



# Corporate Report

NO: R034

COUNCIL DATE: March 30, 2009

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## REGULAR COUNCIL

TO: **Mayor & Council** DATE: **March 19, 2009**

FROM: **General Manager, Engineering** FILE: **6520-20**  
**General Manager, Planning & Development** **1209-0060-00**

SUBJECT: **Status Report on the Planning of the South Port Kells Area and Recommended Terms of Reference for the Development of a Neighbourhood Concept Plan for the Anniedale and Tynehead Neighbourhoods**

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## RECOMMENDATION

It is recommended that Council:

1. Receive this report as information; and
2. Authorize staff to proceed with the preparation of a Neighbourhood Concept Plan (NCP) for the combined areas of Anniedale "A", and "B" and Tynehead within South Port Kells, based on the Terms of Reference attached as Appendix I to this report.

## INTENT

The purpose of this report is to:

- Provide Council with an update on the issues, which have acted to delay the completion of NCPs in the South Port Kells area, and specifically, on the status of the regional transportation plans; and
- Obtain Council's authorization to proceed with the preparation of an NCP for the combined Anniedale and Tynehead Areas.

## BACKGROUND

On April 7, 2003, Council approved the Terms of Reference for, and instructed staff to proceed with, the preparation of a General Land Use Plan for the South Port Kells area. This General Land Use Plan was adopted by Council on May 30, 2005. The Plan

features South Port Kells as a complete community with local commercial nodes, a business area, a mix of residential uses and densities, community facilities, schools, parks, pathways and protected areas.

On March 1, 2004, Council authorized staff to establish boundaries for NCPs in the South Port Kells area and to prepare a terms of reference for the preparation of an NCP for the Anniedale area (Corporate Report No. L005; 2004). Owners in the Anniedale area had submitted a petition expressing a strong desire to move forward with an NCP, given that part of their community would be surrounded by three busy highways (Highway 1 and Highway 15, and the new Golden Ears Bridge Connector Road). On May 2, 2005, Council approved the Terms of Reference for the preparation of an NPC for the area known as Anniedale “A” (Corporate Report R107; 2005).

To assist in the development of a Transportation Plan for the entire South Port Kells General Land Use Plan area, the City undertook extensive traffic modelling that analyzed a number of options to manage traffic demand in the area. This level of detail is not typically undertaken in conjunction with the preparation of general land use plans; however, it was warranted for South Port Kells due to the number of significant highway projects in the immediate area. Access to the South Port Kells area from the regional road system is challenging but it was expected to be resolved through further work with the Province during the preparation of NCPs in the area.

In parallel with the work associated with the South Port Kells Transportation Plan, the NCP process for Anniedale “A” commenced in the fall of 2005 and a Citizen’s Advisory Committee (CAC) was formed. A considerable amount of work was completed toward the development of an NCP plan for this neighbourhood. It became evident through the NCP process that included various utility servicing studies and transportation studies that developing an NCP plan for Anniedale “A” on its own would not be viable from a servicing cost perspective. City staff and the CAC discussed the possibility of suspending the NCP work for Anniedale “A” and commencing a new NCP process covering a larger area to include Anniedale “B”.

On April 30, 2007 Council authorized staff to suspend work on the Anniedale “A” NCP by adopting the following motion:

*“authorize staff to bring forward a Terms of Reference for a combined Anniedale “A” and “B” Neighbourhood Concept Plan (NCP) once a Transportation Concept for the South Port Kells area has been refined and endorsed by the City and by the Province.”* (Corporate Report R088; 2007)

Since that time, the Province has advanced work on the design of the Highway 1 widening project and associated planning for new/modified interchanges in this area. City staff are currently working with the Ministry in reviewing draft plans and models related to the design of the intersection of Highway 15, Highway 1 and the Golden Ears Connector, and the design of a 192 Street interchange with Highway 1.

On February 9, 2009, representatives of land owners in the Anniedale and Tynehead neighbourhood area submitted a petition signed by 125 individuals representing 116 properties. The petition requested Council to immediately initiate the NCP process for

both the Tynehead and Anniedale B communities. This petition demonstrates the continuing interest of land owners in the area to have the NCP process completed. A General Land Use Plan has been completed and an NCP has already been initiated in this planning area for Anniedale “A”. Staff is bringing forward a TOR for a combined Anniedale/Tynehead NCP for Council’s consideration. A map illustrating the properties represented by this petition is attached as Appendix II.

## **DISCUSSION**

Work on the Anniedale “A” NCP was suspended in 2007, due to the high cost of bringing servicing infrastructure to this small area, and until major transportation issues such as the design for the Highway 1 expansion are known. This section of the report provides an update on the transportation issues, utilities servicing, and environmental assessment related to the South Port Kells area.

### **Transportation Issues**

For the City to complete the planning for future neighbourhoods within South Port Kells, it was critical that a broader transportation concept be developed for the area. This concept would need to outline how local traffic will be accommodated within the realities of the regional highways that pass by and through the area.

Three provincial or regional highways come together in South Port Kells, creating a significant challenge to accommodate the large traffic volumes that use these highways and that will be generated by new development in the area. The Golden Ears Bridge (GEB) connector road will connect Surrey with the new Fraser River Crossing. The GEB connector will traverse the Anniedale area south of 96 Avenue, with a new intersection at Highway 15 before transitioning back to the 96 Avenue alignment just west of Highway 15. Improving the capacity for this intersection and diverting traffic away from this intersection are critical to resolving one of the traffic issues for South Port Kells.

The City and the Province have been working on possible solutions to this intersection over the past year and a half. The preferred approach entails four elements:

- i. Creating a full movement interchange on Highway 1 at 192 Street to allow traffic to bypass this intersection;
- ii. Establishing a grade separated interchange at the Highway 15/GEB Connector / 96 Avenue intersection;
- iii. Providing adequate connectivity between Anniedale and Tynehead across Highway 15; and
- iv. Increasing the north-south and east-west capacity and connectivity through South Port Kells.

The Province has recently provided City Engineering staff with preliminary drawings for the 192 Street/Highway 1 interchange and the Golden Ears Bridge Connector Road/Highway 15/96 Avenue intersection. The City and Province will continue to work to refine these concepts as part of the development of the NCP as recommended in this report.

An additional crossing of Highway 15 to the south of the 96 Avenue alignment is required to provide additional local road capacity and connectivity between the Anniedale and Tynehead neighbourhoods. The two crossings of Highway 15 will have impacts on properties on each side of the highway. Due to the impact of transportation requirements on properties in the Tynehead area, it is recommended that the NCP include the Tynehead NCP area.

Additional road capacity and connectivity throughout South Port Kells will need to be developed through this NCP.

### **Utilities Servicing**

#### ***Sanitary Sewer:***

The sanitary sewer concept contained in the South Port Kells General Land Use Plan anticipated that much of the area would connect by gravity sewer, northward via a future twinning of the Port Kells trunk line to the new GVS&DD North Surrey Interceptor. Given this routing, the Anniedale “A” area was expected to be the first NCP area to have sewer services available to it. It has subsequently been determined that the actual hydraulic grade line in the GVS&DD trunk is too high to allow this area to connect to it by gravity.

The City has retained a consultant to conduct a review of the sanitary servicing strategy for South Port Kells. The study concluded that all sewage in the area would flow to the GVS&DD North Surrey Interceptor that has recently been extended to 173 Street and 104 Avenue, and that a series of gravity mains, pump stations and force mains would be necessary to provide service to the South Port Kells area.

#### ***Drainage:***

The expanded NCP area as recommended in this report covers a number of drainage catchments serviced by various infrastructure including the Upper Serpentine Pump Station, the Latimer Creek realigned channel and the Upper Serpentine Channel upstream of 88 Avenue. This infrastructure and proposed improvements to it have been evaluated in a number of separate drainage and functional plans that were prepared based on proposed land use plans consistent with the current OCP. The NCP study will include an evaluation of the impacts any proposed changes to the land use will have on the servicing recommendations. The recommendations must also be reviewed in the context of any new environmental information collected since the studies were originally completed.

#### ***Water:***

With respect to water servicing, the area is currently only partially serviced with community water mains. Most of the area is still provided with water by privately owned groundwater wells. A new trunk and distribution water main system will be required to support development in the area. Planning and phasing of the needed water infrastructure will be undertaken as part of the NCP study.

### **Environmental Assessment:**

As a first step in the planning process and before land use and development scenarios are formed, an Environmental Consultant will be retained to undertake an environmental assessment of the study area. This study will inventory, map, prioritize and make recommendations regarding the protection and enhancement of the area's natural features. The environmental study will focus specifically on the Anniedale "B" and Tynehead Areas and will update and be integrated with the Anniedale "A" environmental assessment.

### **CONCLUSION**

Appendix I sets out a proposed Terms of Reference for the preparation of an NCP for the combined areas of Anniedale "A" and "B" and Tynehead. Together these neighbourhoods contain an area of approximately 374 hectares (924 acres). While this is a large area for an NCP and will involve essentially undertaking three NCPs simultaneously, combining these separate areas into one consolidated process will be beneficial from a transportation, servicing and financing perspective.

Based on the above discussion, it is recommended that Council authorize staff to proceed with the preparation of an NCP for the combined areas of Anniedale "A" and "B" and Tynehead in accordance with the Terms of Reference attached as Appendix I to this report.

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VL/JB/KDZ/JLU/RD/MK/JM:brb:kd

Appendix I: Terms of Reference for an Anniedale "A", "B" and Tynehead NCP

Appendix II: Anniedale and Tynehead Petition Map

## **Draft Terms of Reference Neighbourhood Concept Plan for the Anniedale and Tynehead Neighbourhoods of South Port Kells**

### **Introduction**

The Official Community Plan (the "OCP") sets out broad objectives and policies to guide growth and development within the City. The General Land Use Plan for South Port Kells (adopted by Council in May 2005) illustrates, in broad terms, a general land use pattern, including residential, commercial, business centre, work place, institutional and other land uses at densities appropriate to meet the overall objectives of the City, while taking into account community input. It also illustrates the main transportation routes, highway access points, the general location of parks, schools and major greenways, the community structure, and a general approach to providing engineering services in the area. The General Land Use Plan is intended to form the foundation for the preparation of Neighbourhood Concept Plans ("NCPs") for future neighbourhoods in the South Port Kells area.

NCPs detail more precisely land uses and densities, urban design guidelines and place-making, the transportation network, as well as engineering servicing, amenities and a financing strategy, based on the principle of "development pays". NCPs act as the basis for reviewing and approving rezoning and development applications in the area.

### **Purpose**

These Terms of Reference set out the parameters for undertaking a planning and public consultation process for the preparation of an NCP for the combined areas of Anniedale and Tynehead in South Port Kells.

In May 2005, Council approved the Terms of Reference for an Anniedale "A" NCP. That planning process began in the fall of 2005 with the formation of a Citizens' Advisory Committee (CAC). Through that process, it became apparent that transportation, servicing and land use concepts impact a broad geographic area that extends beyond the boundaries of the Anniedale "A" NCP. In April 2007, Council suspended work on the Anniedale "A" NCP and requested that staff commence a planning process for the combined areas of Anniedale "A" and "B", once major transportation issues had been resolved. To plan in an effective and appropriate manner, taking the major transportation issues in the area into account, an even larger NCP area including the Tynehead Area is considered necessary.

These Terms of Reference set the context for a combined NCP. They define the study area, provide guidelines for preparing the NCP, outline the content of the NCP document and set the approximate timeframes for preparing the plan.

It is noted that due to new information with regard to servicing, and challenges with respect to the several major regional transportation routes in the vicinity of the study area, it may be necessary to make some amendments and re-examine a number of the premises in the adopted South Port Kells General Use Plan.

## **The Neighbourhood Concept Plan Area**

The plan area encompasses the former Anniedale “A”, “B” and Tynehead NCP areas, and will be referred to as the “Anniedale/Tynehead NCP”. The combined NCP area includes approximately 374 hectares (924 acres), as illustrated on the map attached in Schedule "A". The NCP area is generally bounded by Highway 1 and 96 Ave to the north and 168 Street to the west. The southern boundary is marked generally by the Agricultural Land Reserve (ALR) between 168 and 184 Streets and an approximate alignment with 90 Avenue jogging northward from 184 Street to Harvie Road. The eastern boundary is marked by Harvie Road’s termination at Highway 1.

There are approximately 374 individual properties in the NCP area. The NCP area includes a range of lot sizes. In some parts of the NCP, where ownership is quite fragmented, land assembly and redevelopment may be more challenging. The NCP area encompasses all of the area shown in the proposed General Land Use Plan as Business Centre. It also includes a range of residential designations including Multiple and Future Multiple Residential, Urban, Cluster and Suburban Residential. The General Land Use Plan identifies a school and park in the vicinity of the Anniedale Village Centre. Other future uses noted in the General Land Use Plan include parks, buffers, multi-use trails and riparian (watercourse) setback areas.

In this part of South Port Kells, four provincial or regional highways come together, making it an area that is unlike any other in the Lower Mainland. The Golden Ears Bridge (GEB) Connector Road, a responsibility of the Greater Vancouver Transportation Authority (TransLink) will traverse the area south of 96 Avenue, within the boundaries of the original Anniedale “A” NCP. Under the Ministry of Transportation’s Gateway Program, Highway 1 will be widened and Highway 15, between 88 Avenue and Highway 1 will be improved. A connection to the South Fraser Perimeter Road will be provided on the north side of Highway 1, outside of the plan area.

## **The OCP and Zoning**

The entire NCP area is designated Suburban in Surrey's OCP with a small commercial designation north of the 88 Avenue and Harvey road intersection. While the majority of parcels are zoned One-Acre Residential (RA), there are also numerous parcels, particularly on the south side of 92 Avenue between 176 and 184 Streets, that are zoned General Agriculture (A-1).

## **NCP Preparation and Consultation Process**

A Citizens’ Advisory Committee (CAC) from the combined Anniedale and Tynehead NCP areas will be formed. It is expected that many of the members of the Anniedale “A” NCP will wish to continue to serve on this larger CAC. The new CAC will be established in consultation with owners/and or residents within each of the Anniedale “A”, “B” and Tynehead areas, as well as in consultation with the CAC for the South Port Kells General Land Use Plan. Representatives from community associations will be invited to participate on the CAC to help ensure that neighbouring areas are involved in the development of the NCP.

Schedule "B" lists the activities and timeframes associated with major steps in the proposed planning process. Infrastructure and engineering servicing planning, as detailed in Schedule “C”, will be an integral part of the process, as will extensive public consultation through committees, workshops and/or focus groups, meetings and open houses. At milestones in the planning

process, public meetings will be held and update reports will be provided to City Council. As outlined in the OCP, residential interests and the business community, along with the general public, will be consulted in preparing the NCP.

The City will engage an Environmental Consultant to undertake a detailed assessment of the study area, and may engage a planning consultant to prepare land use concepts for the NCP area. At least two options will be developed and these will be reviewed with the property owners in the area, as well as with other stakeholders. Public information meetings will be held to discuss the proposed NCP and to receive input from the public.

There are several specific issues that will be addressed through the NCP process that, as noted above, may also lead to amendments to the adopted General Land Use Plan. These are summarized as follows:

1. Traffic circulation and transportation access from the major roads in the area needs to be resolved. The NCP area is impacted by new transportation initiatives such as the Golden Ears Bridge Connector, the widening of Highway 1 and improvements to Highway 15. Each of these has implications with respect to access to properties and appropriate land uses within the study area. While land acquisition and construction are proceeding for the new Golden Ears Bridge Connector (TransLink), details related to Highway 1 and Highway 15 (Gateway Program) are at this point being reviewed.

A significant amount of transportation computer modeling was undertaken as part of the South Port Kells Transportation Plan and the Anniedale “A” planning process. The modeling was required to test various road network options that might provide adequate levels of access to the area. Several meetings were convened between City staff and senior transportation agencies to review these options. To a large extent, land use in the South Port Kells area will be determined by the level of access that can be provided. The location of future transportation improvements including overpasses, intersections, interchanges, as well as land required for future widening are critical components of the NCP.

2. Subsequent to the adoption of the General Land Use Plan, further information from the GVS&DD was made available affecting sanitary sewer servicing of the area. New maps and strategies will have to be developed, with amendments to the General Land Use Plan and as part of the preparation of the NCPs for South Port Kells.
3. The size, extent and range of uses in the Business Centre designation will need to be confirmed. Preliminary results suggest that a single signalized intersection at 180 Street into the Anniedale triangle area would support the amount of traffic generated by light industrial uses.
4. Local commercial centres were identified at the heart of each of the three neighbourhoods in South Port Kells. Given the need to revisit the transportation network and to provide for connectivity between Tynehead and Anniedale across Highway 15, it may be necessary to re-examine the location of commercial nodes. Specifically, the location of the Anniedale Village Centre will need to be considered in conjunction with the ultimate preferred location of an overpass across Highway 15. The precise size and mix of land uses and densities in the village centre will be determined at the NCP stage. This determination may involve a commercial needs and land requirement analysis. In

addition, it will be important to plan for any new commercial centres with a view to implementing Place-Making criteria to ensure community and neighbourhood centres and civic facilities provide for pleasant gather places and foster neighbourhood identity.

5. The width and configuration of the Business Centre designation, south of Highway 1 from about 184 Street to Harvie Road, needs to be confirmed. A physical and economic analysis of the width of the designation in this area and the requirements for future road access for this corridor of land will need to be considered in a concurrent manner.
6. The extent of the proposed Urban and Business Centre designations in the area west of Harvie Road and south of 92 Avenue will need to be confirmed, based upon a more in-depth analysis of the slopes, potential building requirements and the feasibility of the proposed business frontage road;
7. A significant portion of the NCP area is designated for Cluster Residential uses at urban densities. This designation involves clustering of development in order to protect areas of environmental sensitivity, to work with site topography, to protect the ALR, and to provide for adequate buffer areas. The precise form and density within the Cluster Residential designation will need to be determined.
8. Appropriate buffering and land use/density transition policies will need to be identified, particularly in relation to the Agricultural Land Reserve to the south of the NCP area. The General Land Use Plan identifies a range of potential interfaces including low-density suburban residential uses, landscaped buffers on private property, substantial undeveloped open space and parks and multi-use trails.
9. The location of new elementary schools in association with a park sites will need to be assessed.
10. Since the adoption of the General Land Use Plan, Surrey has adopted its first Sustainability Charter. It will be important to examine land use and infrastructure in the area through the lens of the three pillars of Sustainability, Economic, Social and Environmental.

## **NCP Content**

The NCP will contain the elements specified in "Part 5: Secondary Plans" of the OCP. The NCP will include a physical plan for land uses, known as the Land Use Concept Plan and facilities, amenities, engineering servicing and financing strategies for the provision of services to and for the neighbourhood.

The NCP will be undertaken in two stages. The content and level of detail required for each of the Stage I and Stage II reports are set out in the following table.

ITEM	LEVEL OF DETAIL FOR STAGE I	LEVEL OF DETAIL FOR STAGE II
Land Use Concept – Map and draft policies	Distribution of uses and densities, projected population/commercial and other land area, reflecting items listed below.	Finalized concept, policies for the area including Sustainability features and population analysis.
Location of Schools, Parks, Walkways and Greenways	Identification, review and confirmation of locations. Confirmation with School District. Coordination with drainage, environmental and transportation objectives.	Confirmation of sites, design details for walkways, greenways, implementation strategy.
Design Guidelines	Preliminary design concepts	Detailed design guidelines.
Transportation	Proposed functional road network based on trip generation estimates of proposed land uses. Identification of a Bicycle Network integrated with surrounding facilities. Transit routing and services. Preliminary indication of impact on transportation system to satisfaction of City and interested transportation agencies.	Finalized transportation servicing plan including capacity analysis of key intersections and financial strategy.
Storm Water Management	Proposed Storm Water Management Plan within watershed context (or existing Master Drainage Plans) and corresponding impact mitigation strategies and associated impacts on land use.	Review of plan by AAC. Conceptual sizing of neighbourhood stormwater management facilities (including ponds, trunks, etc.) and associated financial analysis, coordinated with environmental analysis.
Water & Sewer	Identification of servicing opportunities and constraints. Confirmation of connectivity to Surrey systems, preliminary servicing strategy and indication of capacity and impact on surrounding area to satisfaction of Engineering staff.	Completed design of water and sewer systems, including financial strategy.

ITEM	LEVEL OF DETAIL FOR STAGE 1	LEVEL OF DETAIL FOR STAGE II
Environmental analysis	A baseline environmental assessment will include a fisheries watercourse assessment, a Wildlife Act Section 34(b) wildlife survey, Species at Risk Act (SARA) and Provincial red-listed species suitability mapping, as well as the identification of environmentally sensitive areas such as rare vegetation types, marshes, wetlands and critical wildlife hubs, sites and corridors. A tree survey will also be conducted including significant trees, remnant patches and forests.	Detailed wildlife and vegetation inventory may be required based on results of baseline assessment.  Review of plan by EAC and ERC if necessary. Integration of environmental concept into finalized plan and policies.
Heritage assessment	Overview assessment of Tynehead heritage resources. Integration with Anniedale “A” findings.	Recommendations for incorporation of heritage resources into plan.
Financing & Staging		Calculation of amenity fees. Preliminary community infrastructure cost estimates. DCC revenue estimates.
Other studies, as necessary, related to specific features of the NCP area or impact on adjacent areas.		

The physical plan will contain the following components:

1. The development of a Vision and Guiding Principles and Polices for the development of the Anniedale and Tynehead Neighbourhoods;
2. Maps and statistics describing the plan area and sub-areas;
3. A description of overall development concept;
4. A description of the Sustainability features of the concept and evaluation with the objectives and targets developed through the City’s Sustainability Office;
5. Policies for the development and provision of services, amenities and facilities;
6. Policies and strategies reflecting requirements of the OCP policy directions;
7. A Land Use Concept Plan showing:
  - (a) Proposed land uses for each lot;
  - (b) Locations for parks, open space and recreational uses, including greenway connections with adjacent areas;

- (c) Buffers, landscaped areas and edge conditions, specifically in relation to adjacent future commercial/business development; and
  - (d) Other land uses supporting business activity, including day care, employee amenities, utility and communication facilities, etc.
8. A transportation and circulation concept plan that provides for balanced transportation modes, including walking, bicycling, transit and automobiles, and including a traffic calming plan and plans and strategies for access to/from arterial roads and regional highways;
  9. Guidelines related to character and urban design, CPTED, nuisance control, edge conditions, screening and buffering, environmental protection and tree protection;
  10. An environmental impact analysis with recommendations for protection and enhancement of treed areas, watercourses and areas of fisheries and wildlife habitat;
  11. Buffering and landscaping standards to achieve appropriate interfaces and adequate separation, where applicable; and
  12. A servicing and financing strategy, as set out in Schedule "C" to these Terms of Reference entitled "Engineering Terms of Reference Summary", based on the principle of "development pays" that will contain the following:
    - (a) A comprehensive servicing plan that includes the location, staging and standards of services, including sanitary sewer, water, drainage, roads and other utilities and methods of implementation through rezoning, subdivision and other mechanisms; and
    - (b) A financial analysis that will demonstrate how the servicing plan will be implemented.

## **NCP Timeline**

It is anticipated that the NCP process will commence immediately with work on the environmental assessment for the area. A CAC will be formed in spring of 2009, once critical transportation components have been identified by senior agencies. It is expected that the preparation of the NCP will take approximately one and a half years to complete, as generally outlined in Schedule "B".

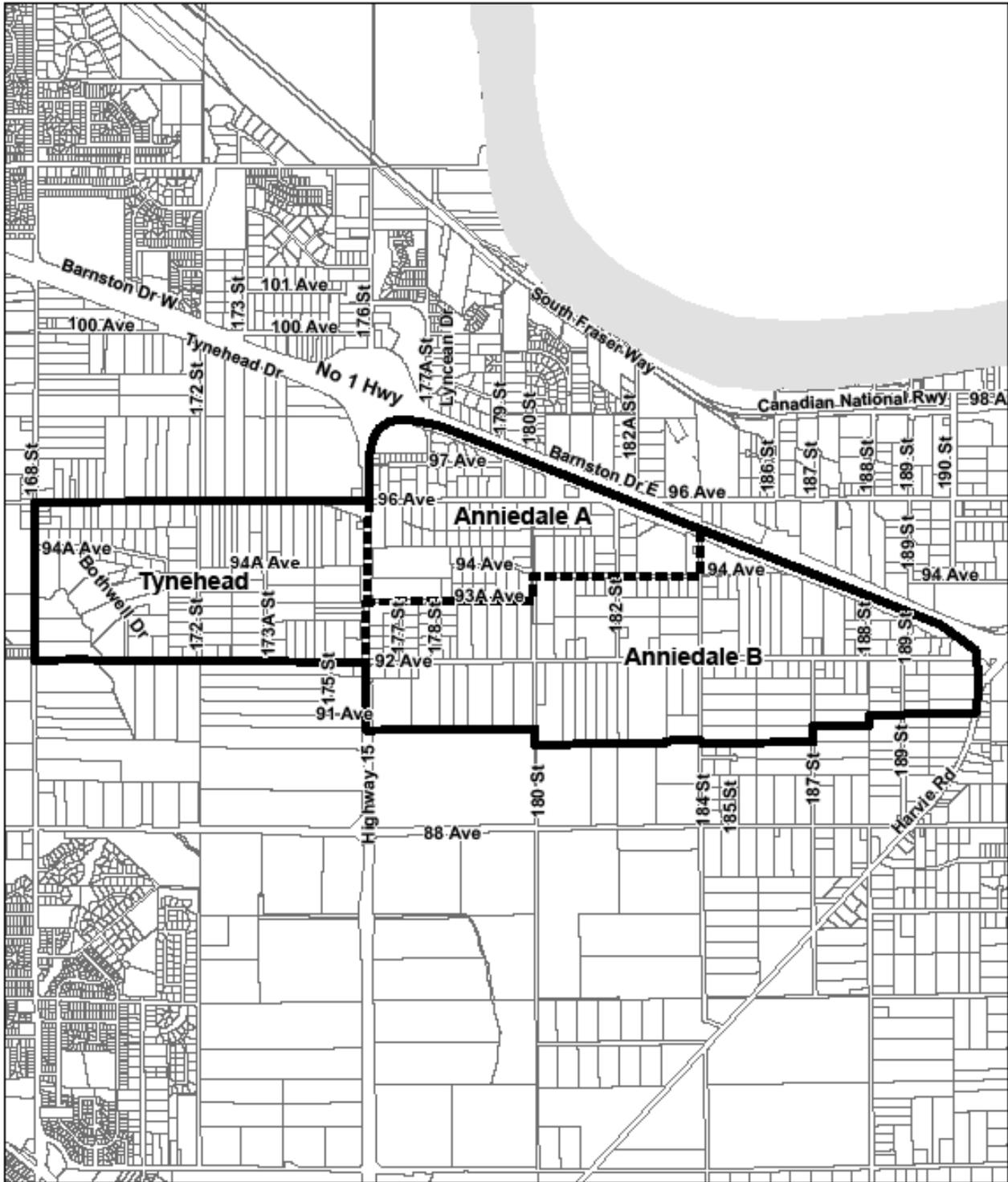
### Schedules:

Schedule "A" - Map showing Anniedale "A", "B" and Tynehead NCP Area

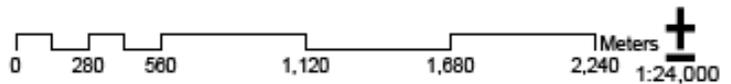
Schedule "B" - Proposed Work Schedule

Schedule "C" - Engineering Terms of Reference Summary – Anniedale "A", "B" and Tynehead NCP

Map showing proposed Anniedale "A", "B" and Tynehead NCP Neighbourhoods



Anniedale and Tynehead NCP Areas



**Proposed Work Schedule  
Anniedale and Tynehead NCP**

Activity/Task	Estimated Time
1. Initiate a Consultant Study of the Environmental features of the Anniedale B and Tynehead areas, to be integrated with previous environmental work in Anniedale A	March 2009
2. Initiate formal planning process <ul style="list-style-type: none"> <li>– Confirm citizen advisory committee</li> <li>– Collect background materials and information</li> <li>– Hold initial public meeting</li> </ul>	April-May 2009
3. Meet with Senior Transportation Agencies <ul style="list-style-type: none"> <li>– Identify transportation concept and needs related to South Port Kells</li> </ul>	April-May 2009
4. Explore land use concept options and related general servicing implications and undertake technical studies <ul style="list-style-type: none"> <li>– Engage heritage consultant for Anniedale “B” and Tynehead Area only</li> <li>– Engage transportation and utilities consultant</li> <li>– Resume transportation modelling work</li> <li>– Engage commercial/industrial trend analyst if required</li> </ul>	June – September 2009
5. Further refine land use concept options and related servicing implications	September – October 2009
6. Review options with the various Advisory Committees (EAC, AAC, DAC), stakeholders and the general public <ul style="list-style-type: none"> <li>– Technical review</li> <li>– Meet with stakeholders</li> <li>– Hold a public information meeting</li> </ul>	October – December 2009
7. Develop preferred land use concept <ul style="list-style-type: none"> <li>– Review with stakeholders</li> <li>– Hold a public information meeting</li> </ul>	January 2010
8. Refine the preferred Land Use Concept, based on stakeholder and public input	February 2010
9. Seek Council approval for the Stage I land use and development concept	February 2010
10. Prepare and finalize servicing/infrastructure, phasing and funding strategies	March- August 2010
11. Hold a final public information meeting	September 2010
12. Forward the final and complete NCP to Council for approval	October 2010

**Engineering Draft Terms of Reference Summary  
Anniedale "A" and "B" Neighbourhood Concept Plan**

**A. INTRODUCTION**

The South Port Kells area is divided into several NCP areas. The purpose of these engineering Terms of Reference is to set out a process to prepare servicing plans for the combined Anniedale "A", "B" and Tynehead NCP area. The following is a summary of the Engineering Terms of Reference for the area.

**B. ENGINEERING**

**General Requirements**

The plan must demonstrate how the NCP will conform to the policies and guidelines of the overall South Port Kells General Land Use Plan and provide details related to a general approach to providing engineering services for the area, with estimated costs, sequencing and a funding strategy.

As part of this NCP study the Consultant is required to develop in consultation with City staff at least two Land Use Concept Options accompanied by supporting Stage 1 transportation and utility plans. The options will be assessed against an evaluation framework and a single preferred option will be selected for detailed analysis and refinement.

**Transportation Requirements**

Based on an evaluation of the traffic generation of the Preferred Land Use Concept, and the impact of changes to the strategic road network (Gateway Project), the plan must demonstrate the adequacy of the existing routes and identify improvements necessary to provide acceptable vehicular, cycling, transit and pedestrian service and accessibility. Based on the Transportation Concept Plan being generated for the South Port Kells General Land Use Plan area, this will include intersection analysis of all intersections on Arterial and Collector routes, including an analysis of A.M. and P.M. peaks for initial conditions, at the 10-year horizon and at build out conditions in 2031.

The transportation component of the NCP study will include, but will not necessarily be limited to:

1. Develop a proposed road network including functional road classification maps for the road network within the study area and connecting to surrounding City streets and integrated with other regional and provincial road networks described below, identifying the impact on properties;
2. Define a local road network that will be integrated with the collector and arterial network as defined in the transportation concept plan and providing appropriate access to developable areas;
3. Analyze intersection capacities for the preferred land use concept;

4. Develop detailed road and intersection layouts including laning, access control and traffic control options;
5. Provide an estimate of costs to implement and upgrade the road system;
6. Identify traffic calming and on-street parking opportunities;
7. Address pedestrian and bicycle access within the NCP area; and
8. Locate and recommend appropriate transit access and servicing. .

### **Drainage and Stormwater Management Requirements**

With respect to drainage, a servicing concept must be developed, including preliminary designs to service the proposed area in a manner that is consistent with the land development and neighbourhood objectives.

Formal Integrated Stormwater Management Plans have not yet been completed for the drainage areas which are impacted by this NCP; however a number of Drainage Plans have been completed the recommendations from which have been included in the City's current ten year servicing plan. These studies include but are not limited to the Upper Serpentine Pump Station studies, the Latimer Creek Master Drainage Plan and the North Bluff Drainage and Slope Stability Assessment. Recommendations from these reports will need to be reassessed in the context of the proposed land use plans which may not be consistent with the original assumptions made in these reports. Any changes in the land use plans that could lead to changes in recommendations from the original reports will need to be highlighted and mitigation measures suggested. Every year the City also completes a review of ravine and watercourse stability. Results from these reviews are to be taken into account when assessing drainage opportunities and constraints in the neighbourhood. Any issues or concerns, within or in the vicinity of the NCP area, that have not been covered in existing studies or reports are to be highlighted and addressed through the NCP work.

The drainage servicing will incorporate current best management practices and meet the following additional requirements **generally listed between Stages 1 and 2:**

#### **Stage 1**

1. Identify the existing drainage boundaries and the systems that service the area;
2. Prepare an updated plan of the existing boundaries and drainage systems. This plan will include catchments that are upstream and downstream of the project area;
3. Present a list of opportunities and constraints based on a review of environmental concerns including but not limited to habitat, erosion, water quality and recreational use;
4. Determine the potential changes to the existing flow regimes resulting from the proposed development;
5. Identify a feasible Servicing Scheme for development drainage in keeping with the Design Guidelines. The Servicing Scheme will account for potential basements if applicable;

6. Highlight changes to the existing drainage system and potential impacts including floodplain concerns and erosion;
7. Develop a mitigation plan to address negative impacts resulting from the proposed development; and
8. Integrate the mitigation plan into the areas servicing scheme and development planning.

## **Stage 2**

1. Identify servicing depths and grading requirements;
2. Develop a mitigation plan to address negative impacts resulting from the proposed development;
3. Prepare a summary of implementation costs for all trunk storm works and items that are identified in the proposed servicing scheme;
4. List an effective sequence for implementation of the area servicing, identifying the dependency of elements within the system, considering hydraulics, environment, revenues and costs;
5. The implementation plan will recommend a sequence of development and works that will be self-funding and will provide required mitigation of downstream impacts;
6. Prepare a clear and detailed plan showing the required ultimate servicing elements; and
7. Submit a report listing the design and performance objectives of the servicing scheme related to each catchment area, describing how the proposed servicing addresses the objectives.

## **Water Servicing Requirements**

The consultant shall provide an overall functional plan of the water system to service the NCP. The plan shall include, but not be limited to, the following:

### **Stage 1**

1. Re-define the pressure zone boundary within this NCP area including Anniedale “A”, Anniedale “B”, and Tynehead. Two pressure zones at 135m and 90m HGL will be required;
2. Review the existing and build out demand as provided in North Surrey Pump Station Study, June 2007. The existing 525mm diameter feeder main on 96 Avenue has adequate capacity to service the existing Port Kells area north of

Highway 1. The City's current Ten Year Plan has included a secondary feeder main to service the higher elevation areas within the existing Port Kells area; and

3. The two pressure zones shall be serviced separately. Interconnections via pressure reducing valves shall be provided for emergency supply only. Eliminate any inter-pressure zone flow under all normal demand scenarios except fire flow and emergency conditions.

## **Stage 2**

1. Provide, if required, off-site and on-site feeder mains to service each of the pressure zones:
  - (a) The feeder mains for each pressure zone shall either be looped, or an emergency feed provided to provide system redundancy;
  - (b) The proposed and existing feeder mains shall be of adequate capacity to provide the required fire flow and domestic demand for this NCP, the existing Port Kells area, and other areas east and south of this NCP. Exclude the area located within the Agricultural Land Reserve;
  - (c) The feeder mains shall be designed for the preferred Land Use option ultimate build out condition; and
  - (d) Provide the Maximum Day Demand and Peak Hour Demand of each of the pressure zones within the three sub-areas of this NCP and all other areas as described above;
2. Provide a network of water distribution mains within this NCP to provide sufficient domestic demand and fire flows (supported with calculations) to the study area for the proposed land uses in accordance with the City's Design Criteria. Identify locations of all pressure reducing valves;
3. Provide supporting information to confirm that the proposed network is of adequate capacity. Calculations and maps indicating the pressure at peak demand, fire flow availability, hydraulic gradient and velocity within pipes shall be required;
4. Coordinate with the land use plan such that appropriate utility corridors are provided, as appropriate, so that all water mains shall be looped. Dead end main will not be allowed;
5. Recommend the funding strategy and phasing/sequence for the off-site and on-site feeder mains, PRVs, and looped connections; and
6. Identify the costs attributable to this NCP and the other surrounding areas as listed above.

## **Sanitary Sewer Servicing Requirements**

Earth Tech (now AECOM) has prepared a servicing study for Port Kells South; "South Port Kells Sanitary Service Concept Study, November 2006". This study provides the basic concept for servicing South Port Kells with sewers. Kerr Wood Leidal (KWL) is

currently investigating sewage odour issues and mitigation works from this area and from the Port Kells Industrial area.

The Plan for this assignment will include the preparation of an overall functional plan of the sanitary sewer system to service the sewer catchments in the area, including but not limited to the following:

### **Stage 1**

1. Identify downstream constraints for all sewer capacity issues; and
2. Review the road layout to meet the following guidelines for sewer design;
  - (a) avoid down slope cul de sacs;
  - (b) avoid sewer flow against ground or road grades;
  - (c) provide maintenance access for all sewer lines, and
  - (d) provide gravity sewers to all existing and future properties.

### **Stage 2**

1. Define and depict the sewer collector system in more detail than the Earth Tech Report for this NCP area;
2. Plan all sewers on all planned roads including local and collector roads, and to service all potential lots;
3. Define the sewer catchments and sub-catchments including the divide line along the topographic ridge and provide a map identifying each of the catchments and sub catchments;
4. Prepare sewer design calculation sheets reporting actual flow velocities, highlight the areas of constraint, and determine the options to address the constraints;
5. Prepare preliminary sewer profiles on critical sections of main to ensure that the sewer depth is not excessive while servicing the future lots in the sub catchment and allows for extensions where required;
6. Define and depict which area will not be serviced immediately due to topographic constraints;
7. Provide details of any creek or environmentally sensitive area crossings;
8. Incorporate the odour mitigation works and practice recommended by KWL;
9. Prepare preliminary cost estimates for the upgrades that qualify for DCC reimbursement;
10. Minimize the number of individual pump connections and areas to be serviced by pumps and low pressure systems; and

11. Confirm and revise Earth Tech's servicing scheme based on the finalized proposed land use option.

## **C. FINANCING AND STAGING**

A funding strategy is required to link the servicing costs with the proposed implementation plan. The Consultant shall prepare preliminary cost estimates for all DCC eligible infrastructure and complete an assessment of the financial balance sheet for the NCP.

As is the case for most NCPs within the City of Surrey, the following principles for engineering infrastructure financing will apply:

- (a) The City will not finance costs for new infrastructure to serve development;
- (b) The DCCs collected in the NCP must balance with or exceed required expenditures for the total build out of the NCP on a per asset basis. Funding shortfalls should be addressed through alternate financing strategies; and
- (c) The City will not fund through DCCs, any interim infrastructure or measures.

The financial evaluation must take into consideration the staging of the NCP to ensure the required infrastructure can be implemented using logical phasing that will be financially viable with the DCC funding and administrative procedures (i.e., DCC credits, front ends, etc.).

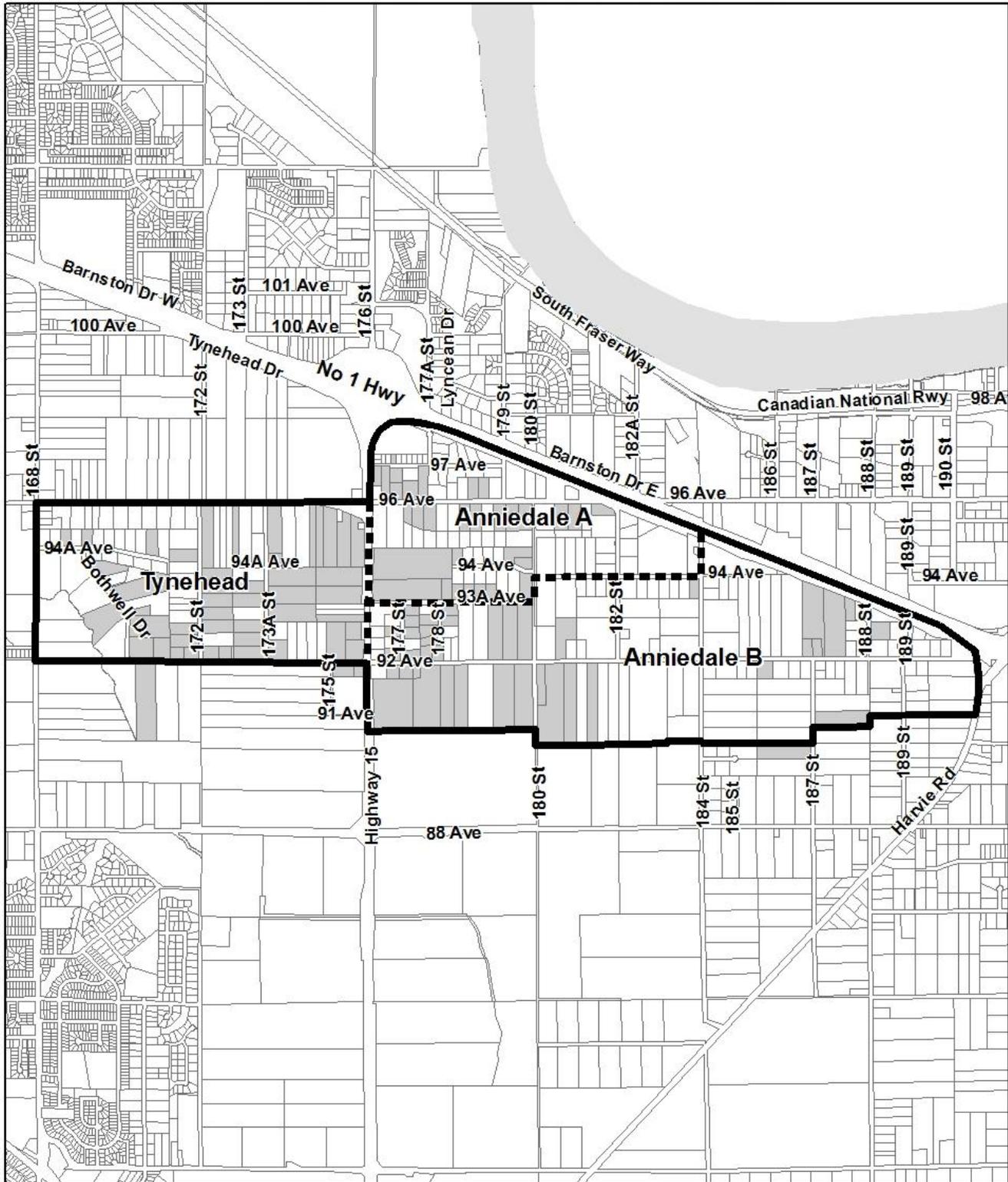
### **Stage 2**

The consultant will prepare DCC revenue estimates for the NCP based on the preferred Land Use Plan approved as part of Stage 1.

The consultant will prepare preliminary cost estimates for all community utility infrastructure that is DCC eligible. The cost of infrastructure elements required to service areas outside the NCP area will be pro-rated to reflect the catchment and timing of future development.

A financial analysis will be completed comparing revenue to costs on an asset basis. Potential shortfalls must be highlighted and possible funding strategies proposed.

Map showing petition lots within proposed Anniedale "A", "B" and Tynehead NCP Neighbourhoods



Anniedale and Tynehead NCP Areas

