



LOCATION : Front Range 2

Document: Alternative Location Analysis Narrative (ALA)

Section 23, Township 6 North, Range 67 West

Lat: 40.466418°, Long: -104.859778°

Form 2A Doc No. 403691333

Weld County, Colorado

Background

Carbon Storage Solutions seeks to develop a well that will support a Class VI Carbon Capture Sequestration program. This EPA required well will monitor pressure, temperature, and formation fluid sampling.

Introduction

This Alternative Location Analysis is intended to facilitate compliance with the Front Range 2 ECMC Rules and Regulations, Rule 304.b.(2). This document serves as the Alternative Location Analysis for Form 2A. The Proposed Location for a single stratigraphic well is located in the SWSE Section 23 of Township 6 North, Range 67 West. This Alternative Location Analysis was required by Rule 304.b.(2).

604.a Considerations

- **(1) No** proposed Well at this location will be less than 200 feet from building, public roads, above ground utility lines, or railroads.
- **(2) No** proposed Well at this location will be less than 150 feet from any surface property line.
- **(3) No** School Facility or Childcare Center will be within 2000 feet of the WPS.
- **(4) No** RBU will be within 500 feet of the WPS.

604.b Considerations

- **YES, one (1)** Residential Building Units (RBU) or High Occupancy Building Units (HOBUs) is within 500-2000 feet from the proposed WPS. One single RBU is located 1613 feet to the northeast.

- This Consideration is satisfied however by Rule 604.b.(3) as there will be **No** permanent facilities, including Wells, Tanks, Separation Equipment or Compressors on the Proposed Location less than 2000 feet from all RBUs and HOBUs, including the one single RBU located 1613 feet from the WPS to the northeast.
- Although this Proposed Location is satisfied by Rule 604.b.(3), Carbon Storage Solutions still sought an Informed Consent Agreement from the single RBU 1613 feet to the northeast. CSS mailed an Informed Consent Agreement to the homeowner in early February 2024, then followed up with an in-person visit on February 23, 2024, at 10:30am. Dan Sanders of Carbon Storage Solutions met with John and Sharon Baptist at their home to discuss, in details the broader carbon capture sequestration project as importantly the “monitor well,” that will be located on this Proposed Location. The Informed Consent was executed by the homeowner on February 27, 2024, submitted as an attachment to the Form 2A.

Description of Setting

The proposed Total Surface Use Area is 10.82 acres of agriculturally zoned acreage. The proposed location is used as Cropland by the surface owner. This project would be located adjacent to the railroad (west and north) and within an industrial park, agricultural lands to the north. Access will be via East Parkman Dr. and the old driveway will be utilized to access the location. The nearest Building Unit is 331 feet to the west in the industrial park.

The proposed location will be in the SWSE of Section 23, Township 6 North, Range 67 West, zoned agricultural within the Weld County Ag-Rural Planning Area. The proposed location has an executed surface use agreement, and the pad will be on parcel 080723000015. The proposed location will be situated in the SWSE of section 23 and will allow for up to one (1) vertical stratigraphic well to be drilled to the estimated depth of 9200 TVD.

Potential Impacts

- Up to 1 well, 10.82 acres maximum disturbance area including a 495-foot access road (0.68 acres). Post Interim Reclamation, planned for late 2024, will result in an un-reclaimed acreage will amount to ±2.45 acres.

Advantages

- This location is 6395 feet (1.21 Miles) from CSS Front Range 1-1 stratigraphic well BHL. The Front Range 1-1 well is planned for re-permitting as a Class VI CO₂ Injection well under the EPA UIC Program. Under the UIC Program, for the re-permitting of the Front Range 1-1, Operator is required to place a second stratigraphic well ~1.0-1.5 miles from the Front Range 1-1 BHL.
- Operator has the ability to position the Wellhead and Meter House over 2000 feet from the single RBU within 2000 feet from the WPS.
- This location has no underground flowlines near the proposed wellbore.
- This location is 218 feet from a Railroad Tracks to the west.
- There are no HOBUs, School Facility or Childcare Centers, Designated Outside Activity Areas, or Municipal or County boundaries within 2000 feet of the WPS.
- This location is not located in a Disproportionately Impacted Community.
- The operator has an executed Surface Use Agreement with the surface owner of the subject land.

Disadvantages

- This location's WPS is approximately 1613 feet from a Resident Building Unit to the northeast.
 - Wellhead will be 2075 feet from this RBU.
- This location's WPS is approximately 178 feet from a Above Ground Utility.
 - Wellhead will be 387 feet from the Above Ground Utility.
- This location's WPS is approximately 134 feet from a Property Line.

- Wellhead will be 340 feet from the Above Ground Utility.

Permitting Considerations and Factors Making Location Unavailable

While the WPS does reside within 2000 feet of an RBU, Operator intends to position the wellhead 2075 feet from the RBU. Furthermore, Operator intends to position the wellhead so as to be located greater than 200 feet from the railroad, property line and above ground utility. After considering the other alternative locations proposed in this study, the Operator cannot recognize any conditions or factors that make this location unavailable.

Alternative Location 1 – SENW Section 34, Township 6 North, Range 67 West

Lat: 40°26'45.64"N

Long: 104°52'48.03"W

Potential Impacts

- Up to 1 well, approximately 10.82 acres maximum disturbance area, including approximately a 450-foot access road.

604.a Considerations

- **(1) No** proposed Well at this location will be less than 200 feet from building, public roads, above ground utility lines, or railroads.
- **(2) No** proposed Well at this location will be less than 150 feet from any surface property line.
- **(3) No** School Facility or Childcare Center will be within 2000 feet of the WPS.
- **(4) No** RBU will be within 500 feet of the WPS.

604.b Considerations

- **No** Residential Building Units (RBU) or High Occupancy Building Units (HOBUs) is within 500-2000 feet from the proposed WPS.

Advantages

- This location is 7762 (1.47 Miles) feet from CSS Front Range 1-1 stratigraphic well BHL. The Front Range 1-1 well is planned for re-permitting as a Class VI CO₂ Injection well under the EPA UIC Program. Under the UIC Program, for the re-permitting of the Front Range 1-1, Operator is required to place a second stratigraphic well ~1.0-1.5 miles from the Front Range 1-1 BHL.
- This location's WPS is not within 2000 feet of RBUs, HOBUs, Railroads, School Facilities or Childcare Centers.
- This location's WPS is 1063 feet from the nearest Municipal boundary (Windsor), which has been supportive of the Carbon Capture Sequestration program from the onset, when we first permitted the Front Range 1 Location.
- This location is not located in a Disproportionately Impacted Community.

Disadvantages

- The property is located in High Priority Habitat;
 - Aquatic Native Species Conservation Waters
 - Bald Eagle Active Nest Qtr. Mile
 - Mule Deer Severe Winter Range
 - Bald Eagle Active Nest Site Half Mile
- This location is near two Public Recreational Trails (Poudre River Trail & Kodak Trailhead).
- This location is 93 feet from an active wellbore (Broe 07c)
- This location has underground flowlines.
- This location is near a Fresh water Pond.
- This location is in a 100-Year FEMA Floodplain per ECMC GIS mapping.
- The operator does not have a Surface Use Agreement with the surface owner within this section. While a *moderate* amount of sitting research and sub-surface planning occurred, operator did not contract a landman to secure an SUA covering ALA #1. It is Operator's belief that too many factors work against this location's viability.

Permitting Considerations and Factors Making Location Unavailable

This Alternative Location, determined by its proximity to the Front Range 1-1 BHL, is simply too congested by High Priority Habitat GIS overlays, four in total. After considering the other alternative locations proposed in this study, the Operator believes this not to be a viable location from a permitting consideration.

Conceptual Drawing

Below is a conceptual drawing of this Alternative Location.



Note: Computer System Could Note Support Graphic HPH Overlays

Alternative Location 2 – NW Section 30, Township 6 North, Range 66 West

Lat: 40°27'42.82"N

Long: 104°49'53.79"W

Potential Impacts

- Up to 1 well, approximately 10.82 acres maximum disturbance area, including approximately a 450-foot access road.

604.a Considerations

- **(1) No** proposed Well at this location will be less than 200 feet from building, public roads, above ground utility lines, or railroads.
- **(2) No** proposed Well at this location will be less than 150 feet from any surface property line.
- **(3) No** School Facility or Childcare Center will be within 2000 feet of the WPS.
- **(4) Yes** 1 RBU will be within 500 feet of the WPS.

604.b Considerations

- **YES, twelve (12)** Residential Building Units (RBU) or High Occupancy Building Units (HOBUs) are within 500-2000 feet of the proposed WPS.
 - This Consideration is not possible to satisfy under Rule 604.b.(3) as the closest RBU is 348 feet from the WPS to the north, making it impossible to position facilities, including Wells, Tanks, Separation Equipment or Compressors on the Proposed Location less than 2000 feet from all RBUs and HOBUs.

Advantages

- This location is 7392 feet (1.40 Miles) from CSS Front Range 1-1 stratigraphic well BHL. The Front Range 1-1 well is planned for re-permitting as a Class VI CO2 Injection well under the EPA UIC Program. Under the UIC Program, for the re-permitting of the Front Range 1-1, Operator is required to place a second stratigraphic well ~1.0-1.5 miles from the Front Range 1-1 BHL.
- This location's WPS is not within 2000 feet of HOBUs, Railroads, School Facilities or Childcare Centers.
- This location is not located in a Disproportionately Impacted Community.

Disadvantages

- This location would be within 348 feet from a RBU.
 - Per Rule 604.a.(4), an RBU within 500 feet of a WPS is not permitted, even with an Informed Consent. While this is *not* an Oil & Gas Location, this could still pose an issue for permitting, thus is a consideration in this ALA process.
- This location would be within 1849 feet from a Bald Eagle Roost Site.
- This location's WPS would be within 113 feet from a railroad track.
- This location is in a 100-Year FEMA Floodplain per ECMC GIS mapping.
- This location is 66 feet from an active wellbore (Goetzel 31C-30-M)
- This location's WPS is 413 feet from the nearest Municipal boundary (Greeley), who's position on the establishment of a *monitoring well* for a Carbon Capture Sequestration projects is uncertain at this time.
- The operator does not have a Surface Use Agreement with the surface owner within this section. While a *moderate* amount of sitting research and sub-surface planning occurred, operator did not contract a

landman to secure an SUA covering ALA #2. It is Operator's belief that too many factors work against this location's viability.

Permitting Considerations and Factors Making Location Unavailable

This Alternative Location, determined by its proximity to the Front Range 1-1 BHL, suffers from a number of RBUs within 2000 feet (13), to the point that this Operator believes it's not possible to locate the Wellhead and Meter House outside a 2000-foot buffer. Furthermore, there is a High Priority Habitat GIS overlay within 2000 feet. After considering the other alternative locations proposed in this study, the Operator believes this not to be a viable location from a permitting consideration.

Conceptual Drawing

Below is a conceptual drawing of this Alternative Location.



Alternative Location 3 – SE Section 36, Township 6 North, Range 67 West

Lat: 40°26'24.63"N

Long: 104°50'0.75"W

Potential Impacts

- Up to 1 well, approximately 10.82 acres maximum disturbance area, including approximately a 450 'foot access road.

604.a Considerations

- **(1) No** proposed Well at this location will be less than 200 feet from building, public roads, above ground utility lines, or railroads.
- **(2) No** proposed Well at this location will be less than 150 feet from any surface property line.
- **(3) No** School Facility or Childcare Center will be within 2000 feet of the WPS.
- **(4) No** RBU will be within 500 feet of the WPS.

604.b Considerations

- **YES, two (2)** Residential Building Units (RBU) or High Occupancy Building Units (HOBUs) are within 500-2000 feet of the proposed WPS, with the closest RBU 940 feet to the south.
 - This Consideration is not possible to satisfy under Rule 604.b.(3) as closest RBU is 912 feet from the WPS to the north, making it impossible to position facilities, including Wells, Tanks, Separation Equipment or Compressors on the Proposed Location less than 2000 feet from all RBUs and HOBUs.

Advantages

- This location is 6336 feet (1.20 Miles) from CSS Front Range 1-1 stratigraphic well BHL. The Front Range 1-1 well is planned for re-permitting as a Class VI CO₂ Injection well under the EPA UIC Program. Under the UIC Program, for the re-permitting of the Front Range 1-1, Operator is required to place a second stratigraphic well ~1.0-1.5 miles from the Front Range 1-1 BHL.
- This location's WPS is not within 2000 feet of HOBUs, Designated Outside Activity Areas, Above-Ground Utility Lines, Railroads, School Facilities or Childcare Centers.
- This location is not located in a Disproportionately Impacted Community.

Disadvantages

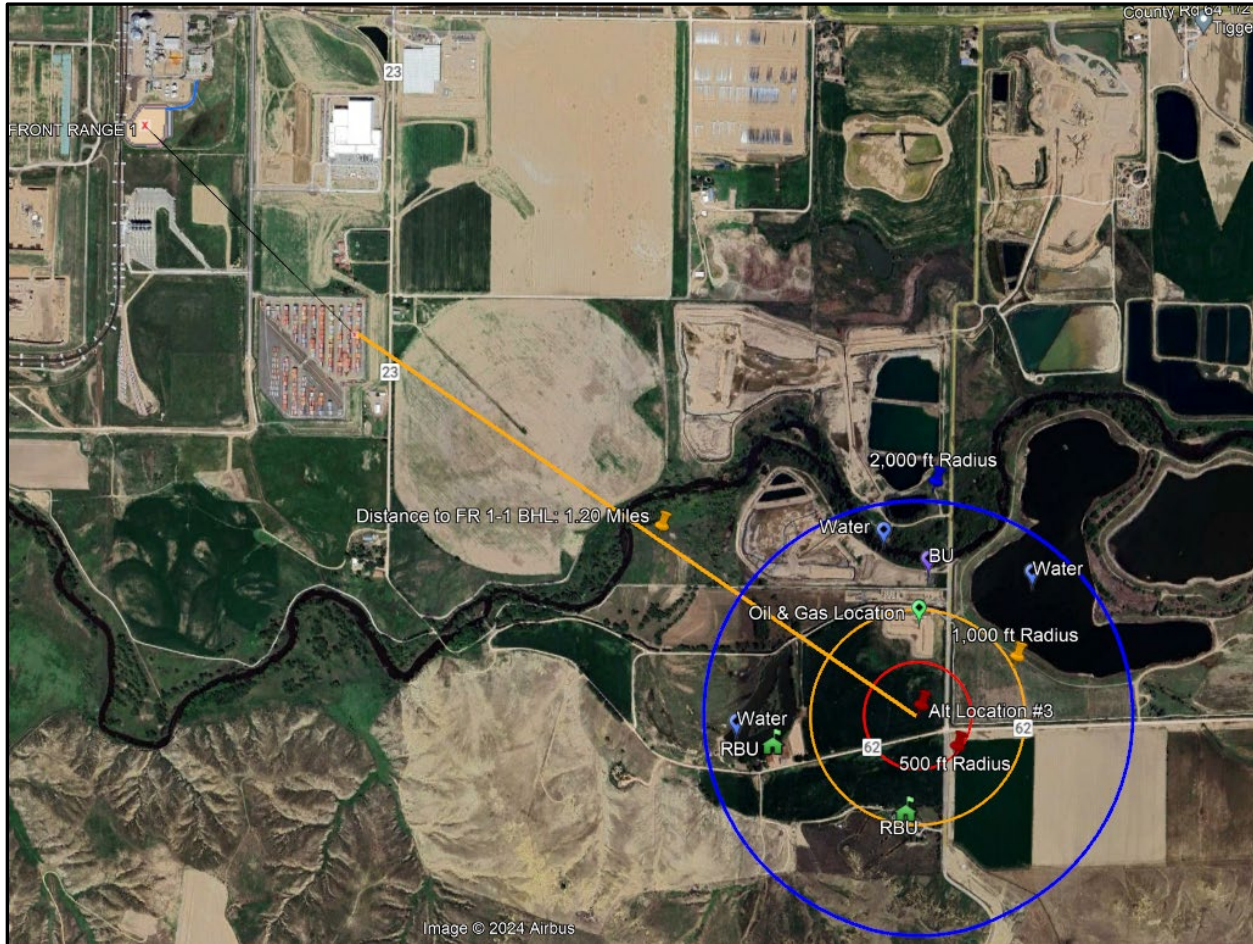
- The property is located in High Priority Habitat;
 - Bald Eagle Roost Site
- The property is located within 2000 feet of High Priority Habitat;
 - Aquatic Native Species Conservation Waters.
- This location is 15 feet from an active wellbore (Orr State 23C-32-M).
- This location is near Fresh water ponds.
 - This location's WPS is 31 feet from the nearest Municipal boundary (Greeley), who's position on the establishment of a *monitoring well* for a Carbon Capture Sequestration projects is uncertain at this time.
- The operator does not have a Surface Use Agreement with the surface owner within this section. After a *material* amount of sitting research and sub-surface planning, operator contracted a landman to secure an SUA covering ALA #3. Operator was hopeful as exhausted vertical Oil & Gas wells had been P&A'd in this general area, making room for this project. Unfortunately, the landman was unsuccessful in securing an SUA.

Permitting Considerations and Factors Making Location Unavailable

This Alternative Location, determined by its proximity to the Front Range 1-1 BHL, suffers from a number of RBUs within 2000 feet (2), to the point that this Operator believes it's not possible to locate the Wellhead and Meter House outside a 2000-foot buffer. Furthermore, this Alternative Location is located within High Priority Habitat (Bald Eagle Roose Site) and within 2000 feet of an Aquatic Native Species Conservation Waters High Priority Habitat GIS overlay. After considering the other alternative locations proposed in this study, the Operator believes this not to be a viable location from a permitting consideration.

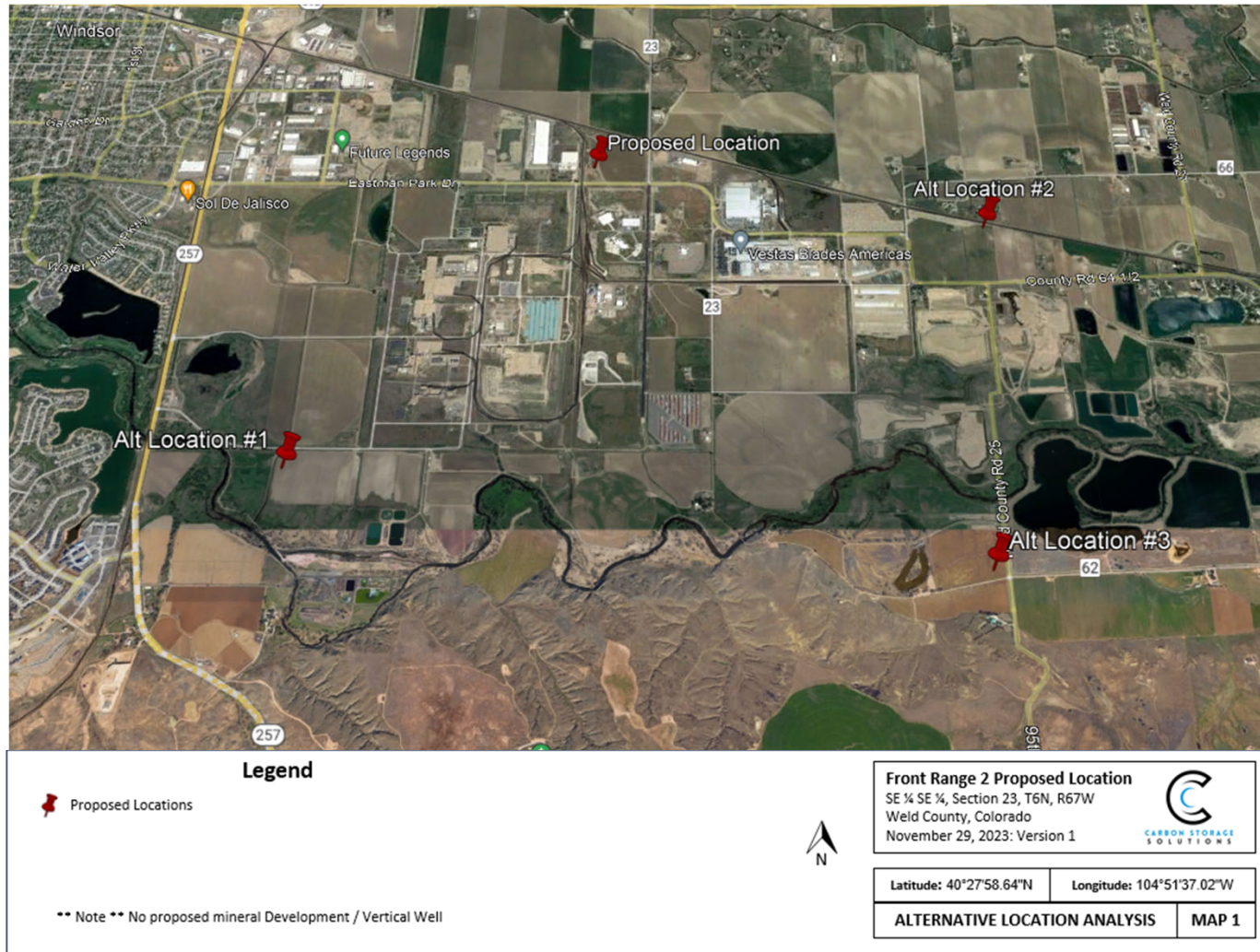
Conceptual Drawing

Below is a conceptual drawing of this Alternative Location.

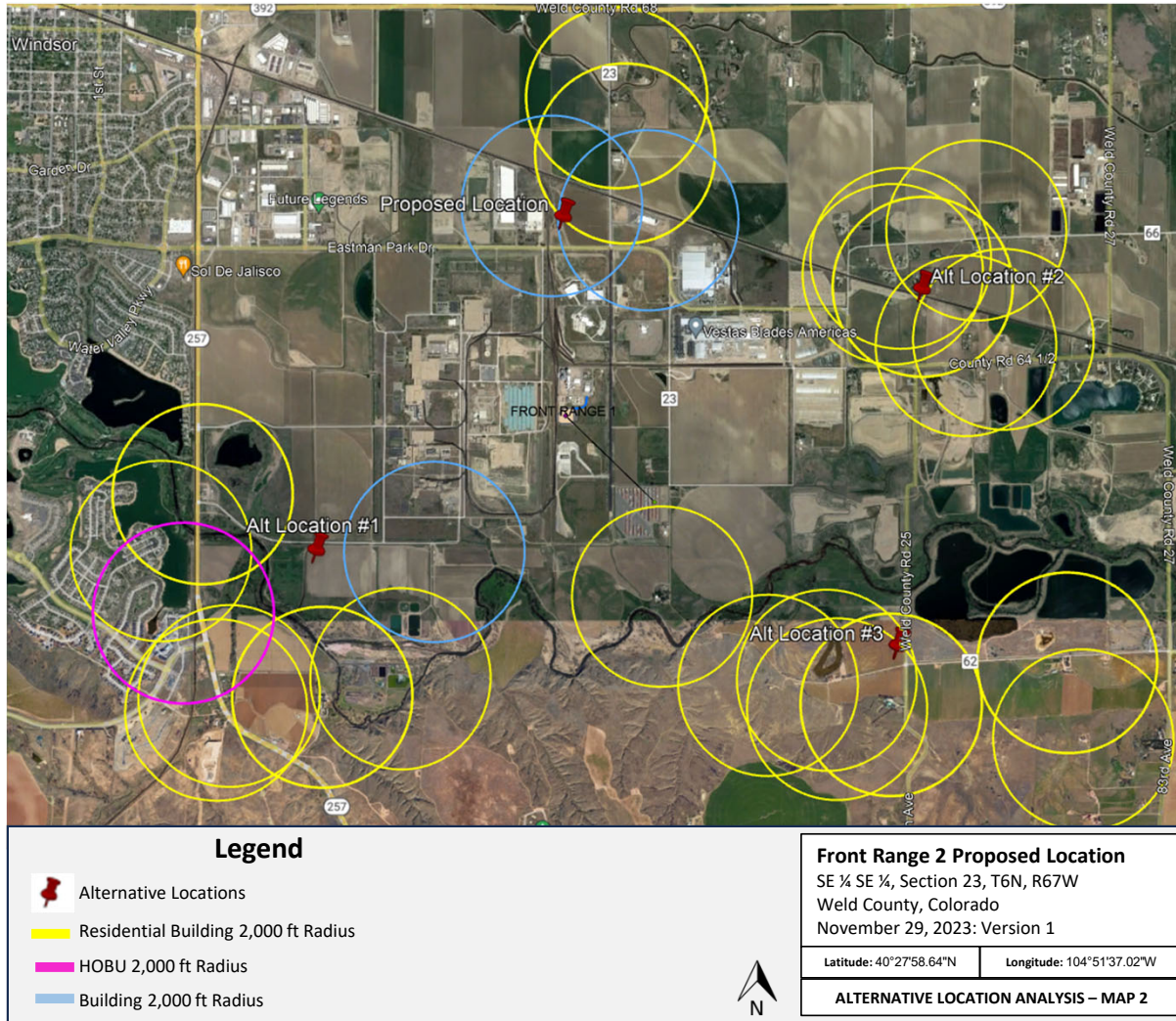


Note: Computer System Could Note Support Graphic HPH Overlays

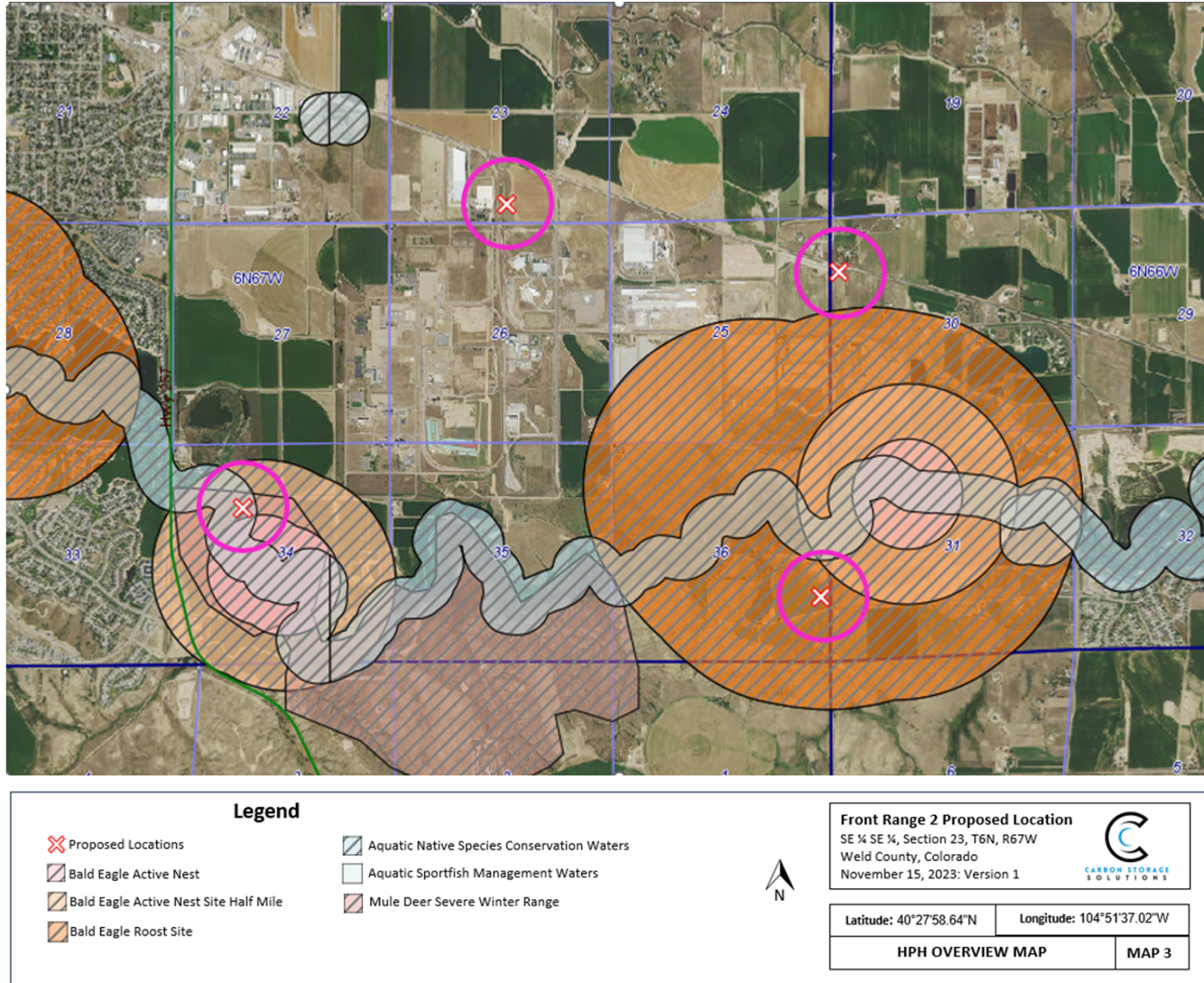
ALTERNATIVE LOCATION ANALYSIS – MAP 1



ALTERNATIVE LOCATION ANALYSIS – MAP 2



ALTERNATIVE LOCATION ANALYSIS (with 2000' buffer) – MAP 3



Reference Point	Proposed Location		Alt Loc 1: SENW Sec 34, 6N67W		Alt Loc 2: L2 Sec 30, 6N66W		Alt Loc 3: NESE Sec 36, 6N67W	
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
	40°27'59.10"N	104°51'35.20"W	40°26'45.64"N	104°52'48.03"W	40°27'42.82"N	104°49'53.79"W	40°26'24.63"N	104°50'0.75"W
304.b.(3).A								
Working Pad Surface to Cultural Feature:	Distance	Direction	Distance	Direction	Distance	Direction	Distance	Direction
BU	58'	North	2705'	East	224'	North	951'	South
RBU	1,613'	Northeast	2981'	South	348'	North	912'	South
HOBUI	5280' +	Northwest	2992'	West	5280' +	West	5280' +	West
Designated Outside Activity Area	5280' +	South	5280' +	West	5280' +	West	5280' +	Northwest
Public Road	217'	South	443'	North	725'	North	208'	South
Above-Ground Utility	178'	West	393'	North	1,484'	South	212'	South
Railroad	218'	West	2649'	West	114'	North	5280' +	North
Property Line	134'	East	200'	East	200'	West	200'	East
School Facility	5280' +	Northwest	5280' +	West	5280' +	West	5280' +	West
Child Care Center	5280' +	Northwest	5280' +	West	5280' +	West	5280' +	West
Boundary of DIC	5280' +	North	5280' +	West	5280' +	West	5280' +	West
RBU, HOBUI, or School Facility within a Disproportionately Impacted Community within 2000 feet	5280' +	None	5280' +	None	5280' +	None	5280' +	None
304.b.(3).B								
Number of cultural features within:	0-500 Feet	501-1000 Feet	1,001-2000 Feet	0-500 Feet	501-1000 Feet	1,001-2000 Feet	0-500 Feet	501-1000 Feet
BU	1	0	5	0	0	0	0	0
RBUS	0	0	1	0	0	0	1	0
HOBUS	0	0	0	0	0	0	0	1
School Properties	0	0	0	0	0	0	0	0
School Facilities	0	0	0	0	0	0	0	0
Designated Outside Activity Area	0	0	0	0	0	0	0	0
304.b.(2).C.iii.aa								
304.b.(2).B Criteria Met (i-v) (provide a brief description of each criteria met)	i. WPS is within 2,000 ft of RBU or HOBUI? Yes ii. WPS is within 2,000 ft of school or CCCT? No iii. WPS within 1,500 ft of DOA#1? No iv. WPS within 2,000 ft of Municipal or County boundary, & the Proximate Local Government objects to the location? Yes v. WPS within Floodplain? No vi. WPS within boundaries or immediately adjacent from mapped visible or field verified wetland or riparian corridor? No vii. WPS within HPH and Operator did not obtain a waiver? No viii. Operator intends to use a Surface Owner protection bond? No ix. WPS within 2,000 ft of RBU, HOBUI, and the school located in the DI community? No		i. WPS is within 2,000 ft of RBU or HOBUI? No ii. WPS is within 2,000 ft of school or CCCT? No iii. WPS within 1,500 ft of DOA#1? No iv. WPS within 2,000 ft of Municipal or County boundary, & the Proximate Local Government objects to the location? No. ALA is within 2000' of a Municipal or County boundary but uncertain if PLC would object to this location. v. WPS within Floodplain? Yes vi. WPS within boundaries or immediately adjacent from mapped visible or field verified wetland or riparian corridor? Yes vii. WPS within HPH and Operator did not obtain a waiver? Yes viii. Operator intends to use a Surface Owner protection bond? No ix. WPS within 2,000 ft of RBU, HOBUI, and the school located in the DI community? No		i. WPS is within 2,000 ft of RBU or HOBUI? Yes ii. WPS is within 2,000 ft of school or CCCT? No iii. WPS within 1,500 ft of DOA#1? No iv. WPS within 2,000 ft of Municipal or County boundary, & the Proximate Local Government objects to the location? No. ALA is within 2000' of a Municipal or County boundary but uncertain if PLC would object to this location. v. WPS within Floodplain? Yes vi. WPS within boundaries or immediately adjacent from mapped visible or field verified wetland or riparian corridor? Yes vii. WPS within HPH and Operator did not obtain a waiver? No viii. Operator intends to use a Surface Owner protection bond? No ix. WPS within 2,000 ft of RBU, HOBUI, and the school located in the DI community? No		i. WPS is within 2,000 ft of RBU or HOBUI? Yes ii. WPS is within 2,000 ft of school or CCCT? No iii. WPS within 1,500 ft of DOA#1? No iv. WPS within 2,000 ft of Municipal or County boundary, & the Proximate Local Government objects to the location? No. ALA is within 2000' of a Municipal or County boundary but uncertain if PLC would object to this location. v. WPS within Floodplain? No vi. WPS within boundaries or immediately adjacent from mapped visible or field verified wetland or riparian corridor? Yes vii. WPS within HPH and Operator did not obtain a waiver? No viii. Operator intends to use a Surface Owner protection bond? No ix. WPS within 2,000 ft of RBU, HOBUI, and the school located in the DI community? No	
304.b.(2).C.iii.bb								
Location within DIC or within 2000' of DIC? YES or NO	NO		NO		NO		NO	
	Distance	Direction	Distance	Direction	Distance	Direction	Distance	Direction
If YES, distance to nearest BU:	-	-	-	-	-	-	-	-
If YES, distance to nearest HOBUI:	-	-	-	-	-	-	-	-
If YES, distance to nearest School:	-	-	-	-	-	-	-	-
If YES, describe community outreach efforts per 304.b.(2).Cii	-		-		-		-	
	Number	Description	Number	Description	Number	Description	Number	Description
If YES, the number and description of existing Oil and Gas Locations, Facilities, and Wells within 2000' of any RBU, HOBUI, or School within 2000' of the proposed location	-	-	-	-	-	-	-	-
304.b.(2).C.iii.cc								
Distance to municipal or county boundaries within 2000', and names of the Proximate Local Government(s)	Distance	Name	Distance	Name	Distance	Name	Distance	Name
	397' West	Windsor	1,063' West	Windsor	413' East	Greeley	31' West	Greeley
304.b.(2).C.iii.dd								
Relevant Local Government Name	Weld County		Weld County		Weld County		Weld County	
BLG Land Use or Zoning Designation	Agricultural		Industrial		Agricultural		Agricultural	
BLG Permitting Process	WOGIA		WOGIA		WOGIA		WOGIA	
Status of BLG Permit if Applicable	N/A		N/A		N/A		N/A	
304.b.(2).C.iii.ee								
Current Land Use	Cropland - Agricultural		Industrial - Business		Grazing Land - Agricultural		Grazing Land - Agricultural	
Plans for Future Use at Location	Cropland - Agricultural		Industrial - Business		Grazing Land - Agricultural		Grazing Land - Agricultural	
Plans for Proximal Location	Agricultural		Agricultural		Agricultural		Agricultural	
304.b.(2).C.iii.fff								
Distance to nearest wetland, surface water (Waters of the State), surface water supply area, or PWS supply well (Type III aquifer or GUDI)	Distance	Direction	Type	Distance	Direction	Type	Distance	Direction
	69'	West	Water Well	380.76'	Northwest	Water Well (029754L)	480.74'	Northwest
							Water Well (9059144)	
							1,096.74	Northeast
								Sand Pit
304.b.(2).C.iii.ggg								
	Distance	Direction	Distance	Direction	Distance	Direction	Distance	Direction
Distance to Nearest HPH	3,580'	Northwest	0'	Inside HPH (Aquatic Native Species Conservation Waters, Bald Eagle Active Nest Site Qtr Mile, Mule Deer Severe Winter Range, Bald Eagle Active Nest Site Half Mile)	1849'	South	0'	Location within Bald Eagle Roost Site
304.b.(2).C.iii.hhh								
Anticipated Method of RTC	SUA		SUA		SUA		SUA	
Surface Ownership	Fee		Fee		Fee		Fee	
Additional Information								
604.a Considerations	None		None		YES - See ALA Narrative Summary		None	
604.b Considerations	YES - See ALA Narrative Summary		None		YES - See ALA Narrative Summary		YES - See ALA Narrative Summary	
Any Variance or Other Relief Required	None		None		None		None	
Tier Classification	Tier IV (Strat Well - No Mineral Development)		Tier IV (Strat Well - No Mineral Development)		Tier IV (Strat Well - No Mineral Development)		Tier IV (Strat Well - No Mineral Development)	
The Following Items Should be Answered in a Written Narrative Format and Attached to the Form 2A as "ALA Narrative Summary" (PDF Format)								
Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location	See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary	
Description of advantages and disadvantages associated with this location	See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary	
Permitting considerations for this location	See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary	
Conditions or factors that make the location unavailable	See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary	
Any other considerations	See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary		See ALA Narrative Summary	