

City of Nanaimo

Bill 44 – approach to impacts on utilities

GRAHAM CRUMBS COCOA & COCONUT SUGAR & BUTTER CUSTARD MIDDLE CHOCOLATE LAYER

CITY OF NANAIMO

NANAIMO-BAR

Bar From HOME

BOTTOM LAYER: 1/2 cup unsalted butter (European style cultured), 1/4 cup sugar, 5 tbsp cocoa, 1 egg beaten, 1 3/4 cups graham wafer crumbs, 1/2 cup finely chopped almonds, 1 cup coconut. MELT FIRST 3 INGREDIENTS IN TOP OF DOUBLE BOILER. ADD EGG & STIR TO COOK & THICKEN. REMOVE FROM HEAT. STIR IN CRUMBS, COCONUT, & NUTS. PRESS FIRMLY INTO AN UNGREASED 8" x 8" PAN.
SECOND LAYER: 1/2 cup unsalted butter, 2 Tbsp and 2 Tsp cream, 2 Tbsp vanilla custard powder, 2 cups icing sugar CREAM BUTTER, CREAM, CUSTARD POWDER, & ICING SUGAR TOGETHER WELL. BEAT UNTIL LIGHT. SPREAD OVER BOTTOM LAYER.
THIRD LAYER: 4 squares semi-sweet chocolate (1 oz. each), 2 Tbsp unsalted butter MELT CHOCOLATE & BUTTER OVER LOW HEAT. COOL. ONCE COOL, BUT STILL LIQUID, POUR OVER SECOND LAYER & CHILL IN REFRIGERATOR. Recipe by JOYCE HARDCASTLE



-  Trans-Canada Hwy & Island Hwy
-  Highway 19 & Nanaimo Parkway
-  Visitor Centre
-  BC Ferry Terminal
-  Parks
-  Lakes
-  Location of the featured photo

For detailed maps of Nanaimo, please stop by the Visitor Centre or check out:
TourismNanaimo.com & Nanaimo.ca (Recreation & Parks)

NANAIMO

- FESTIVALS & EVENTS -

CITY MAP

~ LEGEND ~

- E & N Railway
- Fine China Trail
- E & N Trail (paved)
- Parkway Trail (paved)
- Walking Trails
- MTB Bike Only Trail
- Highways
- Main Roads
- Harbourfront Walkway

- Shopping
- Parks
- Dive Spot
- Hospital
- Visitor Centre
- Highway Exit
- Parking
- Beach Access
- Ferry Terminal
- Seaplane Terminal
- Marina
- Cruise Ship Terminal
- Campground
- Fishing Charter

- Winery
- Brewery
- Boat Launch
- Helijet
- Whale Watching
- Kayak Rental
- Farmer's Market

- SHOPPING
- Woodgrove Centre
- Nanaimo North
- Town Centre
- Country Club Centre
- Rock City Centre
- Brooks Landing

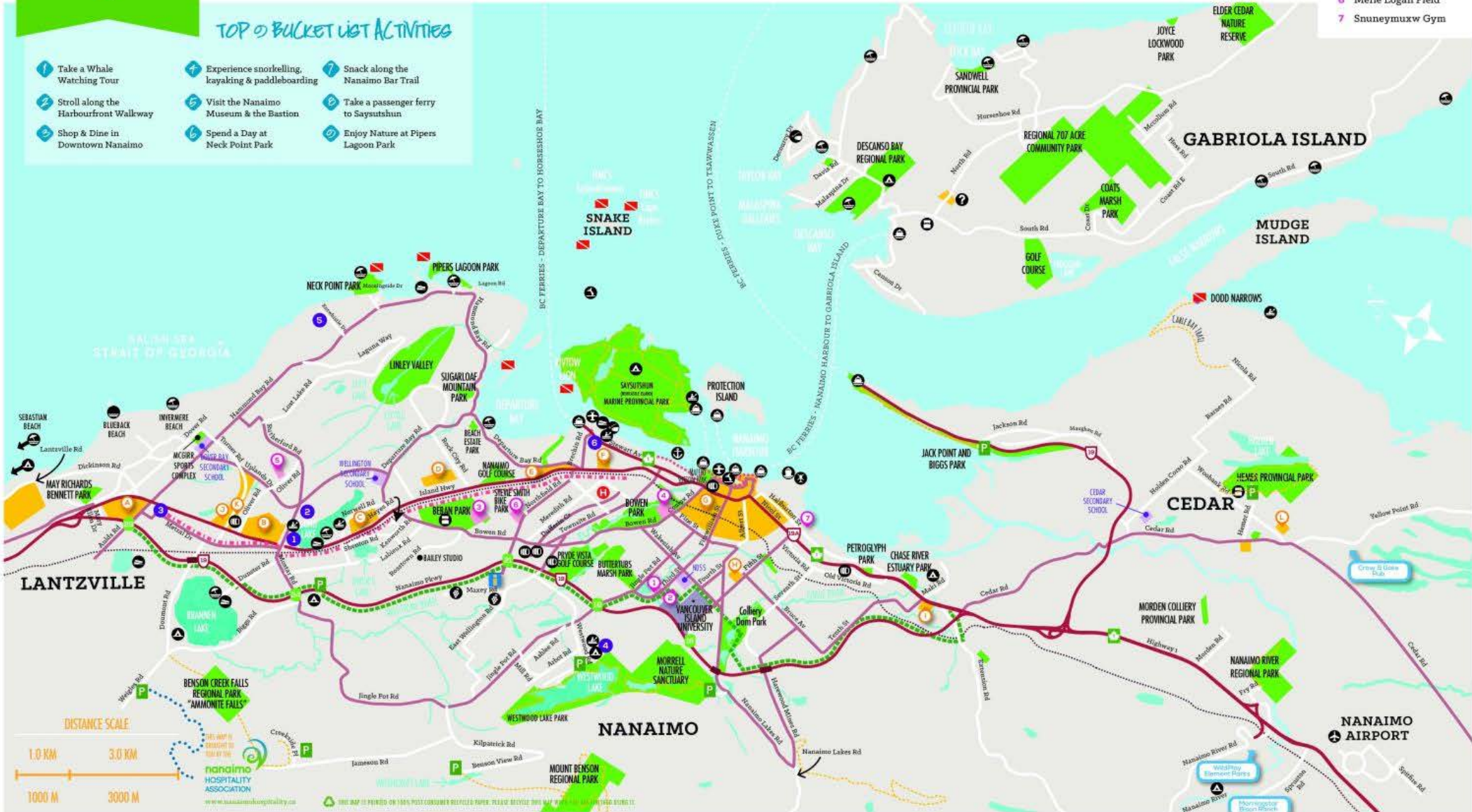
- Terminal Park
- Downtown Nanaimo
- University Village
- Southgate Mall
- Northridge Village
- Longwood Station
- Cedar Farmer's Market

- ACCOMMODATION
- 1 Inn on Long Lake
- 2 The Grand Hotel
- 3 Best Western Northgate
- 4 Westwood RV, Campground & Cabins
- 5 Island View B&B
- 6 Buccaneer Inn

- COMMUNITY CENTRES
- 1 Nanaimo Ice Centre
- 2 Nanaimo Aquatic Centre
- 3 Beban Park Community Centre
- 4 Bowen Park Complex
- 5 Oliver Woods Community Centre
- 6 Merle Logan Field
- 7 Snuneymuxw Gym

TOP 10 BUCKET LIST ACTIVITIES

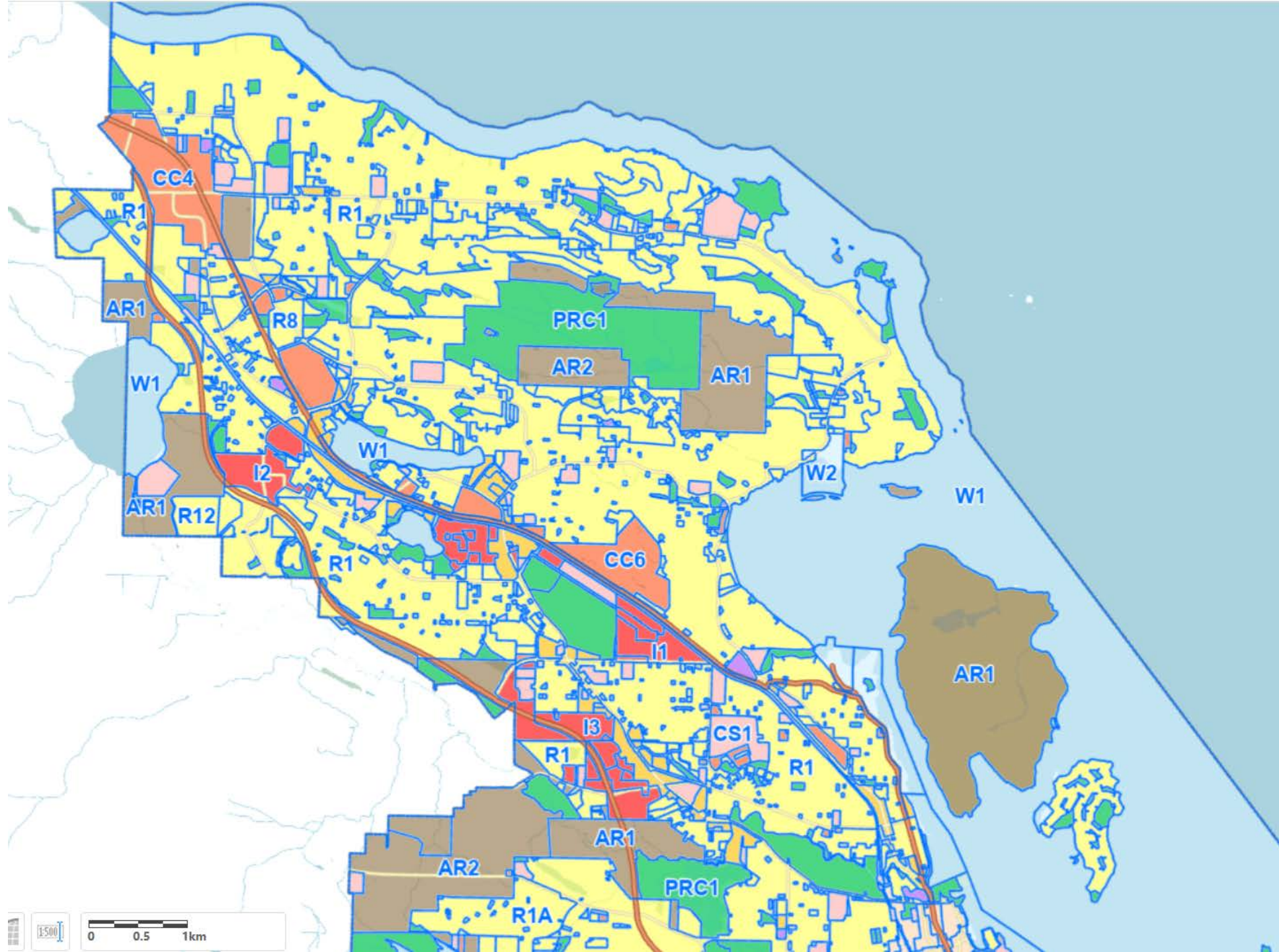
- 1 Take a Whale Watching Tour
- 2 Stroll along the Harbourfront Walkway
- 3 Shop & Dine in Downtown Nanaimo
- 4 Experience snorkelling, kayaking & paddleboarding
- 5 Visit the Nanaimo Museum & the Bastion
- 6 Spend a Day at Neck Point Park
- 7 Snack along the Nanaimo Bar Trail
- 8 Take a passenger ferry to Satsutshun
- 9 Enjoy Nature at Pipers Lagoon Park



nanaimo HOSPITALITY ASSOCIATION

www.nanaimohospitality.ca

THIS MAP IS PRINTED ON 100% POST-CONSUMER RECYCLED PAPER. PLEASE RECYCLE THIS MAP.



Background

- Water, Sewer and Stormwater services
- City wide sewer model
- City wide water model
- “As and when” contracts with engineering consultants for modeling
- Recent OCP update with detailed supporting modeling
- Demographics growth forecasting as part of OCP update
- Ongoing DCC update work

Water System

- Existing water infrastructure (\$1.5Billion) built over many decades
- Designed to meet engineering standards
- Domestic needs
- Fire suppression water (SFD 75 l/sec)
- Fire Underwriters Survey
- Based on landuse (zoning) and enforced through engineering stds



Nanaimo South Fork Dam

Sanitary Sewer

- 600km of sewer pipes
- Treatment by Regional District
- 200mm diameter minimum gravity sewer per stds
- Some low pressure sewer areas (Green Lake, Protection)



Storm Sewer

Bill 44

- Substantial growth already planned for
- Location of growth now less focused on urban nodes
- Water
 - Assessment of fire flow requirements for typical development (FUS calculation)
 - Consequences of not meeting the FUS standard



Water Distribution Analysis Findings



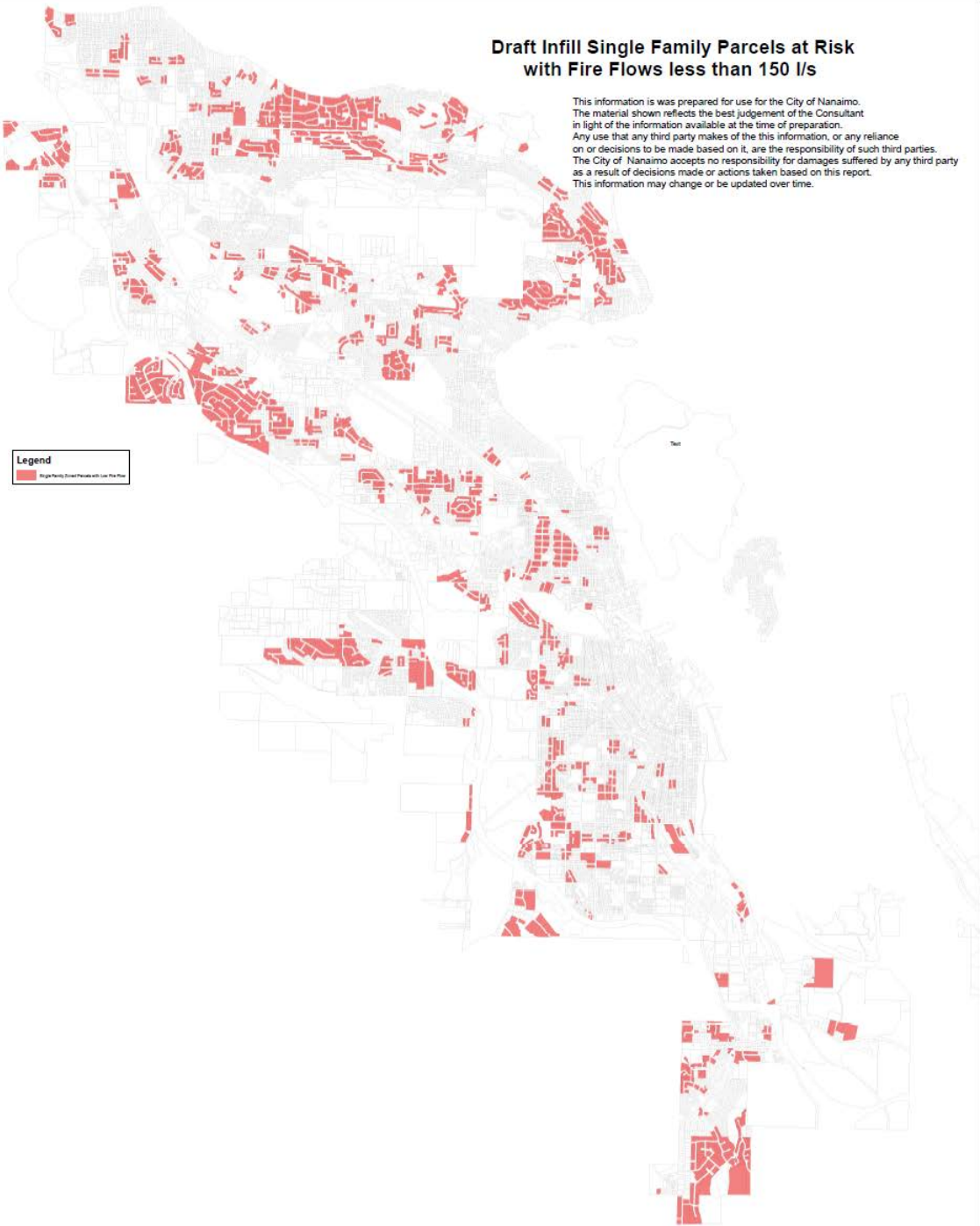
- Water Distribution
 - Calculations were completed to estimate the fire flow (FF) needed for a Multifamily Fourplex with wood construction. The estimated FF was estimated to be 150 l/s.
 - The CityWide Water model was used to evaluate the 2023 conditions to identify the Fire Hydrants that are not able to provide the 150 l/s FF needed.

Water Distribution Analysis Findings

- Approximately 30% of the parcels were found to be “At Risk” (serviced by Fire Hydrant with less than 150 l/s FF)
- For the “At Risk” Parcels It is expected that the applicant will need to provide FUS calculations as part of their applications. If the calculated FUS is greater than the available FF at the closest Fire Hydrant the owner/developer will have the option to:
 1. Complete the upgrades needed to the water system to increase the fire flow to the property
 2. Redesign the project in order to lower the FUS needed for the building to match the available Fire Flow.



Water Distribution Analysis Findings



Sanitary Sewer

- Impossible to determine where and what timeline the SSMUH units would develop.
- Assumed all single family parcels would develop as per Bill 44 rules.
- “Extreme” scenario (worst case)
- Used to determine the additional or incremental impacts to the sanitary sewer network



Sanitary Sewer Analysis Findings

- Analysis was based on difference between Future Units allocated in City Plan and what is allowed under Bill 44
- 12 km of sanitary mains were identified as deficient:
 - 90% of the actual deficiencies are in Capital Projects scheduled in the Capital Plan.

Based on these findings no further action will be required for the sanitary sewer network. We update the Citywide Sanitary Model every 2 years, so we will be able to monitor and adjust for any changes or impacts on the sewer system.

Sanitary Sewer –
incremental
increase in sanitary
sewer deficiencies
resulting from Bill 44



Summary

- Water
 - All properties identified as having fire flows less than 150 l/sec are required to complete FUS calc (when developing) and manage within what is available.
 - No plans to change Engineering stands to lift the minimum fire flow beyond 75 l/sec.
- Sewer
 - There are some deficiencies identified with extreme levels of Bill 44 growth, but not so serious special efforts need to be taken now.
 - Monitor growth over several years and potentially shift DCC project focus in the future.
- Storm
 - No concerns due to engineering stands requiring hydrograph matching