MALHEUR COUNTY, OR

Bioeconomy Development Opportunity Zone

RATING GRADE: 'A'

Date of Issue: April 6, 2026

A
High Quality

Rating Parameters:

Category	Rated Quantity	Delivered Price	Supply Zone Size
Dairy Manure	20,000 wt/yr	$25-$35/wt	75-mi drive distance
Feedlot Manure	170,000 wt/yr	$21-$31/wt	from Nyssa, OR

BDO ZONE ASSETS

- Feedlots and Oregon dairies are willing to sell to new buyers, as current market is seasonal and frequently saturated.
- A manure-based bio-project would complement regulatory goals of minimizing manure land application.
- Manure management procedures and equipment are already in place.
- High confidence in continuation of modelled manure generation levels due to strong historical performance of region's dairy and beef industries.

BDO ZONE LIABILITIES

- For projects requiring a liquefied feedstock, water use regulations may lead to technical and economic barriers to feedlot manure liquefaction.
- There is uncertainty in expected pricing, as indicated by the wide rated price range.

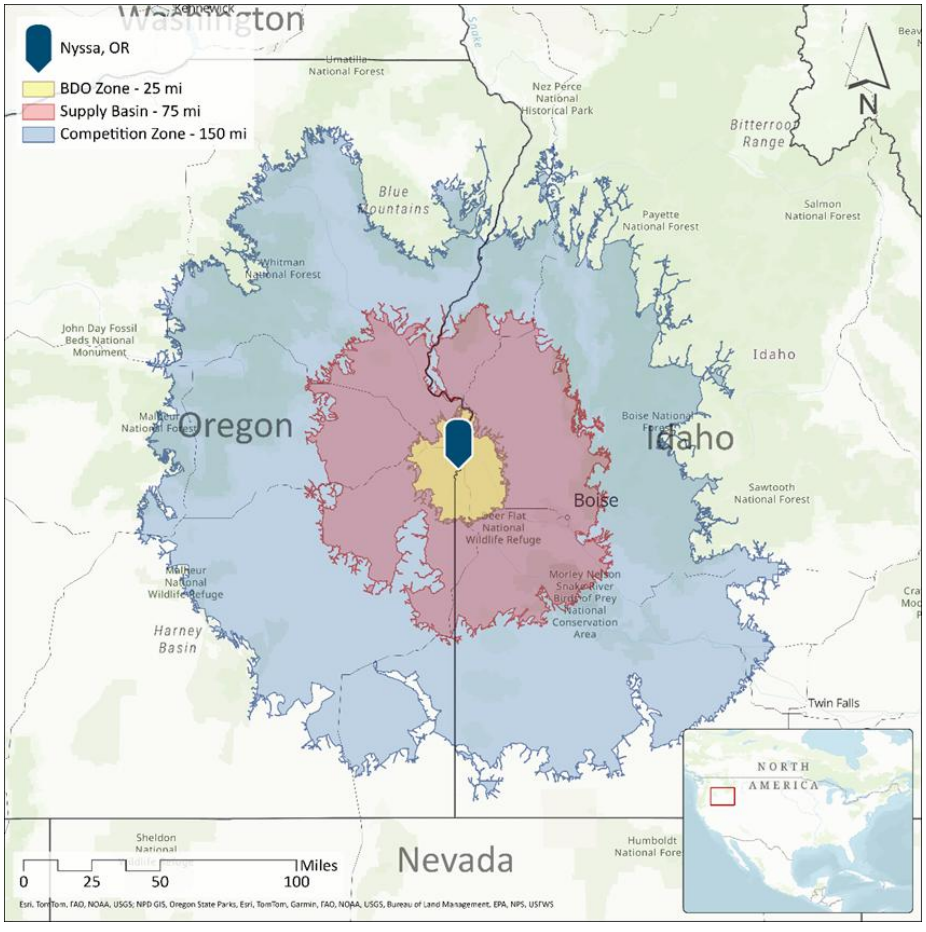
RATING GRADE

The Malheur County, OR, Bioeconomy Development Opportunity Zone, is rated 'A', or 'low' risk.

Risk Rating Grades are defined as follows: AAA (extremely low), AA (very low), A (low), BBB (low-moderate), BB (moderate), B (moderate-high), and C (high).

'A' ratings denote high prospective viability of Feedstock Supply and Infrastructure and low expectations of default risk in the Zone. Capacity to support new biobased plant operations is considered strong. This capacity may, nevertheless, be more vulnerable to adverse weather, supply chain, economic, or infrastructure conditions than is the case for higher ratings.

MALHEUR, OR BDO ZONE



ANALYST NOTES

The Supply Zone forms one of the most concentrated dairy and livestock production corridors in the western United States, anchored by a network of dairies, beef feedlots, and crop producers. Approximately 15 large free-stall dairy operations and 40 feedlots are present in the Supply Zone, generating 2,473,000 wt/yr of manure. Although dairy manure supply opportunities are limited due to the concentration of dairy operations on the Idaho side of the border, there is a large network of beef feedlots present in Oregon and Idaho that are likely to allocate manure for new projects in the vicinity of Nyssa.

A total of 190,000 wt/yr of cattle manure is estimated to be available for new projects within a 75-mile drive distance of Nyssa at low risk. This includes 170,000 wt/yr of manure generated on beef feedlots and 20,000 wt/yr of manure generated by two dairies in Oregon. The delivered price for manure is expected to range from $21-$31/wt for feedlot manure and $25-$35/wt for dairy manure. A description of the methods used to estimate the rated quantities and prices is presented in Section B.

Risks were assessed using 75 Risk Indicators from the US Standard for Biomass Supply Chain Risk (BSCR). Details of the risk assessment are presented in Section C. The following is a summary of the most significant assets and liabilities of the region, as inferred from the risk assessment.

BDO ZONE ASSETS

Outreach to operators of beef feedlots and dairy farms indicates that they are willing to reallocate manure supplies to new buyers for consistent offtake and more stable pricing. The regional manure compost market is relatively saturated due to the large dairy industry in Idaho, and prices for compost shift on an annual basis in response to changes in synthetic fertilizer prices. Consequently, operators of dairy farms and beef feedlots have incentive to work with alternative buyers.

A new bio-project that utilizes manure would minimize environmental impacts and complement existing regulatory frameworks by reducing the volume of manure that must be land-applied. Regional dairies and feedlots must operate under Confined Animal Feeding Operation (CAFO) permits and implement approved Nutrient Management Plans (NMPs) that require manure to be applied at agronomic rates. Land application of manure is prohibited on saturated or snow-covered soils and in close proximity to waterways. By diverting manure, a new bio-project would improve overall environmental outcomes in the region.

The on-farm feedstock collection equipment required to supply manure, including skid steers, dozers, front-end loaders, lagoons, agi-pumps, and related handling equipment, is already in place at feedlots and dairies in the Supply Zone. This equipment is capable of handling the rated quantities of manure without the need for additional on-farm capital investment. Regional trucking capacity is also sufficient to transport the rated volumes of both liquid and solid manure to the project site. Although reception pits and water supply lines may be required to convert inbound feedlot manure into a pumpable slurry at the project site, the fundamental components of the harvesting, collection, and transport supply chain are already established.

Historical and projected market demand for beef and dairy products remains strong, supported by domestic consumption trends and export markets. This ensures a stable and continuous generation of manure. Furthermore, the recovery of manure does not interfere with primary dairy or beef production. The relative strength of the dairy and beef industries and the complementarity between primary product manufacturing and waste management provides assurances of the success of a new bio-project.

BDO ZONE LIABILITIES

The study region consists of a high-desert environment where groundwater resources are deep, limited, and increasingly subject to regulatory scrutiny. To reduce freshwater consumption, many regional dairy operations employ water-recycling systems that reuse milking parlor wash water to flush feed lanes. Recognizing growing pressure on local aquifers, Oregon's Senate Bill 85 now requires new and expanding large livestock operations to submit comprehensive Water Supply Plans to the Oregon Department of Agriculture and the Water Resources Department. As a result, water availability represents a risk for new manure-based bio-projects in the BDO Zone that rely on liquefied feedstocks, particularly given the

relatively large share of feedlot manure in the total rated supply.

The rated price ranges for feedlot and dairy manure are relatively wide. This reflects uncertainty in the FOB prices that supplying feedlots and dairies will charge to a new project, as well as uncertainty in production costs associated with manure handling and windrowing. None of the dairies contacted during outreach were willing to share pricing information and responding feedlot operators gave a large range of FOB prices ($2-$15/wt). While it is plausible that FOB prices closer to the lower end of this range could be paid by a new project with consistent offtake, the nutrient value of manure was estimated to be approximately $11/wt after accounting for the avoided costs of handling when selling to a new project. Furthermore, the FOB value of feedlot manure was estimated to range from $10-$20/wt based on composted manure prices ($27-$37/wt) and a composted manure production cost of $17/wt. A price range of $10-$20/wt FOB was selected on the basis of this information. Further market outreach will be required by project proponents to narrow this range.

INFRASTRUCTURE PROFILE

The Arcadia Industrial Park (also known as the Malheur County Industrial Park) is a 200-acre property located two miles north of downtown Nyssa. The site is zoned as "industrial for outright use" and is adjacent to the Union Pacific main line. Utilities available include a 230-kV distribution line and nearby 3 MW substation, a 12-inch water line, and fiber optic internet. Natural gas is not currently accessible at the park but there are plans to install a connection by Q3 2026. Housing and living costs are low in comparison to national averages, and workforce training requirements can be met with local educational institutions, which provide training relevant to industrial projects. For developers of on-farm anaerobic digesters, two larger free stall dairies are located within 10 miles of Vale, OR (20 miles from Nyssa). A project established at one of these sites would have access to the entire rated quantity of dairy manure within a 10-mile transportation distance.

SCORING & RATING METHODOLOGY

In assessing the biomass supply chain risk for the Bioeconomy Development Opportunity (BDO) Zone, 75 Risk Indicators from the US Standards for Biomass Supply Chain Risk (BSCR) were applied. These BDO Zone Risk Indicators are the subset of BSCR Risk Indicators applicable to evaluating feedstock risk within a BDO Zone.

- The BDO Zone is a 25-mile drive distance from the center point, which represents the siting area for future biomass projects and is where the industrial site is located.
- The Supply Zone is a 75-mile drive distance from the center point, where feedstock availability was assessed.
- The Competition Zone is a 150-mile drive from the center point, where consumers can compete for feedstock generated in the Supply Zone.

Feedstock quantities are expressed in wet tons (wt) per year (wt/yr), while feedstock costs are expressed in United States dollars (USD). Maximum transport distance is based on a 75-mile driving distance from the center point (Nyssa, OR).

The BDO Zone rating is based on an aggregation of the scores assigned to each BDO Zone Risk Indicator (RI) assessed in this report. First, each BDO Zone Risk Indicator is given a **Raw Risk Likelihood (RRL)** score, which denotes the likelihood of a risk to future BDO Zone projects due to the Risk Indicator. RRL Scores are scaled as either very low (2), low (4), medium (6), high (8), or very high (10).

Each BDO Zone Risk Indicator is given a **Raw Risk Impact (RRI)** score, which denotes the impact on a future BDO Zone project due to the Risk Indicator. RRI scores are scaled as either very low (2), low (4), medium (6), high (8), or very high (10). Impact level scores are based on the impact level of a risk on the successful development and deployment of a BDO Zone project with no mitigation measures.

The **Gross Risk Indicator (GRI)** score is then calculated as the product of the RRL and the RRI scores. For example, if an indicator is scored at an RRL of 2 and an RRI of 8, then the GRI for this risk indicator is 2 X 8 = 16.

If the analyst deems that a typical bio-based project could implement economically reasonable measures or best practices that mitigate the likelihood (RRL), the impact (RRI), or both, then the GRI will be notched accordingly.

The **Loaded RI** score for each Risk Indicator is the product of the GRI score and any notched scores. Loaded RIs are the final score for a Risk Indicator.

Loaded RI scores of 4 or less are deemed very low risk; scores between 5 and 16 are deemed low risk; scores between 17 and 36 are deemed medium risk; scores between 37 and 64 are deemed high risk; and scores of 65 and greater are deemed very high risk.

The total risk rating for the BDO Zone is the average of all Loaded RI scores and Infrastructure Indicators. The BDO Zone score for Malheur County, OR is ***15.11 out of 100, resulting in an 'A' designation.***

All scoring and rationale for each Risk Indicator are provided in Section D.



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SECTION A: RISK INDICATOR SUMMARY

Figure A-1. All Risk Indicators Sorted by Risk Level

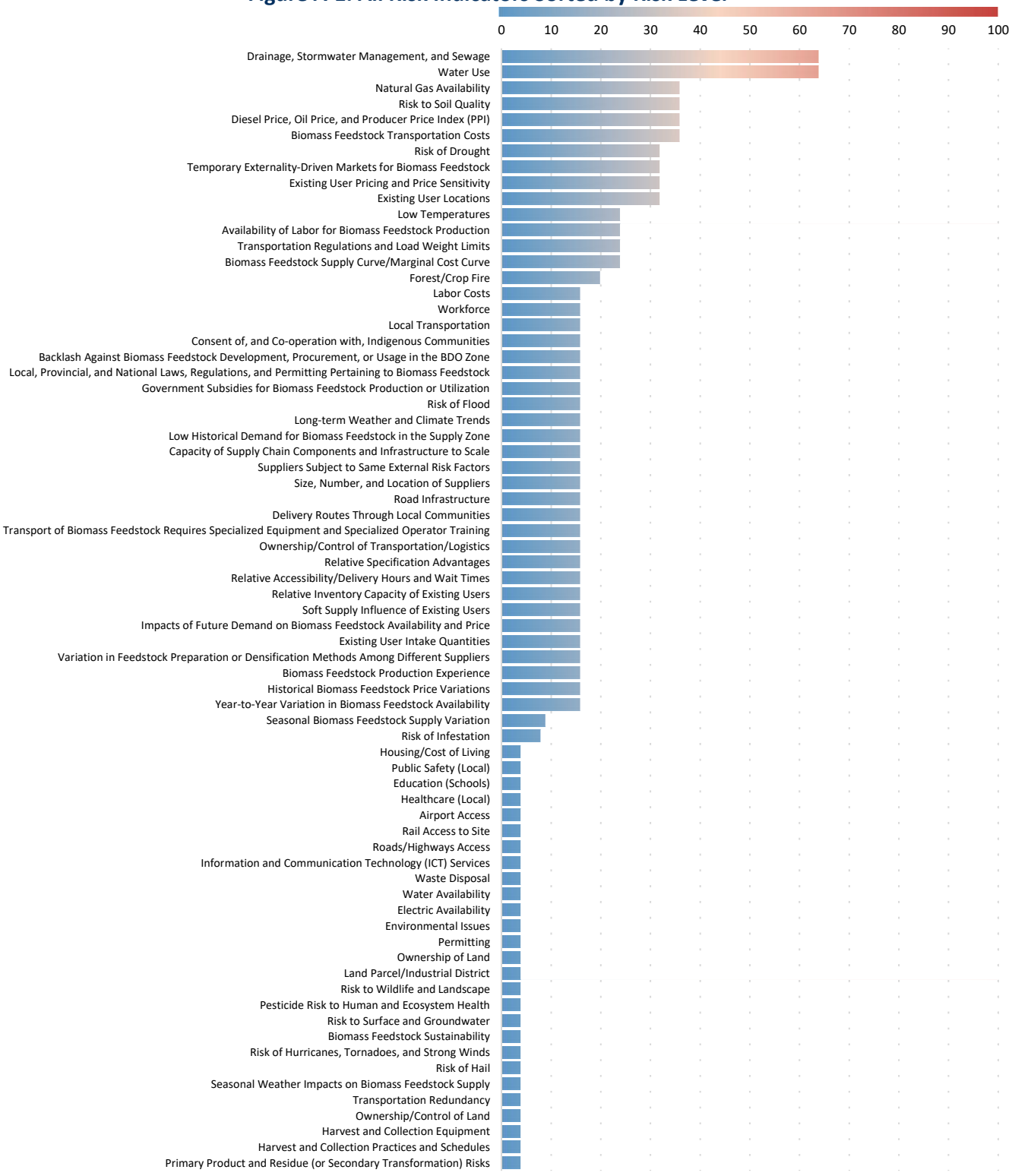


Table A-1. Risk Indicators and Associated Scores

Feedstock Supply Chain Risk Indicators	Raw Risk Likelihood	Raw Risk Impact	Gross Risk Indicator	Mitigation /Notching	Loaded RI Score
Category 1.0: Supply Chain Risk					
1.1 Risk Factor: Quantity and Delivered Cost of Available Biomass Feedstock					
1.1.1 Biomass Feedstock Supply Curve/Marginal Cost Curve	6	4	24	NN	24
1.1.2 Seasonal Biomass Feedstock Supply Variation	6	6	36	75%	9
1.1.3 Year-to-Year Variation in Biomass Feedstock Availability	4	4	16	NN	16
1.1.4 Historical Biomass Feedstock Price Variations	4	4	16	NN	16
1.2 Risk Factor: Harvest and Collection Risk					
1.2.1 Biomass Feedstock Production Experience	4	4	16	NN	16
1.2.2 Primary Product and Residue (or Secondary Transformation) Risks	2	2	4	NN	4
1.2.3 Harvest and Collection Practices and Schedules	2	2	4	NN	4
1.2.4 Harvest and Collection Equipment	2	2	4	NN	4
1.2.5 Ownership/Control of Land	2	2	4	NN	4
1.2.6 Variation in Feedstock Preparation or Densification Methods Among Different Suppliers	4	4	16	NN	16
1.3 Risk Factor: Existing Users					
1.3.1 Existing User Locations	4	8	32	NN	32
1.3.2 Existing User Intake Quantities	4	4	16	NN	16
1.3.3 Existing User Pricing and Price Sensitivity	4	8	32	NN	32
1.3.4 Impacts of Future Demand on Biomass Feedstock Availability and Price	4	4	16	NN	16
1.3.5 Soft Supply Influence of Existing Users	4	4	16	NN	16
1.3.6 Temporary Externality-Driven Markets for Biomass Feedstock	4	8	32	NN	32
1.3.7 Relative Inventory Capacity of Existing Users	4	4	16	NN	16
1.3.8 Relative Accessibility/Delivery Hours and Wait Times	4	4	16	NN	16
1.3.9 Relative Specification Advantages	4	4	16	NN	16
1.4 Risk Factor: Transportation					
1.4.1 Biomass Feedstock Transportation Costs	6	6	36	NN	36
1.4.2 Ownership/Control of Transportation/Logistics	4	4	16	NN	16
1.4.3 Transport of Biomass Feedstock Requires Specialized Equipment and Specialized Operator Training	4	4	16	NN	16
1.4.4 Delivery Routes Through Local Communities	4	4	16	NN	16
1.4.5 Transportation Regulations and Load Weight Limits	4	6	24	NN	24
1.4.6 Road Infrastructure	4	4	16	NN	16
1.4.7 Transportation Redundancy	2	2	4	NN	4
1.5 Risk Factor: Risks Related to Supply Chain Resiliency					
1.5.1 Size, Number, and Location of Suppliers	4	4	16	NN	16
1.5.2 Suppliers Subject to Same External Risk Factors	4	4	16	NN	16
1.6 Risk Factor: Biomass Feedstock Scale-up					
1.6.1 Capacity of Supply Chain Components and Infrastructure to Scale	4	4	16	NN	16
1.6.2 Availability of Labor for Biomass Feedstock Production	4	6	24	NN	24
1.6.3 Low Historical Demand for Biomass Feedstock in the Supply Zone	4	4	16	NN	16
1.7 Risk Factor: Climate and Natural Risks					
1.7.1 Seasonal Weather Impacts on Biomass Feedstock Supply	2	2	4	NN	4
1.7.2 Long-term Weather and Climate Trends	4	4	16	NN	16
1.7.3 Forest/Crop Fire	2	10	20	NN	20
1.7.4 Risk of Infestation	2	4	8	NN	8
1.7.5 Risk of Hail	2	2	4	NN	4
1.7.6 Risk of Flood	2	8	16	NN	16
1.7.7 Risk of Drought	8	4	32	NN	32
1.7.8 Risk of Hurricanes, Tornadoes, and Strong Winds	2	2	4	NN	4
1.7.9 Low Temperatures	6	4	24	NN	24
1.8 Risk Factor: Non-Weather Based Externalities					
1.8.1 Diesel Price, Oil Price, and Producer Price Index (PPI)	6	6	36	NN	36
1.8.2 Currency Risk	NR	NR	NR	NR	NR
1.8.3 Border Risk	NR	NR	NR	NR	NR
1.9 Risk Factor: Political and Social					
1.9.1 Government Subsidies for Biomass Feedstock Production or Utilization	4	4	16	NN	16
1.9.2 Local, Provincial, and National Laws, Regulations, and Permitting Pertaining to Biomass Feedstock	4	4	16	NN	16
1.9.3 Backlash Against Biomass Feedstock Development, Procurement, or Usage in the BDO Zone	4	4	16	NN	16
1.9.4 Consent of, and Co-operation with, Indigenous Communities	4	4	16	NN	16
1.9.5 Food Security Concerns	NR	NR	NR	NR	NR
1.10 Risk Factor: Sustainability and Environmental Concern					
1.10.1 Biomass Feedstock Sustainability	2	2	4	NN	4

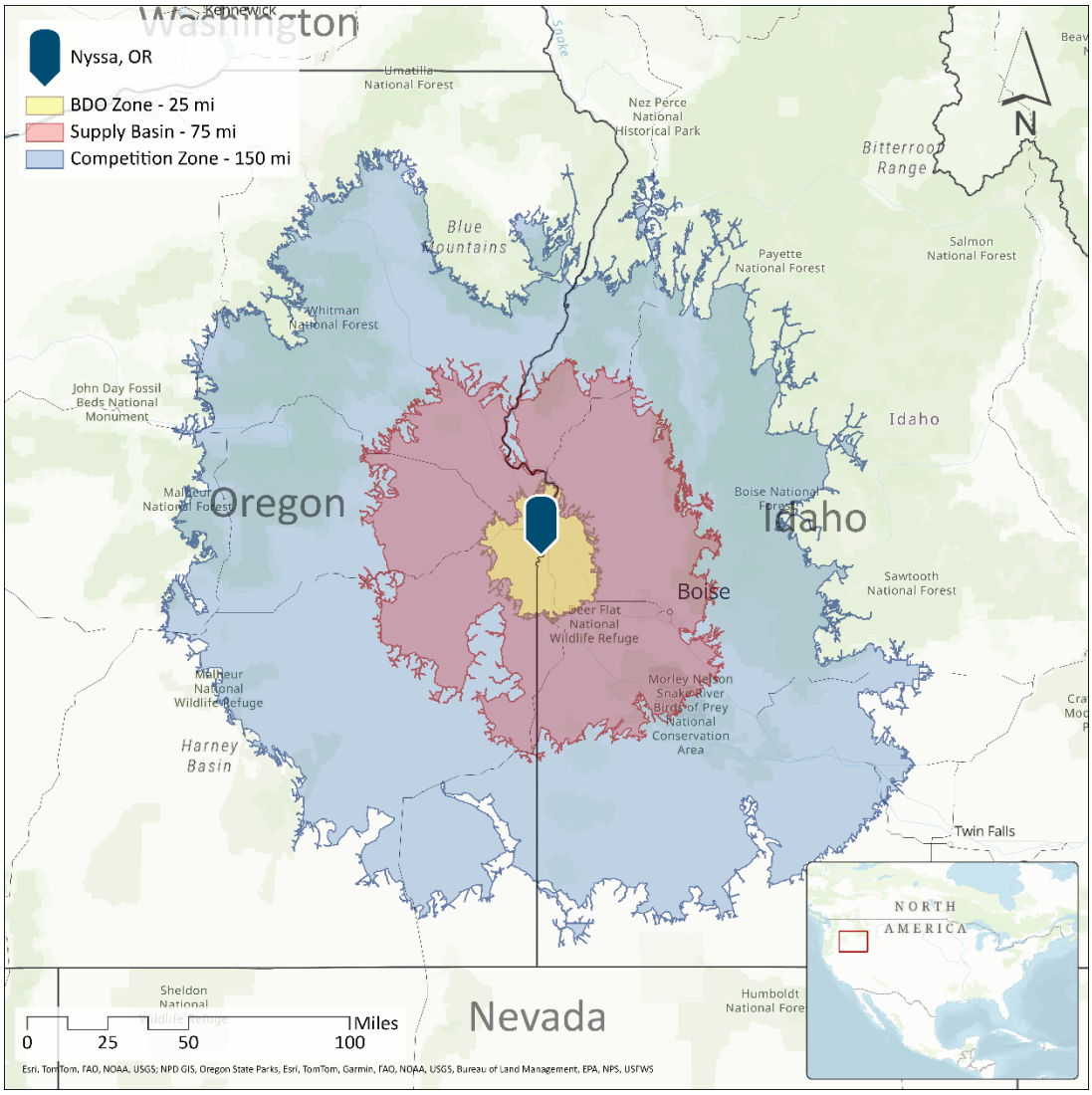
1.10.2 Risk to Soil Quality	6	6	36	NN	36
1.10.3 Risk to Surface and Groundwater	2	2	4	NN	4
1.10.4 Water Use	8	8	64	NN	64
1.10.5 Pesticide Risk to Human and Ecosystem Health	2	2	4	NN	4
1.10.6 Risk to Wildlife and Landscape	2	2	4	NN	4
Category 2.0: Infrastructure					
2.1 Risk Factor: Physical Infrastructure					
2.1.1 Land Parcel/Industrial District	2	2	4	NN	4
2.1.2 Ownership of Land	2	2	4	NN	4
2.1.3 Permitting	2	2	4	NN	4
2.1.4 Environmental Issues	2	2	4	NN	4
2.2 Risk Factor: Utilities					
2.2.1 Natural Gas Availability	6	6	36	NN	36
2.2.2 Electric Availability	2	2	4	NN	4
2.2.3 Water Availability	2	2	4	NN	4
2.2.4 Drainage, Stormwater Management, and Sewage	8	8	64	NN	64
2.2.5 Waste Disposal	2	2	4	NN	4
2.2.6 Information and Communication Technology (ICT) Services	2	2	4	NN	4
2.3 Risk Factor: Transportation/Logistics					
2.3.1 Roads/Highways Access	2	2	4	NN	4
2.3.2 Rail Access to Site	2	2	4	NN	4
2.3.3 Airport Access	2	2	4	NN	4
2.3.4 Ocean/River Freight Access	NR	NR	NR	NR	NR
2.4 Risk Factor: Social Infrastructure					
2.4.1 Healthcare (Local)	2	2	4	NN	4
2.4.2 Education (Schools)	2	2	4	NN	4
2.4.3 Local Transportation	4	4	16	NN	16
2.4.4 Public Safety (Local)	2	2	4	NN	4
2.4.5 Housing/Cost of Living	2	2	4	NN	4
2.5 Risk Factor: Labor					
2.5.1 Workforce	4	4	16	NN	16
2.5.2 Labor Costs	4	4	16	NN	16
				Average	**15.11**

SECTION B: BIOMASS AVAILABILITY AND PRICING

OVERVIEW

The objective of the assessment is to determine the quantity and delivered price of feedstock that could be available to new projects located within the BDO Zone, defined by a 25-mile drive distance from the city of Nyssa, OR. The quantity of biomass that could be available for new projects is determined by subtracting current and anticipated biomass demand within the Competition Zone (150-mile drive distance from Nyssa) from total annual biomass generation within the Supply Zone (75-mile drive distance from Nyssa). The resulting estimate of availability is then divided by a factor of between 1.5 and 4.0 (the Biomass Availability Multiple (BAM)) to account for uncertainty in data, models, assumptions, and future operating conditions. The resulting rated feedstock quantities are conservative estimates of availability for new projects. The price range associated with each rated quantity is determined through outreach and market analysis in the Competition Zone and reflects the anticipated price that a new project would have to pay to secure the rated quantity of biomass.

Map B-1. Map of BDO Zone and Competition Zone



EVALUATED FEEDSTOCKS

Dairy manure: Manure generated as a by-product of dairy farm operations. Dairy farms in the study region can be generally divided into free-stall dairies, where large cattle herds are able to move freely between resting, feeding, drinking, and milking areas, and tie-stall dairies, where small cattle herds are tied to individual stalls and food and water are brought to the stall. Manure supply for large bio-projects is only technically and economically possible from free-stall dairies.

There is a wide variety of manure management equipment types and system setups on free-stall dairy farms, including flushing, scraping, and vacuuming. Collection efficiencies with these methods range from 85-98%. For all methods, manure is concentrated in reception pits, lagoons, or settling ponds, often mixed with wastewater collected from feeding and milking areas of the farm. The liquid slurry – which has a moisture content >88% – is typically distributed on nearby cropland using an irrigation system or wagons. Procuring manure from dairy farms requires the use of tanker trucks capable of transporting liquid slurry. Note that a solid manure stream is also often produced on dairy farms as a result of the use of separators. Supply of the dry fraction of manure available from dairy farms was not estimated.

Feedlot manure: Manure generated as a by-product of beef feedlot operations, which consist of pens designed to give cattle continuous access to food and water as they are finished for market. Manure management typically involves collection using bulldozers, skid steers, and/or loaders, which push ('scrape") manure into piles. Manure is often arranged in windrows for drying and production of composted manure for application on nearby cropland or for sale on the market. Collection efficiencies typically range from 30-40%. Procuring manure from feedlots involves the use of standard trucks capable of transporting solid material (e.g., walking floor trailers, open-top dump trailers, etc.). To facilitate truck loading, manure would be left to dry in piles to a moisture content <80%. Note that the use of feedlot manure may also require investments at the project site in reception pits and water supply for projects requiring a liquefied feedstock.

SUPPLY ANALYSIS

There are approximately 50 dairy operations located within the Supply Zone, of which approximately 15 are free-stall dairies with inventories of over 500 cattle. Two of the free-stall dairies are located in eastern Oregon, whereas the remainder are located in western Idaho. The largest dairy on the Oregon side of the Supply Zone has 1,200 cows whereas the largest dairy on the Idaho side of the Supply Zone has over 10,000 cows. All farms are privately owned. The annual generation of manure from the 50 dairy operations is estimated to total 2,009,000 wt/yr.

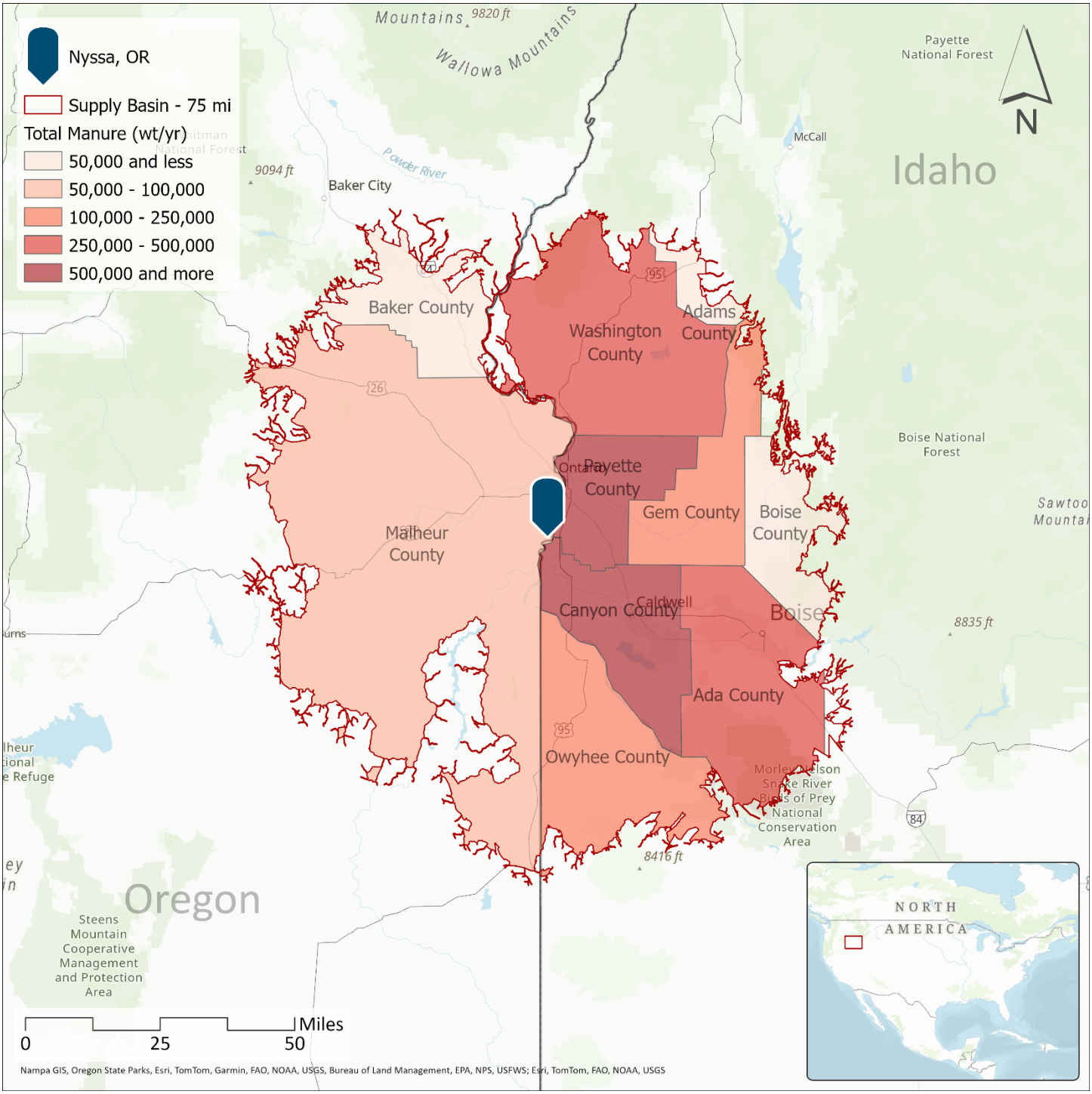
There are also approximately 40 beef feedlots in the Supply Zone, the majority of which are located in Idaho. Feedlots successfully contacted during outreach range in size from 1,000 to 15,000 cows. The annual generation of manure from the 40 feedlot operations is estimated to total about 464,000 wt/year. Overall, annual manure generation in the Supply Zone is estimated to total 2,473,000 wt/year[1].

Table B-1. Cattle Manure Generation in the Supply Zone

Type	Generation (wt/yr)
Dairy Manure	2,009,000
Feedlot Manure	464,000
Total	**2,473,000**

[1] Source: USDA National Agricultural Statistics Service (NASS).

Map B-2. Cattle Manure Generation in the Supply Zone by County

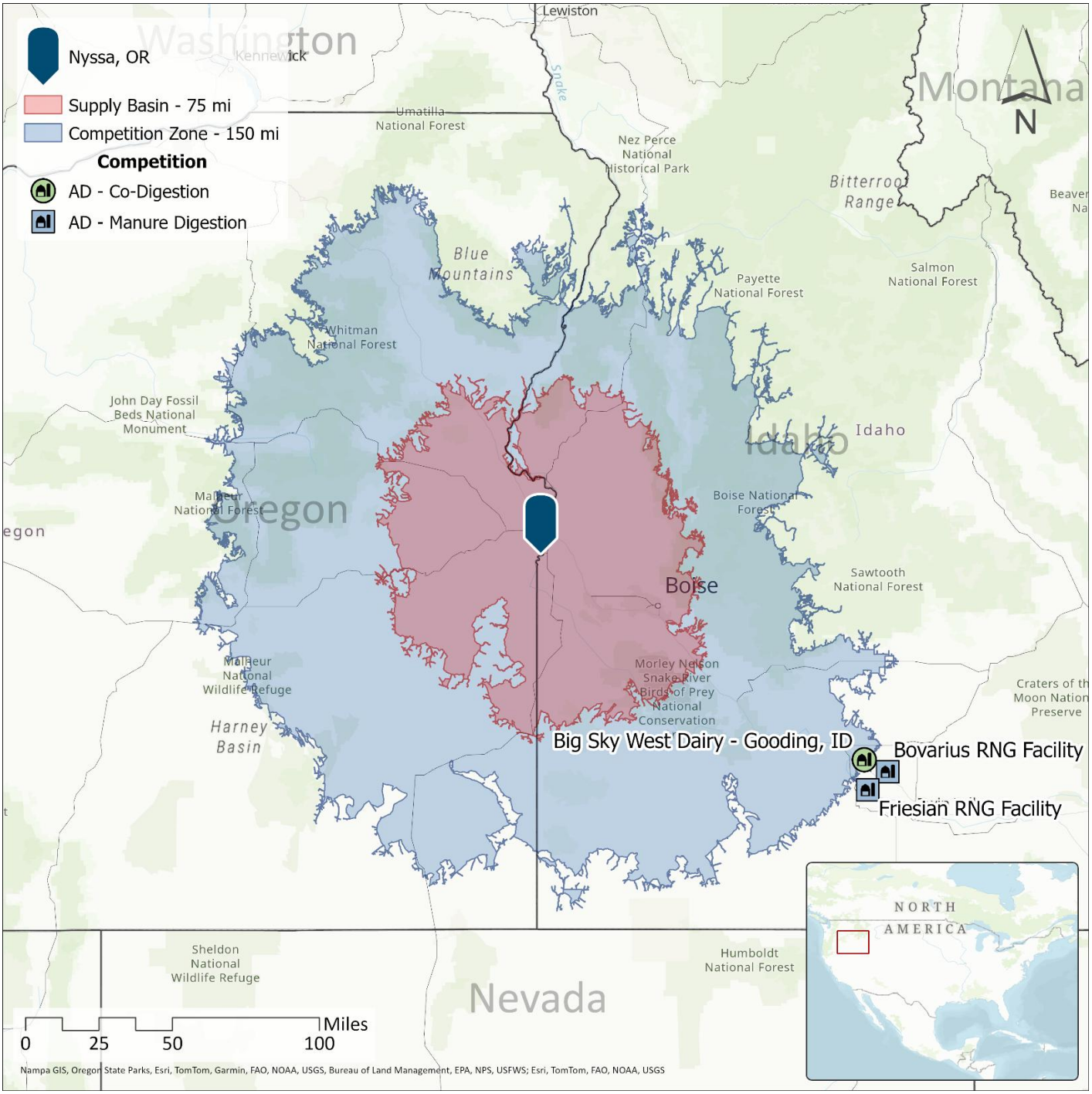


COMPETITION ANALYSIS

Approximately 98% of generated dairy manure is generated by dairy farms located on the Idaho side of the Supply Zone. It is plausible that a project located in the vicinity of Nyssa, OR could have access to a proportion of the manure generated by these farms. However, a representative of the Idaho dairy industry indicated during outreach that the owner-operators of the larger free-stall dairies in Idaho are unlikely to agree to supply a project in Oregon. Reasons for this include satisfaction with current local raw and composted fertilizer markets, future prospects for the continued establishment of on-farm anaerobic digesters and other manure bio-project infrastructure on dairy farms in Idaho, and more onerous environmental regulations associated with cross-border trade with Oregon (e.g., requirement to frequently sample manure before shipping, paperwork and other transaction costs associated with receiving return shipments of fertilizer such as digestate). Therefore, it is assumed that none of the manure generated by dairies on the Idaho side of the Supply Zone will be available to a manure-based bio-project located in Nyssa, Oregon.

Manure generated on the two larger free-stall dairy farms on the Oregon side of the Supply Zone is concentrated in lagoons and used as fertilizer for cropland owned by the dairy or by neighboring farmers. Land application of dairy manure is achieved using irrigation systems that are connected to lagoons or by loading wagons from lagoons. Since dairies generally produce more manure than can be land applied given local crop area and agronomic limits, lagoons also function to stockpile manure and to reduce total manure volume through microbial activity, evaporation, and natural compaction of solids. In some cases, dairies use shallower settling ponds to maximize evaporation and waste reduction rates. Based on outreach to a dairy farmer in Oregon, it is assumed that 80% of generated dairy manure could be available to a new project if the project returned a fertilizer product to the dairies, which is a common arrangement between dairy farms and anaerobic digestion facilities. Note that there are three dairy-based anaerobic digestion facilities located in the Competition Zone, but they do not source dairy manure from the Supply Zone (Map B-3).

Map B-3. Location of Manure-Based Anaerobic Digestion Facilities in the Competition Zone



Manure generated on feedlots in the Supply Zone is generally stockpiled on site in piles or windrows, naturally dried, and used as bedding or compost fertilizer on site or by neighboring farms. Composted manure is also sold to more distant buyers (e.g., in Washington State). The market for manure compost was described as "saturated" by one local expert contacted during outreach, and multiple feedlots in the study region indicated that they were willing to sell to a new

customer due to market price volatility. Based on this information, it is assumed that approximately 25% of annually generated feedlot manure is used to meet local and distant crop fertilizer demands. This fraction of generated dairy manure would not be available for a new project. It is assumed that the remaining 75% of feedlot manure could be available to new projects willing to pay to have the manure delivered with conventional trucks.

Table B-2. Cattle Manure Intake from Supply Zone by Competitor Category

Competitor Category	Intake (wt/yr)
Dairy Manure Generated in Idaho and Not Available	1,969,000
Dairy Manure Generated in Oregon that is Not Available	8,000
Feedlot Manure Use as Composted Fertilizer	116,000
Manure-to-RNG Facilities	--
Total Consumption from Supply Zone	**2,093,000**

Table B-3. Cattle Manure Generation, Demand, and Availability by Feedstock Type

Feedstock Type	Generation (wt/yr)	Demand (wt/yr)	Availability (wt/yr)
Dairy Manure	2,009,000	1,977,000	32,000
Feedlot Manure	464,000	116,000	348,000
Total	**2,473,000**	**2,093,000**	**380,000**

RATED QUANTITIES AND PRICING

Rated quantities and price ranges for each feedstock type are presented in Table B-4. The rated quantity of dairy and feedlot manure was determined by applying a Biomass Availability Multiple (BAM) of 1.5 and 2.0, respectively, to the estimated availability. The BAM accounts for uncertainty related to the incomplete availability of information as well as potential statistical errors in estimations. In other words, the BAM mitigates against analytical inaccuracies.

Table B-4. Rated Quantities and Delivered Price Ranges of Cattle Manure in the Supply Zone

Manure Type	Available Quantity (wt/yr)	Biomass Availability Multiple (BAM)	Rated Quantity (wt/yr)	Delivered Price Range ($/wt)
Dairy Manure	32,000	1.5	20,000	25-35
Feedlot Manure	348,000	2.0	170,000	21-31
TOTAL	380,000		**190,000**	**21-35**

The delivered price ranges presented in Table B-5 are based on direct outreach to farm operators and industry experts, regional prices for composted cattle manure combined with composting cost estimates, and estimation of the nutrient replacement value of manure (Table E-1, Appendix E). No dairies or dairy representatives contacted during outreach were willing to share pricing data but indicated that prices are generally determined by nutrient replacement value. Two representatives of feedlots in the Supply Zone indicated that composted manure prices vary in response to variance in synthetic fertilizer prices. However, they noted that prices can drop significantly when the compost market is saturated, giving a lower limit of $2/wt FOB and an upper limit of $15/wt FOB.

Bulk manure compost prices in the study region advertised online range from $27 to $37/wt FOB. Production cost estimates for manure compost range from $7/wt for a loader-turned windrow method to $28/wt for a method involving the use of specialized windrow-turning equipment. Using this information, the value of composted manure after subtracting production costs from market prices ranges from approximately $10-$20/wt FOB. This estimate is corroborated by the estimated nutrient replacement value of dairy and feedlot manure ($16/wt FOB, Table E-1, Appendix E). The rated price ranges were determined using the $10-$20/wt FOB value and adding the costs of hauling manure 50 miles using conventional trucks for feedlot manure ($11/wt) and tanker trucks for dairy manure ($15/wt).

Table B-5. Price Estimates Based on Outreach, Market Prices and Production Costs, and Nutrient Replacement Value of Cattle Manure

Manure Type	FOB Price or equivalent ($/wt)	Delivered Price or Equivalent ($/wt)	Notes
Dairy Manure – Outreach	N/A	N/A	No dairy farmers or representatives contacted during outreach would share current pricing
Feedlot Manure – Outreach	15	31	--
Feedlot Manure – Outreach	2	13	Assumes transport cost of $11/wt for a 50-mile distance with conventional trucks
Feedlot Manure – Outreach	8	19	Assumes transport cost of $11/wt for a 50-mile distance with conventional trucks
Composted Manure – Market Price Minus Production Cost	10-20	21-35	Based on composted manure market price of $27-$37/wt, production cost of $17.50/wt, and assumes transport cost of $11-$15/wt for a 50-mile distance with conventional trucks or tanker trucks
Dairy and Feedlot Manure (not composted) – Nutrient Replacement Value (NPK)	16	22-26	Assumes transport cost of $11-$15/wt for a 50-mile distance with conventional trucks or tanker trucks and an avoided handling and application cost of $5/wt

OPERATIONAL CONSIDERATIONS

All dairies and feedlots in the Supply Zone have the required manure handling and collection equipment in place. Approximately 16 trucks with walking floor trailers or equivalent would be required to deliver the rated quantity of feedlot manure, assuming two trips per day, a 30 wt payload, and 180 operating days per year. Supplying the rated quantity of dairy manure with 7,500-gallon tanker trucks would require only two trucks, assuming two trips per day, a 33 wt payload, and 180 operating days per year. Another operational consideration of note is that projects requiring a liquid feedstock will need to make investments in infrastructure at the project site to liquefy inbound feedlot manure.

SECTION C: INFRASTRUCTURE



PROPERTY OVERVIEW

Site Name:	Arcadia Industrial Park
Address:	Arcadia Blvd
City:	Nyssa
State:	OR
County:	Malheur
Acres:	200
Pricing Note:	N/A
Zoning:	Industrial for outright use

SITE CONTACTS

Economic Development Contact
Taylor Rembowski
Malheur County
541-473-5597
taylor.rembowski@malheurco.org

ADDITIONAL NON-RATED SITES

Infrastructure Site Contact
Jaidan Hunt
Manager of Advisory Operations
jaidan@ecostrat.com

TRANSPORTATION

The Arcadia Industrial Park is accessible by Interstate 84 (13 miles away) and Highway 20 (1.5 miles away). The Ontario Municipal Airport is located 8 miles from the site, and the Boise Airport is located 53 miles from the site. The site benefits from direct rail access with the Union Pacific Railroad.

ELECTRIC SERVICE

Electric service is provided by Idaho Power with a 230 kV distribution line available on the Arcadia Industrial Park, as well as a 3 MW substation available across the site. **Contact:** Dani Southard, Idaho Power, dsouthard@idahopower.com

NATURAL GAS

Natural gas is currently not accessible on the Arcadia Industrial Park; however, a high-pressure manifold is being installed in Q3 2026. The nearest line is approximately 1.5 miles from the site, provided by Cascade Natural Gas. **Contact:** Kyle McCauley, Cascade Natural Gas, kyle.mccauley@cngc.co

WATER

Water service is available at the Arcadia Industrial Park provided by the City. There is a 12" city water main to the site. **Contact:** Jesse, HECO Engineers, jessec@hecoengineers.com

WASTEWATER

There is no wastewater line available to the Arcadia Industrial Park; however, the site is approved for septic systems.

TELECOMMUNICATIONS

Telecommunication services are provided by Rally Networks, with fiber directly run to the Arcadia Industrial Park. **Contact:** Jonathan Cannon, Rally Networks, jonathanc@rallynet.us

SECTION D: RISK INDICATOR SCORING METRICS

CATEGORY 1.0: SUPPLY CHAIN RISK

1.1 Risk Factor: Quantity and Delivered Cost of Available Biomass Feedstock

1.1.1 Biomass Feedstock Supply Curve/Marginal Cost Curve

Rationale: The greater the feasible transport distance, the more feedstock is accessible to the Issuer, but at a higher delivered cost. The feedstock supply curve, sometimes referred to as the marginal cost curve, is a function of feedstock availability over its cost, which is primarily, but not exclusively, a function of distance. The feedstock supply curve is used to determine the availability of redundant feedstock at various price points, as well as the cost of replacing feedstock with substitutes located at different distances.

Feedstock cost curves are useful in determining supply chain resilience; they provide information about the cost of feedstock availability in times of supply disturbance. Biomass supply chains are prone to supply disturbances over time; suppliers can become insolvent, or weather events can temporarily disrupt feedstock availability. When a disturbance occurs, the Issuer may need to source replacement feedstock from different suppliers at different locations and at different costs. A biomass supply curve indicates quantities of feedstock available at various price levels from suppliers generally located further away than the core supplier.

Risk Information: The biomass feedstock supply curve for the region illustrates the available generated quantities of dairy and feedlot manure across different transportation distances and delivered prices (Figure E-1, Appendix E). The figure shows that over 50% of the total generated quantity of feedstock within the 75-mile Supply Zone can be procured at a distance of 35 miles. Furthermore, for a delivered price of $28/wt, which corresponds to the average for the $21-$35/wt rated price range, approximately 328,395 tons of manure is generated (1.7x the rated quantity). While this data supports a low-risk evaluation, overall risk for this indicator is assessed as low-to-medium due to the large rated price range, which reflects uncertainty as to the actual delivered prices that a new project will have to pay.

Raw Risk Likelihood (RRL) The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**Score** **6**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**Score** **24**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**Score** **24**

1.1.2 Seasonal Biomass Feedstock Supply Variation

Rationale: Biomass supply can present significant seasonal variations. Seasonal supply variations, combined with limitations associated with longer-distance transportation and storage, can lead to BDO Zone biomass supply imbalances, which can manifest in shortages and higher costs for Issuers.

Risk Information: While manure generation on local livestock operations remains relatively steady throughout the year, seasonal fluctuations in feedstock supply can still occur due to weather-related handling challenges and agricultural application windows. For instance, wet winter conditions can make feedlot manure handling more difficult, prompting operators to stockpile the material in mounds. Risk is assessed as medium.	
Raw Risk Likelihood (RRL) The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**Score** **6**
Raw Risk Impact (RRI) The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**Score** **6**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**Score** **36**
Mitigation/Notching *RRL Mitigation (75%)* Seasonal challenges to manure management are mitigated easily by storing manure on the farm in mounds or lagoons. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is 75%.	**Notch** **75%**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 9 out of 100.	**Score** **9**

1.1.3 Year-to-Year Variation in Biomass Feedstock Availability

Rationale: Biomass can have significant year-to-year supply variations due to variability in yield from biomass harvesting operations, particularly with agricultural biomass.	
Risk Information: USDA National Agricultural Statistics Service (NASS) data indicates that the number of cattle heads associated with dairy and beef production in the Supply Zone for the years 2002, 2007, 2012, 2017, and 2022 remained relatively constant (Table E-2, Appendix E). The largest quinquennial change occurred between 2007 and 2012 when the number of cattle heads increased by 27%. The number of heads has not fluctuated by more than +/-3% over five-year intervals since this time. This data and outreach to feedlot operators indicates that manure generation in the Supply Zone has not varied significantly year-to-year over the past decade. While the interannual availability of manure to a new project will be dictated by commercial fertilizer prices, which influence whether operators invest in composting or instead offload raw product to avoid handling costs, local operators have indicated a willingness to sell to a new project for more consistent offtake. Risk associated with year-to-year variation in biomass feedstock availability is therefore assessed as low.	
Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**Score** **16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)*	**Notch** **NN**

No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score** The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. **16**

1.1.4 Historical Biomass Feedstock Price Variations

Rationale: If the historical feedstock price shows volatility, then the risk of future price fluctuation is elevated. If feedstock prices have historically exceeded the price at which the Issuer would have to cease operations or breach a financial covenant (i.e., the "red line" feedstock cost), then mitigation measures should be put in place.
Risk Information: There are no available price series for manure in the study region to quantitatively project and model year-to-year variations in feedstock supply. Historical variations in the price of manure are primarily driven by the fluctuating costs of commercial agricultural inputs, as well as the labor and equipment costs associated with transporting and processing the material (Figure E-2, Appendix E). When commercial fertilizer prices are high (e.g., 2022), local agricultural demand for raw or composted manure increases as an alternative soil amendment, driving up its value and making composting profitable for feedlot and dairy operators. Conversely, when fertilizer prices drop (e.g., 2024), the market for manure declines, lowering prices and prompting operators to seek cost-effective disposal methods. Generally, it is understood that composted manure supply in recent years has frequently exceeded market demand in the study region, leading to market saturation and significant decreases in pricing. Risk is therefore assessed as low.
Raw Risk Likelihood (RRL) **Score** The risk likelihood is deemed low, therefore the RRL is 4 out of 10. **4**
Raw Risk Impact (RRI) **Score** The risk impact is deemed low, therefore the RRI is 4 out of 10. **4**
Gross Risk Indicator (GRI) **Score** The Gross Risk Indicator (RRL X RRI) is 16 out of 100. **16**
Mitigation/Notching **Notch** *RRL Mitigation (Notch)* **NN** No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score** The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. **16**

1.2 Risk Factor: Harvest and Collection Risk

1.2.1 Biomass Feedstock Production Experience

Rationale: Risk is higher when suppliers have limited experience with planting, growing, harvesting, processing, and/or collecting biomass. Limited experience may be common for stover or other agricultural residue supply chains where farmers or producers may have no previous experience.
Risk Information: Biomass feedstock producers in the region possess extensive experience in agricultural operations and manure management, with most farms and feedlots having been in business for multiple decades. Manure collection is typically achieved using skid steers and loaders, but flushing systems and tractor-pulled vacuuming equipment are also utilized on some dairy operations to manage liquid waste. Experienced third-party contractors, including liquid transport companies and composting companies, are frequently engaged to assist with the handling,

scaling, and distribution of the collected feedstock. Operators are familiar with loading composted manure into trucks for delivery to distant customers and therefore supplying the rated quantity of feedlot manure to a new project will not be a challenge as long as manure is allowed to dry to <80% moisture content before loading. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.2.2 Primary Product and Residue (or Secondary Transformation) Risks

Rationale: If the feedstock is a new/secondary crop or a by-product, suppliers may either lack sufficient experience to mitigate risk or be unable to react to such risk. Secondary crops or by-product producers may be less likely to prioritize production. For new crop types, inexperience in planting, harvest, collection, and yield data may pose higher levels of risk. If the feedstock is a secondary transformation (i.e., wheat straw, corn stover), then production can be subject to variables beyond suppliers' control (e.g., changing demand for primary crop prices).

Risk Information: The generation of manure feedstock is intrinsically tied to the year-round production of dairy and beef products. Historical and projected market demand for these primary products remains strong, supported by domestic consumption trends and export markets, which ensures a highly stable and continuous generation of the residual manure feedstock. The recovery of manure does not interfere with primary dairy or beef production. The relative strength of the dairy and beef industries and the complementarity between primary production manufacturing and waste management lead to a very low risk assessment for this indicator.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**

The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.2.3 Harvest and Collection Practices and Schedules

Rationale: Differences in harvest timing and practices used can create risk to both the quantity and quality of feedstock. For example, feedstock harvested by different suppliers in different windows can undergo varying levels of exposure to sun, wind, and moisture, leading to variations in delivered feedstock quality. For example, agricultural feedstocks and energy crops have optimal harvesting windows to ensure minimal moisture content. In certain BDO Zones, these harvesting windows may coincide with heightened weather risks, such as frost or rain.

Risk Information: On dairy farms, manure is typically scraped daily from free-stall barns and feed lanes using tractors or skid steers, or collected using specialized vacuum trucks, before being pumped into temporary reception pits or long-term storage lagoons. Feedlots, consisting mostly of open dry lots, primarily scrape dry manure from feeding bunks and walking lanes into mounds to keep cattle dry, later moving it to staging areas for composting in windrows. There is no plausible link between dairy manure slurry collection and variation in slurry quality. It is also unlikely that feedlot manure quality will vary significantly across suppliers as long as the manure is dried to <80% moisture content to facilitate truck loading. Risk is therefore assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.2.4 Harvesting and Collection Equipment

Rationale: Different types of harvesting and collection equipment used by suppliers in a BDO Zone can have a significant impact on the quality and availability of feedstock. Using different types and combinations of harvesting, collection, and processing equipment among suppliers can lead to non-homogeneous feedstock. Equipment that is not designed specifically for biomass cultivation, harvesting, and collection can increase feedstock quality risks. Relevant equipment should be specified for the sake of product consistency and risk reduction.

Risk Information: Feedlot operators utilize common agricultural machinery for manure handling, including skid steers, bulldozers, and front-end loaders. The two dairies on the Oregon side of the Supply Zone use a mixture of mobile equipment and flushing systems and lagoons to manage manure output. The specific make and model of equipment will not significantly impact the available manure amount or price and therefore risk is assessed as very low. Note that project developers that require a liquefied feedstock will need to invest in water supply infrastructure at the project site for treatment of feedlot manure.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**

Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

1.2.5 Ownership/Control of Land

Rationale: Suppliers that own land or a production facility where feedstock is produced tend to have better control of supply chains and present lower degrees of supply risk.

Risk Information: The region's dairies and feedlots are privately owned. Private ownership of dairies and feedlots does not pose any risk to the rated quantities of manure and risk is assessed as very low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

1.2.6 Variation in Feedstock Preparation or Densification Methods Among Different Suppliers

Rationale: The shape and density of the unit in which feedstock is supplied can impact feedstock cost and quality. Standard feedstock densification modes for biomass consist of round or square bales, pellets, cubes, chips, or grindings. Bales of different densities can absorb moisture at different rates. In certain cases, round bales have been viewed as problematic due to their uneven moisture content distribution.

Risk Information: There is considerable variation in feedstock preparation methods depending on whether the source is a dairy or a beef feedlot. Dairies typically utilize mechanical separation technologies to divide their waste into a liquid slurry – often diluted with parlor wash water to achieve around 8% to 15% total solids – and a solid fibrous fraction that is dried for livestock bedding or composted. Feedlot manure is often windrowed, composted, and passed through trommel screens to remove contaminants and achieve a uniform particle size. However, a feedlot supplying a new

project could easily supply un-composted manure if required, avoiding associated operating costs. These differences in feedstock preparation do not have a significant impact on the final quality of the feedstock as compared to the fundamental differences between liquid slurry and semi-dried manure. Overall, any project that requires a liquefied feedstock will not be affected by the intake of feedlot manure as long as investments are made on site in reception pits and water supply. Note that conventional densification methods for biomass feedstock (e.g., baling, chipping, grinding) are not relevant to manure supply. Risk is low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3 Risk Factor: Existing Users

1.3.1 Existing User Locations

Rationale: Competitors' locations relative to siting locations within a BDO Zone can affect the viability of procuring feedstock and the cost of that feedstock. Accurate and detailed competitor mapping provides an understanding of a competitor's geographical influence on new plants within a BDO Zone, including competitive advantages such as short hauling.

Risk Information: Existing consumers of regional biomass are primarily located within the immediate vicinity of dairies and feedlots, giving them a significant geographic advantage for short-haul transportation over any new entrant. The vast majority of generated manure is applied to land locally to satisfy agricultural nutrient requirements and manage waste. Because the feedstock is managed largely through localized land application rather than long-distance distribution, existing users benefit from minimal transportation barriers compared to a centralized bioenergy project. However, regional dairy and feedlot operators have indicated a willingness to supply a new project for the rated price range. Risk is assessed as low-to-medium due to the possibility that local farmers could outcompete a new project in the event of drastic increases in the price of synthetic fertilizer.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 32 out of 100.	**32**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch)	**NN**

No adjustment.

RRI Mitigation (Notch)
No adjustment.

The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).

Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 32 out of 100.	**32**

1.3.2 Existing User Intake Quantities

Rationale: Clear understanding of feedstock consumption by key competitors for each rated feedstock type in the BDO Zone is essential to quantifying competitor risk.

Understanding current consumption and historical trends of feedstock utilization can provide valuable information about feedstock price elasticity during shortages and insight into events that may impact future supply conditions. It can enable more accurate estimates of the sensitivity of feedstock availability to potential future consumption levels or the impact of external events (e.g., weather events, structural economic changes, seasonality, or policy change).

Risk Information: Manure slurry from the two larger free-stall dairies in Malheur County is currently applied locally as fertilizer but the actual quantity applied on cropland owned by the dairies versus cropland owned by neighboring farmers is not known. Feedlot manure is typically stored on-site and composted to varying degrees prior to being distributed to local agricultural users. For the purpose of assessing available volume, it is assumed that a new project could successfully source 75% of this generated feedlot manure, with the remaining 25% remaining available to satisfy the local manure fertilizer market. This is supported by outreach to feedlot operators. A new project would be able to procure the majority of the manure slurry generated by the two dairies under the condition that a fertilizer product, such as the resulting anaerobic digestate, is returned to the dairies to fulfill their ongoing agronomic and soil health needs. This is also supported by outreach to dairy operators. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**

Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**

Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**

Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**

Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.3 Existing User Pricing and Price Sensitivity

Rationale: Understanding how much competitors pay (or receive) for different feedstock types is essential in determining the Issuer's competitiveness and accurately assessing the delivered cost range in the BDO Zone rating.

Current and historical prices paid/received by competitors provide insight into their procurement behaviors and exert pressure on suppliers in the BDO Zone, such as the ability/willingness to pay premiums for feedstock during times of feedstock shortage or reduce prices (or cut-off deliveries) during gluts. Competitors that have the ability to offer higher prices for feedstock during feedstock shortages can pose a significant risk to the Issuer.

Knowledge of competitor pricing and price sensitivity is also an essential prerequisite to formulating a feedstock cost curve, which can enable predictions of feedstock redundancy, i.e., how much feedstock could become available at different pricing levels.

Risk Information: Pricing and price sensitivity among existing users are heavily influenced by the fertilizer value of manure and the fluctuating costs of commercial alternatives. Local farmers routinely enter into informal agreements or pay hourly trucking and application fees to procure manure for crop nutrition on a seasonal basis. The market analysis relied on two specific price data points for manure: $20 per cubic yard and $28 per cubic yard, which translates to $27 per ton and $37 per ton on a delivered basis. These pricing estimates were corroborated by utilizing a nutrient replacement value approach, which yielded a comparable delivered equivalent of $22 to $26 per ton. Outreach indicates that the market for composted manure in the Supply Zone in recent years has frequently been saturated, despite relatively high fertilizer prices relative to 2011 levels (Figure E-2, Appendix E). However, it is also known that the high fertilizer prices experienced during the COVID-19 pandemic in 2022 led to a significant increase in the use of composted manure. A future return to this fertilizer price level is regarded as a low likelihood, high impact proposition, and therefore risk is assessed as low-to-medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 32 out of 100.	**32**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 32 out of 100.	**32**

1.3.4 Impacts of Future Demand on Biomass Feedstock Availability and Price

Rationale: Feedstock utilization in a BDO Zone can change over time. Expansion of feedstock demand by current competitors can put additional pressure on feedstock and lead to higher prices, feedstock disruptions, shortages, supplier breaches, or other types of supply chain disruption.

If current markets for feedstock have been publicly signaling the potential for increased demand for feedstock, high interest in a supply zone can make suppliers overconfident, leading to a supplier-controlled market where short-term contracting becomes the norm and supply chain reliability is compromised for the Issuer. If and when it occurs, increased demand on feedstock may decrease availability and increase cost for new plants within the BDO Zone.

Risk Information: Future demand for biomass feedstock could be influenced by increased competition from existing agricultural users who rely on composted manure and lagoon slurry from dairy farms to mitigate high commercial fertilizer costs. As noted in the previous risk indicator, this is a low likelihood, high impact proposition. With regards to potential new manure-based projects in the Competition Zone, the development of any new anaerobic digesters at large free-stall dairies on the Idaho side of the Supply Zone are not a risk to a new project. This lack of risk is due to the fact that the manure supply from those specific Idaho farms was purposefully not included in the baseline assessment of regional feedstock availability due to feedback from an industry insider. Risk is therefore assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.5 Soft Supply Influence of Existing Users

Rationale: In some cases, existing markets for feedstock may be able to exert high degrees of pressure over local suppliers, effectively enabling control of feedstock, especially during times of shortage. This control can derive from qualitative or "soft" factors, such as long previous relationships between local suppliers and existing markets for feedstock.
Risk Information: The soft supply influence of existing users involves examining the established business relations between the consumers of composted manure and dairy lagoon slurry and the supplying feedlots and dairy farms. Although many livestock operations currently supply neighboring crop farmers – often exchanging manure for locally grown feed – these relationships do not appear to be exclusionary. All of the dairies and feedlots contacted during outreach stated that they would be willing to sell to a new buyer. This widespread willingness indicates that the suppliers do not have strong business relationships with their existing buyers under current market conditions, presenting a viable procurement opportunity for a new facility. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)*	**NN**

No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score** The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. **16**

1.3.6 Temporary Externality-Driven Markets for Biomass Feedstock

Rationale: Alternative, non-traditional, externality-driven competitors for feedstock can drive feedstock demand (and cost) in unusual circumstances. For example, an Issuer using corn stover as a feedstock would not typically compete with the higher-end animal feed market. However, in times of significant hay shortage (e.g., during drought), farmers may use corn stover as hay replacement, driving the price of stover feedstock and decreasing its availability for bio-projects.
Risk Information: Temporary or externality-driven markets for dairy and feedlot manure are largely tied to fluctuations in commercial fertilizer prices and possibly reductions in the supply of straw- and sand-based animal bedding. When commercial inorganic fertilizer prices spike (e.g., in the year 2022), local agricultural demand for both raw and composted manure as a substitute soil amendment increases. Due to the fact that the composted manure market has been described by local operators as saturated, despite historically elevated commercial fertilizer prices, the unavailability of manure as a result of future commercial fertilizer price spikes is regarded as a low likelihood, high impact risk. With regards to the increased use of composted manure as a substitute for livestock bedding, this is regarded as unlikely due to the abundance of aggregate and construction sand pits in the study region. Risk is assessed as low-to-medium.
Raw Risk Likelihood (RRL) **Score** The risk likelihood is deemed low, therefore the RRL is 4 out of 10. **4**
Raw Risk Impact (RRI) **Score** The risk impact is deemed high, therefore the RRI is 8 out of 10. **8**
Gross Risk Indicator (GRI) **Score** The Gross Risk Indicator (RRL X RRI) is 32 out of 100. **32**
Mitigation/Notching **Notch** *RRL Mitigation (Notch)* **NN** No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score** The Loaded RI Score ((1-Total Notch) X GRI Score) is 32 out of 100. **32**

1.3.7 Relative Inventory Capacity of Existing Users

Rationale: The more inventory a competing biomass facility is able to store, the more competitive pressure it can exert on supply. The ability to store large inventories allows competitors to purchase inventory when the prices are low, potentially giving it an economic advantage. Additionally, the ability to store inventory during feedstock supply surpluses can enable competitors to continue to intake feedstock when the Issuer's plant (with lesser inventory capacity) may be forced to put suppliers on quota. Larger inventory capacity on the part of competing markets creates supplier loyalty and can make it more difficult for new projects to secure supply without paying a significant premium.
Risk Information: The relative inventory/stockpiling potential of existing users (mainly crop farmers) is functionally very large but seasonal in nature. Because these existing consumers utilize manure strictly as an agricultural soil amendment,

they typically stockpile delivered solid manure or compost directly in open agricultural fields or staging areas prior to spreading during the spring and fall application windows. While this offers large physical storage capacity without dedicated infrastructure, their intake is entirely dictated by agronomic planting and harvesting cycles rather than a continuous industrial demand. Consequently, a new bioenergy facility equipped with engineered, year-round receiving and inventory infrastructure, such as reception pits or covered staging areas, would possess a significant competitive advantage by offering local livestock suppliers a consistent, daily off-take alternative to the highly seasonal localized fertilizer market. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.8 Relative Accessibility/Delivery Hours and Wait Times

Rationale: The value attributed by suppliers to local competing markets for biomass is often directly related to the degree of flexibility the market provides in terms of delivery hours and the more efficient discharge can occur.

Risk Information: While manure is generated and moved within the farm daily, off-site supply chain timing is often dictated by agronomic windows, with major lagoon emptying and field application occurring predominantly in the spring and fall when crops can absorb the nutrients. With regards to any potential wait time advantages of existing consumers, neighboring crop farmers typically accept deliveries directly onto agricultural fields or informal dirt staging areas, meaning formal delivery hours, gated access, and unloading queues are generally non-existent. A new bioenergy facility would not have an accessibility disadvantage compared to existing users, provided it offers standard industrial discharge times and efficient, year-round receiving infrastructure. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment.	**Notch** **NN**

The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. **16**

1.3.9 Relative Specification Advantages

Rationale: When choosing a market for biomass feedstock, suppliers not only look at price but also at relative quality requirements or specifications. It is important to understand feedstock quality specifications for competing markets within the BDO Zone in order to accurately quantify the risk that competitors can exert on the Issuer's supply chain.

Risk Information: The feedstock specifications of existing competitors offer a distinct competitive advantage to a new bioenergy entrant capable of accepting raw, unprocessed manure. Current existing markets for solid feedlot waste strongly prefer a refined compost product, which requires suppliers to invest significant labor and capital into turning windrows and utilizing trommel screens (often to a quarter-inch specification) to remove rocks and contaminants. Because this secondary processing comes with high handling costs and compost manure markets are frequently saturated, feedlot operators are highly motivated to offload raw, unprocessed manure under current market conditions. By accepting raw, unscreened manure or even unseparated liquid dairy slurries, a new facility would eliminate these costly steps for suppliers, easily blending dry feedlot waste with liquid dairy slurry on-site to achieve the specific total solids content required for the project. Risk is assessed as low.

Raw Risk Likelihood (RRL) **Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10. **4**
Raw Risk Impact (RRI) **Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10. **4**
Gross Risk Indicator (GRI) **Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100. **16**
Mitigation/Notching **Notch**
RRL Mitigation (Notch) **NN**
No adjustment.
RRI Mitigation (Notch)
No adjustment.
The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. **16**

1.4 Risk Factor: Transportation

1.4.1 Biomass Feedstock Transportation Costs

Rationale: Transportation can be one of the most significant cost components of biomass supply chains. The average transport cost and percentage of total feedstock cost attributable to transport should be known.

Transport distances of 50-75 miles for biomass feedstocks are typical, but larger distances can be common. Where the average transport distance from suppliers to Issuers is high, the supply chain is subject to greater sensitivities to risks, such as increases in diesel cost, weather impacts, mechanical breakdown, and the demand for scarce feedstock from competitors closer to the source.

Understanding average transport distance can help flag higher-risk BDO Zones where transport distance materially exceeds the average.

Risk Information: Biomass feedstock transportation costs vary significantly depending on whether the material is moved as a liquid slurry or a densified solid, and they represent a substantial economic factor for the supply chain. For liquid dairy manure, regional transport contractors typically deploy 10- or 12-wheeler vacuum trucks carrying 4,800 to 5,500 gallons, or 53-foot liquid tanker trailers holding up to 8,000 gallons, with hauling services costing approximately $180 per hour. Conversely, solid feedlot manure and compost are conventionally transported using 53-foot belt or walking-floor trailers capable of hauling a 30- to 31-ton payload, with trucking rates generally ranging from $130 to $150 per hour (Figure E-3, Appendix E). Due to the heavy, high-moisture nature of the material, coupled with regional surcharges and interstate commerce regulations, the share of transportation cost in total delivered cost is estimated to be in the range of 35-55%. Although lower-cost feedlot manure shipments will constitute the majority of manure deliveries to a new project, the relatively large share of transportation in final delivered costs lead to a medium risk assessment for this indicator.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**36**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**36**

1.4.2 Ownership/Control of Transportation/Logistics

Rationale: In most cases, suppliers that own or lease transportation equipment necessary to transport biomass from fields are at lower risk than those that do not. However, in some circumstances, reliance on third parties to transport biomass is common practice and does not contribute to risk.

Risk Information: Biomass feedstock transportation relies on a mix of independent and third-party resources, meaning ownership and control of transportation logistics is somewhat decentralized. While many independent dairy and feedlot operators own and operate their own tractors, wagons, and trucks for the localized land application of manure, project developers should note that tanker trucks are owned and operated by a number of companies that are specialized in waste handling. To manage large-scale off-site distribution, regional supply chains rely on these specialized contractors. Two companies that own fleets of tanker trucks and walking floor trailers for composted manure shipments indicated their interest in supplying a new project and therefore risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**

RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

1.4.3 Transportation of Biomass Feedstock Requires Specialized Equipment and Specialized Operator Training

Rationale: Requirements for specialized transport equipment (e.g., walking-floor trailers) can increase supply chain risk. Where there is low availability of required transportation equipment, equipment owners have increased leverage over transportation prices, and supply chain resiliency can be lower.

Risk Information: The transport of biomass feedstock requires specialized equipment and specialized operator training to safely and efficiently move both liquid and solid manure streams. Liquid dairy manure handling necessitates vacuum trucks, agi-pumps, and large 53-foot liquid tanker trailers capable of hauling up to 8,000 gallons. Dry feedlot manure is typically loaded using heavy front-end loaders and transported via 53-foot belt trailers or walking-floor trailers equipped with automated tarp systems. These specialized vehicles are either already owned by the large livestock operations or are readily accessible through regional agricultural transport contractors. Drivers are trained to handle heavy pumps and agitators and adhere to specific facility safety and discharge protocols. Risk is assessed as low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**Score** **16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

1.4.4 Delivery Routes Through Local Communities

Rationale: Transportation of biomass can become a nuisance to local communities, especially if a large number of trucks pass through residential and school areas. Local communities often have the power to force regulations regarding truck transport, impeding the ability of BDO Zone suppliers to transport feedstock.

Risk Information: Because the study region has a strong agricultural heritage, the sight of agricultural transport is a normal part of the local economy. However, transporting large volumes of manure via truck can present risks of public opposition due to increased traffic, odors, and accelerated road wear in local communities. There has been at least one instance of a county government in the region imposing surcharges on manure transport service providers. Overall, the likelihood that manure transport schedules will be interfered with as a result of public opposition is regarded as low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**Score** **16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

1.4.5 Transportation Regulations and Local Weight Limits

Rationale: In many BDO Zones, transportation is regulated based on seasonal road conditions. These regulations (e.g., "frost laws") often take the form of weight restrictions or limits on the number of trucks allowed on roads. Such regulations can impede the project's ability to source sufficient feedstock or increase the cost of doing so at certain times of the year.

Risk Information: Transportation regulations and load weight limits significantly influence the logistics and cost of cross-border manure procurement. Maximum weight limits for regular operations on Interstate highways in both Oregon and Idaho are generally capped at 80,000 pounds, though both states offer specific agricultural exemptions and permits for heavier loads on non-Interstate routes. However, issues with current trucking regulations create notable hurdles for interstate transport; Oregon's stricter environmental compliance tracking, higher fuel taxes, and weight-mile surcharges make crossing the border from Idaho to Oregon administratively burdensome and more expensive than operating solely within Idaho. A representative of the Idaho dairy industry cited onerous Oregon regulations as one of the reasons why he believed that Idaho dairies would not be interested in supplying manure to a project across the border in Malheur County, Oregon. Although none of the Idaho dairies were included in the supply analysis, risk is assessed as low-to-medium due to the prevalence of feedlots on the Idaho side of the Supply Zone.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**Score** **6**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**Score** **24**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**

The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.4.6 Road Infrastructure

Rationale: Feedstock cost and availability can be a function of road infrastructure, in particular the accessibility the infrastructure provides to feedstock. Issues with road networks will translate directly to risks to feedstock supply.

Risk Information: Statewide infrastructure assessments in Oregon indicate a severe funding deficit for transportation maintenance, which has resulted in degrading pavement conditions, inadequate drainage, and a growing backlog of essential bridge repairs. Many local jurisdictions lack the budget to upgrade aging, substandard rural roads or seismically retrofit key bridges, forcing them to implement strict weight limits or close vulnerable routes entirely. Poor road and bridge infrastructure means that heavy manure transport trucks may be forced to utilize longer detour routes, face accessibility issues during adverse weather, or carry reduced payloads, all of which directly increase the marginal cost of the delivered feedstock. However, this is regarded as an unlikely or infrequent occurrence and risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.4.7 Transportation Redundancy

Rationale: Transport equipment redundancy is important for dealing with seasonally variable feedstock supplies as well as the risk of equipment breakdowns.

Risk Information: Transportation redundancy in the study region is strong due to the substantial existing fleets of specialized vehicles operated by major regional contractors and large livestock feeding operations. For example, a large feedlot operation in Malheur County operates a private fleet of 46 trucks equipped with 53-foot belt trailers and a specialized liquid transport company that operates in the Supply Zone maintains a fleet of 20 tractors and 20 trucks, including many high-capacity liquid tanker trailers. These robust regional fleets ensure that adequate backup capacity is available to handle equipment breakdowns or periods of seasonally high feedstock volume. It is estimated that a project utilizing the rated quantities would require 14 walking floor trailers and two tanker trucks. Risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**

Mitigation/Notching	Notch
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.5 Risk Factor: Risks Related to Supply Chain Resiliency

1.5.1 Size, Number, and Location of Suppliers

Rationale: In general, a supply portfolio involving multiple suppliers of various sizes (and from multiple BDO Zones) is important for ensuring steady and uninterrupted feedstock supply with minimal price fluctuations. If a small number of large suppliers provides a high proportion of total feedstock, a disruption or supplier breach will have greater impact on the supply chain. In such cases the risk of disruption is lower, but the impact of those disruptions is higher. Conversely, many small suppliers are less likely to have the capacity to withstand internal disruptions and thus may be more likely to breach. Here, risk of disruption is higher, but their likely impact is lower. The number of suppliers as well as the ratio of small to large suppliers should be optimized. There is no pre-determined number or optimal ratio of suppliers, although having too many or too few can both pose higher degrees of risk.

Risk Information: The Supply Zone consists of two free-stall dairy farms and 40 feedlots. The largest potential suppliers in this network are the thousand-head feedlots, which can generate large volumes of dried manure, and the two free-stall dairy farms, which provide a steady, year-round flow of liquid slurry. The broad geographical distribution of these facilities throughout the Supply Zone further minimizes the risk of localized disruptions preventing feedstock delivery. Risk is assessed as low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.5.2 Suppliers Subject to Same External Risk Factors

Rationale: When a single risk event can impact the feedstock production ability of all (or most) suppliers, then feedstock risk is higher and supply chain resiliency is lower. Resilience is maximized when biomass supply chains exhibit diversity

in spatial location (i.e., geography), production practices, and other elements of supply chain structures such that the impact of single high-risk events has varying impacts on suppliers.
Risk Information: Suppliers in the BDO zone are generally subject to a set of common external risk factors, the most prominent being the risk that the primary product markets for dairy and beef will decline. Because manure is a residual by-product, a severe downturn in milk or beef prices could lead to herd liquidations or farm closures, thereby directly reducing the generation of manure feedstock. This is regarded as a very low likelihood event due to the historical support that the federal and state governments have provided to these industries. Cattle head trends indicate that other potential common external risk factors such as prolonged droughts that threaten water and forage availability and overarching changes in state environmental regulations regarding nutrient management and groundwater protection have not been a factor historically. Overall, the resilience of the supply chain is bolstered by the structural differences between dairy farming and beef cattle feeding, as a market shock affecting one sector may not simultaneously affect the other. Risk is assessed as low.
Raw Risk Likelihood (RRL) — **Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10. — **4**
Raw Risk Impact (RRI) — **Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10. — **4**
Gross Risk Indicator (GRI) — **Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100. — **16**
Mitigation/Notching — **Notch**
RRL Mitigation (Notch) — **NN** No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score — **Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100. — **16**

1.6 Risk Factor: Biomass Feedstock Scale-up

1.6.1 Capacity of Supply Chain Components and Infrastructure to Scale

Rationale: Scale-up risk increases if supply chain components or underlying feedstock infrastructure necessary for these components cannot scale to handle Issuer feedstock requirements and throughput capacity. Capacity to scale should be demonstrated.
Risk Information: The required on-farm feedstock collection equipment such as skid steers, dozers, front-end loaders, lagoons, agi-pumps, and other equipment is already present. These existing on-farm assets are fully capable of handling the rated quantities of manure without requiring additional capital investments. Furthermore, the existing regional trucking capacity is adequate to transport the rated quantities of both liquid and solid manure off-site. While certain specific site-level infrastructure upgrades, such as the construction of centralized reception pits or water supply lines at the project site, may be required to process inbound feedlot manure into a pumpable slurry, the broad components of the harvest and collection supply chain are already in place. Risk is therefore assessed as low.
Raw Risk Likelihood (RRL) — **Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10. — **4**
Raw Risk Impact (RRI) — **Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10. — **4**
Gross Risk Indicator (GRI) — **Score**

The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

1.6.2 Availability of Labor for Biomass Feedstock Production

Rationale: Skilled labor shortages can be difficult to remedy in the short term. The availability of suitable labor in an area can impact the ability to procure sufficient feedstock quantities on required schedules. Labor risks are higher where supply chains are not yet active or for Issuers for whom large feedstock requirements or the development of new (or expanded) supply chains demand significant additions to the local labor force.

Risk Information: The availability of labor for biomass feedstock production and transportation presents a notable risk factor in the region due to overarching agricultural workforce shortages. The local dairy and beef industries rely heavily on immigrant labor, and tightening border regulations have created a situation where there are more open agricultural jobs than available domestic workers. Despite these overall workforce constraints, the specific skilled labor required to physically produce and move the biomass feedstock, including trained heavy equipment operators and licensed commercial truck drivers, is currently in place. Nonetheless, a new biomanufacturing project must account for the highly competitive nature of the regional labor pool and recognize that future scale-ups will require active recruitment and retention of trained equipment operators and other essential personnel. Risk is assessed as low-to-medium.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**Score** **6**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**Score** **24**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**Score** **24**

1.6.3 Low Historical Demand for Biomass Feedstock in the Supply Zone

Rationale: If Issuer BDO Zone does not have a history of developed large-scale feedstock procurement, suppliers may not have sufficient expertise in feedstock production to ensure reliable supply, especially in the early years. Where supply chains are not well-established, risk can be mitigated when new bio-based plants control a higher degree of feedstock processing.

Risk Information: Manure has historically been used locally as fertilizer for crops owned by dairies, feedlots, and neighboring farms. Liquid slurry is pumped from lagoons and distributed locally by wagons and irrigation systems, whereas feedlot manure is composted and loaded into trucks or wagons for local application. As the dairy industry has consolidated and the number of cattle heads per farm has increased, manure generation has exceeded local nutrient budgets. This has led to an increase in the proportion of manure generated on dairies and feedlots that is sent to more distant markets. The rated quantity of manure can easily be accommodated by the existing network of transportation service providers that has developed as a result of this trend. However, it must be noted that past demand for manure as an industrial bioenergy source in the immediate Oregon supply basin has historically been very low. While there are several anaerobic digesters further east in Magic Valley, Idaho, there are currently no large anaerobic digester projects operating in eastern Oregon or western Idaho. Overall risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7 Risk Factor: Climate and Natural Risks

1.7.1 Seasonal Weather Impacts on Biomass Feedstock Supply

Rationale: Seasonal weather impacts are defined as those deriving from natural weather variations (e.g., spring thaws, rainy seasons, or dry seasons—as opposed to singular weather events like fires, droughts, or hurricanes). Seasonal weather changes can be a significant risk factor affecting feedstock availability, quality, and price.

Given the significant influence that weather has on multiple aspects of growing, harvesting, and transporting biomass, it is difficult to predict the availability of biomass at a specific location at different points in the future with a high degree of certainty. However, it is still possible, using past data and statistical models, to generate reasonable upper/lower bound estimates of biomass production in any given year in a wider supply zone. Such estimates are essential in assessing feedstock risk and enable accurate assessment of the efficacy of the Issuer's mitigation methods.

Risk Information: Seasonal weather is unlikely to have a significant negative impact on the availability of the rated quantities of manure. During the winter months, cold temperatures and wet conditions make manure handling more difficult, but feedlot operators circumvent this through stockpiling. A new bio-project with consistent year-round demand for manure would likely be advantaged by seasonal weather changes, as state environmental regulations prohibit the application of manure on frozen, snow-covered, or saturated soils to prevent runoff, restricting agricultural disposal windows during the winter and early spring. In the summer, field application is again limited because crops are actively growing. Risk is therefore assessed as very low.

Raw Risk Likelihood (RRL)	**Score**

The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

1.7.2 Long-Term Weather and Climate Trends

Rationale: In certain BDO Zones, climatic trends and significant potential changes to future weather patterns can create feedstock risk.

Risk Information: The region is susceptible to long-term climate trends, particularly prolonged droughts and extreme heat, which can negatively impact agricultural productivity and water availability. Over the past several years, Oregon and Idaho have experienced some of their hottest and driest years on record. These conditions rapidly dry out vegetation, increase crop stress, and reduce available forage, which directly impacts the profitability and stability of the primary dairy and beef operations that generate the manure feedstock. While some climate models predict an increase in the frequency of extreme weather events, there is significant uncertainty associated with these models. Since the beef and dairy industries in the region have been growing despite negative climate trends, risk is assessed as low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**Score** **16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

1.7.3 Forest/Crop Fire

Rationale: Forest/crop fires, especially when occurring on a large scale, destroy feedstock and create shortages. Fire-prone conditions are predicted to increase across North America. This could potentially result in a doubling of the

amount of area burned by the end of this century compared with amounts burned in recent decades. Boreal forests, which have been historically greatly influenced by fire, will likely be especially affected by this change.

Other climate change impacts that could add damaged or dead wood to the forest fuel load (e.g., as a result of insect outbreaks, ice storms, or high winds) may increase the risk of fire activity. New research is aimed at refining these climate change estimates of fire activity and investigating adaptation strategies and options to deal with future fire occurrences. There is growing consensus that as wildfire activity increases, fire agency suppression efforts will be increasingly strained. However, analyses of fire history suggest that the effect of climate variability on precipitation regimes is the primary reason for the decreasing fire activity.

Risk Information: Wildfires represent a severe and escalating natural disturbance risk in the region, driven by rising temperatures and prolonged drought conditions. Oregon and Idaho have suffered numerous catastrophic and billion-dollar wildfire events in recent years, including the devastating 2020 Labor Day fires in Oregon that burned over 1.2 million acres and destroyed thousands of structures. This is regarded as a high impact and very low likelihood risk.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very high, therefore the RRI is 10 out of 10.	**10**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 20 out of 100.	**20**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 20 out of 100.	**20**

1.7.4 Risk of Infestation

Rationale: Risk of future infestation, including its estimated consequences on feedstock supply, should be calculated into the overall risk profile. Since insect populations are influenced by environmental conditions, future changes in climate can be expected to significantly alter the outbreak dynamics of certain insect species. In some cases, larger and more frequent insect outbreaks may occur, but in other cases, recurring outbreaks may be disrupted or diminished.

Risk Information: Historical records indicate that the region is vulnerable to agricultural pest infestations, which can devastate local crops and indirectly affect the livestock operations relying on that feed. For example, severe grasshopper infestations have periodically plagued southwestern Idaho, notably in 1977 and 1985, with the 1985 event prompting a state disaster declaration and necessitating extensive pesticide spraying across more than six million acres of rangeland in several counties. Additionally, the broader forestry and agricultural landscape faces ongoing risks from climate-driven pest outbreaks, such as bark beetles, which are exacerbated by drought and sub-optimal growing conditions. Future crop infestations have a very low likelihood of occurrence and a very low potential impact on dairy operations due to the ability to import feed and therefore risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**

The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 8 out of 100.	**Score** **8**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 8 out of 100.	**Score** **8**

1.7.5 Risk of Hail

Rationale: Hail is one of the principal destroyers of agricultural crops in North America. There is much uncertainty about the effects of anthropogenic climate change on the frequency and severity of extreme weather events like hailstorms and their subsequent economic losses. Some studies indicate a strong positive relationship between hailstorm activity and hailstorm damage, as predicted by minimum temperatures using simple correlations. This relationship suggests that hailstorm damage may increase in the future if global warming leads to further temperature increases.

Risk Information: Hail can destroy large acreages of cropland, thereby indirectly affecting the livestock industries that rely on those crops for feed. The Supply Zone occasionally experiences severe weather that includes destructive hail, such as a rapidly developing squall line in June 2006 that moved across northeastern Oregon and western Idaho, dropping quarter-sized hail in local communities across Baker County, Oregon, and Adams County, Idaho,. However, this is highly infrequent and did not disrupt feed supply. Risk is assessed as very low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

1.7.6 Risk of Flood

Rationale: Floods can cause catastrophic disruption and delay in feedstock supply. Where there is a high risk of flood and thus a negative impact on feedstock supply, the BDO Zone rating should account for this risk.

Risk Information: Flooding could conceivably disrupt the biomass supply chain by inundating fields, damaging storage infrastructure, and obstructing transportation routes. The region has a history of severe flooding driven by heavy rains

and rapid snowmelt, most notably the New Year's Day floods of 1997, which destroyed highways and bridges, triggered massive mudslides, and isolated multiple communities across southwestern Idaho and eastern Oregon. Additional billion-dollar flood events impacted the broader Pacific Northwest in 1996 and 1997. On an operational level, heavy precipitation can flood the open dry lots at regional beef feeding operations, making the manure too wet to handle with standard loaders and forcing operators to hire specialized liquid transport contractors to pump out the flooded waste. While risk likelihood is very low, the potential impact of future devastating flooding events on the manure supply chain – while temporary – is high.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7.7 Risk of Drought

Rationale: Droughts can cause significant disruptions to feedstock supplies across entire BDO Zones for extended periods of time, especially in the case of agricultural residues and energy crops.

Risk Information: Drought conditions can cause significant, extended disruptions to agricultural biomass supplies by reducing crop yields and increasing vulnerability to pests and wildfires. The region is highly susceptible to severe water shortages, with Idaho experiencing at least 13 weather disaster events related to drought since 1980. Recent prolonged droughts in 2021, 2022, and 2024 rapidly dried out vegetation, depleted reservoirs, and sharply increased the cost of feed for livestock operations. However, dairy and feedlot operators have managed these events such that manure generation remains relatively constant. Risk is assessed as low-to-medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed high, therefore the RRL is 8 out of 10.	**8**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 32 out of 100.	**32**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 32 out of 100.	32

1.7.8 Risk of Hurricanes, Tornadoes, and Strong Winds

Rationale: Hurricanes, tornadoes, and strong winds can destroy timber stands, crops, and feedstock piles. They can also delay agricultural operations. Hurricanes and tornadoes can indirectly cause temporary shortages of available transportation as available trucking moves to handle higher-value disaster-related contracts. For example, Katrina cleanup limited the availability of live-bottom trailers in the North and South East of the US for several months as truckers shifted operations to handle more lucrative government contracts.

Although scientists are uncertain whether climate change will lead to an increase in the number of hurricanes, warmer ocean temperatures and higher sea levels are expected to intensify their impacts. Recent analyses conclude that the strongest hurricanes occurring in some BDO Zones, including the North Atlantic, have increased in intensity over the past two to three decades.

Risk Information: A severe storm system in June 2006 spawned a rare F2 tornado in Adams County, Idaho, producing winds up to 134 knots and leveling 5,000 acres of timber. Furthermore, strong easterly wind events coupled with extremely dry landscapes have historically fueled catastrophic natural disasters, such as the unprecedented September 2020 wildfires in the Oregon Cascades. However, these events are infrequent and are unlikely to disrupt manure supply in the Supply Zone. Risk is very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.7.9 Low Temperatures

Rationale: Low temperatures can cause crop failure, leading to shortages of biomass. Additionally, low temperatures can have adverse impacts on the operations of feedstock processing equipment in Northern BDO Zones.

Risk Information: Winter weather creates distinct operational challenges for the feedstock supply chain; cold and wet conditions make feedlot manure significantly more difficult to scrape and process, often forcing operators to temporarily stockpile the waste in large mounds or dirt pits until the spring thaw. Lagoons can also freeze over temporarily during the winter months if temperatures are excessively cold. Minimum daily temperatures below 32 Fahrenheit are experienced approximately one-third of the year. While operators are used to these conditions, there is some risk that manure supply could be slowed during the winter months and therefore risk is assessed as low-to-medium.

Raw Risk Likelihood (RRL) The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**Score** **6**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**Score** **24**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**Score** **24**

1.8 Risk Factor: Non-Weather Based Externalities

1.8.1 Diesel Price, Oil Price, and Producer Price Index (PPI)

Rationale: CPI and PPI can impact feedstock cost of harvest and collection over time. Sensitivities to worst-case scenarios should be run.

Risk Information: Historical diesel and fuel prices in the region have experienced significant volatility over the past decade, directly impacting transportation costs. According to regional PADD 4 data, retail diesel prices dropped to a low of $2.31 per gallon in 2016 and $2.51 per gallon in 2020, before spiking to a peak of $4.97 per gallon in 2022, and subsequently settling at $3.57 per gallon by 2025. Similarly, the USDA Chemical, Fertilizer, and Fuels Price Index demonstrates that fuel and fertilizer input costs peaked in mid-2022 before gradually softening through 2024 and early 2026. Because agricultural transport makes up 35-55% of the delivered feedstock cost, risk is assessed as medium.

Raw Risk Likelihood (RRL) The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**Score** **6**
Raw Risk Impact (RRI) The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**Score** **6**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**Score** **36**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**Score** **36**

1.8.2 Currency Risk

Rationale: Where feedstock is purchased in a currency different than that which a new bio-based plant will locate in a BDO Zone, currency exchange rates and volatility can constitute risk exposure. BDO Zones that cross the US-Canada border, for example, which intake feedstock from both countries, are exposed to such currency risk.

Risk Information: N/A

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	**NR**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	**NR**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	**NR**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is not rated (NR).	**NR**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

1.8.3 Border Risk

Rationale: Where feedstock is transported cross-border to another country, risk exposure to border closures and crossing delays becomes present. The availability of trucks willing to do cross-border runs is limited, which can decrease supply chain flexibility and resilience. Plants near the US-Canada border, which intake feedstock from both countries, are exposed to these risks.

Risk Information: N/A

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	**NR**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	**NR**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	**NR**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is not rated (NR).	**NR**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

1.9 Risk Factor: Political and Social

1.9.1 Government Subsidies for Biomass Feedstock Production or Utilization

Rationale: Feedstock that is directly subsidized through government programs can pose greater long-term risk than feedstock that is not. Subsidies may be subject to amendment or repeal, sometimes with minimal notice.

NOTE: This risk indicator refers to direct feedstock subsidies only; it does not apply to government subsidies that pertain indirectly to the Issuer's operations, such as Loan Guarantees, or to the markets for products produced by the Issuer.

Risk Information: Government subsidies and financial assistance programs play a supportive role in regional manure management but do not artificially depress the cost of manure. In Idaho, the state government offers competitive Confined Animal Feeding Operation improvement grants to help livestock operations fund environmental improvements, such as installing advanced manure separation technologies, centrifuges, and lagoon expansions. Additionally, federal initiatives like the Environmental Quality Incentives Program provide financial and technical assistance to agricultural producers to implement conservation practices that address natural resource concerns. While these programs assist suppliers in upgrading waste management infrastructure, the continuous generation of the manure itself remains securely driven by the primary dairy and beef markets rather than direct, potentially volatile feedstock production subsidies. Risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.9.2 Local, Provincial, and National Laws, Regulations, and Permitting Pertaining to Biomass Feedstock

Rationale: Feedstock whose production is directly dependent on local, provincial, or national laws or government regulations can pose greater long-term risk than feedstock which is not, since laws and regulations may be subject to amendment or repeal.

If biomass utilization requires specific permits (e.g., percentage removal of corn stover, air emission, storage permits, rights-of-way, overweight permits for trucks, cross-border permitting for shipment of biomass, chain of custody, or certification of sustainability), the likelihood of obtaining such permits and/or complying with permitting requirements should be examined.

Risk Information: Manure derived from livestock operations is heavily regulated by local and state environmental laws designed to protect water quality from nutrient pollution. In Oregon, Confined Animal Feeding Operations must operate under strict water quality permits and adhere to an approved Nutrient Management Plan that dictates how, when, and where manure can be land-applied at agronomic rates. Recent legislative updates have further tightened oversight by

requiring new or expanding large operations to submit comprehensive water supply plans, undergo multi-agency preliminary consultations, and adhere to stricter guidelines if operating within a designated Groundwater Management Area. In contrast, Idaho's permitting framework is primarily managed at the county level and is generally considered less restrictive than Oregon's, though all regional producers in both states are strictly bound by regulations that require precise tracking and recordkeeping of any manure transferred off the farm. Risk is assessed as low, as these regulations limit land application of manure only.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.9.3 Backlash Against Biomass Feedstock Development, Procurement, or Usage in the BDO Zone

Rationale: Public backlash against biomass development in the Issuer BDO Zone can directly impact the Issuer's ability to procure, transport, trans-load, store, or utilize feedstock by affecting local policies, regulations, and the Issuer's ability to obtain necessary permitting.

Risk Information: There is a notable history of public and environmental NGO backlash against large-scale agricultural and energy projects in the region, which can impede permitting and operations. For example, environmental advocacy coalitions have actively pushed for stricter oversight of large livestock facilities due to concerns over water pollution, citing instances where a mega-dairy in Morrow County accumulated hundreds of wastewater violations and eventually filed for bankruptcy. If properly designed and managed, a new bio-project would serve to minimize the amount of manure that is land applied and/or exported for land application elsewhere. Risk is low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.9.4 Consent of, and Cooperation with, Indigenous Communities

Rationale: Where new project development on or near Indigenous land, or where near Indigenous communities exert influence over feedstock producing areas, consent of, and cooperation with, Indigenous communities decrease Issuer risk.

Risk Information: Under recent state legislation, specifically Oregon's Senate Bill 85, agencies are now explicitly required to notify and offer consultation to the governing bodies of all federally recognized Indian tribes before scheduling preliminary consultations for new or expanding large confined animal feeding operations. Furthermore, regional tribes have a history of actively mobilizing against energy and industrial projects that pose potential pollution risks to ancestral lands and shared water sources. To mitigate conflicts, a new biomanufacturing entrant must ensure transparent communication, respect customary water rights, and potentially establish formal agreements or environmental management plans following a free, prior, and informed consent process. Risk is assessed as low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.9.5 Food Security Concerns

Rationale: Despite the fact that any significant correlation between food prices and biofuel production is unclear, claims that biofuel production has driven up food prices, taken food from communities or had a negative impact on land use can fuel public backlash. For example, the removal of biomass may raise public concerns relating to food security if Issuer feedstock requires the use of land that would otherwise be used for growing food.

Risk Information: N/A

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	NR
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	NR
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	NR
Mitigation/Notching	**Notch**
RRL Mitigation (Notch)	NR

No adjustment.

RRI Mitigation (Notch)
No adjustment.

The Total Notch (RRL Notch) X (RRI Notch) is not rated (NR).

Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

1.10 Risk Factor: Sustainability and Environmental Concern

1.10.1 Biomass Feedstock Sustainability

Rationale: Public concerns about the sustainability of feedstock production can jeopardize biomass feedstock operations. Sustainability certification schemes should be utilized where applicable to ensure that feedstock comes from sustainable sources.

Risk Information: The sustainability of manure supply in the region is primarily governed by strict state and federal environmental regulations rather than voluntary third-party certification systems. To prevent nutrient pollution in surface and groundwater, livestock suppliers are required to operate under Confined Animal Feeding Operation permits and adhere to approved Nutrient Management Plans. These mandatory plans dictate sustainable best practices, such as applying manure at precise agronomic rates based on crop uptake, avoiding land application on saturated or snow-covered soils, and maintaining proper setbacks from waterways. Additionally, facilities located in designated high-risk areas, such as Groundwater Management Areas, face even stricter regulatory oversight, ensuring that the collection and utilization of manure minimizes habitat degradation and water contamination. Since a bio-project would reduce the amount of manure that is land applied, risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.10.2 Risk to Soil Quality

Rationale: Soil sustainability can be defined as the management of soil in a way that does not exert any negative or irreparable effects either on the soil itself or any other systems. There is a diversity of approaches to soil sustainability in jurisdictional guidelines for biomass harvesting and production. For different feedstock types, there are also different thresholds at which feedstock removal causes significant negative consequences on the soil.

Poor soil quality that negatively impacts the long-term sustainability of the feedstock can entail long-term feedstock risk. Sub-optimal soil management can leave exposed soil post residue-harvest, which can lead to soil wash-off and soil carbon loss from precipitation and wind. Over-harvesting of biomass also depletes the carbon stock in the soil and creates a negative feedback loop that can degrade the soil and its nutrients.

Risk Information: Harvesting manure for a bioenergy project poses a potential risk to local soil quality if the organic matter and vital nutrients are permanently removed from the agricultural ecosystem. Dairy and feedlot manure is highly valued by regional crop farmers because it increases water-holding capacity, lessens erosion, and provides essential nitrogen, phosphorus, and potassium for crop growth. To mitigate the risk of degrading local soil health or forcing farmers to purchase expensive synthetic fertilizers, biomanufacturing projects often return the nutrient-rich anaerobic digestate back to the supplying farms. While the digestion process reduces the carbon content of the material, the critical nitrogen and phosphorus nutrients remain intact, allowing farmers to continue applying the digestate as a sustainable soil amendment while complying with their nutrient management protocols. Since there is a possibility that a new bio-project may not involve anaerobic digestion and may not return a fertilizer product to supplying farmers, risk is assessed as medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**36**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**36**

1.10.3 Risk to Surface and Groundwater

Rationale: Excessive nutrient runoff from biomass feedstock production can accumulate in surface waters and result in algal blooms and hypoxia, which can lead to habitat loss for aquatic species higher up the food chain and alter aquatic ecosystem food webs. Damage to aquatic ecosystems can cause social and regulatory backlash. Water intake issues can also increase risk.

Risk Information: The risk of surface and groundwater contamination from manure is highly regulated by strict state and federal frameworks, minimizing the likelihood of nutrient pollution in local waterways. Livestock suppliers must operate under Confined Animal Feeding Operation permits and strictly follow approved Nutrient Management Plans to ensure manure is applied at precise agronomic rates, matching crop nutrient uptake. The law prohibits any discharge of manure to surface waters except during catastrophic weather events like a 25-year, 24-hour storm. Furthermore, large operations must implement extensive best management practices, including maintaining a 100-foot setback or a 35-foot vegetated buffer from surface waters, sinkholes, and wellheads. In designated high-risk zones, such as the Northern Malheur County Groundwater Management Area, rules are even more rigorous, requiring specialized subsurface discharge monitoring plans and double-layer synthetic liners with leak detection for new liquid manure impoundments. Other physical safeguards, such as sediment basins and tailwater recovery systems, are also frequently

deployed on surrounding croplands to physically trap nutrients and eliminate agricultural runoff. Since a new bio-project would reduce the amount of unprocessed manure that is land applied, risk is very low.
Raw Risk Likelihood (RRL) **Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10. **2**
Raw Risk Impact (RRI) **Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10. **2**
Gross Risk Indicator (GRI) **Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100. **4**
Mitigation/Notching **Notch**
RRL Mitigation (Notch) **NN**
No adjustment.
RRI Mitigation (Notch)
No adjustment.
The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).
Loaded RI Score **Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100. **4**

1.10.4 Water Use

Rationale: Biomass feedstock operations can have significant impacts on the hydrological flux (infiltration, groundwater recharge, interception, and transpiration) of ecosystems. This can lead to water shortages, lower yields, and backlash from regulatory bodies if management plans are not properly instituted.
Risk Information: Water use represents a critical environmental and operational risk, particularly because the regional supply basin is situated in a high-desert environment where groundwater is deep, scarce, and subject to increasing regulatory scrutiny. To mitigate excessive freshwater consumption, many regional dairy facilities employ water-recycling systems that repurpose milking parlor wash water to continuously flush feed lanes and free-stall barns. Recognizing the strain on local aquifers, recent state regulations under Oregon's Senate Bill 85 now require all new and expanding large livestock facilities to submit comprehensive Water Supply Plans to the Department of Agriculture and the Water Resources Department. These plans must explicitly detail all intended water sources and ensure that the facility operates strictly within legally authorized water rights. Additionally, the new regulations cap the historical "stockwater exemption," stipulating that new and expanding operations in critical groundwater areas cannot increase unpermitted groundwater usage by more than 12,000 gallons per day, thereby limiting unbounded water extraction. Overall, water use concerns pose a significant risk to new manure supply chains in the BDO Zone that rely on a liquefied feedstock due to the disproportionate share of feedlot manure in the total rated quantity. Risk is high.
Raw Risk Likelihood (RRL) **Score**
The risk likelihood is deemed high, therefore the RRL is 8 out of 10. **8**
Raw Risk Impact (RRI) **Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10. **8**
Gross Risk Indicator (GRI) **Score**
The Gross Risk Indicator (RRL X RRI) is 64 out of 100. **64**
Mitigation/Notching **Notch**
RRL Mitigation (Notch) **NN**
No adjustment.
RRI Mitigation (Notch)

No adjustment.

The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 64 out of 100.	64

1.10.5 Pesticide Risk to Human and Ecosystem Health

Rationale: Application of pesticides (i.e., herbicides, fungicides, and insecticides) on agricultural landscapes can result in adverse health effects for humans and ecosystems. If pesticide application is required in feedstock production, the impact must be considered in the BDO Zone rating.

Risk Information: Pesticides are commonly applied to the regional forage crops that supply livestock feed, and parasite-control chemicals are utilized directly within animal confinement areas. To protect the environment and groundwater supplies, livestock operators are strictly prohibited from storing portable containers of pesticides, herbicides, or fertilizers near agricultural well lots without explicit agency approval. Furthermore, Confined Animal Feeding Operation permits explicitly forbid the disposal of any chemicals, including wastes from dipping vats and pest control units, into any manure, litter, process wastewater, or stormwater storage system unless that system is specifically engineered to treat hazardous toxic substances. By enforcing these isolation protocols and requiring documented chemical handling plans, the supply chain minimizes the risk of these toxins leaching into the local water table or contaminating the residual biomass feedstock. Risk is very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment.	NN
RRI Mitigation (Notch) No adjustment.	
The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.10.6 Risk to Wildlife and Landscape

Rationale: Biomass production and supply chain operations with negative impacts on wildlife and landscape are at a greater long-term risk of encountering project setbacks and disruptions.

Risk Information: Large open lagoons and deep wastewater impoundments can serve as attractive nuisances or entrapment hazards for local wildlife and large animals. To mitigate this, operators often install warning signs, fencing, and specific structural features, such as concrete ramps, to prevent accidental access and allow trapped animals to escape. From a landscape perspective, the presence of massive manure stockpiles and open lagoons can lead to unsightly aesthetics and nuisance odors. However, the local population is generally supportive of the dairy and beef industries. Risk is very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2

Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

CATEGORY 2.0: INFRASTRUCTURE RISKS

2.1 Risk Factor: Physical Infrastructure

2.1.1 Land Parcel/Industrial District

Risk Information: The Arcadia Industrial Park (also known as the Malheur County Industrial Park) comprises 200 acres of vacant land located at Arcadia Blvd in Nyssa, Oregon. The site is positioned as a high-readiness location for industrial activity, distinguished by its direct adjacency to nearly 7,000 feet of the Union Pacific main line. The property offers significant development flexibility, with available parcel sizes ranging from a minimum of 1 acre to a maximum contiguous area of 200 acres, allowing for diverse tenant configurations. The site is zoned "Industrial for outright use," minimizing administrative barriers to heavy industrial operations. Furthermore, infrastructure funding has already been secured to accommodate an intermodal reload site, indicating strong local government support and physical readiness for logistics-heavy operations. The site's location within both an Enterprise Zone and an Opportunity Zone further reduces financial risk for potential developments.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.1.2 Ownership of Land

Risk Information: The Arcadia Industrial Park (Malheur County Industrial Park) is publicly controlled, with sales and leasing activities managed through the Malheur County Economic Development Department. The property is available

for immediate sale or lease, with transfer timelines as short as a couple weeks. The County has streamlined the transfer process by completing significant pre-transaction due diligence, including a cultural resource inventory, geotechnical report, wetland delineation, and Phase 1 Environmental Site Assessment (ESA). The availability of these documents suggests a "shovel-ready" status intended to expedite the transfer of ownership to a private entity, aligning the timeline with a standard commercial real estate transaction rather than a protracted government disposal process.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.1.3 Permitting Description

Risk Information: Permitting for the Arcadia Industrial Park is assessed as a low-risk factor, primarily driven by its favorable zoning designation and the completion of critical pre-development regulatory requirements. The property is explicitly zoned "Industrial for outright use," which allows industrial projects to proceed without the need for complex rezoning hearings, conditional use permits, or lengthy public appeal processes often associated with mixed-use or agricultural sites. Significant technical hurdles often required for site development permits have already been cleared; a cultural resource inventory, geotechnical report, wetland delineation report, and Phase 1 Environmental Site Assessment (ESA) have been completed and are available to prospective buyers. The finalization of these time-intensive studies significantly de-risks the permitting process, ensuring that major environmental or physical obstacles will not unexpectedly delay the issuance of site disturbance or building permits. Furthermore, the fact that infrastructure funding has already been secured to accommodate complex operations—specifically an intermodal reload site—indicates a cooperative regulatory environment and a high degree of "shovel-readiness" conducive to rapid approval timelines.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)*	**NN**

No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.1.4 Environmental Issues

Risk Information: The Arcadia Industrial Park presents a low environmental risk profile, evidenced by the completion of comprehensive pre-development due diligence which significantly de-risks the site for potential buyers. A Phase 1 Environmental Site Assessment (ESA) has been completed, a critical step in identifying "recognized environmental conditions" (RECs) and ensuring the site is not a contaminated brownfield requiring costly remediation. Furthermore, the site's readiness is supported by the completion of a wetland delineation report and a cultural resource inventory. The finalization of these studies mitigates the risk of unexpected regulatory delays related to protected waterways or historical artifacts that often stall greenfield developments.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.2 Risk Factor: Utilities

2.2.1 Natural Gas Availability

Risk Information: Natural gas is currently unavailable on-site; however, a high-pressure manifold is being installed by Q3 2026. The closest line is approximately 1.5 miles from the site. Residential natural gas rates in Nyssa, Oregon (based on statewide Oregon data) were approximately $15.58 per thousand cubic feet in November 2024. This price was about 4.4% higher than the U.S. residential average, which was $14.93 per thousand cubic feet in the most recent reporting month. Compared with November 2023, when the average price was $15.64 per thousand cubic feet, the November 2024 rate represents a year-over-year decrease of roughly 0.38%.

Raw Risk Likelihood (RRL) The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**Score** **6**
Raw Risk Impact (RRI) The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**Score** **6**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**Score** **36**
Mitigation/Notching	**Notch**

RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**Score** **36**

2.2.2 Electric Availability

Risk Information: Electric service is available at the Arcadia Industrial Park and is provided by Idaho Power. There is a 230 kV distribution line available on the site, as well as a 3 MW substation available across the site.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.2.3 Water Availability

Risk Information: Water service is available at the Arcadia Industrial Park provided by the City. There is a 12" city water main to the site.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**

The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.2.4 Drainage, Stormwater Management, and Sewage

Risk Information: There is no wastewater line available to the site; however, the site is approved for septic systems. The Wetland Delineation report confirmed the presence of four wetland areas totaling 23 acres.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed high, therefore the RRL is 8 out of 10.	**8**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 64 out of 100.	**64**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 64 out of 100.	**64**

2.2.5 Waste Disposal

Risk Information: The Ontario Sanitary Service provides garbage and recycling services, with a county-owned landfill, Lytle Boulevard Landfill, located 14 miles from the site.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.2.6 Information and Communication Technology (ICT) Services

Risk Information: Telecommunication services are provided by Rally Networks, with fiber that runs directly to the site.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**

The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.3 Risk Factor: Transportation/Logistics

2.3.1 Road/Highway Access

Risk Information: The Arcadia Industrial Park is situated approximately 13 miles from Interstate 84, the nearest major interstate highway. While the site is not immediately adjacent to the interstate, the 13-mile distance is generally considered manageable for industrial logistics, and Highway 20, a four-lane highway, is located only 1.5 miles from the site. The property is located on Arcadia Blvd in Nyssa, OR, which provides local connectivity to the broader regional road network.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.3.2 Rail Access

Risk Information: Rail access represents a significant asset for this site, presenting a very low-risk profile for logistics-heavy operations. The industrial park features 200 acres of land positioned directly adjacent to nearly 7,000 feet of the Union Pacific main line. Furthermore, the site is distinguished by the fact that infrastructure funding has already been secured to accommodate an intermodal reload site. This secured funding and direct frontage on a Class I railroad main line eliminate the substantial capital and permitting risks often associated with establishing new rail service.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI)	**Score**

The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.3.3 Airport Access

Risk Information: For local and potential general aviation needs, the Ontario Municipal Airport is located just 8 miles from the property. For commercial air travel and larger cargo logistics, the Boise Airport is located approximately 53 miles away. This proximity provides viable options for corporate travel and expedited freight without the congestion of a major metropolitan hub located immediately adjacent to the facility.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.3.4 Water Freight Access

Risk Information: There is no ocean/river freight access to the site. The indicator is not rated as none of the technological pathways for manure processing requires access to water freight.

Raw Risk Likelihood (RRL) The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	**Score** **NR**
Raw Risk Impact (RRI) The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	**Score** **NR**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is not rated (NR).	**Score** **NR**
Mitigation/Notching *RRL Mitigation (Notch)*	**Notch** **NR**

No adjustment.

RRI Mitigation (Notch)
No adjustment.

The Total Notch (RRL Notch) X (RRI Notch) is not rated (NR).

Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

2.4 Risk Factor: Social Infrastructure

2.4.1 Healthcare (Local)

Risk Information: The Arcadia Industrial Park is supported by a tiered healthcare infrastructure suitable for industrial operations. Immediate primary care is available locally within Nyssa through Valley Family Health Care, which operates the Nyssa Medical & Dental Clinic. For comprehensive emergency and surgical services, the site is located approximately 10 miles south of Saint Alphonsus Medical Center in Ontario, Oregon, a Level IV trauma center that provides 24-hour emergency care, diagnostic imaging, and surgical services. For specialized Level II trauma care and advanced medical needs, the site is within a one-hour drive (approx. 53 miles) of major hospital systems in Boise, Idaho. This proximity to both local clinics and regional medical centers ensures that the workforce has adequate access to health services, resulting in a low-risk assessment.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.4.2 Education (Schools)

Risk Information: The region offers a stable educational foundation for workforce development. The Nyssa School District 26 serves the immediate community with elementary, middle, and high schools, ensuring K-12 education for employees' families. Crucially for industrial employers, Treasure Valley Community College (TVCC) is located just 12 miles away in Ontario. TVCC offers career and technical education (CTE) programs, including welding, industrial manufacturing, and automation, which provide a direct pipeline for skilled labor. The presence of a local community college capable of tailoring training to industry needs significantly mitigates workforce qualification risks.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**

Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.4.3 Local Transportation

Risk Information: Local transportation presents a moderate risk due to a heavy reliance on personal vehicles, with 75% of the population commuting alone by personal vehicle and 10% carpooling. While the site has excellent rail and freight access, public transit options for the workforce are limited. Snake River Transit operates in the region, connecting Nyssa to Ontario and other Malheur County communities, but service frequency and hours may not align perfectly with multi-shift industrial schedules. Ride-sharing services and taxis are available but may have longer wait times compared to major metropolitan areas. Consequently, employers should expect the vast majority of the workforce to commute via personal car, and site planning should accommodate adequate parking. This is not considered a significant risk to a potential project.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.4.4 Public Safety (Local)

Risk Information: Public safety infrastructure in Malheur County is well-established. Law enforcement for the industrial park area is provided by the Nyssa Police Department locally, with additional coverage and support from the Malheur County Sheriff's Office and the Oregon State Police. Fire protection is managed by the Nyssa City Fire Department, which is equipped to handle standard structural and brush fires as well as the Ontario Fire Department. The site's location within an established industrial zone typically ensures that emergency response protocols and hydrant access are already integrated into local planning. The low crime rates characteristic of rural Oregon further contribute to a stable security environment for physical assets.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.4.5 Housing/Cost of Living

Risk Information: Approximately 49% of the BDO Zone resides in Malheur County, OR, 24% in Payette County, ID, and 23% in Canyon County, ID. Malheur County's overall cost of living is approximately 19.9% lower than the U.S. average and 29.9% lower than the Oregon state average. Payette County's cost of living is 12.1% lower than the US average and 16.7% lower than the Idaho state average. Canyon County's cost of living score is 4.6% higher than the US average and 0.9% lower than the Idaho state average. The median property value for the three counties is $294,100 and median gross rent is $984, with 71% of the population homeowners and 29% renters. These statistics provide for a very low risk profile regarding housing and living costs.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching *RRL Mitigation (Notch)* No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.5 Risk Factor: Labor

2.5.1 Workforce

Risk Information: As of late 2025, the three counties have an average unemployment rate of 4.09%, which aligns closely with the national average of 4.07%. Approximately 29.6% of the total population of the three counties is the prime age (25-54), with the prime range employment rate of 78%. Approximately 86% of individuals over 25 years of age have a

high school education or higher, and approximately 19% have a bachelor's degree or higher. This compares to national statistics of 89% and 35%, respectively.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.5.2 Labor Costs

Risk Information: As of 2026, the minimum wage in Malheur County is $14.05/hour, significantly higher than the minimum wage of Payette County and Canyon County at $7.25/hour (consistent with federal minimum wage). Malheur County's average weekly wage in Q1 2025 was $959, Canyon $1,013, and Payette $1,004, which is substantially lower than the US average of $1,589/week. As of 2024, the median household income in Malheur County, OR is $54,519, in Payette County, ID $67,673, and in Canyon County, ID $76,488, compared to the Oregon state average of $85,220, the Idaho state average of $81,166, and the national average of $81,604. As of 2024, 17.8% of the population in Malheur County is in poverty, 10.1% in Canyon County, and 9% in Payette County compared to the national average of 12.4%.

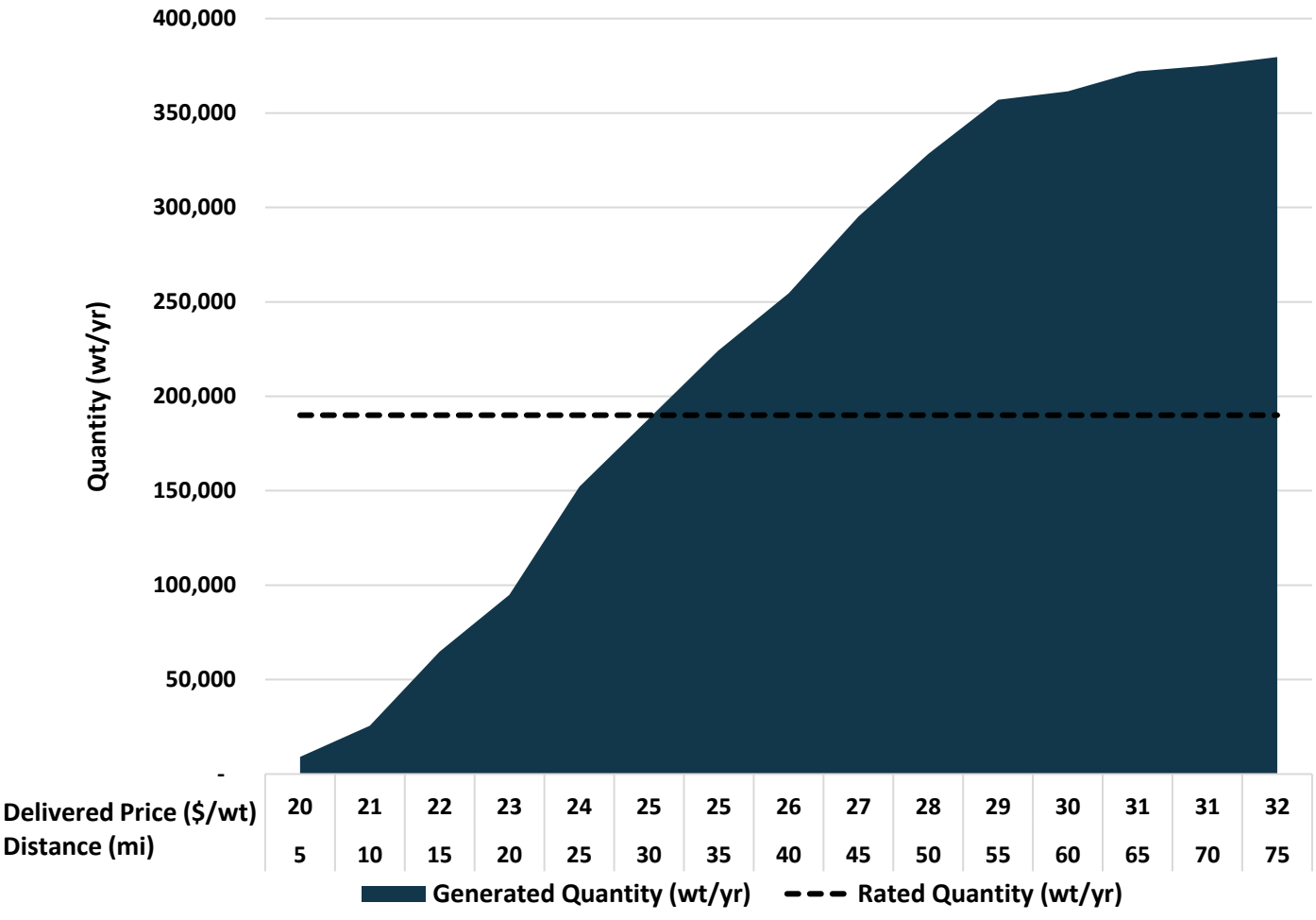
Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
RRL Mitigation (Notch) No adjustment. *RRI Mitigation (Notch)* No adjustment. The Total Notch (RRL Notch) X (RRI Notch) is NN (No Notch).	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

SECTION E: TABLES AND FIGURES

Table E-1. Nutrient Replacement Value Estimation

Nutrient	Nutrient Content of Manure (lb/wt)	Price of Synthetic Equivalent ($/lb)[2]	Nutrient Replacement Value ($/wt)
Nitrogen (N)	10.80	0.65	6.98
Phosphorus (P_2O_5)	6.20	0.69	4.28
Potassium (K_2O)	11.20	0.40	4.43
Total	--	--	**15.69**

Figure E-1. Supply/Marginal Cost Curve for Manure Generated in the Supply Zone



[2] https://www.dtnpf.com/agriculture/web/ag/crops/article/2026/01/28/seven-fertilizers-show-lower-prices

Table E-2. Total Cattle Heads in Supply Zone by Year (Not Adjusted for Overlap)

Cattle Type	2002	2007	2012	2017	2022
Cattle, Cows, Beef	239,345	159,355	228,336	220,703	211,977
Cattle, Cows, Milk	88,755	104,965	107,045	103,667	105,495
Total	**328,100**	**264,320**	**335,381**	**324,370**	**317,472**

Figure E-2. USDA NASS Fertilizer Price Index for Period 2015-2025 (Base Year 2011)

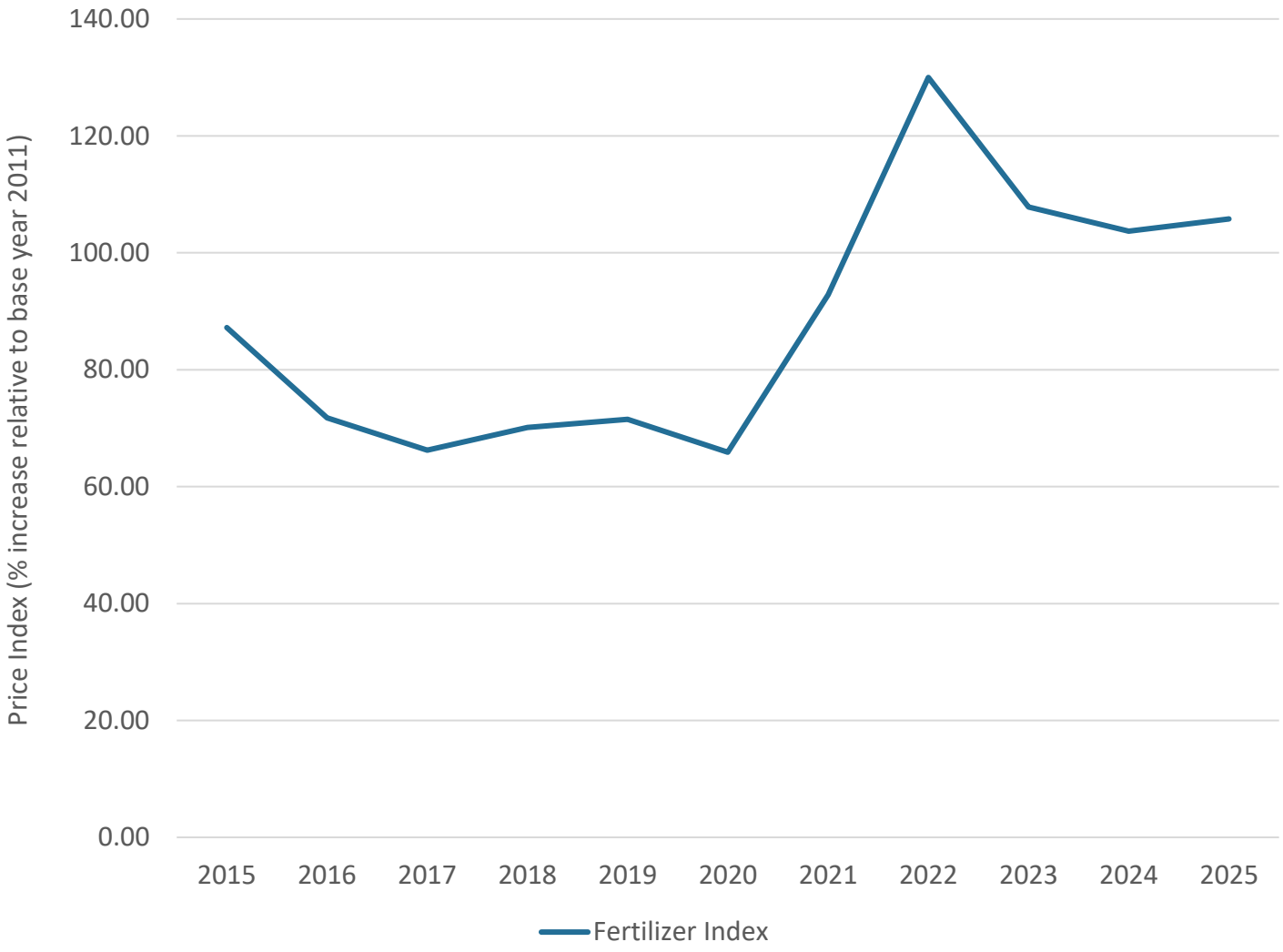
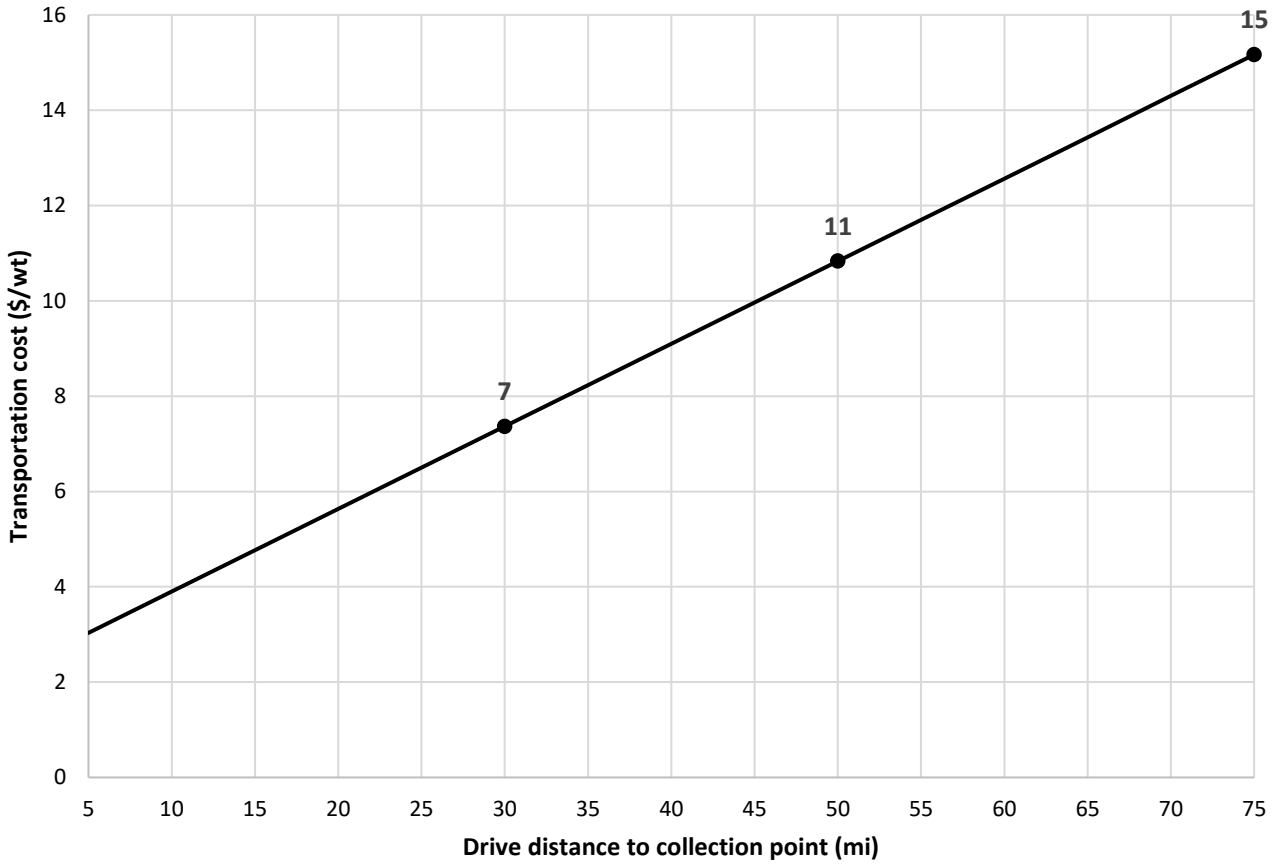


Figure E-3. Transportation Costs ($/wt) by Distance from Nyssa, OR



SECTION F: LEGAL DISCLAIMER

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