

BEST PRACTICES GUIDE FOR DUST MANAGEMENT IN ALBERTA

Final Report



June 2026

1. About the Clean Air Strategic Alliance

The Clean Air Strategic Alliance (CASA) is a registered not-for-profit Society under the Alberta Societies Act. CASA is composed of representatives from interested and affected industries, governments, non-government organizations, and Samson Cree Nation. All members have one or more of the following interests: an economic stake in air quality management, responsibility for human health and/or air quality, and representing environmental interests likely to be directly affected by air quality. CASA contributes to strategic air quality management for Alberta by identifying priority issues and developing action plans, evidence-based recommendations, information, and tools that weigh environmental, health, and economic consequences and expected outcomes. CASA's 30+ year commitment to using a consensus decision making process to achieve consensus whenever possible has created a unique and trusted forum for air issue discussions and resolutions. We recognize the value in striving for consensus, even if it is not always reached.

Clean Air Strategic Alliance

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1. Introduction

1.1 Project Context

The Clean Air Strategic Alliance (CASA) was established in March 1994 to manage air quality in Alberta. CASA supports three air quality management goals:

1. Protect the environment by preventing short- and long-term adverse effects on people, animals, and the ecosystem.
2. Optimize economic efficiency.
3. Promote pollution prevention and continuous improvement.

CASA uses a collaborative, consensus process to develop advice to assess and improve air quality for Albertans.

The CASA Non-Point Source Project¹ (2015-2017) was tasked with helping to address non-point source air emissions contributing to ambient PM_{2.5} and ozone standard non-achievement in Alberta. This project found that road and construction dust were identified as a source of PM_{2.5} emissions in all air zones. Recommendation 10 from that project report states:

“That Alberta Environment and Parks (AEP) and Alberta Transportation work with municipalities, construction companies, and other stakeholders to develop and disseminate a best practices guide to address dust from construction and roads that:

- i. identifies why this issue is important and what can be done to address it*
- ii. provides templates for environmental policies and plans*
- iii. prepares for potential requirements in the future.”*

A statement of opportunity was presented to CASA in December 2019 and again in March 2021 by AEP (now Alberta Environment and Protected Areas), on behalf of the Government of Alberta (GoA), to follow up on this recommendation. While there

was interest from CASA in December 2019, another statement of opportunity (regarding an air quality management symposium focused on NO_x) was identified as priority at that time.

The statement of opportunity expanded the scope of the project beyond construction operations and roads to also include best practices for dust from industrial operations, including activities whether or not they require an *Environmental Protection and Enhancement Act* (EPEA) authorization. It also noted that development and dissemination of a best practices guide for dust management is expected to aid municipalities and provincial regulators and be a resource for industry and others.

The statement of opportunity was approved by the CASA Board for initiation of a working group following completion of other ongoing projects, and the working group officially began in April 2022. The working group developed a draft project charter which added detail to the statement of opportunity, such as the proposed tasks, budget, audience, and other items. A first draft of the project charter was brought forward for the board’s consideration in September 2022. The board provided feedback and requested the working group meet again to address their concerns before returning with an updated draft at their December 2022 meeting. In brief, the updates were to include agriculture in the scope of work, to clarify the intent of the engagement that would be undertaken, and to increase the budget and timeline to address the agriculture scope addition. The working group addressed these issues, and the board approved the formation of the project team. The project team’s first meeting was in February 2023.

¹ <https://www.casahome.org/past-projects/non-point-source-project-team-37/#:~:text=The%20CASA%20Non%2DPoint%20Source,or%20not%20achieving%20the%20CAAQS.>

1.2 Background

The GoA uses the Canadian Ambient Air Quality Standards (CAAQS) to assess provincial air quality and support actions that improve air quality for Albertans. The CAAQS are part of the Canadian Council of Ministers of the Environment's (CCME) Air Quality Management System which was agreed to be implemented by ministers in 2012. The CAAQS is one piece of information that may inform how air emissions are managed in Alberta. The CAAQS are periodically reviewed to incorporate new scientific and human health information over time. While secondary particulate matter remains a major regional contributor to ambient $PM_{2.5}$, dust is one of the contributors to primary particulate matter levels measured at monitoring stations that report their ambient levels in comparison to CAAQS across the province. Dust is applicable across multiple sectors.

Dust is a generic term for airborne particulate matter that originates from certain sources under certain conditions. For the purposes of this project, dust is defined as:

"Small, dry, solid particles projected into the air by natural forces, such as wind, volcanic eruption, and by mechanical or man-made processes. Dust particles are usually in the size range from about 1 to 100µm in diameter" (Glossary of Atmospheric Chemistry Terms (IUPAC, 1990))

Based on the Government of Canada's 2020 Air Pollutant Emissions Inventory, dust from construction operations, unpaved roads, and paved roads are collectively a major source of particulate matter emitted in the province. Based on Alberta Environment and Protected Areas (AEPA's) "Results of the Alberta Annual Emissions Inventory Reporting Program: 2018 Inventory Year" report, the largest total particulate matter (TPM) emitting industrial facility types under EPEA approvals are:

- oil sands - mining, processing and upgrading
- mining and quarrying – coal mining and processing
- electric power and heating – coal
- petroleum products – bulk storage terminals

The Renewed Clean Air Strategy (2012) highlights the importance of managing both point sources and non-point sources to address cumulative impacts. Non-point source air emissions include dust. Addressing dust emissions can support local air quality management.

Benefits of dust management for all sectors may include:

- improved human health, environmental, and social (including nuisance) issues associated with dust and its constituents
- improved air quality conditions for workers, residents, and others nearby
- reduced complaints from residents regarding dust issues
- improved safety due to improved visibility
- reduced erosion and sediment issues from materials tracked from the site, entering watercourses, deposition on soils, or covering vegetation, and thereby reducing the potential for environmental impacts such as acidification and eutrophication

Alberta has Ambient Air Quality Objectives (AAAQOs) for $PM_{2.5}$ and TSP and Ambient Air Quality Guidelines (AAAQGs) for $PM_{2.5}$ and dustfall. Of note is that there is currently limited monitoring, across the province, of particulate matter in size fractions greater than 2.5µm. This work in developing best practices for dust management therefore included considerations for coarser particulate matter monitoring options, such as PM_{10} or TSP, to support program design and operational decision making with respect to dust reduction or mitigation measures as well as managing the potential health related impacts associated with PM_{10} .

Dust issues under municipal jurisdiction are typically not managed through Community Standards bylaws. Instead, most systems rely on public complaints to address concerns. The City of Edmonton and the City of Calgary, as well as Alberta Transportation and Economic Corridors (TEC), have helped address dust management by requiring Environmental Construction Operations (ECO) Plans for contractors performing work on their behalf; these plans address a wide range of environmental impacts from construction, and the

ECO Plan Framework does not currently provide specific guidance on dust mitigation measures. During the CASA Non-Point Source Project, municipal representatives indicated that templates for environmental policies and plans related to dust emissions would be beneficial.

Many industrial activities require an authorization under EPEA, through an approval or registration, and for certain types of facilities these authorizations have dust management requirements. Dust management plans are needed for Environmental Impact Assessments of oil sands thermal facilities, and operating coal mines and oil sands mines, although there had been no specific guide or template for preparing such plans. Other examples of industrial sources of dust emissions include pits, quarries, raw material storage/stockpiles, and materials handling. Some activities such as abrasive (sand) blasting, residential and

commercial building construction and demolition, and sand crushing facilities which store sand on-site but do not have a gravel pit, do not require an authorization under EPEA but must comply with the general provisions of EPEA and any municipal requirements. While some of those industrial activities are not considered road or construction dust sources as identified by the CASA Non-Point Source Project, the nature of these activities and dust sources are similar as they involve material (i.e., earth, ore, aggregates) excavation, handling, and storage.

PM_{2.5}, PM₁₀, and TSP are considered in this project. Based on the 2020 Air Pollutant Emissions Inventory, PM_{2.5} makes up approximately 5% of the dust emitted in Alberta, with 95% being from larger sizes of particulate matter, therefore the inclusion of size fractions greater than 2.5 µm is critical to dust management considerations.

2. Goals and Objectives

As outlined in the *Best Practices Guide for Dust Management in Alberta* project charter (Appendix 1), the project had the following goal:

“To provide guidance information that will enable Albertans to reduce and mitigate particulate matter emissions from anthropogenic non-point sources to help improve local air quality management in Alberta and support regional CAAQS achievement.”

The project objectives were to:

1. Develop a common understanding of dust sources, dust emissions and assessments, dust measurement, monitoring, and management practices, and the health, environmental, social, and nuisance impacts of dust.
2. a. Effectively engage subject matter experts to support development of a best practices guide for dust management.
- b. Effectively engage stakeholders and Indigenous participants to support communication and dissemination of a best practices guide for dust management.
3. Develop a best practices guide for dust management in Alberta based on available science and other appropriate resources and informed by stakeholder and Indigenous participant feedback.
4. Develop tools and mechanisms to support implementation of a best practices guide for dust management in Alberta.
5. Prepare a project team final report.

3. Outcomes

The project team completed its objectives. The primary outcomes were a *Best Practices Guide for Dust Management in Alberta* (the Guide) and an associated report with more detailed technical information, stakeholder engagement to gather feedback on and improve the Guide, and a communications plan (Appendix 2). Highlights from each document are below.

3.1 Best Practices Guide for Dust Management in Alberta

The Guide is intended to assist municipalities and provincial regulators and be a resource for industry and other stakeholders in improving dust management in the province. Municipalities, industry, Indigenous communities, regulatory bodies, health and environmental non-government organizations, and other groups that are interested in or impacted by dust should find value in the materials.

Specific examples for use of the Guide and associated materials include preparing and updating dust management plans and preparing EPEA approval and registration applications.

It identifies a range of potential dust sources, considerations, and options for their measurement and management. Its intent is to provide a general dust management approach that provides information useful for anyone attempting to understand and address dust issues in Alberta.

It should be used together with the *Best Practices Guide for Dust Management in Alberta – Technical Documentation* (Technical Documentation).

The Guide includes:

1. contextual information about dust and associated regulatory requirements in Alberta
2. a series of sections, organized to provide guidance and information that readers can use to develop a site-specific dust management plan
3. detailed technical and supporting dust management information in the Guide appendix

The Guide was written by the project team and informed by a) the Technical Documentation from the consultant, and b) feedback collected through stakeholder engagement including surveys, focus groups, and a workshop, which are described in detail below.

Technical Documentation

The consultant, AECOM, under the direction of the project team, prepared the *Best Practices Guide for Dust Management in Alberta - Technical Documentation* to support the Guide.

AECOM completed a thorough review of dust-related guidance documents and dust management and measurement requirements for relevant municipal, provincial/state, and national jurisdictions, as well as dust measurement and monitoring methods and their effectiveness.

The report contains:

- a summary of dust particle characteristics and health effects
- regulatory requirements for dust control in Alberta
- useful frames of reference for dust control
- elements of dust management plans
- details of dust management approaches

References to the Technical Documentation are made throughout the Guide to direct the reader to more detailed information.

It should be noted that the Technical Documentation contains information that has been prepared for but not approved by CASA. Any conclusions or recommendations in the Technical Documentation are those of the report's authors, and the contents of the Technical Documentation do not necessarily reflect the views of CASA or its members.

Engagement

Under the direction of a subgroup of the project team, the consultant planned and executed engagement tasks to inform the Technical

Documentation. The subgroup met twice with the consultant in March and June 2025; the subgroup membership is noted in Appendix 3.

The engagement tasks included surveys, focus groups, and a workshop, which were conducted in 2025 with selected stakeholders. The following sections describe the intent, audience, and outcomes of the engagement.

Surveys and Focus Groups

Surveys and focus groups were conducted between April and June 2025. The intent of these activities was to:

- gather broad input on issues and best management practices
- validate the table of contents of a draft of the Guide
- validate dust sources and management options included in the Guide
- identify what Guide users can and should consider
- investigate other management elements (e.g., monitoring)

Surveys were conducted via email in April and May 2025 and were sent to project team members, CASA board members, and other targeted groups (Airsheds, Fort McKay First Nation); there were 57 responses in total.

Two focus group sessions were held in June 2025. Participants of the focus group self-identified through the surveys. There were no project team or board members included as the intent was to collect feedback from those the team had not already engaged with. There were two focus groups — one with representatives from municipalities and community interest groups, and the other with representatives from various industrial sectors. There were 10 participants in total between the two sessions.

General areas of input from participants included:

- common dust sources encountered (e.g., unpaved roads) and measurement and monitoring methods employed (e.g., regular visual inspections)

- challenges with dust management and planning (e.g., cost, environmental risks of chemical dust-suppressants, regulatory uncertainty)
- common dust control measures used (e.g., chemical suppressants, water, education, reclamation)
- dust impacts (e.g., human and environmental health, operational and safety concerns, complaints)
- best practices employed (e.g., application techniques, training, knowledge sharing, continuous monitoring)

More detailed information on the surveys and focus groups is included in the Guide.

Feedback from surveys and workshops was used to update the draft Guide and inform discussions at a subsequent workshop.

Workshop

In June 2025, a workshop was hosted in Edmonton and virtually. The agenda included an overview of work completed to date on the project, a summary of the prior engagement activities, a presentation on a draft of the Guide, and a request for feedback.

The purpose of the workshop was to have participants identify dust sources and mitigation measures missing from the Guide and gather feedback on how to make the Guide more useable and useful for the target audiences. The primary outcomes were as follows:

Missing dust sources and mitigation measures

- Some dust sources and mitigation measures were missing (e.g., polymers, Ringelmann method).
- Some information needed to be reframed, and context was missing (e.g., information about the project, add flowcharts or decision trees).
- The source/mitigation section could be summarized (e.g., tables of strengths and weaknesses of different mitigation methods and considerations for their use; add cost estimates where available).

Guide useability

- The approach and structure of the document read as a technical reference instead of a Guide. This suggested that more work may be needed to define the audience and intent.
- Tools and resources would be helpful for Guide implementation (templates, checklists, management plan examples).
- Other concerns such as how to find the Guide and how it will be updated over time.

For more detailed information, see the Guide.

Feedback from the workshop was used to update the draft Guide and ultimately split it into two separate documents (the Guide and Technical Documentation).

3.2 Communications Plan

The project team developed a communications plan (Appendix 2).

Implementation of the communications plan is intended to support communication of:

1. the work of the project team during the project and after its completion
2. the Guide contents, including:
 - a. basic information about dust
 - b. major source types and activities that generate dust in Alberta
 - c. best practices relevant to the dust sources
 - d. monitoring and measurement of dust levels
 - e. the steps involved in developing a dust management plan
 - f. the potential health impacts of dust emissions

The communications plan also notes who should receive the communications and potential methods of reaching the audiences.

4. Budget and Timelines

The project charter that was originally approved by the CASA board in December 2022 had an estimated completion date of April 2024 with an estimated project cost of \$115,000, including potentially hiring a consultant. The project team ultimately completed its work in June 2026 with \$80,000 in project costs.

While the project kicked off in 2022, its progress was impacted by delays. The delays during the project were due to a few factors:

- Two rounds of Request for Proposal (RFP) were needed to secure a consultant for the work, as there were no bids on the original RFP.²
- The project team needed time to secure project funding to support the cost of the consultant's contract.

- One of the project charter deliverables was a best practices guide, but the project team determined that both general guidance information and detailed technical supporting information were required. Additional time was spent determining how these distinct sets of information should be organized and preparing two separate documents (the Guide and Technical Documentation) instead of one.

Most of the timeline delays (about 1.5 of 2 years) were due to project funding delays and the RFP process, which were to some degree beyond the project team's direct control.

With regards to the budget, the working group that prepared the project charter had estimated the \$115,000 project cost based on information

² The original RFP was for a literature/jurisdictional review and no bids were received. Discussions were undertaken with potential proponents to determine why they had not submitted a proposal. The primary reasons were that the scope of work was too small and a lack of awareness of the RFP. The scope and budget were expanded in the second RFP to include engagement tasks and supporting writing the Best Practices Guide, and the RFP was posted in additional locations online.

available to them as they scoped the project. When the RFP was issued, the project team had decided not to assign a specific budget for the work, to see what the cost estimates would be in the proposals for a better ballpark, and therefore how much fundraising would be required. The proposals received came in below the working group's \$115,000 estimate. CASA staff and project

team members used the budget estimate from the proposal of the consultant selected to undertake the work (AECOM) to seek funding to support the cost of the consultant's contract. Funding was provided by Alberta Environment and Protected Areas (\$60,000) and the City of Calgary (\$20,000), and the consultant completed their tasks with the \$80,000 budget.

5. Process Evaluation/Lessons Learned

This section outlines successes, challenges and lessons learned that the project team experienced in completing the project. The intent was to document lessons that should be considered and used to inform planning and execution of future CASA projects and staff training, for continual improvement.

5.1 Successes

The following successes were identified by the project team:

- Hiring a consultant (AECOM) allowed the team's contributions to focus more on high-level and strategic direction, rather than developing all the details of the Technical Documentation.
- The consultant was able to support and enhance project engagement (surveys, focus groups, workshop) which were originally planned to be carried out by the project team.
- Multi-stakeholder representation allowed the team to contribute, hear, and understand varied perspectives.
- Completing the project through CASA supported non-governmental organizations (NGOs) to participate (funding provided where appropriate).
- An in-person team meeting and event (workshop) provided an opportunity for team members to network and build relationships.
- Shorter remote meetings allowed wider participation, reduced costs, and enabled the team to meet more frequently.

5.2 Challenges

The following challenges were identified by the project team:

- More time was needed than anticipated to secure funding for the project.
- Two rounds of RFPs were needed to secure a consultant; discussing the project with prospective bidders helped identify potential proponents and inform a revised budget.
- Having a clear vision of the Guide's contents early on would have allowed it to be completed more quickly.
- Having a larger project team resulted in some challenges for both processes (e.g., scheduling meetings) and content (e.g., collating and addressing large volumes of feedback). Forming a subgroup to work with the consultant that reported back to the larger project team was efficient. For future teams with significant stakeholder interest, staff could consider following up with potential team members to determine if they would consider participating by other means (e.g., during engagement, as part of targeted reviews, or as a resource/advisory role) rather than attending all project team meetings.

6. Next Steps

The project team identified two next steps for future work related to the Guide and associated materials, including advice for their implementation.

Preliminary discussion amongst the project team members was held on potential leads for the next steps, but no specific organizations or groups were identified at the time of writing. Considerations for potential future leads are provided in the advice for implementation.

Next Step 1: Track dissemination and use of the Guide.

Rationale

Tracking information on dissemination and use of the Guide would be valuable for evaluation and help ensure Recommendation 10 from CASA's Non-Point Source Project report is fulfilled. It may also be used to identify contact information for gathering input on potential future revisions to the Guide.

Advice for implementation

The project team suggests that an appropriate organization could track dissemination of the Guide and its use.

Information could be collected through various methods such as:

- tracking number of online downloads of the project materials
- surveys or email requests to former project team members and other stakeholders engaged during the dust project, who may be using the Guide or referring it to others
- likes, shares, reactions, or other metrics on posts related to the Guide on social media

Information collected could include:

- who is using the Guide (e.g., industry, non-government, municipality, member of the public)
- how they are using the Guide (e.g., learning about dust, referring to the best practices, learning about technologies)

- why they are using the Guide (e.g., updating an existing dust management plan, writing a new plan, gathering general information as they are impacted by dust)
- how often they are using the Guide
- benefits experienced in using the Guide (e.g., informed a new dust management plan, reduced number of complaints)
- feedback on the Guide (e.g., suggestions for improvement)

As a follow-up to CASA's Non-Point Source Project Recommendation 10, the information could be reported to AEPA at an appropriate time interval (e.g., annually, within five years) after the dust project's completion.

Next Step 2: Review and update the Guide as appropriate over time.

Rationale

It would be beneficial to ensure that the Guide is current, as measurement and monitoring practices, technologies, policies and procedures, and other information may change over time.

Advice for implementation

The project team suggests that an initial review of the project materials be conducted to determine whether a full review and update is necessary and the extent of revisions needed.

The project team suggests that the review take place sufficiently far in the future to allow for policy, technology, and other changes to occur, but not so long that the Guide becomes outdated. For CASA projects that have recommended a review in the future, typically the reviews have been conducted five years after the project is completed. A similar length of time is suggested for this review.

A committee or similar group could be formed to conduct the review. The group may consist of a small membership (three to four members), representing different stakeholder groups and interests (e.g., provincial/municipal government, industry, non-government organizations,

Indigenous communities). Ideally, the committee members participated on CASA's dust project team, but at a minimum, should be familiar with the Guide, or have subject-matter expertise.

The project team estimates that the review process would take approximately one year, including time to identify members, coordinate meetings, conduct the review, and report on the results.

The review could consider:

- updates to regulations and legislation around dust management
- reviewing the guide for outdated information
- new and updated information on dust management practices, technologies, or other resources
- feedback received from users of the Guide after it is made publicly available

7. Conclusion

Dust is one of the contributors of non-point source air emissions and to ambient particulate matter. Dust can impact human and environmental health and create other issues including nuisance and maintenance problems. Management of dust is therefore an important and ongoing concern.

The project team achieved its goal by developing a *Best Practices Guide for Dust Management in Alberta* and assisting with its subsequent dissemination. The Communications Plan is expected to continue to be implemented so that the Guide is shared widely for awareness and usage. The Guide will enable Albertans to reduce and mitigate particulate

matter emissions from anthropogenic non-point sources to help improve local air quality management in Alberta and support regional CAAQS achievement.

The project team identified next steps in two areas: reviewing the Guide in the future to ensure it is relevant and up-to-date, and tracking information on its dissemination and use. To support these next steps, it would be beneficial to retain the stakeholders engaged beyond the project's completion.



Appendix 1 – Project Charter



Best Practices Guide for Dust Management in Alberta

Project Charter

(Approved December 2022, Revised April 2025)

Clean Air Strategic Alliance

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Acronyms

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AER	Alberta Energy Regulator
CAAQS	Canadian Ambient Air Quality Standards
ECO	Environmental Construction Operations
EPEA	<i>Environmental Protection and Enhancement Act</i>
FAQ	Frequently Asked Questions
GoA	Government of Alberta
IAP2	International Association for Public Participation
NGOs	Non-governmental organizations
NO _x	Nitrogen oxides
NO ₂	Nitrogen dioxide
OH&S	Occupational Health and Safety
PM _{2.5}	Particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PM ₁₀	Particulate matter with an aerodynamic diameter of 10 micrometers or less
SO ₂	Sulphur dioxide
TPM	Total particulate matter
TSP	Total suspended particulate matter
VOCs	Volatile organic compounds

Definitions

Alberta Ambient Air Quality Objectives (AAAQOs)

Alberta's AAQOs are developed to provide protection of the environment and human health to an extent technically and economically feasible, and reflective of Albertans' social concerns.

The objectives are used to:

- Evaluate the adequacy of facility design in regulatory applications
- Establish approval conditions for regulated air emission sources
- Assess beyond project boundary impacts of air pollutant sources and evaluate facility performance
- Compare to air quality measurements to inform Albertans and guide special air quality surveys and focused studies
- Augment reporting of the national Air Quality Health Index to respond to real-time air quality events
- Report on the condition of the environment in Alberta, including trending and the use of triggers and limits in regional Air Quality Management Frameworks

Canadian Ambient Air Quality Standards (CAAQS)

CAAQS are the driver of the collaborative national Air Quality Management System to better protect human health and the environment across Canada. There are CAAQS for PM_{2.5}, ozone, SO₂, and NO₂. The CAAQS are established as air quality objectives under the Canadian Environmental Protection Act. They are supported by four colour-coded management levels, which are determined by the amount of a pollutant within an air zone and guide recommended air quality management actions.³

Coarse Particulate Matter (PM_{10-2.5})

Particulate matter with an aerodynamic diameter larger than 2.5µm and smaller than, or equal to 10µm.

³ <https://ccme.ca/en/air-quality-report>

Dust

Small, dry, solid particles projected into the air by natural forces, such as wind, volcanic eruption, and by mechanical or man-made processes. Dust particles are usually in the size range from about 1 to 100µm in diameter (adapted from Glossary of Atmospheric Chemistry Terms (IUPAC, 1990))

Dustfall

Used to describe particulate matter that settles by gravity over a given area and time.

Dust Impact Assessment

Dust impact assessments are an identification of dust generating aspects of a project and the environmental, human health, and social impacts potentially associated with each. It can include estimates of dust emissions, modelling, consideration of factors that influence the levels of dust in the ambient air, dust control measures, and other factors that can be used to assess the impact of dust from a project.

Fine Particulate Matter (PM_{2.5})

Particulate matter with an aerodynamic diameter less than 2.5µm.

Indigenous Participants

Representatives from Indigenous communities and organizations.

Non-Point Source

Describes emission sources that are either too small and numerous, too geographically dispersed, or too geographically large to be estimated or represented by a single point (e.g., forest fires, fugitive emissions from various sources within industrial facilities, dust from roadways, vehicle exhaust).

Particulate Matter

Particulate matter is a complex mixture of small liquid droplets and solid particulates suspended in the air. Particulate matter can originate from natural (e.g., volcanoes, fires, dust storms) or manmade

sources (e.g., industrial processes, combustion, vehicle emissions). Depending on the source, particulate matter emissions may contain a variety of chemical constituents.⁴

Point Source

Describes a single discharge source of emissions that can be easily identified (e.g., a stack).

Primary Particulate Matter

Particles released directly from a source to the atmosphere.

Secondary Particulate Matter

Particles that form in the atmosphere through photochemical reactions that involve other gaseous pollutants, particularly SO₂, NO_x, ammonia, and VOCs.

Social Impacts of Dust

Social impacts are the effect on people and communities that happen as the result of an action or inaction, an activity, project, program, or policy. For the purposes of this project, social impacts of dust include negative impacts on people's life satisfaction and well-being. Nuisance impacts are a subset of social impacts, and refer to odour, noise, and visual impacts that interfere with the use of or enjoyment of property.

Total Particulate Matter (TPM)

Airborne particulate matter with an upper size limit of approximately 100µm in aerodynamic equivalent diameter.

Total Suspended Particulates (TSP)

The totality of small solid matter suspended and observed in the atmosphere.

4 <https://www.sciencedirect.com/topics/engineering/particulate-matter-emission>

Introduction

The Government of Alberta (GoA) is committed to comprehensive air quality management, including implementing the Canadian Ambient Air Quality Standards (CAAQS) as part of the national Air Quality Management System. Air emissions are managed for Alberta to achieve the CAAQS as these standards are updated over time. While secondary particulate matter remains a major regional contributor to ambient $PM_{2.5}$, dust is one of the contributors to primary particulate matter levels measured at CAAQS monitoring stations across the province and is applicable across multiple sectors.

Dust is a generic term for airborne particulate matter that originates from certain sources under certain conditions. For the purposes of this Project Charter, dust is defined as:

“Small, dry, solid particles projected into the air by natural forces, such as wind, volcanic eruption, and by mechanical or man-made processes. Dust particles are usually in the size range from about 1 to 100µm in diameter” (Glossary of Atmospheric Chemistry Terms (IUPAC, 1990))

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- oil sands - mining, processing and upgrading
- mining and quarrying – coal mining and processing
- electric power and heating – coal
- petroleum products – bulk storage terminals

The Renewed Clean Air Strategy (2012) highlights the importance of managing both point sources and non-point sources to address cumulative impacts. Non-point source air emissions include dust. Addressing dust emissions can support local air quality management.

Benefits of dust management for all sectors may include:

- improved human health, environmental, and social (including nuisance) issues associated with dust and its constituents
- improved air quality conditions for workers, residents, and others nearby
- reduced complaints from residents regarding dust issues
- improved safety due to improved visibility
- reduced erosion and sediment issues from materials tracked from the site, entering watercourses, deposition on soils, or covering vegetation, and thereby reducing the potential for environmental impacts such as acidification and eutrophication.

Alberta has Ambient Air Quality Objectives (AAQOs) for $PM_{2.5}$ and TSP and Ambient Air Quality Guidelines for $PM_{2.5}$ and dustfall. Of note is that there is currently limited monitoring across the province on particulate matter in size fractions greater than 2.5µm. This work in developing best practices for dust management should therefore include considerations for coarser particulate matter monitoring options, such as PM_{10} and/or TSP, to support program design and operational decision making with respect to dust reduction or mitigation measures as well as managing the potential health related impacts associated with PM_{10} .

Background

The CASA Non-Point Source Project (2015-2017) was tasked with helping to address non-point source air emissions contributing to ambient $PM_{2.5}$ and ozone standard non-achievement in Alberta, and road and construction dust were identified by the project's Technical Task Group as a source of $PM_{2.5}$ in all air zones. This project charter was informed by the project's consensus-based Recommendation 10, as follows:

“That Alberta Environment and Parks and Alberta Transportation work with municipalities, construction companies, and other stakeholders to develop and disseminate a best practices guide to address dust from construction and roads that:

- i. identifies why this issue is important and what can be done to address it*
- ii. provides templates for environmental policies and plans*
- iii. prepares for potential requirements in the future.”*

For this project, the scope is expanded to include best practices for dust from industrial operations, including activities that do and do not require an *Environmental Protection and Enhancement Act* (EPEA) authorization. The development and dissemination of a best practices guide for dust management is expected to aid municipalities and provincial regulators, be a resource for industry and others, and would represent fulfillment by AEP and Alberta Transportation of the above noted Recommendation 10.

For brief context, dust issues under municipalities' jurisdiction are typically managed reactively, rather than proactively, through Community Standards bylaws. While the City of Edmonton, City of Calgary, and Alberta Transportation have helped address dust management by requiring Environmental Construction Operations (ECO) Plans for contractors performing work on their behalf, these plans address a wide range of environmental impacts from construction and the ECO Plan Framework does not currently provide specific guidance on dust mitigation measures. During the CASA Non-Point Source Project, municipal representatives indicated that templates

for environmental policies and plans related to dust emissions would be beneficial.

Many industrial activities require an authorization under EPEA, through an approval or registration, and for certain types of facilities these authorizations have dust management requirements. Dust management plans are needed for Environmental Impact Assessments of oil sands facilities, and operating coal mines and oil sands mines, although there is no specific guide or template for preparing such plans. Other examples of industrial sources of dust emissions include pits, quarries, raw material storage/stockpiles, and materials handling. Some activities such as abrasive (sand) blasting, residential and commercial building construction and demolition, and sand crushing facilities which store sand on-site but do not have a gravel pit, do not require an authorization under EPEA but must comply with the general provisions of the Act and any municipal requirements. While some of those industrial activities are not considered road or construction dust sources as identified by the CASA Non-Point Source Project, the nature of these activities and dust sources are similar as they involve material (i.e., earth, ore, aggregates) excavation, handling, and storage.

$PM_{2.5}$, PM_{10} , and TSP are considered in this project. Based on the 2020 Air Pollutant Emissions Inventory, $PM_{2.5}$ makes up approximately 5% of the total PM emitted as dust in Alberta, therefore the inclusion of size fractions greater than 2.5 microns is critical to dust management considerations.

Scope

- Human health, environmental, and social (including nuisance) issues associated with dust and its constituents.
- Development and dissemination of a best practices guide for dust management that 1) covers anthropogenic activities whereby particulate matter may be generated; resuspended; or released by materials stored, stockpiled, or handled; 2) considers dust

monitoring that is practical and effective; and 3) provides references to additional relevant information. Dust sources are identified in the CASA Non-Point Source Project Report, and for this project include:

- Road dust – emissions resulting from the re-suspension of particulate matter by vehicles travelling on paved and unpaved roads (all sectors).
- Construction operations – emissions resulting from soil disturbance on construction sites (all sectors, i.e., residential, industrial-commercial-institutional, engineering).
- Industrial non-point sources (such as at mines, pits, quarries, asphalt paving plants, concrete producing plants), whether the activity requires an EPEA authorization or not.

- Consideration of any existing best practices for management, in all sectors, to help inform the guide.
- Focus on air and to include multi-media (air, water, and land) considerations where appropriate.
 - Undertake a holistic view of dust mitigation measures and their impacts and include considerations for climate and weather.

The working group recognizes there are limitations impacting dust management from certain sources that should be considered in establishing the dust sources that should be a focus of the best practices guide. For example, there are many gravel roads in the province that cover large distances, and therefore the focus needs to be on when and where management of this dust source is appropriate.

Project Goal

To provide guidance information that will enable Albertans to reduce and mitigate particulate matter emissions from anthropogenic non-point sources

to help improve local air quality management in Alberta and support regional CAAQS achievement.

Project Objectives and Strategies

Below is a list of project objectives, strategies, and potential outcomes/deliverables.

The “Potential Outcomes/Deliverables” under each objective are not meant to be prescriptive or limit the creativity of the project team, rather to provide additional context around the intent of the objectives. They are meant to help inform discussions of the project team by providing an understanding of Working Group conversations. The project team members will create more detailed work plans which will outline how each strategy is to be executed. As they do so, specific outcomes and deliverables will be identified based on what is most appropriate and useful to achieving each objective.

Objective 1: A common understanding of dust sources, dust emissions and assessments, dust measurement, monitoring, and management practices, and the health, environmental, social, and nuisance impacts of dust.

Strategies

- i. Develop a scope of work for a consultant, if necessary.
- ii. Complete a literature review on dust sources, dust monitoring and management practices, climate change impacts on dust generation, and the health, environmental, social, and nuisance impacts of dust, including Indigenous Knowledge-based dust monitoring and management practices.

- iii. Complete a jurisdictional and regulatory review of dust impact assessments, dust monitoring and management practices, dust-related air quality standards and objectives, complaint processes for individuals and communities, and criteria to quantify dust issues.
- iv. Identify gaps in dust management in Alberta based on the literature, jurisdictional, and regulatory reviews from both dust emission and ambient air quality perspectives.

Potential Outcomes/Deliverables

A document outlining the results of the literature review, jurisdictional review, and gap analysis.

Resources

A list of potential data sources is in appendix B.

The working group believes this work may be undertaken by a consultant, with support from project team members and subject matter experts, if project funds are available. The budget estimate includes a request for funds for this objective.

Objective 2a: Effective engagement of subject matter experts to support development of a best practices guide for dust management

Strategies

- i. Establish a Communications Subgroup to develop a Communications and Engagement Plan for use during the project and after the project is complete.
- ii. Involve subject matter experts in the project as defined in the Communications and Engagement Plan. Methods of involvement could include:
 - a. Participating on the project team as an observer
 - b. Participating in a workshop either as a presenter or attendee
 - c. Participating in, or providing feedback to, the Technical Task Group (Objective 4)

Potential Outcomes/Deliverables

- i. A communications and engagement plan, including:

- a. The audience(s) for outreach and best practices guide distribution.
- b. Key engagement subjects, such as dust management and monitoring practices, and level of desired participation (i.e., IAP2 spectrum for public participation)
- c. Communications tools (FAQ sheet, backgrounder, workshop, focus groups, etc.) and their desired outcomes.
- d. Communications channels.
- e. Performance measures or indicators to assess best practices guide uptake and effectiveness of the best practices guide.

Resources

The Communications and Engagement Plan and a survey/questionnaire can be developed using expertise and capacity from within the project team members or the project team members' organizations.

Retaining subject matter experts may require project funds and it has been included in the budget request.

Objective 2b: Effective engagement of stakeholders and Indigenous participants to support communication and dissemination of a best practices guide for dust management

Strategies

- i. Leverage existing connections from project team members and CASA member organizations to engage stakeholders and Indigenous participants and share information on the project.
- ii. Provide a forum to gather feedback from stakeholders, Indigenous participants, and subject matter experts on dust management and monitoring practices and preferred methods of communicating best practices for dust management.
- iii. Distribute a questionnaire or use another method of gaining input on dust management and monitoring practices, and preferred methods of communicating best practices for dust management.

Potential Outcomes/Deliverables

- i. A report detailing results of stakeholder and Indigenous participant engagement along with questionnaire results.

Resources

Forum for gathering feedback may require project funds depending on format.

Objective 3: A best practices guide for dust management in Alberta based on available science and other appropriate resources, and informed by stakeholder and Indigenous participant feedback

Strategies

- i. Establish a Technical Task Group or Groups to review information gathered in the previous objectives and identify appropriate best practices for dust management for use in Alberta.
- ii. Develop a scope of work for a consultant, if necessary.
- iii. Develop a detailed and informative best practices guide.

Potential Outcomes/Deliverables

A technical report, including:

- i. An overview of dust impacts to health and the environment, and dust's social and nuisance impacts (see Objective 1)
- ii. An overview of sources and activities that generate dust in Alberta
- iii. Criteria that can be used to quantify or qualify dust issues
- iv. Information on complaints processes
- v. Best practices for dust management, monitoring, and mitigation.

Resources

The working group believes this work may be undertaken by a consultant, but also could be completed through the collective capacity and expertise of the project team members or member organizations.

Objective 4: Tools and mechanisms to support implementation of a best practices guide for dust management in Alberta

Strategies

- i. Identify and document existing tools and mechanisms available to support implementation of best practices for dust management.
- ii. Develop materials that can be easily understood and applied by a wide audience (including Indigenous communities) to support implementation of the best practices for dust management, monitoring, and mitigation identified in objective 3, where appropriate.

Potential Outcomes/Deliverables

A suite of resources and materials to be included in a *Best Practices Guide for Dust Management in Alberta*, potentially as an accompaniment to the technical report from objective 3

Resources

The working group anticipates this objective can be completed through access to subject matter experts and with collective expertise from within the project team and member organizations.

Objective 5: Project Team Final Report

Strategies

- i. Document the work of the project team, including information sources and methods used to develop the *Best Practices Guide for Dust Management in Alberta*, and any supplementary reports (e.g., workshop report, communication and engagement plan)
- ii. Provide any project team advice or recommendations

Potential Outcomes/Deliverables

A project team final report to accompany the *Best Practices Guide for Dust Management in Alberta*.

Resources

The working group anticipates this objective can be completed using resources available through the project team, including the CASA staff.

Project Deliverables

The project team will provide the following deliverables:

1. A literature and jurisdictional review on existing dust management resources including required or voluntary dust management and monitoring practices, assessment criteria, health impacts, and environmental impacts.
2. A stakeholder and Indigenous participant engagement forum for information gathering from specialists in their area
3. A best practices guide for dust management that identifies why dust is an issue and what can and should be done to address it. The guide should include templates to inform environmental policies and plans, templates for complaint report and response, and consider specific guidance for unique situations or sources.
4. A project team report detailing the project background, methods, and any team recommendations.
5. A Frequently Asked Questions document to increase understanding of how different activities are regulated and where to direct inquiries in case of dust concerns.
6. Performance measures or indicators to assess best practices guide uptake and effectiveness
7. A communications and engagement plan.

Project Structure and Schedule

Project work should begin by January 2023. The working group anticipates the entire project will be complete by April 2026.

Refer to Table 1 for a high-level illustration of the process.



**Table 1: Best Practices Guide for Dust Management in Alberta Project Timeline
(December 2024 onwards)**

	2024	2025												2026			
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Write literature/ jurisdictional review																	
Stakeholder input																	
Prepare for and hold workshop						*											
Write and finalize Guide																	
Project Team Final Report & Communications Plan																	
Sector review																	
Board approval																	

*Workshop

Projected Resources and Costs

Table 2 outlines the potential internal and external costs over the life of the project, as anticipated by the working group. As the work of the project team

progresses, detailed work plans and associated budgets will be developed.

Table 2: Estimated Best Practices Guide for Dust Management in Alberta Project Budget

Item	Estimated Cost
Core Funds	
Stakeholder support	\$20,000
Hosting	\$10,000
Communications (design and layout, printing)	\$10,000
Total Estimated Internal Costs	\$40,000
Project Costs	
Literature review for Objective 1 (potential consultant)	\$60,000
Stakeholder and Indigenous participant engagement for Objective 2*	\$20,000
Best practices guide for Objective 3 (potential consultant)**	\$25,000
Communication costs for Objective 2 and 5	\$10,000
Total Estimated External Costs	\$115,000

*This estimate is based on leveraging existing connections to stakeholders and Indigenous participants; the reach is unknown until these connections can be further explored. While engagement for this project is not the same as formal consultation for policy development, all First Nations, Métis Settlements, Credibly Asserted Métis Communities, and the Métis Nation of Alberta may be invited to send a representative to attend an engagement session.

** Optional project cost. The project can proceed without this budget item, but the timeline will need to be extended due to increased workload on the project team.

Risk Analysis

Identifying, analyzing, and mitigating project risks is a key component of executing a successful project. The project team will incorporate proactive risk management into the project to mitigate risks that could undermine its success.

Table 3 lists the risks as well as possible mitigation strategies identified by the working group that the project team should consider as they undertake their work.

Table 3: Risk Analysis including Possible Mitigation Strategies

Risks	Possible Mitigation Strategies
The COVID-19 pandemic prevents the team from holding meetings or engaging stakeholders and Indigenous participants	• employ social distancing measures for in-person meetings • ensure the team is familiar with and able to use remote meeting platforms and tools (e.g., Zoom, GoToMeeting, Miro Board) • use facilitation tools/methods to garner fulsome participation during remote meetings
Timely funding not available	• identify who the “customers” of this work are. Who will find this valuable – seek funding there • develop a strong value-proposition that includes examples of sectors that may be involved or affected • project team members discuss the work and associated need for funding with their constituents early in the process. • determine what can be done, in full or in part, through in-kind support
Lack of/limited information (accessibility)	• ensure project team membership enables the team access to data • use judgement to fill gaps where data is imperfect. • reference existing guidelines and processes where possible • make use of best available information
Lack of subject matter experts	• team members and CASA staff connect with their respective networks to find out who might be able to inform or participate in the work (rather than being limited to expertise around the table) • consider funds for an expert advisory team or consultant
Project team doesn’t understand or follow the project charter	• working group to create a project charter that is clear, especially with respect to the intent for sequencing of the objectives • board receives regular updates to ensure progress is monitored • request board approval of a revised project charter, where appropriate
Lack of engagement/ownership on the project team	• identify and communicate with potential stakeholders and Indigenous participants early in the process so they can participate in the team • create a clear value proposition • be clear about what is being asked of stakeholders and Indigenous participants

Risks	Possible Mitigation Strategies
Insufficient time scheduled for objectives	• prior to finalizing workplans, test how much time the outlined tasks might take with people who know (e.g., subject matter experts, consultants) • have clear parameters in RFPs for timeframe, scope, and deliverables • practice strong oversight and communication with consultants • consider the need for outside resources (i.e., consultants) early in the process, and plan accordingly to avoid delays • collectively contribute to the objectives and not rely on only one member or member organization
Scope creep results in increased budget expenditure or project team work	• the project team should clearly define areas of potential creep (e.g., multi-media considerations, climate change impacts) and ensure those areas are monitored to ensure they stay within scope
Stakeholders and Indigenous participants engaged are not representative of diverse roles within organizations	• invite stakeholders and Indigenous participants to participate based on roles as well as affiliation

Operating Terms of Reference

An Operating Terms of Reference describes how the project team agrees to work together. The project team should discuss and reach consensus on the following items:

- requirements for quorum
- governance
- meeting protocols
- COVID-19 social distancing procedures
- roles and expectations of project team members
- how decisions will be made
- ground Rules
- frequency of project team meetings
- frequency of updates and reports to the CASA Board
- protocols for handling media requests
- protocols for providing updates to interested parties
- any other considerations for working together

Stakeholder and Indigenous Participant Analysis and Engagement Plan

In general, stakeholders and Indigenous Participants will be engaged in different capacities and at different times as necessary to meet the project outcomes.

The working group identified the following categories of stakeholders and Indigenous Participants whose involvement would benefit the project:

Table 4: Potential Stakeholders and Indigenous Participants to Consider for Involvement in the Best Practices Guide for Dust Management in Alberta Project

Individual or Organization	Possible Interests, Concerns, or Involvement
NGOs	project team members who have input on all project objectives and may represent various stakeholders impacted by dust
Organizations involved with construction, road dust management, or other industrial activities	- may be impacted by a best practices guide for dust management, and should be on the project team where possible and have input on all project objectives; engaged during objective 2 at minimum if not a project team member - may have existing dust management practices/expertise - may receive dust complaints
Large Urban Municipalities	- may be involved in implementation of a best practices guide for dust management, and should be on the project team where possible and engaged during objective 2 - may have dust management requirements or receive dust complaints
Counties and Rural Municipalities	- make decisions on approving local projects (e.g., gravel pits or other industrial operations and residential developments) - build and maintain rural roads - may have dust management requirements or receive dust complaints
Airshed Organizations	- project team members who have input on all project objectives and can provide information to support the project team - have ambient air monitoring expertise
First Nation and Métis	- may be involved in implementation of a best practices guide for dust management, should be on the project team where possible and engaged during objective 2 - may be impacted by dust
Agriculture	- project team members who have input on all project objectives - may have existing dust management practices/expertise - may receive dust complaints
Alberta Health Services	project team members or engaged specifically for objective 1 regarding health impacts of dust
Alberta Lung Association	project team members or engaged specifically for objective 1 regarding health impacts of dust
Provincial Government (AEPA, Transportation, Agriculture & Irrigation) and Regulators (AER) and Agencies (NRCB)	- project team members who have input on all project objectives - may have dust management requirements/guidance or receive dust complaints - have ambient air monitoring expertise

Appendix A: Working Group Membership

Name	Organization
Co-Chairs	
Danlin Su	Prairie Acid Rain Coalition
Laura Cline	Sureway Construction Group
Rahul Shrivastava	Alberta Transportation
Members	
Adi Isaac Adiele	Fort McKay Métis Nation
Amber Link	Rural Municipalities of Alberta
Dan Moore	Alberta Newsprint Company
David Spink	Prairie Acid Rain Coalition
Marlow Currie	AEN Clean Air Caucus
Rhonda Lee Curran	Alberta Environment and Protected Areas
Rich Smith	Alberta Beef Producers
Scott (Sheila) Cunningham	Natural Resources Conservation Board
Wally Qiu	Alberta Energy Regulator
Alternates	
Ann Baran	Southern Alberta Group for the Environment
Irene Dahl	Canadian Forest Products Limited
Kristi Anderson	Mewassin Community Council
Lauren Greenhough	Heidelberg Materials
Melissa Guglich	Alberta-Pacific Forest Industries
Tasha Blumenthal	Rural Municipalities of Alberta
Corresponding Members	
Jennifer Knievel	West Fraser
Jessica Sabell	Lehigh Hanson Materials Ltd.
Lorna Morishita	Airsheds
Monique Holowach	Alberta Forest Products Association
CASA Staff	
Katie Duffett	Clean Air Strategic Alliance
Alec Carrigy	Clean Air Strategic Alliance

Appendix B: Reference Materials

The working group identified information sources which may be of use to the project team. They include:

- voluntary or informal standards of practice
- existing requirements from regulators
- Canada's Air Pollutant Emissions Inventory (APEI)
- [CASA Non-Point Source Project Team](#)
- [CASA Odour Management Project Team](#)
- [CASA Impacts of Reduced Transportation on Air Quality in Alberta Associated with COVID-19 Project Team](#)
- [National Pollutant Release Inventory \(NPRI\)](#)
- [Alberta's Ambient Air Quality Objectives and Guidelines](#)
- [Canadian Ambient Air Quality Standards](#)
- [Canadian Council of Ministers of the Environment Air Quality Report](#)
- [Results of the Alberta Annual Emissions Inventory Reporting Program: 2018 Inventory Year](#)
- [Health Impacts of Air Pollution in Canada: Estimates of morbidity and premature mortality outcomes – 2021 Report](#)
- [Silica & Dust Exposure Control Handbook \(Rev. 1\), Nielsen Consulting, 2014](#)
- [WBEA: PAHs in Lichens and Ambient Particulate Matter Receptor Modeling Study \(Final Report Version No.1\), Integrated Atmospheric Solutions, 2015](#)
- [Potential Human Risks via Crystalline Silica Exposure due to Quarry Operations – Southwest Calgary Ring Road Project, CH2M HILL Canada Limited, 2017](#)
- [Calgary Region Airshed Zone \(CRAZ\) Dust Health Effects & Suppression Workshop, November 2017](#)
- [Identification of Ambient SO₂ Levels and Sources in Athabasca Oil Sands Region in the Context of LAR Air Quality Management Framework, WBK & Associates, 2018](#)
- [A Review of Beneficial Management Practices for Managing Undesirable Air Emissions from Confined Feeding Operations, Report to the Clean Air Strategic Alliance, Alberta Agriculture and Rural Development, 2011](#)
- [A municipal Guide to Sand and Gravel Operations in Alberta, AAMDC, 2007](#)
- [Developing a Fugitive Dust Management Plan for Industrial Projects \(Government of British Columbia\)](#)
- [Environmental Construction Operations \(ECO\) Plan Framework Municipal Version](#)
- [Best Practices for Reduction of Air Emissions from Construction and Demolition Activities](#)
- [WRAP \(Western Regional Air Partnership\) Fugitive Dust Handbook](#)
- [AEP Guide to the Code of Practice for Pits, as amended](#)
- [Photometric Measurement of Ground-Level Fugitive Emissions from Concentrated Animal Feeding Operations \(International Symposium on Air Quality and Manure Management for Agriculture Conference Proceedings, 13-16 September 2010, Dallas, Texas 711P0510cd. \(doi:10.13031/2013.32622\)\)](#)
- American Society for Testing and Materials - D1739 (2017): Standard Test Method for Collection and Measurement of Dustfall (Settleable Particulate Matter)
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Appendix 2 – Communications Plan

BACKGROUND

Past CASA work helped initiate the *Best Practices Guide for Dust Management in Alberta* project. The CASA Non-Point Source Project (2015-2017) was tasked with helping to address non-point source air emissions and Recommendation 10 from the project team was:

“... Alberta Environment and Parks and Alberta Transportation work with municipalities, construction companies, and other stakeholders to develop and disseminate a best practices guide to address dust from construction and roads that:

- i. identifies why this issue is important and what can be done to address it*
- ii. provides templates for environmental policies and plans*
- iii. prepares for potential requirements in the future”*

A statement of opportunity was brought to CASA in 2019, and later again in 2021, through Alberta Environment and Parks (AEP; now Alberta Environment and Protected Areas) which noted that the project scope should be expanded to include best practices for dust management for industrial operations and other activities that may or may not require an *Environmental Protection and Enhancement Act* (EPEA) authorization. The development and dissemination of a best practices guide (the Guide) for dust management is of interest and use to municipalities, provincial regulators, industry and others. It also represents completion of Recommendation 10 from the Non-Point Source Project report.

A working group built on the statement of opportunity and developed a project charter which was approved by the CASA Board in late 2022. A project team was struck, and the team began its work in 2023 to develop a Guide based on the latest and best understanding of dust management options for major dust sources and source types in Alberta. The Guide was informed by a literature/ jurisdictional review and engagement (surveys, focus groups, workshop) and the project was completed in 2026.

GOALS

Implementation of the communications plan is to support communication of:

1. the work of the project team during the project and after its completion
2. the Guide contents, including:
 - a. basic information about dust
 - b. major source types and activities that generate dust in Alberta
 - c. best practices relevant to the dust sources
 - d. monitoring and measurement of dust levels
 - e. steps involved in developing a dust management plan
 - f. potential health impacts of dust emissions

AUDIENCES

The audiences for the communications are outlined in the table below.

These audiences are intended to be the primary recipients of the final project materials, but there may be other indirect audiences (e.g., Watershed

Planning and Advisory Councils) and those with other uses (e.g., those impacted by dust). Stakeholders should consider whether other groups may benefit from the materials and circulate to them as appropriate.

Sector/Group	Example Organizations of, or Mechanisms through which to reach, the Sector/Group
CASA	Member and partner organizations and their networks
Government	Provincial departments and agencies (e.g., Alberta Agriculture and Irrigation, Alberta Energy Regulator, Alberta Environment and Protected Areas, Alberta Primary and Preventative Health Services, Alberta Transportation and Economic Corridors, Natural Resources Conservation Board) Federal government (Environment and Climate Change Canada, Health Canada) Municipalities (Alberta Municipalities, Rural Municipalities of Alberta)
Industry	Associations and businesses (agriculture, construction, forestry, mining, oil & gas, sand & gravel)
Health and environmental non-government organizations	Alberta Lung Association
Other health organizations	Alberta Health Services
Associations through which consultants/businesses, supporting or developing dust management plans or providing equipment/services, could be reached	Air & Waste Management Association (Canadian Prairies and Northern Section), Alberta Development Officers Association, Alberta Professional Planners Institute, Environmental Services Association of Alberta
Indigenous Communities and Métis	Fort McKay First Nation, Métis Settlements General Council, Samson Cree Nation
Airshed Organizations	Alberta Airsheds Council members

PROPOSED APPROACH

The project team will use the communications tools and methods listed below. The materials development and initial actions will be undertaken by CASA staff before or soon after project completion, but follow-up communication or implementation is expected to be completed by stakeholders.

- A factsheet on the Dust project, including:
 - an overview of CASA and the consensus process
 - the Dust project scope and goal
 - outcomes of the project
- Posts on CASA's website and social media accounts including:
 - posting all project documentation on the Dust project webpage
 - posting factsheets and other relevant information brought forward by CASA members on CASA's social media pages and YouTube, as appropriate
 - sharing information on the Dust project in other CASA communications (e.g., newsletters) and to the Alberta Water Council and other organizations, as appropriate
- Leveraging CASA's partner networks by:
 - requesting CASA Board members, CASA project team members and corresponding members, and partners share Dust project materials with their networks via email, social media, or other means, as appropriate
 - sharing project documentation with groups engaged through the project surveys, focus groups, and workshop
- A standard presentation slide deck for use at events. Potential events may include:
 - conventions for Alberta Municipalities, Rural Municipalities of Alberta
 - Clean Air Forum
 - Airshed webinars
 - luncheons hosted by the Air & Waste Management Association, Canadian Prairies and Northern Section.

BUDGET

No costs are expected to be incurred in implementing the communications plan. The project materials will be made available electronically.

Appendix 3 – Acknowledgements

The Clean Air Strategic Alliance thanks the members of the *Best Practices Guide for Dust Management in Alberta* project team, their organizations, and the participants of engagement sessions for their contributions to the project. Corresponding members stayed diligently updated on the project and CASA staff are also acknowledged.

This project would not have been possible without operational funding provided by Alberta Environment and Protected Areas. Project funding was provided by Alberta Environment and Protected Areas and the City of Calgary.

The following list includes project team members and alternates. Not all members were present from start to finish of the project.

Name	Organization	Name	Organization
Adi Isaac Adiele	Fort McKay Métis Nation	Jennifer Knieval*	West Fraser
Andrew Clayton*	Alberta Environment and Protected Areas	Jennifer Silverthorn	City of Calgary
Ann Baran	Southern Alberta Group for the Environment	Jessica Sabell (former Co-Chair)	LaFarge Canada
Ashley Hadley	Rural Municipalities of Alberta	Kallie Wischoff	Rural Municipalities of Alberta
Brent Korobanik	Heidelberg Materials	Kamran Faisal	City of Calgary
Briana Yee	Rural Municipalities of Alberta	Kristi Anderson	Mewassin Community Council
Cameron Robertson	Alberta Transportation and Economic Corridors	Kristina Morris	Alberta Airsheds Council
Courtney Brown*	Canadian Natural Resources Limited (CAPP)	Laura Cline (Co-Chair)*	Sureway Construction Group of Companies
Craig Siewert	Alberta Transportation and Economic Corridors	Lauren Greenhough	Heidelberg Materials
Dan Moore	Alberta Forest Products Association	Melody Garner-Skiba	Intensive Livestock Working Group
Danlin Su*	Prairie Acid Rain Coalition	Rawnald Axelson	Intensive Livestock Working Group
David Spink (Co-Chair)*	Prairie Acid Rain Coalition	Reg Warkentin	Team Alberta Crops
Dianne McIsaac	Wood Buffalo Environmental Association	Rich Smith	Alberta Beef Producers
Elizabeth Adelakun	Heidelberg Materials	Rhonda Lee Curran*	Alberta Environment and Protected Areas
Irene Dahl	Canfor	Rob Beleutz	Graymont
Gary Redmond	Alberta Capital Airshed	Rob Fragoso	Alberta Sand and Gravel Association
Graham Tait	City of Calgary	Sunny Cho*	Alberta Environment and Protected Areas
Greg Wentworth	Alberta Environment and Protected Areas	Tasha Blumenthal	Rural Municipalities of Alberta
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