Partington Creek Servicing and Civic Facilities Assessment

City of Coquitlam

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Coquitlam

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1.0 INTRODUCTION

1.1 Context

The Partington Creek Servicing and Civic Facilities Assessment is a high-level summary of estimated costs and proposed funding sources for the infrastructure works (transportation improvements and utilities), parks and community facility that are needed to support the build-out the Partington Creek Neighbourhood Plan ('PCNP' or the 'Plan'). These servicing requirements are based largely on the projected 3,500 to 5,700 residential units (10,000 to 15,000 people) anticipated to be developed within the PCNP area over the next 20-25 years, and some of these servicing elements also support the wider Northeast Coquitlam community.

As a companion document to the PCNP, this assessment is based on the key outcomes of detailed servicing, phasing and financial plans that aim to facilitate reasonable build-out of the PCNP. This assessment only includes capital costs and does not include operating and maintenance costs associated with these projects. This assessment also does not include the capital cost associated with the development of the City's lands for services that are typically funded by the developer.

More specifically, the Development Cost Charge (DCC) eligible capital costs noted in this Assessment are incorporated into the City-wide DCC program through periodic DCC bylaw updates. Non-DCC eligible capital improvements will be funded through a combination of sources, including private sector development, the City's capital budget, utility fees and contributions from senior governments. Project specific details are provided in Sections 2.0 – 4.0. The needs identified in this servicing assessment are used by the Finance Department to prepare future 5-year Capital budget plans and are used to assist in the determination of the City-wide DCC program.

The assessment was jointly prepared by Engineering and Public Works, Parks, Recreation and Culture, Planning and Development, and Strategic Initiatives staff. This assessment should be used in conjunction with the City's 5-year Capital Budget, *Official Community Plan, Partington Creek Neighbourhood Plan, Subdivision and Development Control Bylaw,* and *Development Cost Charge (DCC) Bylaw* in setting capital funding priorities.

1.2 Estimated Funding and Costs Summary

Transportation, utility and park improvements in the PCNP area will be implemented through a combination of funding sources, including private sector development, the City's capital and Development Cost Charge (DCC) reserves, utility fees and potential contributions from senior governments. The majority of the funding will come from private development, including the development of City lands. The City may also undertake capital borrowing (and has done so in the past for specific projects) to advance infrastructure works prior to the DCC revenue being collected in order to support future growth.

1.2.1 Estimated DCC Revenues

The City uses a Citywide DCC program, which applies the same DCC rates to developments across the City, to fund the cost of all DCC-eligible capital projects in Coquitlam. Based on the population and development projections for the PCNP area, it is estimated that between $64 to $91 million of DCCs will be collected from development within the Partington Creek neighbourhood (depending on the intensity of development). A breakdown of the estimated DCC revenues by funding category is shown in Table 1 below. These estimates are based on the DCC rates in the City's 2012 DCC Bylaw and the population and dwelling unit projection in Appendix A.

Table 1 – Estimated DCC Revenues

Development Scenario	Transportation DCCs	Park Acquisition DCCs	Park Improvement DCCs	Drainage DCCs	Sanitary DCCs	Water DCCs	Total DCCs
High (14,900 pop.)	$ 30.3 M	$ 19.9 M	$ 15.3 M	$ 14.5 M	$ 2.8 M	$ 8.6 M	**$ 91.3 M**
Mid (12,450 pop.)	$ 23.9 M	$ 14.8 M	$ 11.3 M	$ 11.5 M	$ 2.0 M	$ 6.4 M	**$ 70.0 M**
Low (9,900 pop.)	$ 21.8 M	$ 13.7 M	$ 10.5 M	$ 10.5 M	$ 1.9 M	$ 5.9 M	**$ 64.2 M**

1.2.2 Estimated Costs and Funding Gap

The Assessment identifies approximately $159 million in overall costs, of that $119 million are DCC eligible and $40 million are non-DCC eligible. The Assessment does not include operating cost estimates, nor the capital costs necessary for servicing the development of the City's lands.

While there is a gap between the projected DCC revenue generated within the PCNP area and the total estimated servicing costs, it is anticipated that over the long term there will be adequate DCC revenues collected on a Citywide basis to support the construction of listed projects over the life of the Plan. It is also noted that some of the infrastructure identified in this Assessment helps support development in adjacent neighbourhoods, and this infrastructure may require funding support from DCCs collected in other areas of the City regardless of the level of growth that occurs in the PCNP area.

In addition, the development of a proposed Community Facility (or facilities) in the PCNP area can not be funded through DCCs and will require a separate funding source of approximately $40 million, bringing the total DCC eligible and non-eligible servicing costs for the PCNP to approximately $159 million. Further details on these costs are contained in the following sections. Non-DCC eligible items will be funded through a variety of means, including private sector development, capital funding, capital borrowing, utility fees, community amenity contributions (CACs), density bonus funding, and contributions from senior governments.

The Burke Mountain Fire Hall is currently under construction and this facility will provide emergency fire/rescue services both to the PCNP and broader Northeast community. This $10.6 million facility is already funded through short-term borrowing to be repaid with Casino funds in 2015/16. The proposed Northeast Works Yard project is currently unfunded. A funding source will be determined, through consultation with Council, prior to the development of the yard.

All cost estimates are at current market value and are based on conceptual design concepts which are subject to change at the time of functional design site development and land acquisition.

Table 2 – Estimated Costs

DCC Eligible Project Categories	Estimated Cost
Transportation DCC Eligible	$38.5 M
Park Acquisition DCC Eligible	$22.8 M
Park Improvement DCC Eligible	$16.5 M
Drainage DCC Eligible	$32.9 M
Sanitary DCC Eligible	$2.4 M
Water DCC Eligible	$5.9 M
Total Cost DCC Eligible Projects	**$118.9 M**
Non DCC Eligible Projects	$40 M[1]
TOTAL Estimated Servicing Costs	**$159 M[1]**

1.3 Infrastructure Development Timing

This assessment summarizes infrastructure improvements to be completed over the build-out of the neighbourhood over the next 20-25 years, but it is important to note the timing of specific capital infrastructure improvements is variable.

Generally, it is expected that development and infrastructure phasing will proceed west to east and south to north within the PCNP area. The estimated timing of capital projects over the short term are identified in the City's 5-year capital plan; however the exact timing of these projects will be based on Council's capital project priorities (ie. capital projects in the PCNP relative to projects elsewhere in the City), DCC revenue collection, the housing market, the actual pace of development within the PCNP area and the utilization of developer-funding revenue tools.

1.4 Future Comprehensive Funding Strategy

As a key next step a comprehensive citywide funding strategy will be developed to outline long-term capital needs, funding sources and help determine capital improvement priorities. This Assessment will be used to inform the development of this strategy and identify funding sources. That strategy will also address the funding gap between DCC and non-DCC eligible projects.

[1] Additional non-DCC eligible costs, including land acquisition, additional park improvement amenities and a new City works yard, and their funding sources will be identified at the time of development.

2.0 TRANSPORTATION

The transportation network for the PCNP area is made up of the following elements to enable the safe and efficient movement of people and goods:

- Arterial streets;
- Collector and local streets;
- Lanes; and
- Greenways & pedestrian/recreational connections.

Appendixes B and C depict the various arterial and collector streets, greenways and pedestrian/ recreational connection projects in the PCNP area, along with funding responsibility. The transportation servicing strategy has been developed with the aim of extending municipal services, in a logical, efficient and phased manner coordinated with development.

While arterial and collector streets, as well as greenway connections, for the PCNP area have been generally defined, local road and lane configurations (shown as conceptual on Schedule E of the Plan) will be determined through subdivision and/or development applications. Bicycle routes will be implemented in accordance with the PCNP but in some cases may require wider rights-of-way and/or parking restrictions on streets and greenways.

2.1 Arterial Streets

David Avenue, Lower Victoria Drive and Upper Victoria Drive are designated arterial streets in the PCNP area. Development of arterial streets in the neighbourhood will be funded through the City's DCC reserves. Construction cost estimates for the arterial street works (including land acquisition) are presented in Table 3 below.

Table 3 – Arterial Streets (see Appendix B for map)

Project Number	Project Description	Estimated Costs[2]
1	New Road - David Ave. from Princeton Ave. to Burke Village Promenade	$7.4 M
2	New Road - David Ave from Burke Village Promenade to Victoria Dr.	$12.0 M
3	Road Upgrade - Victoria Dr. from Burke Mountain Creek to Upper Victoria Dr.	$2.9 M
4	Road Upgrade - Victoria Dr. from Upper Victoria Dr to Freemont Street	$1.5 M
5	Road Upgrade - Upper Victoria Dr. from Victoria Dr. to Marigold St.	$5.8 M
6	Road Upgrade - Upper Victoria Dr. from Marigold Street to David Ave.	$7.9 M
	TOTAL ESTIMATED COST OF ARTERIAL STREETS FUNDED THROUGH DCCs	**$37.5 M**

[2] These cost estimates reflect estimates of conceptual design as well as land acquisition costs, and are subject to change. Any utility network upgrades or repairs (storm/sanitary sewers, water, hydro, telephones and cable), ornamental furniture or sculptures and/or structural soils are not included in these cost estimates.

2.2 Collector Streets

All standard collector and local street works as defined in the City's Subdivision Bylaw, as amended from time to time, will be funded and constructed through land development, as part of site servicing requirements (ie. frontage construction and improvements). Table 4 below summarizes the collector roads (funded by development) required in the PCNP area.

Table 4 - Collector Streets (see Appendix B for map)

Project Number	Segment Description	Designation
7	Princeton Ave.*	Community Collector (High Density)
8	Burke Village Promenade *	Community Collector (High Density)
9	Gislason Ave.	Standard Collector
10a	Mitchell St. / Harper Road north of David Ave **	Standard Collector
10b	Mitchell St. in the Neighbourhood Centre **	Community Collector (High Density)
10c	Mitchell St. south of Neighbourhood Centre* **	Standard collector (High Density)
11a	Rocklin St./unnamed road segment north of David Ave **	Community Collector (Lower Density)
11b	Rocklin St. Burke Village Promenade to David Ave* **	Community Collector (High Density)
11c	Rocklin St. south of Neighbourhood Centre **	Community Collector (Lower Density)
12	Marigold St.	Standard Collector
13	Road "PC-A"	Standard Collector
14	Road "PC-B"	Standard Collector

***** Note: These street segments traverse the denser areas of the PCNP area and are designated Community Collectors (High Density) to provide for improved accommodation of various modes of transportation.
** Note: The cross-sections of Mitchell St and Rocklin Street change along these road rights-of-way as they pass through the lands in the Neighbourhood Centre.

2.3 Greenway Projects and Pedestrian/Recreational Connections

Several Citywide and neighbourhood greenways and pedestrian/recreational connections have been identified in the PCNP area. Citywide greenways provide critical linkages to other parts of NE Coquitlam as well as major destinations elsewhere in the City (e.g. commercial centres, schools, parks and other community facilities). Implementation and funding of Citywide greenways is the responsibility of the City.

There are two Citywide greenways identified in the PCNP area: David Avenue and Burke Village Promenade (Appendix C; Projects 1 & 2). The greenway along David Avenue will be built as the street is constructed and is included as part of the City's Transportation DCCs (see Table 1). The construction cost of the greenway portion of the Burke Village Promenade is included in Table 5.

There will also be a series of neighbourhood greenways and pedestrian connections, which together will help support the development of a multi-modal street network in the PCNP area.

Pedestrian/recreational connections will be funded through a combination of sources. The Freemont Park, Pollard Street, and BC Hydro ROW and Cedar Drive Pedestrian/Recreational Connections (Projects 3-6) will be funded by the City's Parks, Recreation and Culture Department through DCC revenue and will provide connectivity to parks and open spaces.

Lastly, the Neighbourhood Centre, Burke Mountain Creek, East-West and North-South Pedestrian/Recreational Connection projects (Projects 7-10) will be funded through development servicing requirements and will help reinforce transportation connectivity in the neighbourhood.

Table 5 – Greenways and Pedestrian Projects (see Appendix C for map)

Project Number	Project Description	Estimated Costs [3]
Greenways and Pedestrian Projects Funded By the City		
1	David Avenue Citywide Greenway	Included in street cost
2	Burke Village Promenade Citywide Greenway (i.e. Multi-use Path portion only)	$350,000
3	Freemont Park Pedestrian/Recreational Connection [4]	$160,000
4	Pollard Street Pedestrian/Recreational Connection [4]	$70,000
5	BC Hydro ROW Pedestrian/Recreational Connection [4]	$140,000
6	Cedar Drive Pedestrian/Recreational Connection [4]	$225,000
	TOTAL ESTIMATED COST OF GREENWAYS AND PEDESTRIAN PROJECTS FUNDED THROUGH DCCs	**$945,000**
Greenways & Pedestrian Projects Funded Through Development Servicing Requirements		
7	Neighbourhood Centre Pedestrian/Recreational Right-of-Ways Connection/s	
8	Burke Mountain Creek Pedestrian/Recreational Connection	
9	East-West Pedestrian/Recreational Connection	
10	North-South Pedestrian/Recreational Connection	

[3] These cost estimates are based on conceptual design concepts and are subject to change at the time of functional design and site development. Any utility network upgrades or repairs (storm/sanitary sewers, water, hydro, telephones and cable), property requirements for road widening, ornamental furniture or sculptures and/or structural soils are not included in these cost estimates.

[4] These connections will be located on existing road and/or utility right-of-ways or adjoining parkland.

3.0 UTILITIES

The Partington Creek Neighbourhood is in a near greenfield state with a minor amount of existing development, consisting of homes on large lots. The existing water, sewer and drainage systems serving these developments are not capable of supporting additional growth and will need to be upgraded as development progresses.

Future servicing must satisfy the demand created by new development and population growth, and must also consider potential environmental impacts and stormwater management requirements in the Partington Creek Integrated Watershed Management Plan (PCIWMP). The utilities servicing improvements listed below aim to facilitate the extension of municipal services in a logical and efficient manner. The estimated costs for utility projects do not include land acquisition costs.

Expansion of the water, sewer and drainage systems will be funded by development through:

- DCC funded capital works for the trunk facilities, and
- Site servicing requirements for individual developments.

3.1 Water System Improvements

The water system planned to serve the PCNP area is part of the overall water system planned for Northeast Coquitlam. Due to the steep terrain, water must be pumped to higher elevations and distributed through a network of reservoirs, pressure reducing stations and pipes.

The major components of the water system include:

- Pump station (4 x 250 horsepower pumps) at David Avenue – complete
- 600 mm diameter supply main on David Avenue and Coast Meridian Road – complete
- Pump station (3 x 125 horsepower pumps) at Harper Road – complete
- Two-cell zone 3/2 reservoir (3.66 million litre) at Harper Road – planned
- Zone 5/4 reservoir (3.80 million litre) near Pinecone Burke Provincial Park - planned

Expansion of the water system into the PCNP area will generally progress from the west to the east. Components of the water system within the boundaries of the Neighbourhood are listed in Table 6 and shown in Appendix D.

Table 6 – Water System Improvements (see Appendix D for map)

Project Number	Project Description	Estimated Cost
1	Freemont supply main	$0.8 M
2	Crouch reservoir, pump stn., valve chamber, fill valve and controls	$4.1 M
3	Gislason supply main	$0.6 M
4	Zone 3/2 Pressure Reducing Valve – David Avenue	$0.2 M
5	Zone 2/1 Pressure Reducing Valve – Pollard Street	$0.2 M
	TOTAL ESTIMATED COST OF WATER SYSTEM IMPROVEMENTS FUNDED THROUGH DCCs	**$5.9 M**

3.2 Sanitary Sewer System Improvements

The PCNP area is also part of a larger overall sewerage system serving Northeast Coquitlam. The collection system is mainly based on gravity where sewage flows downhill in pipes from north to south. However, due to the undulating topography, pump stations are required in the lower areas along Victoria Drive and Cedar Drive, to pump sewage into the Greater Vancouver Sewerage and Drainage District (GVSDD) Coast Meridian Road trunk sewer.

Major components of the sewer system include:

- GVSDD Coast Meridian Road trunk sewer – complete
- Lower Victoria drive trunk sewer and pump station – complete

The western portion of the PCNP area is part of the catchment area of the recently constructed Victoria Drive pump station. The eastern portion of the neighbourhood will require a new Cedar Drive pump station and trunk sewers as described in Table 7 and shown in Appendix E.

Table 7 – Sanitary Sewer System Improvements (see Appendix E for map)

Project Number	Project Description	Estimated Cost
1	Upper Victoria Drive trunk sewer and Cedar Drive pump station	$1.7 M
2	Partington Creek trunk sewer	$0.7 M
	TOTAL ESTIMATED COST OF SANITARY SEWER SYSTEM IMPROVEMENTS FUNDED THROUGH DCCs	**$2.4 M**

3.3 Drainage System Improvements

The PCNP area lies within two distinct watersheds; Hyde Creek and Partington Creek. For the Hyde Creek watershed, a portion of which encompasses the western part of the PCNP area, a large stormwater diversion pipe system was constructed to protect existing watercourses, and prevent downstream flooding. Major storm flows are intercepted by this system and discharged at the head of Debouville Slough. Measures have also been taken to protect the health of the watershed through water quality ponds and on-site source controls that infiltrate water back into the ground.

The main components of the Hyde Creek Integrated Watershed Management Plan (HCIWMP) include:

- Stormwater diversion pipe – Coast Meridian Road and Victoria Drive – complete
- Stormwater diversion pipe – Gislason Avenue – under construction
- Water quality ponds – constructed at the time of development

The Partington Creek watershed is a separate drainage system that also discharges to the head of Debouville Slough. Through the planned drainage infrastructure to prevent flooding, the

Partington Creek Integrated Watershed Management Plan (PCIWMP) includes a strategy to protect fish and fish habitat by preserving the natural hydrology of the Partington Creek watershed. The main components of the PCIWMP include:

- Repair of erosion sites in stream channels;
- Diversion of high flows to prevent flooding and protect stream channels;
- Increasing the capacity of the main channel of Partington Creek to serve areas where flow diversion is not possible;
- Base flow augmentation facilities to preserve stream base flows; and
- Water quality ponds to treat urban runoff before it is discharged into Partington Creek and its tributaries, which are intended to protect water quality and preserve stream base flows.

It is also noted that while post-development storm water flows in the Partington Creek watershed will not impact Port Coquitlam, there are low lying farmlands along Cedar Drive and Oliver Road that are susceptible to flooding. As noted above, and in the table below, the Partington Creek channel improvements/Cedar Drive relocation will help to mitigate this flooding risk. Key improvements that implement the PCIWMP are listed in Table 8 and shown in Appendix F.

Table 8 – Drainage System Improvements for Partington Creek IWMP (see Appendix F for map)

Project Number	Project Description	Estimated Cost
1	Partington Creek diversion pipe – North branch	$7.0 M
2	Partington Creek diversion pipe – East branch	$4.0 M
3	Partington Creek channel improvements / Cedar Dr. relocation	$7.7 M
4	Partington Creek base flow augmentation facilities	$8.2 M
5	Partington Creek water quality ponds	$6.0 M
	TOTAL ESTIMATED COST OF DRAINAGE SYSTEM IMPROVEMENTS FUNDED THROUGH DCCs	**$32.9 M**

In addition to the above measures, developers will be required to implement on a site by site basis the City's Rainwater Management Guidelines.

4.0 PARKS

The Parks servicing approach for the PCNP area is based on the amount and type of development planned for the neighbourhood, as well as recognizing the presence of neighbouring provincial, regional and municipal parks which reduces the total amount of new parkland required in the PCNP area. The neighbourhood is planned to have approximately 22 hectares (54.4 acres) of parkland which includes Freemont Park, an existing 15.9 hectare dedicated park. The PCNP land use plan distributes parks throughout the neighbourhood, and envisions that parks in the area will be accessible via pedestrian connections, as well as Citywide and neighbourhood greenways.

David Avenue Park may be the site of a future water reservoir (size approx. 0.4 acres; 40m x 40m). If the site is suitable for the water utility, the cost to acquire the land will be shared between park acquisition DCCs and applicable utility DCCs.

Approximately 1.1 hectares (2.7 acres) of parkland is planned for the Neighbourhood Centre. The location and programming of this parkland will be developed after the completion of the Neighbourhood Plan. The main Park Acquisition and Park Improvement projects are listed in Tables 9 & 10 and shown in Appendix G.

4.1 Park Acquisition Projects

Of the 22 hectares (54.4 acres) of park land in the plan area, 15.9 hectares (39 acres) already exists in Freemont Park, which leaves 6.1 hectares (15.1 acres) of new parkland to acquire. The estimated cost for that new park land is $22.8 million, of that approximately 3.0 hectares (7.4 acres) or $11 million may be achieved through the 5% park land dedication or cash-in-lieu at subdivision leaving approximately $12 million to be funded through Parkland acquisition DCCs.

Table 9 – Park Acquisition Projects (see Appendix G for map)

Project Number	Project Description Note: Park sizes are approximate	Estimated Costs*
1	David Avenue Park (0.9 hectares, 2.25 acres)	$3.4M
2	Star Creek Park (0.9 hectares, 2.25 acres)	$3.4M
3	Knoll Park (1.2 hectare, 2.9 acres)	$4.3M
4	Pinecone Burke Trailhead/Neighbourhood Park (0.4 hectares, 1 acre)	$1.5M
5	Baycrest Neighbourhood Park (0.4 hectares, 1 acre)	$1.5M
6	Mitchell Street Park (0.4 hectares, 1 acre)	$1.5M
7	Village Plaza (0.8 hectares, 2 acres)	$3.0M
8	Neighbourhood Centre Park(s) (1.1 hectares, 2.7 acres)	$4.2M
	TOTAL ESTIMATED COST OF PARK ACQUISITION PROJECTS TO BE SECURED THROUGH DCCs and at subdivision approvals through the 5% parkland dedication requirement.	**$22.8M**

4.2 Park Improvement Projects

Table 10 – Park Improvement Projects (see Appendix G for map)

Project Number	Project Description	Estimated Costs
1	David Avenue Park	$1.4M
2	Star Creek Park	$1.4M
3	Knoll Park	$1.5M
4	Pinecone Burke Trailhead/Neighbourhood Park	$0.6M
5	Baycrest Neighbourhood Park	$0.6M
6	Mitchell Street Park	$0.5M
7	Village Plaza	$5.3M
8	Neighbourhood Centre Park(s)	$1.7M
9	Freemont Park	$3.5M
	TOTAL ESTIMATED COST OF PARK IMPROVEMENT PROJECTS FUNDED THROUGH DCCs AND OTHER FUNDING SOURCES	**$16.5M**

The estimated Park Improvement costs above include both DCC eligible and non-DCC eligible costs. There are a number of park improvement amenities that are not eligible to be funded through DCCs (tennis courts, spray decks, sport courts etc.) additional funding source(s) will need to be identified that may include, but are not limited to, capital funding, capital borrowing, senior government grants, community amenity contributions, density bonus funding, developer contributions, and public-private partnerships. [5] Staff will work with Council to identify appropriate funding options as development of the neighbourhood proceeds.

4.3 Facilities Projects

Northeast Coquitlam and the PCNP area will require a community facility (or facilities) to support expected population growth, and this facility may include a range of community, recreation and cultural amenities such as a gymnasium, indoor swimming pool, library, multi-purpose meeting space, community policing station and other cultural amenities (or multiple facilities that include these uses/amenities). It is expected that this facility (or facilities) will be located in the vicinity of Freemont Park, either in the park itself or possibly within the Partington Creek Neighbourhood Centre. The facility may be stand-alone, or located in multiple buildings, or intergrated with other compatible uses, such as a library, community policing station or within private development. The facility (or facilities) is expected to be in the range of 3,700 to 4,600 m² (40,000-50,000 sq. ft.) in size, with estimated cost of approximately $40 million (without land costs). The scope, program and location of the facility (or facilities) will be determined through a future planning and prioritization process with Council.

The community facility (or facilities) can not be funded through DCC revenue, therefore additional funding source(s) will need to be identified that may include, but are not limited to, capital funding, capital borrowing, senior government grants, community amenity contributions (CACs),

[5] Refer to the *Tennis Feasibility Study* and *Aquatic Infrastructure and Services Strategy* for further information.

density bonus funding, and public-private partnerships. Staff will work with Council to identify appropriate funding options as development of the neighbourhood proceeds.

Table 11 – Community Facility Project

Project Number	Project Description	Estimated Cost*
	Community Facility (or facilities)	$40 M
	TOTAL ESTIMATED COST OF COMMUNITY FACILITY PROJECT	**$40 M**

4.4 Other Contributing Capital Projects

Gilley's Field is the site of a future Citywide Park located to the east of the PCNP area. This site will be developed to complement recreational parklands in the PCNP area and Northeast Coquitlam and will include playing fields and destination park/recreation uses.

Pinecone Burke Mountain Provincial Park is adjacent to the northern edge of the PCNP area. The Pinecone-Burke Trailhead Park (see Appendix G and Tables 9 and 10) within the PCNP will create a future trailhead connection between the Provincial Park and the PCNP area, to provide access to this significant Provincial asset.

APPENDIX A – Population and Dwelling Unit Projection

Partington Creek Dwelling Unit Projection

Development Scenario	Single-Family	Townhouse	Apartment	TOTAL
High	1,200	2,515	1,975	**5,690**
Medium	1,000	3,037	373	**4,410**
Low	800	2,441	247	**3,490**

Partington Creek Population Projection

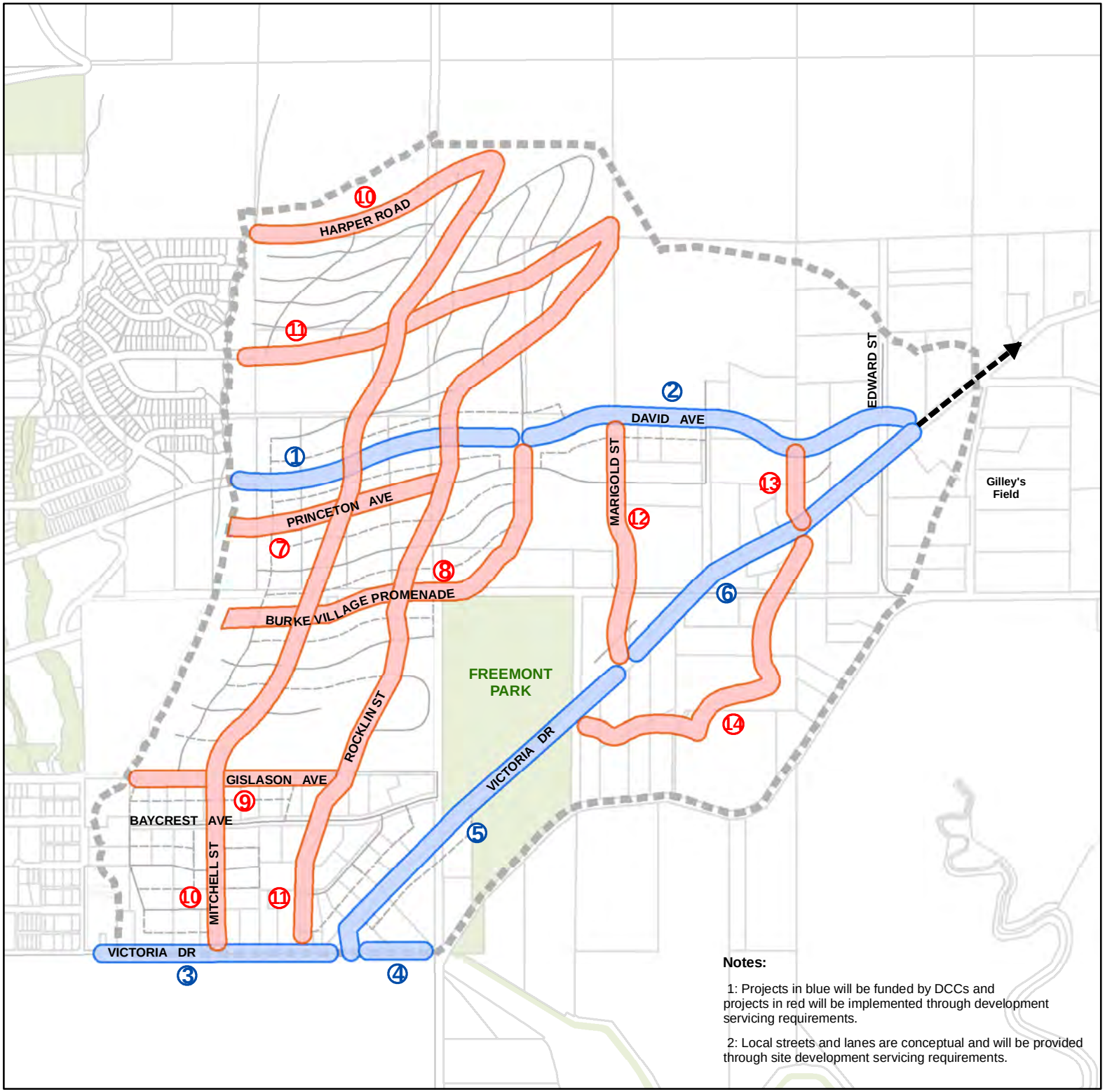
Development Scenario	Single-Family	Townhouse	Apartment	TOTAL
High	3,840	7,043	3,951	**14,835**
Medium	3,200	8,502	745	**12,450**
Low	2,560	6,833	494	**9,890**

Assumptions:

- Persons per unit: Single-Family 3.2; Townhouse 2.8; Apartment 2.0
- Average gross unit size: Townhouse 163 m² (1750 sq.ft.); Apartment 102 m² (1,100 sq.ft.)
- The High scenario assumes an average density of 3.1 FAR in the Neighbourhood Centre
- The Medium scenario assumes an average density of 1.7 FAR in the Neighbourhood Centre
- The Low scenario assumes an average density of 1.0 FAR in the Neighbourhood Centre
- All scenarios assume 18,500 m² (200,000 sq.ft.) of commercial floorspace for DCC calculation

APPENDIX B

Transportation Network Street Projects



Legend

- Neighbourhood Plan Boundary
- Arterial Streets (blue) (DCCs)
- Collector Streets (red)

Arterial Streets funded by the City (DCCs)

1. David Avenue - Burke Mountain Creek to Burke Village Promenade
2. David Avenue - Burke Village Promenade to Victoria Drive
3. Lower Victoria Drive - Burke Mountain Creek to Upper Victoria Drive
4. Lower Victoria Drive - Upper Victoria Drive to Fremont Connector
5. Upper Victoria Drive - Lower Victoria Drive to Marigold Street
6. Upper Victoria Drive - Marigold Street to David Avenue

Collector Streets implemented through development servicing requirements

7. Princeton Avenue
8. Burke Village Promenade
9. Gislason Avenue
10. Harper Road/ Mitchell Street
11. Rocklin Street
12. Marigold Street
13. Road " PC-A"
14. Road "PC-B"

N

0 100 200 400 600

Metres

Notes:

1: Projects in blue will be funded by DCCs and projects in red will be implemented through development servicing requirements.

2: Local streets and lanes are conceptual and will be provided through site development servicing requirements.

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

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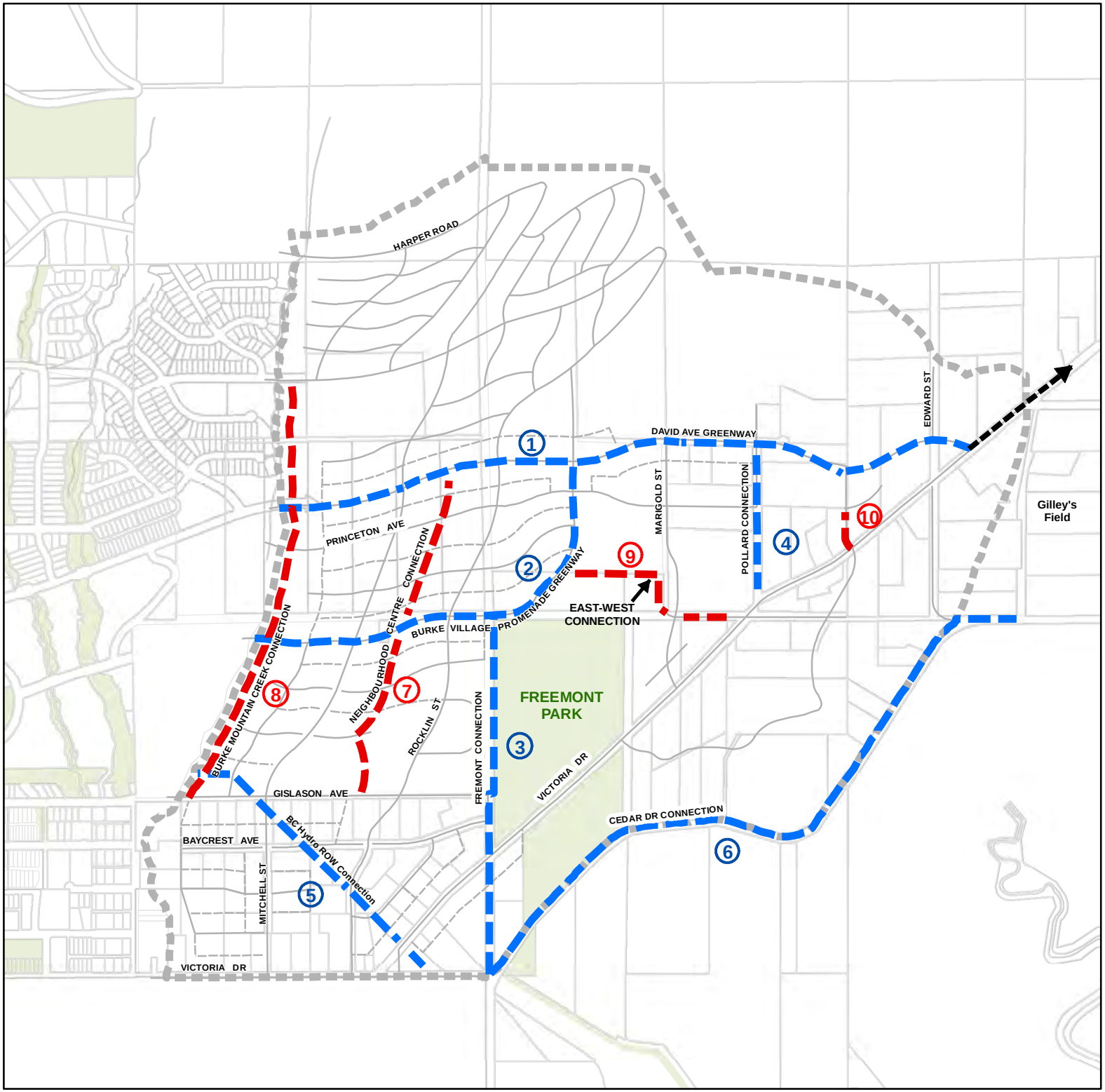
APPENDIX C

Transportation Network Greenway and Pedestrian/Recreational Connections



Legend

- Neighbourhood Plan Boundary
- City funded projects (DCCs)
- Development funded projects

City Funded (DCCs)

1. David Avenue City wide Greenway
2. Burke Village Promenade - City wide Greenway
3. Fremont Ped/Rec Connection
4. Pollard Ped/Rec Connection
5. BC Hydro ROW Ped/Rec Connection
6. Cedar Drive Ped/Rec Connection

Funded through development servicing requirements

7. Neighbourhood Centre Ped Connection
8. Burke Mountain Creek Ped/Rec Connection
9. East-West Neighbourhood Ped/Rec Connection
10. North-South Ped/Rec Connection

NOTE: Greenways and Pedestrian / Recreation connections are conceptual and subject to approval by the City's approving officer.

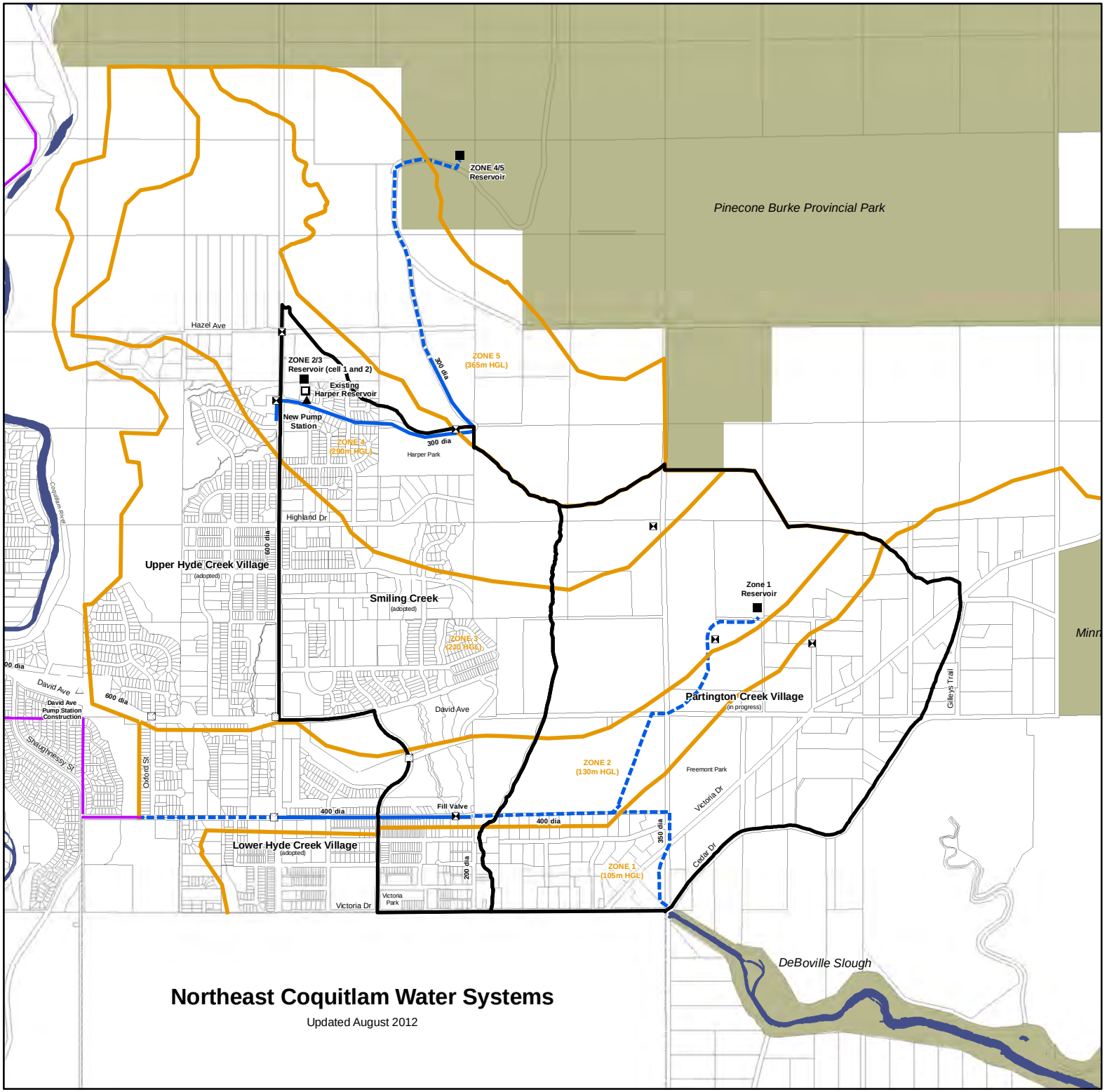
N

0 100 200 400 600

Metres

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

Coquitlam



Northeast Coquitlam Water Systems

Updated August 2012

APPENDIX D
Water System Improvements

LEGEND

- Proposed Pressure Zone Boundary
- G.V.W.D. Existing Supply Main
- Proposed City Water Supply Main
- Existing Water Main
- Proposed Reservoir
- Existing Water Reservoir
- Proposed Water Pump Station
- Existing Water Pump Station
- Proposed Pressure Reducing Valve
- Existing Pressure Reducing Valve
- Neighbourhood Plan Boundary

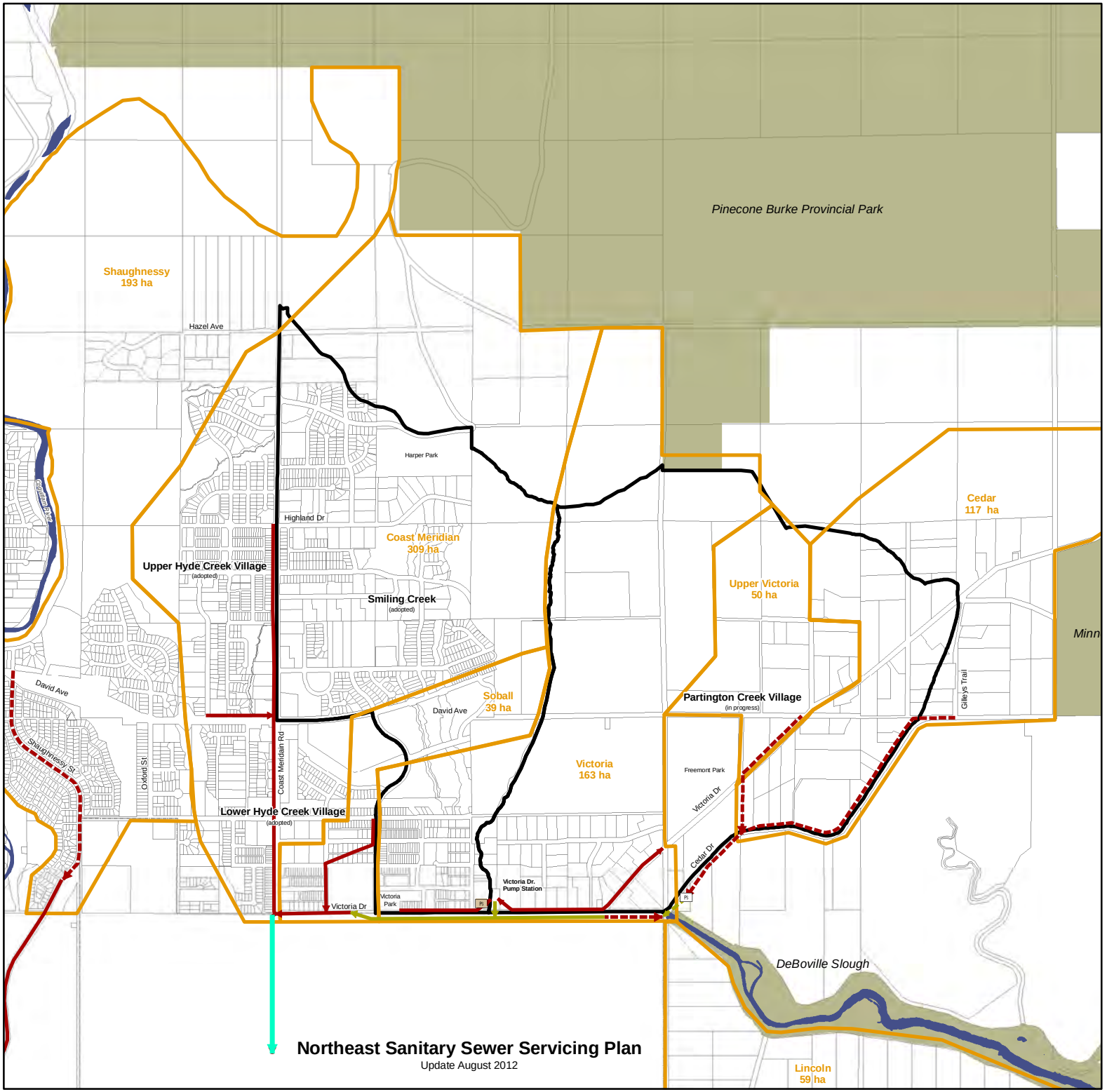
N

0 100 200 400 600 800

Metres

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

Coquitlam



APPENDIX E
Sanitary Sewer System Improvements

Legend

- Existing Pump Station
- Proposed Pump Station
- Proposed Sanitary Trunk Sewer
- Proposed Force Main
- Existing Sanitary Trunk Sewer
- Existing Force Main
- GVS & DD Trunk Sewer
- Sanitary Catchment Boundary
- Neighbourhood Plan Boundary

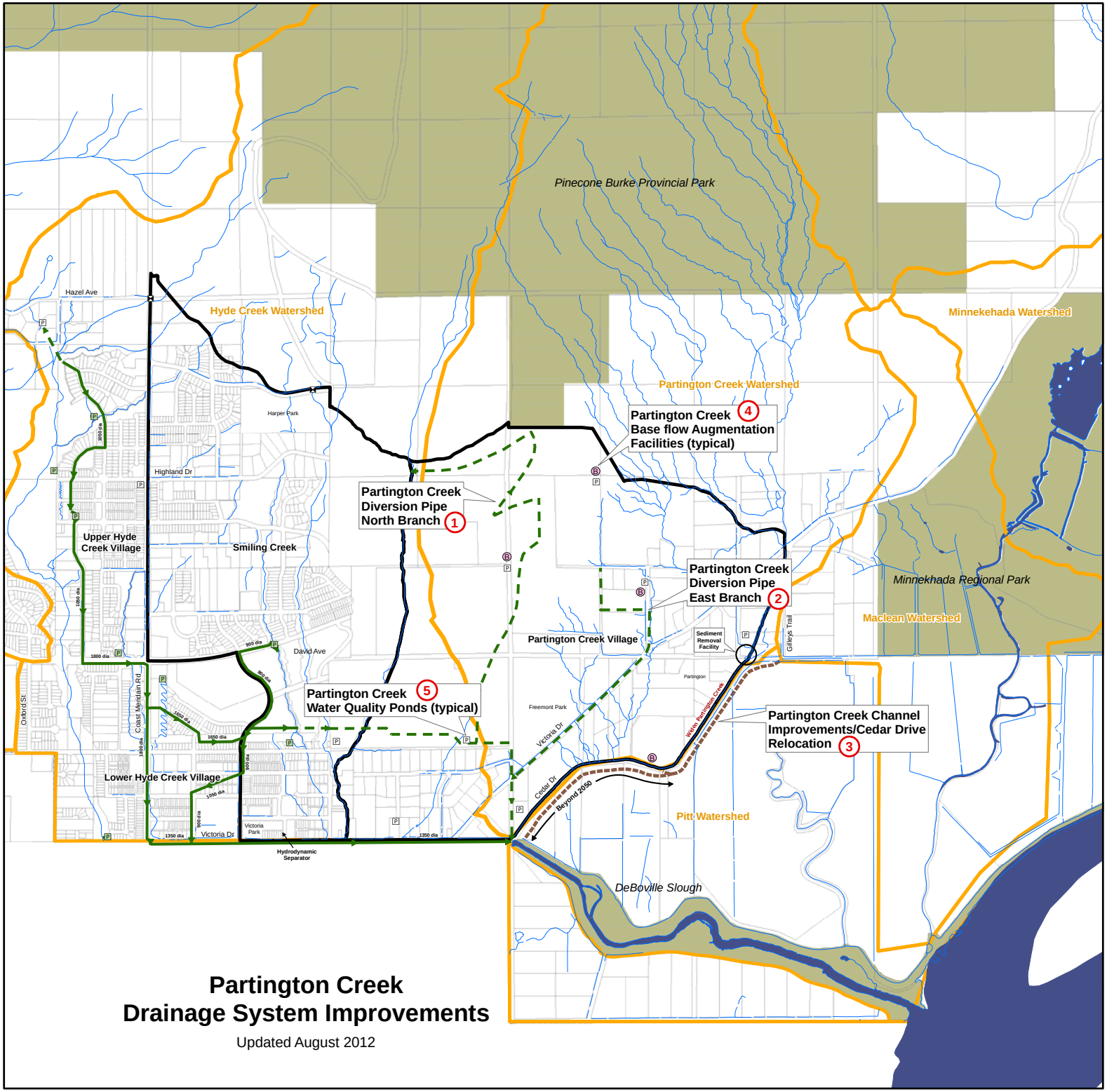
N

0 100 200 400 600 800

Metres

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

Coquitlam



Partington Creek
Drainage System Improvements

Updated August 2012

APPENDIX F
Drainage System Improvements

LEGEND

- Existing Storm Diversion
- Proposed Storm Diversion
- Proposed Dike
- Proposed Water Quality Pond
- Existing Water Quality Pond (Fill Valve)
- Proposed Baseflow Augmentation Facility
- Watershed Boundary
- Neighbourhood Plan Boundary

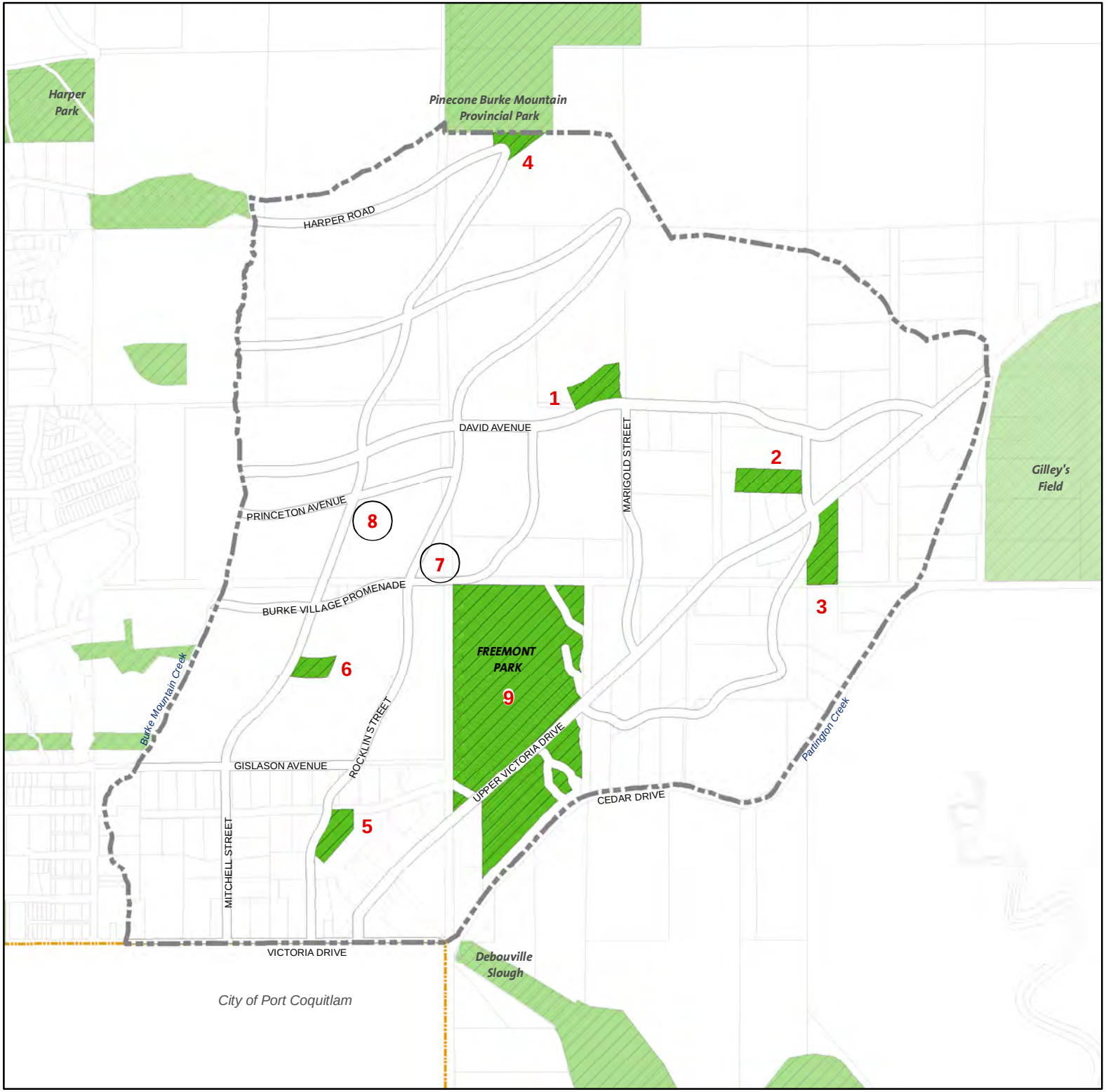
N

0 100200 400 600 800

Metres

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

Coquitlam



APPENDIX G

Park Acquisitions and Improvements

Legend

Parks and Recreation

Neighbourhood Plan Boundary

1. **David Avenue Park**
2. **Star Creek Park**
3. **Knoll Park**
4. **Pinecone Burke Trailhead**
5. **Baycrest Park**
6. **Mitchell Street Park**
7. **Village Plaza**
8. **Neighbourhood Centre Park(s)**

N

0 100 200 400 600

Metres

Map Date: May 07, 2013
Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer

Coquitlam