are not just another pipeline. The enormous pressure necessary to convert the CO2 to a solid for sequestration makes them extremely dangerous. Released CO2 takes as little as four minutes to kill humans and animals. The distance the CO2 could travel is unknown because of many variables, including wind speed, terrain, and weather. In 2020, a rupture in a remote area several miles from the village of Satarin, Mississippi injured many, resulting in potentially lifelong health problems. There were no deaths, probably because of the distance. The problem, as diagnosed by PHMSA, was heavy rain on a highly erodible slope.

Neither PHMSA or Iowa have regulations for CO2 pipelines. PHMSA estimates two years to make regulations and rules. The pipelines are trying to rush the approval of their pipelines to be "grandfathered" in. Private pipeline companies seeking private gains are threatening to use eminent domain, traditionally used for projects benefiting the general populace, i.e. highways, schools, hospitals, utilities, etc. Approval by the Iowa Utilities Board would cause danger to thousands of people and animals plus thousands of acres of compromised Midwestern farmland. No public good will come from building these pipelines.

Sequestration isn't a proven science. Approximately 80% of projects have failed. Called "expensive failures", efforts have resulted in more CO2 released in the construction/operation than was sequestered, for a net loss. Examples: Chevron in Australia and Shell in Canada. A short line in Texas was recently closed. Experts at Iowa's state universities and the DNR have voiced concerns about the affect of hazardous pipelines on water supplies, energy, land and people. Crop yields, water sources, and infrastructure such as tile, irrigation systems, and terraces will never be the same.

Everyone should be concerned with who's behind these pipelines and who will profit from them. "The Kingmaker", Bruce Rastetter of Adel, Iowa, the force behind Summit, has donated hundreds of thousands of dollars to various politicians, including Governor Reynolds, Governor Noem, the Grassley family, and others, including at least one member of the IUB. Reynolds set up a task force with many members whose corporations will benefit from these pipelines.

Insurance companies are refusing to cover CO2 losses for customers. Farmers would have no liability coverage, leaving tenants and owners very vulnerable. CO2 pipelines will have a detrimental effect on land values. Future development in Woodbury County will be harmed, especially along HWY 20, Interstate 29 and HWY 75. Less tax money for the county and decreased money for sellers of land. When CO2 enters the water supply, it will turn our aquifers and wellwater into carbonic acid, not fit for man, beast or crops. Smaller, shallower aquifers are not uncommon in NW Iowa. Local EMR teams are not staffed, trained, or equipped to deal with CO2 eruptions. One hazmat team in NW Iowa is responsible for 7 counties. Gas powered vehicles will not run in a CO2 plume and Summit has refused to release a plume study requested by the IUB. These companies have been anything but transparent with landowners and the IUB, dodging requests from the IUB and lying to and bullying landowners.

Think it doesn't involve you? Guess again. Your taxes are supporting unproven, dangerous pipelines. Approval of Eminent Domain use will set a dangerous precedent. Other pipelines are watching, waiting to be next in line to use your money and control your property. Call our supervisors, sign petitions, put a sign up, write to the IUB, attend hearings and other meetings!

It is time to protect citizens — not to cave in to corporations. Don't sign easements; the problems created by these pipelines will long outlast any amount of money they promise you! If Eminent Domain is used it will be detrimental to all.

11-24-22 Gayle Wilcox Palmquist
Mollie Hecard Lawton, Iowa

Ordinance No. _____

Woodbury County, Iowa

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND THE *TABLE OF CONTENTS* AND TO ADD A SECTION ENTITLED *SECTION 5.08: HAZARDOUS LIQUID PIPELINES*

WHEREAS the Supervisors of Woodbury County Iowa ("the County"), under the authority of IA CONST Art. 3, § 39A, Iowa Code § 331.301, and Iowa Code § 335.3, the County has adopted a Zoning Ordinance on July 22, 2008, by Resolution No. 10,455 being recorded in the Office of the Woodbury County Recorder; and

WHEREAS the County may by ordinance lawfully regulate and restrict the use of land for trade, industry, residence, or other purposes in accordance with a comprehensive plan and designed to further the considerations and objectives set forth in Iowa Code § 335.5; and

WHEREAS, the considerations and objectives of land use and zoning regulations under Iowa Code § 335.5 require counties to design the regulations (1) to secure safety from fire, flood, panic, and other dangers; (2) to protect health and the general welfare; (3) to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirement; and

WHEREAS, the County and the several municipalities within the County employ a number of emergency response personnel, including local sheriffs, police, firefighters, and emergency medical service responders, and are responsible for ensuring the safety of these public servants through adequate training, knowledge, and access to personal protective equipment; and

WHEREAS, the County has authority under Iowa law to require information from a company that proposes to construct a hazardous liquid pipeline in the County that will enable the County to fulfill its statutorily required emergency planning duties and protect county emergency response personnel; and

WHEREAS, the transport of hazardous liquid through an hazardous liquid pipeline constitutes a threat to public health and the general welfare such that the Pipeline and Hazardous Materials Safety Administration of the United States Department of Transportation ("PHMSA") has the authority to prescribe safety standards for such pipelines; and

WHEREAS, the State of Iowa and its political subdivisions may and must consider the risks of a hazardous liquid pipeline when selecting a route for it, so as to prevent its construction overly near to residential buildings, existing and future public and private infrastructure, high and

vulnerable population buildings such as schools and nursing homes, future housing or industrial developments, and confined animal facilities; and

WHEREAS, in Iowa, the Iowa Utilities Board ("the IUB") has authority pursuant 49 U.S.C. § 60104(e) of the Hazardous Liquid Pipeline Safety Act and under Iowa Code chapter 479B to implement certain controls over hazardous liquid pipelines, including the authority to approve the location and routing of hazardous liquid pipelines; and

WHEREAS, under Iowa Code § 479B.4, a pipeline company must file a verified petition with the IUB asking for a permit to construct, maintain, and operate a new pipeline along, over, or across the public or private highways, grounds, waters, and streams of any kind in this state; and

WHEREAS, Iowa Code § 479B.5 requires that each petition for a permit must state the relationship of the proposed project to the present and future land use and zoning ordinances; and

WHEREAS, Iowa Code § 479B.20: (1) specifically provides for the application of provisions for protecting or restoring property that are different than the provisions of section 479B.20 and the administrative rules adopted thereunder, if those alternative provisions are contained in agreements independently executed by the pipeline company and the landowner; (2) specifically contemplates that such agreements will pertain to "line location;" (3) specifically requires the County to hire a "county inspector" to enforce all land restoration standards, including the provisions of the independently executed agreements; and (4) specifically requires that independent agreements on "line location"; and

WHEREAS, there are several factors that would influence human safety in the event of a rupture of such a pipeline, including CO₂ parts per million (ppm) concentration, wind speed and direction, velocity of the gas exiting the pipe, and thermodynamic variables; and

WHEREAS, (1) a sudden rupture of a CO₂ pipeline may lead to asphyxiation of nearby people and animals, (2) CO₂ is lethal if inhaled for 10 minutes at a concentration larger than 10% by volume, (3) the National Institute for Occupational Safety and Health ("NIOSH") has set the Immediate Dangerous to Life and Health (IDLH) limit of CO₂ at 4% by volume; and (4) at concentrations of 25% volume, CO₂ is lethal to humans within 1 minute; and

WHEREAS, on May 26, 2022, PHMSA announced new safety measures to protect Americans from carbon dioxide pipeline failures, including (1) initiating a new rulemaking to update standards for CO₂ pipelines, including requirements related to emergency preparedness, and response; (2) issuing an advisory bulletin to remind owners and operators of gas and hazardous liquid pipelines, particularly those with facilities located onshore or in inland waters, about the serious safety-related issues that can result from earth movement and other geological hazards; and (3) conducting research solicitations to strengthen pipeline safety of CO₂ pipelines; and

WHEREAS, the rulemaking initiated by PHMSA to update safety and emergency preparedness standards for CO₂ pipelines is not yet complete; and

WHEREAS, the IUB does not have jurisdiction over emergency response in Iowa and has no expertise in emergency response planning; and

WHEREAS, the County may adopt land use and zoning restrictions (1) for purposes of regulating the use of land in the County, including the execution of independent agreements between landowners and pipeline companies regarding land restoration and line location; and (2) for purposes of facilitating the least dangerous route through the County of a hazardous liquid pipeline, including requiring the completion of an emergency response and hazard mitigation plan; and

WHEREAS, the adoption of such land use and zoning regulations is (1) consistent with Iowa Code chapter 479B, including Iowa Code §§ 479B.5(7) and 479B.20, and (2) necessary to facilitate the IUB's approval of a permit, in whole or in-part upon terms, conditions, and restrictions as to location and route that are "just and proper;" and

WHEREAS, the County intends to establish a process under the Ordinance for permitting and approving the use of land in Woodbury County for the transport of hazard liquid through a hazardous liquid pipeline that is not inconsistent with federal law, including the Hazardous Liquid Pipeline Safety Act, and not inconsistent with Iowa law, including Iowa Code chapters 479B, 331, and 335; and

NOW THEREFORE BE IT ENACTED BY THE BOARD OF SUPERVISORS OF WOODBURY COUNTY, IOWA THAT THE BELOW ZONING ORDINANCE LANGUAGE AMENDMENTS BE MADE:

Amendment #1 –

On page iii: To add the following to the *Table of Contents, Article 5 Supplemental Requirements*:

Add Section 5.08: *Section 5.08: Hazardous Liquid Pipelines* 82

Amendment #2 –

On page 82: To add the following section within the zoning ordinance entitled *Section 5.08: Hazardous Liquid Pipelines*

Section 5.08: Hazardous Liquid Pipelines

1. Definitions.

- A. **Affected person** means the same as defined in Iowa Administrative Code 199-13.1(3) and, unless otherwise defined in that rule, means any Person with a legal right or interest in the property, including but not limited to a landowner, a contract purchaser of record, a Person possessing the property under a lease, a record lienholder, and a record encumbrancer of the property.
- B. **Agricultural Structure** means a Building or Structure that has been occupied or used for agricultural purposes at any time during the twelve (12) months

preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance.

- C. **Applicant** means a Pipeline Company or a Property Owner who applies for a Conditional Use Permit for a Hazardous Liquid Pipeline pursuant to this Section.
- D. **Application** means the documents and information an Applicant submits to the County for purposes of obtaining a Conditional Use Permit as well as the related process and procedures for considering the application pursuant to this Section.
- E. **Blast Zone** means the geographic area in County that would be subject to a shock wave from the rupture of a Hazardous Liquid Pipeline that could harm or kill persons or animals due solely to physical trauma, for example from flying debris or the physical impact of a pressure wave resulting from a rupture.
- F. **Board of Adjustment** means the Woodbury County Board of Adjustment established pursuant to Iowa Code chapter 335 and Section 2.01.5 of this Zoning Regulation.
- G. **Commercial or Industrial Structure** means a Building or Structure that has been occupied and used for commercial, or industrial purposes at any time during the twelve (12) months preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance.
- H. **Consultation Zone** means an area within 1000 feet of a transmission pipeline. See Subsection 3 below.
- I. **Gas Transmission Pipeline** means a "transmission line" as defined by Title 49, Code of Federal Regulations, Section 192.3.
- J. **Conditional Use Permit** means a use that is allowed in conformance with the regulations of the zoning district in which it is located, if and only if, approved by the Board of Adjustment as provided in Section 2.02.9.
- K. **Confidential Information** means information or records allowed to be treated confidentially and withheld from public examination or disclosure pursuant to Iowa Code chapter 22 or other applicable law.
- L. **County or the County** means Woodbury County, Iowa.
- M. **Emergency** means the same as defined in Iowa Administrative Code 199 rule 9.1(2) and, unless otherwise defined in that rule, means a condition involving clear and immediate danger to life, health, or essential services, or a risk of a potentially significant loss of property.
- N. **Facility** is any structure incidental or related to the Hazardous Liquid Pipeline and any space, resource, or equipment necessary for the transport, conveyance, or pumping of a Hazardous Liquid through a Hazardous Liquid Pipeline located in the County, including all related substations.
- O. **Hazardous Liquid** means the same as defined in Iowa Code § 479B.2 and, unless otherwise defined there, means crude oil, refined petroleum products, liquefied petroleum gases, anhydrous ammonia, liquid fertilizers, liquefied carbon dioxide, alcohols, and coal slurries.

- P. **Hazardous Liquid Pipeline** means a pipeline designed for the transmission of a "hazardous liquid", as defined by Title 49, Code of Federal Regulations, Section 195.2.
- Q. **In-service date** is the date any Hazardous Liquid is first transported through any portion of a Pipeline located in the County.
- R. **Independent Agreement** means alternative provisions regarding land restoration or Line Location contained in agreements independently executed by a Pipeline Company and a Landowner or a Property Owner as described in Iowa Code § 479B.2(10).
- S. **IUB** means the Iowa Utilities Board created within the Iowa Department of Commerce pursuant to Iowa Code chapter 474.
- T. **Landowner** means the same as defined in Iowa Code §§ 479B.4(4) and 479B.30(7), and, unless otherwise defined there, means a Person listed on the tax assessment rolls as responsible for the payment of real estate taxes imposed on the property and includes a farm tenant.
- U. **Line Location** means the location or proposed location or route of a Pipeline on a Landowner's property.
- V. **Residential Structure** means a Building or Structure that has been inhabited or used for residential purposes at any time during the twelve (12) months preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance.
- W. **Person** means the same as defined in Iowa Administrative Code 199-13.1(3) and, unless otherwise defined in that rule, means an individual, a corporation, a limited liability company, a government or governmental subdivision or agency, a business trust, an estate, a trust, a partnership or association, or any other legal entity as defined in Iowa Code section 4.1(20).
- X. **PHMSA** means Pipeline and Hazardous Materials Safety Administration of the United States Department of Transportation.
- Y. **PIPA Report** means a report prepared by the U. S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) through the Pipelines and Informed Planning Alliance (PIPA) initiative with support from many participating stakeholders. The report was initially released in 2010 and will be updated as needed. It is available on the PHMSA Pipeline Safety Stakeholder Communications web site at <http://primis.phmsa.dot.gov/comm/>.
- Z. **Pipeline** means the same as is defined by Title 49, Code of Federal Regulations, Sections 195.2 and 192.3.
- AA. **Pipeline Facility** means the same as is defined by Title 49, Code of Federal Regulations, Sections 195.2 and 192.3.
- BB. **Pipeline Company** means the same as defined in Iowa Code § 479B.2 and, unless otherwise defined there, means any Person engaged in or organized for the purpose of owning, operating, or controlling Pipelines for the transportation or transmission of any Hazardous Liquid or underground storage facilities for the underground storage of any Hazardous Liquid.

- CC. **Pipeline Construction** means the same as defined in Iowa Administrative Code 199-9.1(2) and, unless otherwise defined in that rule, means activity associated with installation, relocation, replacement, removal, or operation or maintenance of a pipeline that disturbs agricultural land, but shall not include work performed during an emergency, tree clearing, or topsoil surveying completed on land under easement with written approval from the landowner.
- DD. **Property Owner** means the owner or owners, together with his, her, its or their heirs, successors and/or assigns, of the land or property over, under, on, or through which, a Pipeline, or any part of it, including any related facilities, may be located and which is subject to the regulation and restriction of this Zoning Regulation. Property Owner includes a Landowner and also includes a Person with whom a Pipeline Company negotiates or offers to execute an Independent Agreement with respect to a Pipeline.
- EE. **Planning Area** means an area around a transmission pipeline that is defined, based on characteristics of the pipeline and the surrounding area, to determine where the requirements of Subsection 5 below apply.
- FF. **Reclamation** means the restoration and repair of damaged real property, personal property, land or other areas through which a Pipeline is constructed or from where it is removed as close as reasonably practicable to the condition, contour, and vegetation that existed prior to the construction or prior to the removal of the Pipeline, as applicable.
- GG. **Reclamation Cost** means the cost of Reclamation and includes the cost to restore or repair roads, bridges, or county property as well as the cost to restore or repair all real and personal property of Property Owners and Affected Persons.
- HH. **Transmission Pipeline** means gas transmission pipeline or hazardous liquid pipeline as defined above.
- II. **Zoning Regulation or the Zoning Regulation** means the collection of land use and zoning regulations known as the Woodbury County Zoning Ordinance, as provided and made effective in Section 1.01 of the ordinance known as the Woodbury County Zoning Ordinance.

2. Separation Requirements

- A. A Hazardous Liquid Pipeline shall not be constructed, used, sited, or located, in violation of the separation requirements as listed below. All distances shall be measured from the centerline of the proposed Hazardous Liquid Pipeline to the portion of the existing use nearest the centerline of the proposed Hazardous Liquid Pipeline.
- B. The minimum separation distances or setback distances for a Hazardous Liquid Pipeline are:
- i. From a Residential Structure, not less than 330 feet.
 - ii. From a Commercial Structure, not less than 50 feet
 - iii. From an Industrial Structure, not less than 50 feet

C. Separation Requirements by Zoning District

Zoning District	Setback Distance	Consultation Zone	Planning Area
Agricultural Preservation (AP)	330 FT	1000 FT	1000 FT
Agricultural Estates (AE)	330 FT	1000 FT	1000 FT
Non-Agricultural Residential (NR)	330 FT	1000 FT	1000 FT
Suburban Residential (SR)	330 FT	1000 FT	1000 FT
General Commercial (GC)	50 FT*	1000 FT	1000 FT
Highway Commercial (HC)	50 FT*	1000 FT	1000 FT
Limited Industrial (LI)	50 FT*	1000 FT	1000 FT
General Industrial (GI)	50 FT*	1000 FT	1000 FT

*If a residential structure or dwelling is contained within GC, HC, LI, or GI Zoning District, the setback distance of 330 FT shall apply.

3. Consultation Zone

- A. Consultation Zone Distance.** A consultation zone is hereby established for any parcels within 1000 feet of the centerline of a transmission pipeline.
- B. Consultation Zone Notification.** At application for a building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify the property owner(s) and/or applicant(s) they are within the consultation zone, explain the relevant application procedures, and provide contact information for the applicable pipeline operator(s). This same procedure shall be followed whenever an inquiry is made about development regulations or zoning restrictions for property within the consultation zone.
- C. Application Process within Consultation Zone.** Complete application for building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance within a designated consultation zone must include written verification from applicant that:
- (1) Applicant has contacted the pipeline operator(s) and has provided them with documentation detailing the proposed development type and place of the activity; and
 - (2) The pipeline operator(s) has reviewed the documents.
 - (3) The written verification required by this section can be in any form acceptable to the County, including electronic communications, so long as it is clear that the pipeline operator(s) has received and reviewed documentation showing the proposed information concerning any impact the activity will have upon the integrity of the transmission pipeline(s). The verification should include all comments received from the operator or a notice from the operator indicating that the operator has no comments.
 - (4) If the operator does not respond within 30 days after being contacted and provided information by the developer pursuant to c.1 above, then the County may waive the requirement for written verification given under

c.3 above.

4. Consultation Zone Practices for Protecting Transmission Pipelines.

- A. During consultation, a transmission pipeline operator shall be provided information from the property developer/owner in order to discuss appropriate considerations for the proposed development.
- (1) What is the street address (or if not available, the general location) of the property?
 - (2) Is the property encumbered by a pipeline easement? If so, please attach a copy of the easement or provide the recording (volume and page) information.
 - (3) Is there visual evidence of a pipeline on subject property (e.g., aerial markers, above-ground appurtenances, etc.)?
 - (4) Will the proposed development of the property require/entail (and if so, please describe briefly):
 - (a) Road crossings over the pipeline?
 - (b) Other utility lines crossing over or under the pipeline?
 - (c) Permanent structures or paving within the easement area (e.g., paving, parking lots, buildings, pedestrian paths, signage, poles, retaining walls, septic systems, basketball/tennis courts, etc.)?
 - (d) Extensive landscaping (including irrigation systems) within the easement area?
 - (e) Changing the amount of cover (by adding or removing dirt) within the easement area?
 - (f) Construction equipment crossing the pipeline?
 - (g) Blasting, seismic vibration testing, pile driving, or similar event which produces significant shock and/or sound waves?
 - (h) Significant excavation (underground parking structures or building foundations, core samples, rock/mineral quarries, dams, etc.)?
 - (i) Impounding water or building drainage ditches or other drainage facilities?
 - (j) Fencing running parallel to (within 100 feet) or crossing the pipeline?
 - (k) Storing materials, equipment, vehicles, or other items within the easement area (e.g., construction materials, junk or scrap heaps, cut timber, boats, military equipment, etc.)
 - (5) What is the approximate distance of the proposed building closest to the pipeline?
 - (6) Has the pipeline operator been previously contacted regarding this development? If so, by whom.
 - (7) Provide a site plan if available.

B. Some examples of information that transmission pipeline operators may provide to local governments and/or property developers/owner to assist them in developing consultation zone distances or planning specific developments:

- (1) Pipeline diameter and wall thickness
- (2) Age of pipeline
- (3) Depth of cover
- (4) Typical operating pressure and maximum allowable operating pressure
- (5) Material transported and typical daily flow rate
- (6) Estimated worst case spill volume in the area of the development

5. Planning Area

A. **Planning Area Distance.** Planning areas are hereby established within 1000 feet from pipeline centerlines, for transmission pipeline(s) in the unincorporated areas of Woodbury County, Iowa.

B. **Applicability of Planning Area.** At application for a building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify the property owner(s) and/or applicant(s) they are within the planning area and explain the relevant requirements. Development within the planning area shall meet the requirements under Subsection 6 below.

6. Planning Area Practices for Protecting Transmission Pipelines.

A. Parking lots and parking structures should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce potential interference with transmission pipeline maintenance and inspections.

B. Roads and associated appurtenances should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and reduce the potential of interference with pipeline operations and maintenance.

C. Utilities (both above and below ground) and related infrastructure should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce the potential of interference with transmission pipeline maintenance and inspections.

D. Storm water and irrigation water management facilities, retention ponds, and other above-ground water management infrastructure should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce the potential of interference with transmission pipeline operations and maintenance.

E. Trees and other vegetation should be planned and located to reduce the potential of interference with transmission pipeline operations, maintenance, and inspections.

- F. Individual water supplies (water wells), small public/private water systems and sanitary disposal systems (septic tanks, leach or drain fields) should be designed and located to prevent excavation damage to transmission pipelines, interference with transmission pipeline maintenance and inspections, and environmental contamination in the event of a transmission pipeline incident.
- G. New development within a transmission pipeline planning area should be designed and buildings located to reduce the consequences that could result from a transmission pipeline incident and to provide adequate access to the pipeline for operations and maintenance.
- H. Consider noise, odor and other issues when planning and locating developments near above-ground transmission pipeline facilities, such as compressor stations, pumping stations, odorant equipment, regulator stations and other pipeline appurtenances.
- I. New industrial land use development within a transmission pipeline planning area should be designed and buildings located to reduce the consequences that could result from a transmission pipeline incident and reduce the potential of interference with transmission pipeline operations and maintenance.
- J. New development of institutional facilities that may be difficult to evacuate within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences that could result from a transmission pipeline incident. Such facilities should also be located to reduce the potential of interference with transmission pipeline operations and maintenance activities. Emergency plans for these facilities should consider potential transmission pipeline incidents.
- K. New development of emergency responder facilities within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences that could result from a transmission pipeline incident. Such facilities should also be designed and located to avoid the potential of interference with pipeline operations and maintenance. Planning for these facilities should include emergency plans that consider the effects of a transmission pipeline incident.
- L. New development of places of potential mass public assembly within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences of a potential transmission pipeline incident, the risk of excavation damage to the pipeline, and the potential of interference with transmission pipeline operations and maintenance. Planning for these facilities should include emergency plans that consider the effects of a potential pipeline incident.
- M. Emergency response plan requirements should be considered in new land use development within a planning area to reduce the risks of a transmission pipeline incident.
- N. The property developer/owner should install temporary right-of-way (ROW) survey markers or fencing on the edge of the transmission pipeline ROW or buffer zone, as determined by the transmission pipeline operator, prior to construction to provide a clearly defined boundary. The property developer/owner

should ensure that the temporary markers or fencing are maintained throughout the course of construction.

- O. Anyone planning to conduct excavating, blasting and/or seismic activities should consult with affected transmission pipeline operators well in advance of commencing these activities. Excavating and blasting have the potential to affect soil stability or lead to movement or settling of the soil surrounding the transmission pipeline.
- P. Encroachment agreements should be used, documented, recorded and retained when a transmission pipeline operator agrees to allow a property developer/owner or local government to encroach on the pipeline right-of-way for a long or perpetual duration in a manner that conflicts with the activities allowed on the easement.
- Q. Transmission pipeline operators may use, document and retain "letters of no objection" in agreeing to land use activities on or near a transmission pipeline right-of-way. Such land uses may or may not be temporary.
- R. Partial releases may be used to allow some part of the transmission pipeline right-of-way to be released from certain easement conditions, and should be documented, recorded and retained.

7. **Subdivision Plats.** The plat must provide a note that all existing gas transmission and/or hazardous liquid pipelines or pipeline facilities through the subdivision have been shown, or that there are no known existing gas transmission and/or hazardous liquid pipelines or pipeline facilities within the limits of the subdivision.

The location of all transmission pipelines and related easements shall be shown on all preliminary plat, zoning, building, and record plat maps when proposed development is within the planning area.

For proposed development within the consultation zone around pipeline(s), developer shall forward all site or subdivision plans for review comments to the Pipeline Operators by certified mail, return receipt requested, to be supplied to the County as proof of notification prior to plan approval.

8. **Change of Pipeline Use or Product Type:** Should a pipeline company decide to change the use and function of a pipeline, the Pipeline Company shall file for a new conditional use permit prior to changes in its operation. The pipeline company shall give the county 90-day notice of a proposed change of use and shall provide detailed application to allow for review of a new use permit.
9. **Appeals and Variance.** A Pipeline Company or a Property Owner may appeal an adverse determination on a Conditional Use Permit or may seek a special exception or variance from the Board of Adjustment, as provided in Section 2.02.8 of this Zoning Ordinance.
10. **Applicability and Compliance.**
- A. Except as provided in Section 5.08.8, the permit requirements in sections 2.02.9, 3.03.4, and the separation requirements in section 5.08.2 shall not apply to (1) a

Hazardous Liquid Pipeline that is already permitted, constructed, and placed in-service on or before the effective date of this Section; however, a Pipeline Company shall comply with the abandonment, Reclamation and decommissioning requirements for a Pipeline that is decommissioned on or after the effective date of this Section; (2) a Pipeline owned and operated by a public utility that is furnishing service to or supplying customers in the County.

- B. If a Property Owner has executed an Independent Agreement prior to the effective date of this Section and the Independent Agreement does not meet the separation requirements of this Section, then notwithstanding the Independent Agreement, the Pipeline Company shall comply with the separation requirements of this Section.
- C. If a Property Owner has executed an Independent Agreement prior to the effective date of this Section and the Independent Agreement provides for separation requirements that are greater than the separation requirements this Section, then the Pipeline Company shall comply with the terms of the Independent Agreement with the Property Owner.

11. Emergency Response and Hazard Mitigation Plans for Hazardous Liquid Pipelines

- A. This Section is intended to implement local zoning regulations in a manner designed to facilitate the comprehensive plan's goals and objectives for public safety. This goal is consistent with the County's legal obligation under Iowa Code chapter 29C to engage in emergency response and hazard mitigation planning and with the need to protect the health and welfare of both residents and emergency response personnel. For these reasons, the County requires Hazardous Liquid Pipelines to provide information to assist in emergency response and hazard mitigation planning pursuant to this section.
- B. Hazardous Liquid Pipelines for which PHMSA has adopted regulations specifically related to emergency preparedness, emergency response, and hazard mitigation planning shall submit a plan that meets the requirements of this section. A plan submitted in compliance with this section shall include: (1) documentation of compliance with the PHMSA regulations; and (2) a detailed plan describing how the Pipeline Company will work with the County's law enforcement, emergency management personnel, and first responders in the event of a spill, leak, rupture or other emergency or disaster related to the Pipeline.
- C. If the Pipeline is a Carbon Dioxide Pipeline and PHMSA has not adopted regulations specifically related to emergency preparedness, emergency response, and hazard mitigation planning for Carbon Dioxide Pipelines, then the Pipeline Company operating the Carbon Dioxide Pipeline shall submit a plan that meets the requirements of this section. A plan submitted in compliance with this section shall include the following:
 - (1) A map and legal description of the proposed route for a Carbon Dioxide Pipeline showing all human occupied structures and animal husbandry facilities, by type, within two miles of the centerline of the proposed route including addresses.

- (2) An estimate of the worst-case discharge of carbon dioxide released in metric tons and standard cubic feet from a rupture of a pipeline considering the interior volume of the pipeline, the location of emergency valves that limit release of carbon dioxide, the location of crack arrestors, operating pressures, operating temperatures, and other relevant factors.
- (3) A list of structures and facilities within the Consultation Zone for the proposed route of a Carbon Dioxide Pipeline that in the preceding year have contained humans or livestock, and an estimate of the numbers of persons and livestock in each structure and facility.
- (4) All information needed by county first-responders, emergency response personnel, and law enforcement personnel in order to engage in local emergency management and hazard mitigation planning, equipment, and training needs. Such information includes but is not limited to:
 - (a) a material data safety sheet for the materials transported in the Carbon Dioxide Pipeline;
 - (b) carbon dioxide detectors and evacuation plans for each human occupied structure;
 - (c) response equipment needs for emergency response personnel, such as carbon dioxide and other chemical detectors; respirators; personal protective equipment; communications equipment; road barriers and traffic warning signs; and non-internal combustion engine evacuation vehicles;
 - (d) a Carbon Dioxide Pipeline rupture emergency response training program to ensure safe and effective response by county and municipal law enforcement, emergency medical services, and other responders during the operational life of the Carbon Dioxide Pipeline.

12. Abandonment, Discontinuance, and Removal of Hazardous Liquid Pipelines

- A. In addition to the requirements set by Iowa Code § 479B.32, a Hazardous Liquids Pipeline in the County that is abandoned shall comply with the requirements of this section. A Hazardous Liquid Pipeline shall be deemed abandoned for purposes of this section whenever the use of the Hazardous Liquid Pipeline has been discontinued such that there is no longer regulatory oversight of the Pipeline by PHMSA.
- B. For purposes of the land restoration standards of Iowa Code § 479B.20, the term "construction" includes the removal of a previously constructed pipeline, and the County will treat the removal of a Pipeline in the same manner as the Pipeline's original construction for purposes of the County's obligations under Iowa Code chapter 479B.
- C. A Pipeline Company granted a Conditional Use Permit pursuant to this Section shall by certified mail notify the County and all Affected Persons in the County of the Pipeline Company's intent to discontinue the use of the Pipeline. The notification shall state the proposed date of the discontinuance of use.

- D. Upon abandonment or discontinuance of use, the Pipeline Owner shall offer to each Property Owner the option to have the Pipeline and all related facilities physically dismantled and removed, including both the below and above ground facilities. The removal of the Pipeline and the related Reclamation and Reclamation Costs shall be the Pipeline Company's responsibility and shall be completed within one-hundred eighty (180) days from the date of abandonment or discontinuance of use unless a Property Owner agrees to extend the date of removal. Such an extension must be by written agreement between the Pipeline Company and the Property Owner, and the agreement shall be filed at the Woodbury County Recorder's office and a copy delivered to the County by the Pipeline Owner.
- E. A Property Owner shall not be required to have the Pipeline removed, but if the Property Owner agrees to the removal and Reclamation, the Property Owner shall allow the Pipeline Company reasonable access to the property.
- F. Upon the removal of the Pipeline and the Reclamation, the Pipeline Owner shall restore the land according to the requirements of Iowa Code § 479B.20 and the rules adopted thereunder at 199-9.1(479,479B), including all amendments thereto.
13. **Repealer.** All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.
14. **Severability.** If any term, condition, or provision of this Ordinance shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective and each and every remaining provision hereof shall be valid and shall be enforced to the fullest extent permitted by law, it being the intent of the Board of Supervisors that it would have enacted this Ordinance without the invalid or unenforceable provisions. In the event of a subsequent change in applicable law so that the provision that had been held invalid is no longer invalid, said provision shall thereupon return to full force and effect without further action by the County and shall thereafter be binding.
15. **Effective Date.** This Ordinance shall be in full force and take effect from and after the date of its final passage and approval.
16. **Savings.** Nothing contained herein shall in any manner be deemed or construed to alter, modify, supersede, supplant or otherwise nullify any other Ordinance of unincorporated Woodbury County or the requirements thereof whether or not relating to or in any manner connected with the subject matter hereof, unless expressly set forth herein.

Dated the ____ day of _____, 2022.

THE WOODBURY COUNTY, IOWA BOARD OF SUPERVISORS

Attest:

Patrick Gill, Woodbury County Auditor

Keith Radig, Chairman

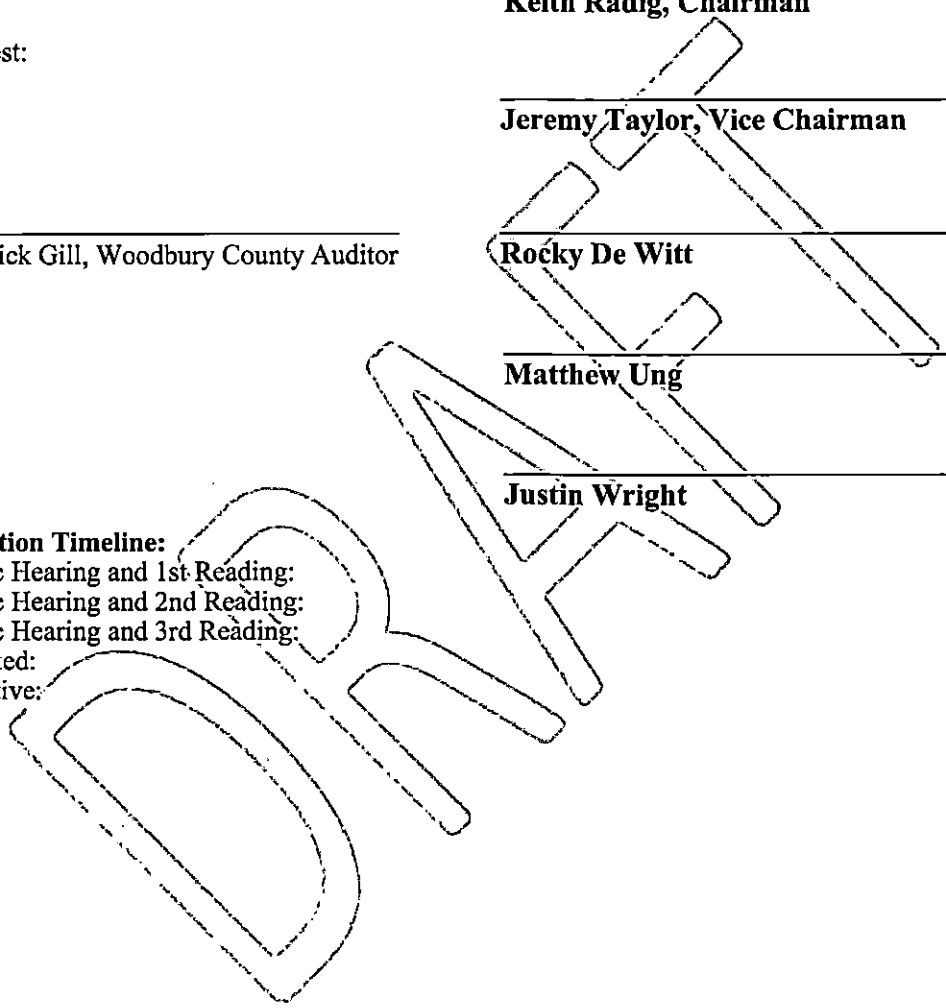
Jeremy Taylor, Vice Chairman

Rocky De Witt

Matthew Ung

Justin Wright

Adoption Timeline:
Public Hearing and 1st Reading:
Public Hearing and 2nd Reading:
Public Hearing and 3rd Reading:
Adopted:
Effective:



STAKEHOLDER COMMENTS	
911 COMMUNICATIONS CENTER:	No comments.
CITY OF ANTHON:	No comments.
CITY OF BRONSON:	No comments.
CITY OF CORRECTIONVILLE:	No comments.
CITY OF CUSHING:	No comments.
CITY OF DANBURY:	No comments.
CITY OF HORNICK:	No comments.
CITY OF LAWTON:	No comments.
CITY OF MOVILLE:	No comments.
CITY OF OTO:	No comments.
CITY OF PIERSON:	Regarding the separation—Is this a standard or a county decision? 2. Separation Requirements A. A Hazardous Liquid Pipeline shall not be constructed, used, sited, or located, in violation of the separation requirements as listed below. All distances shall be measured from the centerline of the proposed Hazardous Liquid Pipeline to the portion of the existing use nearest the centerline of the proposed Hazardous Liquid Pipeline. B. The minimum separation distances or setback distances for a Hazardous Liquid Pipeline are: i. From a Residential Structure, not less than 330 feet. ii. From a Commercial Structure, not less than 50 feet iii. From an Industrial Structure, not less than 50 feet – Jeanette Beekman, City Clerk, 11/17/22.
CITY OF SALIX:	No comments.
CITY OF SERGEANT BLUFF:	No comments.
CITY OF SIOUX CITY:	SEE EMAIL FROM WADE SCHULDT BELOW – 11/17/22.
CITY OF SLOAN:	No comments.
CITY OF SMITHLAND:	No comments.
ENTERPRISE PRODUCTS OPERATING LLC:	SEE API LETTER BELOW – 11/23/22.
FARMERS DRAINAGE DISTRICT:	No comments.
FIBERCOMM:	No comments.
GARRETSON DRAINAGE DISTRICT:	No comments.
IOWA DEPARTMENT OF NATURAL RESOURCES (IDNR):	No comments.
IOWA DEPARTMENT OF TRANSPORTATION (IDOT):	No comments.
IOWA STATE FIRE MARSHAL:	No comments.
LOESS HILLS NATIONAL SCENIC BYWAY:	No comments.
LOESS HILLS PROGRAM:	No comments.
LONGLINES:	No comments.
LUMEN:	No comments.
MAGELLAN PIPELINE:	No comments.
MIDAMERICAN ENERGY COMPANY (Electrical Division):	I have reviewed the following proposed zoning amendment for MEC electric, and we have no conflicts. Let me know if you have any questions. – Casey Meinen, 11/17/22.
MIDAMERICAN ENERGY COMPANY (Gas Division):	No comments.
NATURAL RESOURCES CONSERVATION SERVICES (NRCS):	No comments.
NORTHERN NATURAL GAS:	No comments.
NORTHWEST IOWA POWER COOPERATIVE (NIPCO):	No comments.
NUSTAR PIPELINE:	No comments.
UNION PACIFIC RAILROAD:	No comments.
SIOUXLAND DISTRICT HEALTH DEPARTMENT:	No comments.
WIATEL:	No comments.
WOODBURY COUNTY ASSESSOR:	No comments.
WOODBURY COUNTY CONSERVATION:	No comments.
WOODBURY COUNTY EMERGENCY MANAGEMENT:	No comments.
WOODBURY COUNTY EMERGENCY SERVICES:	No comments.
WOODBURY COUNTY ENGINEER:	No comments.
WOODBURY COUNTY RURAL ELECTRIC COOPERATIVE (REC):	No comments.
WOODBURY COUNTY SOIL AND WATER CONSERVATION DISTRICT:	No comments.
WOODBURY COUNTY TREASURER:	No comments.

COMMENTS RECEIVED AFTER THE ZONING COMMISSION PUBLIC HEARING³³

PUBLIC COMMENT: Gayle Palmquist – 1848 130th Street, Lawton, IA 51030; Received 12/6/22

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Tuesday, December 6, 2022 8:16 AM
To: Daniel Priestley
Subject: CO2 pipeline opponents seek federal moratorium

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

<https://www.facebook.com/groups/799990621160513/permalink/885229085969999/>

Dan,
Would you please share this article with the Woodbury County Board of Supervisors and staff, the Planning and Zoning committee and the Board of Adjustment.
Thank you,
Gayle Palmquist

Sent from my iPhone

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Saturday, December 3, 2022 11:54 AM
To: Daniel Priestley
Subject: Corporations exploit CO2 pipelines regulations gaps

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

https://www.bleedingheartland.com/2022/12/02/corporations-exploit-co2-pipeline-regulatory-gaps-in-tax-credit-gold-rush/?fbclid=IwAR02gN_gwo2Upp-lHZnLSJSfiak_KuDWhYpl2bciDT9A1rEtpg8UcmOnuk

Dan, Would you please forward this important article to the Woodbury County Planning and Zoning board and the Board of Adjustment. I firmly believe that a moratorium until PHMSA has completed their study is the best way to protect the citizens and land in Woodbury County.

Sent from my iPhone

PUBLIC COMMENT: Gayle Palmquist – 1848 130th Street, Lawton, IA 51030; Received 12/5/22

Daniel Priestley

From: Carl Palmquist <carlpalmquist43@icloud.com>
Sent: Monday, December 5, 2022 9:41 AM
To: Daniel Priestley
Subject: Get the Facts About Carbon Capture and Storage

Follow Up Flag: Follow up
Flag Status: Flagged

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Dan,

Please send this on to the Woodbury County supervisors and staff working on the CO2 pipeline matter and the Planning and Zoning Board and the Voardmof Adjustment. It is imperative that Woodbury County not allow these pipelines before PHMSA updates the regulations.

<https://www.carboncapturefacts.org/blog/phmsa-sign-on-letter>

Sent from my iPad

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Saturday, December 3, 2022 11:54 AM
To: Daniel Priestley
Subject: Corporations exploit CO2 pipelines regulations gaps

Follow Up Flag: Follow up
Flag Status: Flagged

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https://www.bleedingheartland.com/2022/12/02/corporations-exploit-co2-pipeline-regulatory-gaps-in-tax-credit-gold-rush/?fbclid=IwAR02gN_gwo2Upp-lHZnLSJSfiak_KuDWhYpl2bciDT9A1rEtp8UcmOnuk

Dan, Would you please forward this important article to the Woodbury County Planning and Zoning board and the Board of Adjustment. I firmly believe that a moratorium until PHMSA has completed their study is the best way to protect the citizens and land in Woodbury County.
Sent from my iPhone

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Saturday, December 3, 2022 11:48 AM
To: Keith Radig; Rocky De Witt; Mark Nahra; Justin Wright; Patrick Jennings; Joshua Widman; Jeremy Taylor; matthewung@woodburycounty.gov; Daniel Priestley
Subject: Corporations exploit CO2 pipelines regulatory gaps in tax credit gold rush. www.bleedingheartland.com
Follow Up Flag: Follow up
Flag Status: Flagged

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I am very concerned about the rush to approve/disapprove any regulations in Woodbury County pertaining to CO2 pipelines before this matter has been fully investigated and studied. I believe, as this article states, that our best option is to declare a moratorium until PHMYS has finished their study and issued new regulations for hazardous pipelines. Rushing into a decision locally would probably set the pipelines up for being grandfathered in and we would be stuck with them and the damage to our land and the safety of our citizens would not be controlled. Please, take a pause - we need much more information and discussion before we turn CO2 pipelines lose in Woodbury County. There is no rush. Your responsibility should be to protect the landowners and other citizens from these money-hungry corporations!

Gayle Palmquist
Sent from my iPhone

Daniel Priestley

From: Deborah Main <deborah_main@yahoo.com>
Sent: Wednesday, November 30, 2022 3:49 PM
To: Daniel Priestley
Subject: 11/28/22 meeting

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I have been mulling the Zoning meeting over in my mind. I still have the feeling that the board is uncertain as to how they should proceed. It indicates to me that they still have some of the learning curve to negotiate regarding the impacts and risks these pipelines pose. For example, the motion was made regarding the conditional permits. Everyone had wrinkled brows and started to shuffle papers. More dialogue ensued with board discussion and statements/questions from citizens. No second was made until you reminded them that a motion was on the floor. The motion was tentatively seconded with a possible request for amendment that went unacknowledged. As I mentioned, PHMSA will begin a rulemaking for hazardous CO2 pipelines. Code 49 U.S.C says that the improved safety regs will not apply to projects retroactively. I now agree with Gayle. I think Woodbury County should place a moratorium on CO2 pipelines until the new guidelines are in place. We then will be sure which path to take and that it will withstand scrutiny. How can we get that done?

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Wednesday, November 30, 2022 10:37 AM
To: Daniel Priestley
Subject: Linn County

Follow Up Flag: Follow up
Fflag Status: Flagged

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Dan, Would you please forward this article to the Planning and Zoning Board, and the Board of Adjustment:

Linn Supervisors Consider Safety Rules that could affect pipelines

I would also like to know the name of the reference guide, and where I can obtain a copy, that was cited at the Planning and Zoning Board meeting Monday night used to come up with the setback distances proposals for Woodbury County.

Thank you,
Gayle Palmquist

Sent from my iPad

PUBLIC COMMENT: Shari Hoelker, 1468 Emmett Avenue, Lawton, IA 51030; Received 11/28/22

Daniel Priestley

From: shari hoelker <shahoelker@gmail.com>
Sent: Monday, November 28, 2022 5:16 PM
To: Daniel Priestley
Subject: Co2 pipelines

Follow Up Flag: Follow up
Flag Status: Flagged

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I think the pipelines carrying hazardous co2 should not be allowed in the state. If the big money that is promoting these pipelines takes hold as I'm afraid it may, the least we can do is keep them as far away from residences as possible. Do not follow the leads of others who may not regard this as responsibly as they should.

Please think ahead. What will become of these pipelines in years ahead? Think of the future please. Please call if you would like to hear more from me 402-319-0436.

I heard from navigator pipeline that they may pass on or near my property.

With respect,

Shari Hoelker
Property owner
1468 Emmett Ave
Lawton, Ia

Sent from my iPad

PUBLIC COMMENT: Linda Santi – 3053 Myrtle Street, Sioux City, IA 51103-1451; Received 11/28/22

Daniel Priestley

From: Linda Santi <lindasanti@hotmail.com>
Sent: Monday, November 28, 2022 4:17 PM
To: Daniel Priestley
Subject: CO2 pipelines

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Hello,

I don't think it's fair that land-owners have to let pipeline representatives on their land. I also don't think appropriation should be used for private industry in general and for pipelines in particular.

I am not convinced these pipelines are safe. I don't believe they are useful. And I really don't think people should have to put up with them on their property.

Thank you,

Linda Santi
3053 Myrtle Street
Sioux City, IA 51103-1451

PUBLIC COMMENT: Gayle Palmquist – 1848 130th Street, Lawton, IA 51030; Received 11/28/22

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 2:13 PM
To: Daniel Priestley
Subject: Insurance letter

Follow Up Flag: Follow up
Flag Status: Flagged

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Dear [Redacted]

Thank you for your liability coverage inquiry into the Navigator CO2 pipeline that is expected to run through your property. There is specific exclusions for liability protection involving the release of any contaminants per the following policy language:

Coverage & (liability) does not apply to:

Bodily injury or property damage arising out of the actual, alleged, or threatened presence, discharge, dispersal, seepage, migration, release, escape of, or exposure to contaminants or pollutants at or from any source or location.

We also do not cover:

Any loss, cost, or expense arising out of any request, demand, order, or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify, neutralize, remediate, dispose of, or in any way respond to or assess the effects of contaminants or pollutants.

Any loss, cost, or expense arising out of any claim or suit by or on behalf of a governmental authority of damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying, neutralizing, remediating, disposing of, or in any way responding to or assessing the effects of contaminants or pollutants.

While I am personally not privy to any proposed hold harmless agreements or the contract between the pipeline owners and yourselves; regardless of any agreements in place, there is significant personal liability exposure for yourselves while using your land for farming operations, for your own enjoyment and for your benefit, renting the land out for others to do the same.

For example, if you or your tenants or even someone without permission attempts to dig, plow, trench and pierces the pipeline causing a leak, the resulting damage may be argued to be your responsibility.

As time passes, nearby landowners may change hands, the pipeline owners and operators may change, future technology may render the pipeline useless or ineffective. All of these factors among others, increase the potential that you may be held personally liable in the future for cleanup, removal and other activities that could cause damage as a result of this pipeline being installed.

As history has proved, any pipeline has a chance to fail, leak and seep resulting in significant damage to life and property. To place this type of risk or burden upon unwilling landowners, like yourselves, is tantamount to placing a risk to your livelihood without your permission.

In summary, having a pipeline running through your property, carrying CO2, a pollutant, subjects you to substantial uninsurable exposure.

Sincerely,

[Signature]
[Redacted]
State Farm Agent
[Redacted]

1/10/2022

Dan, Here is another example of why we should not have these pipelines approved. Would you please share it with the Board of Supervisors, Planning and Zoning, the Board of Adjustment and county staff.

Thank you

Gayle Wilcox Palmquist

Sent from my iPad

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 11:24 AM
To: Daniel Priestley
Subject: Fwd: Letter to editor Movable Record

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This is the shortened version.

Sent from my iPad

Begin forwarded message:

From: Carl Palmquist <eastviewfarm@gmail.com>
Date: November 20, 2022 at 11:39:20 AM CST
To: Carl Palmquist <eastviewfarm@gmail.com>
Subject: **Fwd: Letter to editor Movable Record**

Sent from my iPhone

Begin forwarded message:

From: Carl Palmquist <eastviewfarm@gmail.com>
Date: November 18, 2022 at 3:31:47 PM CST
To: The Record <brianrecord@wiatel.net>
Subject: **Re: Letter to editor**

Brian, I figured I was a little long! I will see if I can cut it down and still maintain the same information. I would like to have it in next week's paper if possible as there is a hearing scheduled for Monday evening Nov 28th by the Planning and Zoning Board. Hopefully I can get it revised this weekend - will that be soon enough? Could we put a notice of the meeting on the front page of that week's Record?

Gayle Palmquist

Sent from my iPhone

On Nov 18, 2022, at 1:06 PM, The Record <brianrecord@wiatel.net> wrote:

Hi Gayle,
We'd be happy to run this as a Letter to the Editor; we got both the letter and the corrections in the second email. However, that is quite a bit longer than we typically run. Generally we like to have letters around 500 words. Would you mind sending a shorter version of this?

Thank you!
-Brian

On Nov 18, 2022, at 10:09 AM, The Record
<record@wiatel.net> wrote:

Begin forwarded message:

From: Carl Palmquist
<eastviewfarm@gmail.com>
Subject: Letter to editor
Date: November 18, 2022 at 10:05:56 AM
CST
To: record@wiatel.net

Woodbury County is in the process of dealing with two CO2 pipelines that are attempting to cross five Midwestern states to cash in on huge carbon credits offered by the feds through the Infrastructure Bill passed recently. The easements these companies are wanting landowners to sign and comply with are very dangerous to the rights and liberties of individual landowners, are very costly to taxpayers, and potentially very dangerous to our rural communities.

I am going to outline the reasons these hazardous pipelines should NOT be allowed in Woodbury County.

1. Hazardous pipelines are not just "another pipeline". They are much more dangerous if they should leak or erupt because of the enormous pressure that is used to convert the CO2 first to a liquid and then to a solid to be "sequestered" under ground. CO2 in large quantities is lethal to people and animals. There is no warning when a rupture occurs and gas powered vehicles will not allow escape from the huge cloud of CO2 that outweighs oxygen. It could take as little as four minutes to overtake humans and animals in its path. The distance the released CO2 could travel is unknown since there are many variables, including wind speed, terrain, and weather. In 2020, a rupture occurred in Mississippi in a remote area caused by heavy rains in several miles from the village of Satartia. There were no deaths, probably due to the distance involved, but many injured people still suffer from the effects.
2. Since these pipelines are a fairly new concept in the US, there are no federal regulations by PHMSA at this point and PHMSA

estimates it could take two years to study and enact the needed regulations. (I know, our government in action!) Meanwhile the pipelines are trying to rush through this so they can beat PHMSA and be "grandfathered" in, much to the detriment of the average citizen. But enormous sums of money will go to the investors and developers of these private companies. We need a "time out", to make sure this is going to be a wise decision for all citizens, not just a windfall for a select few and a disaster for the Midwest.

3. The pipeline companies are threatening to use Eminent Domain to access land that is not signed up with them. Eminent domain traditionally has only been used for public projects such as highways, schools, etc. If the IUB permits eminent domain by a private company for their private gain, there will be no way to stop other private companies from taking our land and our tax money for their benefit. There are supposedly other companies just waiting to see how this goes in Iowa before they jump in with their projects in our state. Talk about opening Pandora's Box!

4. There will very likely be a decrease in valuations of any land involved in these projects or even close to the pipelines. Less tax money for the county, more for the rest of taxpayers to pay. Future development near and along the pipeline routes will be curtailed. Summit and Navigator's proposed routes cross over and run near HWY 20 in Woodbury County and under the Missouri River from Nebraska. One of the maps shows a route skirting the west and north sides of the town of Lawton.

5. CO2 sequestration is not a "proven" science. Approximately 80 percent of the projects around the world have failed. When the process of construction and operation are taken into account, there is a net loss. More CO2 is released than taken out of the atmosphere. Chevron in Australia (an "expensive failure") and Shell in Canada are two firms that admit they were not successful. An effort in Texas was recently closed. Experts at the University of Iowa and Iowa State have voiced their concerns about these pipelines. Are we listening?

6. The process of piping, compressing and sequestering CO2 will make huge demands on

our electrical and water systems. In a time of high energy prices and drought patterns, do we want private companies exasperating the problems further?

7. The main aquifer in northwest Iowa is the Dakota Aquifer. But there are many shallower, smaller aquifers also, according to a water expert at the University of Iowa.

If a pipeline should break, (have you ever heard of a pipeline breaking?) the CO₂ entering our water supplies would create carbonic acid. Not the type that is in your soda pop, but the kind that would ruin our wells and water supplies and affect our agricultural land. Water is sacred to indigenous people and should be sacred to the rest of us also.

8. Damage caused to the top soil, crop yields and infrastructure (terraces and drainage tiles, for example) that farmers have invested many dollars in will be compromised. The Dakota Access pipeline in northern Iowa is a good example of how poorly the pipeline companies treated the land. Iowa State University has studied how long it might take to restore crop yields. Probably not in my lifetime. Once damaged, the tile lines can never be fully restored. The efforts made by bigger watershed projects in the county could be affected also.

9. Insurance companies are refusing to guarantee they will pay damages or claims by others against the landowners if pipes break, so there will be no liability coverage. If the insurance companies think these projects are that dangerous, maybe we should all be listening. A lawsuit could cost a farm. A proposed burial depth of pipelines of 3-4 feet will not stand up for perpetuity to the effects of erosion, wind, earthquakes, etc. We do not know what the future holds.

10. Local emergency response teams are not equipped or trained to deal with a CO₂ leak. The hazmat team in Sioux City is responsible for 7 counties in northwest Iowa. They would not be able to reach my neighborhood in time to save anyone, let alone the people many miles away. Local volunteer emergency squads do not have the resources to spend on electrical vehicles that would be necessary for rescue. They can only prevent people from entering the area.

11. The pipeline companies have not been transparent or cooperative with providing information that the Iowa Utility Board has asked for, especially the plume studies. They have trespassed on land to do surveys that weren't approved, they have bullied people into signing, and have caused enormous stress to families that have owned and cared for their land, many since the 1800's. The farmers have suffered through floods, droughts, low yields and low prices, insect invasions, tornados and hail, but nothing like the threat to take and use our land for an unproven solution to climate change.

For those of you who think you will not be affected by the pipelines, and don't want to get involved, guess again! You are already involved, like it or not! The mere idea of these pipelines should concern you. Concern that your rights and liberties will evaporate next, that the next private company that wants to use eminent domain for their financial gain could want your land, could want to run through your backyard, could run under the roads that your kids ride to school on.

It's time! Time to stop ignoring the problem! Time to forget thinking this doesn't involve you. Time to resist the pipelines! Time to call the county supervisors! Time to attend hearings. Time to call your school board to protest. Time to comment on the Iowa Utility Board dockets. Time to make your voices heard and protect our county and state from the unscrupulous people running the pipeline show!

Time is running out.
Sent from my iPad

Brian Johnson
Composition/Pagination

The Record
238 Main Street - Box 546
Merville IA 51039

Phone - 712-873-3141
Toll Free - 844-873-3141
Fax - 712-873-3142
email - brianrecord@wiatel.net

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 11:22 AM
To: Daniel Priestley
Subject: Fwd: Letter to editor

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Dan, Sending the original LTE that I sent to the Menville Record, which actually has more information, but they asked me to condense it because I was over the word limit. They were kind enough to publish my 2nd attempt even though it was too long too

Sent from my iPad

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From: Carl Palmquist <eastviewfarm@gmail.com>
Date: November 18, 2022 at 3:31:47 PM CST
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Sent from my iPad

Brian Johnson
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The Record
238 Main Street - Box 546
Merville IA 51039

Phone - 712-873-3141
Toll Free - 844-873-3141
Fax - 712-873-3142
email - brianrecord@wiatel.net

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 11:02 AM
To: Daniel Priestley
Subject: Woodbury County OV map_2104107_221005-154910.pdf
Attachments: Woodbury County OV map_2104107_221005-154910.pdf

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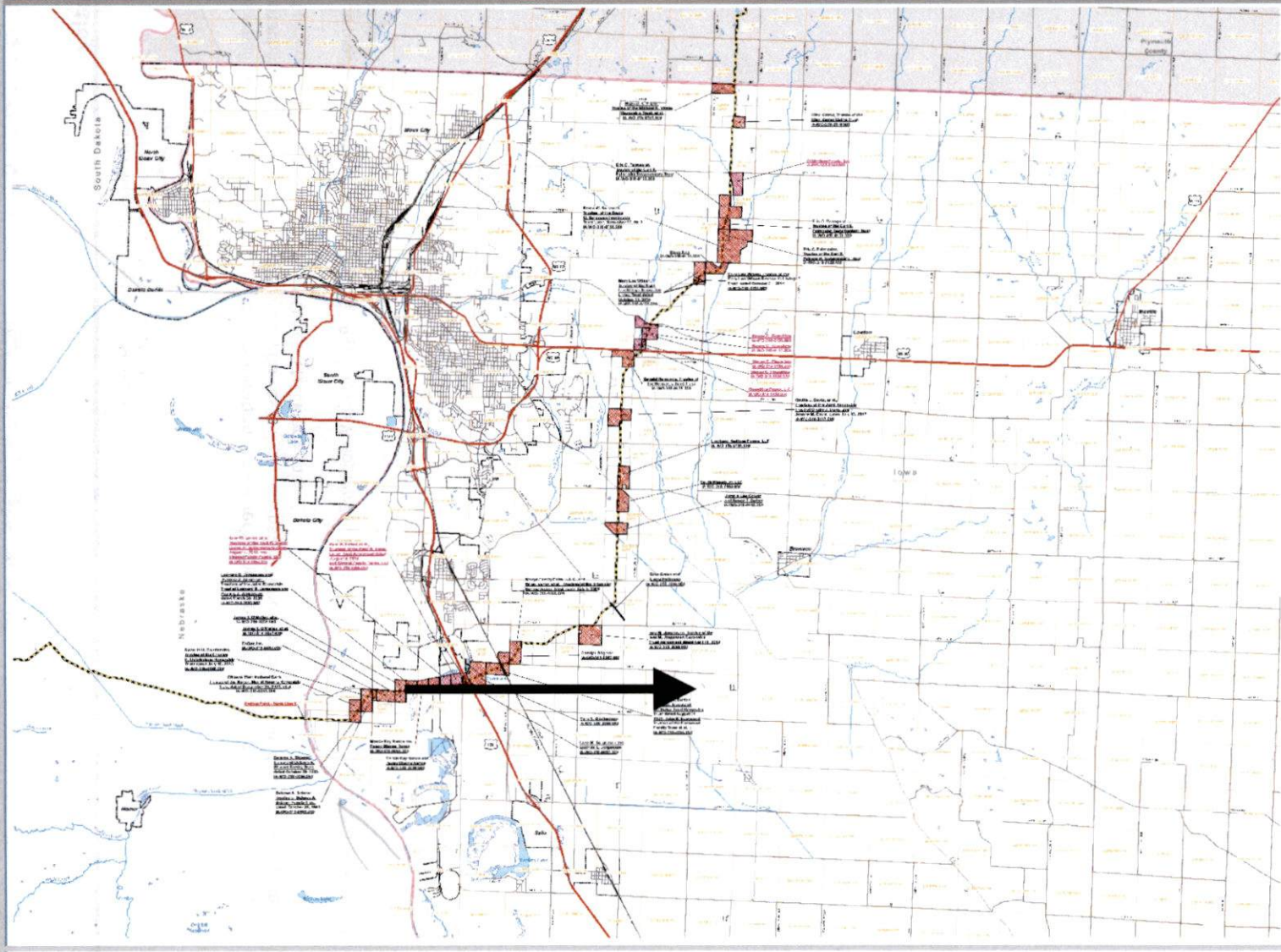
Dan, Could you please share this map of Summit Carbon Solutions CO2 pipeline in Woodbury County with the Planning and Zoning board.

Thank you,
Gayle Palmquist

Sent from my iPad

File Path: I:\Projects\Woodbury\Map\Map 50222_HIP_2021.dwg

SUMMIT CARBON SOLUTIONS LLC - EXHIBIT H - WOODBURY OVERVIEW MAP



VICINITY MAP



LEGEND

- Proposed Summit Pipeline
- County Highway
- Other Roadway
- State or US Highway
- Railroads
- Waterway
- Public Land Survey System
- City Limits
- Lake/Pond
- Reservoir
- Swamp/Marsh
- County
- Adjacent Counties
- New Withdrawal Tracts
- Previous Withdrawal Tracts
- Original Exhibit H Tracts

REVISIONS

Revision	Revised By	Checked By
NOV 08 20	ATP/LS/TTS	ATP/LS/TTS

PREPARED BY

Summit Carbon Solutions
 2201 S. B. Wood Blvd., Ste. 211
 Woodbury, NE 68466
 Phone: 402-833-1111
 www.summitcarbon.com



SUMMIT CARBON SOLUTIONS LLC PROJECT

Project Title	Summit - Overview Map - Woodbury County
Figure Number	Exhibit H - Overview Map
Scale	1:80,000 1 inch = 1,300 feet
Projection	Transverse Mercator North American 1983
Project	Trunk Line 5
Drawing Number	1 Control & Revision

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 10:47 AM
To: Daniel Priestley
Subject: Another LTE

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Dan, would you please add this LTE concerning CO2 Pipelines in Woodbury County to the information supplied to the Planning and Zoning board.

Thank you,
Gayle Palmquist

**Make your voice heard on Nov. 28;
oppose Woodbury Co. pipelines**

Woodbury County! It's time to show up! Our Zoning and Planning Board is offering the opportunity to make your opinion count.

Two hazardous CO2 pipelines are proposing to take land and construct a system through our county. These pipelines plan to carry compressed, liquefied CO2 at pressures three times greater than gas lines posing risks to humans, livestock, and wildlife in the event of a rupture. CO2 in this form is toxic and asphyxiating.

The board's proposal outlines 50' from industries (where we all work each day), 330' from residences (where we sleep every night), and consulting in future expansion areas (who would want to buy or build on that parcel).

Can we do more?

By contrast, Shelby County passed setbacks: 2 miles from city limits, half mile from schools, hospitals, and nursing homes, quarter mile from recreational areas, 1000' from occupied structures, water and power supply, wastewater treatment, 1000' from animal feeding operations.

There are no federal regulations over these projects as stated by PHMSA after the Satartia, MS pipeline rupture. We need the best possible ordinances in place protecting we who live and work in Woodbury County. The public hearing is set for November 28th at 6pm at the courthouse.

Comments may be mailed or emailed to the board. Better yet--be there, voice your opinion!

Deborah Main
Sioux City, Iowa

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 28, 2022 10:44 AM
To: Daniel Priestley
Subject: LTE

Follow Up Flag: Follow up
Flag Status: Flagged

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Dan, Would you please enter this LTE into the information supplied to the Planning and Zoning board for the CO2 hearings.
Thank you,
Gayle Palmquist

More opposition to hazardous CO2 pipelines in Woodbury County...

Landowners in Midwestern states are fighting against large corporations to preserve rights and liberties guaranteed in our constitution. CO2 companies want to cash in on billions made available to them by the recent Infrastructure Bill. If allowed, these hazardous pipelines that have no guaranteed results to improve the net effect on the atmosphere will desecrate over 5000 miles of valuable farmland that has taken centuries for nature to build, and ruin some of the most valuable land in the world.

HAZARDOUS CO2 pipelines are not just another pipeline. The enormous pressure necessary to convert the CO2 to a solid for sequestration makes them extremely dangerous. Released CO2 takes as little as four minutes to kill humans and animals. The distance the CO2 could travel is unknown because of many variables, including wind speed, terrain, and weather. In 2020, a rupture in a remote area several miles from the village of Sartaria, Mississippi injured many, resulting in potentially lifelong health problems. There were no deaths, probably because of the distance. The problem, as diagnosed by PHMSA, was heavy rain on a highly erodible slope.

Neither PHMSA or Iowa have regulations for CO2 pipelines. PHMSA estimates two years to make regulations and rules. The pipelines are trying to rush the approval of their pipelines to be "grandfathered" in. Private pipeline companies seeking private gains are threatening to use eminent domain, traditionally used for projects benefiting the general populace, i.e. highways, schools, hospitals, utilities, etc. Approval by the Iowa Utilities Board would cause danger to thousands of people and animals plus thousands of acres of compromised Midwestern farmland. No public good will come from building these pipelines.

Sequestration isn't a proven science. Approximately 80% of projects have failed. Called "expensive failures", efforts have resulted in more CO2 released in the construction/operation than was sequestered, for a net loss. Examples: Chevron in Australia and Shell in Canada. A short line in Texas was recently closed. Experts at Iowa's state universities and the DNR have voiced concerns about the affect of hazardous pipelines on water supplies, energy, land and people. Crop yields, water sources, and infrastructure such as tile, irrigation systems, and terraces will never be the same.

Everyone should be concerned with who's behind these pipelines and who will profit from them. "The Kingmaker", Bruce Rastetter of Adel, Iowa, the force behind Summit, has donated hundreds of thousands of dollars to various politicians, including Governor Reynolds, Governor Noem, the Grassley family, and others, including at least one member of the IUB. Reynolds set up a task force with many members whose corporations will benefit from these pipelines.

Insurance companies are refusing to cover CO2 losses for customers. Farmers would have no liability coverage, leaving tenants and owners very vulnerable. CO2 pipelines will have a detrimental effect on land values. Future development in Woodbury County will be harmed, especially along HWY 20, Interstate 29 and HWY 75. Less tax money for the county and decreased money for sellers of land. When CO2 enters the water supply, it will turn our aquifers and wellwater into carbonic acid, not fit for man, beast or crops. Smaller, shallower aquifers are not uncommon in NW Iowa. Local EMR teams are not staffed, trained, or equipped to deal with CO2 eruptions. One hazmat team in NW Iowa is responsible for 7 counties. Gas powered vehicles will not run in a CO2 plume and Summit has refused to release a plume study requested by the IUB. These companies have been anything but transparent with landowners and the IUB, dodging requests from the IUB and lying to and bullying landowners.

Think it doesn't involve you? Guess again. Your taxes are supporting unproven, dangerous pipelines. Approval of Eminent Domain use will set a dangerous precedent. Other pipelines are watching, waiting to be next in line to use your money and control your property. Call our supervisors, sign petitions, put a sign up, write to the IUB, attend hearings and other meetings!

It is time to protect citizens -- not to cave in to corporations. Don't sign easements; the problems created by these pipelines will long outlast any amount of money they promise you! If Eminent Domain is used it will be detrimental to all.

11-24-22 **Gayle Wilcox Palmquist**
Moultrie Record Lawton, Iowa

Sent from my iPhone

Daniel Priestley

From: Stee L Maxwell <mxmlaude@wiatel.net>
Sent: Monday, November 28, 2022 8:40 AM
To: Daniel Priestley
Cc: Vicki
Subject: Setbacks

Follow Up Flag: Follow up
Flag Status: Flagged

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I am writing about the carbon pipeline projects slated to go through Woodbury County. In essence, this seems to be a dangerous, ill-conceived idea to pipe a toxic substance across Iowa. I would think that with technology improving all the time, shortly it should be able to mitigate any carbon emissions at say an ethanol plant at its location. Then the plant itself can receive some type of government credits for reducing carbon emissions itself rather than the funds going to some outside corporation. IF these pipelines are built, the setbacks for safety reasons should be much farther than being proposed at this time. We were told that if the Navigator pipeline would go through, it would cut through some of our wetlands where we have a pasture as well as some of our prime farmland and fairly close to a residence. At a minimum, the setback to an occupied residence should be at least 1,000 feet as passed in Shelby and Story County. Thank you for listening.
Dr. Stee Maxwell

Fw: Objection to CO pipelines on Iowa Utility Board docket by Jessica Wiscus

Deborah Main <deborah_main@yahoo.com>

Sat 11/26/2022 11:52 AM

To: Daniel Priestley <dpriestley@woodburycountyiowa.gov>

1 attachments (6 MB)

Wiscus on Summit IUB_2105701_221028-100147.pdf.

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I'll bring hard copies of this for your board members on Monday.

----- Forwarded Message -----

From: Carl Palmquist <eastviewfarm@gmail.com>

To: "mmontino@woodburycountyiowa.gov" <mmontino@woodburycountyiowa.gov>

Sent: Friday, October 28, 2022 at 02:59:27 PM CDT

Subject: Objection to CO pipelines on Iowa Utility Board docket by Jessica Wiscus

<https://wcc.efs.iowa.gov/cs/idcplg?>

[IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=2105701&noSaveAs=1&fbclid=IwAR2DpujyzAW6atAwfMA9sjaKolZHxbelLPAhfXC5LXCb_Ai-zt8PmHgK1w](https://wcc.efs.iowa.gov/cs/idcplg?IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=2105701&noSaveAs=1&fbclid=IwAR2DpujyzAW6atAwfMA9sjaKolZHxbelLPAhfXC5LXCb_Ai-zt8PmHgK1w)

Sent from my iPhone

Jessica Wiskus
Linn County
October 26, 2022

Dear Members of the Iowa Utilities Board:

For over a year now, Summit Carbon Solutions has made public its proposal to transport supercritical liquid CO₂ to North Dakota via pipeline.

My neighbors and I have been organizing to take a stand against the use of eminent domain for this and, indeed, all three of these CO₂ projects. We've distributed yard signs, we've cheered each other on at public meetings, we've sent letters to the Iowa Utilities Board, and contacted all of our Iowa legislators, multiple times. And our little group has grown in numbers, joining with a state-wide non-profit organization to help us fight against the abuse of eminent domain.¹



Why are we so opposed to these CO₂ pipeline projects? First of all, all three pipeline companies are seeking to use eminent domain for their projects. Now, eminent domain is a power granted by the government to take away your property or the use of your own property, against your will. Eminent domain, as an extraordinary governmental power that condemns your private property for someone else's use, can be used ONLY for "public convenience and necessity," at least, according to the law.

¹ <https://iowaeasement.org/>

What is “public convenience and necessity”? In Iowa, an individual’s or a corporation’s economic development is not enough to warrant eminent domain. In a legal case brought before the Iowa Supreme Court in 2019, the court found that “trickledown benefits of economic development are not enough to constitute a public use.”² And the Court spelled out: “If economic development alone were a valid public use, then instead of building a pipeline, [a company] could constitutionally condemn Iowa farmland to build a palatial mansion, which could be defended as a valid public use so long as 3100 workers were needed to build it, it employed twelve servants, and it accounted for \$27 million in property taxes.”³ But in Iowa, this kind of thing simply *is not allowed*.

Therefore, we have to look closely at what Summit is claiming about its project. Do these CO₂ pipelines promote “public convenience and necessity”?

This general question breaks down into three specific questions:

1. Are these pipeline projects safe? I ask this because it cannot be convenient nor necessary to force the public to live under conditions of unreasonable risk.
2. Are these projects a necessary public good for the environment?
3. Are these projects a necessary public good for the future of ethanol?

So, these three questions will be explored in this document.

1. Are these CO₂ pipelines safe for rural Iowans and our communities?

I want to begin by focusing on safety concerns. Many of us already live near gas or petroleum pipelines, and we don’t give them a second thought. They are established infrastructure, and we willingly live with the minimal risks that they pose. But as it turns out, pipelines that transport supercritical CO₂ are quite different from any other kind of pipeline that currently runs through Iowa.

What is this CO₂? Is it the stuff in the atmosphere, a gas in its natural state? No. According to Det Norske Veritas, (or DNV) the industry’s leading risk management research company, the typical amount of CO₂ in the air that we breathe, by volume, is 0.04%.⁴ This does not harm us.

But what will be transported via these pipelines is quite different. It is 99.9% or “pure” CO₂ in what scientists call a “supercritical” or “dense-phase” state: this is kind of a fancy way to talk about a gas that has been put under so much pressure—1300-2100 psi—that it is forced into a different state (sometimes referred to as a liquid state).⁵

And liquid, pressurized, dense-phase carbon dioxide is uniquely unstable and dangerous. The liquified carbon dioxide that these projects will capture is 99.9% carbon dioxide (what the industry calls, “pure” CO₂)—compare that to the 0.04% that we breath as a gas in the air.

² Punttenney v. Iowa Utilities Board, 928 N.W.2d 829 (2019).

³ Ibid.

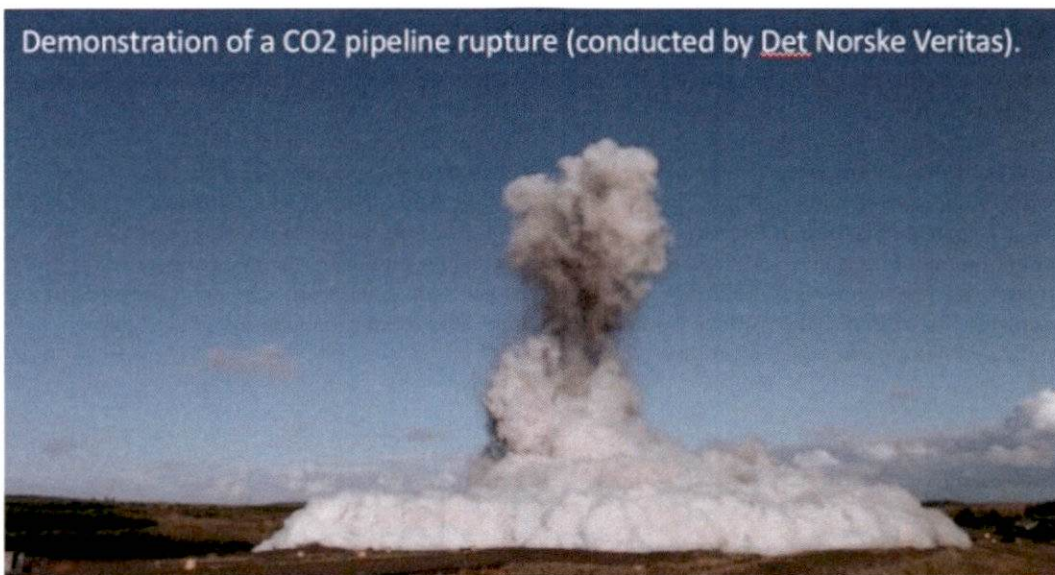
⁴ <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

⁵ Ibid.

According to DNV's research, concentrations of 10-15% carbon dioxide can cause, "headache, increased heart rate, dizziness, rapid breathing, and unconsciousness," in less than *one minute*. At higher concentrations, within one minute it can cause "unconsciousness, convulsions, coma, and death."⁶

Carbon dioxide is an asphyxiant—it displaces the oxygen in your lungs. Only about 5,000 miles of CO₂ pipelines exist in the US—**less than 1%** of the total pipelines in our country.⁷ CO₂ pipelines are not like other oil and gas pipelines. As it turns out, *what travels through the pipe and under what pressure matters—a lot*. While a typical gas pipeline is under 500-1400 psi, a CO₂ pipeline operates under 1300 – 2100 psi.⁸ The extra high pressure means that a rupture would release CO₂ at an explosive force. We know that carbon pipeline ruptures can and do happen.⁹ DNV has conducted testing to see what this would look like and posted a short video of one such test demonstration conducted in England.¹⁰

Demonstration of a CO₂ pipeline rupture (conducted by Det Norske Veritas).



⁶ Ibid.

⁷ <https://www.phmsa.dot.gov/data-and-statistics/pipeline/annual-report-mileage-hazardous-liquid-or-carbon-dioxide-systems>. This tiny proportion of pipelines has been responsible for 61 accidents involving the release of CO₂ over the past ten years (2011-2021), as reported to the Pipeline and Hazardous Materials Safety Administration. See <https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data>. That's about one accident every 82 miles.

⁸ This is according to Navigator's materials.

⁹ <https://climateinvestigations.org/co2-pipelines-and-carbon-capture-the-satartia-mississippi-accident-investigation/>

¹⁰ <https://brandcentral.dnvgi.com/mars/embed?o=4D2E198D781A6E6F&c=10651&a=N>

A peer-reviewed, scientific article published in July 2021, called “Risks and Safety of CO₂ Transport via Pipeline,” reports the results.¹¹ I will compare them to Navigator’s CO₂ pipeline project because they have released specific details about their project, and we expect Summit’s to be similar. The rupture of an 8”-diameter steel pipe, buried underground, under pressure and temperature parameters equivalent to Navigator’s pipeline project, resulted in 136 ton of CO₂ released in 204 seconds—that’s under 4 minutes; the visible plume caused by the CO₂ went up approximately 197 feet and spread out, horizontally across the ground, approximately 1312 feet—a ¼ of a mile.

What is the visible plume? It’s a solid form of CO₂, basically like dry ice. In section 3.4.5 of the industry standard publication, “Design and operation of carbon dioxide pipelines” from September 2021, DNV warns that, “Inhalation of air containing solid CO₂ particles within a release cloud is particularly hazardous since this could result in cryogenic burns to the respiratory tract as well as additional toxicological impact due to sublimation in the lungs.”¹²

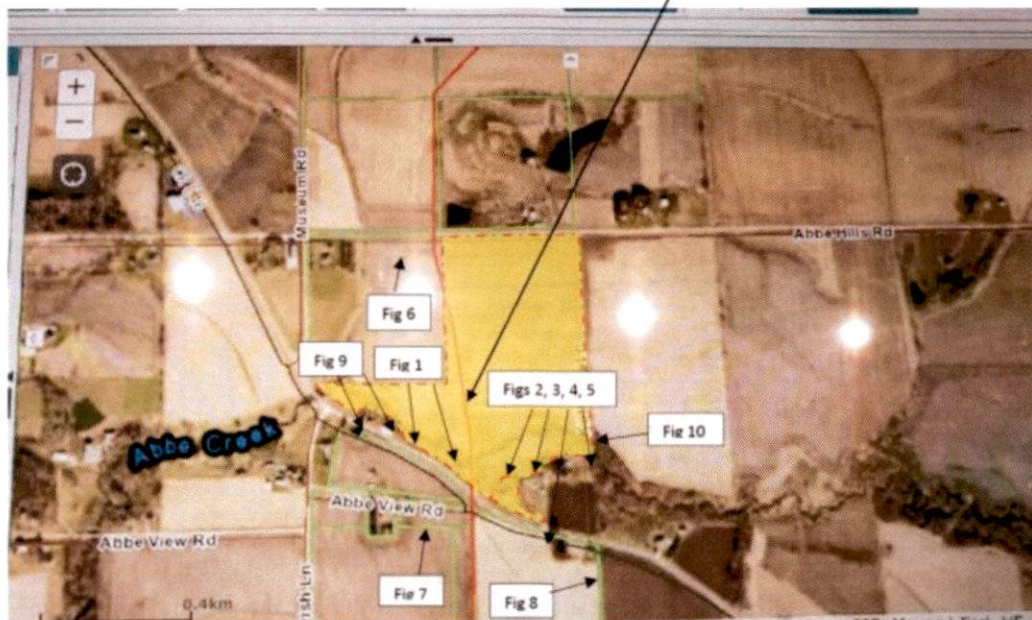
Representatives from both Navigator and Wolf have admitted at their public informational meetings that, by default, the minimum setback for habitable structures would be 25 feet from the pipeline. It is the same for Summit.

Until now, carbon pipelines in the US have been routed through sparsely-populated areas. And while some people think that Iowa is just a fly-over state, we know that Iowa’s history of settling in 40-acre parcels means that our rural areas have quite a few farmhouses and thriving small-town communities. This places us at risk when it comes to carbon pipelines. As an example, Navigator’s route put Iowa farmhouses, ballfields, churches, historic sights, and even schools in the pipeline corridor (for example, the College Community School District in Linn County). The figures, indicated below, offer such examples.

¹¹ <https://www.mdpi.com/1996-1073/14/15/4601>

¹² <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

Pipeline Route Highlighted in "Red" Below



We live here. Our families live here. Our communities are built here. And we deserve respect.

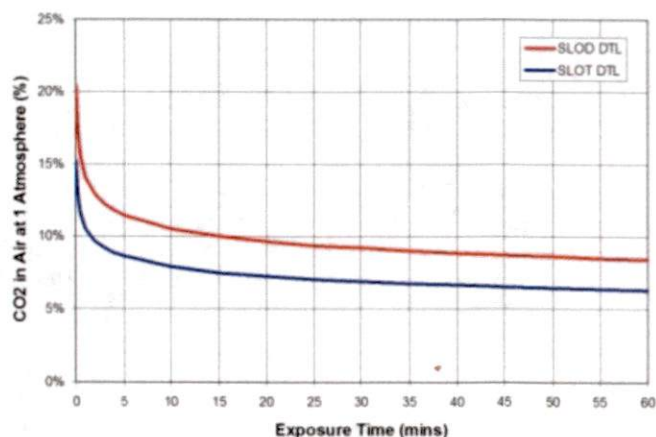
What about PHMSA, the federal Pipeline and Hazardous Materials Safety Administration? PHMSA's job is to regulate the pipe itself within the 50-foot right-of-way (hence the 25-foot distance between the pipe itself and our houses). PHMSA has no regulatory authority over the siting of the pipelines—*where* they are built. States that have experience with carbon pipelines—states like OK, TX, and WY—have recognized this safety loophole and, according to an article called, "Siting Carbon Dioxide Pipelines," from the *Oil and Gas, Natural Resources, and Energy Journal*, have passed their own legislation to regulate the siting of these pipelines, for example, a required minimum distance from a school.¹³ But we have no such protections in Iowa because, frankly, CO₂ pipelines are less than 1% of all pipelines in this country, and in Iowa we have no experience with them *at all*.

Are the proposed pipeline routes *safe*? DNV, the world's leading authority on recommended practice for the design and operation of CO₂ pipelines, does not specify a distance from the pipeline that would be safe in case of a rupture. *That is because even they do not know.*

No one knows. It depends on many different factors, not just the diameter of the pipe, the pressure under which the CO₂ was traveling, or the distance between safety valves, but also the local topography, soil composition, ambient temperature, wind speed, and other highly variable factors. In the end, it's not about distance; it's about concentration and time.

¹³ <https://digitalcommons.law.ou.edu/cgi/viewcontent.cgi?article=1129&context=onej>

DNV developed a graph to show how this works.¹⁴



SLOT DTL = Specified Level Of Toxicity Dangerous Toxic Load
SLOD DTL = Significant Likelihood Of Death Dangerous Toxic Load

The red line indicates “significant likelihood of death,” while the blue line indicates a scientifically-specified level of toxicity—when you will suffer harmful effects. At concentrations of 10%, you will likely die in 15 minutes. At a concentration of 15%, you will likely die within 1 minute. How long do you have to escape? (By the way, unless you have an electric vehicle, car engines will stall out and fail if they are in an area of high CO₂ concentration because combustible engines, too, need oxygen to survive.)

How do we site these pipelines, safely? At the most recent public informational meetings—with Wolf and the IUB in August—Wolf’s engineer said, “The industry doesn’t have a standard.” And, “The results aren’t in on the dispersion modelling.” And when asked to estimate what distance he would recommend to avoid death from a pipeline rupture, he said something in the “800 to 1500 foot range.”¹⁵ That’s a really large range because so much is unknown about how supercritical CO₂ disperses—but notice that 25 feet is not a recommended option.

What we do know is that the day scientists conducted the test demonstration of a CO₂ pipeline rupture under the auspices of DNV, the visible plume of CO₂ travelled ¼ of a mile—1312 feet—in under 4 minutes. And now, thanks to a real-life accident, we also know that *the gas form of CO₂* can travel much farther.

We learned that, unfortunately, when a CO₂ pipeline owned by Denbury Resources suddenly ruptured on a Saturday night in February of 2020 in Satartia, Mississippi.¹⁶ The rupture of the 24”

¹⁴ <https://www.dnv.com/oilgas/download/dnv-rp-f104-design-and-operation-of-carbon-dioxide-pipelines.html>

¹⁵ Comments from Wolf’s engineer, recorded on August 29th and 30th, 2022.

¹⁶ https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f

pipe released 9,532 barrels (401 ton) in the 8 minutes before the pipeline was shut down.¹⁷ Photos show that after the rupture, there is not even a speck of life, a speck of grass, left. Yet, because the rupture happened in a densely-wooded area one mile from the town center, with no houses nearby, and because the town had a tiny population (38 people) that emergency responders were able to evacuate, there were no deaths—only people sent to the hospital;¹⁸ [*] still, emergency responders later described what they found: [*] some people “choking,” some “unconscious,” some in a “seizure,” and others “foaming at the mouth.”¹⁹ In this case, distance was the difference between hospitalization... and death because distance from the pipeline rupture determined the concentration of CO₂ in the air.

The gas form of CO₂ released from the pipeline rupture travelled over 5,000 feet to the center of Satartia, Mississippi. But in Iowa, many of us will be forced to live, work, learn, and play *within tens* of feet of these pipelines—forced by the power of eminent domain.

Recently, PHMSA announced that it must “strengthen its safety oversight of carbon dioxide (CO₂) pipelines around the country to protect communities from dangerous pipeline failures,” a move they are making as “a result of PHMSA’s investigation into a CO₂ pipeline failure in Satartia, Mississippi in 2020.”²⁰ But the “new rulemaking to update standards for CO₂ pipelines” that PHMSA describes will take several years to put into place, since the research funding opportunities they offered have a timeline of 24-36 months.²¹ **Why are CO₂ pipelines being built in Iowa before the necessary safety studies have been completed? How can we consider such willful risk-taking to be a public good?**

Recently, California—a state also considering a build-out of CO₂ pipelines—passed a law that prohibits the construction of any new CO₂ pipelines *until PHMSA has issued its new safety rules*. This makes sense, doesn’t it? If you must do something, don’t you want to do it safely? Here is the law:

71465. (a) Pipelines shall only be utilized to transport carbon dioxide to or from a carbon dioxide capture, removal, or sequestration project once the federal Pipeline and Hazardous Materials Safety Administration has concluded the rulemaking (RIN 2137-AF60) regarding minimum federal safety standards for transportation of carbon dioxide by pipeline (Parts 190 to 199, inclusive, of Title 49 of the Code of Federal Regulations) and the carbon dioxide capture, removal, or sequestration project operator demonstrates that the pipeline meets those standards.²²

¹⁷ <https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data>

¹⁸ <https://www.phmsa.dot.gov/news/phmsa-failure-investigation-report-denbury-gulf-coast-pipelines-llc>

¹⁹ <https://www.clarionledger.com/story/news/local/2020/02/27/yazoo-county-pipe-rupture-co-2-gas-leak-first-responders-rescues/4871726002/>

²⁰ <https://www.phmsa.dot.gov/news/phmsa-announces-new-safety-measures-protect-americans-carbon-dioxide-pipeline-failures>

²¹ <https://www.grants.gov/web/grants/view-opportunity.html?oppId=338415>

²² https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB905

Iowans deserve the same protection. **CO₂ pipelines should not be built unless PHMSA closes the knowledge gap on safety.**

2. Are these projects a “public convenience and necessity” for the environment?

The reason that the CO₂ will be captured is to sequester it—bury it underground. In Iowa, we are being told that that would reduce the carbon footprint of ethanol and help address concerns about climate change. But there is more to this story, as it turns out.

Like all three of the projects under review in Iowa, Summit’s would transport liquid CO₂ to a facility out of state, where it will be injected or sequestered underground. It sounds “green,” but unfortunately, it’s only *one* part of the story. *Liquid* CO₂—which is what we’re talking about with these projects—is a commodity. It’s worth something, it’s sold and bought, as the oil and gas industry itself will tell you. That’s because it is used as a tool for more oil and gas extraction. Most people have probably heard of fracking, but maybe they haven’t heard of “Enhanced Oil Recovery” (EOR). Enhanced Oil Recovery has been used by the oil industry for decades, mainly down in Texas and Louisiana, but also now in places like Wyoming, Colorado, and North Dakota. By injecting the liquid CO₂ into the ground (where it *is* stored, by the way—that part of the industrial cycle is true), oil companies extract barrels of oil out of fields that were otherwise depleted. How much oil? A lot. For example, at a facility called Petro Nova, the *Journal of Petroleum Technology* reports that in less than one year they “captured 1 million tons of CO₂ and increased oil production [at a field some 80 miles away] by 1,300%.”²³ For over a decade, the oil and gas industry has been searching for a reliable source of CO₂ with which to pursue enhanced oil recovery. Indeed, the *Oil & Gas Journal* reports back in 2010 that: “Tracy Evans, president of Denbury Resources Inc., said the largest deterrent to expanding production from CO₂-EOR is the lack of large volumes of reliable, affordable CO₂.”²⁴ Indeed, the article goes on to state that, “Most CO₂ for EOR today comes from natural reservoirs, which are limited in capacity”—i.e. this industrial process has nothing to do with limiting our carbon footprint. (This article dates before the oil and gas industry hit upon the idea of using CO₂ from ethanol as their supply for Enhanced Oil Recovery—but I’ll tell you more about that later.)²⁵ What is important to note, for now, is that oil, when used, generates more CO₂—as it turns out, more than what was sequestered in the first place. According to an article in the *Proceedings of the National Academy of Sciences of the United States of America*, for every *one* ton of CO₂ they pump into the ground, they pull out two to three barrels of oil, *which generate about 1.2 tons of new CO₂*.²⁶ The process *adds* more CO₂ to the atmosphere than it takes out.

²³ <https://jpt.spe.org/co2-eor-could-be-industrys-key-sustainable-future-or-its-biggest-missed-opportunity>

²⁴ <https://www.ogj.com/general-interest/companies/article/17282591/ari-carbon-capture-could-boost-eor-projects>

²⁵ <https://www.pnas.org/doi/10.1073/pnas.1806504115>

²⁶ <https://www.pnas.org/doi/10.1073/pnas.1719695115>. Note that this is the article that pioneered the use of CO₂ from ethanol for EOR and that the authors make the oft-repeated argument from oil and gas that EOR is *necessary* to battle climate change. It is only necessary, however, for the industry itself; carbon capture transforms an existential threat to the fossil fuel industry into a lucrative opportunity—no matter that it fails to address the problem of actually continuing to generate CO₂ from industrial processes.

This article from *Biophysical Economics and Sustainability* confirms that, although “fossil fuel interests have moved to reframe an old oil extraction technique (“enhanced oil recovery”) as a new climate mitigation method,” they found that this process is “net CO₂ additive: CO₂ emissions exceed removals.”²⁷

Over 90% of liquid CO₂ in the world is currently used for Enhanced Oil Recovery. This is according to the “Global CCS Institute,” an “international think tank” headquartered in Melbourne, Australia.²⁸ The article mentioned, above, states directly that: “Major carbon dioxide capture and pipeline infrastructure projects based on CO₂-EOR [...] benefit the oil and gas industry and oil-producing states.”²⁹ Indeed, an article from 2014 in *The American Oil & Gas Reporter*, says it all in the title: “Industrial CO₂ Supply Crucial for EOR,” stating that, “The main barrier to growth in oil production from CO₂ EOR is insufficient supplies of affordable CO₂. [...] While a number of efforts have been under way to alleviate this supply shortage, new CO₂ supplies are absorbed quickly.”³⁰ Indeed, the article goes on to say that Texas (Navigator’s home base) is working “to encourage increasing CO₂ supplies from industrial sources to serve the EOR market.”³¹

Even most “demonstration” or “pilot” programs are driven by the fossil fuel industry, but one in the US—connected to ADM’s facility in Decatur, Illinois—pursued storage, only.³² This project (which didn’t require much of a pipeline—the company injected the CO₂ onsite) was funded by the federal government to the tune of hundreds of millions of federal tax dollars. From November 2011 to November 2014, they injected liquid CO₂ down into the ground (where, by the way, it doesn’t just “stay put” or solidify into rock—it migrates).³³ And did they *lower* their greenhouse gas emissions? No. According to data tracked by the EPA, in 2010—the year before carbon capture and sequestration began—their annual Total Facility Emissions in metric tons of CO₂ was 4,431,508. In 2011, the year they began sequestering, it went up to 4,662,337 tons. In fact, every year from 2011 to 2014 (the years of their sequestration project), CO₂ emissions actually increased rather than decreased, peaking at 4,695,431 in 2014. In 2015, when they *stopped* capturing and sequestering the CO₂, their emissions decreased to 4,462,580.³⁴ You see, the process of capturing, dehydrating, and injecting requires a tremendous amount of energy, and that generates additional CO₂.

The net addition of CO₂ to the atmosphere is not a “public convenience and necessity.”

Do we know, for certain, that Iowa’s CO₂ will be used for enhanced oil recovery? We don’t know for certain, but according to Minnesota Public Radio in 2021, Bruce Rastetter, the head of Summit, admitted that his economic model for the pipelines wouldn’t be viable without federal tax dollars

²⁷ https://www.bu.edu/eci/files/2020/10/2020_Article_.pdf

²⁸ <https://co2re.co/FacilityData>

²⁹ <https://www.pnas.org/doi/10.1073/pnas.1719695115>

³⁰ <https://www.aogr.com/magazine/editors-choice/industrial-co2-supply-crucial-for-eor>

³¹ *Ibid.*

³² <https://co2re.co/FacilityData>

³³ See slides 14-22,

https://www.energy.gov/sites/prod/files/2017/10/f38/mcdonald_bioeconomy_2017.pdf

³⁴ <https://ghgdata.epa.gov/ghgp/service/facilityDetail/2010?id=1005661&ds=E&et=&popup=true>

for enhanced oil recovery,³⁵ and David Giles, COO of Navigator, admitted at public meetings in December 2021 and January 2022 that, because the pipeline company simply transported the liquid CO₂ but didn't, technically, own it, he could not say what would be done with it, in the end. Wolf has verbally denied that they intend to pursue EOR, but we have no binding document from them, and it doesn't bode well that both Summit and Navigator began saying the same thing before they changed their tunes.

It's rather telling to look at this map, from a study under the auspices of Princeton University but funded by Exxon Mobile and BP—funded by the oil and gas industry.³⁶

E+ scenario

929 million tCO₂/y
106,000 km pipelines
Capital in service: \$170B

CO₂ point source type

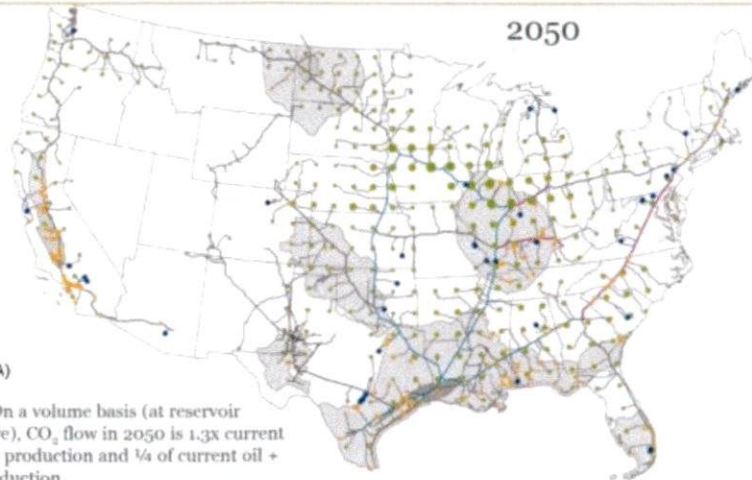
- CO₂ point sources
- BECCS - power and fuels
- Cement w/ ccs
- Natural gas power ccs oxyfuel

CO₂ captured (MTPA)

- 0.000449
- 7.9144
- 15.8282
- 23.7419

Trunk lines (capacity in MTPA)

- < 100
- 100 - 200
- > 200



Note: On a volume basis (at reservoir pressure), CO₂ flow in 2050 is 1.3x current U.S. oil production and ¼ of current oil + gas production.

The green dots represent bio-energy sources of CO₂ like ethanol and fertilizer facilities in the Midwest, and the gray shading show the location of oil fields where enhanced oil recovery could be used. Please notice, North Dakota and Illinois on this map—precisely the destinations for the Summit, Navigator and Wolf pipelines. The lines connecting them are the pipelines necessary for CO₂ transport.

And what, for example, does an ethanol company like ADM know about this national plan for enhanced oil recovery? Well, here is a slide from a PowerPoint presentation by Scott McDonald, Biofuels Development Director at ADM, housed at the Department of Energy website.³⁷

³⁵ <https://www.mprnews.org/story/2021/03/02/iowa-company-wants-to-store-carbon-dioxide-under-north-dakota>

³⁶ <https://netzeroamerica.princeton.edu/the-report> Please see page 218 from the full report for the map. Also note that Exxon Mobile and BP fund this report.

³⁷ https://www.energy.gov/sites/prod/files/2017/10/f38/mcdonald_bioeconomy_2017.pdf see slide 36.



(1) BASIN ORIENTED STRATEGIES FOR CO₂ ENHANCED OIL RECOVERY: ILLINOIS AND MICHIGAN BASIN OF ILLINOIS, INDIANA, KENTUCKY AND MICHIGAN. Advanced Resources International, February 2006

ILLUSTRATION COURTESY OF ADM

The presentation as a whole contains research as recent 2020, and so I believe that we can consider this a fairly current source of information. The "Illinois Basin Potential," describes the millions of barrels of oil that will be recoverable by injecting liquid CO₂ into the ground of depleted oil fields in Illinois. Indeed, there have been multiple studies by the oil and gas industry about the *quote* "stranded oil prize" that waits, underground, in Illinois. However, there is no such "oil prize" for Iowa...

So, that leads me to my third question: what about ethanol?

3. **Are the CO₂ pipelines necessary for ethanol's future?** As it turns out, ADM knows the answer to this question, as well.

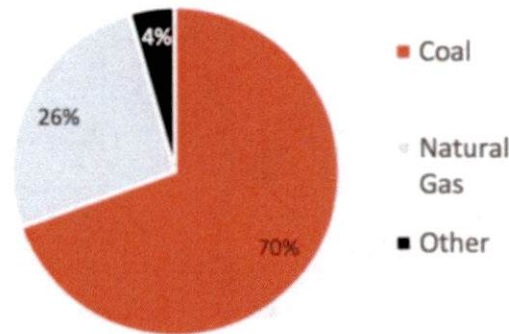
A report from March of 2020 was commissioned by ADM to look at several options for reducing CO₂, including the option of carbon sequestration.³⁸ But in this report, carbon sequestration comes in *dead last* of all the options.³⁹ You see, right now, the carbon that the technology can capture is only the CO₂ from biogenic sources—from the corn fermentation. That's because the corn fermentation produces a very "pure" stream of CO₂—CO₂ not mixed with other gasses—that is the easiest to capture, dehydrate, and pressurize for transport through a pipeline. Indeed, that's why the oil and gas industry wants it from ethanol facilities for the use of enhanced oil recovery. But this

³⁸ <https://assets.adm.com/Sustainability/2019-Reports/ADM-WSP-Feasibility-Study-and-Goal-Document.pdf>

³⁹ See page 9 of the report.

biogenic CO₂ is actually a relatively small portion of ethanol's own carbon footprint. 70% of ADM's on-site emissions comes from coal.⁴⁰

Combustion Emissions by Fuel Source



The real problem is coal, not corn—but emissions from coal cannot be captured and sequestered.

No surprise, then, that ADM's report concludes that the most effective way that they can lower their carbon footprint, is to wean themselves off of coal. That, and increase other efficiencies around their facility. POET, another giant in the ethanol industry, also has alternative ways to *actually stop producing more carbon dioxide in the first place*, rather than capturing and transporting it for the oil industry.⁴¹

In other words, to "go green," they don't need an interstate pipeline that would transport hazardous waste through rural Iowa countryside—and they don't need to take our land through eminent domain.

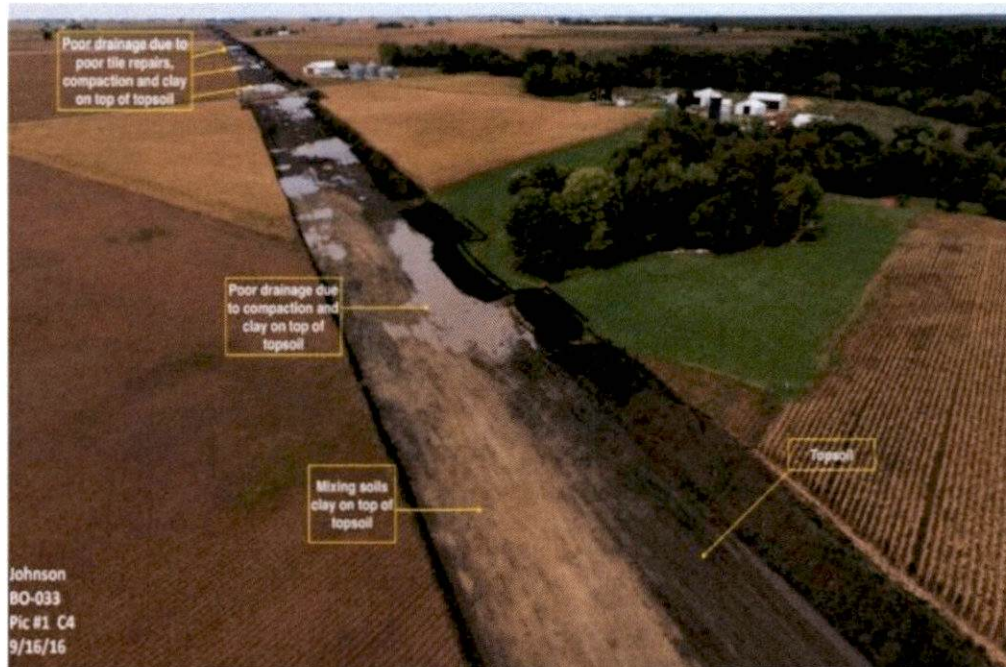
What motivates these projects is not "necessity" but rather a personal business decision by Bruce Rastetter, the head of Summit. And a personal business decision is not a public good. When a bill to *stop* the use of eminent domain came up in the Iowa State Senate last winter, SF 2160, neither ADM nor POET registered opposition to the bill.⁴² Clearly, they know that the CO₂ pipelines aren't *necessary*. They're just being forced to get on board and push this through because their competitor, Summit, seems unstoppable. (Former Governor Terry Branstad is paid to sit on the corporate board of Summit; the son of former Governor Tom Vilsack, Jess Vilsack, serves as one of Summit's corporate lawyers.)

⁴⁰ See page 7 of the report.

⁴¹ <https://poet.com/sustainability#report>. Recently, POET did sign with Navigator for CCS.

⁴² <https://www.legis.iowa.gov/lobbyist/reports/declarations?ga=89&ba=SF2160>

And yet, hundreds of Iowans, including me, continue to contact our legislators and asked them to stop the use of eminent domain for private projects like these, because the threat of eminent domain has a host of consequences for rural landowners. As it turns out, Iowa recently experienced a kind of “test case” of modern pipeline construction when Dakota Access came through our state in 2016.



Photos, graciously provided by an Iowa farmer who went through it, show evidence of mixing of soils, compaction, draining of water into surrounding fields, damage to the tiling, and more. You see, the pipeline company obeyed the letter of the law when they separated out the topsoil from the subsoil, but then they drove over the topsoil while they were building the pipeline—mixing the soils—and they worked the land under extremely wet conditions—compacting the soil. The tiling never was made right, and farmers were left with reduced fertility, problems with erosion, and lowered yields—you can see the scar two years later. All of this has direct financial consequences for rural families, of course.

For example, this letter from State Farm Insurance warns an affected landowner that:⁴³

“As history has proved, any pipeline has a chance to fail, leak and seep resulting in significant damage to life and property. To place this type of risk or burden upon unwilling landowners, like yourselves, is tantamount to placing a risk to your livelihood without your permission.

“In summary, having a pipeline running through your property, carrying CO₂, a pollutant, subjects you to substantial uninsurable exposure.”

⁴³ Private letter from State Farm to landowner; identity protected.

And Linn county's Farm Bureau, citing "potential infringement on the private property rights of Iowans," submitted an objection to the Iowa Utilities Board against Navigator's proposed pipeline, stating:⁴⁴

"Representing Linn County Farm Bureau members, we are requesting the Iowa Utilities Board to deny the use of eminent domain for Navigator LLC at this time."

It is not every day that the Farm Bureau and the Sierra Club agree! They agree because there is something really fundamental that is at risk here.

Let me close with one last thought. Look, maybe you think that this issue is about *his* back yard or *her* back yard—that this issue just boils down to money. After all, everyone knows that a farmer's wealth is in the land... But, my experience in the last months, listening to my neighbors, has shown me how this issue cuts to the very core of our values.

Private corporations want to take the part of the wealth that is seen on a property deed, but they disregard what the land really means—they disregard the part that is the true gift. Land, for many of us, means something more than just a line on a balance sheet. Many of us come from families who have lived here and farmed here for generations—I am the 7th generation in my family to live on the good Iowa soil.

As the descendent of pioneers, it is not lost upon me that the land never truly "belonged" to my family in the first place. The taking of land from Native peoples was one of our nation's original sins. This crime against nations was sanctioned according to the rules of the "common carrier"—the railroad. The "justification" for the CO₂ pipelines—because they clearly do not meet any kind of public good—is strikingly similar.⁴⁵ Will ours be the generation to see that crime repeated?

You see, Mother Nature is more powerful than any history, than any people. Over the course of seven generations, like a flowing river, she has worn away the sharp edges of our pride, corrected us, and put us in our place: so that we, too, know that the land does not belong to us—we belong to the land.

And so, we're fighting these pipelines not just because *we* are affected; it's about more than just us. It's about all those who lived and loved the land before us, and those who will come after us. It's about the grandparents, the great-grandparents, and the more ancient ancestors; it's about the children, the grandkids, and the lives to come. It's about heritage, and it's about hope. And it's about our neighbors—about what it means to be a community, and to treat one another with respect. "Land," for us, is about the abundance of life that is rooted in the earth, and that, fundamentally, is not of our own making. We live our lives in relation to something that is greater than just ourselves—that is the true gift, the true wealth, that the land gives to us. It's because of this that so

⁴⁴ Filed on the Navigator docket at the IUB and dated December 14, 2021.

⁴⁵ However, the following distinction between a railroad track for a railcar and a pipeline for CO₂ should be made: whereas the railroad car transports goods for commerce, thereby potentially benefitting the consumer by lowering prices, the CO₂ pipeline transports nothing but industrial waste, doing nothing but *raising* the costs for the consumer through the tax-payer subsidized 45Q credits. It therefore does not meet the criteria for eminent domain.

many of us will not sign voluntarily easements with these pipeline companies—no matter the dollar amount. *AND THE STATE OF IOWA SHOULD STAND WITH US, NOT AGAINST US.*

Respectfully,

Jessica Wiskus

CO2 Pipeline

Jeanine Chartier <charmacj@wiatel.net>

Sat 11/26/2022 10:10 AM

To: Daniel Priestley <dpriestley@woodburycountyiowa.gov>; Keith Radig <kradig@woodburycountyiowa.gov>

Cc: Rocky De Witt <rdewitt@woodburycountyiowa.gov>

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

I am asking the your assistance for the regulating of the CO2 pipelines being pushed upon farming communities in our county. I am very concerned for my family members and for all of our local community members. This is a very poor situations for land owners and small communities. Our local emergency personnel are volunteers and are no way equipped to handle a leak of CO2. There is not enough safety considerations being developed.

I firmly believe Woodbury county needs to keep these pipelines out of this county. We are heavily populated due to being near Sioux City and numerous rural homesteads and acreages.

It would behoove the county to set some basic regulations, in preparation of **forced pipelines through Eminent Domain FOR A PRIVATE COMPANY. Which is WRONG**

I would encourage the county do the following:

- No pipelines within 3 miles of towns, schools, eldercare facilities, small rural airports
- 1.5 miles from any occupied homes, acreages
- Require any company putting in pipelines to provide ongoing training and ALL needed equipment for safety during a leak of CO2, through out the lifetime of the pipeline. The small town operations do not have the funds needed to do this!
- 1.5 miles from any livestock operations: cattle, hogs, etc.
- Stipulations that no foreign investors/owners, and the pipeline cannot be sold to outside entity, or utilized for any other use later on.
- When the pipeline is no longer going to be used, it can not be abandoned, rather the companies must have a reserve of funds to remove the abandon pipeline and restore land back to farming standards, and restitution for crops and damages during the removal process.
- Much consideration should be given to the entire Highway 20 corridor in Woodbury county. I firmly believe the pipeline should not cross the corridor within 15 miles of Sioux City due to further expansion of businesses and potential growth of Sioux City and the small town areas surrounding Sioux City.

Jeanine Chartier
2065 Highway 20
Lawton, Iowa 51030
712-251-3806

Pipeline Ordinance Petition

Deborah Main <deborah_main@yahoo.com>

Fri 11/25/2022 11:00 AM

To: Daniel Priestley <dpriestley@woodburycountyiowa.gov>

1 attachments (10 MB)

Woodbury signed ordinance.pdf;

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Attached are 219 signatures from Woodbury County residents--affected landowners, taxpayers, and concerned citizens. They are asking that ordinances be put into place protecting public safety, county infrastructure, quality of life, and future expansion.

Hazardous Pipeline Ordinance Petition

The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

The County can adopt an ordinance to address these concerns, set protections, charge fees and require bonds. We, the undersigned, want Woodbury County to adopt an ordinance that will protect our homes, livelihoods, quality of life and future impact on our property taxes.

A hazardous pipeline ordinance is pro-county. It is one tool at our disposal to protect Woodbury County and its taxpayers. Please adopt a Woodbury County Hazardous Pipeline Ordinance (by date/as soon as possible/within ___ days).

Signed:

- L - Affected Landowner
- T - Taxpayer
- C - Concerned Citizen

Name	Address	
Susan Tague	1316 Carroll Ave Lawton	C
Judith Fixsel	1739 140 th St Lawton	T,C
Ron Fipuel	1739 140 th ST Lawton	T,C
Tom Sanderson	1748 Hawthorn Ave Sioux City	T,C
Curt Grigg	1261 Delaware Ave Lawton, Ia	T,C,L
LUKE GRIBB	2024 120 th STREET LAWTON, IA	T,C
Karla Grigg	2024 120th St Lawton IA	T,C
Shye N. Colts	2069 120 th St Lawton IA	T,C
Debra Anderson	2057 120 th St Lawton IA	T,C
Robert Anderson	2057 120 th Lawton IA	T,C

Hazardous CO2 Pipeline Ordinance Petition

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Hazarduous pipeline ordinances are pro-county and are one tool the county can use to protect Woodbury County from these two hazardous pipelines and others which may try to cross our county in the future.

L- affected landowner
T- Taxpayer
C- Concerned Citizen

NAME	ADDRESS	
Debbie Masters	14786 Pine Ave, Mapleton, IA 51034	L
Scott Masters	14786 Pine Ave Mapleton IA 51034	T
Larry Finsel	3490 150 th St Anthon Iowa 51004	L
Ryan Wilcox	1743 Lee Ave Correctionville, IA 51016	T
Debra Wilcox	1743 Lee Ave Correctionville, Ia 51016	T
Brian Sadler	3448-160 th St Correctionville, Ia 51016	T
Wayne Sadler	1618 Lee Ave Correctionville, Ia 51016	T
David E. Werley	735 Glen Dr Merville, IA 51039	T
Debra Sadler	1618 Lee Ave. Correctionville, IA 51016	T
John Sadler	3448 160 th St. Correctionville, Ia 51016	T
Monique Heath	611 So Street Merville, Ia 51039	T+C
Mark Wilkin	1902 110 th St Satecity Ia 51008	LTC
Don Allen	1902 110 th St Satecity Ia 51008	LTC

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C - Concerned Citizen

Name	Address	
<u>Cing Klender</u>	<u>92 Elm St. Lawton, IA 51030</u>	<u>C</u>
<u>Kent Larson</u>	<u>P.O. Box 35 Merville</u>	<u>C</u>
<u>Janine Washburn</u>	<u>1545 Dallas Ave</u>	<u>T</u>
<u>Mike Washburn</u>	<u>1545 DALLAS AVE</u>	<u>T</u>
<u>Connie Harrison</u>	<u>2015-150th Lawton, IA</u>	<u>T</u>
<u>Sue Flammang</u>	<u>1947- 140th St Lawton IA</u>	<u>C</u>
<u>Brad Larson</u>	<u>134M Delaware Ave</u>	<u>T</u>
<u>Don Ross</u>	<u>1776 130th St Lawton</u>	<u>T</u>
<u>Linda & Ross</u>	<u>1775 130th St Lawton IA</u>	<u>T</u>
<u>Jacey R. Kyndell</u>	<u>1756 130th St. Lawton, IA</u>	<u>T+C</u>

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Name	Address	
<u>SE Coates</u>	<u>1312 Delaware Ave, Lawton IA 51030</u>	<u>C-L</u>
<u>Jelen Coates</u>	<u>" " " "</u>	<u>C</u>
<u>Cara Lawson</u>	<u>1347 Delaware Ave Lawton IA 51030</u>	<u>C-L</u>
<u>Zak Lawson</u>	<u>" " " "</u>	<u>C</u>
<u>Marilyn Hammond</u>	<u>1426 Delaware Ave Lawton Ia 51030</u>	<u>C</u>
<u>Chad Hammel</u>	<u>1426 Delaware AVE LAWTON IA 51030</u>	<u>C</u>
<u>Jane Lamore</u>	<u>1426 Delaware Ave Lawton IA 51030</u>	<u>C</u>
<u>W Jones</u>	<u>1546 Delaware Ave Lawton Ia 51030</u>	<u>C</u>
<u>Ferry Dill</u>	<u>1584 Delaware Ave " "</u>	<u>"</u>

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Name	Address	
<i>Arthur Dill</i>	1584 Delaware Ave Lawton, IA	IA
<i>Ray Smith</i>	1771 Delaware Ave Lawton, Ia.	IA
<i>Virginia Smith</i>	1759 Delaw. Ave Lawton Ia.	IA
<i>Ann [unclear]</i>	1583 Charles Ave Lawton	IA C
<i>Judy Negetron</i>	1511 Charles Ave Lawton	IA C
<i>Ann [unclear]</i>	1121 S. Fairmount ^{IA.} (Sc.)	I/C
<i>Jeff Kunkel</i>	1756 130 th St Lawton	I/C
<i>[unclear]</i>	1756 130 th St Lawton	IA
<i>[unclear]</i>	4525 Laurel Ave	IA TC

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NAME	ADDRESS	
<u>Luelle Johnson</u>	<u>1142 Lee Ave Pierson Ia 51048</u>	<u>TC</u>
<u>Cheryl Patrick</u>	<u>1441 Oscoda Avenue Correctionville, Ia 51016</u>	
<u>Patricia Barth</u>	<u>3591 120th St. Pierson, IA 51048</u>	<u>T</u>
<u>Linda A. Puttmann</u>	<u>3371 140th St. Pierson, IA 51048</u>	<u>TC</u>
<u>Linda Gardner</u>	<u>32455 Quast Ave., Kingsley, Ia. 51028(L)</u>	
<u>Leonard Wilcox</u>	<u>1530 LENOX AVE Correctionville Ia 51016</u>	<u>TC</u>
<u>Roger Lucie</u>	<u>1491 Knox Ave Kingsley Ia</u>	<u>T, C</u>
<u>Jan Lucie</u>	<u>1491 Knox Ave Kingsley, IA 51028</u>	<u>LT</u>
<u>William Gary Wilcox</u>	<u>1713 Lee Avenue Correctionville, Iowa 51016</u>	
<u>William Eugene Barth</u>	<u>3591 120th St. Pierson Iowa</u>	<u>T</u>
<u>Donald Bohle</u>	<u>1353 Lee Ave Pierson, Ia</u>	<u>T, C</u>
<u>Martha Bohle</u>	<u>1353 Lee Ave Pierson Ia</u>	<u>TC</u>
<u>Jee Confrani</u>	<u>1142 Lee Ave Pierson Ia</u>	<u>T, C</u>
<u>Donita Wilcox</u>	<u>1713 Lee Ave Correctionville IA 51016</u>	<u>LTC</u>

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Name

Address

<u>James Debus</u>	<u>940 Logan St Sioux City IA 51105</u>	_____
<u>Sheryl Swain</u>	<u>4236 Hickory Pl. Sioux City 51106</u>	_____
<u>Judy Turner</u>	<u>1511 CARLIN AVE Sioux City 51105</u>	_____
<u>Thomas R. Pordy</u>	<u>500 46th St - 1 Sioux City 51106</u>	<u>T/C</u>
<u>Renee Colyer</u>	<u>1650 Old Hwy. 141 Sgt. Bluff</u>	_____
<u>Jimmie Colyer</u>	<u>1650 Old Hwy. 141 Sgt. Bluff</u>	_____
<u>Edward Treadway</u>	<u>1090 Charles Ave. Sioux City, Ia.</u>	_____
<u>Olson Carlson</u>	<u>1911-110th St. Lawton, Ia</u>	_____
<u>Jana Braun</u>	<u>1190 Dallas Ave. Lawton, IA</u>	_____
<u>Lu. E. Braun</u>	<u>1951 120th St Lawton IA</u>	_____

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T - Taxpayer

C - Concerned Citizen

Name	Address	
Kaye Bosten	2529 So Nicolet S.C. 51106	T/C
Janice Goss	1920 RIVER DR S S City 51109	T/C
Roger Goss	820 River Dr S S City 51108	T/C
Orma & Strunk	4509 Floyd Blvd S. City 51108	T/C
Rosie Bacher	2629 Willow S.C. IA 51106	
Edwin R. Bacher	2629 Willow S.C. 51106	
Margaret Lemch	4420 Ravine Pk. Dr. S.C. 51106	T/C
Ann Mack	4134 Natalia Way S.C. 51106	
Fathy Arfien	#204 4500 Glean Ave S.C. 51106	
Maria E Rundquist	3131 Norman Dr SC 51106	

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Address

Name	Address	
Janice Hinrichsen	1061 Charles Ave.	T+C
Paul & Small	1423 110th St	T+C
Christine Cant	203 Tara Way Lawton, IA 51030	T+C
Josh Bant	203 Tara Way Lawton	T+C
Missie R. Miller	2617 S. Cornelia St. Sioux City, IA 51102	
Betty Cramer	Browns IA	C
Vicki Ackema	2633 S Glass Sioux City IA	T+C
Bill Wolf	3254 Jackson St. Sioux City, IA	T+C
Donna Shaw	3922 Green Ave Sioux City, Ia 51106	T+C
Linda Beas	2612 Apache Ct. Apt 4 Sioux City, IA 51104	C

Hazardous Pipeline Ordinance Petition

The signatures below represent _____ County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

The County can adopt an ordinance to address these concerns, set protections, charge fees and require bonds. We, the undersigned, want _____ County to adopt an ordinance that will protect our homes, livelihoods, quality of life and future impact on our property taxes.

A hazardous pipeline ordinance is pro-county. It is one tool at our disposal to protect _____ County and its taxpayers. Please adopt a _____ County Hazardous Pipeline Ordinance (by date/as soon as possible/within ___ days).

Signed:

L - Affected Landowner
T - Taxpayer
C - Concerned Citizen

Name	Address	
Don Brown	1221 DELEWARE AVE LAWTON	TC
Dale Ollshin	1860 120 th Sioux city	
Mina Mena	1779 120 th St. SC, IA	
Judie Muel	1215 Cornell SC IA	
Jammitte Davis	1534 110 th SC, IA	
Frank T. A. ...	1534 110 th SC, IA	
Rockelle ...	1716 110 th St. S.C. IA	TC
Dave ...	1716 110 th St. SC, IA	TC
Whin ...	1716 110 th St SC IA	TC
Vicki Hulse (per phone call 6/20/12)	Howells, Ia	LTC
Jim Hulse (per phone call 6/20/12)	Howells Ia	LTC

Hazardous Pipeline Ordinance Petition

The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

The County can adopt an ordinance to address these concerns, set protections, charge fees and require bonds. We, the undersigned, want Woodbury County to adopt an ordinance that will protect our homes, livelihoods, quality of life and future impact on our property taxes.

A hazardous pipeline ordinance is pro-county. It is one tool at our disposal to protect Woodbury County and its taxpayers. Please adopt a Woodbury County Hazardous Pipeline Ordinance (by date/as soon as possible/within ___ days).

Signed:

L - Affected Landowner

T - Taxpayer

C - Concerned Citizen

Name

Address

Name	Address	Category
Alexis Boyle	210 E. Maple St. (Lawton)	TC
Jim S. McNamee	1332 S. Patterson St (Fruita City)	TC
Andrea Harris	7 Rose Lane Sioux City	TC
David Harris	7 Rose Lane Sioux City	TC
Sloane Harris	1220 Walton Dr	TC
Michael J. Main	1026 CHARLES AVE Sioux City	LTC
Wendell Main	1026 Charles Ave SC	LTC
Star Connolly	510 Buckwalter S.C. dr.	TC
Robert Truitt	2830 Valley Dr. S.C. Ia	TC
Jessie	2830 Valley Dr. S.C. IA	TC

Hazardous CO2 Pipeline Ordinance Petition

The signatures below represent Woodbury County, IA concerned landowners, tenants, taxpayers, and citizens. Proposed hazardous liquid pipelines in western Iowa, namely Summit Carbon Solutions and Navigator, present valid concerns to the public safety, expenses, and responsibility of the county, as well as damages to our roads, along with other concerns.

The county can adopt ordinances, set protections, charge fees, and require bonds to address these concerns. We, the undersigned, ask that Woodbury county adopt ordinances to protect our homes, livelihoods, safety and quality of life and impact on property taxes, among other things.

Hazarduous pipeline ordinances are pro-county and are one tool the county can use to protect Woodbury County from these two hazardous pipelines and others which may try to cross our county in the future.

L- affected landowner
T- Taxpayer
C- Concerned Citizen

NAME	ADDRESS	
Kyle Karrer	1462 Dallas Ave Lawton, IA	C
Sandra Johnson	315 East Oak Lawton, IA	C+T
Ron Karrer Van Kuren	1231 Dallas Ave, Lawton Ia	C+T
Theodore Karrer	4434 Central St, Sioux City	C+T
Jane Hutzinger	4309 Park St Sioux City	C
Julie Karrer	1231 DALLAS AVE. LAWTON IA 51030	C+T
Jim Noah	1869 150 St Lawton IA	C+T
Armond F. Nozby	1869-150th Lawton, IA 51030	
Patricia A. Law	7632 Ciddle Rd Lawton Ia 51030	T+C
Chloe Law	7632 Ciddle Rd Lawton Ia 51030	T+C
Kyle Hammer	1460 Charles Ave, Lawton IA 51030	C+T+C
Barthary Karrer	1462 Dallas Ave Lawton, IA	C-T
Katelyn Engle	1549 Charles ave Lawton, IA	C
Joseph Palmquist	1848 130th St Lawton Ia 51030	L-T-C

Hazardous Pipeline Ordinance Petition

The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

The County can adopt an ordinance to address these concerns, set protections, charge fees and require bonds. We, the undersigned, want Woodbury County to adopt an ordinance that will protect our homes, livelihoods, quality of life and future impact on our property taxes.

A hazardous pipeline ordinance is pro-county. It is one tool at our disposal to protect our county and its taxpayers. Please adopt a Woodbury County Hazardous Pipeline Ordinance (by date/as soon as possible/within ___ days).

Name	Address	Email	Phone	L - Landowner T - Taxpayer C - Citizen
Citlaly Quiñonez	714 Myrtle st.	lunarsands314@gmail.com	719-281-3038	C
Cristal Jacomillo	714 Myrtle st	Jarritos.CC@gmail.com	712-203-4213	C
Madelyne Casillas	1910 W 17 th St	madaycasillas@gmail.com	712-259-2459	TC
Heather LeDeaux	2805 Prospect st	hedeaux@gmail.com	712-266-6559	TC
Linda & Cron	119 W. Gilman Terrace ^{SCity}	crocreations@gmail.com	712-200-4861	C T
Angelo James	2211 McDonald Square ^{City Ia}	ajelme1@msn.com	212 899-6082	CLT
TIM BERLO	901 DUBUQUE ST	TIMBERLO6@gmail.com	712 204-7608	CLT
Shirley McLeod	2510 Isabella	-	712-685-8213	C
Todd Shumarsky	1592 Charles Avenue Lawton IA	toddshumarsky@gmail.com	712 255 9757	CLT
Tara Chumarsky	1592 Charles Avenue Lawton IA	halfforure@yahoo.com	712-944-5644	CLT
Bryan Mocz	1620 140th St Sioux City IA	brymocz@gmail.com	712-339-1773	LTC
Christa Mocz	1620 140 th St Sioux City IA	chrstakemocz@gmail.com	712-490-8149	LTC
Barbara Hennrich	2322 110 th St Lawton IA		712 301-1598	LTC
Larry Hennrich	2322 110 th St Lawton Ia		712 301 1626	LTC

Hazardous Pipeline Ordinance Petition

The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

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Name	Address	Email	Phone	L - Landowner T - Taxpayer C - Citizen
Brooke Nelson	1255 Minnesota Ave ^{Hamrickville}	Brookeknuff@hotmail.com	402-369-4946	
Kennedy Wood	1267 Lenox Ave ^{Prescott IA}	kennedy@jazzandale.com	712-305-8815	
Andy Wilkins	2201 14th Hwy 141 Hamrick, IA		712-259-8226	
Mark Nelson	5773 180 th St. Collectionville 51011		712-540-1259	
Leanne Huls	2890 Beech Run I ^{Collectionville}		712-876-3800	
Dawn Thomas	424 Jones Maville IA	dawnthomas913@yahoo.com	712-305-0423	LTC
Linda Santi	3053 Myrtle Sioux City, IA ⁵¹¹⁰³	lindasantibeh@aol.com	504-542-074	LTC
Maria Harris	1910 W. 17th St 51103	maria.harris98@yahoo.com	712-203-8830	C
Tamara Moran	3315 Stone Park Blvd. SC IA ⁵¹¹⁰⁴	morantam@hotmail.com	402-250-3473	C
Melissa Ramirez	1407 Prescott St. SC IA	zackbasca@hotmail.com	712-849-9156	T, C
Sue Rosekranshell	1300 28 th St SC IA		720-841-8369	T, C
Larry Beach	2618 Denning St SC IA ⁵¹¹⁰⁴			

Hazardous Pipeline Ordinance Petition *Peter 1849 Old Hwy 141*

8 The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

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Name	Address	Email	Phone	L - Landowner T - Taxpayer C - Citizen
<i>Robert Wilcox</i>	<i>1033 LEE PIERSON</i>			<i>LT</i>
<i>Kim Brewer</i>	<i>2113 220th St. Brookwich</i>			<i>LTC</i>
<i>Elizabeth Wideman</i>	<i>1665 220th St. Sgt. Bluff</i>		<i>(712) 823-8551</i>	<i>CLT</i>
<i>Chris Holst</i>	<i>2840 Deer Run Trail Andrew</i>		<i>712-251-1168</i>	<i>LTC</i>
<i>Betsy Wideman</i>	<i>1665 220th St. Sgt. Bluff</i>			<i>C</i>
<i>Wilson</i>	<i>1449 Charles Ave.</i>			
<i>Marta Wilson</i>	<i>1449 Charles Ave.</i>			
<i>Dahelle Dato</i>	<i>1446 Charles Ave</i>			
<i>Thomas A Gatz</i>	<i>1446 Charles Ave</i>			
<i>Janne Lauer</i>	<i>1376 Carroll Ave</i>		<i>898-7711</i>	
<i>Matt Schelling</i>	<i>1813 140th St</i>		<i>898-4589</i>	<i>LTC</i>
<i>Ry Keltner</i>	<i>5647-416 St</i>			

Hazardous Pipeline Ordinance Petition

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Name	Address	Email	Phone	L - Landowner T - Taxpayer C - Citizen
NICK WRIGHT	3454 120 th St Pioner	wrightn806@yahoo.	712-870-2107	LTC
Duane Reeder	1086 Delaware Ave Sardin Pa		712-944-5667	LTC
Mont Jona	2294 Hancock Av Moulle	—	712 251 8921	LTC
Emily Segura	3114 Pierce St. Sioux City IA 51104		712-898-0892	TC
Geylce Palmquist	1848 130 th St Leawood IA	eastview-farm@gmail.com	712-239-1782	TLC
Vernon Knack	4095 150th St Corbett IA 50412		712-540-9076	LTC
Cynthia Foxhew	1400 Rebecca St.	ilabassevescu@gmail.com	712-204-9860	T/C
John Nelson	1255 Minnesota Ave ^{Curie} IA	johnnelson17@gmail.com	712-870-4950	T/C

Adam Herbold	1257 Lenox Ave Pioner	adamherbold@gmail.com adamherbold@gmail.com	712 369 2040	LTC

Hazardous Pipeline Ordinance Petition

The signatures below represent Woodbury County concerned landowners, taxpayers, and citizens. Hazardous liquid pipelines present valid concerns to our public safety, expenses and responsibilities to the county, as well as damage to our county roads, among other concerns.

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Name	Address	Email	Phone	<input type="checkbox"/> Landowner <input type="checkbox"/> Taxpayer <input checked="" type="checkbox"/> Citizen
Jessie Gregg <i>NEEDS SIGN</i>	2285 110 th St. Hawley, IA	psjgregg@wi.atek.net	712-870-4733	<input checked="" type="checkbox"/>
Larry Miller	4201 Little Rock		4901431	
Peter Widman	1847 Old Hwy 171 Sgt Bluff	peter.widman@plantpioneer.com	712-257-6428	
Steve Witt	409 W MAIN Anthon		712-256-2865	TC
Stacey Hair	2889 Humbolt Ave, Hornum IA	chhair@wi.atek.net	712-874-3702	L
Randy Beaver	2231 Hancock Ave ^{Hornum}		712-876-2871	L
Tom Savage	2816 Hancock Ave		712-876-7270	L
Rhonda Reeder	1086 Delaware Ave ^{Lawton}		712-944-5166	TC
Bruce Zorn	2294 Hancock Ave		712-846-2679	LTC
Dal Fry	1870 County Home Rd Brown		712-389-1145	
J. Boyce	1487 Grand Pine			
Jim Mander	3217 160 th Street	FS	712-873-3811	
Mark Pollock	113 Pioneer Valley Sgt Bluff		712-251-7942	✓
Melissa Nelson	3773 180 th St. C.ville	mkeyesnelson@gmail	402/669-5126	LTC
John Wilson	3550 170 th St C.ville		712-800-0484	LTC
Ryan VanderMolen	1233 Buchanan Ave - ^{Sigler}		712-635-1784	

Hazardous Pipeline Ordinance Petition

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Name	Address	Email	Phone	L - Landowner T - Taxpayer C - Citizen
Sherry Beaver	2031 ^{So 39} Hancock Ave. Moulton, IA	sbeaver@windtel.net	712-876-2871	
Coleen Savage	2816 Hancock Ave. Hornick	csavage@gmail.com	712-876-2270	
Mark Wetmore	1215 Jolly Creek, Venturia	mw@hishousecafs.org	605-672-8152	
Dennis Rogers	2525 140th Mailla, Ia			
Tracy Munk	3217 140th Mailla, Ia	t3munkr@gmail.com	712-873-3841	L
JACK W. J. Man	#1995 180th St.	Yous ranch 840	944-4986	
Joy Wild	2479 Hancock Ave. Arthur, IA		7128704190	
Bernard Hair	3038 Deer Run Trail	centhor, Iowa 51009	712-876-2839	L
David Hair	2889 Humbolt Ave. Hornick, IA 51006	dhair@windtel.net	712 874-3702	LC

Regina Dornick	921 28th St. Sioux City	klac@treasurestate.com	(712) 233-1822	C
Hayat Lofz	9600 McFaul St. Gowry, Ia	small, com	712.454.0505	C
Deb Gerry	2312 Nebraska St. Sioux City	sweetbab@live.com	605-359-2116	LTC
Daisy Joquin	1105 Selmer St. Sioux City	paupm.billsonline@live.com	712-246-6799	LTC
Raymond Barnes	3000 9th St S	Sioux City, Ia	712 281-2529	YES

Karen Mackey	214 Vista Ct. Sioux City, IA	lowajuda@aol.com	712-223-0931	LTC
Alycia Kueneman	3729 Jackson	alyciakueneman@bruncliff.edu	712-258-3675	T-C



Via email to: dpriestley@woodburycountyiowa.gov

November 23, 2022

Dan Priestley
Zoning Coordinator
Woodbury County
Community and Economic Development
620 Douglas Street
Sioux City, Iowa 51101

RE: Hazardous Liquid Pipelines Zoning Ordinance Text Amendment Proposal

Dear Mr. Priestley:

I am writing on behalf of the American Petroleum Institute (API)¹ to provide comments and express concerns with the above-referenced Hazardous Liquid Pipelines Zoning Ordinance Text Amendment Proposal (Proposal). API's understanding is that the Proposal will be presented to the Woodbury Zoning Commission (Commission) for consideration at a public hearing on November 28, 2022.

As discussed in more detail below, API's primary concerns are that the Proposal contains safety standards for hazardous liquid pipeline facilities that would be preempted under the Pipeline Safety Act, the federal law that authorizes the pipeline safety program administered by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), and additional permitting requirements that would be preempted under Iowa state law. API is also concerned by the references in the Proposal to "Gas Transmission Pipeline" and other requirements in PHMSA's regulations for natural gas pipeline facilities, as the stated bases for the Proposal are issues involving hazardous liquid and carbon dioxide pipeline facilities.

I. The Proposal Contains Provisions that Are Preempted under Federal Law.

The Pipeline Safety Act contains an express preemption provision that limits the ability of state authorities to apply safety standards to gas or hazardous liquid pipeline facilities in three

¹ API represents all segments of America's natural gas and oil industry, which supports more than 11 million U.S. jobs and is backed by a growing grassroots movement of millions of Americans. Our nearly 600 members produce, process and distribute the majority of the nation's energy, and participate in API Energy Excellence®, which is accelerating environmental and safety progress by fostering new technologies and transparent reporting. API was formed in 1919 as a standards-setting organization and has developed more than 700 standards to enhance operational and environmental safety, efficiency, and sustainability.

important respects. First, state authorities may not adopt or enforce any safety standards for interstate gas or hazardous liquid pipeline facilities, except with respect to administering one-call notification (or damage prevention) programs that meet certain statutory requirements.² Second, state authorities that submit an annual certification to the Pipeline and Hazardous Materials Safety Administration (PHMSA or the Agency) “may adopt additional or more stringent safety standards for intrastate [gas or hazardous liquid] pipeline facilities[,]” so long as those state safety standards are compatible with the minimum federal requirements.³ Third, state authorities that have not submitted an annual certification to PHMSA are prohibited from prescribing or enforcing any safety standards for gas or hazardous liquid pipeline facilities, whether interstate or intrastate.⁴

As to the first important limitation, the preemption provision in the Pipeline Safety Act contains specific language that applies to interstate pipeline facilities and transportation.⁵ Section 60104(c) states, in relevant part, that a “State authority may not adopt or continue in force safety standards for interstate pipeline facilities or interstate pipeline transportation[,]” except with respect to administering one-call notification (or damage prevention) programs that meet certain statutory requirements.⁶ The federal courts have broadly construed Section 60104(c)’s preemption provision in a number of decisions that invalidated state efforts to prescribe or enforce safety standards for interstate pipeline facilities.⁷ Indeed, the U.S. Court of Appeals for the Eighth Circuit has already ruled that Section 60104(c) preempted the application of earlier state laws and regulations to interstate gas and hazardous liquid pipeline facilities in Iowa.⁸

As to the second important limitation, the preemption provision in the Pipeline Safety Act contains language that specifically applies to intrastate pipeline facilities and transportation. Section 60104(c) states, in relevant part, that “[a] State authority that has submitted a current certification [to PHMSA] under section 60105(a) of this title may adopt additional or more stringent safety standards for intrastate pipeline facilities and intrastate pipeline transportation only

² 49 U.S.C. § 60104(c).

³ *Id.*

⁴ *Id.* See also *Olympic Pipeline Co. v. City of Seattle*, 437 F.3d 872, 879 (9th Cir. 2006).

⁵ 49 U.S.C. § 60104(c).

⁶ *Id.* A one-call notification program is defined as “a system operated by an organization that has as 1 of its purposes to receive notification from excavators of intended excavation in a specified area in order to disseminate such notification to underground facility operators that are members of the system so that such operators can locate and mark their facilities in order to prevent damage to underground facilities in the course of such excavation.” *Id.* § 6102(1). See also 49 C.F.R. § 198.37. Under the Pipeline Safety Act, a state one-call program must, at a minimum, provide for (1) participation by all underground facility operators, (2) by all excavators, and (3) be flexible and effective enforcement. 49 U.S.C. § 6103(a)(1).

⁷ *Kinley Corp. v. Iowa Utilities Bd.*, 999 F.2d 354 (8th Cir. 1993) (ruling that state authority could not apply requirements in state law and related administrative permitting program to interstate hazardous liquid pipeline facility); *ANR Pipeline Co. v. Iowa State Commerce Comm’n*, 828 F.2d 465 (8th Cir. 1987) (ruling that state authority could not adopt and apply PHMSA’s pipeline safety standards to an interstate gas pipeline facility); *Natural Gas Pipeline Co. of America v. R.R. Comm’n of Tex.*, 679 F.2d 51 (5th Cir. 1982) (ruling that state authority’s safety rules for pipelines containing hydrogen sulfide could not be applied to an interstate gas pipeline facility); *Colo. Interstate Gas Co. v. Wright*, 707 F.Supp.2d 1169 (D. Kan. 2010) (ruling that state authority could not apply its safety standards for underground natural gas storage fields to an interstate gas pipeline facility).

⁸ *Kinley Corp.*, 999 F.2d at 358 (“Congress has expressly stated its intent to preempt the states from regulating the safety of interstate hazardous liquid pipelines.”); *ANR Pipeline Co.*, 828 F.2d at 470 (The Pipeline Safety Act “leaves nothing to the states in terms of substantive safety regulation of interstate pipelines, regardless of whether the local regulation is more restrictive, less restrictive, or identical to the federal standards.”).

if those standards are compatible with the minimum standards prescribed under this chapter.”⁹ To obtain a certification under 49 U.S.C. § 60105(a), a state authority must submit an annual request to PHMSA, agree to adopt the minimum federal safety standards, and meet other program requirements.¹⁰ The Iowa Utilities Board (IUB) has a certification from PHMSA to regulate the safety of intrastate gas pipeline facilities, but that certification does not extend to intrastate hazardous liquid pipeline facilities. Nor is there any other state authority in Iowa with a certification from PHMSA to regulate the safety of intrastate hazardous liquid pipeline facilities, which are therefore subject to PHMSA’s sole and exclusive oversight under the Pipeline Safety Act.¹¹

As to the third important limitation, the federal courts have recognized that a state authority must submit an annual certification to PHMSA to prescribe or enforce safety standards for gas or hazardous liquid pipeline facilities.¹² In other words, state authorities that do not submit a certification cannot apply any safety standards to gas or hazardous liquid pipeline facilities. That prohibition applies even if the standards administered by the state authority are only applied to intrastate gas or hazardous liquid pipeline facilities, and even if those standards are otherwise compatible with PHMSA’s federal requirements.¹³

API is concerned that the Proposal violates all three of the important limitations in the Pipeline Safety Act’s preemption provision. For example, the proposed requirements for Emergency Response and Hazard Mitigation Plans address matters that are directly regulated in PHMSA’s federal safety standards for hazardous liquid pipeline facilities in 49 C.F.R. Part 195, such as the requirements for safety data sheets in 49 C.F.R. § 195.65, the requirements for procedural manuals for conducting operations and maintenance activities and responding to abnormal operations and emergencies in 49 C.F.R. § 195.402, the requirements for emergency response training in 49 C.F.R. § 195.403, and the requirements for communication systems in 49 C.F.R. § 195.408. These aspects of the Proposal are clearly safety standards that would be preempted under the Pipeline Safety Act, both as to interstate hazardous liquid pipeline facilities, the safety of which cannot be subject to regulation by any state authority in Iowa, including the

⁹ 49 U.S.C. § 60104(c). The provision in the Pipeline Safety Act that authorizes state authorities to submit annual certifications to participate in the pipeline safety program also prohibits PHMSA from “prescrib[ing] or enforc[ing] safety standards and practices for an intrastate pipeline facility or intrastate pipeline transportation to the extent that the safety standards and practices are regulated by a State authority (including a municipality if the standards and practices apply to intrastate gas pipeline transportation)” that has submitted an annual certification. 49 U.S.C. § 60105(a).

¹⁰ 49 U.S.C. § 60105.

¹¹ PHMSA, Appendix F – State Program Certification/Agreement Status (CY 2022), <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-09/2022-Appendix-F-State-Program-Certification-Agreement-Status.pdf>.

¹² 49 U.S.C. § 60104(c), 60105. See also *Olympic Pipeline Co.*, 437 F.3d at 879. See also PHMSA, State Oversight, <https://www.phmsa.dot.gov/working-phmsa/state-programs/state-oversight> (last updated June 25, 2021) (providing a database to search for state authorities with certification from PHMSA)

¹³ 49 U.S.C. § 60104(c), 60105. See also *Olympic Pipeline Co.*, 437 F.3d at 879-80 (holding that the Pipeline Safety Act expressly preempted a city government that sought to include a hydrostatic pressure test requirement into a new franchise agreement. The court explained that the Pipeline Safety Act expressly preempted such requirement because the city did not have a certification from PHMSA to regulate the safety of intrastate hazardous liquid pipelines. The court observed that the Washington Utilities and Transportation Commission was the only agency that had that certification; therefore, it was the only state authority that could regulate the safety standards and practices of intrastate hazardous liquid pipelines in that jurisdiction.).

Commission, and intrastate hazardous liquid pipeline facilities, the safety of which cannot be subject to regulation by any state authority in Iowa, including the Commission, due to the absence of a current PHMSA certification.

API respectfully urges the Commission not to adopt the provisions in the Proposal that are preempted under the Pipeline Safety Act. PHMSA has the sole and exclusive authority to prescribe and enforce safety standards for hazardous liquid pipeline facilities in Iowa; PHMSA has exercised that authority by prescribing comprehensive federal standards for hazardous liquid pipeline facilities in Part 195; and PHMSA is responsible for ensuring that operators of interstate and intrastate hazardous liquid pipeline facilities in Iowa comply with those requirements. The Commission will not promote public safety or serve the interests of the community or other affected stakeholders by adopting requirements that are preempted under the Pipeline Safety Act.

II. The Proposal Contains Provisions that Are Preempted under Iowa Law.

API is concerned that the Proposal contains additional or more stringent permitting requirements for hazardous liquid pipeline facilities that would be preempted under Iowa law.¹⁴ Iowa Code § 479B.1 provides the Iowa Utilities Board (IUB) with “the authority to implement certain controls over hazardous liquid pipelines to protect landowners and tenants from environmental or economic damages which may result from the construction, operation, or maintenance of a hazardous liquid pipeline or underground storage facility within the state, [and] to approve the location and route of hazardous liquid pipelines.”¹⁵ The Proposal seeks to establish additional or more stringent permitting requirements for hazardous liquid pipeline facilities in Woodbury County that either conflict or are irreconcilable with the provisions in Iowa Code § 479B.1 and IUB’s implementing regulations. API respectfully urges the Commission not to adopt those requirements, which would be preempted under Iowa law.

III. The Proposal Contains References to Gas Pipeline Facilities that Are Not Relevant to Hazardous Liquid Pipeline Facilities.

API is concerned by the references in the Proposal to natural gas pipeline facilities that are subject to regulation by PHMSA under 49 C.F.R. Part 192, including natural gas transmission pipelines. None of the reasons offered in various whereas clauses contained in the Proposal relate to natural gas pipeline facilities. In fact, the specific references all pertain to hazardous liquid or carbon dioxide pipeline facilities, and the Proposal itself is titled as a “Hazardous Liquids Pipeline Zoning Ordinance Text Amendment”. Having offered no supporting rationale, API urges the Commission not to adopt the provisions in the Proposal that relate to natural gas pipeline facilities.

IV. Conclusion

API appreciates the opportunity to submit comments in response to the Proposal. If you have any questions, please feel free to contact me at the information provided below.

¹⁴ See *Goodell v. Humboldt Cty.*, 575 N.W.2d 486, 500–01 (Iowa 1998); *Mull Real Estate v. City of Hamburg*, 818 N.W.2d 190, 196 Iowa 2012); *Worth Cty. Friends of Agric. v. Worth Cty.*, 688 N.W.2d 257, 262 (Iowa 2004).

¹⁵ Iowa Code § 479B.1.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Murk", with a large, stylized flourish at the end.

Dave Murk
Director, Pipelines
Midstream
American Petroleum Institute
(202) 682-8080
murkd@api.org

Daniel Priestley

From: Deborah Main <deborah_main@yahoo.com>
Sent: Wednesday, November 23, 2022 2:09 PM
To: Daniel Priestley
Subject: Steingraber video

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<https://youtube.com/watch?v=TxMdTvxZ64g&feature=share>

Don't know if you have viewed this information. Sandra has a PHD in biology and begins by explaining the physiological response of CO2 in the human body. She refers to "Dan". He is Dan Zegart who wrote the investigative report on the Satartia incident. About 20 minutes long.

Happy Thanksgiving. I've got to get to work---15 people for dinner tomorrow.

Daniel Priestley

From: T Mack <tmack@midwestagfuture.com>
Sent: Tuesday, November 22, 2022 4:07 PM
To: Daniel Priestley
Subject: Protect the Future of Our Ag Economy
Attachments: Woodbury County Community and Economic Development - MAF Letter.pdf; Midwest Ag Future - IA Benefits.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

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Dear Dan,

As you may know, the agriculture industry is vital to our economy, and here in the Midwest, farmers are a key part of that through ethanol's long-term viability in our economic future. But it is imperative we look forward to support and build necessary infrastructure that allows for the capture and transportation of carbon.

There are now ways to capture and transport carbon from ethanol refineries and safely be able to store it in the ground. Right now, there are three pipeline projects that would do just that: Summit Carbon Solutions, Navigator and Wolf. These projects would use proven technology that could help make sure there continues to be a bright outlook for Midwestern farmers and our local and state economies for generations to come.

But, to move these efforts forward, we need to highlight vast support across the region. Midwest Ag Future aims to share important information and amplify local agriculture, businesses, and other voices to highlight vast support for these projects across the Upper Midwest. And that's where you come in.

Attached you will find two pdfs with more information. One is a letter to share with your colleagues as to the importance of these projects and more background of Midwest Ag Future. The other is a state-specific fact sheet detailing how one of the three projects – Summit Carbon Solutions – would benefit your state with jobs and millions in tax revenue.

We will be following up in the coming weeks, but if you have any questions in the meantime please reach out.

Sincerely,

Toby Mack
Midwest Ag Future
(605)480-6885



November 18, 2022

Dan Priestley
Woodbury County Community and Economic Development
620 Douglas Street - 6th Floor
Sioux City, IA 51101

Dear Dan,

Did you know there is a new project using proven technology that could help make sure there continues to be a bright outlook for Midwestern farmers and our local and state economies for generations to come? It is our chance to make sure ethanol continues to have markets and our farmers continue to be able to count on it as a market for their crops.

There are now ways to transport carbon from ethanol refineries and safely be able to store it in the ground. Right now, there are three pipeline projects that would do just that: Summit Carbon Solutions, Navigator and Wolf. These projects will maintain and increase access to markets for ethanol producers for years to come. It means our farmers will continue to have a market for the corn they produce. It will help us all protect our agriculture industry and our overall quality of life for future generations.

Assuring carbon capture projects can move forward requires approval from the regulatory agencies and for people to understand what is at stake. That is why Midwest Ag Future was formed.

Midwest Ag Future aims to share important information and amplify local agriculture, businesses, and other voices to highlight vast support for these projects across the Upper Midwest. The overarching goal of Midwest Ag Future is to bring people together to support the process that will help the agriculture industry, farmers, and Main Street America; guaranteeing they remain priorities in our lives for future generations.

The agriculture industry is vital to our regional economy, and here in the Midwest, farmers are a key part of that through ethanol's long-term viability in our economic future. But to guarantee this future for Midwestern farmers and our communities, we must build the necessary infrastructure that captures and transports carbon from ethanol refineries to permanent underground storage facilities.

Without projects like these three-carbon capture and transport pipelines, the future of Midwestern farmers, our rural communities, and our economic way of life are at risk. We hope you will take a moment to visit www.MidwestAgFuture.com to learn more and consider joining our efforts to support the future of agriculture.

Sincerely,

A handwritten signature in black ink that reads "Toby Mack". The signature is written in a cursive, flowing style.

Toby Mack
Midwest Ag Future



Bringing people together to support our farming industry, Main Street America, and the broader economy to ensure agriculture is viable for centuries to come.

Carbon Capture technology has the potential to preserve the future of agriculture and protect our economic way of life. Completing carbon capture and transportation projects may be the critical component to ensuring our economic future.



Agriculture

Agriculture is the driver of our economy in the Midwest. By advancing carbon capture and transportation projects, we can ensure a strong and stable future for this crucial industry.



Ethanol

Ethanol is a safe, proven, and reliable component of the agriculture industry. By advancing carbon capture and transportation projects, we can ensure ethanol continues to have markets throughout the United States and plays its critical role in the commodity markets and our future.



Main Street

Agriculture is the backbone of Main Streets across the Midwest. The completion of carbon capture and transportation projects can bring stability to Main Street America at a time when it's needed more than ever.



Environment

Americans everywhere are prioritizing efforts for a cleaner, regulated, and forward-looking way to protect our environment while lifting economic opportunities for the future. Carbon capture and transportation projects do just that. To be against this project is to be against our way of life.

Show your support for ethanol with carbon capture and transport systems. Go to www.MidwestAgFuture.com/petition to sign the petition and have your comments sent to the official docket.





The Summit Carbon Capture Project has the opportunity to bring real benefits to communities across Iowa.

Through new jobs bringing paychecks to Iowa families, more customers frequenting our local businesses, an influx of spending on project supplies, and an increase in taxes for our state and local economies, the ripple effect of this project would be felt for generations to come.

683 miles would pass through Iowa and include 12 capture facilities, equating to 35 percent of the pipeline project.

Total tax impact of operations

Federal, state and local taxes, 2025

The primary driver of Summit's taxes on operations is **property tax liability**, which is levied on gross property, plant and equipment costs for pipeline and pump stations, and carbon capture facilities.



Iowa BY THE NUMBERS

Construction phase:

Total Investment:
\$987 million

Total Labor Income:
\$389 million

Federal, State & Local Taxes Paid by SCS:
\$73 million

Annual Jobs:
2,018

Operations phase:

Annual Expenditures:
\$64 million

Federal, State & Local Taxes Paid by SCS:
\$42 million

Annual Jobs:
324



Daniel Priestley

From: Chris Zant <czant@wcwildcats.org>
Sent: Tuesday, November 22, 2022 9:12 AM
To: Daniel Priestley
Subject: Fwd: Hearing

Follow Up Flag: Follow up
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----- Forwarded message -----

From: **Stee L Maxwell** <mxlauder@wiatel.net>
Date: Tue, Nov 22, 2022 at 9:00 AM
Subject: Hearing
To: <cmeister@wcwildcats.org>, Chris Zant <czant@wcwildcats.org>
Cc: <bremers56@hotmail.com>

Corey and Chris, I understand that there is a hearing coming up next Monday night of the planning and zoning board for Woodbury County. And I believe both of you are on the board! :) I am not sure how much you have heard, but there are three companies trying to do carbon pipelines through Iowa. One that is trying that will impact Woodbury County is a pipeline being proposed by Navigator. To be honest, this seems to be an ill-conceived project. The project in essence is supposedly capturing carbon emissions from ethanol plants, one in Nebraska, another in Marcus, etc., pipe this as LIQUID carbon and deposit deep in the ground in Illinois. This is toxic material and a rupture in Satartia Mississippi caused the evacuation and hospitalization of a number of people. There is a concerted effort to actually stop these pipelines from even being built and I have written objections to the Iowa Utilities Board. This is a board of three people all APPOINTED, not elected as well as other people and county supervisors, of one being the Woodbury County supervisors have expressed their objections. It would seem that a better solution would arise in the future through technology to somehow manage the carbon at the source and give tax credits to companies mitigating at their plants rather than awarding this boondoggle of a project to an outside corporation wanting to make money off our wonderful farm land.

In our case, it will pass through a wetland we have in a pasture as well as some of our most prime farm ground and actually not that far from you Corey.

Why I am writing is that the hearing is supposed to be for setbacks for this pipeline from dwellings, etc. Again, there are many fighting to actually "kill" these projects. But apparently this is a hearing regarding the setbacks IF they are built. From my understanding, you

have a new board chair and his proposal is just 300 feet from a dwelling. This idea came from something he read that involved Great Britain. That seems WAY too close. If these pipelines to go forward over many people's objections, both Story and Shelby counties have passed ordinances that they should be at LEAST 1,000 feet from any dwellings etc. It is intriguing that the Woodbury County board passed ordinances that windmills needed to be 2,500 feet from any buildings etc. and a windmill is NOT as TOXIC as what they are proposing going through this pipeline. There may be a number of people from Merville that object to this pipeline at the hearing. At least if it ever would go through by eminent domain (another controversy to the landowners), the setback would be farther than what is currently being proposed.

Thank you for your time and I hope both of you have a great Thanksgiving! :) Stee

PS. I will forward you an email talking about the rupture in Sartia, Mississippi. Also, I will forward a couple of other emails among many objecting to the construction of these pipelines. And if you notice, there is a billboard along Highway 20 across from MidStates Electric objecting to any carbon pipeline construction. Thanks again!

Daniel Priestley

From: Chris Zant <czant@wcvildcats.org>
Sent: Tuesday, November 22, 2022 9:15 AM
To: Daniel Priestley
Subject: Fwd: Dennis_Epley_Objection_HLP-2021-0003_11_22_2022_90881e99.pdf

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----- Forwarded message -----

From: Stee Maxwell <mxlauder@wiatel.net>
Date: Tue, Nov 22, 2022 at 9:05 AM
Subject: Dennis_Epley_Objection_HLP-2021-0003_11_22_2022_90881e99.pdf
To: Corey Meister <cmeister@wcvildcats.org>, Chris Zellmer-Zant <czant@wcvildcats.org>
Cc: Vicki Bremer Hulse Hulse <bremers56@hotmail.com>

https://wcc.efs.iowa.gov/cs/idcplg?IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=2107739&noSaveAs=1

Daniel Priestley

From: Chris Zant <czant@wcvildcats.org>
Sent: Tuesday, November 22, 2022 9:16 AM
To: Daniel Priestley
Subject: Fwd: Amish C02 Petition Against C02 Pipeline_2107096_221117-155035.pdf

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----- Forwarded message -----

From: Stee Maxwell <mxlauder@wiatel.net>
Date: Tue, Nov 22, 2022 at 9:08 AM
Subject: Amish C02 Petition Against C02 Pipeline_2107096_221117-155035.pdf
To: Corey Meister <cmeister@wcvildcats.org>, Chris Zellmer-Zant <czant@wcvildcats.org>
Cc: Vicki Bremer Hulse Hulse <bremers56@hotmail.com>

https://wcc.efs.iowa.gov/cs/idcplg?IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=2107096&noSaveAs=1

Daniel Priestley

From: Chris Zant <czant@wcwildcats.org>
Sent: Tuesday, November 22, 2022 9:16 AM
To: Daniel Priestley
Subject: Fwd: Cheryl_Houser- Bruning_Objection_HLP-2021-0001_11_18_2022_5d137f7f.pdf

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----- Forwarded message -----

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Subject: Cheryl_Houser- Bruning_Objection_HLP-2021-0001_11_18_2022_5d137f7f.pdf
To: Corey Meister <cmeister@wcwildcats.org>, Chris Zellmer-Zant <czant@wcwildcats.org>
Cc: Vicki Bremer Hulse Hulse <bremers56@hotmail.com>

https://wcc.efs.iowa.gov/cs/idcplg?IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=2107212&noSaveAs=1

Daniel Priestley

From: Chris Zant <czant@wcvildcats.org>
Sent: Tuesday, November 22, 2022 9:21 AM
To: Daniel Priestley
Subject: Fwd: Here are by-the-minute details of 2020 Mississippi CO2 pipeline leak

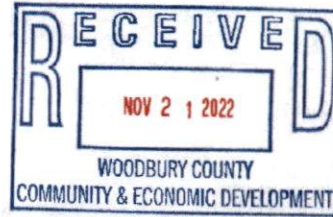
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From: **Stee Maxwell** <mxlauder@wiatel.net>
Date: Tue, Nov 22, 2022 at 9:03 AM
Subject: Here are by-the-minute details of 2020 Mississippi CO2 pipeline leak
To: Corey Meister <cmeister@wcvildcats.org>, Chris Zellmer-Zant <czant@wcvildcats.org>
Cc: Vicki Bremer Hulse Hulse <bremer56@hotmail.com>

<https://www.desmoinesregister.com/story/money/agriculture/2022/09/11/here-minute-details-2020-mississippi-co-2-pipeline-leak-rupture-denbury-gulf-coast/8015510001/>



November 18, 2022

Dan Priestley
Woodbury County Community and Economic Development
620 Douglas Street - 6th Floor
Sioux City, IA 51101

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Sincerely,

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Toby Mack
Midwest Ag Future



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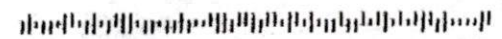
Midwest Ag Future
P.O. Box 3878
St. Paul, MN 55101

SAINT PAUL MN 550
18 NOV 2022 PM 1 L



Dan Priestley
Woodbury County Community and Economic Development
620 Douglas Street - 6th Floor
Sioux City, IA 51101

51101-125477



Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Monday, November 21, 2022 9:55 AM
To: Daniel Priestley
Subject: Backing CO2 pipelines cost Senate president Jake Chapman his seat

Follow Up Flag: Follow up
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https://www.bleedingheartland.com/2022/11/17/backing-carbon-pipelines-cost-senate-president-jake-chapman-his-seat/?utm_source=substack&utm_medium=email&fbclid=IwAR2TrCUaH2-gWcRCSTyiKKz7gJCA33Z4oElspHjVGcGiHAIhFhMSQ6ykY5o

Dan, Would you please share this article with Woodbury County Supervisors, administrative staff, Planning and Zoning Board, and Adjustment Board.

Thank you!
Gayle Palmquist

Sent from my iPhone

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Saturday, November 19, 2022 5:57 PM
To: Daniel Priestley
Subject: CO2 poisoning

Follow Up Flag: Follow up
Flag Status: Flagged

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https://d-nb.info/1130481395/34?fbclid=IwAR2rQHgQwn1dfgFs_1rmjqSfy-56-yPTOn_jvl30Mg9yQAlyQRoWX0QjJFI

I would like to share this study with the Woodbury County Board of Supervisors and all staff involved with the CO2 pipelines, including the current county attorneys and Attorney Loomis and the Planning and Zoning Board and Board of Adjustment. Pay special attention to the "Conclusion" paragraph.

Sent from my iPhone

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Friday, November 18, 2022 12:04 PM
To: Daniel Priestley
Subject: A list of articles, videos, etc. concerning CO2 Pipelines

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Dan, Would you please add this list of resources to the comments and information about the CO2 pipelines. I was asked to provide this list by the chairperson of the Planning and Zoning Board of Woodbury County and am doing so in hope of educating more people about these hazardous pipelines and how they could affect the residents of Woodbury County and the state of Iowa. This is by no means a complete list. "Googling" would probably bring up more articles and information.

Gayle Palmquist, Lawton, Iowa

CO2 Pipelines and Carbon Capture: The Sartartia Mississippi Accident Investigation
climateinvestigations.com

CO2 Pipeline Rupture Test in Norway (video) www.shen.org

CO2 Pipelines - Dangerous and Under-regulated. <https://pstrust.org>

CO2 Pipeline Safety: the Gassing of Sartartia , MS and Aftermath. [http.pipelinefighters.org](http://pipelinefighters.org) (YouTube)

Iowans worry about risks of liquified carbon dioxide pipeline leaks. www.desmoinesregister.com

Top 8 reasons to oppose risky carbon pipelines. boldnebraska.com

Statehouse hopefuls wary of forced land sales. www.thegazette.com

Landowners want legislators to listen. [https//theiowastandard.com](https://theiowastandard.com)

Does Federal Law Prohibit Counties from Imposing Setbacks on CO2 Pipelines?
pipelinefighters.org

Giant pipeline in US Midwest tests future of carbon capture. www.reuters.com

Midwest Carbon Dioxide Pipelines - What we know and questions that remain.
cfra.org. (Center for Rural Affairs)

CO2 Pipelines are coming - a pipeline expert says we are not ready. www.grist.org

How states and counties can regulate carbon dioxide pipelines. Paul Blackburn Bold Nebraska (video)

CO Pipeline Rupture in Mississippi Points to Health Risks in Carbon Capture Expansion. www.theenergymix.com

CCS Facility in Canada emits more than it Captures. www.gasworld.com

A Science-based Case against Carbon Dioxide Pipelines across Iowa. bleedingheartland.com

We've done the research and we oppose CO2 pipelines. [www.desmoinesregister](http://www.desmoinesregister.com)

Shelby County pipeline ordinance info. [https://Harlanonline.com/news/proposed-resolutions-will focus -pipeline-safety](https://Harlanonline.com/news/proposed-resolutions-will-focus-on-pipeline-safety)

The outrageous conflicts of interest surrounding Iowa's carbon pipelines. www.foodandwaterwatch.org

The Risk is Not Worth it. [www.desmoinesregister](http://www.desmoinesregister.com)

Carbon Capture and Storage + pipelines: Not a Climate Solution. Pipelinefighters.org

Revolving Political Doors. www.Sierraclub.org

Time for a Pause with CO2 Pipelines. theGazette.com

Questions require a carbon pipeline pause. [the Gazette.com](http://theGazette.com)

Gaps in regulation of CO2 pipelines. <https://www.theenergymix.com>

Several Reasons to Pause Permits for Hazardous CO2 Pipelines in Iowa. www.Carrollspaper.com. (Carroll Times Harold)

Carbon+pipeline+company+takes+unwilling+landowners+to+court. <https://iowacapitaldispatch.com>

Supervisor speaking about CO2 pipelines. <https://fb.watch/et2Dqklbj/>
(Johnson County Supervisor Jon Green on carbon pipeline opposition.)

Most major carbon capture and storage projects haven't meet targets. [new scientist.com](http://newscientist.com)

The Midwest Carbon Express: a False Solution to the Climate Crisis. www.Oaklandinstitute.org

Electric day: California phases out sale of gas cars. <https://calmatters.org>

An effort to make American Corn Industry Climate Friendly has turned into a Political Melee in the Midwest. time.com

The Bitter Fight to Stop a 2000 Mile Carbon Pipeline. www.guardian.com

Carbon Capture's Record: Billions of Wasted Dollars. [www.food &waterwatch.org](http://www.food&waterwatch.org)

Liability, Safety among top Concerns for proposed CO2 pipelines. www.agupdate.com

Redfield Press Covers Brian Joede's Work with Landowners Affected by Carbon Pipeline. dominalaw.com

An Iowan Powerbroker Plans to Make a Windfall from Piping Ethanol Emissions.
motherjones.com

Antipipeline Litigation has 'power in numbers'. iowainformation.com

Proposed CO2 pipelines are bad for Minnesota. minnpost.com

Iowa Landowners Blast Summit Carbon Solutions. www.farm-news.com

Understanding Pipeline Easements & Taxes. <https://youtu.be/BRxg4KiZi8c>

CO2 pipeline shutting down in New Mexico. <https://www.daily-times.com>

Sent from my iPad

Daniel Priestley

From: Wade Schuldt
Sent: Thursday, November 17, 2022 12:26 PM
To: Jeff Hanson; Brent Nelson; Christopher Madsen; Ronald Kueny; Daniel Priestley
Cc: Marty Dougherty
Subject: RE: Comments Requested Hazardous Liquid Pipelines Zoning Ordinance Text Amendment Proposal

Good Afternoon Dan,

Comments are as follows.

In the separation requirements is 50 feet sufficient enough for a “blast zone” for business and industrial building or structures. Is there a provision in there for any type of materials stored or produced in the area. With either them having an incident or them setting one or the other off? i.e. Terra incident.

I am not sure if this needs to be included but should there be a vapor clause in there? While the liquid CO2 is at high pressure in the occasions where there is not enough flow, there would probably be vapor/gas in the line? CO2 is only a liquid 1'073,28 psi at a temperature range between -56.6 °C (-69,88 °F) and 31 °C (87,8 °F). This would apply to other chemicals.

Do we want to add a timeframe for pipeline company to review a development within that 1000-foot buffer zone?

Do we want to add bike paths for 4.4.C?

5. Planning area

Should we have a provision in there regarding future growth of whatever happens after South Bridge and at any point this pipeline could be potentially be annexed into the City of Sioux City during its lifetime?

Should there be any design standards for the construction of any utility buildings associated with the pipeline, for instance business park design standards, this document reads as they don't want any landscaping around their facilities.

6.K. Should there be some language included in their emergency response documents that they have trained individuals for response. By submitting a document Subject to review by Emergency Management/Fire?

7. Subdivision Plats

Should we have a reasonable review time on the subdivision plats and site plans by the pipeline operator? Two- three weeks at most?

8.Change of Pipeline use

The lack of any environmental review associated in the document is concerning and there should be one added to change of use also.

I know there are other pipelines in the county and the potential to build others they all bring their own hazards natural gas, petroleum products, among others that could come in the future. This document reads in way that it is targeted at CO2 only in a way.

9. Appeals and variance.

I am not sure if you should spell out hardship in this section.

10. Applicability

Do we want to add a provision for the pipeline to show they have sufficient insurance, or some type of fund set aside to provide removal, reclamation and decommissioning of the pipeline and associated structures, in the instance of bankruptcy? This would apply to any sale of the pipeline would have to show funds set aside for removal as stated earlier. This would also apply to any spill/explosion clean up and clean up associated. For instance the pipeline get placed into a LLC not connected to the owners.

11.

Should there be windssocks that are maintained and lit on all above ground pipeline structures?

Should the company provide documentation of training of their employees to County Emergency management/City Fire of a national standard?

11.4.B

The CO2 detectors should be of certified nature and approved County Emergency management/City Fire of a national standard? How often should these be replaced? 5-10 years?

11.4.D

Is this yearly training biannual training or what?

12.D

Do we want to add a provision for the pipeline to show they have sufficient insurance, or some type of fund set aside to provide removal, reclamation and decommissioning of the pipeline and associated structures, in the instance of bankruptcy? This would apply to any sale of the pipeline would have to show funds set aside for removal as stated earlier. For instance the pipeline get placed into a LLC not connected to the owners.

General Comments

Would like to see some type of environmental review or provision of discoverable issues with archeological provisions attached that could come up during construction. i.e. abandoned cemeteries or native American burial sites. To be reported to the state and a stop on construction in that area until an archeological dig can be completed.

Could we get a more complete map of where this pipeline will be exactly, everything that I have seen is just general area.

Thank you for your time and attention.

Wade Schuldt, MCRP
Planner
City of Sioux City
Phone: 1 (712) 279-6283
Email: wschuldt@sioux-city.org
405 6th Street, P.O. Box 447
Sioux City, IA 51102

Woodbury County Community and Economic Development
6th Floor
Woodbury County Courthouse
620 Douglas St
Sioux City IA 51101

November 18, 2022

Mr. Priestley and Board Members:

In regards to the proposed amendment to the Zoning Ordinance subsection 5.08 Hazardous Liquid Pipelines. I am writing to ask that you please consider adding a section under the separation requirements to include private wells. Iowa Admin Code only requires 200 ft for a shallow well and 100 ft for a deep well. I would ask the Board to consider a distance of 500 ft for all wells to prevent the contamination of one of our most precious resources. In the rural area wells are our lifeline not only for our homes but also for our livestock. Many wells are located further away then the 330 ft separation of residential structures leaving them vulnerable to pipeline contamination.

Thank you for your consideration,



Jeanette Beekman
3554 130th St
Pierson IA 51048
712-870-3134

Daniel Priestley

From: Carl Palmquist <eastviewfarm@gmail.com>
Sent: Friday, November 18, 2022 12:04 PM
To: Daniel Priestley
Subject: A list of articles, videos, etc. concerning CO2 Pipelines

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Dan, Would you please add this list of resources to the comments and information about the CO2 pipelines. I was asked to provide this list by the chairperson of the Planning and Zoning Board of Woodbury County and am doing so in hope of educating more people about these hazardous pipelines and how they could affect the residents of Woodbury County and the state of Iowa. This is by no means a complete list. "Googling" would probably bring up more articles and information.

Gayle Palmquist, Lawton, Iowa

CO2 Pipelines and Carbon Capture: The Sartartia Mississippi Accident Investigation
climateinvestigations.com

CO2 Pipeline Rupture Test in Norway (video) www.shen.org

CO2 Pipelines - Dangerous and Under-regulated. <https://pstrust.org>

CO2 Pipeline Safety: the Gassing of Sartartia , MS and Aftermath. [http.pipelinefighters.org](http://pipelinefighters.org) (YouTube)

Iowans worry about risks of liquified carbon dioxide pipeline leaks. www.desmoinesregister.com

Top 8 reasons to oppose risky carbon pipelines. boldnebraska.com

Statehouse hopefuls wary of forced land sales. www.thegazette.com

Landowners want legislators to listen. <https://theiowastandard.com>

Does Federal Law Prohibit Counties from Imposing Setbacks on CO2 Pipelines?
pipelinefighters.org

Giant pipeline in US Midwest tests future of carbon capture. www.reuters.com

Midwest Carbon Dioxide Pipelines - What we know and questions that remain.
cfra.org. (Center for Rural Affairs)

CO2 Pipelines are coming - a pipeline expert says we are not ready. www.grist.org

How states and counties can regulate carbon dioxide pipelines. Paul Blackburn Bold Nebraska (video)

CO Pipeline Rupture in Mississippi Points to Health Risks in Carbon Capture Expansion. www.theenergymix.com

CCS Facility in Canada emits more than it Captures. www.gasworld.com

A Science-based Case against Carbon Dioxide Pipelines across Iowa. bleedingheartland.com

We've done the research and we oppose CO2 pipelines. [www.desmoinesregister](http://www.desmoinesregister.com)

Shelby County pipeline ordinance info. [https://Harlanonline.com/news/proposed-resolutions-will focus -pipeline-safety](https://Harlanonline.com/news/proposed-resolutions-will-focus-on-pipeline-safety)

The outrageous conflicts of interest surrounding Iowa's carbon pipelines. www.foodandwaterwatch.org

The Risk is Not Worth it. [www.desmoinesregister](http://www.desmoinesregister.com)

Carbon Capture and Storage + pipelines: Not a Climate Solution. Pipelinefighters.org

Revolving Political Doors. www.Sierraclub.org

Time for a Pause with CO2 Pipelines. theGazette.com

Questions require a carbon pipeline pause. [the Gazette.com](http://theGazette.com)

Gaps in regulation of CO2 pipelines. <https://www.theenergymix.com>

Several Reasons to Pause Permits for Hazardous CO2 Pipelines in Iowa. www.Carrollspaper.com. (Carroll Times Harold)

Carbon+pipeline+company+takes+unwilling+landowners+to+court. <https://iowacapitaldispatch.com>

Supervisor speaking about CO2 pipelines. <https://fb.watch/et2Dqklbj/>
(Johnson County Supervisor Jon Green on carbon pipeline opposition.)

Most major carbon capture and storage projects haven't meet targets. newscientist.com

The Midwest Carbon Express: a False Solution to the Climate Crisis. www.Oaklandinstitute.org

Electric day: California phases out sale of gas cars. <https://calmatters.org>

An effort to make American Corn Industry Climate Friendly has turned into a Political Melee in the Midwest. time.com

The Bitter Fight to Stop a 2000 Mile Carbon Pipeline. www.guardian.com

Carbon Capture's Record: Billions of Wasted Dollars. [www.food &waterwatch.org](http://www.food&waterwatch.org)

Liability, Safety among top Concerns for proposed CO2 pipelines. www.agupdate.com

Redfield Press Covers Brian Joede's Work with Landowners Affected by Carbon Pipeline. dominalaw.com

An Iowan Powerbroker Plans to Make a Windfall from Piping Ethanol Emissions.
motherjones.com

Antipipeline Litigation has 'power in numbers'. iowainformation.com

Proposed CO2 pipelines are bad for Minnesota. minnpost.com

Iowa Landowners Blast Summit Carbon Solutions. www.farm-news.com

Understanding Pipeline Easements & Taxes. <https://youtu.be/BRxg4KiZi8c>

CO2 pipeline shutting down in New Mexico. <https://www.daily-times.com>

Sent from my iPad

ZONING COMMISSION PUBLIC HEARING LEGAL NOTIFICATIONS

(Sioux City Journal - 11/17/22, Movable Record -11/17/22, Sergeant Bluff Advocate - 11/17/22, & Danbury Review – 11/16/22)

Sioux City Journal – 11/17/22

Attorneys & Legals

**NOTICE OF PUBLIC HEARING
WOODBURY COUNTY PLANNING AND
ZONING COMMISSION -
WOODBURY COUNTY
ZONING ORDINANCE TEXT AMENDMENT**

The Woodbury County Planning and Zoning Commission will hold a public hearing on the following item hereafter described in detail on November 28, 2022 at 6:00 PM or as soon thereafter as the matter may be considered. Said hearing will be held in the Board of Supervisors Meeting Room, Number 104, County Courthouse, 620 Douglas Street, Sioux City, Iowa. Copies of said item may now be examined in the Auditor's office in said Courthouse between the hours of 8:00

AM to 4:30 PM Monday through Friday by any interested persons. All persons who wish to be heard in respect to this matter should appear at the aforesaid hearing in person. There is an option available to call 712-454-1133 and enter the Conference ID: 516 721 1354 during the meeting to listen or comment. It is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems. You may forward your written comments by mail or email to: Woodbury County Community and Economic Development, 6th Floor, Woodbury County Courthouse, 620 Douglas St., Sioux City, IA 51101; Emails should be sent to "Dan Priestley" at: dpriestley@woodburycountyia.gov. Only signed comments will be considered and should be received no later than 10:00 AM on Friday,

November 25, 2022.
Item One (1)
SUMMARY OF PROPOSED ZONING ORDINANCE TEXT AMENDMENT: Amendment to the Woodbury County Zoning Ordinance to amend the table of contents and add a new subsection entitled Section 5.08: Hazardous Liquid Pipelines. This section establishes separation requirements, consultation zones, planning areas, emergency response and hazard mitigation requirements, and abandonment, discontinuance, and removal of hazardous liquid pipelines requirements, in addition to the existing conditional use permit requirements under subsections 2.02.9 and 3.03.4.

Movable Record – 11/17/22

realtor fees associated with the sale of the Remainder Lots, subject to the terms and conditions set forth in the Additional Agreement.

A copy of the Additional Agreement is on file for public inspection during regular business hours in the office of the City Clerk, City Hall, City of Kingsley, Iowa.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of said City, to the proposal to enter into the Additional Agreement with the Developer. After all objections have been received and considered, the Council will at this meeting or at any adjournment thereof, take additional action on the proposal or will abandon the proposal to authorize said Additional Agreement.

This notice is given by order of the City Council of the City of Kingsley in the State of Iowa, as provided by Section 334.6, Code of Iowa.

Dated this 11th day of November, 2022.

By Vicki Stitzmann
City Clerk, City of Kingsley
in the State of Iowa.

Published in The Record
Thursday, November 17, 2022

Notice of Public Hearing

**NOTICE OF PUBLIC HEARING
WOODBURY COUNTY
PLANNING AND ZONING
COMMISSION - WOODBURY
COUNTY ZONING ORDINANCE
TEXT AMENDMENT**

The Woodbury County Planning and Zoning Commission will hold a public hearing on the following item hereafter described in detail on November 28, 2022 at 6:00 PM or as soon thereafter as the matter may be considered. Said hearing will be held

in the Board of Supervisors Meeting Room, Number 104, County Courthouse, 620 Douglas Street, Sioux City, Iowa. Copies of said item may now be examined in the Auditor's office in said Courthouse between the hours of 8:00 AM to 4:30 PM Monday through Friday by any interested persons. All persons who wish to be heard in respect to this matter should appear at the aforesaid hearing in person. There is an option available to call 712-454-1133 and enter the Conference ID: 516 721 1354 during the meeting to listen or comment. It is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems.

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Published in The Record
Thursday, November 17, 2022

Sergeant Bluff Advocate – 11/17/22

Public Notices

**NOTICE OF PUBLIC HEARING
WOODBURY COUNTY PLANNING AND ZONING COMMISSION - WOODBURY COUNTY ZONING ORDINANCE TEXT AMENDMENT**

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You may forward your written comments by mail or email to: Woodbury County Community and Economic Development, 6th Floor, Woodbury County Courthouse, 620

See PUBLIC NOTICES P.13

THURSDAY, NOVEMBER 17, 2022

Public Notices

From PUBLIC NOTICES P.11

Douglas St., Sioux City, IA 51101; Emails should be sent to Dan Priestley at: dpriestley@woodburycountyia.gov. Only signed comments will be considered and should be received no later than 10:00 AM on Friday, November 25, 2022.

Item One (1)
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Published in the Sergeant Bluff Advocate weekly newspaper, Thursday, Nov. 17, 2022. The SB Advocate is an Official Woodbury County Newspaper. (11/17/2022/NP)

NOTICE OF PUBLIC
HEARING
WOODBURY COUNTY
PLANNING AND ZONING
COMMISSION
WOODBURY COUNTY
ZONING ORDINANCE TEXT
AMENDMENT

The Woodbury County Planning and Zoning Commission will hold a public hearing on the following item hereafter described in detail on November 28, 2022 at 6:00 PM or as soon thereafter as the matter may be considered. Said hearing will be held in the Board of Supervisors' Meeting Room, Number 104, County Courthouse, 620 Douglas Street, Sioux City, Iowa. Copies of said item may now be examined in the Auditor's office in said Courthouse between the hours of 8:00 AM to 4:30 PM Monday through Friday by any interested persons. All persons who wish to be heard in respect to this matter should appear at the aforesaid hearing in person. There is an option available to call 712-454-1133 and enter the Conference ID: 516 721 135# during the meeting to listen or comment. It is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems.

You may forward your written comments by mail or email to: Woodbury County Community and Economic Development, 6th Floor, Woodbury County Courthouse, 620 Douglas St., Sioux City, IA 51101; Emails should be sent to Dan Priestley at dpriestley@woodbury-countytowa.gov. Only signed comments will be considered and should be received no later than 10:00 AM on Friday, November 25, 2022.

Item One (1)

SUMMARY OF PROPOSED ZONING ORDINANCE TEXT AMENDMENT: Amendment to the Woodbury County Zoning Ordinance to amend the table of contents and add a new subsection entitled Section 3.03: Hazardous Liquid Pipelines. This section establishes separation requirements, consultation zones, planning areas, emergency response and hazard mitigation requirements, and abandonment, discontinuance, and removal of hazardous liquid pipelines requirements, in addition to the existing conditional use permit requirements under subsections 2.02.9 and 3.03.4.

PRELIMINARY REPORT

Zoning Ordinance Text Amendment Proposal
Hazardous Liquid Pipelines
Review of Literature and Staff Recommendation

Woodbury County
Community & Economic Development

November 18, 2022

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Introduction

On October 11, 2022, the Woodbury County Board of Supervisors unanimously approved a motion to direct staff and the Zoning Commission to initiate a review process and provide a recommendation of a Zoning Ordinance Text Amendment to the Zoning Ordinance to address the permitting of Hazardous Liquid Pipelines. There is already a process in place to address the permitting of pipelines, however, the intent is to review the current process and consider supplemental language to the ordinance that would account for specific separation distances from occupied structures due to concerns about the health and safety of residents being located in close proximity to pipelines.

The purpose of this report is to offer an analysis of literature associated with hazardous liquid pipelines. An emphasis is placed on CO₂ pipelines used for carbon capture sequestration (CCS) purposes to appreciate any potential risks to public health, safety, and welfare. The review of literature considers a series of studies as it relates to the consequences of pipeline failures including the impact to the population as well as measures local communities can employ for mitigation. The report describes the county's existing conditional use permit procedure and makes the recommendation to institute a setback of 330 ft as rooted in the Emergency Response Guidebook (2022) from residential structures or dwellings. The recommendation also includes a 50 ft setback from commercial and industrial structures. It is also recommended to institute 1000 ft planning areas and consultation zones to foster collaboration among landowners, pipeline operators, government officials, and other stakeholders. A proposed amendment to the Zoning Ordinance is offered for consideration.

Literature on Pipelines

Research on pipelines or the substances contained therein is numerous. As referenced in Iowa Code, Chapter §479B.2, *Hazardous Liquid Pipelines and Storage Facilities*, the term "pipeline" is defined as "an interstate pipe or pipeline and necessary appurtenances used for the transportation or transmission of hazardous liquids." The code also defines hazardous liquids as "crude oil, refined petroleum products, liquefied petroleum gases, anhydrous ammonia, liquid fertilizers, liquefied carbon dioxide, alcohols, and coal slurries" (Code Iowa Chapter §479B.2). It is obvious that each type of hazardous liquid has its own compositions that has potential to place public health, safety, and welfare at risk.

In terms of carbon pipelines, Kuprewicz (2022) asserts that the United States is not prepared for the increase of CO₂ pipelines that are being motivated by carbon capture sequestration (CCS) policy. He suggests that "federal pipeline safety regulations need to be quickly changed to rise to this new challenge, and to assure that the public has confidence in the federal pipeline safety regulations" (Kuprewicz, 2022, p. 14). Kuprewicz (2022) discusses three basic types of CO₂ transmission pipelines including supercritical state, a liquid and gas. He suggests that pipelines functioning in the supercritical state can be prone to ductile fractures. Kuprewicz (2022) emphasizes that "running ductile fractures are unusual and particularly dangerous fractures that can 'unzip' a CO₂ transmission pipeline for extended distances exposing great lengths of the buried pipeline" (p. 6). He asserts that pipeline ruptures can lower the temperature near the failure site and slow the leak. Kuprewicz (2022) further states:

The CO₂ released from a pipeline will be heavier than air, and the high-rate release from a pipe rupture will form cold dense gas fog clouds comprised of dry ice particles and visible water vapor as the humidity in the air condenses from the extreme cooling. Such high-rate releases can produce areas of low visibility from 'fog,' both from dry ice particles and water condensation. The CO₂ pipeline rupture fog becomes transparent when eventually warmed by the surrounding environment. Upon warming, the CO₂ plume can flow considerable distances from the pipeline unobserved, traveling over terrain, displacing oxygen while settling or filling in low spots. Oxygen displacement can starve gasoline or diesel powered equipment to malfunction or even shut off, and cause pilot lights on furnaces, stoves, and natural gas fireplaces to go out. (p. 9)

Kuprewic (2022) further asserts that "oxygen displacement by CO₂ gas can cause asphyxiation of humans and animals, that can lead to death" (p. 9). It can lead to other health conditions such as unconsciousness, confusion, and disorientation for those that are exposed to the elements in the plume. Hence, Kuprewic (2022) states that "it is vitally important to not underestimate the potential distance that a CO₂ pipeline rupture plume can reach and affect, especially nonlevel terrain. Additional safety margins should be employed in populated areas when using dispersion modeling results for CO₂ pipeline releases" (p. 9).

The National Institute for Occupational Safety and Health (NIOSH) offers Occupational Health Guidelines for Chemical Hazards in their September 1978 report. In the summary of toxicology the following is offered:

Carbon dioxide gas is an asphyxiant, a potential respiratory stimulant and both a stimulant and depressant of CNS. Respiratory volume is doubled at 4% CO₂ and redoubled at 5%. Increases in heart rate and blood pressure have been noted at 7.6% and dyspnea, headache, dizziness, and sweating occur if exposure at that level is prolonged. At 10% and above, prolonged exposure can result in unconsciousness. Above 11%, unconsciousness occurs in 1 minute or less. Numerous human fatalities have occurred after persons entered fermentation vats, wells, and silos where oxygen had been largely replaced by carbon dioxide. Exposure to very high concentrations, 25 to 30%, may cause convulsions. Carbon dioxide at room temperature will not injure the skin, but frostbite may result from contact with the solid or the liquid phases. (Occupation Health Guideline for Carbon Dioxide, 1978, p. 1)

In an analysis by Mazzoldi, Picard, Sriram, and Oldenburg (2012), it is asserted that the Immediately Dangerous to Life and Health (IDLH) limit set by NIOSH is 40 000 ppm (4% by volume) (p. 4). "At concentrations larger than 10% by volume (100 000 ppm), CO₂ may cause unconsciousness after a few minutes and would be potentially fatal after 10-15 min of continuous inhalation" (Mazzoldi et al., 2012, p. 4 as cited in Vendrig, Sponge, Bird, Daycock, & Johnson, 2003). Furthermore, the authors assert that "at concentrations above 25% (250 00 ppm) it poses a significant risk of asphyxiation, impeding motion after a few breaths and killing after less than 1 minute of exposure" (Mazzoldi et al., 2012, p. 4, as cited in Parformak & Floger, 2008).

According to Harper (2011) "for CO₂ to reduce the oxygen concentration in air down to a level that is immediately dangerous to life, the CO₂ concentration would need to be in the order of 50 % v/v" (p. 2). Harper further states "evidence shows, however, that CO₂ does create

an immediate threat to life at a concentration of only 15% in air due to the toxicological impact it has on the body when inhaled at this concentration” (Harper, 2011, p. 2).

The inhalation of elevated concentrations of CO₂ can increase the acidity of the blood triggering adverse effects on the respiratory, cardiovascular and central nervous systems. Depending on the CO₂ concentration inhaled and exposure duration, toxicological symptoms in humans range from headaches (in the order of 3% for 1 hour), increased respiratory and heart rate, dizziness, muscle twitching, confusion, unconsciousness, coma and death (in the order of > 15% for 1 minute). (Harper, 2011, p. 2)

Table 1 offers a breakdown of the toxic impact of concentrations of CO₂ on people within set time frames.

Table 1: Effective of CO₂ Concentration on People

17-30	Within 1 minute	Loss of controlled and purposeful activity, unconsciousness, convulsions, coma, death.
> 10-15	1 minute to several minutes	Dizziness, drowsiness, severe muscle twitching, unconsciousness.
7-10	Few minutes	Unconsciousness, near unconsciousness.
6	1.5 minutes to 1 hour	Headache, increased heart rate, shortness of breath, dizziness, sweating, rapid breathing.
4-5	1-2 minutes	Hearing and visual disturbances.
3	< 16 minutes	Headache, difficult breathing (dyspnea).
2	Several hours	Tremors.

Source(s): Health and Safety Executive; Harper, 2011; Cooper & Barnett, 2014

As established by the Health and Safety Executive (HSE) and referenced by Harper (2011) and Cooper and Barnett (2014), a Dangerous Toxic Loads (DTLs) test examines the carbon concentration and the duration of exposure over various time frames. The HSE includes two tests: the *specified level of toxicity* (SLOT) and the *significant likelihood of death* (SLOD).

The authors indicate that SLOD is reported to cause 50% lethality from an exposure over a known amount of time. SLOT includes the following conditions:

- Severe distress to almost everyone in the area;
 - Substantial fraction of exposed population requiring medical attention;
 - Some people seriously injured, requiring prolonged treatment;
 - Highly susceptible people possibly being killed, likely to cause 1-5% lethality rate from a single exposure to a certain concentration over a known amount of time.
- (Toxicity levels of chemicals, n.d.; Harper, 2011, p. 3)

Harper (2011) concludes that “the hazard range for an instantaneous release from storage may be in the range of 50 to 400 m with large, cold, liquid phase storage producing the larger distances” (p. 9). Additionally, he suggests that the continuous release through a 50 mm hole may include up to 100 m of CO₂. Harper (2011) points out that releases from pressurized storage have the potential to create major accident hazards (MAH). In terms of MAH modeling, he concludes that “there is significant uncertainty in the modeling of instantaneous and continuous releases of CO₂ from storage. A significant amount of research needs to be completed before a suitable model can be developed” (Harper, 2011, p. 10).

Cleaver and Hopkins (2012) suggest a discrepancy between a low probability of risk to the integrity of a CO₂ pipeline due to the thickness of the wall and the maximum hazard distance. In particular, they state that “as an approach based on individual risk would suggest that only small separation distances between the pipeline and occupied buildings are required and yet the maximum hazard distances if an event occurred could be considerably larger (p. 191). They offer a screening method based on the expectation value of possible casualties per year. Cleaver and Hopkins (2012) examine this in terms of the population around urban areas and isolated villages. They claim this approach “avoids excessive caution that would be imposed by having to apply the overly cautious city-type values to every case” (Cleaver and Hopkins, 2012, p. 199). Based on the models provided, it appears the expected number of fatalities (per year) from a carbon pipeline includes a gradual decline beyond 200 m (656.17 ft) from the pipeline. However, with low probabilities of death, Cleaver and Hopkins (2012) state that “the absolute values of the individual risk are lower but the rate of decay with distance from the pipe is much slower beyond 200 m” (p. 198).

Cooper and Barnett (2013) discuss a quantified risk assessment (QRA) which includes the purpose “to evaluate the risks to people in the vicinity of the pipeline posed by a failure of the pipeline” (p. 2416). The primary causes presented as failures to pipelines presented include: 1) external interference/third party damage; 2) corrosion (external and internal); 3) material and construction defects; 4) ground movement or environmental loading; 5) other (eg. Over pressure, operator error, fatigue (Cooper and Barnett, 2013, p. 2417). As part of their discussion, Cooper and Barnett (2013) assert:

CO₂ is odourless and the effects of the gas may not be identified by people subjected to unexpected plumes from a pipeline release. However, the release will generate a high noise level plus debris through which will alert residents, particularly those out of the doors to the failure and allow a response and the potential escape from the release. Low temperature effects caused by the Joule Thomson effect will cause the releases from the dense phase CO₂ pipelines to be visible, as the water vapour present condenses. This may allow some indication of which way to escape from the plume...(Cooper and Barnett, 2013, p. 2425).

Herzog and Ebers (2013) offer an analysis on the dispersion of CO₂ released from pipeline leakages. Their study includes a two-phase model looking at the jetting expansion and plume dispersion of the released CO₂. Using CO₂ concentration level data from Vendrig et al (2003), they indicate that the tolerable exposure level for humans is 0.2%, the long-term exposure limit is 0.5%, the short-term exposure limit is 1.5%, and 2% is where headaches and dyspnoea occur while 10% is where unconsciousness, and dizziness happen. As noted by Herzog and Ebers (2013), “a comparison of the long term evolution of the CO₂ plume concentrations 0.2%, 1% and 2.25% is given by means of maximal reached height and horizontal distance...” (p. 237). Their simulations indicate that plume heights and horizontal extents can vary based on CO₂ concentration. In particular at the 0.2% CO₂ concentration level the height appears to reach as high as 90 m while the horizontal extent can disperse up to 40 m at the same concentration. Herzog and Ebers (2013) assert that “much higher concentration levels disappear due to plume dilution, e.g. if the pressure jump occurs at 2s then the level 10% disappears at about 50s” (p. 237). In terms of the maximal reached horizontal distance, “it increases in time demonstrating the lateral expansion of the plume” (Herzog and Ebers, 2013p. 237). However, it

is imperative to point out that this study does not factor in conditions that could impact the plume such as wind and topography.

Mazzaodi et al (2012) offer an analysis on computational fluid dynamics studies they performed to determine: “(i) leakage rates from fully ruptured above-ground CO₂ pipelines for a typical pipeline fluid composition, and (ii) the resulting atmospheric dispersion of gas near the broken pipe” (p. 1). Mazzaodi et al (2012) asserts that “consequences of a hazardous event are difficult to estimate and generalize. The effects on humans from a given release of CO₂ in an area depend primarily on the total amount of CO₂ leaked, its concentration in the atmosphere, and the population density” (p. 4). The study of Mazzaodi et al (2012) focuses on full-bore ruptures or worst case scenarios and includes numerous variables with their models identified as the PIPE decompression model and the Fluidyn PANACHE atmospheric dispersion model. They assert their work shows that concentrations of atmospheric CO₂ “can extend on the order of hundreds of meters from the ruptured pipeline” (p. 1).

Overall, our modeling predicts that the downstream lengths reached by the hazardous concentrations of CO₂ considered in the case of complete rupture of pipelines transporting the gas and for the gas composition and atmospheric conditions considered, are in the order of a few tens to several hundreds of meters for pipelines of dimensions likely to be used in the next decades, when and if carbon capture and storage is developed on an industrial scale (p. 16).

The authors recommend that emergency shutdown (ESD) valves be used for pipelines near populated or sensitive areas (Mazzaodi et al., 2012). They also point out the limitations of their study as they did not include items such as “under-expanded jet flow, the potentials for dry-ice formation near the source, and effects of pipeline gas composition” (p. Mazzaodi et al., 2012, p. 16).

Based on the information presented, it is not prudent for the population to reside in an area that has substantial concentrations of CO₂ in the air. A leak or rupture can potentially adversely impact the public health and safety of those within short proximity. As indicated by Harper (2011), a 50 mm or 1.97 inch opening may produce a 100 m or 328.08 ft hazard range. The instantaneous release could range from 164.04 ft to 1,312.34 ft (Harper, 2011). However, there are numerous variables that could shift the hazard zone including the wind and topography. According to Cleaver and Hopkins (2012):

...dense-phase CO₂ pipelines are likely to be thick-walled, the individual risk levels around these pipelines are likely to be low, but because of the great variability of atmospheric dispersion of dense gas clouds, the risk levels are likely to decay very slowly beyond 200m from the pipeline. This poses something of a problem, as an approach based on individual risk would suggest that only small separation distances between the pipeline and occupied buildings are required and yet the maximum hazard distances if an event occurred could be considerably larger. (p. 191)

In a 2004 report requested by the Office of Pipeline Safety (OPS) of the U.S. Department of Transportation (USDOT) and prepared by the Transportation Research Board of The National Academies, it is asserted for local governments to

...assess carefully and rationally the actual risks associated with living and working in proximity to transmission pipelines and to consider land use controls near pipelines that will allow people and pipelines to coexist in a manner that does not pose undue risk to each other. (*Transportation Pipelines*, 2004, p. 1)

The report includes a discussion about land use measures and risk-informed guidance. The authors include a broad definition of land use that includes actions taken by all associated stakeholders including pipeline operators, regulators, contractors, private property owners, and the public (*Transportation Pipelines*, 2004, p. 3). They point out the relationship established between private landowners and pipeline operators via easement agreements where “the authority of pipeline operators to control the use of right-of-way is determined by the terms of the easement agreement; control does not extend to any property not covered by the easement/license” (*Transportation Pipelines*, 2004, p. 4). As a result, the authors state that “most local governments do not address pipeline issues. For those that do, there are few or no standards on which to base zoning ordinances and other development regulations” (*Transportation Pipelines*, 2004, p. 4).

In consequence, there is a “lack of risk-based technical guidance for making land use decisions near transmission pipelines” (*Transportation Pipelines*, 2004, p. 4). The authors suggest that state and local governments lack direction for pipelines “other than rules of thumb and existing practice concerning appropriate setbacks” (*Transportation Pipelines*, 2004, p. 4). They point out examples of how zoning measures have been used to separate industry from residential.

In Durham, North Carolina, facilities for storage of flammable liquids and gases must be set back 100 feet from the property line. Facilities for storage of explosives must be set back 200 feet from residences, but rail road cars carrying explosive or flammable material must not be parked within 1,000 feet of residences, hospitals, or other buildings used for public assembly. Similarly, Denver, Colorado, requires a 1,000-foot setback from aboveground fuel tanks. (Report, p. 37)

The report also indicates that “states have established buffer zone requirements for hazardous waste facilities that range from 150 feet to ½ mile, with the most common being 200 feet” (*Transportation Pipelines*, 2004, p. 37). It asserts that “data compiled by the Louisiana Advisory Committee to the U.S. Commission on Civil Rights (1993) indicate that 17 states have regulations specifying buffers around major facilities where accidents can harm surrounding land uses” (*Transportation Pipelines*, 2004, p. 37). An example is offered following an incident in Bellingham, Washington in 1999 following a rupture and ignition of a gas pipeline. The reaction of the State of Washington was to develop model ordinances for local governments. According to the Municipal Research and Services Center (MRSC), Washington “though the legislation called for depth requirements for transmission pipelines in the model setback ordinance, those standards are established by federal regulations and are beyond local government or state control” (*Transmission Pipeline Regulation and Franchising*, 2021). The federal regulations for buried gas transmission lines can be found in 49 C.F.R. 192.327 and 49 C.F.R. 195.248 for hazardous pipelines.

In preparation of their model ordinances, the MRSC found there are not universal standards for setback distances (Transmission Pipeline Regulation and Franchising, 2021). They suggest that “trying to establish setbacks that act as safety buffers is not easy, partly because the area at potential risk when there is a catastrophic rupture depends on the product in the pipeline (hazardous liquid or natural gas) and on the diameter and pressure of the pipeline” (Transmission Pipeline Regulation and Franchising, 2021). Therefore, the MRSC asserts that “it is by restricting building uses allowed in proximity to transmission pipelines that local governments can more effectively minimize injuries and property damage should there be a catastrophic rupture” (Transmission Pipeline Regulation and Franchising, 2021).

The MRSC offers examples of several model ordinances for franchise and land use. A model ordinance in the year 2000 established a 50-foot setback from residential, commercial and industrial buildings. Another model ordinance in 2006 established a consultation zone for permits for proposed activities within 660 feet of a hazardous liquid or natural gas pipeline (Transmission Pipeline Regulation and Franchising, 2021). According to the Transportation Research Board report, they also required “setback distances to be doubled for buildings where the public gathers for education, recreation, sports, conventions, hospitalization, or worship” (*Transportation Pipelines*, 2004, p. 28). However, these setback requirements exceeded federal regulations and were preempted by federal regulations including the Natural Gas Act.

Based on the literature, there are limitations as to what localities can restrict as it pertains to some pipelines. In an article by Wright, Jr. and Vance, the federal district court case *Atlantic Coast Pipeline v. Nelson Co. Bd. Of Supervisors, et al.* was referenced. In this case, the Board of Supervisors of Nelson County Virginia amended its zoning ordinance “to prohibit structures that produce, use, store, or transport hazardous materials or fuel storage, and other similar improvements and uses from being located in any areas classified by FEMA as a special flood hazard area” (p. 1). Subsequently, Atlantic Coast Pipeline filed for a permit and it was denied as the company did not provide enough information to address erosion concerns at stream crossing locations (p. 1). The issue was whether Atlantic Coast’s approved Certificate of Public Convenience and Necessity which was required under the Natural Gas Act would preempt Nelson County’s floodplain regulations. The court ruled that the county’s regulations were preempted. The change to the local floodplain ordinance was not FEMA-approved (Wright & Vance, p. 2).

Blackburn (2022) asserts that “the federal Natural Gas Act (NGA) does preempt county setbacks for interstate natural gas pipelines, but this act does not apply to oil and CO2 pipelines. Instead, no federal law authorizes the federal government to generally determine the route or location of an oil or CO2 pipeline” (p. 2). Blackburn claims there is a false acceptance that the federal government regulates setbacks based on the misinterpretation of 42 CFR 195.210. Subsection (a) states: “(a) Pipeline right-of-way must be selected to avoid, as far as practicable, areas containing private dwellings, industrial buildings, and places of public assembly.” Blackburn poses the question, “if the Department of Transportation can’t regulate location or route, how could it have issued this regulation” (p. 2)? Blackburn (2022) specifies that:

...federal government first issued subpart (a) with this exact language in 1981. 46 FR 38357, 38366 (July 27, 1981). In contrast, the statutory language in 49 USC 60104 prohibiting the Department of Transportation from determining the route or location of a pipeline was enacted by Congress on July 5, 1994, in Public Law 103-272, 1994, 108 Stat. 745, thirteen years later. (p. 2)

This subsequent language would prohibit the Department of Transportation from enforcing subsection (a) (Blackburn, 2022, p. 2). Subsection (b) states:

(b) No pipeline may be located within 50 feet (15 meters) of any private dwelling, or any industrial building or place of public assembly in which persons work, congregate, or assemble, unless it is provided with at least 12 inches (305 millimeters) of cover in addition to that prescribed in 195.248. (42 CFR 195.210)

Blackburn (2022) states that “this regulation is a depth of cover requirement. It says that if a pipeline is routed closer to a structure than 50 feet, then the builder must dump another 12 inches of dirt on top of it. That’s not a setback” (p. 3). Blackburn (2002) argues that if the Pipeline and Hazardous Materials Safety Administration (PHMSA) is prohibited from regulating the location or routing of the pipeline, then “PHMSA can’t issue a setback or interpret a regulation to be a setback” (p. 3). Thus, “in the absence of federal authority to determine the route of oil or CO2 pipelines, under the U.S. Constitution this authority remains with the states” (Blackburn, 2022). Blackburn argues that if the state does not prohibit local jurisdictions from regulating pipeline routes, then the location may be determined similar to other land uses including the setbacks (p. 3).

According to a June 3, 2022 Congressional Research Service (CRS) Insight entitled *Carbon Dioxide Pipelines: Safety Issues*, “because CO2 is colorless, odorless, and heavier than air, an uncontrolled release may spread undetected near the ground or in confined spaces. Therefore, CO2 pipelines pose a public safety risk, as demonstrated by a 2020 CO2 pipeline rupture in Satartia, MS” (p. 1). The CRS Insight also indicates that there have been arguments about insufficiencies concerning hazard zones around CO2 releases. In response PHMSA announced on May 26, 2022, a policy update to its CO2 safety standards and requested for further research about pipeline CO2 releases. In order to strengthen CO2 pipeline safety PHMSA will be:

- initiating a new rulemaking to update standards for CO2 pipelines, including requirements related to emergency preparedness, and response;
- issuing a Notice of Probable Violation, Proposed Civil Penalty, and Proposed Compliance Order (NOPV) to Denbury Gulf Coast Pipeline, LLC for multiple probable violations of Federal pipeline safety regulations (PSRs). The proposed civil penalties amount to \$3,866,734.
- completing a failure investigation report for the 2020 pipeline failure in Satartia, Mississippi;
- issuing an updated nationwide advisory bulletin to all pipeline operators underscoring the need to plan for and mitigate risks related to land-movements and geohazards that pose risks to pipeline integrity like the 2020 incident in Satartia, Mississippi; and
- conducting research solicitations to strengthen pipeline safety of CO2 pipelines. (“PHMSA Announces New Safety Measures to Protect Americans From Carbon Dioxide Pipeline Failures After Satartia, MS Leak.” p. 1)

The CRS Insight also indicates that “siting opposition due to safety concerns may prevent CO2 pipeline development in certain localities and increase development time and costs in others” (p.

2). The Insight calls for the U.S. Congress to take a role in directing the federal government to develop safety regulations for CO₂ pipelines.

The National Association of Counties (NACO), in a 2011 report entitled *Pipelines and Informal Planning Alliance (PIPA)* suggests a standard consultation zone distance in a range from 660 to 1,000 feet from the center of the pipeline (p. 7). Consultation zones differ from setbacks as they are meant to “provide a mechanism to initiate a dialogue between property developers/owners and operators of nearby transmission pipelines when new land uses and property developments are being planned” (PIPA, 2011, p. 7).

Optimally, the consultation zoning distance should be measured from the transmission pipeline centerline and should be based on specific pipeline characteristics and local conditions. This dialogue will serve to: (1) protect the transmission pipeline by promoting adequate consideration of the potential safety impacts of the proposed land use or property development on the pipeline; and (2) raise awareness of the potential safety impacts of the transmission pipeline on the proposed land use or development so they can be taken into account during planning and design. (PIPA, 2011, p. 7)

The PIPA (2011) report also discusses planning areas that range between 660 to 1,000 feet. The purpose of these areas is to “enhance safety when new land use and property development is planned near transmission lines” (p. 7). The report indicates that “a planning area can provide for the application of additional development regulations, standards, or guidelines to ensure safety when development occurs in close proximity to a transmission pipeline” (PIPA, 2011, p. 7).

In the event of a hazard, the Emergency Response Guidebook (ERG, 2020) offers emergency responders with a protocol to address specific types of hazard situations. The ERG (2020) is a document prepared by the Transport of Canada, the U.S. Department of Transportation, and the Secretariat of Communications and Transport of Mexico and other parties. Based on the type of event, the guidebook identifies potential hazards, public safety measures, and the emergency response. The ERG (2020) offers a comprehensive list of substances and distances to initially evacuate the public in the course of a hazardous pipeline incident. The data provided is for both the immediate response and the determination of a large spill. There are various types of pipelines with contents not limited to carbon including anhydrous ammonia, liquefied petroleum gas, methane, etc. Table 2 includes a select list of substances and the precautionary measures or separation distances.

Table 2: Emergency Response Evacuation Measures

Anhydrous Ammonia	100 m (330 FT)	100 m (330 FT)
Carbon	100 m (330 FT)	100 m (330 FT)
Liquefied Petroleum Gas	100 m (330 FT)	800 m (1/2 mile)
Methane	100 m (330 FT)	800 m (1/2 mile)

Source: Emergency Response Guide (2020)

Specific to carbon pipelines, the ERG (2020) indicates that carbon dioxide is non-flammable but containers may explode when heated and ruptured cylinders may rocket. It defines the potential hazards to health as:

- Vapors may cause dizziness or asphyxiation without warning.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. (ERG, 2020)

In the case of a hazard response, the immediate precautionary measure is to “isolate spill or leak area for at least 100 meters (330 feet) in all directions” (ERG, 2000, 1013). In terms of a large spill, the guide calls for the consideration of the “initial downwind evacuation for at least 100 meters (330 feet) (ERG, 2000, p. 1013). In the event of exposure to constituents, the first aid response includes the following:

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Keep victim calm and warm. (ERG, 2020)

Local Jurisdiction Regulation of Hazard Liquid Pipelines

Iowa Code Chapter §479B entitled *Hazardous Liquid Pipelines and Storage Facilities* makes it clear that the Iowa Utilities Board has the authority to:

...implement certain controls over hazardous liquid pipelines to protect landowners and tenants from environmental or economic damages which may result from the construction, operation, or maintenance of hazardous liquid pipeline or underground storage facility within the state, to approve the location and route of hazardous liquid pipelines, and to grant rights of eminent domain when necessary. (Iowa Code 479B.1)

Iowa Code §479B also states that the applicant for a hazardous liquid pipeline and storage facility must include the “relationship of the proposed project to the present and future land use and zoning ordinances” (Iowa Code §479B.5(7)). In effect, the Iowa Utilities Board must receive information as it pertains to the local jurisdictions’ planning and ordinance regulations. Thereby, inferring that local zoning standards would be part of the consideration process for the issuance of a permit from the Iowa Utilities Board.

As the Constitution of Iowa affirms “all political power is inherent in the people. Government is instituted for the protection, security, and benefit of the people, and they have the right, at all times, to alter or reform the same, whenever the public good may require it” (Constitution of the State of Iowa, Article 1, Section 2). The role of the local jurisdiction is to also protect the health, safety, and welfare of all people. Rooted in the comprehensive plan or general development plan for Woodbury County is a vision that sets forth broad goals and policies that formulate the basis of local policy choices as it relates to county zoning. Each area

of interest places the public and county officials into a fluid position to continually evaluate the policies of the past and present as well as prepare for the challenges of an everchanging future as it relates to land use, economic development, agricultural, commercial and industrial business, residential, parks and recreation, conservation and environmental, facilities and operations, public safety, and transportation areas. Each of the policy choices are derived from Iowa Code Chapter §335 and are embedded within the development plan's vision:

Where, sharing a strong sense of community, good people live freely without fear or want; Where all people and businesses prosper, rooted in a diverse agriculturally-based economy; Where stewardship of natural resources is a matter of individual and community pride and ownership; Where government exists to serve people and to protect the public health, safety, and welfare. (Planning for 2025, A General Development Plan for Woodbury County, 2005, p. 17)

It is apparent that the role for the local jurisdiction is to continually maintain optimal function of all policy areas. It is imperative that the strengths, weaknesses, opportunities, and threats are identified for any of the challenges that are identified as a result of a dynamic and everchanging society. Therefore, the local jurisdiction is empowered under Iowa Code Section §331.304(6) and §335 to establish and enforce ordinances to protect the health, safety, and welfare of the population. In terms of county zoning measures, Woodbury County has a comprehensive zoning ordinance and a subdivision ordinance that were both adopted on July 22, 2008. Section 1.02.1 of the Woodbury County Zoning Ordinance states:

The zoning ordinance and districts as herein established have been made in accordance with a comprehensive plan and policies to promote, in accordance with present and future needs, the health, safety, morals, convenience, order, prosperity and general welfare of the present and future inhabitants of Woodbury County, Iowa. (p. 1)

This ordinance also provides for "securing safety from fire, flood, panic, and other dangers" (Woodbury County Zoning Ordinance, Section 1.02.2, p. 1). Additionally, the Woodbury County Subdivision Ordinance also includes the purpose to "promote, preserve and protect the health, safety, morals and general welfare of the community" (Section 1.02.1, p. 1). Moreover, the Subdivision Ordinance contains the intent to "secure safety from fire, flood, and other dangers" as well as "provide adequate light and air" (Section 1.02.1, p. 1).

The Woodbury County Zoning Ordinance is comprehensive in nature and is designed to cover a multitude of uses as enumerated in the *Land Use Summary Table of Allowed Uses in each Zoning District* (Section 3.03.4, p. 32). This table is categorized into numerous land uses by zoning district where the particular use is marked as either "principal allowed use," "conditional use," "accessory use," or "prohibited use." "Pipelines" are contained within the "Transportation, communication and public services" category and are designated as a "Conditional Use" in each zoning district.

Under the Woodbury County Zoning Ordinance (Section 2.02.9, pgs. 20-23), the Board of Adjustment has the authority to hear and decide upon conditional use applications.

Purpose. Conditional uses are those uses having special or unique characteristics that require a careful review of their location, design, configuration, and impacts to determine

the desirability of permitting their establishment on any given site. Conditional uses may or may not be appropriate in a particular location. (Woodbury County Zoning Ordinance, Section 2.02.9(B), p. 20)

Typically, conditional uses are proposed uses that require communication with various levels of government including federal, state, and local. When a conditional use permit application is submitted to Woodbury County, applicants are requested to complete an application to address six criteria or standards and two considerations. The standards include:

1. The conditional use requested is authorized as a conditional use in the zoning district within which the property is located and that any specific conditions or standards described as part of that authorization have been or will be satisfied.
2. The proposed use and development will be in harmony with the general purpose and intent of this ordinance and the goals, objectives and standards of the general plan.
3. The proposed use and development will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking, utility facilities, and other factors affecting the public health, safety and general welfare.
4. The proposed use and development will be located, designed, constructed and operated in such a manner that it will be compatible with the immediate neighborhood and will not interfere with the orderly use, development and improvement of surrounding property.
5. Essential public facilities and services will adequately serve the proposed use or development.
6. The proposed use or development will not result in unnecessary adverse effects upon any significant natural, scenic or historic features of the subject property or adjacent properties. (Woodbury County Zoning Ordinance, Section 2.02.9(F)1)

The other considerations include:

1. The proposed use or development, at the particular location is necessary or desirable to provide a service or facility that is in the public interest or will contribute to the general welfare of the neighborhood or community.
2. All possible efforts, including building and site design, landscaping and screening have been undertaken to minimize any adverse effects of the proposed use or development. (Woodbury County Zoning Ordinance, Section 2.02.9(F)2)

It is clear that the zoning ordinance facilitates permitting requirements for pipeline proposals for the unincorporated areas. In this regard, Woodbury County, as part of the conditional use permit approval process, has the authority to ensure that applicants comply with the six criteria and two other considerations of a conditional use permit. The county also has the authority, as a delegated community, to ensure that any development within any areas of the Special Flood Hazard Area (SFHA) are complied with through the floodplain development regulations contained within the zoning ordinance.

Discussion

It is apparent from the research that there is not an agreed upon standard for what constitutes a reasonable separation distance or setback to protect both the public and the integrity of the pipelines. This leaves localities in a situation where they must balance their role to protect the health, safety, and welfare while considering the policy statements and goals of their comprehensive plans. Communities have a duty to rationally consider any unintended consequences and find a prudent balance that considers public safety while at the same time retaining the opportunity for economic growth.

In respect to a pipeline corridor, a significant setback on both sides of a pipeline could foster a situation where communities may not be able to achieve their respective planning goals. As referenced in the PIPA (2011) report, it is apparent that the PHMSA understands this dichotomy as they recommend the concepts of planning and consultation zones versus separation distances. According to the PHMSA “safety is a primary and common goal for all stakeholders and should be considered when decisions are made that impact life, property or the environment” (p.1). PHMSA asserts that “doing so will ensure that development plans minimize risks to the people living or working nearby, and are consistent with the needs and legal rights of developers and pipeline operators” (p. 1). PHMSA does recommend for communities to use site-specific distances for planning areas. These areas should be based on pipeline characteristics and the adjacent pipeline areas.

Conclusion and Staff Recommendation

The Woodbury County Zoning Ordinance requires a conditional use permit for the consideration of any pipeline to be constructed and operated in the unincorporated area of the county. It is apparent that research about carbon capture pipelines is incomplete and requires further examination as the technology will likely evolve. As part of the public policy process, it is the role of the county to evaluate reasonable options that comport with the comprehensive plan and protect the health, safety, and welfare of the population.

Based on the content presented, it is clear that hazardous liquid pipelines can pose a danger to the population abutting the pipeline corridor depending on their proximity as well as numerous other variables not limited to wind and topography. The research tends to include various analysis of what dispersion would look like and the trajectory a plume could spread with toxic substances. Accordingly, the opportunity for hazard mitigation is a component that should be considered for the calculation of a separation distance.

The Emergency Response Guide (2020) is a widely accepted protocol for initial emergency responses. A separation distance derived from this guide would place occupants at the minimum location where they would be initially evacuated to in the event of a pipeline incident. Therefore, if a single-family dwelling was located 330 feet from a pipeline rupture, they would be at the initial evacuation zone. As previously noted, 330 feet is the initial response for carbon, anhydrous ammonia, liquefied petroleum gas, and methane. With these comparable separation distances in mind, a 330 feet setback complements the mitigation process.

The placement and operation of a pipeline is a significant request that does impact the nature of a neighborhoods and does require responsibility from multiple stakeholders. Communication and education are essential hazard mitigation functions. Therefore, planning

areas and consultation zones offer landowners, developers, and the local governing authority the opportunity to communicate and educate one another and should be included as part of a comprehensive solution in the zoning ordinance to protect the public health, safety, and welfare of the population. Therefore, staff recommends a three-prong approach to address the conditional use permitting process for pipelines. The recommendation is as follows:

Table 3: Recommended Consultation Zones, Planning Areas, and Setback Distances based on Zoning District

Zoning District	Planning Area	Consultation Zone	Setback Distance
Agricultural Preservation (AP)	1000 FT	1000 FT	330 FT
Agricultural Estates (AE)	1000 FT	1000 FT	330 FT
Non-Agricultural Residential (NR)	1000 FT	1000 FT	330 FT
Suburban Residential (SR)	1000 FT	1000 FT	330 FT
General Commercial (GC)	1000 FT	1000 FT	50 FT*
Highway Commercial (HC)	1000 FT	1000 FT	50 FT*
Limited Industrial (LI)	1000 FT	1000 FT	50 FT*
General Industrial (GI)	1000 FT	1000 FT	50 FT*

*If a residential structure or dwelling is contained within GC, HC, LI, or GI Zoning District, the setback distance of 330 FT shall apply.

- Establish a **planning area** of 1000 feet from the center of the pipeline on both sides. The planning area is an area around a transmission pipeline that is defined, based on characteristics of the pipeline and surrounding areas to determine where additional requirements may apply. At application for permits/development as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify applicant(s) they are within the planning area and explain relevant considerations and requirements.
- Establish a **consultation zone** of 1000 feet from the center of the pipeline on both sides. This consultation zoning will require a dialogue between property owners, developers, the pipeline companies, and the county as it pertains to future development. At application for permits/development as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify applicant(s) they are within the consultation zone and explain the relevant considerations and requirements.
- Establish **setbacks or separation distances** specific to the respective zoning district and type of structure. A setback of not less than 330 feet is recommended from residential structures or dwellings including preexisting residential structures located in the commercial and industrial zoning districts. A setback of 50 feet is recommended from commercial and industrial structures located in the commercial and industrial districts.

Ordinance Amendment Proposal

As noted in this report, the Woodbury County Zoning Ordinance facilitates the permitting of pipelines as a conditional use which is subject to review by the Planning and Zoning Commission and consideration for approval by the Board of Adjustment. Even though the five criteria and two other considerations offer both boards a broad scope to consider the compatibility of pipelines at particular locations, in order to protect the public safety, health, and welfare of the unincorporated community of Woodbury County, the institution of separation distances or setbacks would be reasonable to protect the public from the dangers as referenced in this paper's literature review.

Based on the Emergency Response Guide (2020), the immediate precautionary measure to isolate from a spill or leak is at least 100 meters (330 ft) for several type of pipeline contents. A setback of 330 ft from residential structures is recommended to be applied to each zoning district that allows for residential structures or dwellings. Those include the AP, AE, NR, and SR Zoning Districts. It is imperative to highlight that legal nonconforming residences may exist in commercial and industrial zoning districts. Therefore, the 330 ft setback would also apply to those structures in the GC, HC, LI, and GI Zoning Districts as well. However, since the commercial and industrial districts are not designed for residential occupation, a setback of 50 ft from commercial and industrial structures is recommended in the GC, HC, LI, and GI Zoning Districts.

In addition to the 330 ft and 50 ft setbacks, this report recommends the institution of a 1000 ft consultation zone for the purpose of alerting the public about the safety impacts of building an occupied structure anywhere up to 330 ft from the pipeline and developing a collaboration between pipeline companies and the neighboring property owners. Additionally, staff recommends a planning zone of 1000 ft. to facilitate a dialogue among future developers, land owners, and the county as it pertains to future development along the pipeline corridor.

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Draft Ordinance Framework

Ordinance No. _____

Woodbury County, Iowa

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND THE *TABLE OF CONTENTS* AND TO ADD A SECTION ENTITLED *SECTION 5.08: HAZARDOUS LIQUID PIPELINES*

WHEREAS the Supervisors of Woodbury County Iowa (“the County”), under the authority of IA CONST Art. 3, § 39A, Iowa Code § 331.301, and Iowa Code § 335.3, the County has adopted a Zoning Ordinance on July 22, 2008, by Resolution No. 10,455 being recorded in the Office of the Woodbury County Recorder; and

WHEREAS the County may by ordinance lawfully regulate and restrict the use of land for trade, industry, residence, or other purposes in accordance with a comprehensive plan and designed to further the considerations and objectives set forth in Iowa Code § 335.5; and

WHEREAS, the considerations and objectives of land use and zoning regulations under Iowa Code § 335.5 require counties to design the regulations (1) to secure safety from fire, flood, panic, and other dangers; (2) to protect health and the general welfare; (3) to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirement; and

WHEREAS, the County and the several municipalities within the County employ a number of emergency response personnel, including local sheriffs, police, firefighters, and emergency medical service responders, and are responsible for ensuring the safety of these public servants through adequate training, knowledge, and access to personal protective equipment; and

WHEREAS, the County has authority under Iowa law to require information from a company that proposes to construct a hazardous liquid pipeline in the County that will enable the County to fulfill its statutorily required emergency planning duties and protect county emergency response personnel; and

WHEREAS, the transport of hazardous liquid through an hazardous liquid pipeline constitutes a threat to public health and the general welfare such that the Pipeline and Hazardous Materials Safety Administration of the United States Department of Transportation ("PHMSA") has the authority to prescribe safety standards for such pipelines; and

WHEREAS, the State of Iowa and its political subdivisions may and must consider the risks of a hazardous liquid pipeline when selecting a route for it, so as to prevent its construction overly near to residential buildings, existing and future public and private infrastructure, high and vulnerable population buildings such as schools and nursing homes, future housing or industrial developments, and confined animal facilities; and

WHEREAS, in Iowa, the Iowa Utilities Board ("the IUB") has authority pursuant 49 U.S.C. § 60104(e) of the Hazardous Liquid Pipeline Safety Act and under Iowa Code chapter 479B to implement certain controls over hazardous liquid pipelines, including the authority to approve the location and routing of hazardous liquid pipelines; and

WHEREAS, under Iowa Code § 479B.4, a pipeline company must file a verified petition with the IUB asking for a permit to construct, maintain, and operate a new pipeline along, over, or across the public or private highways, grounds, waters, and streams of any kind in this state; and

WHEREAS, Iowa Code § 479B.5 requires that each petition for a permit must state the relationship of the proposed project to the present and future land use and zoning ordinances; and

WHEREAS, Iowa Code § 479B.20: (1) specifically provides for the application of provisions for protecting or restoring property that are different than the provisions of section 479B.20 and the administrative rules adopted thereunder, if those alternative provisions are contained in agreements independently executed by the pipeline company and the landowner; (2) specifically contemplates that such agreements will pertain to "line location;" (3) specifically requires the County to hire a "county inspector" to enforce all land restoration standards, including the provisions of the independently executed agreements; and (4) specifically requires that independent agreements on "line location"; and

WHEREAS, there are several factors that would influence human safety in the event of a rupture of such a pipeline, including CO₂ parts per million (ppm) concentration, wind speed and direction, velocity of the gas exiting the pipe, and thermodynamic variables; and

WHEREAS, (1) a sudden rupture of a CO₂ pipeline may lead to asphyxiation of nearby people and animals, (2) CO₂ is lethal if inhaled for 10 minutes at a concentration larger than 10% by volume, (3) the National Institute for Occupational Safety and Health ("NIOSH") has set the Immediate Dangerous to Life and Health (IDLH) limit of CO₂ at 4% by volume; and (4) at concentrations of 25% volume, CO₂ is lethal to humans within 1 minute; and

WHEREAS, on May 26, 2022, PHMSA announced new safety measures to protect Americans from carbon dioxide pipeline failures, including (1) initiating a new rulemaking to update standards for CO₂ pipelines, including requirements related to emergency preparedness, and response; (2) issuing an advisory bulletin to remind owners and operators of gas and hazardous liquid pipelines, particularly those with facilities located onshore or in inland waters, about the serious safety-related issues that can result from earth movement and other geological hazards; and (3) conducting research solicitations to strengthen pipeline safety of CO₂ pipelines; and

WHEREAS, the rulemaking initiated by PHMSA to update safety and emergency preparedness standards for CO₂ pipelines is not yet complete; and

WHEREAS, the IUB does not have jurisdiction over emergency response in Iowa and has no expertise in emergency response planning; and

WHEREAS, the County may adopt land use and zoning restrictions (1) for purposes of regulating the use of land in the County, including the execution of independent agreements between landowners and pipeline companies regarding land restoration and line location; and (2) for purposes of facilitating the least dangerous route through the County of a hazardous liquid pipeline, including requiring the completion of an emergency response and hazard mitigation plan; and

WHEREAS, the adoption of such land use and zoning regulations is (1) consistent with Iowa Code chapter 479B, including Iowa Code §§ 479B.5(7) and 479B.20, and (2) necessary to facilitate the IUB's approval of a permit, in whole or in part upon terms, conditions, and restrictions as to location and route that are "just and proper;" and

WHEREAS, the County intends to establish a process under the Ordinance for permitting and approving the use of land in Woodbury County for the transport of hazard liquid through a hazardous liquid pipeline that is not inconsistent with federal law, including the Hazardous Liquid Pipeline Safety Act, and not inconsistent with Iowa law, including Iowa Code chapters 479B, 331, and 335; and

NOW THEREFORE BE IT ENACTED BY THE BOARD OF SUPERVISORS OF WOODBURY COUNTY, IOWA THAT THE BELOW ZONING ORDINANCE LANGUAGE AMENDMENTS BE MADE:

Amendment #1 –

On page iii: To add the following to the *Table of Contents, Article 5 Supplemental Requirements*:

Add Section 5.08: *Section 5.08: Hazardous Liquid Pipelines*.....82

Amendment #2 –

On page 82: To add the following section within the zoning ordinance entitled *Section 5.08: Hazardous Liquid Pipelines*

Section 5.08: Hazardous Liquid Pipelines

1. Definitions.

- A. **Affected person** means the same as defined in Iowa Administrative Code 199-13.1(3) and, unless otherwise defined in that rule, means any Person with a legal right or interest in the property, including but not limited to a landowner, a contract purchaser of record, a Person possessing the property under a lease, a record lienholder, and a record encumbrancer of the property.
- B. **Agricultural Structure** means a Building or Structure that has been occupied or used for agricultural purposes at any time during the twelve (12) months preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance.

- C. **Applicant** means a Pipeline Company or a Property Owner who applies for a Conditional Use Permit for a Hazardous Liquid Pipeline pursuant to this Section.
- D. **Application** means the documents and information an Applicant submits to the County for purposes of obtaining a Conditional Use Permit as well as the related process and procedures for considering the application pursuant to this Section.
- E. **Blast Zone** means the geographic area in County that would be subject to a shock wave from the rupture of a Hazardous Liquid Pipeline that could harm or kill persons or animals due solely to physical trauma, for example from flying debris or the physical impact of a pressure wave resulting from a rupture.
- F. **Board of Adjustment** means the Woodbury County Board of Adjustment established pursuant to Iowa Code chapter 335 and Section 2.01.5 of this Zoning Regulation.
- G. **Commercial or Industrial Structure** means a Building or Structure that has been occupied and used for commercial, or industrial purposes at any time during the twelve (12) months preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance
- H. **Consultation Zone** means an area within 1000 feet of a transmission pipeline. See Subsection 3 below.
- I. **Gas Transmission Pipeline** means a “transmission line” as defined by Title 49, Code of Federal Regulations, Section 192.3.
- J. **Conditional Use Permit** means a use that is allowed in conformance with the regulations of the zoning district in which it is located, if and only if, approved by the Board of Adjustment as provided in Section 2.02.9.
- K. **Confidential Information** means information or records allowed to be treated confidentially and withheld from public examination or disclosure pursuant to Iowa Code chapter 22 or other applicable law.
- L. **County or the County** means Woodbury County, Iowa.
- M. **Emergency** means the same as defined in Iowa Administrative Code 199 rule 9.1(2) and, unless otherwise defined in that rule, means a condition involving clear and immediate danger to life, health, or essential services, or a risk of a potentially significant loss of property.
- N. **Facility** is any structure incidental or related to the Hazardous Liquid Pipeline and any space, resource, or equipment necessary for the transport, conveyance, or pumping of a Hazardous Liquid through a Hazardous Liquid Pipeline located in the County, including all related substations.
- O. **Hazardous Liquid** means the same as defined in Iowa Code § 479B.2 and, unless otherwise defined there, means crude oil, refined petroleum products, liquefied petroleum gases, anhydrous ammonia, liquid fertilizers, liquefied carbon dioxide, alcohols, and coal slurries.
- P. **Hazardous Liquid Pipeline** means a pipeline designed for the transmission of a “hazardous liquid”, as defined by Title 49, Code of Federal Regulations, Section 195.2.

- Q. **In-service date** is the date any Hazardous Liquid is first transported through any portion of a Pipeline located in the County.
- R. **Independent Agreement** means alternative provisions regarding land restoration or Line Location contained in agreements independently executed by a Pipeline Company and a Landowner or a Property Owner as described in Iowa Code § 479B.2(10).
- S. **IUB** means the Iowa Utilities Board created within the Iowa Department of Commerce pursuant to Iowa Code chapter 474.
- T. **Landowner** means the same as defined in Iowa Code §§ 479B.4(4) and 479B.30(7), and, unless otherwise defined there, means a Person listed on the tax assessment rolls as responsible for the payment of real estate taxes imposed on the property and includes a farm tenant.
- U. **Line Location** means the location or proposed location or route of a Pipeline on a Landowner's property.
- V. **Residential Structure** means a Building or Structure that has been inhabited or used for residential purposes at any time during the twelve (12) months preceding an application for a Conditional Use Permit pursuant to Section 2.02.9 of this Ordinance.
- W. **Person** means the same as defined in Iowa Administrative Code 199-13.1(3) and, unless otherwise defined in that rule, means an individual, a corporation, a limited liability company, a government or governmental subdivision or agency, a business trust, an estate, a trust, a partnership or association, or any other legal entity as defined in Iowa Code section 4.1(20).
- X. **PHMSA** means Pipeline and Hazardous Materials Safety Administration of the United States Department of Transportation.
- Y. **PIPA Report** means a report prepared by the U. S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) through the Pipelines and Informed Planning Alliance (PIPA) initiative with support from many participating stakeholders. The report was initially released in 2010 and will be updated as needed. It is available on the PHMSA Pipeline Safety Stakeholder Communications web site at <http://primis.phmsa.dot.gov/comm/>.
- Z. **Pipeline** means the same as is defined by Title 49, Code of Federal Regulations, Sections 195.2 and 192.3.
- AA. **Pipeline Facility** means the same as is defined by Title 49, Code of Federal Regulations, Sections 195.2 and 192.3.
- BB. **Pipeline Company** means the same as defined in Iowa Code § 479B.2 and, unless otherwise defined there, means any Person engaged in or organized for the purpose of owning, operating, or controlling Pipelines for the transportation or transmission of any Hazardous Liquid or underground storage facilities for the underground storage of any Hazardous Liquid.
- CC. **Pipeline Construction** means the same as defined in Iowa Administrative Code 199-9.1(2) and, unless otherwise defined in that rule, means activity associated with installation, relocation, replacement, removal, or operation or maintenance

of a pipeline that disturbs agricultural land, but shall not include work performed during an emergency, tree clearing, or topsoil surveying completed on land under easement with written approval from the landowner.

- DD. Property Owner** means the owner or owners, together with his, her, its or their heirs, successors and/or assigns, of the land or property over, under, on, or through which, a Pipeline, or any part of it, including any related facilities, may be located and which is subject to the regulations and restriction of this Zoning Regulation. Property Owner includes a Landowner and also includes a Person with whom a Pipeline Company negotiates or offers to execute an Independent Agreement with respect to a Pipeline.
- EE. Planning Area** means an area around a transmission pipeline that is defined, based on characteristics of the pipeline and the surrounding area, to determine where the requirements of Subsection 5 below apply.
- FF. Reclamation** means the restoration and repair of damaged real property, personal property, land or other areas through which a Pipeline is constructed or from where it is removed as close as reasonably practicable to the condition, contour, and vegetation that existed prior to the construction or prior to the removal of the Pipeline, as applicable.
- GG. Reclamation Cost** means the cost of Reclamation and includes the cost to restore or repair roads, bridges, or county property as well as the cost to restore or repair all real and personal property of Property Owners and Affected Persons.
- HH. Transmission Pipeline** means gas transmission pipeline or hazardous liquid pipeline as defined above.
- II. Zoning Regulation or the Zoning Regulation** means the collection of land use and zoning regulations known as the Woodbury County Zoning Ordinance, as provided and made effective in Section 1.01 of the ordinance known as the Woodbury County Zoning Ordinance.

2. Separation Requirements

- A.** A Hazardous Liquid Pipeline shall not be constructed, used, sited, or located, in violation of the separation requirements as listed below. All distances shall be measured from the centerline of the proposed Hazardous Liquid Pipeline to the portion of the existing use nearest the centerline of the proposed Hazardous Liquid Pipeline.
- B.** The minimum separation distances or setback distances for a Hazardous Liquid Pipeline are:
- i. From a Residential Structure, not less than 330 feet.
 - ii. From a Commercial Structure, not less than 50 feet
 - iii. From an Industrial Structure, not less than 50 feet

C. Separation Requirements by Zoning District

Zoning District	Setback Distance	Consultation Zone	Planning Area
Agricultural Preservation (AP)	330 FT	1000 FT	1000 FT
Agricultural Estates (AE)	330 FT	1000 FT	1000 FT

Non-Agricultural Residential (NR)	330 FT	1000 FT	1000 FT
Suburban Residential (SR)	330 FT	1000 FT	1000 FT
General Commercial (GC)	50 FT*	1000 FT	1000 FT
Highway Commercial (HC)	50 FT*	1000 FT	1000 FT
Limited Industrial (LI)	50 FT*	1000 FT	1000 FT
General Industrial (GI)	50 FT*	1000 FT	1000 FT

*If a residential structure or dwelling is contained within GC, HC, LI, or GI Zoning District, the setback distance of 330 FT shall apply.

3. Consultation Zone

- A. Consultation Zone Distance.** A consultation zone is hereby established for any parcels within 1000 feet of the centerline of a transmission pipeline.
- B. Consultation Zone Notification.** At application for a building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify the property owner(s) and/or applicant(s) they are within the consultation zone, explain the relevant application procedures, and provide contact information for the applicable pipeline operator(s). This same procedure shall be followed whenever an inquiry is made about development regulations or zoning restrictions for property within the consultation zone.
- C. Application Process within Consultation Zone.** Complete application for building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance within a designated consultation zone must include written verification from applicant that:
- (1) Applicant has contacted the pipeline operator(s) and has provided them with documentation detailing the proposed development type and place of the activity; and
 - (2) The pipeline operator(s) has reviewed the documents.
 - (3) The written verification required by this section can be in any form acceptable to the County, including electronic communications, so long as it is clear that the pipeline operator(s) has received and reviewed documentation showing the proposed information concerning any impact the activity will have upon the integrity of the transmission pipeline(s). The verification should include all comments received from the operator or a notice from the operator indicating that the operator has no comments.
 - (4) If the operator does not respond within 30 days after being contacted and provided information by the developer pursuant to c.1 above, then the County may waive the requirement for written verification given under c.3 above.

4. Consultation Zone Practices for Protecting Transmission Pipelines.

- A. During consultation, a transmission pipeline operator shall be provided information from the property developer/owner in order to discuss appropriate considerations for the proposed development.
- (1) What is the street address (or if not available, the general location) of the property?
 - (2) Is the property encumbered by a pipeline easement? If so, please attach a copy of the easement or provide the recording (volume and page) information.
 - (3) Is there visual evidence of a pipeline on subject property (e.g., aerial markers, above-ground appurtenances, etc.)?
 - (4) Will the proposed development of the property require/entail (and if so, please describe briefly):
 - (a) Road crossings over the pipeline?
 - (b) Other utility lines crossing over or under the pipeline?
 - (c) Permanent structures or paving within the easement area (e.g., paving, parking lots, buildings, pedestrian paths, signage, poles, retaining walls, septic systems, basketball/tennis courts, etc.)?
 - (d) Extensive landscaping (including irrigation systems) within the easement area?
 - (e) Changing the amount of cover (by adding or removing dirt) within the easement area?
 - (f) Construction equipment crossing the pipeline?
 - (g) Blasting, seismic vibration testing, pile driving, or similar event which produces significant shock and/or sound waves?
 - (h) Significant excavation (underground parking structures or building foundations, core samples, rock/mineral quarries, dams, etc.)?
 - (i) Impounding water or building drainage ditches or other drainage facilities?
 - (j) Fencing running parallel to (within 100 feet) or crossing the pipeline?
 - (k) Storing materials, equipment, vehicles, or other items within the easement area (e.g., construction materials, junk or scrap heaps, cut timber, boats, military equipment, etc.)
 - (5) What is the approximate distance of the proposed building closest to the pipeline?
 - (6) Has the pipeline operator been previously contacted regarding this development? If so, by whom.
 - (7) Provide a site plan if available.
- B. Some examples of information that transmission pipeline operators may provide to local governments and/or property developers/owner to assist them in developing consultation zone distances or planning specific developments:
- (1) Pipeline diameter and wall thickness

- (2) Age of pipeline
- (3) Depth of cover
- (4) Typical operating pressure and maximum allowable operating pressure
- (5) Material transported and typical daily flow rate
- (6) Estimated worst case spill volume in the area of the development

5. Planning Area

- A. Planning Area Distance.** Planning areas are hereby established within 1000 feet from pipeline centerlines, for transmission pipeline(s) in the unincorporated areas of Woodbury County, Iowa.
- B. Applicability of Planning Area.** At application for a building permit, grading permit, conditional use permit, variance, floodplain development permit, minor subdivision, major subdivision, planned development, or other permits as required by the Zoning Ordinance and Subdivision Ordinance, staff shall notify the property owner(s) and/or applicant(s) they are within the planning area and explain the relevant requirements. Development within the planning area shall meet the requirements under Subsection 6 below.

6. Planning Area Practices for Protecting Transmission Pipelines.

- A.** Parking lots and parking structures should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce potential interference with transmission pipeline maintenance and inspections.
- B.** Roads and associated appurtenances should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and reduce the potential of interference with pipeline operations and maintenance.
- C.** Utilities (both above and below ground) and related infrastructure should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce the potential of interference with transmission pipeline maintenance and inspections.
- D.** Storm water and irrigation water management facilities, retention ponds, and other above-ground water management infrastructure should be preferentially located and designed to reduce the consequences that could result from a transmission pipeline incident and to reduce the potential of interference with transmission pipeline operations and maintenance.
- E.** Trees and other vegetation should be planned and located to reduce the potential of interference with transmission pipeline operations, maintenance, and inspections.
- F.** Individual water supplies (water wells), small public/private water systems and sanitary disposal systems (septic tanks, leach or drain fields) should be designed and located to prevent excavation damage to transmission pipelines, interference with transmission pipeline maintenance and inspections, and environmental contamination in the event of a transmission pipeline incident.

- G. New development within a transmission pipeline planning area should be designed and buildings located to reduce the consequences that could result from a transmission pipeline incident and to provide adequate access to the pipeline for operations and maintenance.
- H. Consider noise, odor and other issues when planning and locating developments near above-ground transmission pipeline facilities, such as compressor stations, pumping stations, odorant equipment, regulator stations and other pipeline appurtenances.
- I. New industrial land use development within a transmission pipeline planning area should be designed and buildings located to reduce the consequences that could result from a transmission pipeline incident and reduce the potential of interference with transmission pipeline operations and maintenance.
- J. New development of institutional facilities that may be difficult to evacuate within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences that could result from a transmission pipeline incident. Such facilities should also be located to reduce the potential of interference with transmission pipeline operations and maintenance activities. Emergency plans for these facilities should consider potential transmission pipeline incidents.
- K. New development of emergency responder facilities within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences that could result from a transmission pipeline incident. Such facilities should also be designed and located to avoid the potential of interference with pipeline operations and maintenance. Planning for these facilities should include emergency plans that consider the effects of a transmission pipeline incident.
- L. New development of places of potential mass public assembly within a transmission pipeline planning area should be designed and the facilities located and constructed to reduce the consequences of a potential transmission pipeline incident, the risk of excavation damage to the pipeline, and the potential of interference with transmission pipeline operations and maintenance. Planning for these facilities should include emergency plans that consider the effects of a potential pipeline incident.
- M. Emergency response plan requirements should be considered in new land use development within a planning area to reduce the risks of a transmission pipeline incident.
- N. The property developer/owner should install temporary right-of-way (ROW) survey markers or fencing on the edge of the transmission pipeline ROW or buffer zone, as determined by the transmission pipeline operator, prior to construction to provide a clearly defined boundary. The property developer/owner should ensure that the temporary markers or fencing are maintained throughout the course of construction.
- O. Anyone planning to conduct excavating, blasting and/or seismic activities should consult with affected transmission pipeline operators well in advance of commencing these activities. Excavating and blasting have the potential to affect

soil stability or lead to movement or settling of the soil surrounding the transmission pipeline.

- P. Encroachment agreements should be used, documented, recorded and retained when a transmission pipeline operator agrees to allow a property developer/owner or local government to encroach on the pipeline right-of-way for a long or perpetual duration in a manner that conflicts with the activities allowed on the easement.
- Q. Transmission pipeline operators may use, document and retain "letters of no objection" in agreeing to land use activities on or near a transmission pipeline right-of-way. Such land uses may or may not be temporary.
- R. Partial releases may be used to allow some part of the transmission pipeline right-of-way to be released from certain easement conditions, and should be documented, recorded and retained.

7. **Subdivision Plats.** The plat must provide a note that all existing gas transmission and/or hazardous liquid pipelines or pipeline facilities through the subdivision have been shown, or that there are no known existing gas transmission and/or hazardous liquid pipelines or pipeline facilities within the limits of the subdivision.

The location of all transmission pipelines and related easements shall be shown on all preliminary plat, zoning, building, and record plat maps when proposed development is within the planning area.

For proposed development within the consultation zone around pipeline(s), developer shall forward all site or subdivision plans for review comments to the Pipeline Operators by certified mail, return receipt requested, to be supplied to the County as proof of notification prior to plan approval.

8. **Change of Pipeline Use or Product Type:** Should a pipeline company decide to change the use and function of a pipeline, the Pipeline Company shall file for a new conditional use permit prior to changes in its operation. The pipeline company shall give the county 90-day notice of a proposed change of use and shall provide detailed application to allow for review of a new use permit.
9. **Appeals and Variance.** A Pipeline Company or a Property Owner may appeal an adverse determination on a Conditional Use Permit or may seek a special exception or variance from the Board of Adjustment, as provided in Section 2.02.8 of this Zoning Ordinance.

10. **Applicability and Compliance.**

- A. Except as provided in Section 5.08.8, the permit requirements in sections 2.02.9, 3.03.4, and the separation requirements in section 5.08.2 shall not apply to (1) a Hazardous Liquid Pipeline that is already permitted, constructed, and placed in-service on or before the effective date of this Section; however, a Pipeline Company shall comply with the abandonment, Reclamation and decommissioning requirements for a Pipeline that is decommissioned on or after the effective date

of this Section; (2) a Pipeline owned and operated by a public utility that is furnishing service to or supplying customers in the County.

- B. If a Property Owner has executed an Independent Agreement prior to the effective date of this Section and the Independent Agreement does not meet the separation requirements of this Section, then notwithstanding the Independent Agreement, the Pipeline Company shall comply with the separation requirements of this Section.
- C. If a Property Owner has executed an Independent Agreement prior to the effective date of this Section and the Independent Agreement provides for separation requirements that are greater than the separation requirements this Section, then the Pipeline Company shall comply with the terms of the Independent Agreement with the Property Owner.

11. Emergency Response and Hazard Mitigation Plans for Hazardous Liquid Pipelines

- A. This Section is intended to implement local zoning regulations in a manner designed to facilitate the comprehensive plan's goals and objectives for public safety. This goal is consistent with the County's legal obligation under Iowa Code chapter 29C to engage in emergency response and hazard mitigation planning and with the need to protect the health and welfare of both residents and emergency response personnel. For these reasons, the County requires Hazardous Liquid Pipelines to provide information to assist in emergency response and hazard mitigation planning pursuant to this section.
- B. Hazardous Liquid Pipelines for which PHMSA has adopted regulations specifically related to emergency preparedness, emergency response, and hazard mitigation planning shall submit a plan that meets the requirements of this section. A plan submitted in compliance with this section shall include: (1) documentation of compliance with the PHMSA regulations; and (2) a detailed plan describing how the Pipeline Company will work with the County's law enforcement, emergency management personnel, and first responders in the event of a spill, leak, rupture or other emergency or disaster related to the Pipeline.
- C. If the Pipeline is a Carbon Dioxide Pipeline and PHMSA has not adopted regulations specifically related to emergency preparedness, emergency response, and hazard mitigation planning for Carbon Dioxide Pipelines, then the Pipeline Company operating the Carbon Dioxide Pipeline shall submit a plan that meets the requirements of this section. A plan submitted in compliance with this section shall include the following:
 - (1) A map and legal description of the proposed route for a Carbon Dioxide Pipeline showing all human occupied structures and animal husbandry facilities, by type, within two miles of the centerline of the proposed route including addresses.
 - (2) An estimate of the worst-case discharge of carbon dioxide released in metric tons and standard cubic feet from a rupture of a pipeline considering the interior volume of the pipeline, the location of emergency valves that limit release of carbon dioxide, the location of

crack arrestors, operating pressures, operating temperatures, and other relevant factors.

- (3) A list of structures and facilities within the Consultation Zone for the proposed route of a Carbon Dioxide Pipeline that in the preceding year have contained humans or livestock, and an estimate of the numbers of persons and livestock in each structure and facility.
- (4) All information needed by county first responders, emergency response personnel, and law enforcement personnel in order to engage in local emergency management and hazard mitigation planning, equipment, and training needs. Such information includes but is not limited to:
 - (a) a material data safety sheet for the materials transported in the Carbon Dioxide Pipeline;
 - (b) carbon dioxide detectors and evacuation plans for each human occupied structure;
 - (c) response equipment needs for emergency response personnel, such as carbon dioxide and other chemical detectors; respirators; personal protective equipment; communications equipment; road barriers and traffic warning signs; and non-internal combustion engine evacuation vehicles;
 - (d) a Carbon Dioxide Pipeline rupture emergency response training program to ensure safe and effective response by county and municipal law enforcement, emergency medical services, and other responders during the operational life of the Carbon Dioxide Pipeline.

12. Abandonment, Discontinuance, and Removal of Hazardous Liquid Pipelines

- A. In addition to the requirements set by Iowa Code § 479B.32, a Hazardous Liquids Pipeline in the County that is abandoned shall comply with the requirements of this section. A Hazardous Liquid Pipeline shall be deemed abandoned for purposes of this section whenever the use of the Hazardous Liquid Pipeline has been discontinued such that there is no longer regulatory oversight of the Pipeline by PHMSA.
- B. For purposes of the land restoration standards of Iowa Code § 479B.20, the term "construction" includes the removal of a previously constructed pipeline, and the County will treat the removal of a Pipeline in the same manner as the Pipeline's original construction for purposes of the County's obligations under Iowa Code chapter 479B.
- C. A Pipeline Company granted a Conditional Use Permit pursuant to this Section shall by certified mail notify the County and all Affected Persons in the County of the Pipeline Company's intent to discontinue the use of the Pipeline. The notification shall state the proposed date of the discontinuance of use.
- D. Upon abandonment or discontinuance of use, the Pipeline Owner shall offer to each Property Owner the option to have the Pipeline and all related facilities physically dismantled and removed, including both the below and above ground

facilities. The removal of the Pipeline and the related Reclamation and Reclamation Costs shall be the Pipeline Company's responsibility and shall be completed within one-hundred eighty (180) days from the date of abandonment or discontinuation of use unless a Property Owner agrees to extend the date of removal. Such an extension must be by written agreement between the Pipeline Company and the Property Owner, and the agreement shall be filed at the Woodbury County Recorder's office and a copy delivered to the County by the Pipeline Owner.

- E. A Property Owner shall not be required to have the Pipeline removed, but if the Property Owner agrees to the removal and Reclamation, the Property Owner shall allow the Pipeline Company reasonable access to the property.
- F. Upon the removal of the Pipeline and the Reclamation, the Pipeline Owner shall restore the land according to the requirements of Iowa Code § 479B.20 and the rules adopted thereunder at 199-9.1(479,479B), including all amendments thereto.

13. **Repealer.** All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.
14. **Severability.** If any term, condition, or provision of this Ordinance shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective and each and every remaining provision hereof shall be valid and shall be enforced to the fullest extent permitted by law, it being the intent of the Board of Supervisors that it would have enacted this Ordinance without the invalid or unenforceable provisions. In the event of a subsequent change in applicable law so that the provision that had been held invalid is no longer invalid, said provision shall thereupon return to full force and effect without further action by the County and shall thereafter be binding.
15. **Effective Date.** This Ordinance shall be in full force and take effect from and after the date of its final passage and approval.
16. **Savings.** Nothing contained herein shall in any manner be deemed or construed to alter, modify, supersede, supplant or otherwise nullify any other Ordinance of unincorporated Woodbury County or the requirements thereof whether or not relating to or in any manner connected with the subject matter hereof, unless expressly set forth herein.

Dated the ____ day of _____, 2022.

THE WOODBURY COUNTY, IOWA BOARD OF SUPERVISORS

Attest:

Keith Radig, Chairman

Jeremy Taylor, Vice Chairman

Patrick Gill, Woodbury County Auditor

Rocky De Witt

Matthew Ung

Justin Wright

Adoption Timeline:
Public Hearing and 1st Reading:
Public Hearing and 2nd Reading:
Public Hearing and 3rd Reading:
Adopted:
Effective: