Urban Design Guidelines for Commercial Uses

Gas Station

Ottawa

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TABLE OF CONTENTS

Glossary: See the urban design guideline page on Ottawa.ca for definition of terminologies (search "urban design guidelines glossary").

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INTRODUCTION

This section outlines:

- The objectives of this guideline document
- The applicable Official Plan and By-law directions
- Key issues related to different context
- Responsibilities related to sustainable design
- When and how the guidelines are to be used

INTRODUCTION

Definitions

A gas station is a place that retails automotive fuel and may include electrical vehicle ready parking space and accessory retail uses. A gas station consists of a gas bar with gasoline outlets and typically other associated facilities such as car washes, automotive services, convenience stores and food services.

Use and Application

The purpose of these guidelines is to provide urban design guidance at the planning application stage in order to assess, promote and achieve appropriate development of gas stations. Specific site context and conditions will be reviewed in conjunction with these guidelines. These guidelines are to be applied throughout the City for development of all gas stations. When gas stations are located in areas identified as Corridors, the guidelines for development along Corridors also apply. When gas stations are located together with drive-through facilities, the guidelines for drive-through facilities also apply. Where a Community Design Plan or relevant planning study exists, these guidelines will augment those documents. They will also be used to help inform the preparation of new Community Design Plans.

Objectives

- To promote compatible gas station development that improves its existing or planned context
- To protect and enhance the character and quality of the districts and neighbourhoods where gas stations are located
- To enhance the public streets and contribute to a high quality public space
- To create safe and controlled traffic circulation that balances the needs of vehicles, cyclists and pedestrians.
- To minimize impacts on adjacent land uses that could be caused by on-site activities.

Official Plan and By-Law Direction

The Official Plan includes as one of its Cross Cutting Issues, the creation of "Healthy and Inclusive Communities". Within the urban area, it encourages development of healthy walkable, 15-minute neighborhoods that feature a range of housing options, supporting services and amenities. The Official Plan does not support new gas station in the Protected Major Transit Station Area (PMTSA). The Zoning By-law regulates where a gas station may be permitted. In general, a gas station is permitted in some commercial areas and all industrial areas. It is not a permitted use in residential areas and areas intended for high-density transited-oriented development.

At present, gas stations are observed in all Transects. In Downtown Core and Inner Urban Transect, the Official Plan

objective is to maintain and enhance an urban pattern of built form, and site design and mix of uses, and to prioritize walking, cycling, and transit. In the Outer Urban and Suburban Transects, the Official Plan acknowledge the existing automobile-dependent development pattern and encourages taking opportunities to improve the convenience and level of service for walking, cycling and public transit modes so that overtime, these areas can be evolved into 15- minute neigbourhoods. Within the Greenbelt and Rural Transects, the Official Plan recognizes a rural pattern of built form and site design. Development in the Greenbelt and Rural Transects should maintain the rural character, image and identity. The Official Plan requires parking and paved area of a development to be located away from road frontage.

Schedule C16 of the Official Plan identifies the protected rights-of-way sufficient to provide for streetscape elements and to meet the needs of pedestrians and cyclists. Section 4.6 in the Official Plan outlines a few key urban design objectives of the Official Plan that may affect the design of a gas station. These include: promote design excellence in the Design Priority Areas; ensure capital investments enhance the City's streets, sidewalks and other public spaces supporting a healthy lifestyle; ensure effective site planning that supports the objectives of Corridors, Hubs, Neighbourhoods and the character of villages and rural landscapes.

The Zoning By-law provides detailed requirement for gas station design where permitted.

Context and Issues

Numerous trends in the industry are affecting the design of gas station sites. Gas stations often operate 24 hours per day, tend to locate on larger sites, and contain an increased number of gas pumps. Auto services associated with gas stations are declining, while other services such as electrical vehicle ready parking spaces, convenience stores, car washes, banking machines, retail units and drive-through services are increasing, which results in consumers leaving their vehicles and circulating around the site on foot. Additionally, major petroleum companies have adopted a set of standard building and canopy types to assert a cohesive image and presence in the marketplace. As a result of these trends, the design of gas station sites presents several challenges, including incorporating prototypical building designs and corporate image elements into the immediate context; addressing the complexity of large sites and the requirements of the many different uses; designing a circulation pattern to meet the needs of vehicles, pedestrians and cyclists; supporting a pedestrian-friendly environment along public streets; and using landscape areas effectively to improve the overall environmental and visual quality of the area.

In the coming years, it is expected that electric vehicle uptake will increase, and car fuels may shift to include other alternative and cleaner options. Electric vehicle fueling infrastructure will change with advancements in batteries and charging capabilities and these changes may influence gas station design.

INTRODUCTION

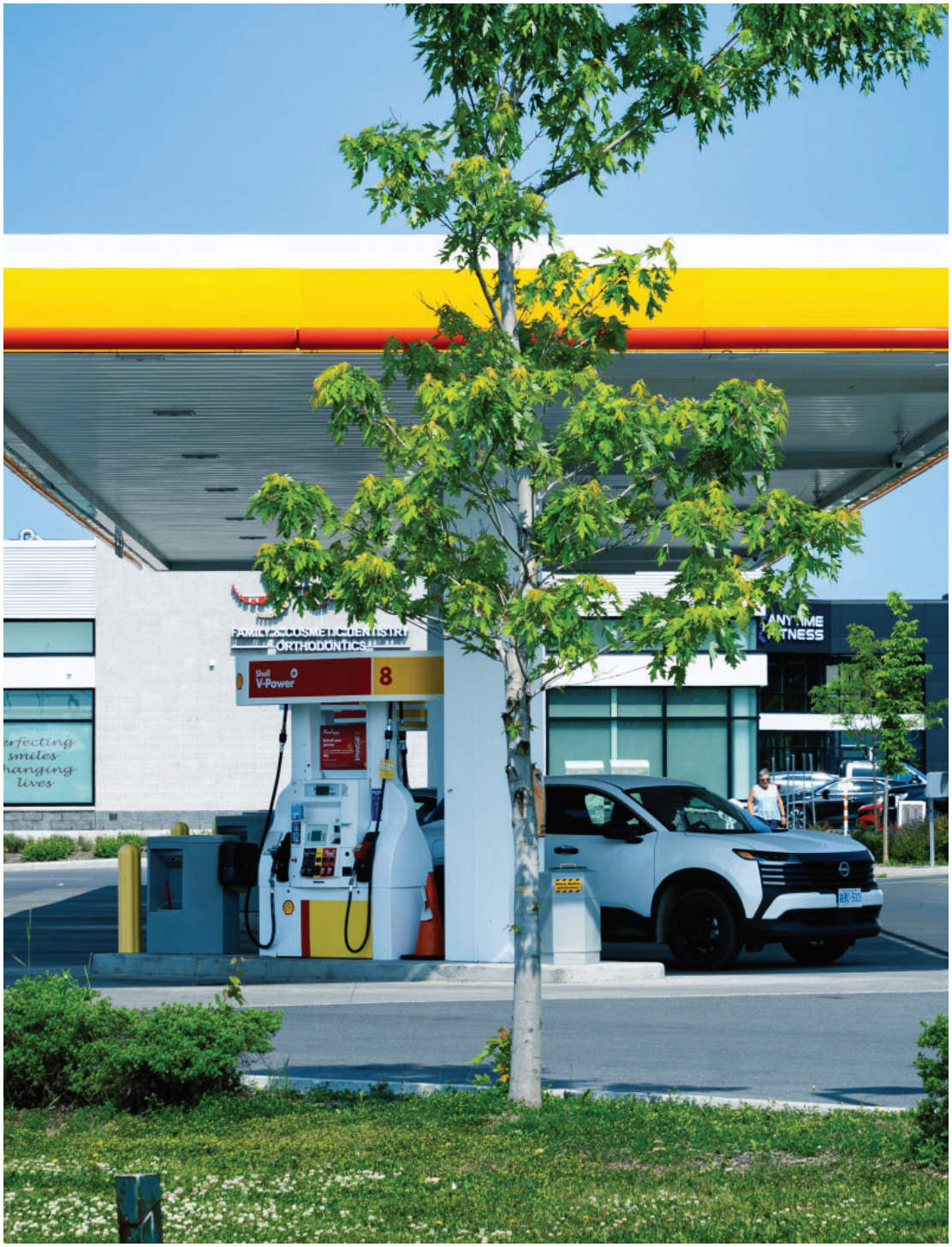
Sustainable Design

One of the objectives of the Official Plan is to build a city that is energy conscious, mitigates emissions and is more resilient to the impacts of climate change. All development should consider opportunities to reduce resource consumption during construction and provide buildings that conserve energy, reduce peak demand and provide resilience to power disruptions throughout their lifecycle. All buildings should consider using efficient mechanical and electrical systems as well as incorporating renewable energy generation features. The design of buildings should prevent thermal bridging and providing appropriate wall thickness and window to wall ratios to insulate the building.

The City of Ottawa encourages proponents of any development to explore and apply best sustainable practices for the full life cycle of the site and buildings. The City encourages the use of sustainable design standards, such as the Canadian Green Building Council (CaGBC) Zero Carbon Building Standards, rating system and the International WELL Building Institute WELL Building Standard in the planning, design, construction and operation stages of a development.

Building resiliency to flooding and future climate risks is an objective of the Official Plan. Proponents are encouraged to design stormwater infrastructure to be durable, adaptive and resilient to future climate events. Low-impact development or nature-based solutions should be considered where possible.

The design of new gas stations carries the responsibility to incorporate sustainability objectives by promoting compact and pedestrian-friendly environments, energy efficient buildings, and climate resilient site designs.



1.0 SITE ORGANIZATION

A gas station may be permitted in some land use designations of various Transects. The site organization for a gas station should support the Official Plan objectives and reflect on conditions of different Transects. The approach to site design should balance the need for vehicular circulation with pedestrian connectivity, and site efficiency with public realm quality. The following guidelines provide design guidance in:

- Building Placement
- Pedestrians and Cyclists
- Vehicles and Parking
- Services and Utilities

1.1 Building Placement

1 Respond to the positive elements of the surrounding context through such means as building height, setbacks, building orientation and architectural styles. (Figure 1)

2 Locate building structures (such as car washes, convenience stores, and canopies) close to the street to help define the street edge. (Figures 2)

3 Provide transparent windows and doors for retail buildings to ensure visibility between the store, the pump islands and surrounding streets.

Figure 1: The architectural treatment of this gas station in rural village reflects site context.

Figure 2: A convenience store close to the street contributes to a well-defined street edge and provides direct pedestrian connection.

4 Design all sides of buildings and pump islands with a consistent architectural style to enhance the streetscape. (Figure 3)

5 Use architectural elements and glazing for building facades facing public streets. When having a high proportion of clear glazing, views into buildings should remain transparent. (Figure 4)

6 Provide views and clear sightlines between the site, surrounding uses, and public streets to ensure sufficient safety and comfort levels. (Figure 5)

Figure 3: The detail of this gas station building contributes to an interesting and visually pleasing streetscape.

Figure 4: The glass windows of this car wash face the public area.

Figure 5: Ample landscaping in the front yard enhances the streetscape while still allowing for views into the site.

1.2 Pedestrians and Cyclists

1 Provide an unobstructed 2.0 metre wide pedestrian walkway between the public sidewalk (and/or parking areas) and building entrances. (Figures 6)

2 Distinguish walkways from driving surfaces by using varied accessible paving treatments and by raising walkways to curb level. (Figure 7)

Figure 6: The pedestrian walkway connection makes the site easily accessible for pedestrians.

Figure 7: On this site, shaded pedestrian walkways link different components on the site.

3 Provide a minimum 2.0 metre wide unobstructed sidewalk in the public right-of-way across private access driveways. Ensure little or no change in elevation. (Figure 8)

4 Locate required bicycle parking close to the building entrance in a manner that does not impede pedestrian movement. (Figure 9)

Figure 8: The public sidewalk across the private driveway provides a pedestrian zone.

Figure 9: The bicycle parking is near the entrance of the building.

1.3 Vehicles and Parking

1 Locate vehicular access points to the site as far away as possible from street intersections.

2 Minimize the number and width of driveways from the public street while ensuring that they meet the requirements of the Private Approach By-law. Avoid conflicts with pedestrians along the street by defining a narrower car entrance while allowing for tanker truck turning. (Figure 10)

3 Allow a sufficient driving distance from the car wash exit to the public street to minimize tracking water onto the street during winter conditions.

4 Design the on-site circulation to minimize the conflicts between pedestrians and vehicles.

Figure 10: The width of driveway is wide to avoid conflict with pedestrian along the street.

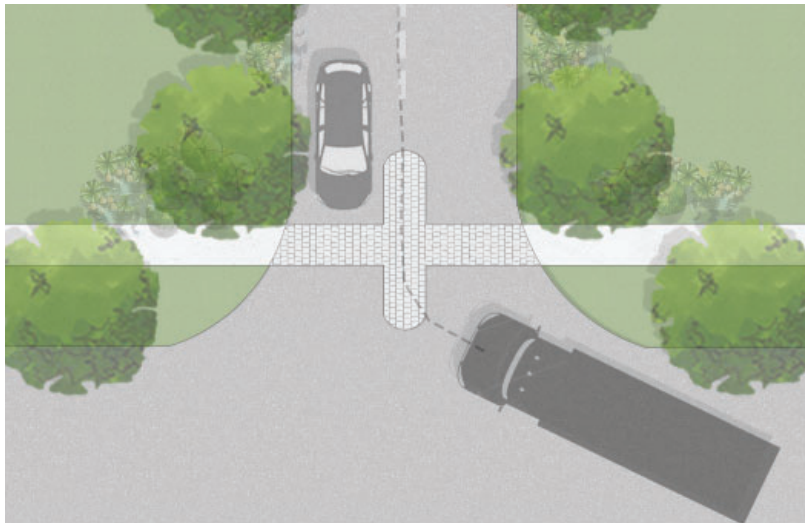


Diagram 1: The car entrance and pedestrian crossing are clearly defined; flush contrasting paving allows for tanker truck turning.

5 Design the on-site circulation to facilitate unobstructed forward movement by tanker trucks and the safe unloading of fuels. Provide adequate clearance for fuel delivery trucks under canopies.

6 Provide only the minimum number of required parking spaces required by the Zoning By-law.

7 Electric vehicle parking spaces should be located so that infrastructure required to operate (EV chargers, outlets, etc. to support electric vehicle charging) is not obstructing pedestrian pathways

Stacking lane

1 Locate stacking lanes away from adjacent sensitive uses, such as residential and outdoor amenity areas, to reduce the impacts of noise and pollution that could be caused by stacking cars on such uses. Use landscaping and fencing to help buffer potential impacts.

2 Locate access points for stacking lanes away from public streets and driveways so that queued vehicles do not block the traffic along public streets or the movement of other vehicles on site. (Diagram 2)

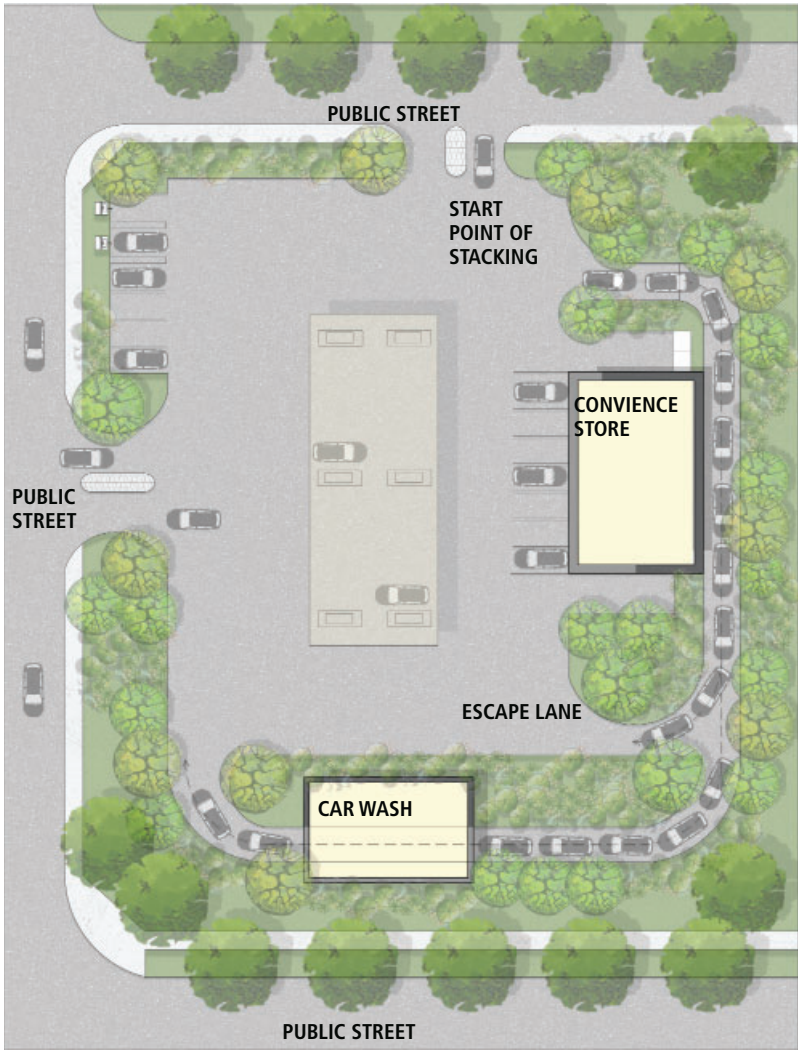


Diagram 2: The start point of car wash stacking is located away from the public streets and other on-site traffic.

3 Provide separate stacking lanes when two drive-through uses (such as a car wash and a drive-through convenience store) exist on the same site.

4 Provide escape lanes and the appropriate number of queuing spaces as required by the Zoning By-law to create efficient stacking lanes and to minimize on-site conflicts. (Diagram 3)

5 Separate stacking lanes from parking areas and driveways by using landscaped islands, decorative pavement, pervious islands and painted lines.

Diagram 3: The escape lane allows cars to get out of a queue.

Figure 11: Landscaping helps define stacking lanes and provide separation from the street.

1.4 Services and Utilities

1 Locate noise-generating areas, including auto service bays, car wash openings, vacuum stations, outdoor loading areas, garbage storage and stacking lanes, away from sensitive uses such as residential areas, schools and daycares.

2 Enclose all utility equipment within buildings or screen them from both public streets and private properties to the rear. These include utility boxes, waste storage, loading docks and ramps, and air conditioner compressors.

3 Design waste enclosures that are external to the building with the same materials as the building and ensure that the wall height is sufficient to completely conceal waste receptacles. Waste enclosures should be located away from public streets and amenities.

4 Set rooftop mechanical equipment back from the edge of the building and screen it to minimize the visual impact.

Figure 12: Ample landscaping buffer is provide along with fence along the site adjacent to exit lane of car wash.

Figure 13: At this gas-station, the garbage enclosure structure is visually harmonized with the main building through similar material colour and texture.

1 SITE ORGANIZATION

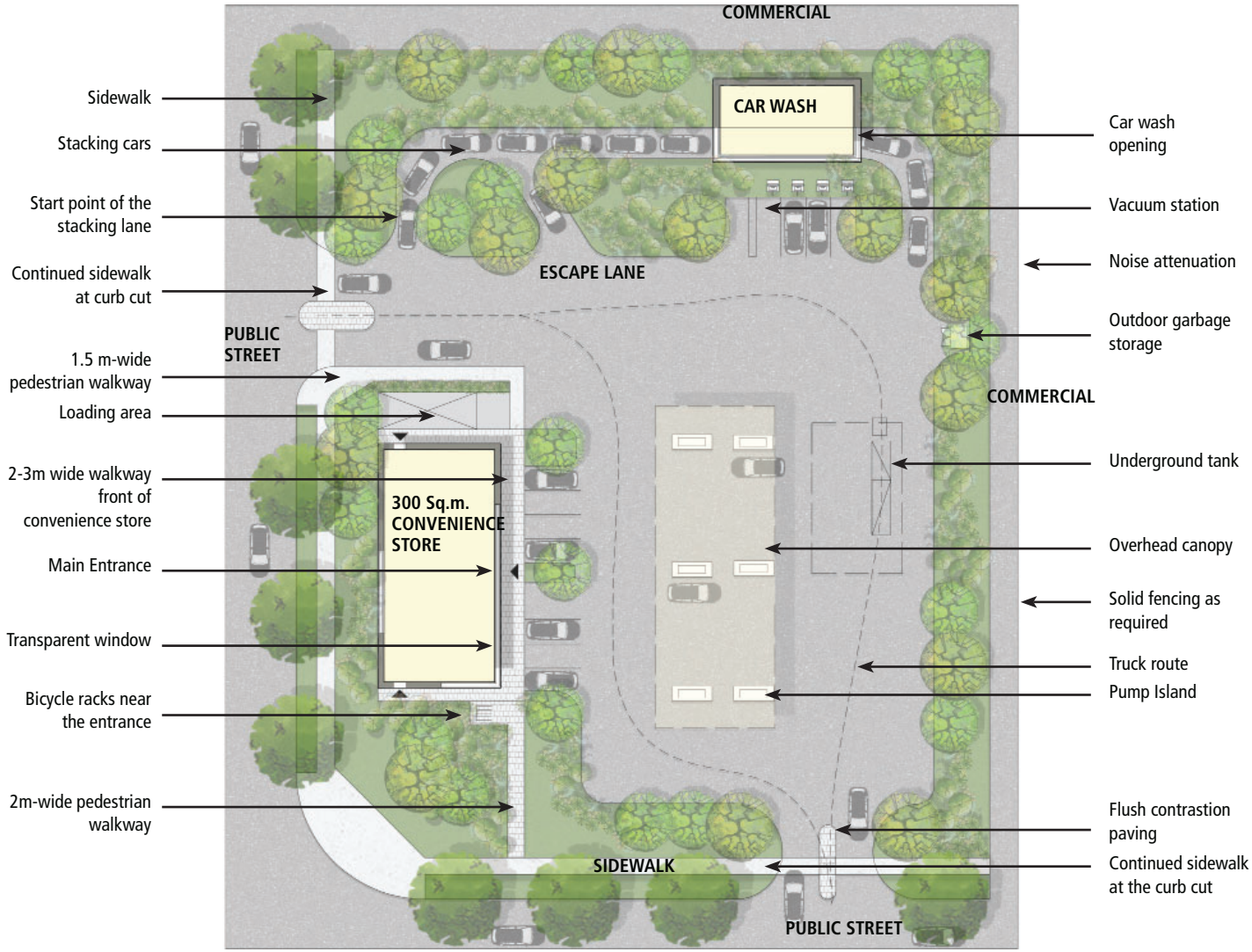


Diagram 4: This figure illustrates many of the elements discussed in the guidelines and defined in the glossary. It is for illustrative purposes only since the specific site context and characteristics will determine the relationships among these elements for an actual site.

2.0 LANDSCAPING AND ELEMENTS

The landscaping is important for the environment, site functions, public realm, visual experience, and neighbourhood characters. The Official Plan includes policies relevant to the landscape design of a gas station. These include policies regarding landscaping in public streets, landscaping on private lands and specifically around parking, stormwater management, tree canopy targets, and urban design. The following guidelines emphasize key landscaping elements that affect the public realm and site development, including:

- Landscaping
- Signage
- Lighting
- Sustainability

2.1 Landscaping

1 Provide a landscape area along the edge of the site of sufficient size to accommodate deciduous or coniferous trees where parking areas, drive lanes or stacking lanes are adjacent to a public street. Use trees, shrubs and low walls to screen cars from view while allowing eye level visibility into the site (Figure 15 and 14). A landscape width of approximately 3-5 metres is recommended to accommodate for tree planting.

2 Provide significant architectural or landscape features at the corner on corner sites in order to emphasize the public streets and enhance the streetscape. (Figure 15)

3 Provide ample landscaping, including shade trees, in combination with building orientation, to enhance the streetscape and define the street edge when setting building structures back from the street is unavoidable. (Figure 16)

4 Select trees, shrubs and other vegetation considering their tolerance to urban conditions, such as road salt or heat. Give preference to native species of the region that are of equal suitability.

Figure 14: The low wall helps screen paved areas while still allowing visibility into the site.

Figure 15: Landscaping at the corner strengthens the streetscape without blocking views.

Figure 16: The landscaping along the edge of this site screens driveways from view. .

5 Provide a sufficient landscape space along the site's side and rear yards to plant trees and landscaping in order to provide screening and enhance site environmental benefits. A landscape width of approximately 3-5 metres is recommended to accommodate for tree planting.

6 Provide a minimum 3-5 metre wide landscape area, which may include a solid wall or fence in addition to planting, at the edges of sites that are adjacent to residential or institutional properties and daycares.

7 Protect and feature heritage, specimen and mature trees on the site by designing site programming around tree preservation. Minimize grade changes and preserve permeable surfaces.

8 Plan the site to include areas for temporary snow storage without conflicting with site circulation, new tree plantings and utility boxes.

9 Buffer potential noise impacts with building structures, landscaped berms or attenuation fencing (minimum 1.8 metre in height) in front with landscaping as a means to reduce noise pollution.

10 Plant trees along street frontages in accordance with the tree planting guidelines as per City policies.

Figure 17: Landscaping along the street edge provides screening and enhance site environmental benefit.

Figure 18: Landscaping buffer from car wash to the nearby residential area.

2.2 Signage

1 Use pavement markings and directional signage to enhance clarity and ease of movement patterns on site.

2 Design buildings to include defined spaces to accommodate signs that respect building scale, architectural features, signage uniformity and established streetscape design objectives. (Figure 19)

3 Design sign illumination to be task-oriented and avoid glare and light spillover toward adjacent land uses.

4 Locate and design ground-mounted and wall-mounted signs to complement the character and scale of the area and promote an active, pedestrian friendly environment. Integrate landscape features with ground-mounted signs. (Figures 20)

5 Restrict temporary and portable signs. Prohibit billboards, revolving signs and roof signs on private property.

Figure 19: Car wash includes defined space for sign that respects the building scale.

Figure 20: The ground-mounted sign is incorporated into the landscaping at the entrance to the site.

2.3 Lighting

1 Design lighting so that there is no uplighting light spillage, glare or light cast over adjacent uses. Direct and/or shield lighting sources away from adjacent residential properties and provide screening as necessary. (Figure 23)

2 Use DarkSky compliant and efficient white light sources to reduce energy costs and to create a natural colour balance for safety and security.

Figure 21: Lighting does not affect the surrounding and provide enough light to the service.

2.4 Sustainability

1 Use green building technologies such as the installation of rooftop photovoltaic panels, using cool or reflective roofing materials, and other approaches recognized by green building certification programs.

2 Use sodded areas and planting beds to collect, store and filter stormwater in order to reduce storm runoff. Minimize paved areas, such as parking and driveways and maximize water permeable surface to contribute to the appearance and environmental sustainability of the site and its larger context by increasing water penetration into the water table, reducing pollution of local water features and runoff demand on local infrastructure.

Figure 22: The planting bed collects and stores stormwater to reduce stormwater runoff.

IMAGE CREDIT

IMAGE CREDIT

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