

Andrew Mok

From: Ryan Nickel
Sent: Tuesday, August 14, 2018 3:22 PM
To: Andrew Mok; Hedy Higgins
Subject: FW: Brookwood South Neighbourhood Plan - August 13, 2018 City Council Meeting

Ryan Nickel, RPP

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From: Debbie Nelson
Sent: Tuesday, August 14, 2018 11:34 AM
To: Ryan Nickel <r.nickel@brandon.ca>
Cc: Records - Mailbox <city.records@brandon.ca>
Subject: Brookwood South Neighbourhood Plan - August 13, 2018 City Council Meeting

Hi Ryan,

This is to confirm that City Council, at its meeting held Monday, August 13, 2018 considered your report dated August 2, 2018 with respect to the above and adopted the following resolution:

“That the Brookwood South Neighbourhood Plan attached to the report of the Chief Planner dated August 2, 2018 be adopted, subject to the following subsections being amended prior to the City of Brandon approving any rezoning or subdivision applications in the Brookwood South Neighbourhood Plan area:

1. Section 7.1, by amending Figure 20 to show a future water connection at the intersection of Patricia Avenue and the Lakeview Drive extension; and
2. Section 7.2, by amending the text and Figure 21 to direct all wastewater generated within the Brookwood South Neighbourhood Plan area towards the future lift station at the northwest corner of 34th Street and Patricia Avenue.”

If you require a certified true copy of the above please let me know and I will send it over to you. Thanks!

Debbie Nelson, CMAA

Council Services Clerk

(204) 729-2207



A thick yellow vertical bar runs down the left side of the page. A yellow arrow points to the right from the bar, containing the date 'JUNE 2018'.

JUNE 2018

BROOKWOOD SOUTH

Neighbourhood Plan

A stylized green grass graphic with several blades growing from the bottom left corner.

Waverley Developments

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Supporting Documents (under separate cover)

- 1 Servicing Scheme
- 2 Traffic Impact Study

1. SITE CONTEXT

Brookwood Park South is a quarter section of land (SE 9-10-19) that is the southerly extension of the Brookwood Park neighbourhood, west of 34th Street and north of Patricia Avenue. It is located in the southwest corner of the city and therefore subject to the Southwest Brandon Secondary Plan. It defines the very southwest corner of the City of Brandon; its west and south boundaries shared with the RM of Cornwallis.

The quarter section of land to the west of the site is farmed except for three large rural residential lots accessed from the Graham Drive cul-de-sac via Government Road. The land to the east is a planned residential neighbourhood, formerly known as the Downey Lands, with a row of rural residential lots along the east side of 34th Avenue facing the subject lands. Rural residential and vacant land is located south of Patricia in the RM of Cornwallis.

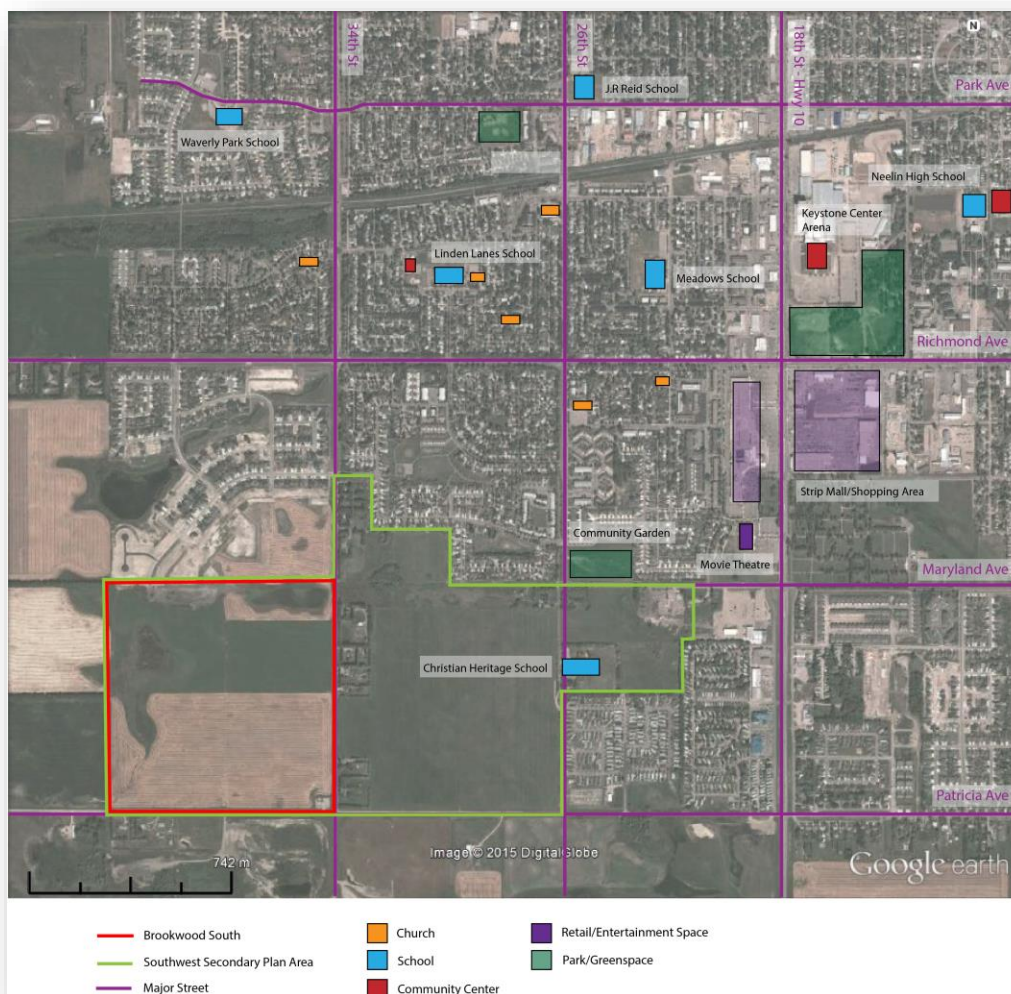


FIGURE 1: SITE CONTEXT

2. COMMUNITY VISION

The Brookwood Park South Neighbourhood Plan envisions a mixed-density neighbourhood. The naturalized wetland feature and integrated school site present an opportunity to build Brandon a complete walkable community with a wide variety of housing options. Rich living opportunities abound in this green neighbourhood for all generations to find community and home; places to live and play and learn just a transit or bike ride away for those who travel to work.

The key characteristics of the new neighbourhood include:

- a range of housing forms from single detached homes and townhouses to apartments;
- integration of natural amenities like the naturalized stormwater pond to passive recreational spaces including opportunities for community gardens, and;
- increased community connectivity with pathways and sidewalks supporting comfortable walking distances, less than 400 metres, to the school, recreation, and public transportation

3. INTRODUCTION

3.1 Purpose of the Plan and Policy Context

The purpose of the Neighbourhood Plan is to describe the development intentions for the Brookwood Park South Neighbourhood and meet the requirements of the Southwest Brandon Secondary Plan, described in Section 6.3.6.

Three policy documents provide the development framework for the Brookwood Park South Neighbourhood:

- The Brandon and Area Planning District Development Plan, 2013
- The Southwest Brandon Secondary Plan
- The City of Brandon Greenspace Master Plan

Brandon and Area Planning District Development Plan, 2013 includes the subject lands as part of the planned greenfield areas that the City of Brandon has prioritized for growth and committed to expedite completion of new communities. The Plan anticipates greenfield areas will achieve a minimum density of 20 dwelling units per gross hectare. The Development Plan designates the subject land for residential development and requires a mix of housing forms and densities in residential areas.

Parks, recreation, and open spaces are also required in residential areas guided by the Greenspace Master Plan. The City requires up to 10% of the land to be dedicated for public reserve purposes at the time of subdivision.

The Plan requires school sites to be located adjacent to a collector and park or public reserve area for shared use of the space and facilities and that the land for schools be dedicated, up to 10% of the land being subdivided.

Development Plan design policies address landscaping, accessibility, buffers, safety, and attention to aesthetics for new development.

The Southwest Brandon Secondary Plan manages the next level of policy in support of the Development Plan. It further refines the vision and development expectations for the Southwest area of the city where the subject lands are located.

The Southwest Secondary Plan requires an elementary school, minimum 4.0 hectares and located next to a neighbourhood greenspace, be planned west of 34th Street in the centre of the Brookwood Park South neighbourhood.

The other critical site feature is the existence of a wetland that must be developed to accommodate storm water for half of the Brookwood Park South neighbourhood as well as 38 hectares northwest of the subject quarter section. Secondary Plan policies also require the natural area be protected without overtaking developable land.

The new neighbourhood is designated for low and medium residential development, defined as 15-40 units per net hectare and 41-86 units per net hectare, respectively. The Secondary Plan identifies three nodes of medium density in the neighbourhood, two on either side of the collector that intersects with 34th Street and one further west.

As arterials streets, 34th and Patricia must be buffered from the residential area with a landscaped area that is a minimum 12.0 metres wide to include a multi-use trail east-west along the southern site boundary and north-west along the eastern site boundary. The Plan requires other primary and secondary off-street trails to provide connections internal to the new community. A transit stop must be located adjacent to the school, west of 34th Street.

The City of Brandon Greenspace Master Plan describes a typology of greenspace for Brandon. The following community uses apply to the Brookwood Park South Neighbourhood Plan:

Connectors are the linear greenspaces that create a connected system of open space linking parks and other spaces together. The 15-metre wide pathway requirements essentially makes all of the primary, and some of the secondary, pathways greenspace connectors.

Leisure greenspace in the Greenspace Master Plan is the most common park type and its typology includes the requisite neighbourhood park envisioned in the Secondary Plan. They are typically a minimum of 1 hectare site centrally located and within walking distance of most homes in the neighbourhood.

Environmental greenspaces are naturalized areas that increase habitat and minimize maintenance requirements. The environmental lands in Brookwood Park South include the wetland that has been identified in the Southwest Secondary Plan.

Educational greenspace is the school ground that serves both the school and the adjacent neighbourhood. The perimeter of the area should have trees and a naturalized appearance though the site will have active and passive recreational activities.

3.2 Land Ownership

The quarter section of land is owned by Waverly Developments Ltd., except for a small parcel in the southeast corner that remains with Manitoba Hydro to accommodate an existing substation.

FIGURE 2: LAND OWNERSHIP



3.3 Land Area Description

The plan area is a full quarter section of land less a small parcel in the southeast corner that accommodates a Manitoba Hydro substation. It is bordered by 34th Street to the east and Patricia Avenue to the south.

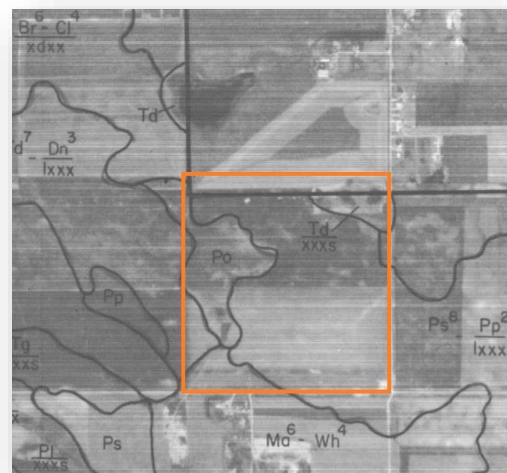
Topography

The land is relatively flat with about a 7-metre change in elevation from the highest in the north-central area (405 metres) and the lowest at the southwest corner (397 metres). The land generally drains to the south except for 10 hectares in the northeast that drains northward.

Soils

The Brandon soils study describes the land which, until now, has been under cultivation where possible. Most of the area enjoys moderately well to well-drained soils (the prosser and purple series) while the “wetland” (poolex series) and a small area of the northeast (tadpole series) are poorly drained.

The soil conditions in a small area in the southeast of the site constrain development opportunities. Test holes in this area of the site indicate a high ground water table combined with saturated fine grained soils. The bearing capacity of these soils appears to be very low. Due to the high water table, low bearing capacity and susceptibility to frost action development in this area is not appropriate.



Water Table

The actual ground water table within this quarter section is generally well below the active level of development. However, numerous perched water tables will be located within pockets of sand throughout the site. These are quite localized. This makes it difficult to predict their location.

The impact of the localized perched water tables will need to be evaluated during each stage of development. This impact may affect the design and construction of infrastructure as well as design of foundations for homes.

The impact of the water table will need to be evaluated as part of the preparatory work for each stage of development.

Environmental and Heritage Considerations

The Brandon Southwest Secondary Plan did not identify any Environmentally Sensitive Areas or Heritage Sites within the Plan boundaries.

Land Drainage

The pre-development condition of the development area has three separate drainage basins:

1. Approximately 10.1ha of the site drained to a naturally low area with no natural outlet. This drainage area did not contribute to the runoff rate from the development site.
2. Approximately 23.4ha drains directly from the site to the perimeter ditches on the east and south sides of the site.
3. Approximately 31.1ha drains into a naturally low area. This area did not permanently retain water in its natural state but acted as a natural detention area with a restricted natural outlet the throttled the outflow rate. During the last several years this area was not cropped but was cut for natural hay.

In addition to the 31.1ha from within the site that drained to the natural low area an additional 38.1 ha drained to the natural low area from the SW and NW ¼ sections of this section that the development is occurring.

Discharge from the development site prior to development will flow into the north ditch of Patricia Avenue, flow west to the mile road and then south to a natural drainage channel.



FIGURE 3: DRAINAGE BASINS



FIGURE 4: DRAINAGE DISCHARGE

4. NEIGHBOURHOOD DESIGN ELEMENTS

Brookwood Park South falls within the Southwest Brandon Secondary Plan. The policies in the Secondary Plan intend to facilitate attractive, efficient, and orderly development of the lands within its boundary that is connected and compatible with adjacent neighbourhoods. The Secondary Plan directs:

- Cost-effective infrastructure;
- Livable communities that integrate residences with community facilities;
- Safe pedestrian access and recreational connections;
- Green-building design principles and site design to conserve energy and natural resources;
- Incorporation of emergency planning.

The key design elements of the Brookwood Park South Neighbourhood Plan are:

- ✓ Establishment of neighbourhood identity with construction of a monument sign identifying the Brookwood neighbourhood as part of a landscaped feature at the southwest corner of 34th Street and the east-west collector.
- ✓ The neighbour street pattern attempts to follow a somewhat modified grid in order to maintain the legibility of predominantly east-west and north-south streets.
- ✓ Four vehicular entrances to the community: two at the north boundary connecting Brookwood North to its southerly extension; one to the east connecting across 34th Street to the newly planned Bellafield neighbourhood, and; one to the south accessing Patricia Avenue. The active transportation network provides connection to the west though development of this area is not anticipated in the Brandon and Area Development Plan.
- ✓ Two roundabouts for place-making and traffic-calming.
- ✓ A combination of greenspaces, pathways, and sidewalks provides connectivity via active modes of transportation throughout the neighbourhood connecting internally to the school, parks, and naturalized areas as well, and externally to adjacent neighbours and the Brandon Active Transportation Network.
- ✓ A future school site central to the neighbourhood.
- ✓ Recreational areas are provided in addition to the pathway network including environmental and leisure type parks and active play areas and playfields associated with the future joint use school site.
- ✓ A storm pond / wetland with a local pathway encircling it for passive recreation.

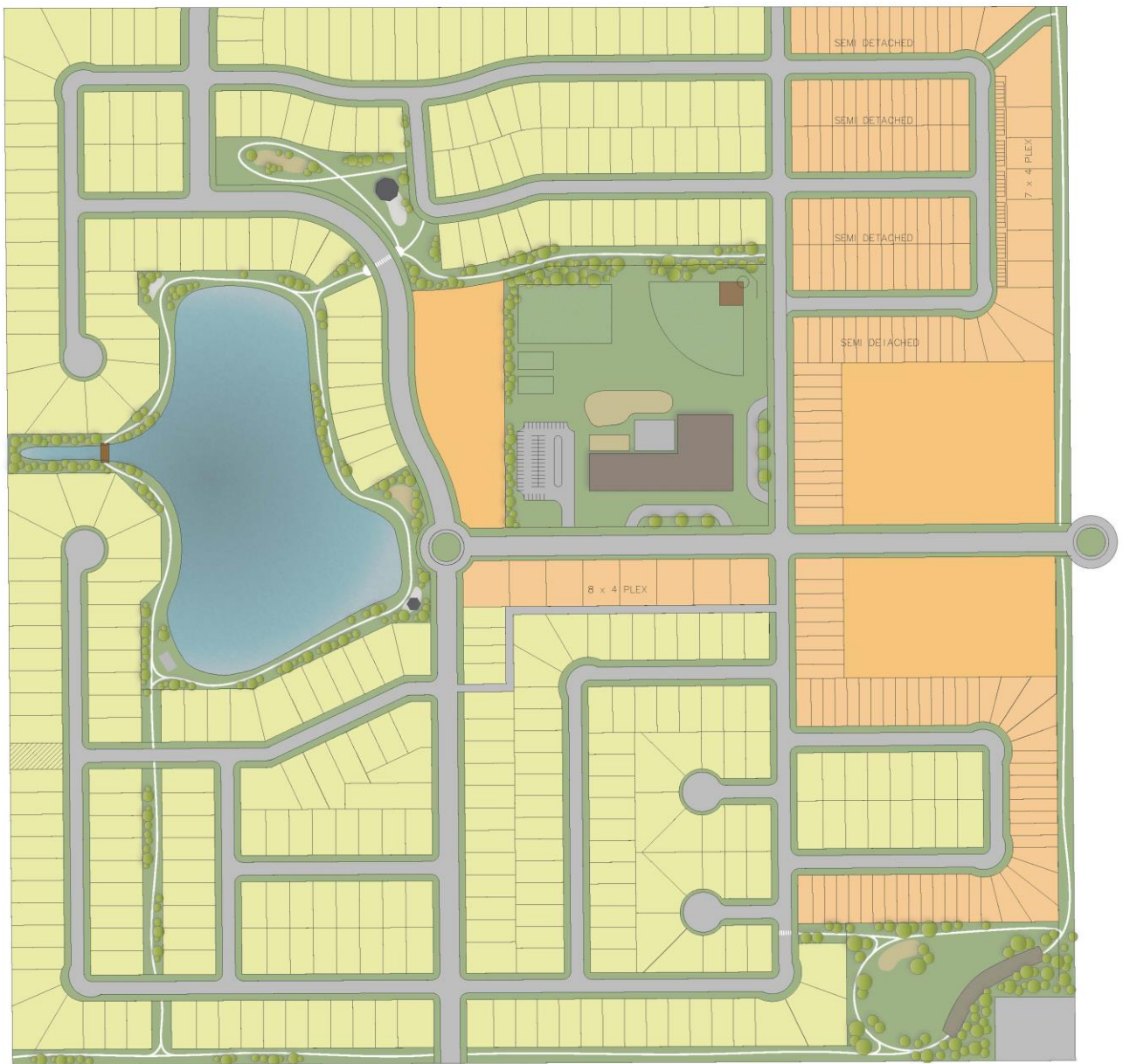
4.1 Crime Prevention Through Environmental Design (CPTED)

CPTED principles will be applied to the subdivision to create a safe environment. Streets are designed with traffic calming devices, like roundabouts and public areas are observable with street frontage. Where a public space is adjacent to a private back or side yard, the private yard fencing will be see-through to maximize natural surveillance from the pathway, street, or public space to the building and from the building to the public space, and minimize opportunities for intruders to hide.

4.2 Pedestrian Safety and Barrier Free Access

The development will incorporate practices conforming to City of Brandon policy to promote pedestrian safety and universal accessibility. Pathways range from 2.5-3.0 metres wide, twice the 1.5m width requirement of the CSA standard Accessible Design for the Built Environment (CAN/CSA-B651-04). Other examples of treatments that can be applied to this development include: pedestrian accesses to streets incorporating curb ramps and detectable warning tiles (aka tactile pavers); slopes along the pedestrian system designed to avoid excessive slopes, typically maintaining a gradient of less than 1:12, and; street crossings marked with a marked zebra crossing and/or raised crossing, particularly for areas adjacent to the school.





- Residential (Low Density)
- Residential (Low Density) 2 , 3 or 4 Family Dwellings
- Residential Moderate Density - Multi Family

Note to Figure 5:

Where this concept plan conflicts with any of the textual provisions in this neighbourhood plan, the textual provisions shall prevail.

FIGURE 5: NEIGHBOURHOOD CONCEPT PLAN

5. LAND USE

5.1 Residential

The Brookwood Park South Neighbourhood Plan proposes a diverse range of housing options to accommodate a variety of demographics including aging in place. Units will range from single detached lots to apartment-style multiple dwelling units. The Southwest Secondary Plan requires the Brookwood Park South neighbourhood develop predominantly low density residential (15-40 units per net hectare) with three nodes of moderate density housing (41-86 units per net hectare) adjacent to the east-west collector street.

5.1.1. Low Density Residential

The Plan proposed a range of low density residential housing (to be zoned RSD and RLD), from single detached lots to 2, 3, and 4-plexes. The Residential Single Detached zoning district (RSD) will accommodate single detached dwellings and the Residential Low Density zone (RLD) will manage development of semi-detached, duplex and small-scale multiple dwellings. The lowest density housing is located in the vicinity of the wetland to minimize development impact and create a quiet and passive trail system around the area. The townhouse type development is planned for the east part of the site, closer to future public transit and the active transportation connections. The overall density of Low Density Residential is 17.7 units per hectare, above the minimum density of 15 units per hectare as required by the Southwest Secondary Plan.

5.1.2. Moderate Density Residential

Moderate density development (to be zoned RMD) is located along the neighbourhood collectors, clustered to create a sense of community and place with direct connection via pathways to neighbourhood green space and the school site. The most density will be built at the eastern gateway to the neighbourhood on either side of the collector street where it meets 34th Street. Apartments are also planned adjacent to the school site. The sites enjoy a direct connection to the primary city active transportation system. The proposed housing can be accommodated with the RMD Moderate Density zoning district, although a zoning amendment to allow more than three storeys may be required to achieve the City's desired nodal densities. The density for Moderate Density Residential is planned at 86 units per hectare, the highest end of the range required by the Southwest Secondary Plan.

	area (ha)	regulated range	planned units
RSD lots	24.5	489 - 1304	345
RLD lots	7.6		222
RMD lots	4.6	189 - 396	396

5.2 Community Use and Open Space Lands

The community use and open space lands component of the Brookwood Park South Neighbourhood Plan accounts for 14.3 hectares, or 22% of the gross developable land area. According to the Southwest Secondary Plan, these community and recreational lands will support community liveability and create a unique sense of place. The Brookwood Neighbourhood Plan describes a community designed with open spaces that:

- connect neighbours and amenities;
- promote active transportation options;
- present neighbourhood recreational opportunities;
- conserve the natural features of the land, and;
- manage storm water effectively and efficiently in a way that saves the municipality ongoing operational costs and creates the highest quality amenities to nearby properties.

Greenspace	Area (ha)	Description
Connectors (OS)	4.6	Buffers along 34 th & Patricia; wetland paths.
Leisure (PR)	2.0	Primary passive park serving the neighbourhood.
Environmental (OS)	3.7	Naturalized area associated with the wetland.
Educational (OS)	4.0	Athletic facilities & playgrounds at school site.

5.2.1. Trails and Pathways (Connector Greenspace)

Linear pathways respect the primary and secondary off-street network illustrated in the Secondary Plan. They provide both a commuter and a recreational purpose in the Neighbourhood Plan, designed for pedestrians, cyclists, and other non-motorized modes. The trail systems supporting neighbourhood mobility are further described in the Active Transportation section of the Neighbourhood Plan.

A 15-metre multi-use trail along the west side of 34th Street buffers the arterial from the residences and creates a direct linkage from the neighbourhood to Brandon's Inner Loop Trail. The primary pathway system is looped through the neighbourhood from the south terminus of 34th Street west along Patricia Avenue then north to the wetland and back to 34th Street as a separated active transportation facility within the collector right-of-way.

The pathways create an internal trail system throughout Brookwood Park South that will be developed with universal design standards and adhere to CPTED (Crime Prevention Through Environmental Design) Principles. The trails focus on connecting residents to the school, park, and wetland areas.

5.2.2. Neighbourhood Parks (Leisure Greenspace)

Brookwood Park South includes two neighbourhood parks on 2ha of land. These parks are the primary public spaces for the neighbourhood and promote passive park use.

The main neighbourhood park planned for the Brookwood Park South neighbourhood area is located in the northwest of the neighbourhood to complement the Educational Greenspace described below as the school site. The park will include seating, play equipment, and a gathering space. A linear greenway connects the park to the wetland area, multiple dwelling site and the school.

FIGURE 6:

NW NEIGHBOURHOOD PARK



FIGURE 7:

SE NEIGHBOURHOOD PARK



The second neighbourhood park area is located in the southeast corner of the site and will incorporate less structured features like a natural play area, community gardening opportunities and a quiet area amongst treed spaces. The southeast park also buffers the neighbourhood from the Hydro substation and creates a gateway feature for the 34th Street / Patricia Avenue intersection.

5.2.3. Brookwood Wetland (Environmental Greenspace)

The naturalized wetland is the primary feature of this green community. Potentially working with Native Prairie Plant Solutions (Ducks Unlimited) and the Assiniboine Hills Conservation District, Brookwood Park South Neighbourhood Plan envisions a restored wetland that enhanced the special ecological features of the land by protecting and enhancing the environmental qualities of the wetland.

Public access is provided and encourages both for passive enjoyment of the naturalized area and habitat as well as educational opportunities associated with the nearby school. The pedestrian facilities are integrated into the natural environment with nature trails and benches to enjoy vistas.

Trails are 2.5 metres wide to minimize disruption of the natural area and surfaced with asphalt.



FIGURE 8: NATURALIZED OPEN SPACE / WETLAND AREA

5.2.4. The School Site (Educational Greenspace)

The Secondary Plan requires a 4-hectare school site, referenced as **Educational Greenspace** in the Brandon Greenspace Master Plan, to be located within the Brookwood Park South neighbourhood. The school has been sited central to the neighbourhood, on a prominent and accessible site. The site configuration provides opportunity for an east/west orientation of the school building facilitating passive solar design, reducing cooling loads on the building, and optimizing playfields. The location is fully interconnected with the primary and secondary pathway systems, fronting on the main east-west collector with a north-south collector defining the east site boundary. Pedestrian connections surround the site and extend in all directions.

The site is complemented by multiple dwelling housing adjacent along the west site boundary. Additional residential density is located within a block of the school. The naturalized wetland area is in the immediate vicinity to the west, providing an extension to the school's onsite outdoor learning environments. A neighbourhood-scale park is planned adjacent to school site to facilitate multi-use facilities into the future.

Access to the school site will be accommodated by the main 25-metre wide collector street that runs in an east-west direction connecting the existing Brookwood neighbourhood to the new neighbourhood to the east. The Plan anticipates a transit node along this collector street. A roundabout is proposed near the school at the intersection of the collectors to assist in traffic calming at this location. The proximity of the bus and student drop-off loops to the adjacent intersections will be addressed when the Brandon School Division is prepared to develop the school.



FIGURE 9: SCHOOL SITE CONCEPT

5.2.5. Interim Use for School Site (Educational Greenspace)

The Secondary Plan requires the future school site remain landscaped until such time as a school is built. Other permitted uses may also be established in accordance with the zoning. In this circumstance, a ball park and soccer fields may be established as they can coexist with a school in the future and may be of use to the citizens of Brandon in the interim.

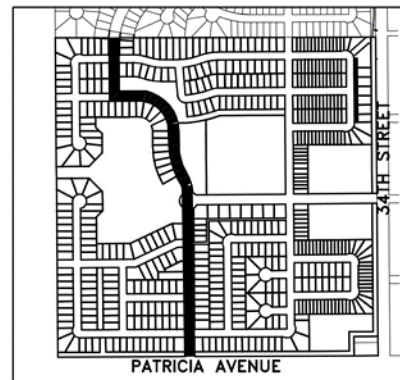
6. TRANSPORTATION AND MOBILITY

6.1 Streets and Overall Network

The Brookwood Park South internal street layout is a modified grid design that reduces potential vehicular conflicts compared to a traditional grid design while maintaining much of the linear east-west and north-south travel lines. The modified grid incorporates some loops and cul de sacs to minimize traffic short-cuts and provide more private properties that many homeowners desire. Detailed plans at the subdivision stage will address all street design requirements.

Streets	Area (ha)	Length (m)	Width (m)	Materials
Laneways	0.2	292	6	Asphalt
Local Streets	9.3	4,636	20	Asphalt
Collector Streets	0.8	395	20	Asphalt
Collector Streets	3.5	1,398	25	Asphalt

Brookwood Park South is connected to Brookwood Park at two locations representing the extension of Lakeview Drive in the west and Plateau Drive in the east. The Lakeview Drive extension is a 25 metre north-south collector that crosses the neighbourhood to an intersection at Patricia Avenue. Since it is an extension of an existing collector connecting the Brookwood Park North neighbourhood, it continues the double-sided sidewalk right-of-way design for continuity. Land around the intersection of the north-south collector (Lakeview Drive extension) and the west connector street may need to be set aside for a future roundabout or mini-roundabout.



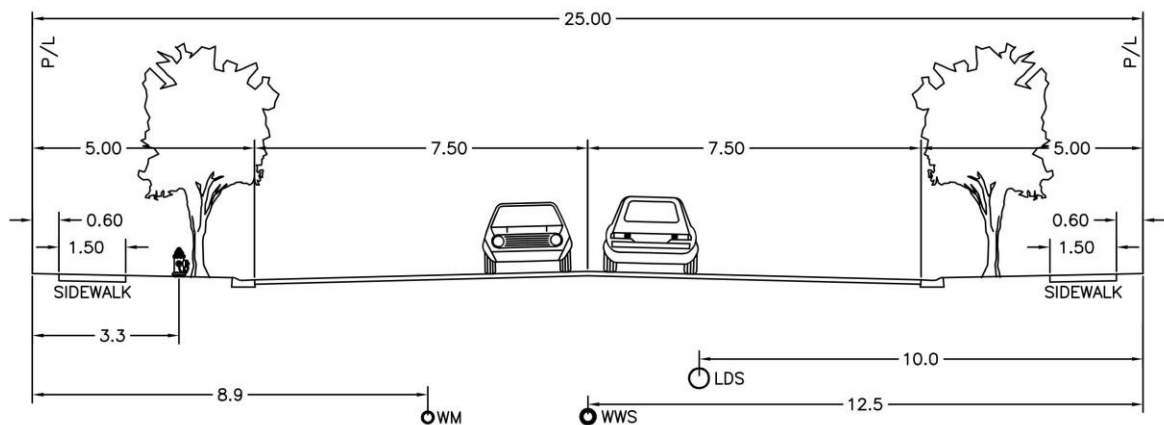


FIGURE 10: NORTH-SOUTH COLLECTOR STREET – LAKEVIEW EXTENSION

On the east side of the neighbourhood, Plateau Drive extends south from Brookwood Park North intersecting the east-west collector. It continues as a 20 metre right-of-way, consistent with the existing Plateau Drive, with a 1.5 metres sidewalk on both sides of the street.

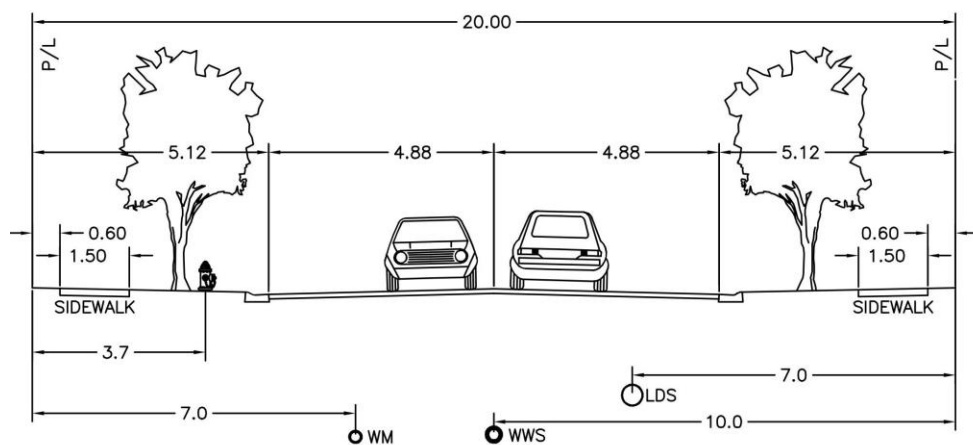
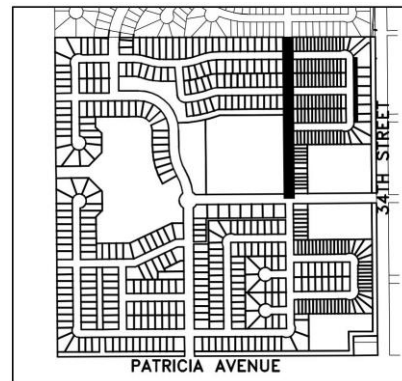


FIGURE 11: NORTH-SOUTH COLLECTOR STREET – PLATEAU EXTENSION

A 25-metre collector runs east-west connecting the north-south collectors with 34th Street at a roundabout intersection shared with the Bellafield neighbourhood. The new east-west collector accommodates a primary off-street 3.0 metre pathway as envisioned in the Secondary Plan.

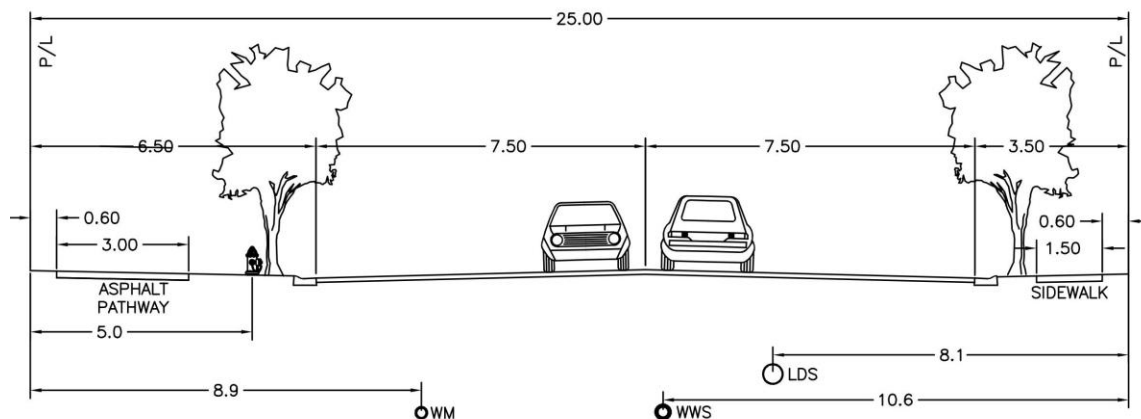
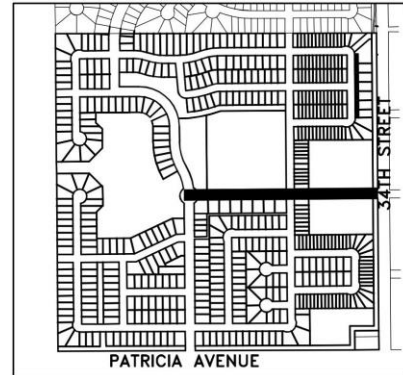
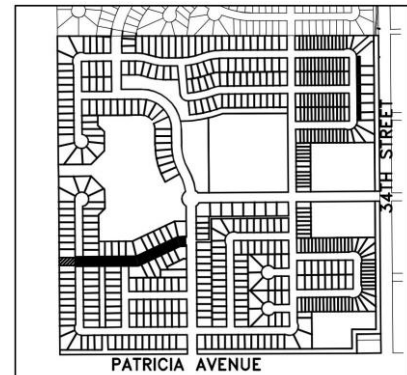


FIGURE 12: EAST-WEST COLLECTOR STREET

The City requires land to be set aside for a connection to lands to the west of the subject neighbourhood, although the portion of land does not need to be developed immediately. In the interim, the road can be developed to a local standard, however, the right-of-way provided is required to be sufficient to allow for expansion to a collector standard in the future



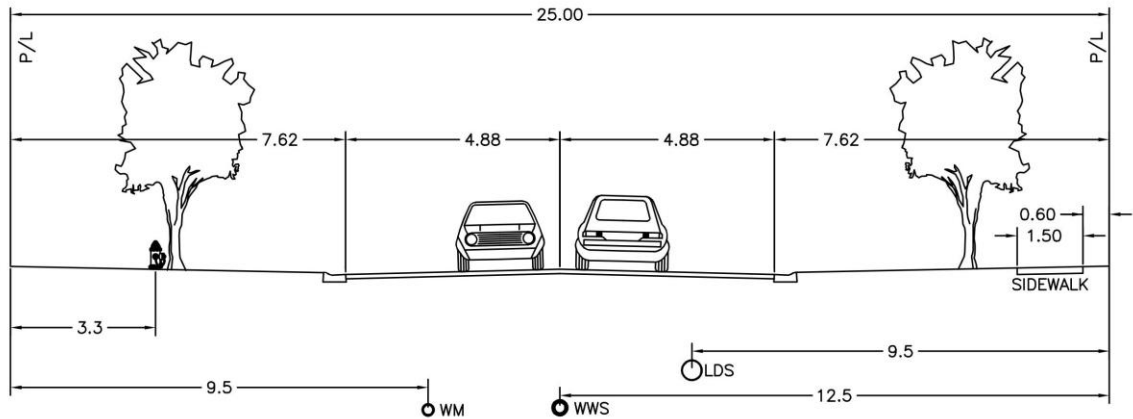


FIGURE 13: WEST CONNECTOR STREET

Local streets complete the neighbourhood vehicular connections, intersecting in a modified grid pattern to create a variety of residential lot densities and housing opportunities.

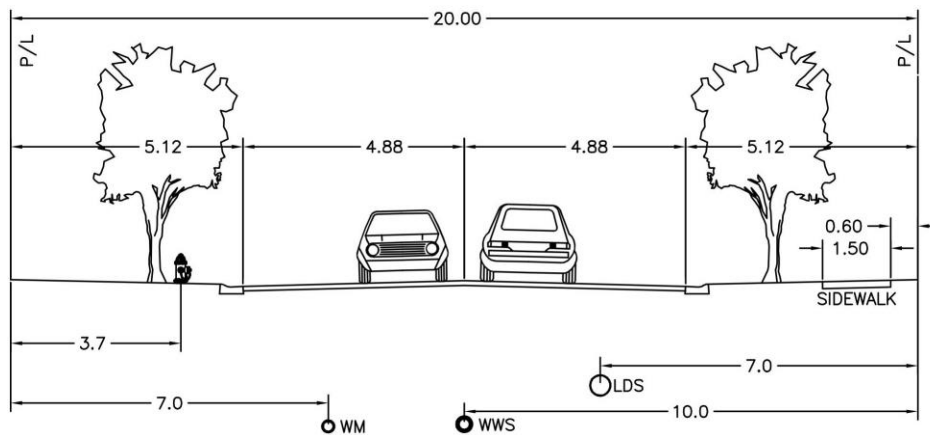


FIGURE 14: LOCAL STREET

6.2 Active Transportation

Increased active transportation opportunities throughout the neighbourhood compensate for the reduced intersections in the modified grid street pattern planned for the Brookwood Park South neighbourhood. Active transportation is mostly accommodated in linear recreational primary and secondary pathways as well as sidewalks along collector streets.



FIGURE 15: ACTIVE TRANSPORTATION SYSTEM

The Southwest Secondary Plan requires primary and secondary off-street trail networks in the Brookwood Park South neighbourhood. The primary pathway system has three main components:

- The neighbourhood edge is planned as a 3.0 metre asphalt pathway within a 15 metre **Connector Greenspace** adjacent to its east and south perimeter along 34th Street and Patricia Avenue to provide both commuting and recreational active transportation opportunities that supports the overall Brandon AT system;

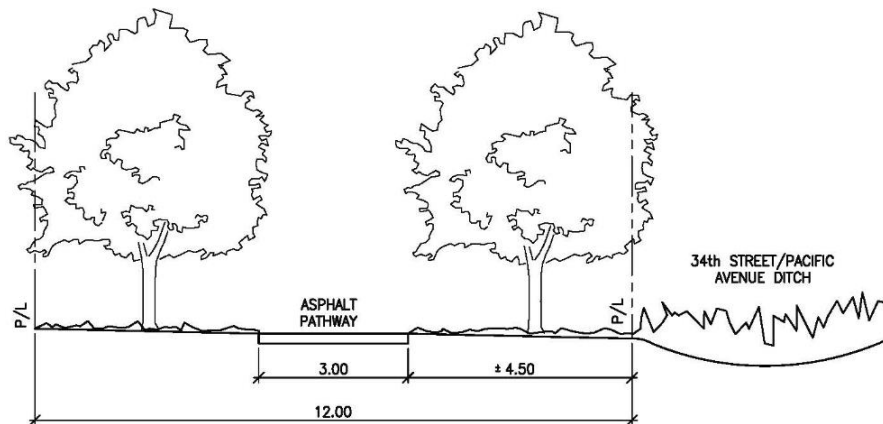


FIGURE 16: PRIMARY PATHWAY – ARTERIAL BUFFER

- In the southwest area of the neighbourhood, a 3.0 metre asphalt pathway within a 15 metre **Connector Greenspace** invites users north up to and then along the south boundary of the naturalized wetland to the east-west collector (near the roundabout);

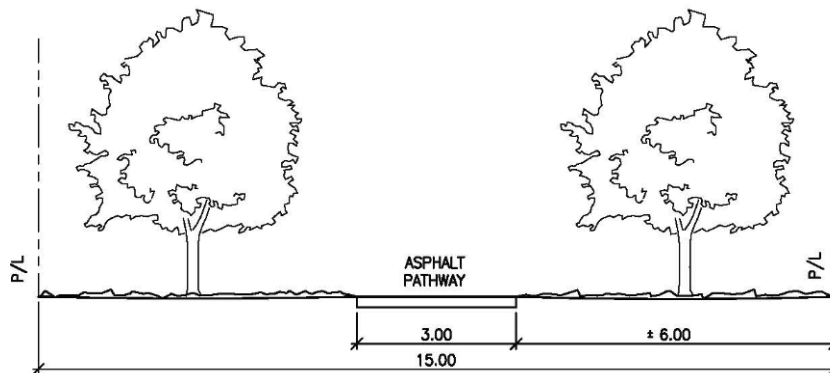


FIGURE 17: PRIMARY PATHWAY – CONNECTOR GREENSPACE

- A 3.0 metre separated asphalt pathway within the 25 metre right-of-way of the east-west collector street completes the loop of the primary pathway system back to 34th Street. (See Figure 14)

The secondary pathway system is intended to connect primary off-street trails and other community features. The Secondary Plan calls for connections to the existing Brookwood (North) neighbourhood and additional access to the south part of the new

neighbourhood. Secondary pathway systems are planned throughout the neighbourhood in two forms:

- Lakeview Drive and Plateau Driver are existing north-south collectors connecting from Brookwood North. These two streets accommodate pedestrians with sidewalks on both sides. To provide facility continuity, Lakeview and Plateau will continue with sidewalks on both sides to their southern terminus. (See Figures 10 and 11)
- Additional secondary trails are provided as 2.5 metre asphalt pathways around the wetland area and providing connections mid-block in several locations to provide more direct access to greenspaces.

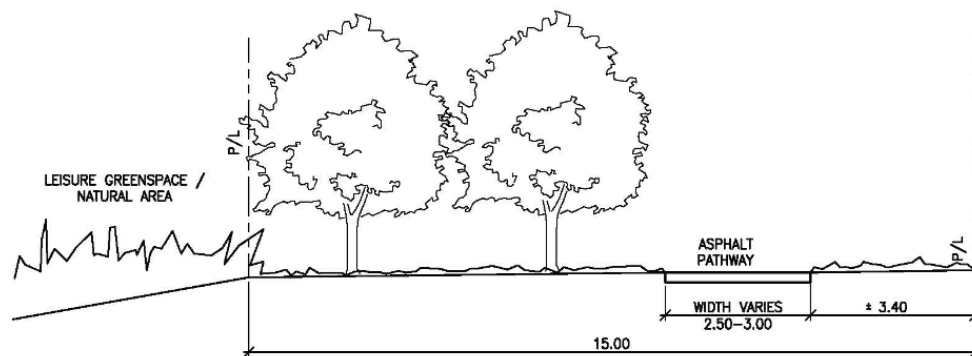


FIGURE 18: SECONDARY PATHWAY – NATURALIZED AREA

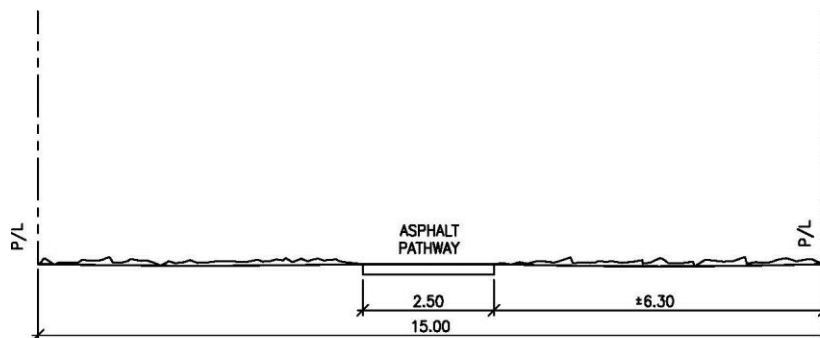


FIGURE 19: SECONDARY PATHWAY – MID-BLOCK CONNECTIONS

The pedestrian crossing of the east-west collector to the school is located at least 7.5 metres east of roundabout to ensure safe pedestrian crossing of the east-west collector to the school site.

6.3 Public Transportation

Public transit is planned to follow the Lakeview Drive Collector through the neighbourhood with a transit node along the east-west collector at the school location with an appropriate distance away from the roundabout.

6.4 Traffic Impact Study

A Traffic Impact Study (TIS) was prepared for the Neighbourhood Plan, and submitted to the City of Brandon under separate cover, with the purpose of:

1. Estimating the impacts of the proposed neighbourhood development on the adjacent roadway network, and;
2. Determining what measures may be required in order to mitigate any adverse traffic impacts.

The Study concludes that:

- There is sufficient capacity in the existing network to accommodate traffic from the proposed development through full buildout in 2026.
- Richmond Avenue & 18th Street, and Lakeview Drive/Aberdeen Avenue & 34th Street will be nearing capacity after full buildout in 2026.

Based on the conclusions the study recommends that traffic at Richmond Avenue & 18th Street, and Lakeview Drive/Aberdeen Avenue & 34th Street be monitored and evaluated periodically to determine appropriate timing and capacity needs for intersection upgrades. No additional improvements to existing roads are required at this time due to additional traffic from the proposed development.

7. INFRASTRUCTURE & UTILITIES

7.1 Water

City of Brandon potable water will be piped throughout the development site for the purposes of providing potable water for domestic consumption and firefighting. The water will be transported through a primary loop comprised of 200mm and 250mm diameter pipe. This loop is an extension of the distribution system in the initial $\frac{1}{4}$ section of Brookwood Park. The primary loop will be extended to the east boundary of the site to allow for an additional connection to the City of Brandon water distribution system. Distribution piping systems will be extended within each residential street using 150mm piping.

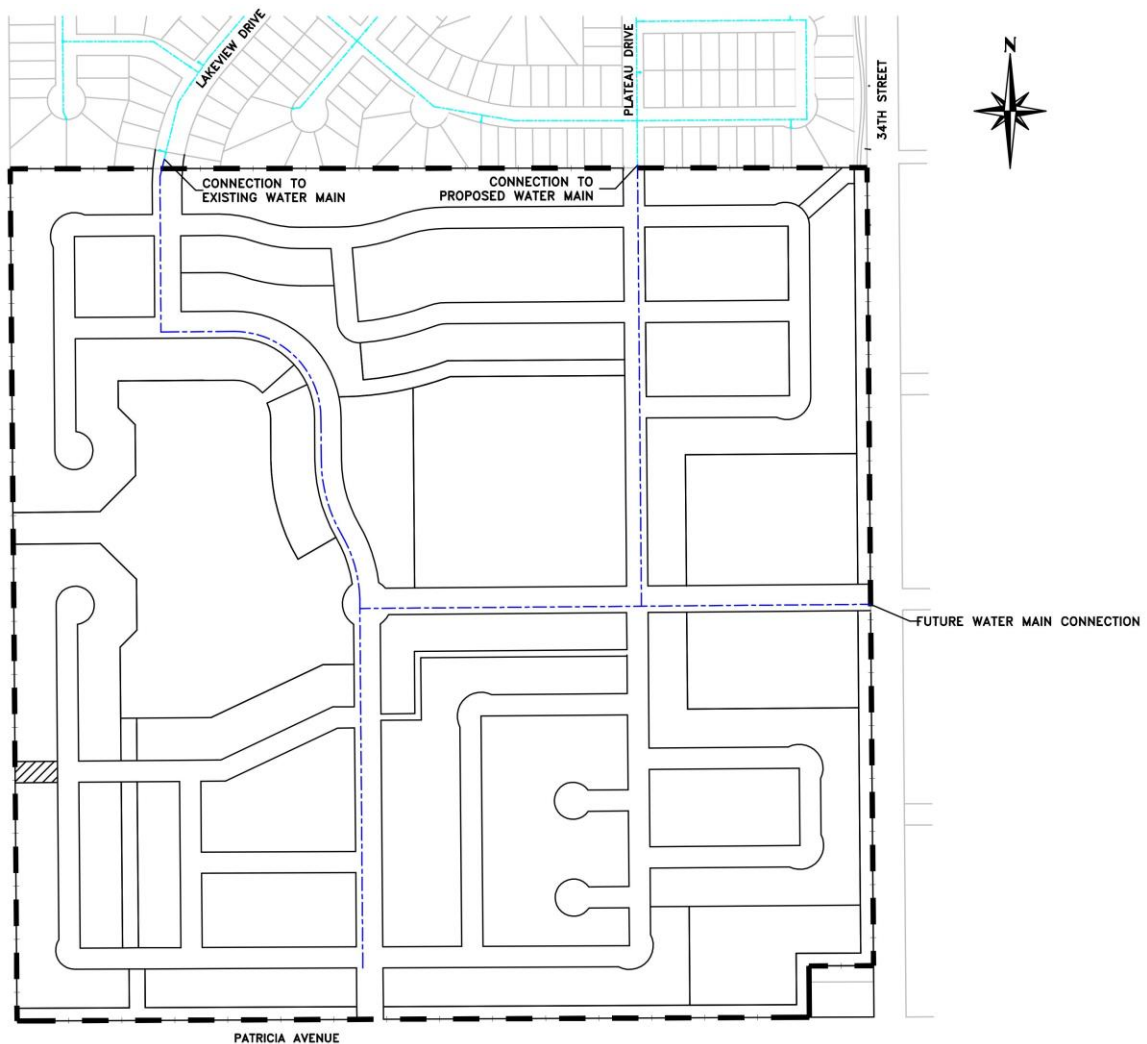


FIGURE 20: PRIMARY WATER DISTRIBUTION SYSTEM

7.2 Wastewater

Wastewater collection will be gravity flow sewer lines. Wastewater will be discharged from the site at two locations:

1. Flow from a portion of the site will be directed northward through the existing Brookwood Park.
2. The remainder of the site will be directed southward to a future lift station. It is expected that the lift station will service a portion of Brookwood Park South but will also serve a portion of the proposed future residential development to the east of Brookwood Park South.

Discharge of the proposed lift station is planned to a future forcemain that services the southern part of Brandon. The size, location and any other specification for this forcemain is being planned by the City of Brandon.

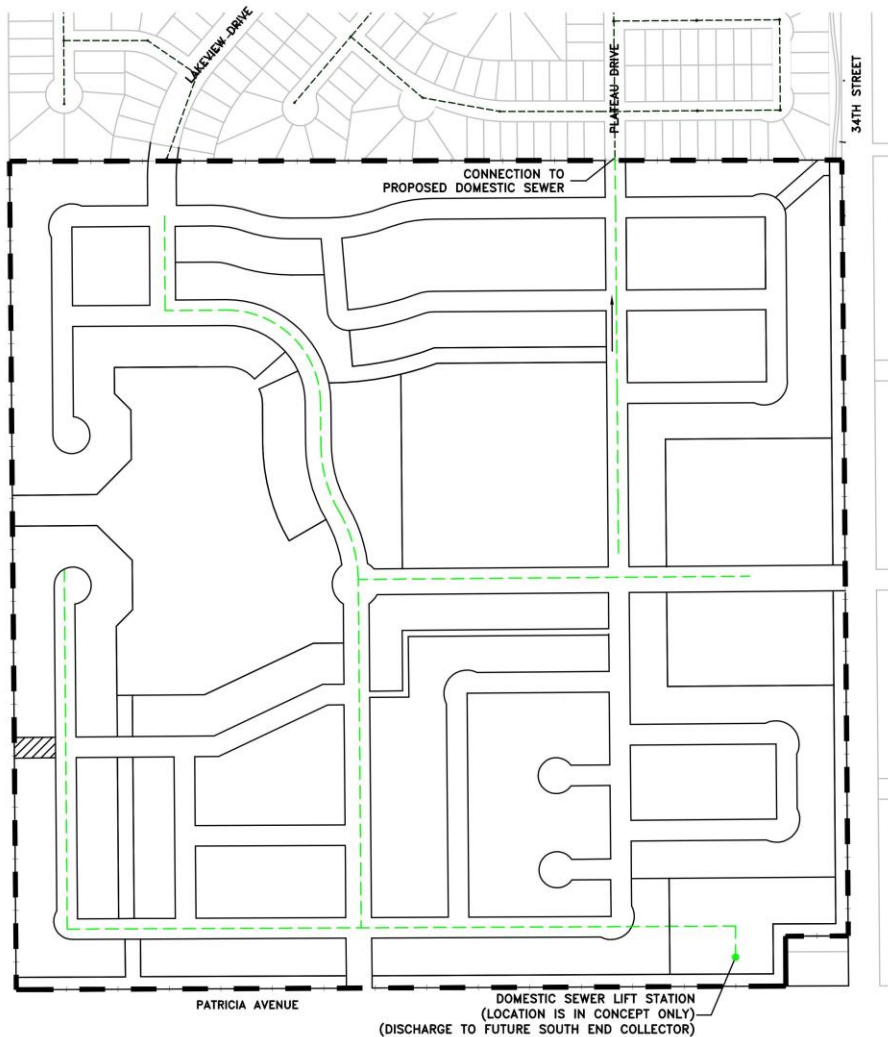


FIGURE 21: WASTEWATER COLLECTION SYSTEM LAYOUT

7.3 Land Drainage

All stormwater from the proposed development is to be directed through the naturally existing low area. A stormwater management area will be developed that will allow detention of stormwater and allow the post development discharge rates to comply with the various regulatory agencies. The discharge from the site will follow the pre-development discharge route.

Land Drainage was evaluated using criteria relevant to standards from the City of Brandon, Manitoba Infrastructure and Transportation and Manitoba Environment and Water Stewardship. The basic concept of each criteria is that the runoff rate from the site after development cannot exceed the runoff rate that existed prior to development. The characteristics of the storm used for evaluating the site varies between the three regulatory agencies listed above.

An existing wetland within the property will be altered, utilized and expanded to make a sustainable site in an urban setting. The site will retain water after major rainstorms and slowly discharge water for an extended period of time. The wetland area after development is complete is expected to be approximately 3 times the size of the wetland in its pre-development state.

Various stages of construction of the wetland site can be designed to address the expected storm water flow from each stage development.

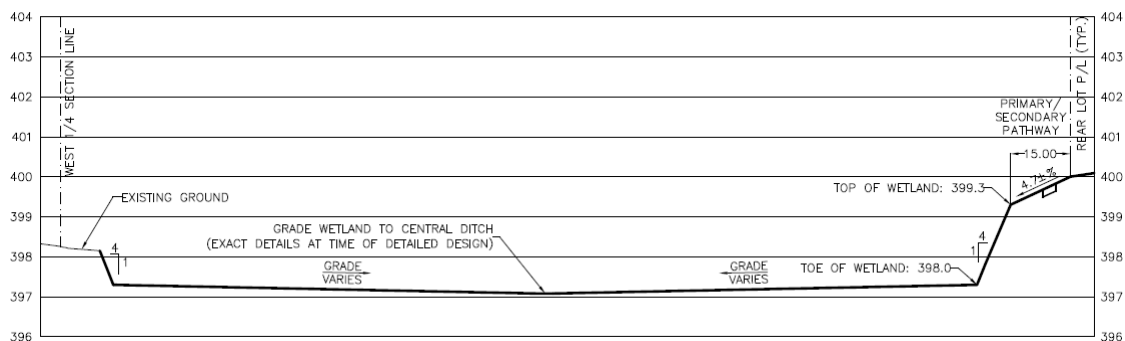


FIGURE 22: ENGINEERED WETLAND

7.4 Utilities

7.4.1. Shallow Utilities

Service for non-municipal services will be provided to each residential site, including electrical, natural gas, telephone, and cable television. Installation of services will respond to resident demand and type of service provided by each of the above utilities.

This may change in the future to address differences in the demands of the public or address changes in technology.

The infrastructure for each of the above utilities is expected to be installed within an easement area generally within the front or corner side yard of most properties. The size and location of the easement will be determined in consultation with the respective utilities.

7.4.2. Mail Delivery

Brookwood South will require both single occupancy mail delivery and multiple occupancy mail delivery systems. Central mail box (CMB) locations are anticipated for the Brookwood South neighbourhood. Each CMB location will be chosen by the Canada Post delivery planner in consultation with the developer and municipality at the subdivision stage of development. The locations must be at least nine metres away from intersections and may be considered within a boulevard or other convenient location, including a mini-park, provided it is a natural entry point to the development and near lighting fixtures.

8. DEVELOPMENT PHASING

Development will be phased in a logical and orderly manner respecting the most efficient extension of water and sewer infrastructure. Phase I begins with extending Brookwood Park into the northeast corner of Brookwood Park South, up to and including the first multiple dwelling site. The ultimate extent of Phase I will be dependent on the availability of wastewater capacity to service this part of the neighbourhood. Consideration shall be taken to ensure emergency access is provided during each phase of development. In Phase I, with construction starting from the Plateau Drive extension, the emergency accesses will follow the proposed street rights-of-way that lead to an extension of Lakeview Drive to the west and the future 34th Street/East-West Collector intersection to the southeast. The Neighbourhood Plan intends Phase I to proceed in 2018. The following table summarizes the development phasing:

	Area		Phase					Total
	ha	%	1	2	3	4	5	
			units					
Residential (SD)	24.5	37.8%	44	93	78	83	47	345
Residential (LD)	7.7	11.9%	130	56	36			218
Residential (MD)	4.6	7.1%	172	129		95		391
			frontage (m)					
Connectors (OS)	4.3	6.6%	42	27	84	22		
Leisure (PR)	2.0	3.1%	255					
Environmental (OS)	3.9	6.0%			91	38		
Educational (OS)	4.0	6.2%					200	
			length (m)					
Laneway (6m)	0.2	0.3%			292			292
Local Streets (20m)	9.3	14.4%	1131	1480	871	731	422	4,636
Collector Streets (20m)	0.8	1.2%	395					395
Collector Streets (25m)	3.5	5.4%		230	667	216	285	1,398
Total	64.8	100%						6,429

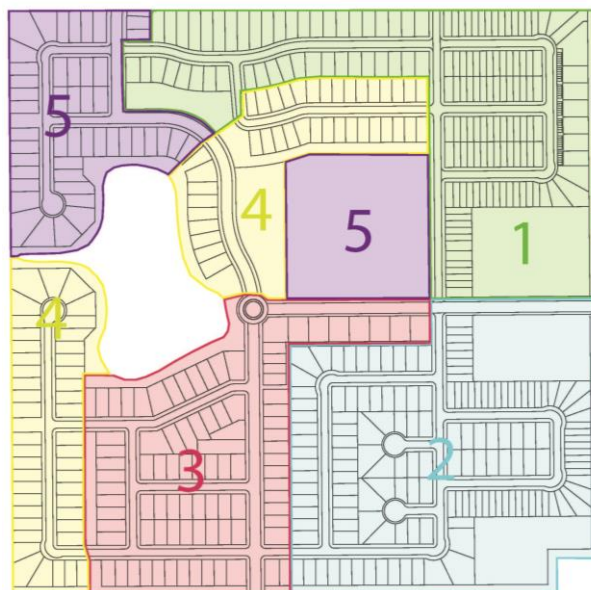


FIGURE 23: PHASING PLAN

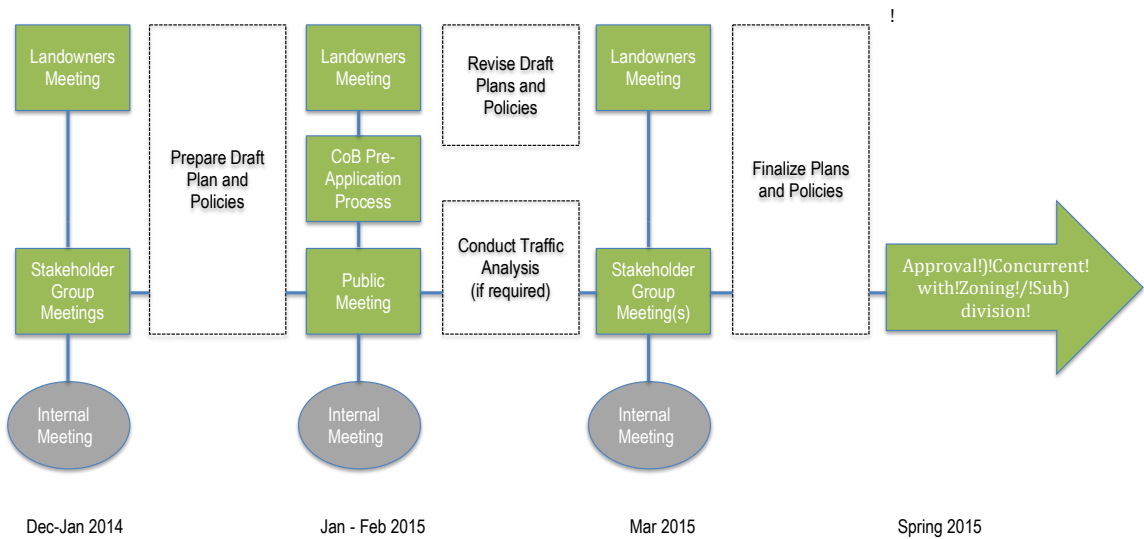
9. CONSULTATION SUMMARY

The Southwest Secondary Plan defines the overall framework for development of the Brookwood Park South neighbourhood. The public consultation component of that plan informed the nature of development proposed in Brookwood Park South and has been adopted by Council. However, the Brookwood Park South neighbourhood planning process included discussions with key stakeholders and a public meeting with adjacent property owners in order to further satisfy the intent of Brandon's Public Outreach Requirements described in Appendix D to Zoning By-law No. 6642.

A public open house was held on Wednesday April 15, 2015 at the Westridge Community Centre at 32 Willowdale Crescent. The purpose was to communicate information about the draft neighbourhood plan for Brookwood Park South and solicit feedback from neighbours prior to finalizing the plan. Boards were staged to illustrate the development concept and project staff were on hand to discuss the Plan. The following summarizes the discussions.

Comment:	Response:
Maintain the country feel of the area maintained through the greenspace plan for the neighbourhood.	<ul style="list-style-type: none"> • <i>The Neighbourhood Plan incorporates a system of pathways and open space areas.</i> • <i>The concept of naturalizing the wetland area for stormwater storage is being explored.</i>
Need for community centre in this area of Brandon.	<ul style="list-style-type: none"> • <i>Advice from the City and the Greenspace Master Plan suggests that a community centre is not feasible at this location.</i>
Community / public – oriented use of the naturalized wetland area and local parks.	<ul style="list-style-type: none"> • <i>The Neighbourhood plan envisions publicly-accessible parks and open spaces that have been located adjacent to public right-of-ways.</i>
Pathways and walkways should extend to facilitate easy movement beyond the neighbourhood and to ensure that areas are not isolated. The need for access to 34 th Street from the northeast corner of the neighbourhood was noted.	<ul style="list-style-type: none"> • <i>An additional pathway access will be explored to connect the northeast corner of the site to 34th Street and the Primary Pathway system.</i>
Site and building design of the multiple dwelling apartments along 34 th Street should be sensitive to the impact to residents along the east side of 34 th Street.	<ul style="list-style-type: none"> • <i>The re-zoning process for the multiple dwelling sites along 34th will incorporate design elements that create a “gateway” to the neighbourhood and consider impacts on neighbours living on the east side of 34th Street.</i>
The future of city growth west of the Brookwood Park South	<ul style="list-style-type: none"> • <i>The Brandon & Area Development does not envision urban development west of Brookwood Park South.</i> • <i>Early indications suggest that servicing will evolve from east to west.</i> • <i>The area may be best considered for large lot rural development.</i>

BROOKWOOD NEIGHBOURHOOD PLANNING PROCESS SUMMARY



Brookwood Neighbourhood Plan

FIGURE 24: NEIGHBOURHOOD PLAN CONSULTATION PROCESS