Highway 19A Pedestrian/Cyclist Options

Objectives

- Safely accommodate pedestrians and cyclists between two sections of waterfront pathway
- Protected facility with barrier or other form of physical protection from traffic (gaps at driveways)
- Shared facility with 2-way pedestrians and 2-way bicycles (continuation of 2-way ped/bike waterfront pathways)
- WB cyclists accommodated behind barrier (no bike lane on road due to constrained width)
- Roadway alignment not altered (other than narrowing traffic lanes)

Existing Conditions

Dimensions are approximate, and are measured from existing fog line on westbound Highway 19A

Location	Existing		Without Encroachments	
	Width[1]	Notes	Width[2]	Notes
Bay St.		Raised island @ 1.0 m, Utility pole @ 1.3 m, Signal pole @ 1.6 m	5.0 m	Raised island @ 1.0 m from fog line
2919	2.5–3.0 m	Vacant lot	5.0–5.4 m	
2925	3.0–3.2 m	Fence, building in ROW	5.4–5.6 m	
2935 E	3.2 m	Fence, building in ROW Utility pole @ 2.5 m	5.6 m	Utility pole @ 2.5 m from fog line
2935 W	3.2 m 5.5 m	Fence in ROW (E half) Fence on PL (W half)	5.6 m	Disabled parking sign on fence (W half)
2945	5.6 m	Rotary Park Fence behind PL Utility pole @ 2.3 m	5.6 m	Utility pole @ 2.3 m from fog line
2949	5.6 m	Rotary Park Fence behind PL	5.6 m	

Location	Existing		Without Encroachments	
	Width[1]	Notes	Width[2]	Notes
2955	4.3–4.5 m	Fence in ROW	5.6 m	
2965	4.5–5.5 m	Fence in ROW Utility pole @ 2.5 m, Hydrant @ 4.1 m	5.6 m	Utility pole @ 2.5 m, Hydrant @ 4.1 m from fog line
2971	5.6 m	Fence on PL (plastic) Driveway?	5.6 m	
2975	4.8-5.0 m 5.2–5.6 m	Fence in ROW (E half) Fence behind PL (W half) Utility pole @ 1.5 m	5.2–5.6 m	Utility pole @ 1.5 m from fog line
2981	3.9 m	Fence in ROW Driveway	4.9–5.2 m	
2987	3.5–4.0 m 3.7–4.4 m	Fence in ROW (E half) Garage on PL Driveway (angled) Utility pole @ 2.3 m, Hydrant @ 3.7 m	3.7–4.8 m	Utility pole @ 2.3 m, Hydrant @ 3.7 m from fog line
2995	3.7–6.6 m	Fence on PL Driveway Utility pole @ 4.3 m	4.4–6.6 m	Utility pole @ 4.3 m from fog line
3005	6.6 m	Fence on PL	6.6 m	
3009	6.3–6.6 m	Fence on PL	6.3–6.6 m	
3013	5.5–6.3 m	Fence on PL Fence on Alder St. ROW	5.5–6.3 m	
Alder St.		Utility pole @ 2.7 m from fog line		Utility pole @ 2.7 m from fog line
3021	5.5+ m	Fence on PL, Hedge in ROW Fence on Alder St. ROW Driveway Utility pole	4.3+ m	Survey data incomplete
3035		Fence on PL (W half)? Perpendicular parking		No survey data
1 = Width to fence (or property line if less)			2 = Width to property line	

At 2935 looking west

At 2945 looking east

At 2955 looking west

At 2965 looking east

At 2975 looking west

At 2987 looking west

At 2995 looking east

At 3013 looking east

At 3021 looking west

Cross-Section Options

Dimensions:

- Minimum 3.0 m shared ped/bike facility (same as Memorial Trail pathway, consistent with MOTI and TAC guidelines)
- Barrier ≤ 0.5 m (concrete pre-cast mini-barrier = 0.3–0.35 m, may not be available on Island)
- Minimum 0.2 m clearance to barrier, 0.5 m clearance to fence/building (as per TAC)
- Minimum 3.3 m traffic lanes (assume existing traffic lanes are approx. 3.6 m wide)

Cross-sections:

- Minimum desired width = 4.0 m = 0.5 m clearance to fence + 3.0 m shared ped/bike + 0.2 m clearance to barrier + 0.3 m barrier (practical minimum = 3.7 m)
- Minimum parking width = 6.5 m = 0.5 m clearance to fence + 3.0 m shared ped/bike + 0.6 m buffer + 2.4 m parking (practical minimum = 6.2 m)

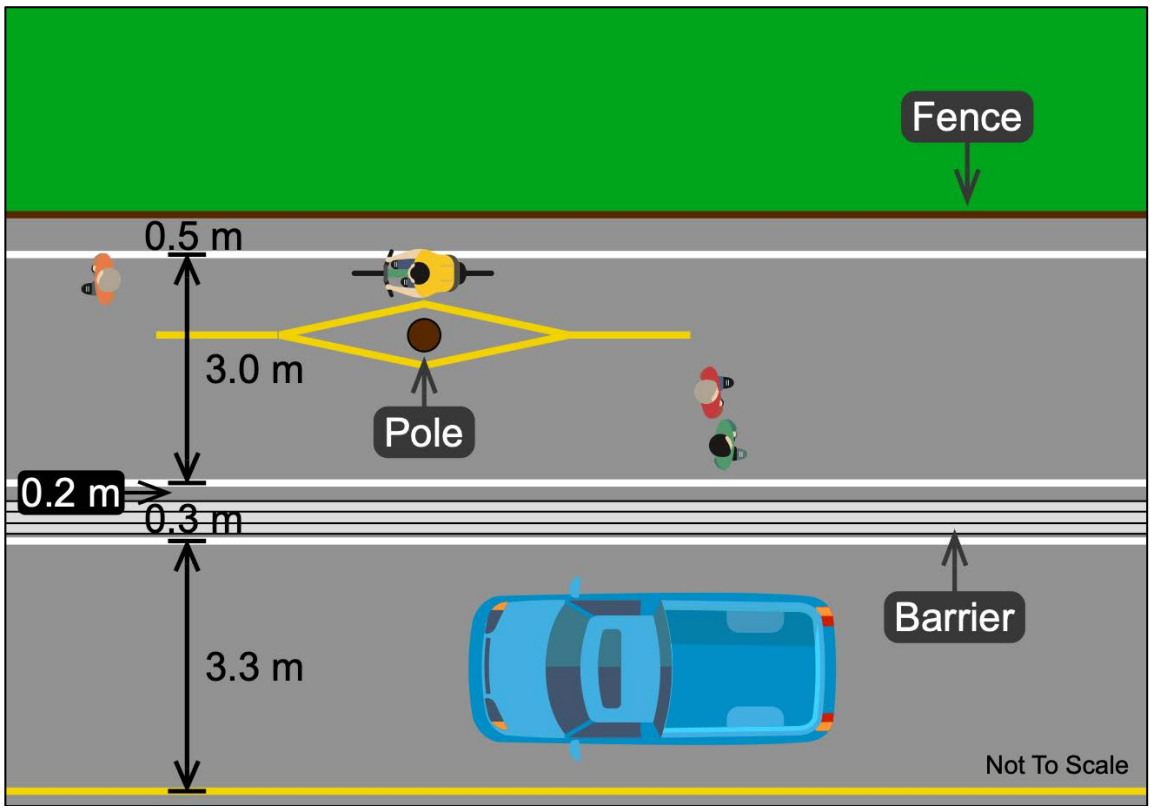
Application:

- Narrowing traffic lanes from approx. 3.6 m to 3.3 m recovers approx. 0.3 m from each lane
- Fog line shifts approx. 0.6 m to south (directional dividing line shifts approx. 0.3 m)
- Cross-section – 0.6 m = existing/ultimate shoulder width

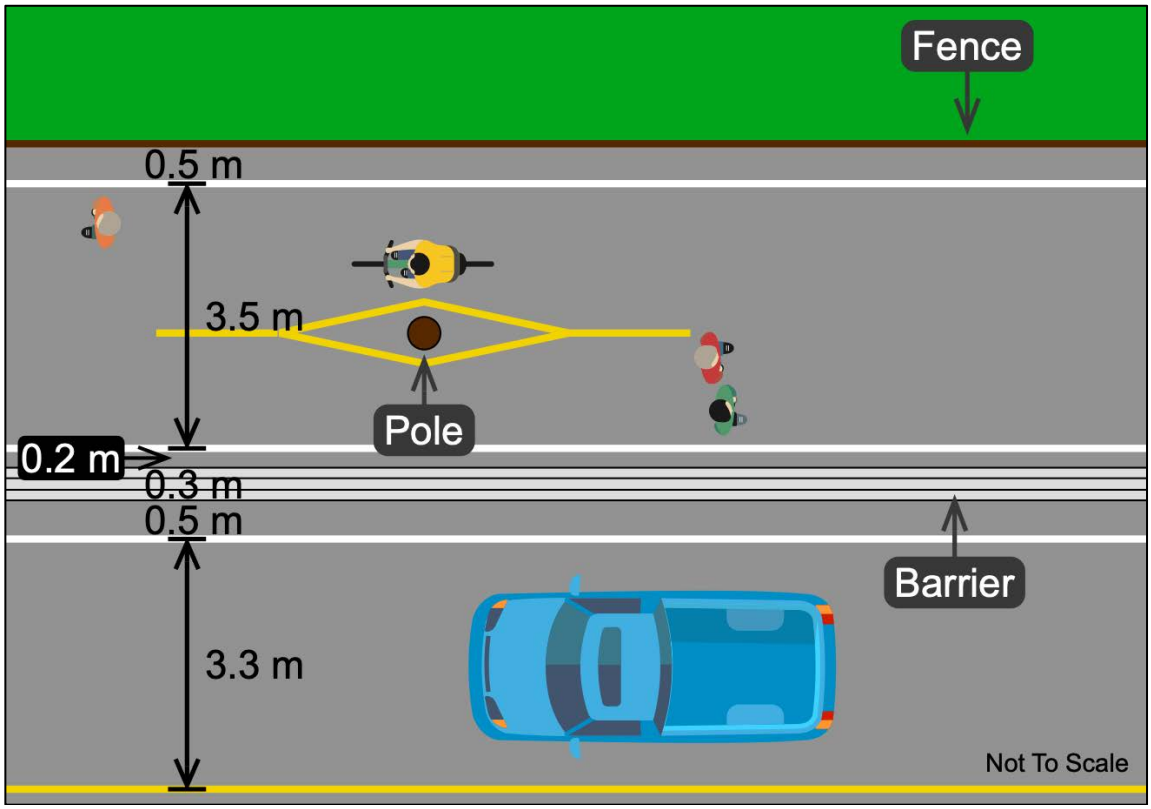
Option	Total Width	Existing Shoulder Width[1]	Components	Notes
3.7	3.7 m	3.1 m	Fog line 0.3 m Barrier+ 0.2 m Clearance 2.7 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	Practical minimum ped/ bike facility width No clearance from barrier to road
4.0	4.0 m	3.4 m	Fog line 0.3 m Barrier+ 0.2 m Clearance 3.0 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	No clearance from barrier to road
4.5	4.5 m	3.9 m	Fog line + 0.5 m Clearance 0.3 m Barrier+ 0.2 m Clearance 3.0 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	
5.0	5.0 m	4.4 m	Fog line + 0.5 m Clearance 0.3 m Barrier+ 0.2 m Clearance 3.5 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	

Option	Total Width	Existing Shoulder Width[1]	Components	Notes
5.5	5.5 m	4.9 m	Fog line + 0.5 m Clearance 0.3 m Barrier+ 0.2 m Clearance 4.0 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	
6.0	6.0 m	5.4 m	Fog line + 0.5 m Clearance 0.3 m Barrier+ 0.2 m Clearance 4.5 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	
6.2	6.2 m	5.6 m	Fog line 2.4 m Parking + 0.6 m Buffer 2.7 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	Practical minimum ped/ bike facility width Includes parking
6.5	6.5+ m	5.9+ m	Fog line 2.4 m Parking + 0.6 m Buffer 3.0 m Shared Bike/Ped Fence or PL + 0.5 m Clearance	Includes parking
1 = Assumes 0.6 m recovered from road by narrowing traffic lanes				

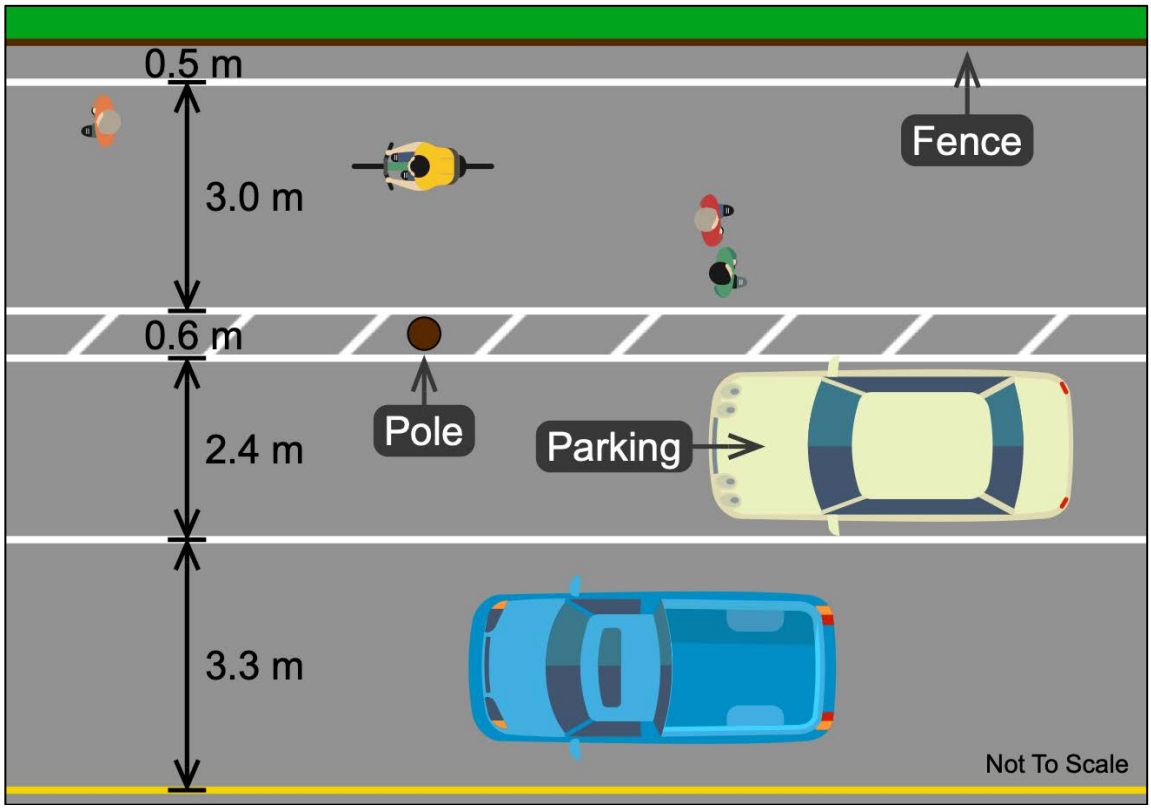
Option 4.0: Interim condition, barrier without clearance to road



Option 5.0: Interim or ultimate condition, barrier



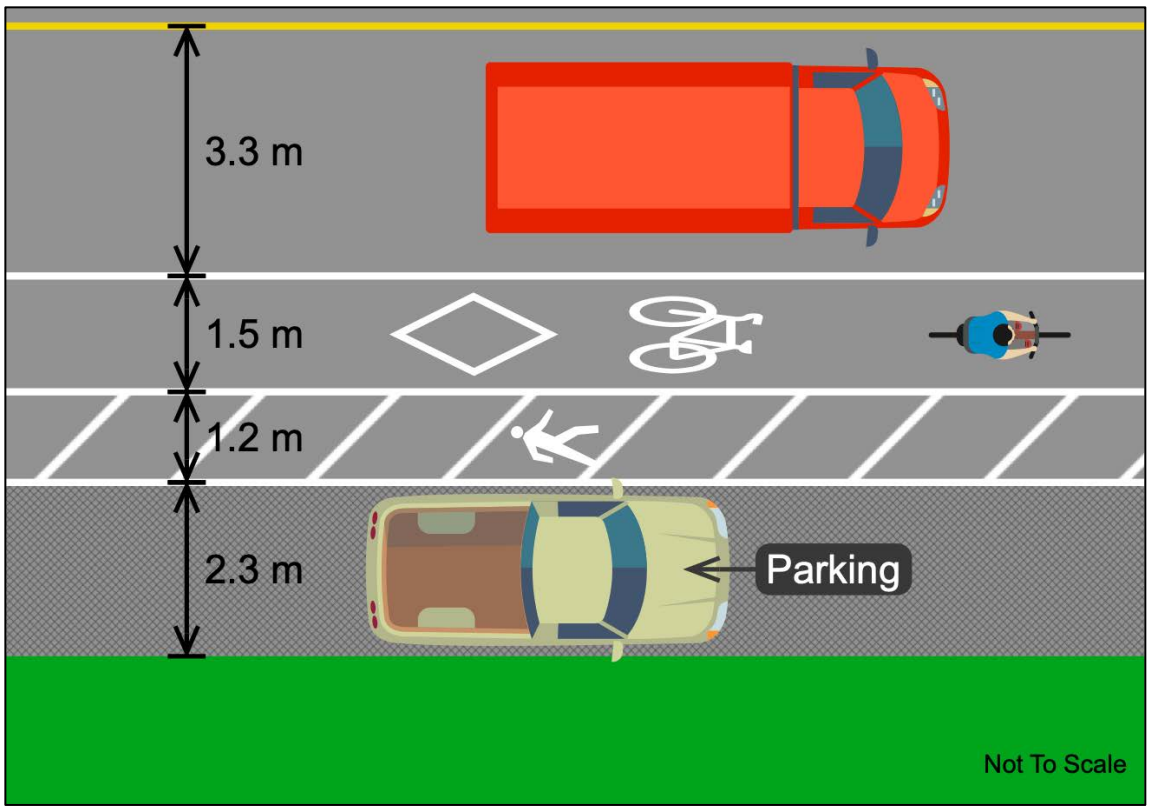
Option 6.5: Ultimate condition, parking and buffer

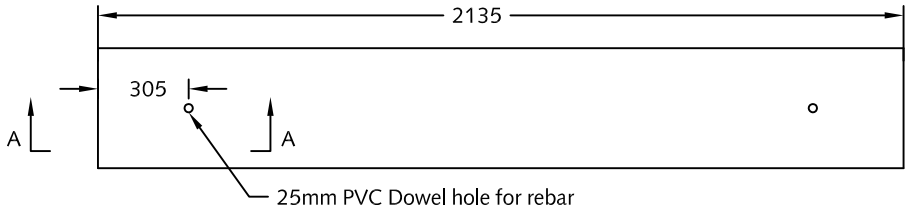


South side of Highway 19A (eastbound):

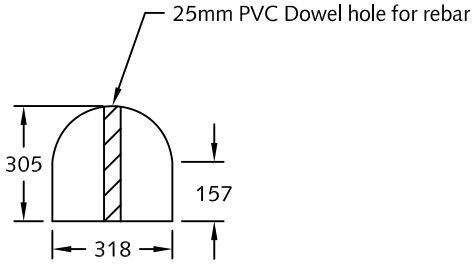
- Existing shoulder accommodates EB cyclists on roadway (as an alternative to crossing road to ride on 2-way protected ped/bike facility)
- Add parking in locations where available width permits = 5.0 m minimum = 1.5 m bicycle lane + 1.2 m buffer/pedestrian walkway (hard surface) + 2.3 m parking (hard or soft surface)

Eastbound with bicycle lane, pedestrian walkway and parking

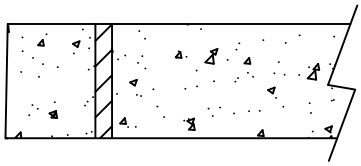




Plan View



End View N.T.S.



Section A-A

Notes:
1. Custom parking curb avaialable as a non-stock item.
2. 25mm PVC dowels to be supplied as shown.
3. Special design curb to be 2135(l)x318(w)x305(h) as shown.
4. Approx. weight: 150 Kgs.
5. Min. concrete strength: 35MPa.

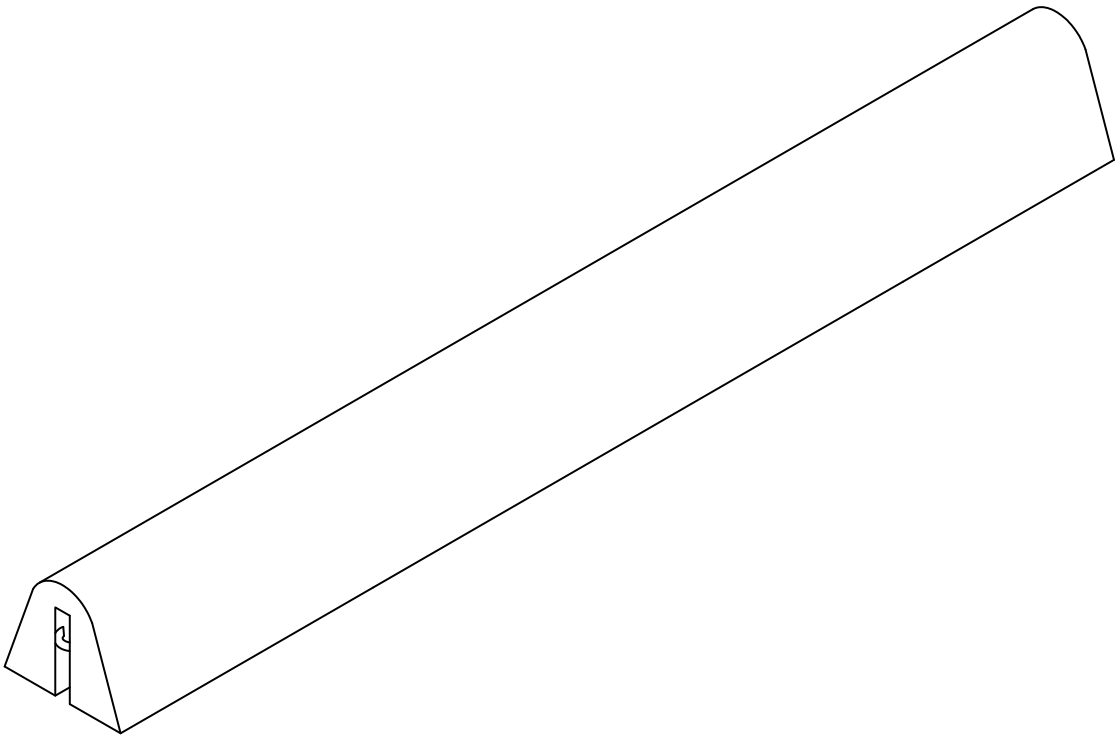
THE Langley CONCRETE GROUP
The LANGLEY CONCRETE Group of Companies

DESCRIPTION:

Custom Parking Curb
2.1m Length
www.langleyconcretegroup.com

DRAWN BY:	JAO	**ORIGIN:**	CHWK
SCALE:	1:20	**DRAWING NO:**	
DATE:	Dec/16/2009		PC-3.0

LANGLEY (604)533-1656 VICTORIA (250) 478-9581 CHILLIWACK 1-800-667-9600



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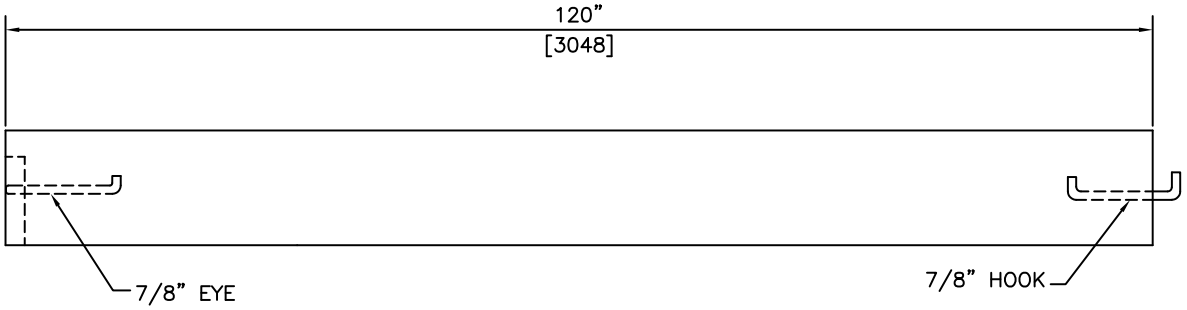

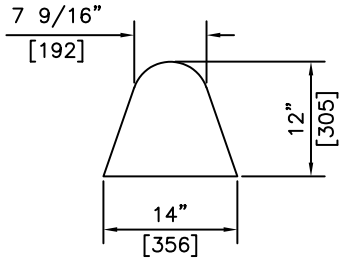

SECTION

NOTES:

1) 30 MPa @ 28 DAYS
2) CURB MAY BE PRODUCED WITHOUT HOOK & EYE CONNECTIONS
3) 12" HOOK & EYE CURB IS POURED WITH FIBRILATED FIBRE STRAND REINFORCED CONCRETE

REVISED: MAR 9 2006

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"Committed To Quality And Service"

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KELOWNA B.C.
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BY: BMR

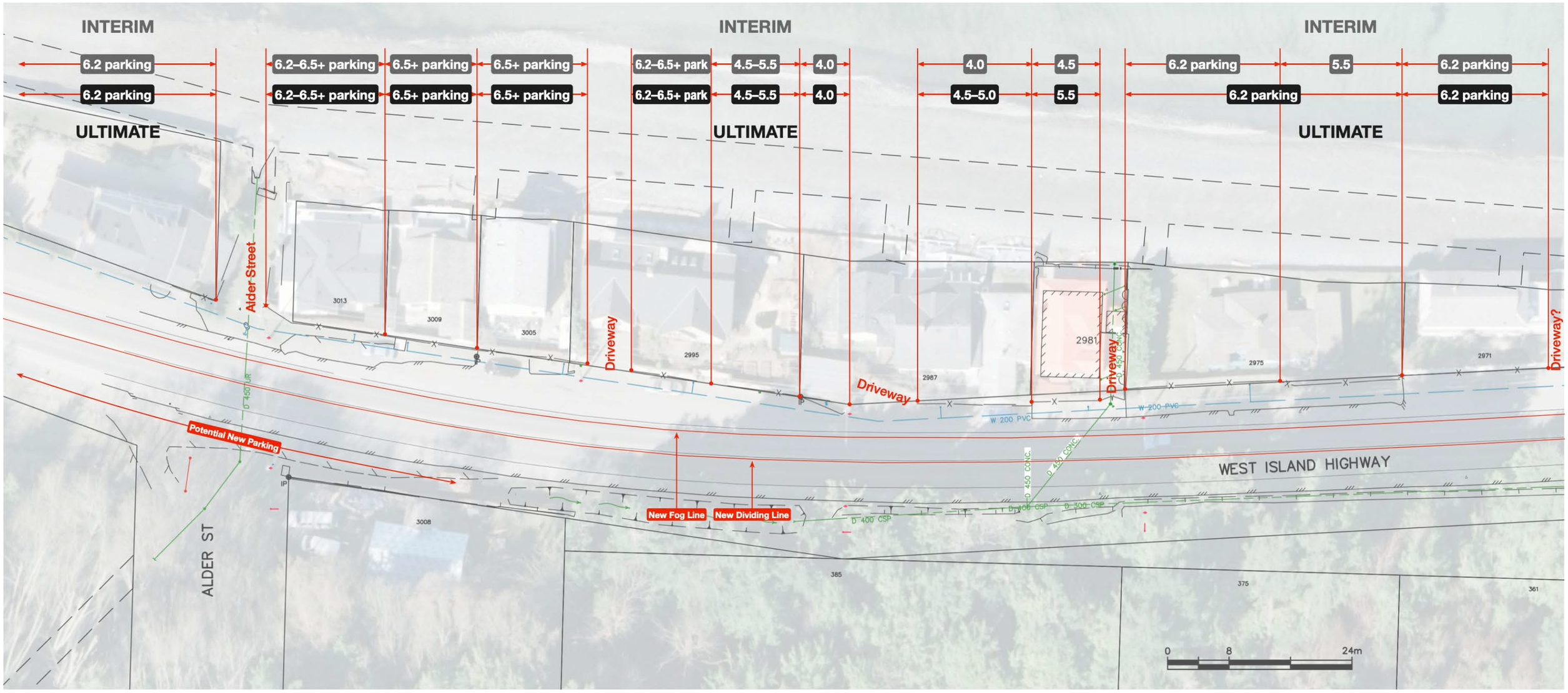
DATE: FEB 16 05

SCALE: NTS

12" HOOK & EYE CURB

ITEM NO.

907


INTERIM
6.2 parking
6.2 parking
ULTIMATE
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Alder Street
Driveway
Driveway
Driveway
Driveway?
Potential New Parking
New Fog Line
New Dividing Line
WEST ISLAND HIGHWAY
ALDER ST
3013
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3005
2995
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D 450 CONC.
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W 200 PVC
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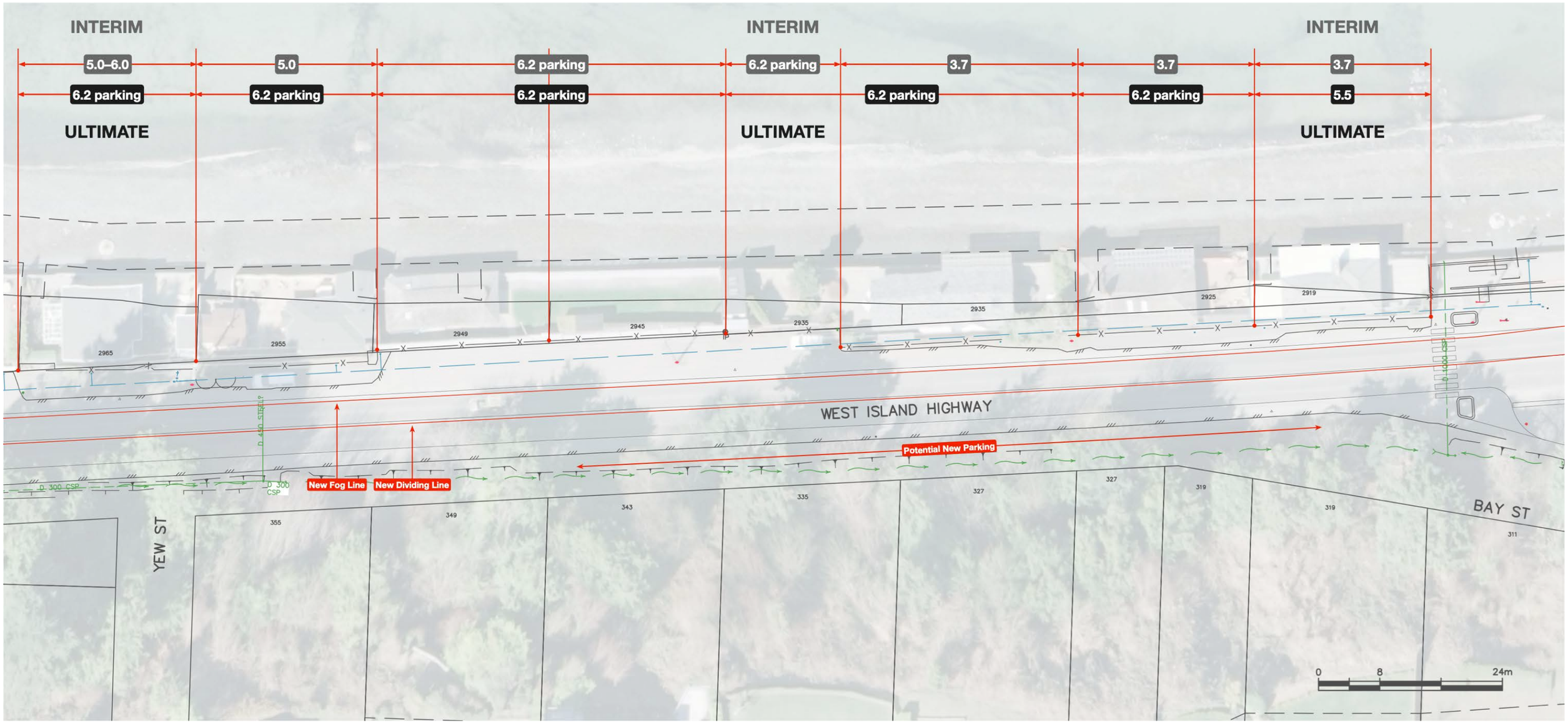
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D 300 CSP
New Fog Line
New Dividing Line
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343
335
327
327
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BAY ST
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