



1.0 INTRODUCTION

1.1. Forward

The intent of this manual is to provide an information guide to set standards governing design, preparation and submission of plans and specifications for construction of municipal improvements in Lamont County. It is intended for use by Developers, Engineering Consultants, Utility Companies and County Departments. These standards are provided to set the “minimum” allowable levels to which the requisite improvements are to be built. In instances where the standards do not cover a particular situation or occurrence, good engineering judgment shall be used. All developments shall comply with the requirements of Lamont County, all applicable Land Use Bylaws and Provincial and Federal legislation.

No departure from these standards shall be permitted without the written approval of the Director of Public Works. The County shall be the final authority on any disputed plans.

All completed plans, records and documents shall be submitted a minimum of 30 days prior to final design acceptance by the County.

No construction shall commence until all designs have been accepted by the County and the following has been submitted:

- 1) Design drawings
- 2) Letters of Credit
- 3) Authority Contacts & Approvals
- 4) Development Agreement
- 5) All Levies & Fees



1.2. General

This publication entitled, “**Design Guidelines and Construction Standards**”, documents performance, preferred materials or methods and logistical considerations. Readers will use this information for the design and construction of the County infrastructure. Over time, certain products or approaches to construction have proven successful and the County, private consultants and contractors working in Alberta have adopted them.

The information presented in this document has been prepared by following recognized Engineering principles and practices, and is intended to be used for general information purposes only. The information is in conformance with applicable codes and standards that are mandatory for the safe and efficient operation of County facilities. Independent Engineering Consultants compiled the information in this document to support and justify the rationale governing the various design standards and details that are to be incorporated into the design and construction of municipal infrastructure and facilities.

The Developer shall be responsible for, pay to and fully indemnify the County for all legal, planning, and engineering costs, fees, expenses, and disbursements incurred by the County through its solicitors, planners, and Director of Public Works for all services in connection with the preliminary review of subdivision and development proposals.

Although due diligence has been exercised in preparing this document, the County does not accept responsibility for errors or omissions. Users of this document are responsible for ensuring that the information they extract from it is appropriate and valid for their particular application. This document and its contents are not intended to be construed to be a Standard of the County and it is not intended for direct use as a reference in purchasing specifications, contracts, regulations, statutes or any other legal document. References made in this document to specific manufacturers, service companies, methods, processes, products or services do not imply an endorsement, recommendation, or warranty by the County.



1.3. Criteria for Design Guidelines and Construction Standards and Drawings

The Design Guidelines and Construction Standards and Drawings do not supplant mandatory codes or regulations. Where necessary, they complement the following:

- 1) Where the County believes more stringent requirements should apply to the National Fire Code of Canada or to local municipal requirements;
- 2) Where the County believes a need to augment or clarify a code requirement;
- 3) Where the County has developed preferences for specific products, systems or methods.

1.4. Application of Standards

The Rationale contained in this document relates directly to the following:

- 1) This Design Guidelines and Construction Standards document will be used for direct incorporation of the information into a construction package for tendering municipal improvements. Sufficient detail has been provided to minimize errors during the construction of municipal infrastructure. The safety, security and reliability of each proposed design and equipment are of paramount importance to northern communities, which are extremely dependent upon cost effective and reliable functionality of their infrastructure.
- 2) Standard Detail Drawings. This section containing the standard detail drawings is intended to be referenced and incorporated into all municipal infrastructure projects and their construction. In addition, it is through ongoing and future experience that the drawings and details will be further refined to incorporate new, improved, and innovative methods of reducing both the construction and maintenance costs and operational problems.

Photocopying is encouraged or an electronic version of the applicable sections may be made available through written request, to form part of the contract documents for new, expanded, or renovated municipal infrastructure projects.



1.5. Revisions

Readers are encouraged to comment or submit revisions at any time to the County. The County will propose and broadly distribute these comments and revisions for review. The County anticipates an annual review process to ensure this document reflects the collective knowledge of all parties involved in municipal construction projects in the County. The revisions to this edition of the Design Guidelines and Construction Standards were collected by the County with the assistance of EXH Engineering Services Ltd.

This is the first edition of the Design Guidelines and Construction Standards. It has been extensively edited and improved. Improvements include the rearranging of material presented, the revision of phrases and words to improve usage. Because of the extensive editing, indicating all changes is not possible. However, where significant changes to these Design Guidelines and Construction Standards occur, a vertical line in the left margin shows those sections, as done with this paragraph.

The County will undertake reviews to confirm, revise, or update future design standards and guidelines. Hence, the County invites comments and suggested revisions to the following address:

Lamont County
Administration Building
5303 50 Ave
Lamont, AB T0B 2R0
Phone: (780) 895-2233
Fax: (780) 895-7404
E-Mail: info@tclamont.ca



Brief description of the proposed revision:

Rationale: (Relate experiences that led to the proposed revision)

Name _____

Company _____

Title _____

Address _____

City _____

Telephone _____

Facsimile _____

Email _____



1.6. Contract Design Change Proposals

1.6.1. General

After the tender is awarded, the Contractor has the option of submitting a Contract Design Change Proposal for an alternate design, or change to the County's design or any component thereof, provided cost savings can be achieved without compromising the integrity and quality of the project. These proposals will be accepted or rejected by the County or the Director of Public Works at its sole discretion. Proposals shall be submitted through the County's Director of Public Works.

Project Net Cost Savings will be shared on a 65% / 35% basis between the Contractor and the County. These net savings shall be identified, itemized, confirmed and fixed prior to the County giving written approval to proceed with the proposed changes.

When a Contract Design Change Proposal is submitted, a preliminary technical review will be conducted by the County's Director of Public Works to ensure it meets the County's requirements. A one-week period will be required for this review, after which the proposal will be accepted or rejected. If the proposal is accepted, the Contractor shall complete a detailed design as required.

When submitting a Design Change Proposal, the Contractor shall also provide non-refundable certified cheques in accordance with the following:

- 1) Preliminary Technical Review – At the time the proposal is submitted, the Contractor shall provide a non-refundable certified cheque in the amount of \$500.
- 2) Final Design Review – If the Project Net Cost Savings (PNCS) is more than \$10,000.00, the Contractor shall provide an additional non-refundable certified cheque in the amount of \$3,000.00 at the final design review stage. If the PNCS is less than or equal to \$10,000.00, the Contractor will not be required to provide the \$3,000.00.



Contract Design Change Proposals shall be sufficiently complete at the preliminary technical review stage so that the County can fully access alternatives for equivalencies, and compliance to standards and practices, including functionality, serviceability, durability, maintainability, and overall cost effectiveness. The County may recommend or request adjustments or alterations to the proposal to make it acceptable.

Acceptance or rejection of the proposal at any time during the initial review process will not be considered a basis for claim or relieve the Contractor of any obligations of the Contract.

Once both parties have agreed to the terms and conditions of the proposal, the Contract will be modified through a supplementary agreement (Contract Change) to incorporate the changes agreed upon; all other Contract conditions will remain in effect.

1.6.2. Payment

Project Net Cost Savings (PNCS) shall be taken as the cost difference between the County's tendered design and the Contractor's proposed design, net any additional costs or savings incurred by the County. The Contractor's Cost for Contract Changes (CCCC) shall include, but are not limited to, any required design work, the preparation of the proposal submission, the involvement of the Contractor's Engineer if necessary, and all costs associated with construction and profit. The County's costs and/or savings (OC) shall include those that are project related but outside the terms of the Contract, such as, but are not limited to, consultant costs for participating in the review of the Contractor's proposal, project testing, measurement, inspection including any specialized inspection required by the County, and management;

- PNCS - Project Net Cost Savings
- OTDC - County's Tender Design Cost
- CCCC- Contractor's Cost for Contract Changes
- OC - County's Cost (Savings(+), Additional Costs(-))



Payment to the Contractor to complete the work identified in the proposal will be made through progress payments, in accordance with the terms and conditions agreed to for the proposal. This payment shall not exceed the Contractor's estimate for the work as identified in the proposal.

Payment of the Contractor's 65% share of the Project Net Cost Savings will be made as a lump sum payment to the Contractor once the project is ready for the Construction Completion Inspection.

1.6.3. Contract Design Change Proposals

1.6.3.1 General Requirements

Proposals will be evaluated for compliance with Technical Standards and Guidelines for the Work items in the proposal. If a proposed alternate does not meet or exceed the Engineering standards, guidelines, practices or specifications, it is the responsibility of the Contractor to undertake the level of Engineering necessary to justify the deviation. Details of the justification, with supporting documentation, must be provided to the County's Department of Public Works with the submission.

For environmental and other approval requirements, the Contractor shall note that the conditions on any existing permits and approvals are only applicable for the existing contract. When required, the Contractor must resubmit the plans and drawings for review and obtain new or revised permits and approvals.

1.6.3.2 Preliminary Technical Review – Submission Requirements for the Contract Design Change Proposals

The preliminary technical review will be conducted by the County's Director of Public Works to assess the proposal for equivalencies and compliance to the relevant Director of Public Works standards, guidelines and practices. For the submission at this stage, where plans and drawings are required to illustrate the proposal, the Contractor may make use of, and modify as required, the County's plans. For major design changes, the Contractor shall prepare additional sketch plans, as required, that reasonably represent the design alternate or change.



To permit the County and the County's Director of Public Works to assess the proposal, the Contractor shall provide a written submission to the County's Director of Public Works which includes, when applicable, information on the following items:

- 1) Describe the difference between the existing Contract requirements and the proposal.
- 2) Indicate the Contractor's Cost for Contract Changes (CCCC) as identified herein, with supporting calculations and cost estimates.
- 3) Identify potential impacts of the proposal on stakeholders, including, but not limited to, landowners, municipalities, utility companies, and other government agencies, with respect to access, usage, and right-of-way agreements. The Contractor shall outline how he will resolve these issues.
- 4) Indicate the date by which the proposal must be accepted to realize the cost savings identified, and also identify the effect, if any, the proposal has on the Contract Completion Date and, when applicable, the number of Site Occupancy days identified in the contract.
- 5) Identify the key human resources to be employed in preparing the proposal, including details of their past related project experience.
- 6) Where significant change to the Contract is proposed, provide evidence that the Contractor's Bonding Company is aware of, and supports, the proposal submission.

The following are typical requirements for a submission that involves major changes to the County's tendered design. Items from this list will apply as appropriate to minor changes and the nature of the change.

- 1) Plan View showing structure layout, geometrics and alignment, changes, and right-of-way limits.



- 2) Elevation View showing elevations, dimensions and technical data.
- 3) Section View showing dimensioned details.
- 4) Description of materials to be used and finish treatment.
- 5) Geotechnical: indicate any additional testing requirements, changes in materials, slope changes or erosion control requirements.
- 6) Surfacing Design changes: including first course gravel, base courses, asphaltic concrete pavement, and Portland cement concrete pavement. Provide details of changes to surfacing strategy, structural design, aggregate requirements, binder material, geometrics and clearances. Provide details of any effects the proposed changes would have on design life of the surfacing structure.
- 7) Safety: show changes required to any fencing, signage, barriers, pavement markings or other features necessary to maintain project safety.

1.6.3.3 Detailed Design Review – Requirements for Contract Design Change Proposals

If the proposal is accepted, the Contractor shall complete a detailed Engineering design. The design drawings shall be in similar format, and carried out to the same level of detail, as the original design.

The alternate design or change shall be designed and independently checked by Professional Engineers, registered in the Province of Alberta, and shall be complete in all respects, including all drawings and other information necessary to perform the Work. The designer shall stamp the drawings.

Upon receiving the detailed design submission, the County will require a total period of eight (8) working days for reviewing the design drawings and details. The County and its Consultant assume no responsibility for correctness or adequacy of the design as a result of this review. The Contractor's Engineer will assume professional responsibility,



as Director of Public Works of Record, for all Director of Public Works aspects associated with the proposed changes.

The detailed design shall meet appropriate technical standards and guidelines for the Work item in the proposal.

1.6.3.4 Other Requirements and Conditions for Contract Design Change Proposal

During the detailed design process or construction phase, the Contractor shall be responsible for making adjustments or alterations at his own cost, for whatever cause, to the proposal to make it congruent with the specified requirements for a complete job.

No portion of construction can commence until the design or change has been accepted for that portion of the Work.

The County's Director of Public Works will be responsible for obtaining resident engineering services during construction. The Contractor shall make provision for the involvement of his Engineer as necessary. If the proposal involves inspection work which is unfamiliar or beyond the capabilities of the County's Director of Public Works, and a specialist is required, all cost for additional or specialized inspection will be the responsibility of the County.

In the development or preparation of the proposal, the Contractor shall not employ the County's Engineer or Engineering Firm who is providing Director of Public Works services on this contract.

END OF SECTION