ARMADA NOWLIT ENERGY-GAYFORD POWER GENERATION

PURPOSE + PLANNING JUSTIFICATION & MSDP Outline

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PURPOSE + PLANNING JUSTIFICATION

ARMADA NOWLIT ENERGY GAYFORD

1.0 Purpose of Application

The purpose of this application is to redesignate a defined 1.8-hectare portion of LSD 12, SE ¼ Section 35, Township 26, Range 25, W4M from Agricultural, General (A-GEN) to a site-specific Direct Control District to accommodate an integrated natural gas–fired power generation and on-site data processing facility.

The Direct Control framework is required due to the unique operational characteristics of the development, which are not contemplated within existing agricultural or standard industrial districts.

The application does not seek to alter the agricultural designation of the balance lands and does not establish a general industrial development precedent within the Agricultural, General District.

2.0 Planning Justification

2.1 Agricultural Policy Context

The subject lands are designated Agricultural, General (A-GEN) under the Rocky View County Land Use Bylaw.

The proposed development footprint occupies approximately 1.8 hectares within a quarter section and represents a small proportion of the total parcel area. The balance of the lands will remain available for ongoing agricultural production.

The proposal aligns with the Rocky View County Municipal Development Plan (Bylaw C-7280-2013), including policies supporting:

- Protection of the agricultural land base and minimization of fragmentation;
- Responsible rural economic diversification;
- Infrastructure development that does not require urban municipal servicing;
- Efficient use of existing utility infrastructure;
- Limiting development impacts on adjacent agricultural operations.

The proposal maintains the long-term agricultural designation of the quarter section while accommodating site-specific infrastructure consistent with these policy objectives.

The proposal aligns with the Municipal Development Plan objectives supporting rural economic diversification, responsible infrastructure siting, and protection of the agricultural land base. By confining development to a limited and reversible footprint, the application maintains the long-term agricultural designation of the parcel while accommodating site-specific infrastructure not contemplated within existing districts.

The Direct Control District applies to a defined development area only and does not create a separate parcel, separate title, or subdivision. The balance lands remain a single agricultural quarter section under Agricultural, General (A-GEN) designation.

The Direct Control District:

- Confines development to a defined and fenced area;
- Prohibits subdivision of the Direct Control parcel;
- Prohibits unrelated industrial uses;
- Requires full reclamation upon decommissioning;
- Maintains the agricultural designation of the remainder lands.

The proposal does not fragment the agricultural land base or convert the parcel to general industrial entitlement.

2.2 Agricultural Land Capability

The subject lands are classified as Class 2M / Class 3M agricultural capability under the Canada Land Inventory. The “M” subclass reflects moisture limitations associated with climatic conditions typical of the region.

The development footprint represents a limited and reversible disturbance within the parcel (Approximately 2.8% of the quarter section).

Topsoil will be stripped, stored, and replaced in accordance with provincial reclamation standards. Foundations and subsurface structures will be removed to a depth sufficient to restore equivalent agricultural capability upon decommissioning.

The Direct Control framework ensures long-term agricultural viability of the balance lands and protects against permanent fragmentation.

2.3 Infrastructure Efficiency and Location Rationale

The proposed facility is located to take advantage of:

- Existing natural gas infrastructure;
- Rural siting compatibility for distributed energy systems;
- Separation from urban residential density;
- Minimal requirement for municipal servicing extensions.

The development:

- Does not require new transmission corridors;
- Does not withdraw surface water;
- Does not require municipal wastewater servicing;
- Does not create a multi-lot industrial subdivision.

As such, the proposal does not create demand for expanded municipal infrastructure networks and avoids the cumulative servicing impacts typically associated with industrial subdivision development.

The facility will not connect to, or export electricity to, the Alberta Interconnected Electric System (AIES). All power generated will be consumed exclusively on-site. No transmission corridor expansion is proposed.

2.4 Environmental Performance and Regulatory Oversight

The project has undergone comprehensive third-party technical review and provincial regulatory evaluation, including:

- Noise Impact Assessment demonstrating compliance with AUC Rule 012;
- Air Dispersion Modelling demonstrating compliance with Alberta Ambient Air Quality Objectives;
- Environmental Site Assessment confirming no pre-existing contamination constraints;
- Draft approval under the Environmental Protection and Enhancement Act (EPEA), including binding emission control and monitoring requirements.

Environmental performance is governed by provincial legislation and regulatory enforcement mechanisms. The Direct Control District focuses on land use compatibility and municipal development form.

2.5 Site-Specific Nature and Precedent Control

The proposed Direct Control District:

- Is confined to a defined portion of the parcel;
- Establishes a maximum installed capacity of 20 MW;

- Requires Council amendment for expansion;
- Prohibits subdivision;
- Prohibits unrelated industrial uses.

Approval of this application does not establish general industrial development policy within the Agricultural, General District and does not create entitlement for similar development elsewhere.

2.6 Decommissioning and Long-Term Land Stewardship

The Direct Control District includes enforceable decommissioning provisions.

If operations cease for more than 24 consecutive months, a decommissioning plan must be submitted to the Development Authority.

Upon cessation of operations:

- All above-grade structures shall be removed;
- Subsurface structures shall be removed to restore agricultural capability;
- Topsoil shall be replaced and graded;
- Lands shall be restored to equivalent agricultural capability.

This ensures reversibility and protects the long-term agricultural resource.

These requirements are secured through the Direct Control District regulations and are enforceable through the Development Authority. The Owner acknowledges that the Development Authority may require financial security to ensure that decommissioning and reclamation obligations are fulfilled in accordance with the approved Direct Control District and applicable provincial standards.

2.7 Industrial District Considerations

The proposed development is not consistent with conventional industrial park development patterns. The facility:

- Does not require municipal water or wastewater servicing;
- Does not generate multi-tenant industrial traffic volumes;
- Does not involve subdivision or commercial retail activity;
- Does not require transmission corridor expansion;
- Is confined to a defined and fenced footprint within a larger agricultural parcel.

The scale and operational characteristics of the proposal are distinct from general industrial districts and are more appropriately regulated through a site-specific Direct Control framework. The data processing infrastructure is self-contained, does not involve public

access, retail activity, or commercial visitation, and does not generate customer traffic. The facility operates as secured infrastructure rather than a public-facing commercial use.

2.8 Rural Economic Contribution

The proposal contributes to rural assessment growth and long-term tax base diversification without increasing demand on municipal water, wastewater, or urban servicing infrastructure. The development represents infrastructure-based economic activity compatible with rural land use patterns.

MASTER SITE DEVELOPMENT PLAN

Gayford Integrated Energy and Data Facility

1. Introduction

Project Overview

This MSDP describes the long-term development concept for integrated distributed power generation and co-located modular data operations ("Facility") on privately owned land in Rocky View County. Each site consists of:

- A fenced, compact industrial footprint accommodating natural gas reciprocating generator units, associated emission control (SCR), paired modular data containers, and ancillary infrastructure (electrical, gas tie-in, internal access, laydown).
- Digital emissions monitoring via Predictive Emissions Monitoring System (PEMS), intended for continuous compliance reporting subject to regulator acceptance.

Regulatory Context (AUC, EPEA)

The Facility requires provincial authorizations including:

- **Power plant approvals** and noise compliance under AUC processes (including noise assessment consistent with AUC Rule 012).
- **EPEA Industrial Approval** for power plant operation (New Plants and Facilities Application submitted for Gayford).
- **Historic Resources Act (HRA):** historic resources clearance through the OPaC process, as applicable, prior to ground disturbance; and
- Municipal Development Permit(s) and Building Permit(s) following/parallel to provincial approvals (as required by County process).

Purpose of MSDP

This MSDP is intended to provide Rocky View County with a clear planning framework to support land use and Development Permit decision-making. Specifically, it:

- Establishes the overarching site development concept, including layout, access, phasing, servicing approach, and key mitigation measures;

- Summarizes the environmental management framework aligned with the project's provincial compliance approach (noise, air dispersion, SCR, digital monitoring/PEMS, stormwater management, and spill prevention); and
- Defines agricultural protection and decommissioning/reclamation principles to support compatibility with the surrounding agricultural setting and enable restoration of land capability at end of use.

2. Policy Framework

County MDP agricultural policy alignment

The Facility is planned to maintain agricultural viability by limiting disturbance to a compact, fenced footprint, managing interface impacts (noise, air, lighting, traffic), and committing to decommissioning and reclamation to restore land capability at end of use.

A-GEN context

The development is located in an agricultural/rural setting and is designed to remain compatible with surrounding agricultural uses through buffering/screening, controlled access, minimal off-site servicing requirements, and a clear restoration pathway.

Site-specific Direct Control rationale

A site-specific Direct Control approach may be pursued (if required) to recognize the unique integrated "distributed power + modular data" facility form, provide clarity on permitted development, and establish site-specific standards and mitigation measures through the County approval process

Policy Analysis

Rocky View County's Municipal Development Plan (MDP) identifies policies intended to guide the responsible development of natural resource and energy infrastructure while protecting agricultural land, environmental features, and rural land use compatibility.

The proposed Gayford Facility has been reviewed against the applicable policies within **Section 20 – Natural Resource and Energy Development**, specifically Policies **20.4, 20.9, 20.10, 20.11, 20.12, 20.13, 20.14, 20.17, 20.18, 20.19, 20.20, 20.21, and 20.22**.

The following conformity matrix demonstrates how the proposed development aligns with the intent of these policies.

Table 2-1

Rocky View County MDP Section 20 Policy Conformity Matrix

Policy	Policy Direction	Project Response	Conformity Statement	MSDP Reference
20.4	Natural resource projects must consider compatibility with surrounding land uses, environmental characteristics, and mitigation of off-site impacts.	The Gayford Facility is located on a compact ~1.8 ha development area within a larger agricultural parcel and adjacent to existing gas infrastructure. The development limits land disturbance, avoids fragmentation of agricultural lands, and incorporates mitigation measures including noise, lighting, drainage, and environmental protection controls.	The proposal **conforms** with the intent of Policy 20.4 by minimizing land disturbance and integrating mitigation measures to ensure compatibility with the surrounding rural context.	Site Context; Development Concept; Development Performance
20.9	Energy and utility infrastructure should be located within energy or infrastructure corridors where possible.	The project is intentionally located adjacent to an existing natural gas plant and existing energy infrastructure, minimizing the need for new utility corridors and consolidating development within an established energy-related land use area.	The proposal **generally conforms** with Policy 20.9 by co-locating with existing energy infrastructure and avoiding dispersed rural infrastructure development.	Location and Site Context; Infrastructure Rationale
20.10	Utility-scale power generation facilities may require additional technical studies including noise, visual impact, lighting, environmental, and infrastructure assessments.	The development is supported by multiple technical studies and regulatory reviews, including noise impact assessments, environmental site assessments, air emissions assessments, and other supporting technical documentation prepared for provincial regulatory applications. Additional studies such as traffic and servicing strategies will support the MSDP and Development Permit stages.	The proposal **conforms**, subject to submission of supporting studies identified through County review.	Technical Studies; Transportation; Environmental Review
20.11	Development adjacent to energy infrastructure should incorporate setbacks, buffers, and appropriate site design to reduce land use conflicts.	The facility is a secured industrial use with limited on-site personnel and no residential component. Site design includes controlled access, setbacks from adjacent lands, and operational buffers appropriate for energy infrastructure.	The proposal **conforms** by ensuring appropriate separation distances and maintaining low population density adjacent to energy infrastructure.	Site Plan; Setbacks and Buffers
20.12	Long-term energy and infrastructure corridors should be protected.	The proposed development does not interfere with existing or planned infrastructure corridors and is designed to operate within the existing energy infrastructure setting without restricting future corridor development.	The proposal **conforms** with Policy 20.12 by avoiding conflicts with long-term infrastructure planning.	Site Constraints; Infrastructure

20.13	Permanent energy infrastructure should consider the County's design guidelines for industrial and commercial development.	While the facility is primarily infrastructure-based, site design will incorporate orderly layout, secure fencing, appropriate lighting controls, and visual screening where required to maintain compatibility with the surrounding rural environment.	The proposal **generally conforms**, with detailed design considerations to be addressed at the Development Permit stage.	Development Concept; Lighting Plan; Landscaping Plan
20.14	Energy infrastructure should avoid residential areas and minimize impacts on agricultural and environmental resources.	The project is located within a rural agricultural area with low residential density and adjacent energy infrastructure. The development footprint is limited and the remainder of the parcel remains available for agricultural use.	The proposal **conforms** by minimizing agricultural land disturbance and avoiding proximity to residential clusters.	Site Context; Agricultural Interface
20.17	Pilot or demonstration energy projects initiated by industry or research organizations should be supported.	The Gayford Facility represents innovative energy infrastructure integrated with advanced data processing operations. While not a renewable energy pilot project, the facility contributes to modern energy infrastructure development within the County.	The policy is **contextually supportive** of innovative energy infrastructure.	Policy Analysis
20.18	Large-scale renewable energy projects should avoid productive agricultural lands unless justified.	Although the Gayford Facility is not a renewable energy project, the development approach aligns with the intent of the policy by minimizing land disturbance and maintaining the majority of the parcel for agricultural use.	The policy is **not directly applicable**, but the project follows similar land-conservation principles.	Agricultural Land Protection
20.19	Microgeneration energy systems supporting agricultural operations should be supported.	The Gayford Facility is not a microgeneration system; however, it contributes to distributed energy infrastructure within the County.	**Not directly applicable**.	Policy Analysis
20.20	Renewable energy projects co-located with commercial or industrial uses should be supported.	While the project is not a renewable energy development, it demonstrates a similar co-location principle by integrating energy generation infrastructure with a compatible operational use.	**Limited applicability**, but the concept of co-located infrastructure aligns with the policy direction.	Infrastructure Rationale
20.21	Energy developments should incorporate setbacks and mitigation measures to minimize impacts on surrounding lands.	The development incorporates setbacks, operational buffers, and mitigation strategies for lighting, noise, and drainage to ensure minimal impact on adjacent lands.	The proposal **conforms** with the intent of this policy by integrating mitigation measures into site design.	Site Design; Noise Mitigation; Lighting
20.22	Adaptive reuse of existing energy infrastructure and previously disturbed lands should be encouraged.	The proposed development is intentionally located adjacent to existing gas infrastructure to leverage existing energy infrastructure and avoid new greenfield infrastructure expansion.	The proposal **strongly conforms** with Policy 20.22 by utilizing an existing energy development area.	Location Rationale; Infrastructure Integration

Overall Policy Conformity

The proposed Gayford Facility generally conforms with the intent of **Rocky View County's Section 20 Natural Resource and Energy Development policies** by:

- Co-locating new infrastructure with existing energy development
- Minimizing disturbance to agricultural lands
- Maintaining compatibility with surrounding rural land uses
- Incorporating mitigation measures for environmental and operational impacts
- Supporting efficient infrastructure development within an existing energy corridor context

Detailed technical and operational considerations will be further addressed through the **Development Permit process and supporting technical studies**, including traffic analysis, servicing strategies, stormwater management, and environmental mitigation planning.

Table 2-2

Master Site Development Plan Requirement Cross-Reference

MSDP Requirement	Description of Requirement	Project Response	MSDP Section
Location and Site Context	Identify the site location, legal description, surrounding land uses, and relationship to existing infrastructure.	The Gayford Facility is located within a privately owned agricultural parcel adjacent to existing natural gas infrastructure. The development footprint is approximately 1.8 hectares within a larger agricultural parcel and is intentionally located to leverage existing infrastructure and minimize disturbance.	Site Context and Location
Existing Site Conditions	Describe existing environmental conditions including soils, vegetation, wetlands, and surrounding land uses.	Existing site conditions including soil capability, vegetation cover, and environmental features were reviewed through environmental site assessments and regulatory documentation. Development has been planned to avoid sensitive environmental features and minimize land disturbance.	Existing Conditions; Environmental Overview
Development Concept	Provide an overview of the proposed development including layout, infrastructure, and operational concept.	The proposed development includes a compact fenced facility accommodating modular power generation units and supporting infrastructure integrated with on-site data processing infrastructure. The design minimizes land disturbance and supports efficient infrastructure integration.	Development Concept
Transportation and Access	Identify site access, expected traffic volumes, and	Access to the site is proposed via an existing approach shared with adjacent energy	Transportation and Access

	transportation considerations. A Traffic Impact Assessment may be required depending on development scale.	infrastructure. A Traffic Impact Assessment or reduced-scope traffic analysis will be prepared if required by the County to confirm that traffic impacts are minimal and manageable.	
Water and Wastewater Servicing	Demonstrate how the development will be serviced by potable water and wastewater systems.	The facility will require minimal potable water use and will not rely on municipal water servicing. Wastewater servicing for limited on-site personnel will be managed through portable sanitation facilities or other approved servicing arrangements.	Servicing Strategy
Stormwater Management	Demonstrate that post-development runoff does not exceed pre-development conditions and that downstream drainage is not adversely affected.	A limited scope stormwater strategy will be implemented to maintain natural drainage patterns, manage surface runoff, and ensure post-development drainage conditions remain consistent with pre-development conditions.	Stormwater Management
Landscaping	Identify landscaping treatments and screening measures where appropriate.	Landscaping and site treatments will focus on maintaining compatibility with the surrounding rural environment while ensuring operational safety and security for the facility. Detailed landscaping requirements will be addressed at the Development Permit stage.	Landscaping Plan
Lighting	Demonstrate compliance with the County's dark sky lighting principles and minimize light spill onto adjacent lands.	All exterior lighting will be designed to comply with Rocky View County's dark sky principles, utilizing downward-directed, shielded fixtures designed to minimize off-site light spill.	Lighting Plan
Noise Mitigation	Demonstrate that operational noise will comply with applicable regulations and minimize off-site impacts.	Noise assessments have been completed as part of the provincial regulatory review process and demonstrate compliance with applicable noise guidelines. Operational design incorporates mitigation measures where required.	Noise Assessment
Emergency Response and Safety	Describe emergency access, safety procedures, and emergency response considerations.	The site will maintain secure access and emergency vehicle access routes. Emergency response planning will align with provincial regulatory requirements and applicable industry safety standards.	Safety and Emergency Response
Environmental Protection	Identify measures to protect environmental features including wetlands, drainage patterns, and ecological features.	Development planning has incorporated environmental considerations to avoid or minimize impacts to sensitive environmental features and to ensure appropriate regulatory approvals are obtained if required.	Environmental Overview
Public Consultation	Document engagement with nearby landowners and stakeholders.	Public consultation activities will include outreach to adjacent landowners and stakeholders through information sharing and engagement opportunities consistent with County expectations.	Public Consultation
Development Performance	Identify how the development will address operational impacts including lighting, noise, visual impacts, and site management.	Development performance considerations including lighting control, noise mitigation, site security, and operational management will ensure compatibility with surrounding rural land uses.	Development Performance

Future Development Guidance	Provide policies or guidance to inform future redesignation or development permit applications within the MSDP area.	The MSDP establishes a framework for future development within the designated development area, ensuring future applications remain consistent with the established planning principles and development concept.	Policy Framework and Development Concept

3. Existing Site Conditions

3.1 Legal Description and Site Area

The facility is located on privately owned land in Rocky View County, Alberta, east of the Town of Irricana. The legal land description is LSD 12, SE ¼ Section 35, Township 26, Range 25, W4M (approx. 51.265189° N, -113.397130° W). The planned development area is a compact fenced footprint of approximately 165 m × 110 m (~1.8 ha).

3.2 Current Agricultural Use

The site is actively cultivated agricultural land, typically in cropland/hay rotation. Existing land use reflects long-term agricultural management, with no recent disturbances beyond normal cultivation practices.

3.3 Agricultural Capability

The site is within an established agricultural soil landscape dominated by Chernozemic soils typical of cultivated farmland. Desktop soil review indicates the footprint area is primarily:

- Orthic Black Chernozem soils (~85–90%) (cultivated, moderate capability), with
- Localized Rego soil inclusions (~10–15%) on knolls or thin-profile areas.

Soils are considered disturbed agricultural soils due to long-term cultivation, with typical indicators such as reduced organic matter and compaction associated with cropping. Baseline soil parameters are intended to be confirmed through a pre-disturbance soil survey (as required at permitting/construction stage).

3.4 Topography and Drainage

The site occurs in a flat to gently rolling prairie setting with shallow relief and no steep slopes. Drainage features are limited to shallow agricultural drainage ditches, with no defined watercourses within the development footprint. Desktop screening and aerial imagery indicate:

- No mapped wetlands within the project footprint, and
- No permanent waterbodies within or immediately adjacent to the footprint.

Stormwater management will be addressed through construction best practices and DP-stage drainage confirmation, with the intent to maintain existing drainage function and avoid off-site impacts.

3.5 Environmental Site Assessment Summary

Based on desktop screening and available environmental records:

- No evidence of historical contamination or land disposal activities is identified within the footprint.
- A review of available spill/incident databases indicates no recorded spills within or adjacent to the site.
  Given the site's long agricultural history, the baseline setting reflects typical cultivated-field conditions (soil disturbance, compaction, and dust deposition from nearby rural roads), with no indication of chronic contamination. Where required by the County and/or construction due diligence, further confirmation may be completed through a Phase I ESA and/or pre-disturbance soil survey prior to ground disturbance.

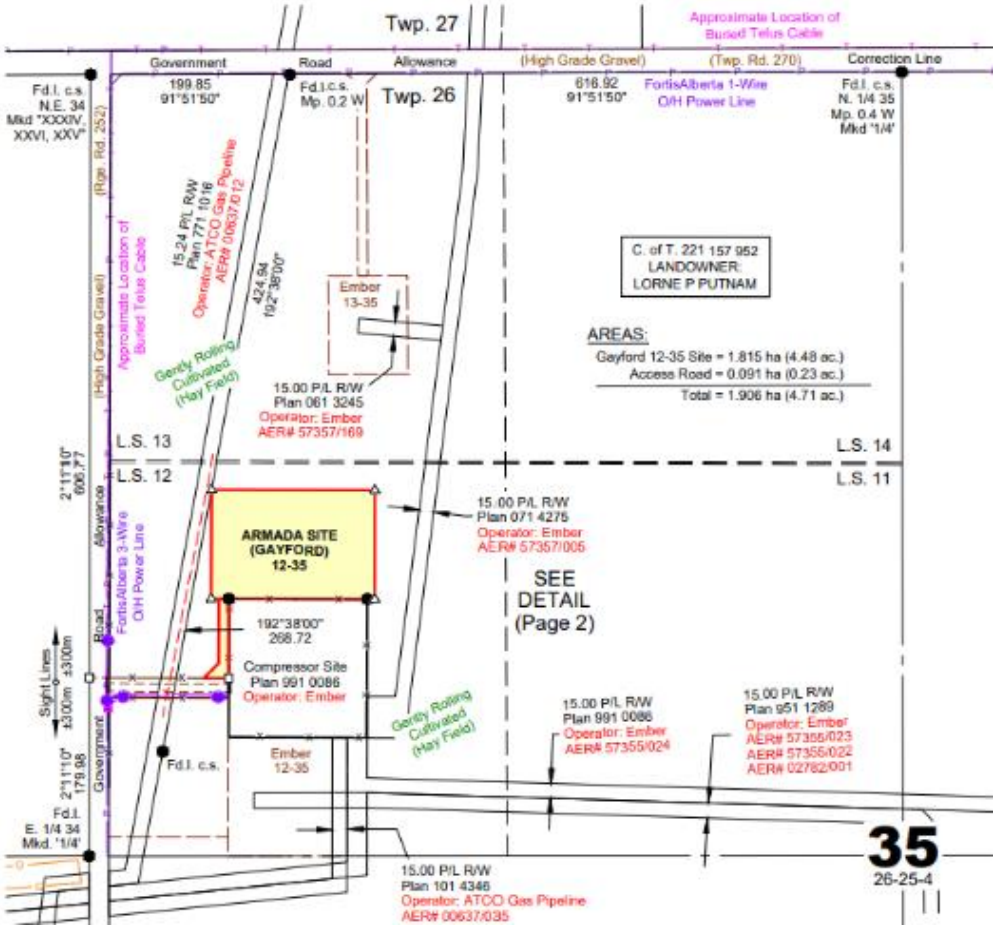
4. Development Concept

The proposed Gayford Facility is located within Rocky View County, Alberta, on lands legally described as **[insert legal land description – e.g., SW-35-26-25-W4M]**, approximately **[insert distance]** from the nearest hamlet or urban settlement area. The site is situated within a rural agricultural landscape characterized primarily by large agricultural parcels and dispersed energy infrastructure.

The proposed development is located within a privately owned parcel with a total area of approximately 156 acres (63 hectares). The facility will occupy a compact development footprint of approximately 1.8 hectares (4.5 acres) located adjacent to existing energy infrastructure.

The proposed location was selected to leverage existing gas infrastructure and existing site access, minimizing the need for new linear infrastructure development and limiting disturbance to agricultural lands.

Figure 4-1: Regional Location Map illustrates the site location within Rocky View County and its relationship to surrounding transportation corridors and settlements.



4.2 Quarter Section Context

The subject lands comprise a **full quarter section parcel totaling approximately 156 acres**. The proposed development area occupies only a small portion of this parcel and is situated to maximize separation from adjacent land uses while maintaining proximity to existing energy infrastructure.

The development concept maintains the majority of the parcel in its existing agricultural condition and avoids unnecessary fragmentation of agricultural lands.

Figure 4-2: Quarter Section Context Map illustrates:

- The full quarter section boundary
- The proposed **1.8 hectare development area**
- Adjacent parcel boundaries
- Existing infrastructure located on the subject lands

4.3 Development Area (MSDP / Direct Control Area)

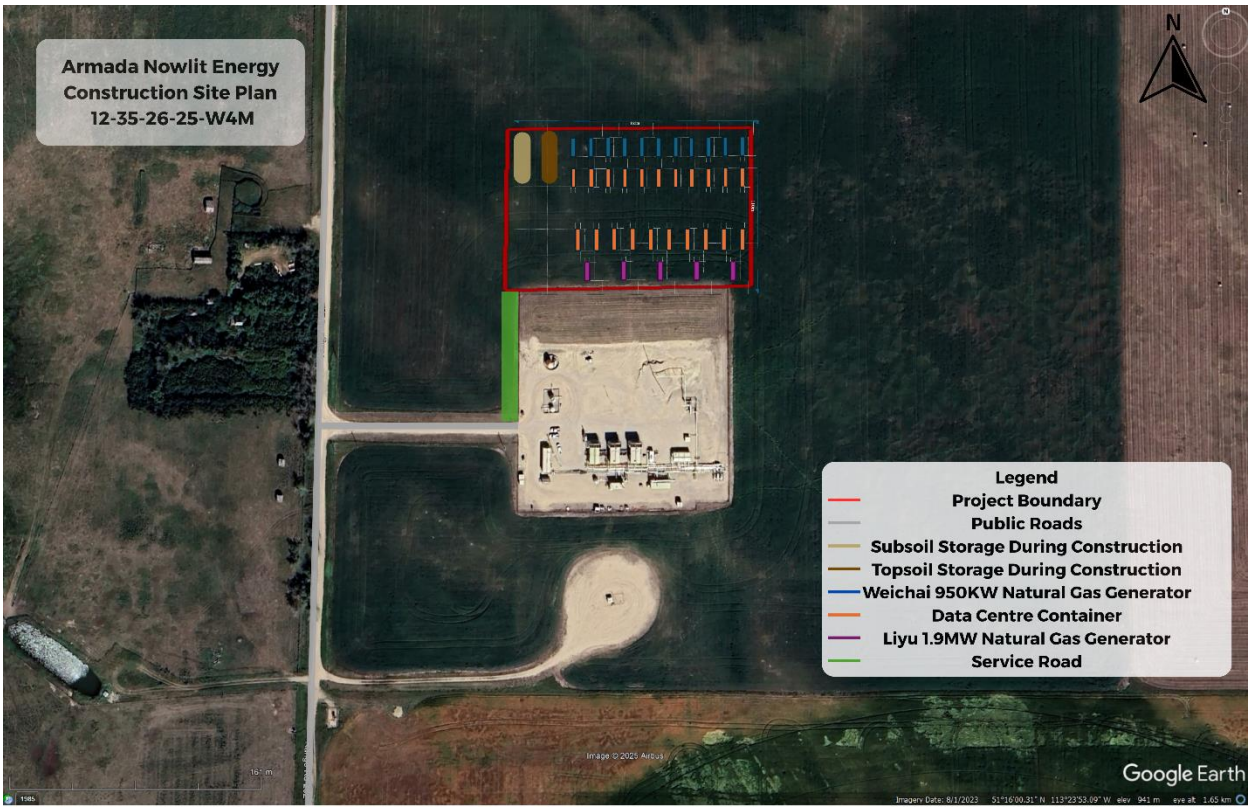
The Master Site Development Plan applies specifically to a **defined development area of approximately 1.8 hectares** located within the larger parcel. This area represents the **Direct Control (DC) boundary** for the proposed development.

The development area will include:

- Modular power generation infrastructure
- Associated electrical and mechanical equipment
- On-site modular data processing infrastructure
- Security fencing and controlled access
- Internal circulation and equipment pads

The remainder of the parcel will remain in agricultural use and is not proposed for development under the MSDP.

Figure 4-3: Development Area Plan identifies the DC boundary and conceptual layout of the proposed facility.



4.4 Relationship to Existing Energy Infrastructure

The proposed development is intentionally located adjacent to an **existing natural gas facility**, allowing the project to integrate with existing energy infrastructure and minimize new land disturbance.

This co-location approach supports efficient infrastructure use by:

- Utilizing existing energy infrastructure in the area
- Avoiding the need for new pipeline corridors or major utility extensions
- Concentrating energy-related development within an existing energy activity area

4.5 Surrounding Land Uses

The surrounding area is characterized primarily by **agricultural land uses with dispersed energy infrastructure** typical of rural Rocky View County.

Land uses surrounding the site generally include:

Direction	Existing Land Use
North	Agricultural land and rural parcels
South	Agricultural land and energy infrastructure
East	Agricultural lands and dispersed rural development
West	Agricultural lands and existing gas plant infrastructure

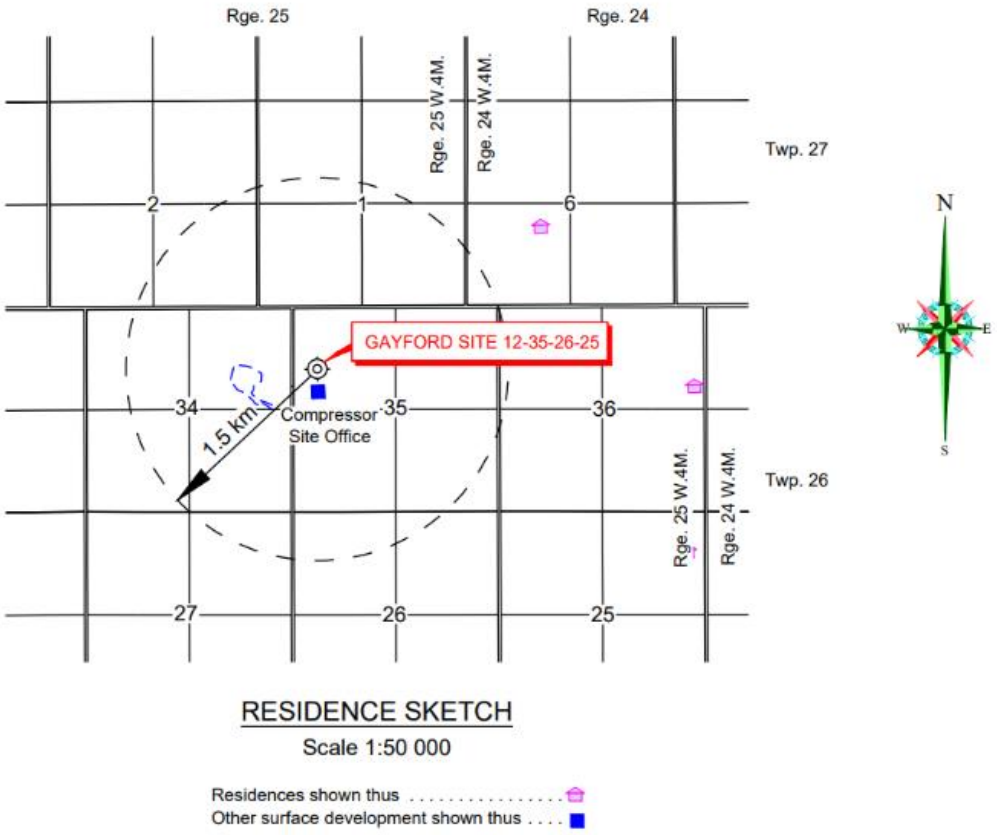
The proposed development footprint is small relative to the surrounding agricultural parcels and is located to maintain compatibility with existing land uses.

4.6 Nearby Residences

Residences in the surrounding area are limited and typically associated with agricultural operations. The facility has been located to maintain separation from nearby residences and to minimize potential operational impacts.

Supporting technical assessments, including noise analysis and environmental assessments prepared for provincial regulatory review, confirm that operational impacts are expected to remain within applicable regulatory thresholds.

Figure 4-5: Sensitive Receptors Map identifies nearby residences and other sensitive receptors within the surrounding area.



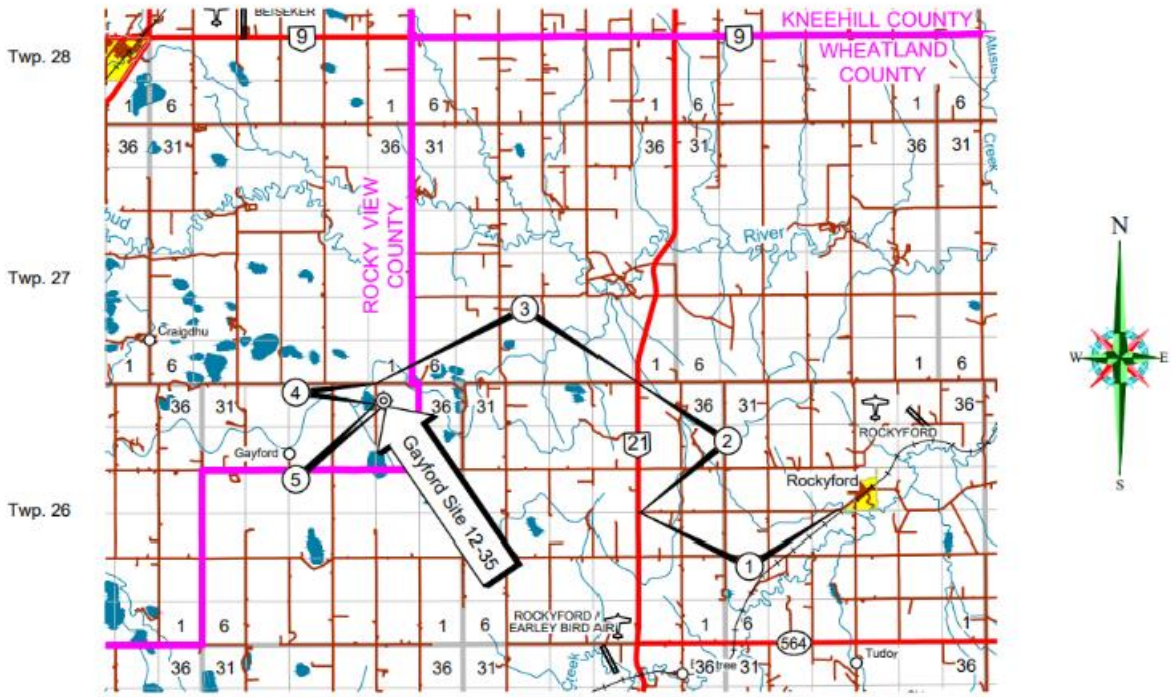
4.7 Transportation and Municipal Road Access

Site access will be provided via **existing municipal roads and an existing site approach**, which is currently used to access nearby energy infrastructure.

The use of an existing approach reduces the need for additional roadway development and minimizes impacts on the surrounding transportation network.

The proposed access route is illustrated in **Figure 4-6: Transportation and Access Map**, which identifies:

- Municipal roads in the vicinity of the site
- The existing site approach
- Proposed site access point
- Regional transportation connections



ACCESS MAP
Scale 1:250 000

Note: Nearest Urban Centre is the Town of Irricana ±15.6km Northwest of W/C.

ACCESS DISTANCES

SEGMENTS	ROAD OPERATORS	DISTANCE	STATUS
1	Township Road 263	± 7.4 km	GRAVEL
2	Highway 21	± 4.8 km	PAVED
3	Township Road 270	± 10.2 km	GRAVEL
4	Range Road 252	± 0.6 km	GRAVEL
5	Ember Access Road & Lease	± 0.12 km	GRAVEL

Additional transportation analysis may be completed as required by Rocky View County to confirm that traffic impacts are minimal.

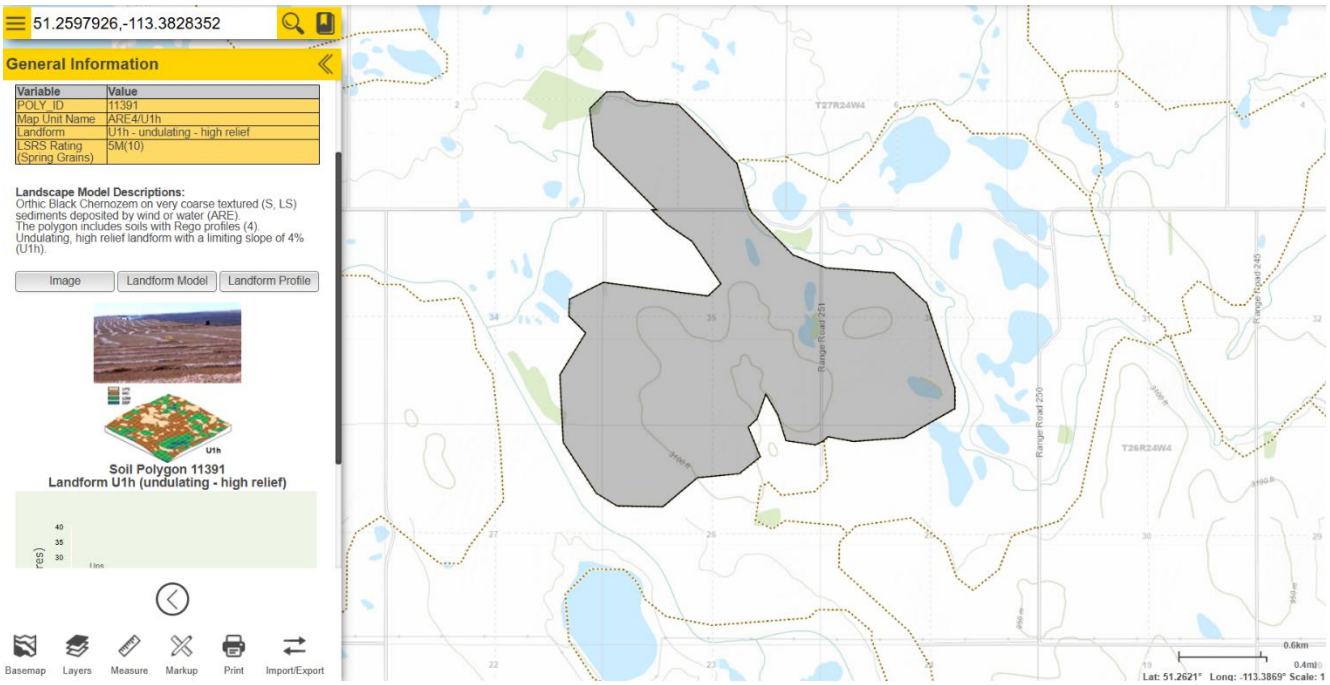
4.8 Environmental Features and Wetlands

Environmental review completed as part of the project planning process identified environmental features within the broader landscape, including wetlands identified within the **Alberta Merged Wetland Inventory**.

Development planning has been undertaken to avoid disturbance of identified wetlands and to maintain appropriate separation distances where applicable.

Figure 4-7: Environmental Constraints Map illustrates:

- Wetlands identified in provincial mapping databases
- Drainage features
- Areas avoided by the proposed development footprint



4.9 Existing Utility Infrastructure

The project area is located within a landscape that already supports energy infrastructure, including natural gas infrastructure and associated utilities.

Existing infrastructure in the area includes:

- Natural gas infrastructure
- Electrical infrastructure
- Potential pipeline corridors
- Existing access roads

The proposed development is designed to integrate with this infrastructure context while avoiding interference with existing utility corridors.

4.10 Setbacks and Buffers

The proposed facility incorporates setbacks and operational buffers to ensure compatibility with surrounding land uses and environmental features.

Key design considerations include:

- Setbacks from adjacent property boundaries
- Separation from environmental features such as wetlands and drainage areas
- Operational buffers between infrastructure and surrounding agricultural lands
- Controlled access and security fencing around the development area

Detailed setback requirements will be confirmed through the **Direct Control Bylaw and Development Permit stage**.

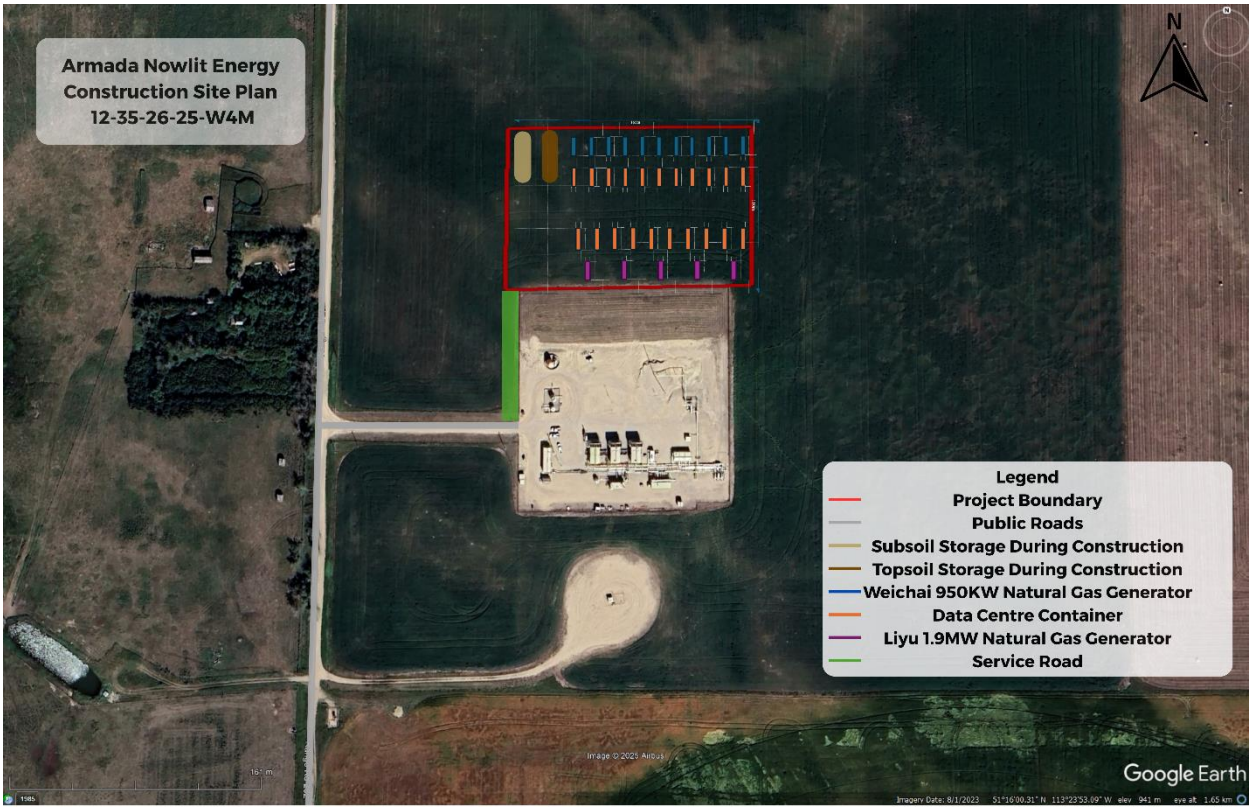
4.11 Site Context Summary

The proposed Gayford Facility has been intentionally located within a rural energy infrastructure context that supports the efficient integration of new infrastructure while minimizing impacts on agricultural lands and surrounding rural land uses.

Key siting considerations include:

- Co-location with existing energy infrastructure
- Limited development footprint within a large agricultural parcel
- Utilization of existing access and infrastructure corridors
- Avoidance of environmentally sensitive features where possible
- Appropriate separation from nearby residences

Together, these factors support the suitability of the proposed location for the development of the Gayford Facility.



5. Environmental Management Framework

5.1 Noise Compliance Summary

Noise will be managed through a combination of site layout, equipment selection, and operational controls to meet applicable AUC requirements. A Noise Impact Assessment (NIA) has been completed in accordance with AUC Rule 012 (Noise Control) to evaluate cumulative facility noise at identified receptors and confirm compliance with permissible sound levels (PSLs). Where required, additional mitigation (e.g., orientation, spacing, localized acoustic measures) will be implemented to maintain compliance. Post-construction sound verification testing may be conducted to confirm ongoing compliance with AUC Rule 012 permissible sound levels.

As per the noise impact assessment conducted by Acoustic consultants inc, The results of the Baseline, Application, and Cumulative Case noise modeling indicated that the existing and Project related noise levels (with the average ambient sound level of 35 dBA included) will be below the AUC Rule 012 PSLs of 40 dBA LeqNight for all theoretical 1,500 m receptors. In addition, the dBC sound levels are projected to be less than 20 dB greater than the dBA sound levels, resulting in a low possibility of any low frequency tonal noise. As a result, no additional noise mitigation is required.

5.2 Air Dispersion Compliance Summary

Air emissions will be controlled and verified through an integrated compliance approach that includes engine performance controls, SCR treatment, and continuous digital monitoring. Air dispersion assessment is used to confirm that predicted ground-level concentrations remain within applicable criteria, with the project objective to maintain compliance with Alberta Ambient Air Quality Objectives (AAAQO) through emissions control and monitoring. The facility is designed as a contained footprint with defined emission sources and an auditable monitoring framework to support regulatory reporting.

5.3 Emission Controls (SCR)

Each generator is equipped with Selective Catalytic Reduction (SCR) for NOx control. The SCR system is specified as a packaged control solution (including PLC-based injection control and high-temperature catalyst/reactor components) and is intended to achieve a substantial NOx reduction performance consistent with Alberta expectations for modern controlled engines. The project's compliance design basis targets NOx reductions from uncontrolled levels to a controlled performance level consistent with the Interim Guideline for NOx Emissions (0.2 kg/MWh). SCR systems will be operated and maintained in accordance with vendor specifications, with performance supported through routine inspection, preventative maintenance, and monitoring-based verification

5.4 Digital Monitoring (PEMS)

A Predictive Emissions Monitoring System (PEMS) will be implemented to provide continuous digital emissions compliance assurance and operational oversight, subject to regulator acceptance. The PEMS Monitoring Plan is structured as a CEMS-equivalent approach aligned with the Alberta CEMS Code (2021), with emphasis on:

- **Data integrity and transparency** (audit-ready data handling and traceability);
- **QA/QC governance** (defined daily/quarterly/annual task schedules);
- **Model drift detection and correction** (triggers, investigation, and revalidation requirements);
- **Failure response and downtime management** (including missing-data handling and backup estimation procedures); and
- **Record retention** consistent with regulatory expectations. Initial equivalency is demonstrated through **concurrent validation** using temporary analyzer-based monitoring or approved reference methods during representative operating periods prior to using PEMS outputs for compliance reporting.

5.5 Stormwater Management

1 Existing Drainage Conditions

The subject lands currently consist primarily of agricultural land with natural surface drainage patterns typical of the surrounding rural landscape.

Existing conditions are characterized by:

- gently sloping agricultural terrain
- permeable soils supporting infiltration
- natural sheet flow drainage across the site
- absence of engineered stormwater infrastructure

Surface runoff from the site currently drains toward surrounding agricultural lands and existing drainage pathways consistent with the regional topography.

- the overall parcel boundary
- the proposed development footprint
- natural drainage directions
- existing drainage features.

2 Development Drainage Catchment

The proposed Gayford Facility occupies approximately **1.8 hectares of the total parcel area**. The development footprint will include equipment pads, gravel surfaces, and limited structural elements.

Stormwater runoff generated from the facility will be managed within the local catchment area and directed toward existing drainage pathways consistent with current site conditions.

Figure 9-2: Post-Development Drainage Plan will illustrate:

- the development footprint
- drainage flow directions
- localized stormwater management features
- discharge pathways.

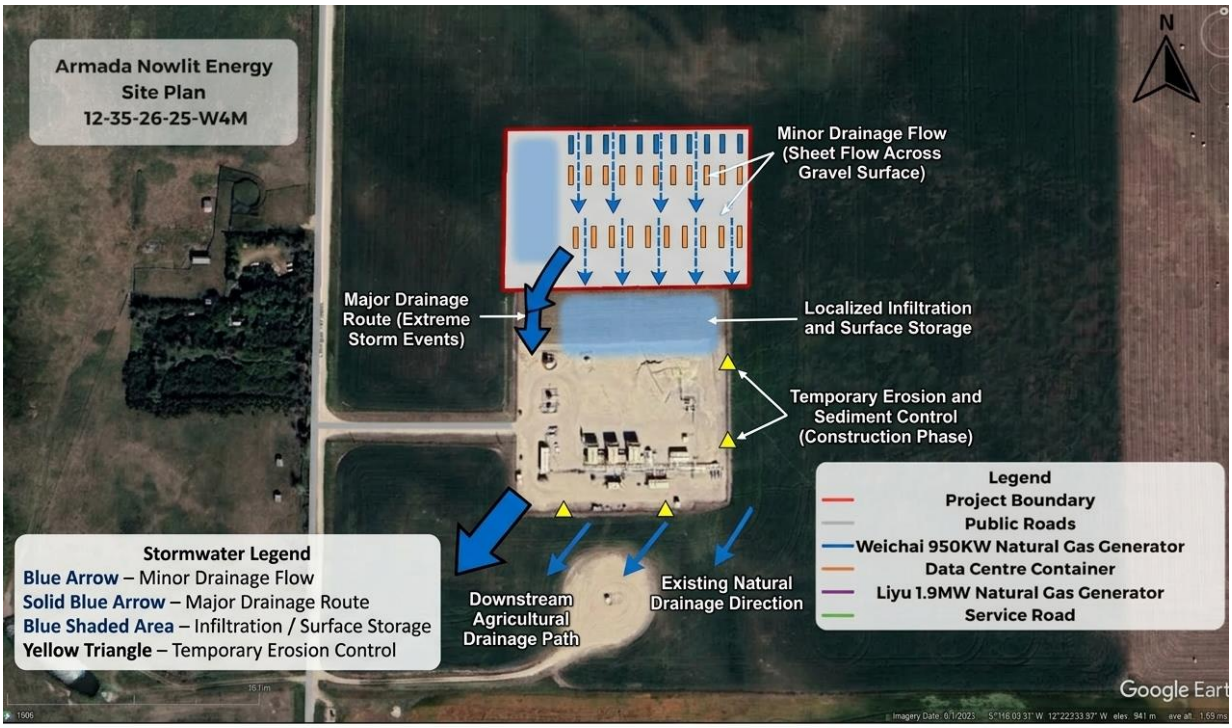


Figure 9-2: Post-Development Drainage Plan

Stormwater runoff from the Gayford Facility will be managed through surface grading, sheet flow across permeable gravel surfaces, and localized infiltration within the development footprint. Major storm events will follow existing drainage patterns toward the southwest agricultural drainage area.

3 Pre-Development and Post-Development Runoff

Because the majority of the parcel will remain in agricultural use, the overall hydrologic conditions of the site will remain largely unchanged.

The stormwater management approach has been designed to ensure:

- post-development runoff rates do not exceed pre-development runoff rates
- post-development runoff volumes do not exceed pre-development volumes
- natural drainage pathways remain functional.

The use of gravel surfaces, permeable ground cover, and infiltration areas will limit the increase in impervious surface area associated with the development.

4 Stormwater Storage and Infiltration Concept

Stormwater generated within the development footprint will be managed using a combination of:

- surface grading to direct runoff
- localized infiltration into surrounding soils
- temporary surface storage within the gravel equipment yard
- drainage toward existing site drainage routes.

No large-scale stormwater ponds or engineered detention systems are anticipated due to the limited impervious area and rural development context.

The stormwater management strategy therefore focuses on maintaining natural hydrologic function rather than introducing engineered drainage infrastructure.

5 Major and Minor Drainage Routes

The stormwater system will incorporate both minor and major drainage pathways.

Minor Drainage System

The minor drainage system will manage typical rainfall events through:

- surface grading
- sheet flow across gravel surfaces
- localized infiltration into surrounding soils.

Major Drainage System

During larger storm events exceeding minor system capacity, excess runoff will follow existing natural drainage pathways and discharge toward downstream agricultural drainage routes.

These pathways will remain unobstructed to ensure safe conveyance of stormwater during major storm events.

6 Erosion and Sediment Control

Erosion and sediment control measures will be implemented during construction to prevent sediment transport and protect downstream drainage systems.

Typical measures may include:

- silt fencing
- stabilized construction entrances
- temporary sediment traps or berms
- controlled stockpile locations
- progressive site stabilization during construction.

These measures will be implemented in accordance with standard construction best practices and will remain in place until site stabilization is achieved.

7 Downstream Discharge Path

Stormwater runoff from the site will ultimately discharge to existing natural drainage pathways consistent with existing conditions.

The development will not introduce concentrated discharge flows or new drainage outlets that could adversely impact downstream lands.

By maintaining existing drainage patterns and limiting impervious surfaces, the project ensures that downstream drainage systems will continue to function as they do under existing conditions.

8 Preservation of Existing On-Site Storage

The proposed development will not reduce existing on-site stormwater storage capacity within the broader parcel.

The majority of the site will remain in its existing agricultural condition, preserving natural infiltration capacity and stormwater storage.

Where grading occurs within the development footprint, localized infiltration and surface storage will be incorporated to ensure that overall stormwater storage capacity within the parcel is maintained.

6. Agricultural Protection Measures

Topsoil stripping methodology

Topsoil handling will be completed to protect soil structure and support future agricultural reclamation. Prior to stripping, the disturbance limits will be clearly surveyed and minimized. Topsoil will be stripped separately from subsoil where applicable, under suitable moisture conditions to avoid smearing and rutting. Stripping will be completed using low-ground-pressure equipment where feasible, and stripping depths will be consistent across the footprint to maintain soil horizon integrity. Where wet conditions occur, stripping and heavy equipment activity will be paused or restricted to prevent soil degradation.

Soil storage location

Stripped topsoil (and subsoil, if segregated) will be stockpiled within a designated on-site storage area located outside internal traffic routes and away from drainage pathways to minimize erosion and sediment transport. Stockpiles will be stabilized as required (e.g., berming, seeding, or cover) and protected from runoff impacts. Stockpile locations and protection measures will be identified on the construction plan and updated as needed during implementation.

Compaction mitigation

Compaction will be minimized through controlled construction access and defined equipment travel routes. Heavy equipment movement will be restricted to designated internal corridors and stabilized work areas. Where practical, work will be staged to reduce repeated trafficking, and construction will be scheduled to avoid wet soil conditions. During reclamation, compacted areas will be decompacted (e.g., ripping/subsoiling) to restore soil permeability and rooting depth prior to soil replacement and final grading.

Foundation removal plan

At end of use, above-grade and below-grade infrastructure within the disturbed footprint will be removed to support reclamation. This includes removal of generator pads/foundations, electrical/conduit infrastructure where practicable, fencing, and any ancillary foundations. Materials will be salvaged, recycled, or disposed of at licensed facilities as appropriate. The removal approach is intended to enable regrading to pre-development contours and reinstatement of agricultural soil profiles.

Reclamation sequence

Reclamation will follow a structured sequence intended to restore land capability:

1. **Decommissioning and removal** of equipment, foundations, and infrastructure;
2. **Regrading** to re-establish stable site contours and drainage consistent with surrounding lands;
3. **Decompaction** of subgrade (ripping/subsoiling) to restore soil structure and infiltration;
4. **Soil replacement** in correct order (subsoil first where segregated, then topsoil);
5. **Final surface preparation** (seedbed preparation and erosion control as needed); and
6. **Revegetation** to an agricultural-compatible cover (crop/hay/grass mix as appropriate), followed by monitoring to confirm establishment and address deficiencies.

7. Visual and Interface Mitigation

Optional Berm location

Where appropriate, a **2.0 m earth berm may be incorporated along portions of the development perimeter where visual screening would be beneficial**, including along public road frontages or toward nearby receptors. The final berm configuration will be illustrated on the site plan and designed to provide visual buffering while preserving safe sightlines at access points and intersections.

Vegetative screening

Vegetative screening will be installed in association with the berm and along key interface areas to soften the view of the fenced facility and reduce visual contrast in the rural landscape. Planting will prioritize hardy, regionally appropriate species and a mix of shrubs and trees where feasible. Final planting extents and species selection will be confirmed at the Development Permit stage and adjusted to accommodate drainage, utilities, and access requirements.

Fencing type

The facility will be enclosed with an industrial security fence appropriate for a rural industrial installation. The fence will be designed to control access and protect equipment while minimizing visual intrusion where feasible (e.g., neutral/dark finish, consistent height, and alignment with berm/screening). Final fence type, height, and gate configuration will be detailed at the Development Permit stage.

Maintenance commitment

The Applicant will maintain interface mitigation features for the life of the project, including:

- Routine inspection and repair of berms (erosion, settlement, washouts);
- Replacement of dead or damaged vegetation and weed control as required;
- Maintenance of fencing, gates, and signage; and
- Upkeep of lighting fixtures to ensure shielding and alignment remain effective.

8. Traffic and Access

8.1 Overview

Transportation access to the proposed Gayford Facility will utilize **existing municipal road infrastructure and an existing site approach**, minimizing the need for new roadway construction or modifications to the surrounding transportation network.

Traffic associated with the project will occur primarily during the **temporary construction phase**, with minimal traffic generated during ongoing operations. The project has been designed to utilize established regional freight corridors prior to reaching municipal roads, thereby minimizing impacts on the local rural road network.

A **reduced-scope Traffic Impact Assessment (TIA)** may be prepared in consultation with Rocky View County Engineering Services to confirm that traffic volumes associated with the project can be safely accommodated by the existing transportation network.

8.2 Regional Access Route

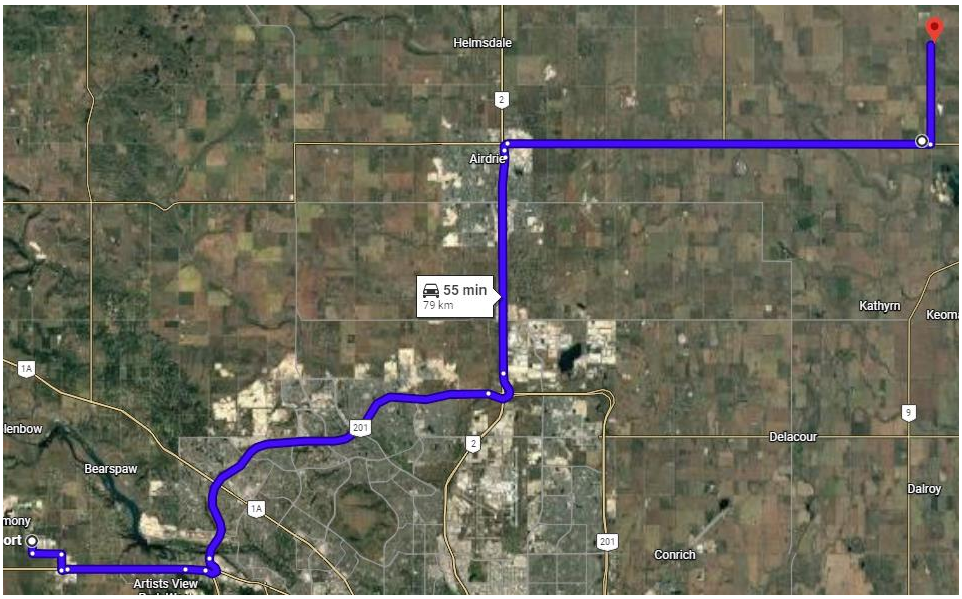
Construction traffic accessing the site will utilize major provincial highways before transitioning to municipal roads near the project site.

The proposed haul route is as follows:

Route Segment	Road Type	Description
Highway 201 (Stoney Trail Northbound)	Provincial Ring Road	Controlled-access highway designed for heavy commercial traffic
Highway 2 (QEII Northbound)	Provincial Primary Highway	Major provincial freight corridor
Highway 566 (Eastbound)	Provincial Secondary Highway	Connects QEII to Highway 9
Highway 9 (Northbound)	Provincial Primary Highway	Regional transportation route
Township Road 270	Municipal Collector	Local rural collector road
Range Road 252	Municipal Local Road	Final access to the project site

This routing approach prioritizes the use of **provincial highway infrastructure for the majority of heavy vehicle travel**, reducing traffic impacts on municipal roads.

A **Haul Route Map** illustrating the regional access route and local approach will be included as **Figure 7-1: Transportation and Haul Route Map**.



8.3 Site Access and Approach

Access to the Gayford Facility will occur via an **existing municipal road approach** currently serving the parcel and nearby energy infrastructure.

No new permanent road approaches are proposed. Minor temporary improvements may be implemented during construction, including:

- Gravel reinforcement of the existing approach
- Minor grading to improve vehicle maneuverability
- Temporary widening within the existing approach limits

Any temporary improvements will be completed in accordance with Rocky View County engineering standards and restored following completion of construction activities.

Site design will ensure adequate vehicle turning radii, sightlines, and ingress/egress safety for construction vehicles and maintenance personnel.

8.4 Construction Phase Traffic

Construction activities will generate temporary traffic associated with delivery of materials, equipment, and construction personnel.

Construction Equipment and Materials Transported

Construction deliveries will include:

Heavy Equipment

- Excavators

- Loaders
- Cranes
- Telehandlers

Construction Materials

- Structural steel
- Concrete for foundations and equipment pads
- Generator units and electrical switchgear
- Modular data containers
- Transformers
- Natural gas piping
- Electrical conduit and cabling
- Gravel and engineered fill
- Topsoil for final grading and reclamation

Limited vegetation clearing debris may be removed during site preparation.

8.5 Construction Traffic Volumes

Estimated construction traffic volumes are relatively modest and typical for a rural industrial construction project.

Traffic Metric	Estimated Volume
Peak weekly loads	30–60 loads per 7-day period
Typical weekly loads	10–30 loads
Peak hourly traffic	Up to 2–4 loads per hour
Typical hourly traffic	0–1 loads per hour
Total project loads	Approximately 250–450 loads

Traffic levels will fluctuate depending on construction activities such as foundation placement, equipment delivery, and final site preparation.

8.6 Construction Schedule

Construction hauling activities will occur during standard daytime construction hours consistent with rural development practices.

Schedule Component	Expected Timing
Construction start	Q1 2026 (following regulatory approvals)

Construction completion	August 2026
Commercial operation date	October 2026

Typical hauling hours:

- Monday – Friday
- 7:00 AM – 6:00 PM

Limited Saturday hauling may occur during peak construction periods if required. No nighttime hauling is anticipated.

8.7 Truck Types and Configurations

Construction traffic will utilize standard commercial construction vehicles appropriate for rural infrastructure development.

Truck Type	Configuration	Purpose
Dump Trucks	Tandem or truck-and-pup (3–5 axle)	Gravel and fill transport
Ready-Mix Trucks	Tandem or tri-axle	Concrete delivery
Tractor-Trailer Semi Units	5-axle highway configuration	Equipment and generator transport
Flatbed / Step-Deck Trailers	5-axle semi	Modular container transport
Lowboy Trailers	Heavy equipment transport	Delivery of cranes or large equipment
Pickup Trucks / Vans	Light duty	Contractors and maintenance staff

The project does **not require specialized heavy industrial haul equipment** such as multi-axle turbine transports or large oversize convoys.

8.8 Operational Phase Traffic

Once construction is complete and the facility enters normal operations, traffic volumes will be extremely limited.

Operational traffic will consist primarily of:

- Periodic maintenance personnel

- Inspection staff
- Occasional service vehicle access

No regular hauling of materials or bulk goods will occur during operations because:

- Natural gas is supplied via **existing pipeline infrastructure**
- No fuel delivery trucking is required
- No aggregate or material transport is required

Operational traffic is therefore expected to be limited to **light-duty vehicle access only**.

8.9 Oversized Load Considerations

The modular nature of the Gayford Facility significantly reduces the need for specialized heavy haul transportation.

Large components such as generators and transformers will be transported using **standard highway tractor-trailer configurations**, which are common within the regional transportation network.

No oversized turbine components or specialized multi-axle heavy haul convoys are anticipated.

Should any oversize loads be required, appropriate **provincial and municipal transport permits** will be obtained prior to transport.

8.10 Road Impacts and Potential Upgrades

Based on the anticipated construction traffic volumes and the use of major provincial highways for most of the transport route, impacts on municipal roads are expected to be minimal.

However, Rocky View County may determine through the Traffic Impact Assessment review process that:

- minor road maintenance contributions are required
- localized road improvements may be necessary
- a Road Use Agreement (RUA) may be required during construction

The project proponent will work collaboratively with Rocky View County Engineering Services to address any transportation requirements identified through the review process.

8.11 Road Use Agreement (RUA)

The project acknowledges that construction activities may require a **Road Use Agreement (RUA)** with Rocky View County to manage potential impacts on municipal roads.

If required, the RUA may address:

- approved haul routes
- construction traffic monitoring
- road condition assessments before and after construction
- security deposits or letters of credit
- repair obligations if road damage occurs

The project proponent will comply with all applicable County requirements associated with the RUA process.

8.12 Traffic Impact Assessment (TIA) Strategy

In accordance with the County's planning review comments, a **reduced-scope Traffic Impact Assessment** may be prepared in consultation with Rocky View County Engineering Services.

The TIA would typically evaluate:

- construction traffic volumes
- operational traffic volumes
- existing road capacity
- intersection and turning movement safety
- site access conditions
- sightlines and approach safety
- potential road upgrades or mitigation measures

Given the relatively low long-term traffic volumes associated with the facility, the reduced-scope TIA is expected to confirm that the existing road network can accommodate the proposed development.

Phase	Traffic Type	Estimated Trips
Construction	Workers	20–30 trips/day
Construction	Heavy equipment	5–10 trucks/day
Operations	Staff visits	1–3 vehicles/day
Operations	Maintenance deliveries	1–2 trucks/week

8.13 Transportation Summary

The transportation strategy for the Gayford Facility has been designed to minimize impacts on the municipal road network by:

- utilizing **existing site access**
- routing the majority of construction traffic along **provincial highways**
- limiting heavy traffic to the **temporary construction phase**
- maintaining **minimal operational traffic volumes**
- coordinating with Rocky View County on potential **Road Use Agreement requirements**

These measures ensure that transportation impacts associated with the project remain limited and manageable within the existing rural road network.

9. Decommissioning Strategy

Trigger conditions

Decommissioning may be initiated upon one or more of the following:

- End of commercial operations or permanent cessation of use;
- Replacement/repowering decisions that require removal of existing infrastructure;
- Expiry, non-renewal, or closure requirements associated with applicable approvals; and/or
- Direction from the applicable authority under municipal or provincial requirements.

Removal process

Decommissioning will be completed in a structured manner to support safe removal and orderly reclamation, including:

- Isolation and de-energization of electrical systems and disconnection from utility/gas interfaces as applicable;
- Removal of modular equipment (data containers, generators, SCR units, electrical equipment, and ancillary infrastructure);
- Removal of fencing, gates, gravel surfacing, and above-grade appurtenances; and
- Removal of foundations/pads and below-grade infrastructure where practicable to enable regrading and agricultural restoration.

Materials will be salvaged, recycled, or disposed of at licensed facilities as appropriate.

Soil replacement

Following removal and regrading, reclaimed areas will be prepared to restore soil function:

- Subgrade will be decompacted (ripping/subsoiling) where needed to restore infiltration and rooting depth;
- Stockpiled soils will be replaced in the correct order (subsoil first where segregated, then topsoil); and
- Final grading will be completed to match surrounding contours and maintain stable drainage patterns without off-site impacts.

Agricultural capability restoration

The objective of reclamation is to return the disturbed area to a condition suitable for agricultural use. Final surfaces will be prepared for revegetation consistent with agricultural capability (e.g., crop/hay/grass cover as appropriate) and stabilized to prevent erosion. Follow-up monitoring and corrective actions (e.g., additional decompaction, reseeding, erosion repairs) will be completed as needed to support establishment and restoration outcomes

10. Implementation and Monitoring

Compliance with Development Permit conditions

All conditions of the Development Permit (and any related municipal approvals) will be tracked and implemented through a project compliance checklist. Responsibilities will be assigned for each condition, and completion will be documented through drawings, inspection records, and contractor sign-offs as applicable. Where required, the Applicant will provide confirmation of compliance to the Development Authority at key milestones (e.g., pre-construction, commissioning, and post-construction).

Ongoing environmental monitoring commitments

Environmental performance will be managed through ongoing monitoring and operational controls consistent with the project's provincial compliance approach. Commitments may include:

- **Noise:** maintenance of noise mitigation measures and, where required, post-construction verification testing to confirm continued compliance with AUC Rule 012 permissible sound levels.
- **Air emissions:** operation and maintenance of emissions controls (including SCR) and compliance verification through monitoring and reporting requirements.

- **Digital monitoring (PEMS):** implementation of the PEMS monitoring framework, including QA/QC procedures, validation activities as required, and auditable outputs to support compliance reporting.
- **Spill prevention:** routine inspections, housekeeping, and incident response readiness (spill kits, procedures, reporting, and remediation).

Maintenance of berming and landscaping

Visual/interface mitigation features will be maintained for the life of the project, including:

- Annual inspection of berms and drainage tie-ins, and repair of erosion, settlement, or washouts;
- Replacement of dead/damaged vegetation and weed control as required;
- Maintenance of fencing, gates, and lighting to ensure mitigation intent is preserved; and
- Corrective maintenance following significant storm events or site modifications.

Record retention

Records will be retained to support regulatory compliance, operational oversight, and municipal verification as required. Recordkeeping will include, as applicable:

- Development Permit condition tracking and close-out documentation;
- Monitoring outputs (noise/air/PEMS), QA/QC logs, and maintenance records;
- Spill/incident logs and corrective action documentation;
- Landscaping/berm inspection and maintenance logs; and
- Any correspondence or approvals/clearances required for construction and operation.

11.0 Water and Wastewater Servicing Strategy

11.1 Overview

The proposed Gayford Facility is a **low-occupancy industrial energy facility** that does not require permanent municipal water or wastewater servicing. Operational design prioritizes **minimal water use**, consistent with the infrastructure-focused nature of the facility and the rural agricultural context of the site.

Water and wastewater servicing for the project will be limited to supporting **occasional maintenance personnel and construction activities**, with no permanent building occupancy requiring full municipal servicing.

The servicing approach has been designed to:

- minimize water demand
- avoid the need for municipal servicing extensions
- protect surrounding environmental features
- remain compatible with the rural servicing context of Rocky View County.

11.2 Potable Water Supply

The proposed development does not require a permanent municipal water connection.

Potable water demand associated with the facility will be minimal and limited primarily to construction activities and occasional maintenance personnel during the operational phase.

Potable water will be supplied through **temporary transported potable water sources**, such as bottled water or water delivery services, as required for construction crews or maintenance personnel.

No permanent potable water infrastructure is proposed for the facility.

11.3 Fire Protection Strategy

The Gayford Facility will not include large occupied buildings or conventional industrial structures requiring a permanent fire suppression water supply.

Fire protection will rely primarily on:

- equipment design safety systems
- electrical protection systems
- emergency shutdown systems
- portable fire suppression equipment
- coordination with local emergency services.

Given the low-occupancy nature of the facility and the modular equipment layout, a permanent fire water storage system is not anticipated to be required. Should additional fire protection measures be identified through detailed engineering design or Development Permit review, appropriate mitigation measures will be incorporated.

11.4 Sanitary Servicing

Sanitary servicing for the facility will be provided using **portable sanitation facilities**.

Portable washrooms will be installed on site during the construction phase and may remain available for maintenance personnel during facility operations.

Portable sanitation units will be:

- serviced by a licensed sanitation contractor
- maintained in accordance with public health standards
- removed or replaced as required during the operational lifecycle of the project.

This servicing approach is consistent with the low level of personnel presence anticipated at the facility.

11.5 Maintenance and Waste Hauling Responsibility

Maintenance and servicing of portable sanitation facilities will be managed by a **licensed waste management contractor** retained by the project proponent.

The contractor will be responsible for:

- regular servicing and cleaning of portable sanitation units
- removal and disposal of collected waste
- maintaining sanitation equipment in accordance with regulatory requirements.

Waste will be transported to approved off-site treatment facilities in accordance with provincial and municipal regulations.

11.6 Process Water and Wastewater

The Gayford Facility is designed as a **dry-cooled modular energy facility**, meaning that routine operations do not require process water consumption.

Operational design therefore results in **no process wastewater generation** during normal facility operation.

Activities such as equipment washdown or process water discharge are not anticipated. In the event that minor maintenance activities requiring cleaning occur, these would be limited and managed in accordance with applicable environmental protection practices.

11.7 Stormwater and Surface Water Management

Surface water management for the facility will be addressed through the **Stormwater Management Strategy** described in Section 5.5.

The site design will ensure that:

- post-development runoff does not exceed pre-development conditions
- natural drainage patterns are maintained
- downstream lands are not adversely impacted.

Stormwater will be managed through site grading and infiltration consistent with rural development practices.

11.8 Building Occupancy

The Gayford Facility does not include permanent occupied buildings requiring municipal servicing.

The facility will operate primarily as an **automated industrial installation** with limited on-site personnel presence. Staff will access the site periodically for inspection, maintenance, and equipment servicing.

As such:

- permanent employee occupancy is not anticipated
- No office, residential, or public occupancy uses are proposed
- water and wastewater servicing demands remain minimal.

12.0 Landscaping and Site Treatment

12.1 Overview

The landscaping strategy for the Gayford Facility is intended to maintain compatibility with the surrounding rural agricultural landscape while supporting safe and secure facility operations.

Given the infrastructure-oriented nature of the development and the limited footprint of the facility, landscaping will focus primarily on:

- maintaining a clean and orderly site interface
- stabilizing disturbed soils
- minimizing visual impacts from nearby roadways and adjacent lands
- ensuring that landscaping does not interfere with operational safety or maintenance access.

The majority of the parcel will remain in agricultural use and will not be altered by the proposed development.

12.2 Perimeter Treatment

The proposed development area will be secured by a perimeter fence surrounding the operational footprint. Landscaping treatments at the perimeter will focus on maintaining a clear and organized boundary between the facility and surrounding lands.

Perimeter treatments will include:

- gravel or stabilized ground surface immediately inside the fence line for operational access
- maintenance of existing vegetation outside the fence where appropriate
- stabilization of disturbed soils along the development boundary.

Where appropriate, low vegetation may be retained to soften the visual interface between the facility and surrounding agricultural lands.

12.3 Fencing Interface

A security fence will be installed around the development footprint to ensure safe operation of the facility and to restrict unauthorized access.

The fence will typically consist of:

- industrial-grade security fencing
- controlled access gates for maintenance and emergency access
- fencing heights consistent with industrial safety standards.

Vegetation will not be planted directly against the fence to ensure:

- visibility for security monitoring
- access for fence maintenance
- prevention of vegetation interference with fencing infrastructure.

Where existing vegetation occurs outside the fence boundary, it may be retained where it does not interfere with site access or drainage.

12.4 Shelterbelt Retention

Existing vegetation and shelterbelts within the broader parcel will be retained wherever possible.

Because the development footprint is limited in size and located within a previously disturbed or agricultural area, removal of existing vegetation will be minimal.

Where shelterbelts or existing tree rows occur outside the development area, they will remain undisturbed and continue to provide natural visual buffering within the rural landscape.

12.5 Berming and Visual Screening

Given the low profile of the proposed infrastructure and the limited development footprint, large-scale berming or engineered visual screening is not anticipated to be necessary.

However, if visual screening is identified as beneficial during the Development Permit stage, potential measures may include:

- low earth berms
- localized vegetation planting
- natural vegetation retention.

Any berming or screening measures would be designed to ensure that drainage patterns are not adversely affected.

12.6 Disturbed Area Stabilization

Areas disturbed during construction will be stabilized following completion of construction activities to prevent erosion and maintain site integrity.

Stabilization measures may include:

- regrading of disturbed areas
- placement of topsoil where appropriate
- re-establishment of native vegetation or grass cover
- gravel surfacing within operational areas.

These measures will ensure that disturbed soils are stabilized and that erosion or sediment transport is minimized.

12.7 Planting and Species Selection

Where planting or revegetation is required, plant species will be selected to reflect the surrounding rural agricultural landscape and to ensure long-term survivability with minimal maintenance.

Preferred vegetation types may include:

- native grasses
- drought-tolerant vegetation species
- locally adapted plant species appropriate for the region.

Use of invasive or non-native species will be avoided.

12.8 Landscaping Objectives

The landscaping approach for the Gayford Facility is intended to achieve the following objectives:

- maintain compatibility with surrounding rural land uses
- minimize visual impacts from nearby roads and adjacent lands

- stabilize disturbed soils following construction
- support operational safety and site security
- avoid landscaping elements that interfere with infrastructure operation or maintenance.

The landscaping strategy therefore emphasizes functional landscape management rather than ornamental landscaping, consistent with the infrastructure-focused nature of the development.

12.9 Landscaping Implementation

Detailed landscaping design and implementation will be confirmed during the Development Permit stage, where site grading, drainage, and infrastructure layout will be finalized.

Landscaping measures will be implemented in accordance with Rocky View County requirements and will be maintained by the facility operator for the duration of the development.

13.0 Lighting Plan

13.1 Lighting Objectives

The lighting design for the facility is guided by the following objectives:

- provide adequate illumination for safe operation of equipment and site access
- ensure safe access for maintenance personnel and emergency responders
- minimize light spill onto adjacent agricultural lands and nearby residences
- reduce sky glow and preserve rural nighttime conditions
- ensure compliance with Rocky View County dark-sky policies.

Lighting will therefore be **targeted and minimal**, focusing only on areas where illumination is required for operational or safety purposes.

13.2 Fixture Types

Exterior lighting will utilize **industrial-grade LED fixtures** designed specifically for dark-sky compliant applications.

Typical lighting fixtures may include:

- fully shielded LED area lights
- wall-mounted security lights
- low-profile pole-mounted fixtures for site circulation areas.

All lighting fixtures will be selected to provide efficient illumination while minimizing glare and light spill.

13.3 Shielding and Directional Control

All lighting fixtures will be **fully shielded and downward-facing** to ensure that light is directed only toward the intended ground surface.

Lighting fixtures will be designed to:

- eliminate upward light emission
- prevent horizontal light spill beyond the facility boundary
- direct illumination downward onto operational surfaces.

Shielding and fixture design will ensure that lighting does not contribute to sky glow or off-site glare.

13.4 Mounting Heights

Lighting fixtures will be installed at heights appropriate for the operational requirements of the facility while minimizing light spill beyond the site boundary.

Typical mounting heights will generally range between:

- **4 to 6 metres** for building-mounted or equipment-mounted fixtures
- **6 to 8 metres** for pole-mounted fixtures where required for site circulation or equipment safety.

Lower mounting heights will be preferred wherever possible to further reduce off-site light spill.

13.5 Spill Control and Light Containment

Lighting design will incorporate measures to ensure that illumination remains contained within the operational footprint of the facility.

Spill control measures include:

- downward-directed lighting
- fully shielded fixtures
- minimized fixture mounting heights
- targeted illumination only where required.

These measures will ensure that adjacent agricultural lands and nearby rural residences are not adversely affected by lighting from the facility.

13.6 Hours of Operation

Lighting at the Gayford Facility will be used primarily during:

- nighttime maintenance activities
- emergency response situations
- limited operational activities requiring illumination.

The facility is largely automated and does not require continuous nighttime staffing. As a result, most lighting will remain off during normal nighttime conditions unless required for operational or safety purposes.

Where possible, lighting may be controlled through:

- manual switches
- motion sensors
- programmable timers.

13.7 Security Lighting

Security lighting will be installed at key facility access points to support site safety and security.

Security lighting will focus on:

- entry gates
- equipment access points
- perimeter monitoring areas.

Security lighting will be designed to balance safety requirements with the need to minimize light spill and nighttime illumination.

13.8 Dark-Sky Compliance

The lighting plan for the Gayford Facility has been developed to comply with Rocky View County's dark-sky principles by incorporating the following design measures:

- use of fully shielded lighting fixtures
- downward-directed illumination
- minimized lighting levels appropriate for rural environments
- limited lighting coverage areas
- lighting only where required for safety or operations.

These measures ensure that lighting associated with the facility will have minimal impact on the surrounding rural landscape and nighttime sky.

14. Emergency Response Coordination

The Facility will be designed, constructed, commissioned, and operated to support safe, timely, and effective emergency response. Emergency response coordination for the Project will be implemented in accordance with the site-specific Emergency Response Plan (ERP), which establishes the incident command structure, emergency classifications, notification and escalation protocols, evacuation and accountability procedures, hazard-specific response actions, responder communications, and post-incident recovery requirements. The ERP applies to construction, commissioning, operations, maintenance, and other site-controlled activities.

The site will maintain a clear emergency command and communication structure based on an Incident Command System (ICS). During an incident, the Site Manager or most senior qualified person present will assume the role of Incident Commander until relieved, supported by designated safety, operations, environmental, logistics, and liaison personnel as applicable to the nature and scale of the event. This structure is intended to ensure rapid decision-making, coordination of on-site actions, orderly interaction with external responders, and controlled escalation where required.

Prior to operations, the Applicant will coordinate with the applicable local fire and emergency services to confirm site access, responder expectations, communication pathways, and emergency interface requirements. This coordination will include provision of a current site response package containing, at minimum:

- the site layout identifying access routes, gates, internal circulation, major equipment areas, muster points, and designated staging areas;
- identification of key hazards and associated controls, including natural gas equipment, electrical systems, transformers, generators, SCR/DEF systems, batteries, and chemical storage/handling areas;
- the current emergency contact and notification list, including escalation procedures and 24-hour contact information;
- confirmation of emergency isolation and shutdown points, where applicable;
- any responder-preferred signage, gate access instructions, site approach requirements, and staging arrangements; and
- confirmation of any local requirements for fire response planning, pre-incident familiarization, or periodic site review.

Site access for emergency services will be supported through project design and operating procedures. The Facility will include a controlled site entrance and internal access routes maintained in an all-weather condition to allow emergency vehicles to reach major equipment areas efficiently. Internal circulation and spacing will be maintained to support emergency approach, equipment access, and vehicle maneuvering, including turnaround capability where required. Emergency access routes, gates, and critical clearances will be kept free of obstruction through routine housekeeping and seasonal maintenance, including snow clearing as necessary. Evacuation routes and muster locations will be clearly established and maintained throughout the life of the Facility. Re-entry following an incident will be controlled by the Incident Commander or delegated emergency responder authority.

The Facility will incorporate monitoring and alarm capabilities to support early detection of abnormal conditions and prompt emergency response. These measures will include remote monitoring of operating status and alarms for generation and electrical equipment, defined site alarm protocols for evacuation or shelter-in-place, and operator procedures for abnormal-event response, safe shutdown, and system isolation. Where applicable, critical isolation points, including electrical isolation locations and fuel gas shutoff interfaces, will be identified on the site plan and reflected in operating and emergency procedures. An up-to-date emergency information package, including the ERP, contact lists, site maps, and key response procedures, will be maintained and accessible to operators and contractors.

In the event of an incident, response actions will follow the ERP's established sequence: protect life, raise the alarm, notify emergency services where required, stabilize the incident, isolate energy or material sources where safe to do so, contain any release, secure the area, account for personnel, and initiate regulatory and stakeholder notifications as applicable. The ERP includes specific response procedures for fire or explosion, gas release, hazardous materials release, severe weather, wildfire or grassfire, medical emergency, security threat, and utility failure. Environmental protection during incidents will follow a containment hierarchy of source, pathway, and receptor, with spill control, runoff protection, waste management, and confirmatory sampling implemented as needed.

The Applicant will maintain emergency response equipment and supplies appropriate to the hazards and scale of the Facility, including fire extinguishers, first aid supplies, spill response materials, absorbents, emergency shutoff/isolation references, eyewash or shower stations where required, and emergency lighting or backup power for critical functions. Emergency equipment locations will be identified on site drawings and subject to routine inspection and maintenance. Personnel and contractors will receive ERP orientation prior to site access, and drills and exercises will be conducted on a recurring basis and following material

changes to site layout or operations to verify response readiness and coordination effectiveness.

Overall, the Facility's emergency response coordination framework is intended to ensure that emergency events can be identified quickly, communicated effectively, and managed in a controlled manner that protects workers, responders, the public, property, and the environment, while supporting timely recovery and continuous improvement through incident reporting, investigation, corrective action, and ERP updates.