



SECTION 1: DESIGN BASIS

The mission of the City of Lethbridge is to serve its residents and visitors, to provide leadership, and to assist the community in building and maintaining a healthy, attractive, and economically viable city.

Integrated Community Sustainability Plan/Municipal Development Plan City of Lethbridge July 5, 2010

We will continue to work together to ensure that Lethbridge is a leader in environmental stewardship, innovation and active leadership. We are recognized as being safe, healthy, vibrant, prosperous, economically viable and a place where all people can fully participate in community life.

1.0 PURPOSE

Design standards are an important part of accomplishing the mission of the City of Lethbridge. Standards are meant to provide a service for designers, giving clear direction, and allowing them to streamline the design, review, and approval process. Design standards also demonstrate leadership by providing specifics with regard to the vision of building and maintaining a healthy, attractive, and economically viable city. Finally, design standards assist the community by providing a common set of requirements based on the unique conditions encountered in Lethbridge.

The design standards are being issued to provide additional guidance to developers and their consultants. These standards will provide a consistent approach to development by clearly defining the expectations of the City of Lethbridge. The intent of the standards is not to simply dictate what would be an acceptable design, but to provide the design basis, which can be used to evaluate novel or innovative designs. Options and design guidelines will also be proposed in areas where strict standards are not required.

One goal of development is to provide a safe and enjoyable place for people to live and work. This must be done in a cost effective manner, while considering environmental impacts, as well as future maintenance and replacement costs. This is, in fact, the vision statement of the design standards that guides the development of the rest of this document.

The objectives of the design standards are:

- 1) To provide clear standards to designers regarding the design of infrastructure in the City of Lethbridge.
- 2) To ensure that infrastructure built for the City of Lethbridge meets community quality of life expectations by being safe, functional, and aesthetically pleasing, while protecting the environment, and having reasonable life cycle costs.



1.1 DESIGN PRINCIPLES

The intent of providing overall design principles is to describe the desired outcomes. With a clear idea of the intent behind a standard, it becomes easier to interpret and apply in atypical situations. This also gives freedom to designers with regard to an innovative design, which is true to the overall intent of the standards, but may not fit within all the specific requirements.

These basic design principles are a reflection of the community's quality of life expectations. Infrastructure is built to serve the community and it is the community that determines the service levels. The citizens should not be expected to adapt their life style to fit within the municipal infrastructure, but rather municipal infrastructure should be adapted to meet community expectations.

1.1.1 SAFETY

Public safety is the highest priority. Designers must consider safety as the highest priority. This includes physical safety of the city's citizens as well as the safety of the city staff required to operate and maintain the facilities. Safety in this context also means the protection of health and property.

1.1.2 FUNCTIONALITY

The design elements must function reliably for their expected design life, providing a level of service on par with prevalent community expectations. The citizens of our community have come to expect a certain level of service and quality of life. Functionality means the infrastructure must consider all members of the community and must appropriately account for those with different abilities. New additions to the system must not negatively impact existing levels of service. The City of Lethbridge defines community expectation through the use of public forums, project committees, and day-to-day interactions with the public.

1.1.3 ACCESSIBILITY

In the public realm, accessibility refers to users of all abilities being provided a functional level of service. A guiding principle would be that users of varying abilities would have a similar level of service as those without constraints. Most commonly, accessible design will be focused on the sidewalk and pathway systems along roadways and within parks. The design of an accessible sidewalk and pathway system will have similar criteria as the roadway system in terms of slopes, continuity, and accommodating a variety and number of users.

1.1.4 AESTHETICS

Extensive consultation with the public resulted in community values such as "small town atmosphere", cleanliness, parks, playgrounds, and wide tree lined streets being articulated in the Municipal Development Plan. Aesthetics applies at the contact points between the physical



infrastructure and the community, specifically to those areas and structures which will be seen and used by the public.

1.1.5 ENVIRONMENTAL PROTECTION

As stewards of the environment, charged with creating a healthy city and protecting the natural endowments within our jurisdiction, the City of Lethbridge promotes any design measures which reduce or mitigate the impacts of development.

Some basic environmental principles can be defined to assist in decisions about infrastructure design and subdivision planning. Best practices in municipal servicing incorporate such principles. The City of Lethbridge promotes design choices and processes based on these principles. Design options should:

- Enhance energy conservation and the efficient use of energy while decreasing emission that contributes to air pollution.
- Acknowledge the regional environmental conditions, semi arid grassland ecosystem, and prevailing west winds.
- Create and enhance opportunities for bio-diversity and maintenance of natural ecological function.
- Consider the effects of environmental hazards on development.

Stricter Environmental Protection standards are on the horizon for many aspects of development. These include such items as storm water management and wind erosion protection. The citizens of our community have also identified environmental protection as an important priority. The City of Lethbridge wants to take a proactive approach to protecting the environment from adverse impacts of development and living.

1.1.6 LIFE CYCLE COSTS

The cost of maintaining and eventually replacing infrastructure ultimately becomes the responsibility of the City. Design of new infrastructure must take this factor into account in order to obtain the best possible balance between initial capital costs, future maintenance costs, ongoing replacement costs, and the other design principles. Providing a well-thought-out design that considers the cost, ease, and frequency of maintenance and then following up with quality construction are the main factors needed to achieve reasonable life cycle costs.

1.2 RELATED RESOURCES – PROVINCIAL AND FEDERAL REQUIREMENTS

The City of Lethbridge Design Standards supplements the existing standards, codes, guidelines, and regulations regarding municipal infrastructure. These design standards provide additional



detail for conditions unique to Lethbridge. Even though the requirements of the City of Lethbridge Design Standards have been met, the Developer is still responsible to comply with other appropriate regulations and obtain the required provincial and federal approvals.

These design standards refer in large extent to the most recent provincial and federal standards and guidelines. All Water Distribution, Sanitary Sewer, and Storm Water Management Systems must be designed so that they meet, as a minimum, the standards and design requirements set out in the latest editions of the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, Environmental Protection and Enhancement Act, and Water Act published by Alberta Environment.

This document takes its direction from the City of Lethbridge Municipal Development Plan and the standards presented here naturally flow out of the community values and planning goals stated there. Developers are also referred to the following City of Lethbridge documents, which provide additional information governing the subdivision development approval, construction, and handover process:

- City of Lethbridge, Service Agreement
- City of Lethbridge, Consulting Engineer's Land Development Field Services Guidelines.
- City of Lethbridge, Construction Specifications

1.3 INPUT FROM DESIGNERS, BUILDERS AND DEVELOPERS

This document is a storehouse where past experience can be built upon, designs, which are proven, can be promoted, and standards, which prove to be inappropriate, can be changed or improved.

As stated by Alberta Environmental Protection - "These standards shall not be considered as rigid requirements where variation will achieve a better technical and/or economical solution. Indeed it is encouraged that consulting engineers continuously seek new and better solutions."

If the users of this design standard manual feel that it is incomplete or that it can be improved upon, they are encouraged to submit their comments to the Urban Construction Manager for inclusion into future editions of the design standards.

The documents are modular in nature and can be easily updated and changed. New editions will be issued every 2 years.