

Global Transportation Hub

Development Standards Manual

May, 2017



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1.0 Introduction

This development standards manual is provided to existing and prospective occupants of the Global Transportation Hub (GTH) to provide information on the expectations, roles and responsibilities for the property purchasers and the GTH. The document provides clarification regarding development standards and procedures, as well as ongoing long-term operation and maintenance of infrastructure elements.

The GTH is the regulatory authority for the lands within the GTH boundaries and will provide approvals for various application permits involved with development and construction. The review and approvals consist of but are not limited to reviewing the impact on land use, road systems, and existing and planned infrastructure. The GTH also approves location, size and use of facilities and premises in accordance with the GTH Zoning Bylaw, *The Planning and Development Act*, National Building Code and other applicable legislation.

For additional reference, the GTH Zoning Bylaw provides a clear and efficient system of land use regulation to implement the GTH Development Plan. Both the GTH Development Plan Bylaw and GTH Zoning Bylaw are available from the GTH website at <http://thegth.com/build/zoning-bylaws>

2.0 Development Applications

The GTH has three primary development applications:

1. Preliminary Site Plan Submission

- This submission is conceptual and typically coincides with an agreement to purchase land to determine the suitability with respect to infrastructure needs (roads, water & sewer, etc.), essential municipal services, land use compatibility and sustainability.
- Areas include water & sewer demands, building location and traffic volumes.
- There is a collaborative process with the GTH to allow both parties ample opportunity to ask questions or seek clarity to further assist with planning and development.

2. Development Permit Application

- Following an approved Preliminary Site Plan Submission and executed Land Sale agreement, the applicant must complete and submit a Development Permit Application to the GTH as per *The Planning and Development Act*, GTH Development Plan and GTH Zoning Bylaw.
- The Development Permit Application is required for new construction, alterations, and demolitions or for proposed changes to an existing land use.
- The application allows the GTH to review proposed building locations and size, general site layout, storm water detention and drainage plans, site access details, water and sewer connections, etc. prior to final design. This process will help to identify any conflicts before detailed design is completed.

3. Building & Occupancy Permit Application

- Following an approved Development Permit Application and prior to beginning construction, alterations or demolitions, the applicant must obtain an approved Building & Occupancy Permit from the GTH.
- The Building & Occupancy Permit Application is a review of the proposed development's compliance with the National Building code, *Uniform Building and Accessibility Standards Act* of the Province of Saskatchewan, as well as the detailed civil engineering components.

The above mentioned permit applications are available on the GTH website at <http://www.thegth.com/build/permit-applications> or by contacting the GTH at operations@thegth.com or at 306-787-4842.

3.0 Development Standards

This section provides information on the infrastructure development standards within the GTH. It relates to both public and private infrastructure. The GTH is being developed with rural cross section roads and ditches. There are no storm sewer pipes in the GTH rights-of-way. The typical road cross section is attached as Standard Drawing STD-R01 (Section 7.0 GTH Standard Drawings).

3.1 GRADING PLANS

Clients will be provided a copy of the overall grading plan and relevant record information for their proposed development. The client will be required to grade their site in general accordance with the GTH grading plan. It is the client's responsibility to complete a survey and establish elevations for their own site design. Clients must demonstrate the proposed grading scheme for review and approval by the GTH as part of the Development Permit Application. All storm water runoff must be managed on-site in accordance with the provisions of Section 3.2.

All parcels will have a low berm constructed by the GTH along the perimeter of the site, fronting and flanking roads, as indicated on Standard Drawing STD-R01. Typically, the berm top ranges between 500 mm and 700 mm above rough grade, complete with 4:1 side slopes and occupies the space designated for the landscaped strip. The berm height is intentionally left high to recognize that there is likely to be a substantial surfacing structure constructed on top of the rough grade.

3.2 STORM WATER MANAGEMENT

The objective of the GTH's storm water management plan is to provide a safe, cost-effective plan with a high level of service for protection against a 1:100 year flood event. This protection will be provided by a combination of the clients' on-site management of detention facilities to control release into roadway ditches and through the conveyance of storm water via GTH roadway ditches and culverts. The storm water is conveyed via lateral storm water channels south to one of the GTH storm water ponds and released to the regional east-west drainage channel.

3.2.1 Detention Capacity

Clients must provide storm water storage or detention capacity equivalent to at least 50 mm of rainfall over their entire site. No reductions for landscaped areas or permeable surfaces will be considered. The required volume can be achieved via a combination of parking area depressions, rooftop storage and/or local detention facilities. Detention ponds are required unless alternative functional methods have been approved by the GTH.

3.2.2 Release Rate

The maximum allowable release rate for a piped outlet from a client site into the adjacent roadway ditch or approved GTH drainage infrastructure shall be 7.0 l/sec/ha. This release rate must work together with the aforementioned detention capacity standard.

3.2.3 Private Drainage Systems

Each client parcel shall have its own storm outlet to the GTH roadway ditch or approved GTH storm channel. Private site storm outlets will not be permitted directly to any of the GTH storm water ponds. Private storm outlet facilities may be constructed of various pipe materials including CSP, high density polyethylene or concrete but all outlets must have flared concrete ends at the road back slope, complete with adequate erosion control. All private drainage systems must incorporate an isolation valve and hydrocarbon/grit separator at each outlet prior to release into the road ditch or storm channel. The hydrocarbon/grit separator must be capable of providing at least 80% removal of total suspended solids in accordance with the manufacturer's specifications. Inspection forms for isolation valve maintenance and hydrocarbon/grit separator cleaning must be provided to the GTH annually.

The GTH has developed a comprehensive storm water management system for the entire development. The storm water plan is designed to maximize the depth available for storm sewers in private sites, however, there may be instances in which the desired 1.8 m frost cover is not readily available and insulation may be considered. Smaller parcels may need to consider slotted orifice plates or multiple orifice configurations.

Roof drains, weeping tile and storm water sumps shall not be connected to the sanitary sewer system.

3.2.4 Isolation Valve

Each storm outlet from a private site must be equipped with an indicator post type isolation valve, similar to Mueller Indicator Post or equivalent, at the property line prior to release into the road ditch. The isolation valve can assist in serving as a protective measure in the event of a spill of hazardous material into the private storm collection system. The valve must be accessible to GTH or other emergency personnel and be located outside of fenced compounds. Clients must submit shop drawings and the manufacturer's specifications for the isolation valve to the GTH for review and approval as part of their Building and Occupancy permit application.

3.2.5 Major System Outlet

All sites must be graded such that, in the event of a major storm that exceeds the capacity of the internal pipe network and detention facilities, the excess water will flow over land into the adjacent road ditch or drainage channel. Grading plans must identify these locations and incorporate appropriate erosion protection to prevent erosion of road ditch or storm channel side slopes. The major system outlet must be designed such that the detention volume described in Section 3.2.1 is not reduced.

3.3 WATER AND SANITARY SERVICES

The GTH will require a 3-way agreement that will include the GTH, the client and the client's contractor. This agreement will allow an approved contractor to work in the public right-of-way and connect to GTH infrastructure, while incorporating safety, traffic accommodation, bonding, insurance and warranty provisions. Contractors must be on the City of Regina's Approved Underground Contractor list in order to carry out work in the right-of-way.

3.3.1 Connection Policies

Every legal parcel must have its own set of service connections that are tied into water distribution mains and collector sewers. Direct connections to water trunk mains are not permitted without specific approval of the GTH. Connections to sanitary force mains are not permitted under any circumstances. Service connections crossing GTH roadways must be installed by trenchless method.

Water and sewer terms are defined as follows:

- Water trunk main: the 600 mm diameter line that enters the GTH along the south side of Dewdney Avenue and extends to the south along the east side of Fleming Road. Service connections north of Rotary Avenue are not permitted. Connections south of Rotary Avenue are not permitted unless authorized by the GTH.
- Water distribution main: water lines that are 300 mm diameter or smaller, located in the GTH right-of-way or protected by easement. Service connections are generally permitted.
- Water loop main: the 300 mm diameter water line that extends westward from Fleming Road along the north side of the main east-west regional drainage channel and connects to the south end of Sharp Bay. With the exception of the existing connection immediately west of Fleming Road, service connections to this line are not permitted unless authorized by the GTH.
- Collector sewer: a sanitary sewer with a diameter of at least 200 mm, located in a GTH right-of-way or protected by an easement, that conveys flows from service connections to a trunk sewer. Service connections are permitted to a manhole. A drop manhole may be required depending on depth.
- Trunk sewer: the 750 mm diameter sewer leading into the sewage pumping station. Service connections to this line are permitted only via a drop manhole.
- Sanitary force main: a sanitary sewer line that operates under pressure, and in this case, extends along the east side of Fleming Road from the sewage pumping station to Dewdney Avenue, then easterly along the south side of Dewdney toward the City of Regina's wastewater treatment facilities. No service connections are permitted.

3.3.2 Size and Material

Typical water service connections will be C900 PVC DR18 pipe, 250 mm diameter, complete with a gate valve at the property line.

Sanitary sewer pipe connections will be at least 200 mm diameter PVC SDR35.

3.3.3 Alignment

Unless otherwise required for specific reasons, the sanitary service will be located on the left of the water when facing the property from the road. All sanitary services shall be directed into manholes in the roadway. Connections to deep manholes may require a drop structure depending on the depth of the service connection.

Sanitary mains in the public right-of-way are typically located in the north shoulder and west shoulder of the roadway. Water mains are typically located in the south shoulder and east shoulder of the roadway.

3.3.4 Depths of Services

Water and sewer service connections must provide at least 2.7 m cover from top of pipe for frost protection or be designed to incorporate insulation to provide at least the equivalent amount of protection. This requirement is particularly important through the roadway ditches. Standard Drawing STD-R02 shows the typical arrangement for a water service.

3.3.5 Domestic Water Service and Fire Water Lines

The single 250 mm diameter water service connection should, in most instances, provide ample capacity for domestic water usage and fire protection service. If a client desires a smaller domestic water service, the line can be reduced once it has crossed onto private property or a smaller diameter domestic water service can be taken off the 250 mm service line on private property. The GTH will not provide separate domestic and fire service lines from the roadway.

For parcels greater than 2 hectares, or those parcels that abut two or more roadways, it may be appropriate to provide service connections in two or more directions to provide a water loop through the parcel. The GTH will review this type of service capacity on a case-by-case basis. Additional services shall be constructed at the client's cost.

3.3.6 Service Connections to Properties Containing Underground Storage Tanks

For servicing property containing or which has contained underground storage tanks for the storage of petroleum or any other material classified as hazardous, use ductile iron pipe or other material as may be approved for services. Install an impermeable barrier of Bentonite or other approved material in the service trench at the property line in accordance with the City of Regina Standard Construction Specifications.

3.3.7 Water Meter Installation and Back Flow Prevention

Metering is required on each water service connected to the distribution system. Water meters are sized, supplied and installed by the City of Regina and remain City of Regina property. Refer to City of Regina Standard Construction Drawings describing installation of meter(s) and back flow preventer where stipulated.

Applicants for every new water service must complete a meter sizing form so that the appropriate meter size can be determined by the City of Regina. Meter sizing forms can be obtained from the GTH. All users will require back flow prevention. Clients are encouraged to contact the GTH to assist with the application to the City of Regina.

3.3.8 Fire Hydrants

GTH fire hydrants at the roadways are relatively widely spaced due to the large land parcels and unknown occupancies. Clients must design private fire hydrant installations in accordance with National Fire Protection Association standards or other suitable industry requirements and to the approval of the City of Regina Fire Department. Clients are responsible for maintenance on their own hydrants and water shutoff valves. Maintenance is to be completed annually and documentation submitted to the GTH.

3.3.9 Sanitary Back-up Valves

Clients must provide back-up valves on sanitary connections in accordance with City of Regina Standard Construction Specifications.

3.4 DRIVEWAY AND ROAD ACCESS STANDARDS

This section is intended to provide clients with direction regarding access to GTH rights-of-way from private sites.

3.4.1 Access Limitations

No direct access from private sites to Dewdney Avenue will be permitted. All access to Dewdney must occur via GTH roadways.

Properties fronting Fleming Road south of Rotary Avenue may be permitted direct driveway access to Fleming in accordance with the standards that follow in this section. No direct access will be permitted to Fleming Road north of Rotary Avenue.

Properties fronting Rotary Avenue west of Axle Street may be permitted direct driveway access to Rotary Avenue in accordance with the standards that follow in this section. No direct access will be permitted to Rotary Avenue east of Axle Street.

3.4.2 Driveway Spacing

Driveways must be spaced in order to provide ample room for commercial vehicles to carry out turning movements without impeding traffic flow or blocking other driveways or roadway

intersections. Therefore, the minimum separation distance from the centre line of a driveway to the centre line of a roadway intersection is 100 m. Special accommodations shall be made in the commercial services zone.

When driveways are already in existence across the roadway or adjacent to the client's site, the new driveway must either align directly with that across the roadway or provide a minimum spacing of 40 m centre-to-centre. The minimum spacing between driveways is shown on Standard Drawing STD-R03 and is summarized as follows:

1. Minimum spacing between a roadway and any site access shall be 100 m.
2. Minimum spacing between employee/light vehicle accesses shall be 40 m.
3. Minimum spacing between truck accesses shall be 80 m.
4. Minimum spacing between an employee access and a truck access shall be 60 m.
5. Minimum spacing between an employee access and a property line shall be 20 m.
6. Minimum spacing between a truck access and a property line shall be 40 m.
7. All references to spacing or distance refer to roadway or access centerline.

3.4.3 Driveway Geometry and Structure

Clients must design and construct their driveways for large truck traffic in accordance with attached Standard Drawing STD-R04. Side slopes must be no steeper than 4:1. All driveways must accommodate ditch drainage by incorporating culverts that have been sized and approved by the GTH. Culverts must be reinforced concrete, designed to accommodate the appropriate loading, with concrete flared ends to suit side slopes. All driveways must be paved with asphaltic concrete surfacing or Portland cement concrete surfacing. The pavement structure for large truck traffic shall be equivalent or greater than the roadway to which it connects.

Clients must design and construct their driveways for employee parking and light vehicle usage in accordance with attached Standard Drawing STD-R05. Side slopes must be no steeper than 4:1. All driveways must accommodate ditch drainage by incorporating culverts that have been sized and approved by the GTH. Culverts must be reinforced concrete, designed to accommodate the appropriate loading, with concrete flared ends to suit side slopes. All driveways must be paved with asphaltic concrete or Portland cement concrete surfacing. The pavement structure for a light vehicle driveway shall be equivalent to or greater than the roadway to which it connects.

3.4.4 Clear Distance

All driveways must provide a clear "throat" distance into a site in order to avoid back-up of trailers onto the GTH roadway. Sites should be designed such that any long combination vehicles do not encroach on the shoulder of the roadway. The driveway location and design must also consider separation from obstacles such as roadway lights, hydrants and street

signage. The client will be required to pay the cost of all driveway construction and relocations of any services above or below ground that may be existing. The placement of relocation will be determined by the GTH.

3.5 LANDSCAPE AND SITE DESIGN STANDARDS

Clients must submit their landscape plans for approval as described in the GTH Zoning Bylaw.

3.5.1 Landscaping

A landscape plan is to be submitted with the Building and Occupancy Permit Application for review and approval. Clients will be required to landscape their sites in accordance with the requirements of the GTH Zoning Bylaw. A 4 m landscape strip is to be provided along the property abutting all internal GTH roadways. Those properties backing Dewdney Avenue must provide a 9 m wide landscape strip. These strips remain the property of the client and shall be maintained by the individual property owner.

3.5.2 Site Surfacing

The front portion of sites, to at least the front face of buildings, must be hard surfaced with asphaltic concrete, Portland cement concrete, or other material acceptable to the GTH. The remainder of sites may be surfaced with more permeable materials such as granular base or reclaimed asphalt. By-products of steel production, commonly referred to as slag, are not permitted.

Areas of undeveloped land greater than 1000m² in size not intended for any form of land use, development parking, landscaping or storm water management shall be planted with grass and forbes and maintained in accordance with the GTH Zoning Bylaw.

3.5.3 Perimeter Fencing

All fencing must be located on private property on the inside edge of the designated 4 m or 9 m wide landscape strip and be maintained by the property owner. Fencing should satisfy the needs of the property owner while meeting the aesthetic objectives of the GTH. There may be instances in which fences must divert around utility installations and the property owners must provide suitable access to the utility corporations for maintenance and operational purposes.

Fencing plans must be approved by the GTH. Acceptable types of fencing include chain link (both vinyl and welded mesh hot galvanized and powder-coated), concrete and masonry. Wood fencing is not permitted for perimeter fencing for long-term maintenance reasons. Barb wire fencing is not permitted at a height below 1.8 m from ground level, but may be included as an additional security measure above 1.8 m.

3.5.4 Lighting

The GTH will provide roadway lighting in the GTH rights-of-way. Clients will be responsible for lighting on private property.

Lighting should be designed to provide visibility and enhance site safety and security. Luminaires should be sturdy and resistant to vandalism, tampering and adverse weather conditions. The lighting design should support surveillance by CCTV and should not be restricted by trees, signage or other features.

Energy efficient lighting technology such as compact fluorescent or LED is encouraged. Light spillage across property lines should be minimized to avoid light pollution. Dark sky lighting that concentrates the light downward is encouraged.

3.5.5 Signage

All free standing, projecting and wall signs, both regulatory and way finding, must be installed on private property and should clearly direct visitors to the appropriate locations within the site. Please see the GTH Zoning Bylaw for more information. Client signage within the GTH road right-of-way is not permitted.

3.6 EASEMENTS

Clients may be required to grant easements to the utility corporations in order to effectively service their properties and others. Most utility mains will be located in the GTH roadway right-of-way, typically within the ditch and back slope of the ditch. There will be situations in which the utility may require a pad or pedestal or other facility to be located on flat terrain on the private property. Specific details will be determined with the various utilities.

3.7 WASTE MANAGEMENT

3.7.1 Waste Water

All waste water generated within the GTH footprint is collected via sanitary sewer and pumped to the City of Regina waste water treatment facilities. All waste water must satisfy the City of Regina Sewage Bylaw requirements. Sanitary sewer utility charges will be payable by the client to the City of Regina on an ongoing basis.

3.7.2 Solid Waste Management

Waste management at the GTH is governed by the current, *The Environmental Management and Protection Act*, of the Province of Saskatchewan and the affiliated *Municipal Refuse Management Regulations*. The GTH does not operate a solid waste management facility nor does the GTH provide solid waste pickup. Clients must arrange for private waste management collection. Site designs should accommodate appropriate locations and access considerations for solid waste collection containers. These details must be demonstrated on the site plans submitted for the Development Permit Application.

3.7.3 Construction Waste Management

Clients shall have a waste management plan during construction included in their Development Permit Application. These considerations must include proper sanitary facilities for workers during construction and the provision of appropriate collection containers for construction debris.

Any cost incurred by the GTH for clean-up of waste material from construction sites will be charged back to the land owner.

3.7.4 Dirt and Debris on Roadways

Clients shall have an erosion control plan during construction included in their Development Permit Application. Clients and their contractors shall not track mud, dirt, and other deleterious substances onto paved roads within the GTH during construction or ongoing operations. Clients must clean deposited material from the roadways on a daily basis or the GTH may elect to undertake the cleaning and charge back to the client.

3.8 SNOW REMOVAL MANAGEMENT

The GTH is responsible for winter road maintenance and snow removal on the GTH roadways. Clients will be responsible for snow removal management of their own sites including driveway approaches from the edge of pavement on the roadway into the property. Clients shall not move snow from private driveways onto GTH roadways, ditches, channels or ponds. Site plan drawings submitted for the Development Permit Application must demonstrate snow storage locations.

The GTH does not operate a snow dump site. Clients must accommodate snow removal and storage on their own properties or arrange for hauling off-site to an approved storage facility. Undeveloped properties that do not tie into the GTH stormwater management facility must not be used for snow storage. Snow melt runoff must be contained to the individual site and must not extend onto property owned by others.

3.9 HAZARDOUS MATERIAL STORAGE AND HANDLING

3.9.1 Underground and Above-Ground Storage Tanks

Storage tanks must be approved by the GTH and the Saskatchewan Ministry of Environment as regulated under the *Hazardous Substances and Waste Dangerous Goods Regulations*. Installation, storage requirements and operation of fuel dispensing shall comply with fire, environmental and safety regulations under the direction of Emergency Management and Fire Safety in the province of Saskatchewan. The municipality shall appoint a local assistant to the fire commissioner to review the plans to ensure compliance with fire safety legislation and regulations as per *The Fire Prevention Act*.

3.10 CONSTRUCTION ACTIVITIES

3.10.1 Pre-Construction Meeting

Clients shall attend a pre-construction meeting with the GTH prior to work commencing on their site. This meeting will establish lines of communication and clarify the expectations of all parties. Typical topics for discussion will include, but not be limited to, access, safety and security, contractor lay-down areas, traffic accommodation, utilities, schedule and site cleanliness.

3.10.2 Temporary Arrangements for Construction

Clients must plan and allow time for approvals of temporary arrangements to accommodate construction, including, but not necessarily limited to:

- Written request for temporary access and drainage measures (Excavation on GTH Property Permit and Temporary Construction Permit). Permits can be found at <http://thegth.com/build/permit-applications> under the Additional Application Forms.
- Temporary fencing for safety and security purposes.
- Temporary service for electrical, gas, telephone, sewer or water, including backflow protection. Clients must contact the appropriate utility as noted in Section 3.11.
- Temporary road closures or restrictions.
- Permit for temporary use of hydrant.
- Permits can be found at <http://thegth.com/build/permit-applications>

Parking is to be provided on the client's site. The GTH roadway is not to be used for contractor employee parking, loading/unloading construction equipment or for parking/storing construction equipment.

3.10.3 Traffic Accommodation During Construction

Clients must submit all traffic accommodation plans for approval by the GTH prior to construction. Clients must provide appropriate traffic accommodation during construction and particularly during work within the roadway right-of-way. GTH roadways must remain open for site operation at all times or suitable detour arrangements must be approved by the GTH in advance of construction. Clients must provide the GTH at least 48 hours' notice (2 business days) in advance of construction in order to allow for proper notification of emergency services and other stakeholders.

3.11 SHALLOW UTILITIES

Clients must contact the appropriate utility corporation to arrange for services to the site (SaskEnergy, SaskPower, and SaskTel). The GTH will work with clients to contact appropriate utility providers.

The typical right-of-way assignment for utilities is shown on Standard Drawing STD-R01, although clients must verify the locations for each specific site. Shallow utilities will typically be located in the north ditch of east-west roadways and in the west ditch of north-south roadways.

4.0 PRIVATE LAND OCCUPANTS

The ownership, operation, and maintenance responsibilities for the client include the following:

- Driveway accesses from GTH roadways into the private sites including the approach embankment and its affiliated erosion control, curbs and pavement from the shoulder of the roadway to the property line.
- Litter control, weed control and maintenance of developed and undeveloped land.
- Water and sewer service lines and hydrants within the client's site.
- Storm water management facilities within the client's site including the storm water outlet to the roadway ditch or drainage channel and affiliated erosion control.
- Site lighting, signage and entrance lighting.
- Perimeter fencing.
- Landscaped berm, maintenance of trees, shrubs and vegetation.

5.0 Plans of Proposed Subdivision

If a subdivision is required, following a property sale (or option agreement) from the GTH to a purchaser, the GTH will coordinate the preparation of a Plan of Proposed Subdivision and application for subdivision approval. Following issuance of the Certificate of Approval, the GTH will arrange for preparation of the Plan of Survey and registration at Information Services Corporation (ISC). The cost of the application procedure will be borne by the GTH. Clients will be expected to provide site plans and other information that may be requested.

In the event of a re-sale of a parcel of land, or portions thereof, between private parties, the GTH will not pay the cost of surveys, application fees or land registration fees.

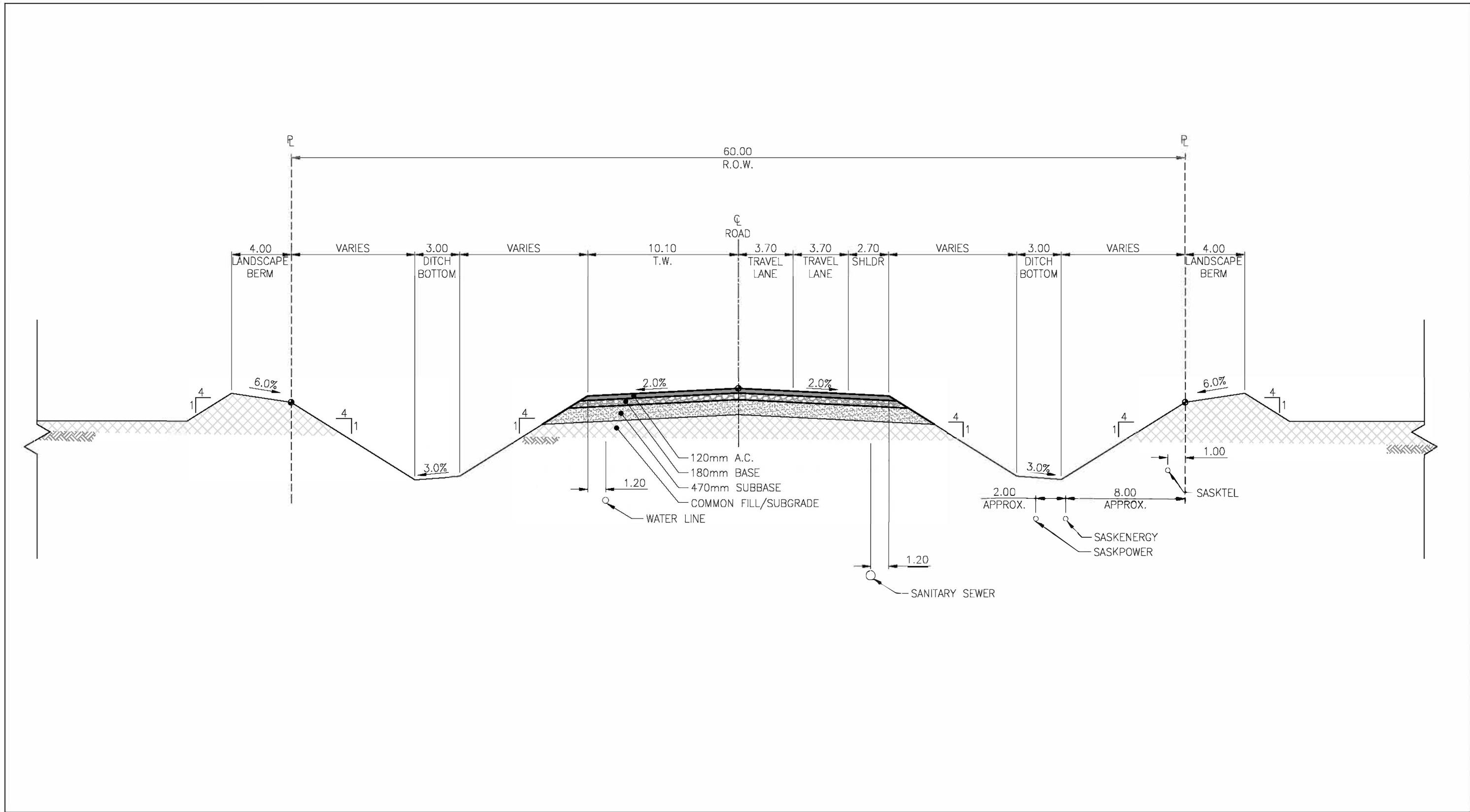
The GTH is the Approving Authority for subdivision approvals. Requests for subdivision approval must include detailed site and servicing plans for review and acceptance. The GTH will circulate the subdivision application to interested stakeholders for comments, review the comments, and work with the client to address any concerns. In accordance with *The Planning and Development Act*, the client may be required to enter into a Servicing Agreement with the GTH prior to formal subdivision approval being granted. Applicants should allocate 90 days in their planning schedule for the subdivision process.

6.0 Disclaimer

The GTH reserves the right to review and update these standards at any time. It is the responsibility of the clients to ensure that they have the most current version. If clients are unsure of any item or of the status of the standards they should contact the GTH directly.

Any reference to an Act, Regulation, Code, Guideline, Standard or Bylaw within this Development Standards Manual is referencing the current such Act, Regulation, Code, Guideline, Standard or Bylaw whether it be GTH, Municipal, Provincial or Federal.

7.0 GTH Standard Drawings

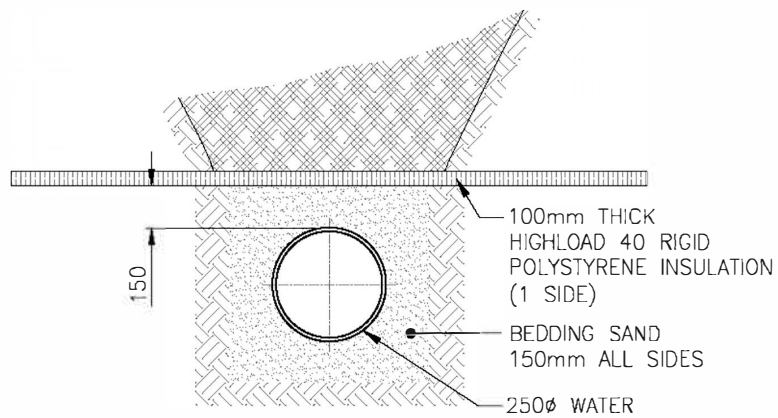
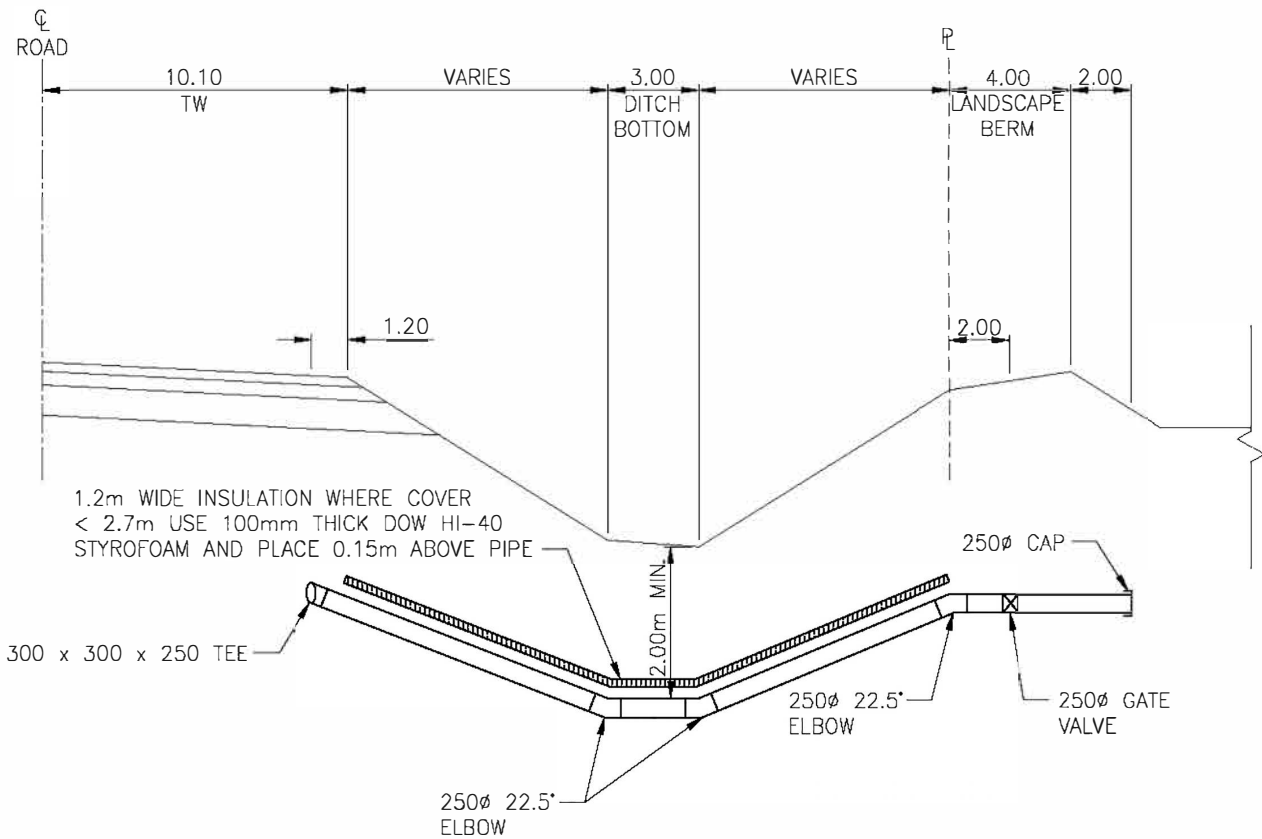


Project
STANDARD DETAILS

Figure No.
STD-R01

Title
ROAD SECTION





TRENCH INSULATION DETAIL

N.T.S.

Project

STANDARD DETAILS

Figure No.

STD-R02

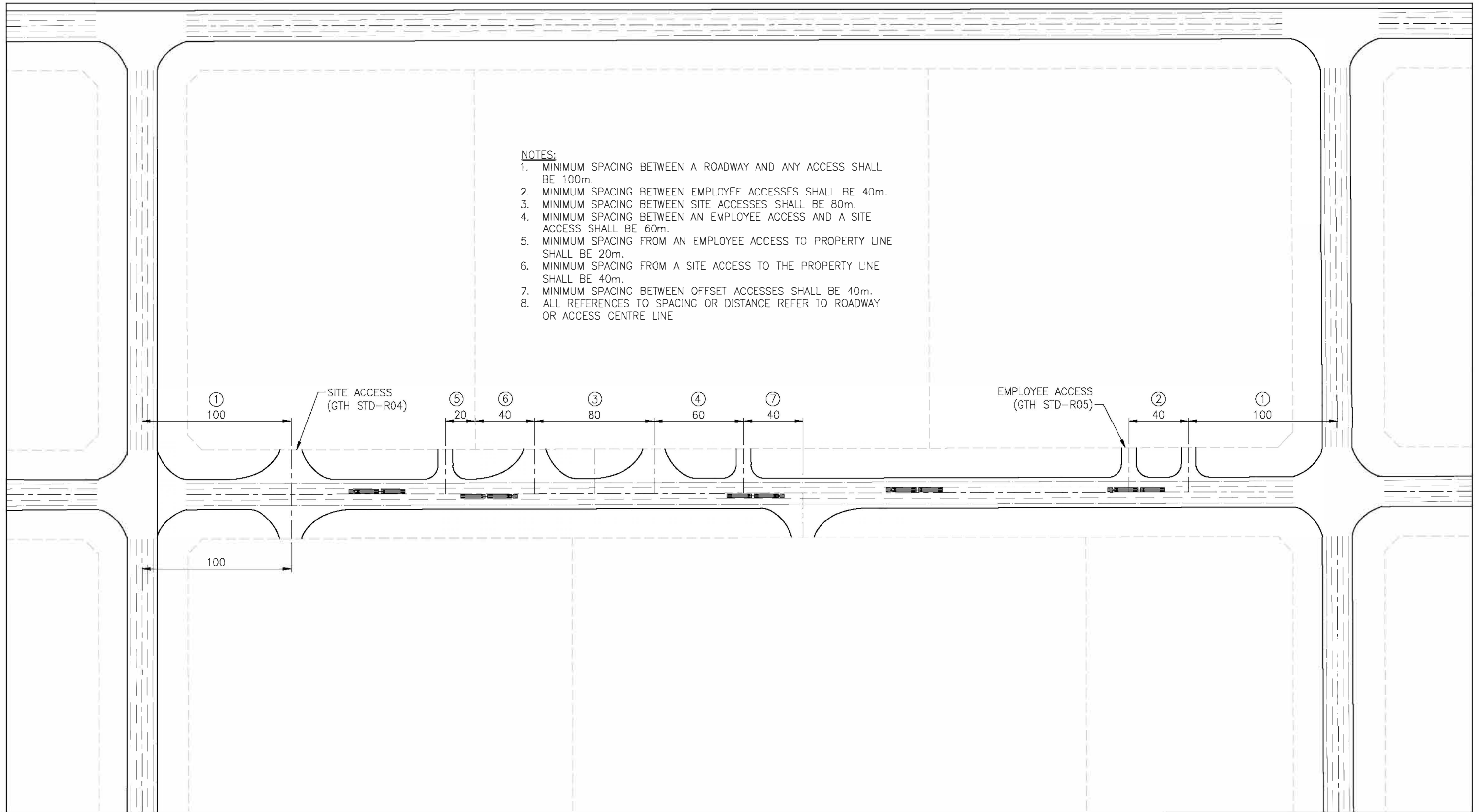
Title

WATER SERVICE CONNECTION



NOTES:

1. MINIMUM SPACING BETWEEN A ROADWAY AND ANY ACCESS SHALL BE 100m.
2. MINIMUM SPACING BETWEEN EMPLOYEE ACCESSES SHALL BE 40m.
3. MINIMUM SPACING BETWEEN SITE ACCESSES SHALL BE 80m.
4. MINIMUM SPACING BETWEEN AN EMPLOYEE ACCESS AND A SITE ACCESS SHALL BE 60m.
5. MINIMUM SPACING FROM AN EMPLOYEE ACCESS TO PROPERTY LINE SHALL BE 20m.
6. MINIMUM SPACING FROM A SITE ACCESS TO THE PROPERTY LINE SHALL BE 40m.
7. MINIMUM SPACING BETWEEN OFFSET ACCESSES SHALL BE 40m.
8. ALL REFERENCES TO SPACING OR DISTANCE REFER TO ROADWAY OR ACCESS CENTRE LINE

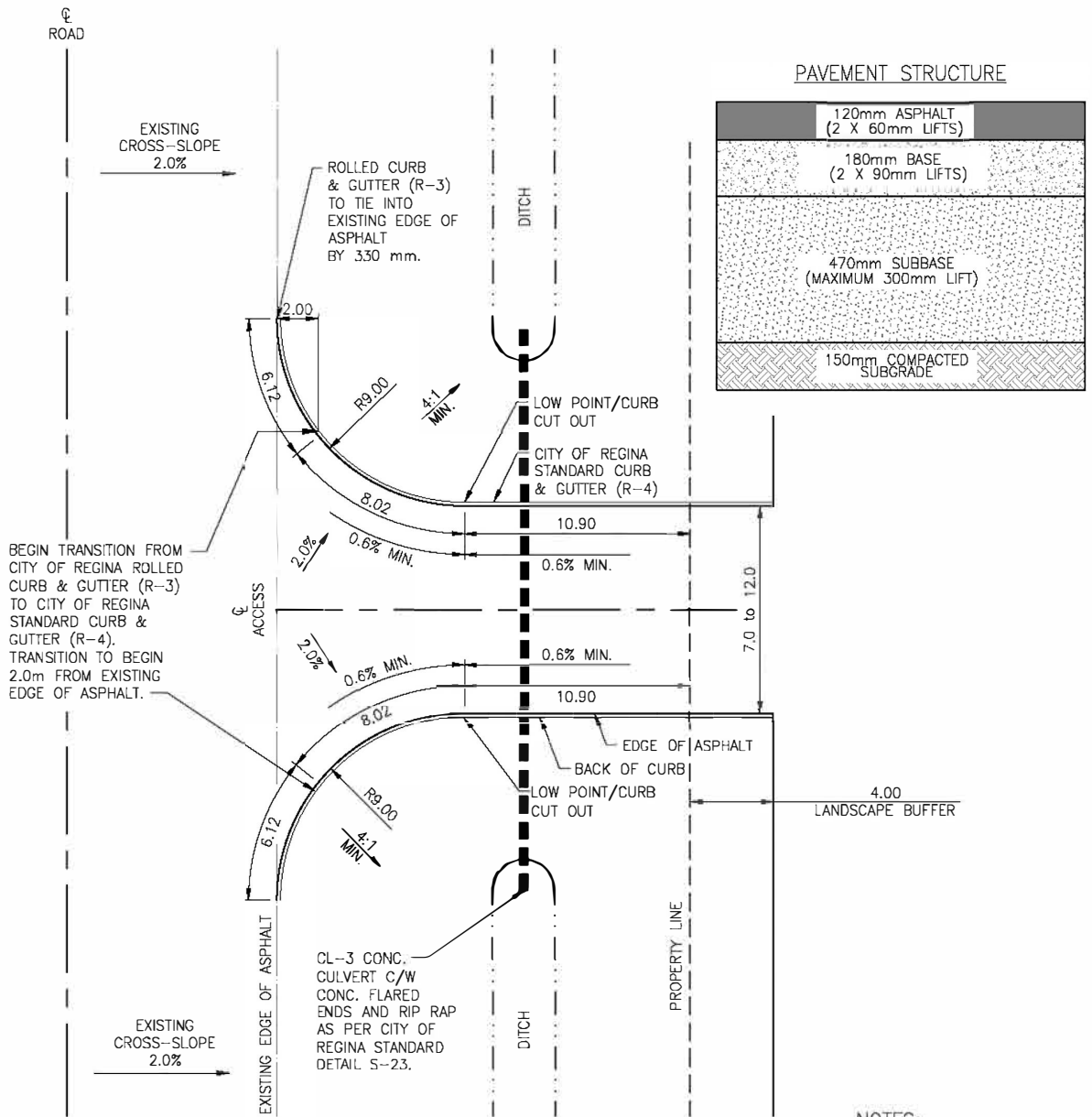


--- PROPERTY LINE
--- TRUCK - WB36

Project
STANDARD DETAILS

Figure No.
STD-R03

Title
ACCESS SPACING



BEGIN TRANSITION FROM CITY OF REGINA ROLLED CURB & GUTTER (R-3) TO CITY OF REGINA STANDARD CURB & GUTTER (R-4). TRANSITION TO BEGIN 2.0m FROM EXISTING EDGE OF ASPHALT.

PAVEMENT STRUCTURE

120mm ASPHALT (2 X 60mm LIFTS)
180mm BASE (2 X 90mm LIFTS)
470mm SUBBASE (MAXIMUM 300mm LIFT)
150mm COMPACTED SUBGRADE

NOTES:

1. CURB TO END AT THE EDGE OF ASPHALT OF THE ADJOINING ROAD.
2. TOP OF CURB ELEVATION TO MATCH TOP OF FINISHED GRADE.
3. MINIMUM GUTTER GRADE TO BE 0.6%.
4. MINIMUM ACCESS APPROACH CROSS SLOPE TO BE 2.0%.
5. CONCRETE CULVERT TO BE LAID TO MATCH EXISTING DITCH GRADE. CULVERT SIZE WILL BE PROVIDED BY THE GLOBAL TRANSPORTATION HUB AUTHORITY.
6. PLACE TOPSOIL & SEED FROM BACK OF CURB TO DITCH BOTTOM.
7. PROVIDE SWALE WITH EROSION PROTECTION FROM CURB CUT OUT TO DITCH BOTTOM.

Project
STANDARD DETAILS

Figure No.
STD-R05

Title
EMPLOYEE ACCESS

