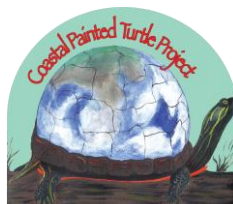


Summary of Western Toad Monitoring at Western Painted Turtle Sites in 2015-16

By
Aimee Mitchell
Of
the Coastal Painted Turtle Project



Prepared for
Joanne Nielson
Fraser Valley Conservancy
And
Habitat Stewardship Program



Summary

Western Toads had been incidentally observed at Western Painted Turtle sites during past several years of turtle monitoring activities (See Appendix I. *Summary report of Western Toad observations at Minnehada Regional Park*). As part of the 2-year, Habitat Stewardship Project “*Habitat and Species Recovery for Western Painted Turtles and associated riparian species at risk throughout the Lower Mainland and Fraser Valley*” which is continuing with Western Painted Turtle as the lead focal species, targeted surveys and monitoring for associated riparian species at risk, such as the Western Toad, were undertaken in 2015-16.

Survey Effort

Eighteen sites were surveyed for Western Toads throughout the Lower Mainland, Fraser Valley and Sea-to-Sky (13) as well at turtle sites on the Upper Sunshine Coast (5) (Table 1, Fig. 1 and 2). Three sites (Minnehada, Nicomen Slough and Derby Reach) in this project year were confirmed to be occupied via surveys completed through this project. An additional, 3 sites (Aldergrove, Campbell Valley and Judd Slough) were confirmed by project partners; Fraser Valley Conservancy, Arocha and Squamish River Watershed Society, respectively. Surveys were conducted for a total of 42.6 Search Effort Hours and 27.2 km.

Table 1. Western Toad survey locations and detections in 2015-16.

Area	Site	Survey Date	Survey Type	Perimeter (m)	S.E.H.	ANBO (toad)	Cohort	#
Upper Sunshine Coast	Cap Sheaf Lake	2015-04-30	Boat	300	0.33	N	N/A	N/A
Upper Sunshine Coast	Case Lake	2015-06-12	Perimeter	600	1.00	N	N/A	N/A
Upper Sunshine Coast	Emily Lake	2015-06-12	Perimeter	400	0.50	N	N/A	N/A
Upper Sunshine Coast	Priest Lake	2015-06-12	Perimeter	200	1.00	N	N/A	N/A
Upper Sunshine Coast	Dogleg Pond	2015-06-16	Boat/perimeter	400	0.04	N	N/A	N/A
Lower Mainland	Minnehada Regional Park	2015-06-24	Perimeter	800	3.00	Y	Juvenile	1000+
Lower Mainland	Silvermere Lake	2015-06-25	Perimeter	1000	1.00	N	N/A	N/A
Lower Mainland	Deer Lake	2015-07-03	Perimeter	3200	1.50	N	N/A	N/A
Lower Mainland	Lost Lake/Mundy	2015-07-03	Perimeter	1200	0.75	N	N/A	N/A
Lower Mainland	Kanaka Creek Regional Park	2015-07-03	Perimeter/trapping	600	2.00	N	N/A	N/A
Lower Mainland	West Creek Wetlands	2015-07-04	Perimeter	200	0.50	N	N/A	N/A
Lower Mainland	Aldergrove Regional Park	2015-07-04	Perimeter	500	1.00	Y-previous	N/A	N/A
Lower Mainland	Campbell Valley Regional Park	2015-08-22	Boat/trapping	2000	6.00	Y-previous	N/A	N/A
Lower Mainland	Livingston Lake	2015-07-14	Boat/trapping	2000	1.00	N	N/A	N/A
Lower Mainland	Nicomen Slough	2015-07-25	Boat/trapping	5000	8.00	Y	Adult	1
Lower Mainland	Burnaby Lake	2015-08-01	Boat/trapping	5000	8.00	N	N/A	N/A
Lower Mainland	Derby Reach	2015-10-07	Perimeter	3000	5.00	Y	Adult/Juvenile	12/2
Sea-to-sky	Judd Slough	2015-07-17	Boat/perimeter	800	2.00	Y-previous	N/A	N/A

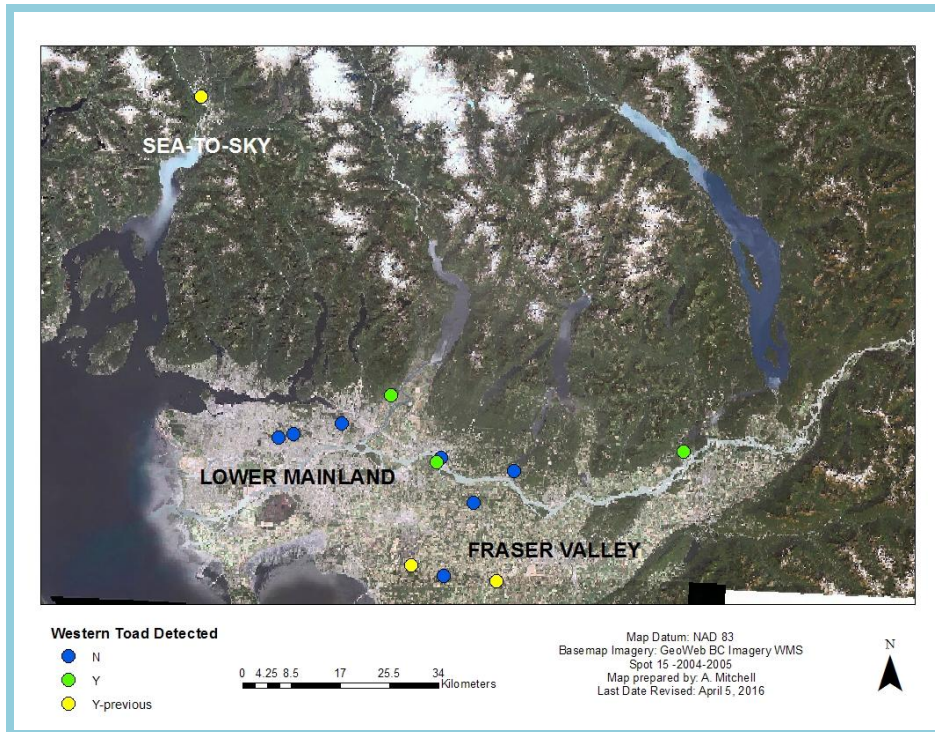


Figure 1. Western Toad survey locations and detections in 2015-16 in the Lower Mainland, Fraser Valley and Sea-to-Sky

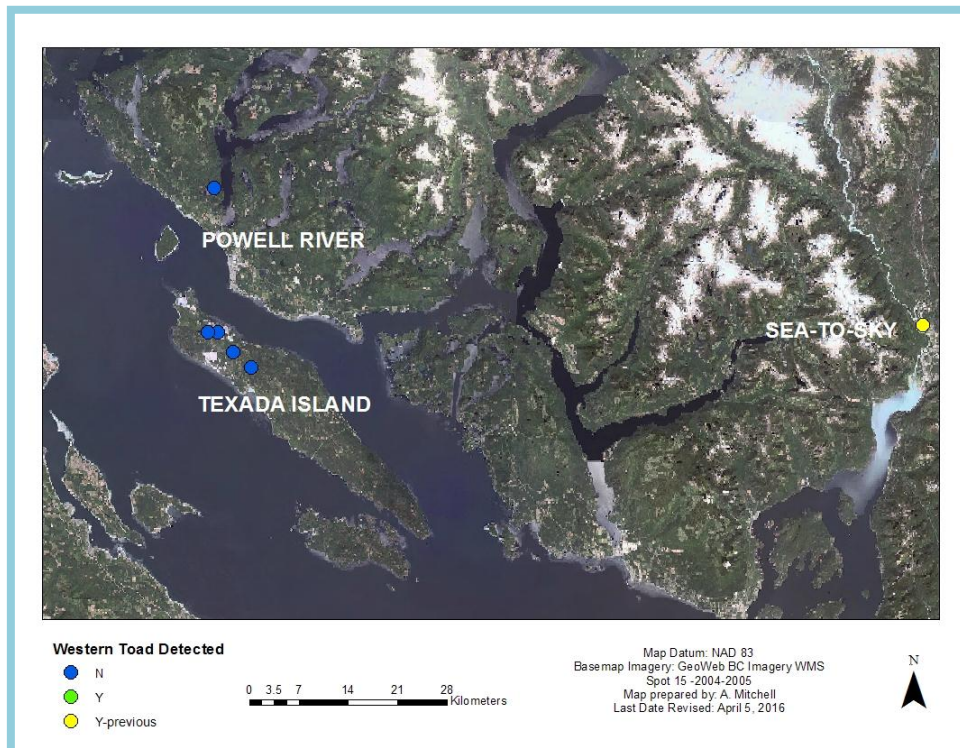


Figure 2. Western Toad survey locations and detections in 2015-16 on the Upper Sunshine Coast

Mitigation

Monitoring thus far has only included Minnekhada where there is known breeding and toadlet movements annually (Appendix I.). Monitoring in 2015 revealed that toadlets are getting killed on the paths within the park as well as some on the road (Fig. 3). Several hot spots of crossings were identified. Consultation with Metro Vancouver Parks resulted in the creation of a brochure on the Western Toad and signage that will be placed at hot spots (Appendix II.). Despite proposing work, such as boardwalk construction, nothing was able to be approved by MV Parks to be accomplished in this project year.



Figure 3. Western toadlets squished on path at Minnekhada in June 2015.

Future work

Further monitoring is planned at all sites with toad observations, including more intensive monitoring at sites such as Derby Reach and Aldergrove, where toadlet observations have been reported. In addition, monitoring will occur at Minnekhada to further document movement patterns annually and track mortality. Through further consultation it is hoped that some boardwalk or bridges could be installed in Minnekhada Regional Park in the future to reduce mortality on the paths. Consultations have already begun with MV Parks at Minnekhada to work cooperatively on some fencing installation to keep toads off the paths in 2016. In addition, a larger project involving other partners such as Lafarge Canada, who helped build a road crossing structure at Ryder Lake with the Fraser Valley Conservancy, may be proposed in the future at Quarry Road alongside Minnekhada and at Derby Reach where forested habitat is separated from the breeding pond by a paved road.

**Appendix I. Western Toad Monitoring at Minnehada Regional Park
(presentation to MV Parks)**

Western Toad Monitoring in Minnekhada Regional Park



*Western Toad juvenile at Minnekhada
Regional Park*

*Presented by:
Aimee Mitchell, MSc. RPBio
of Athene Ecological and
Coastal Painted Turtle Project*

Observations in the Park

- ❖ Began with Western Painted Turtle basking surveys in 2009
- ❖ Toads, tadpoles and toadlets observed incidentally since that time while monitoring WPT



Western Painted Turtle basking at Minnekhada Regional Park – Lower Marsh in 2009

Observations in the Park

- ❖ 2010: 500+ tadpoles observed swimming in Lower Marsh in July
- ❖ 2011: Young toad (~ 1yr) observed near dyke between marshes in June
- ❖ 2012: 100+ toadlets still transforming (tails present) on island in Upper Marsh in early August



*Western Toadlets still transforming (tails present)
in Upper Marsh in 2012*

Observations in the Park

- ❖ 2013: 50+ toadlets recently transformed moving along lillies in Upper Marsh towards north trails in July
- ❖ 2014: Adult toad in Lower Marsh in June



Western Toadlet moving along lilies in Upper Marsh in 2013

Monitoring in the Park

- ❖ 2015: Intensive monitoring of toadlets migration movements from June 24th to July 3rd
- ❖ Over 2000 toadlets observed moving from Upper Marsh



Western Toadlet off Quarry Trail, north part of park

Monitoring in the Park

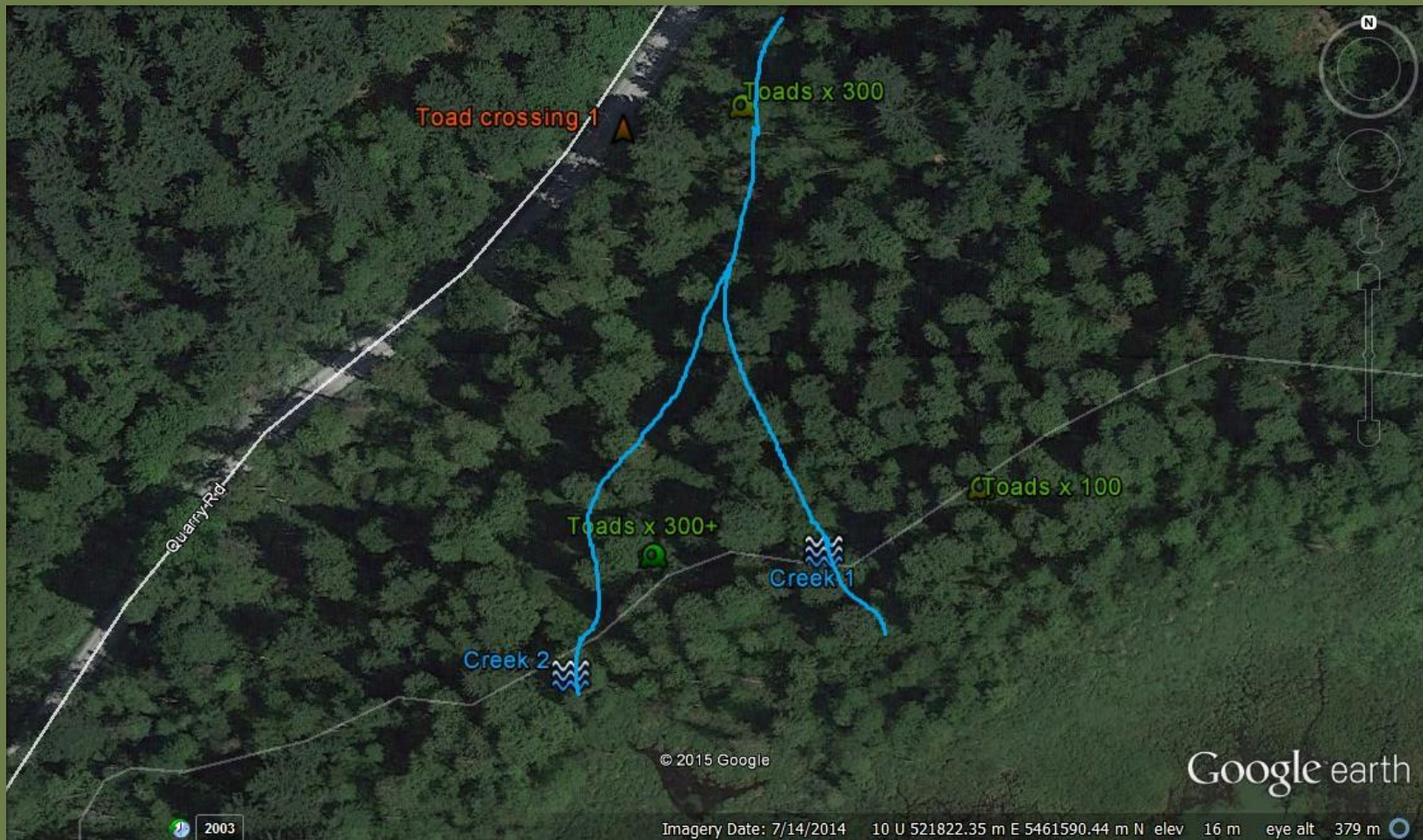


Monitoring in the Park

- ❖ Movements focused on Quarry Trail with 3 areas highlighted with peak toad traffic – creek drainages main pathways
- ❖ Mortality on trails from people and dogs
- ❖ Only some observed crossing road – appear to also head north and not cross road



Monitoring in the Park



Mitigation in the Park

- ❖ Possible interpretive sign (maybe multi-SAR) at north end entrance to Park.
- ❖ Potentially sandwich signs placed on Quarry Trail during migration asking people to slow down and keep their eyes out.
- ❖ A couple small bridges over creeks or some elevated sections of boardwalk would be ideal

Mitigation in the Park



Mitigation in the Park

TOAD ALLEY

WESTERN TOAD

(Anaxyrus boreas or Bufo boreas)

Every summer, mid-late August, swarms of toadlets move from their birth lakes to their forest home across this road - Toad Alley.

Toadlets are small and hard to see.

Crossing the road they are vulnerable to inattentive hikers and cyclists.

Watch don't Squash!



TOADLETS
are fingernail size



ADULT TOADS
are the size of your palm

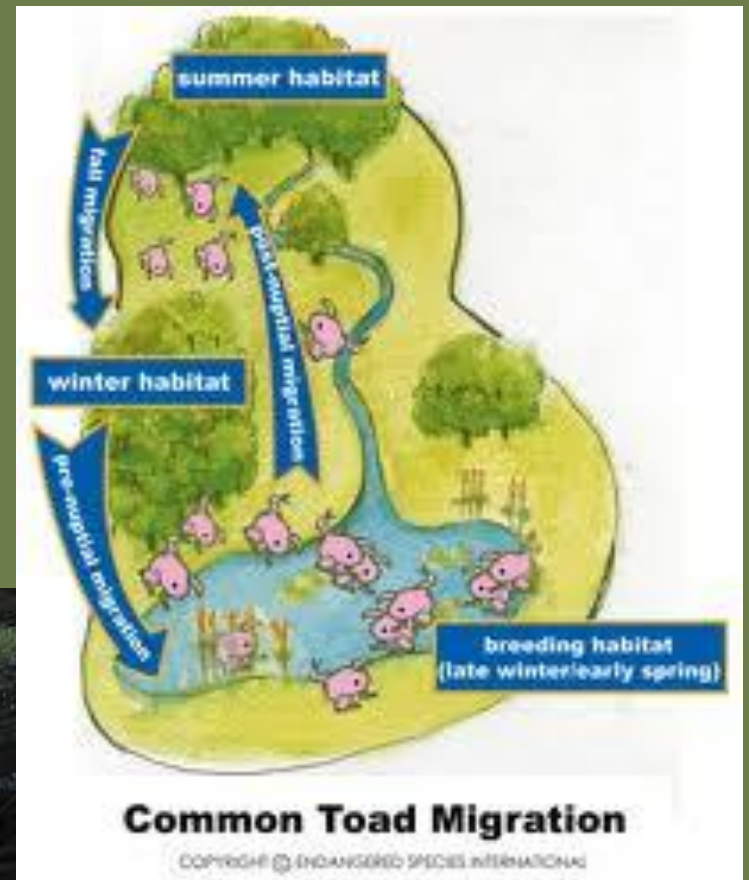
photos courtesy of John Buchanan



BC Parks



Mitigation in the Park



Mitigation in the Park



**Appendix II. Western Toad Mitigation Materials produced for Minnehada
Regional Park**

Western Toads Live Here



Adult toads are the size of your palm

Minnekhada Regional Park is home to the Western Toad which can be found year-round throughout the park.

Winter: Adult toads hibernate in burrows.

Early Spring: Adult toads migrate to breeding grounds and lay eggs in shallow water. After breeding they return to the forest.

Late Spring – Summer: Eggs hatch, tadpoles grow into toadlets and then migrate to the park's forests.

Fall: Toads forage in the forest.

Photo: Adult toad (B.Butner)

Western Toads (*Anaxyrus boreas*) are listed federally as a species of Special Concern and have Blue Listed status in B.C.

Tiny toadlets may be on park trails!

Toadlets are fingernail size.

Every summer (June – August)
Western Toad toadlets move
from Minnekhada Marsh to
the park's forests.

During this migration, toadlets
crossing trails are hard to see and
vulnerable to being squashed.

Please watch your step!



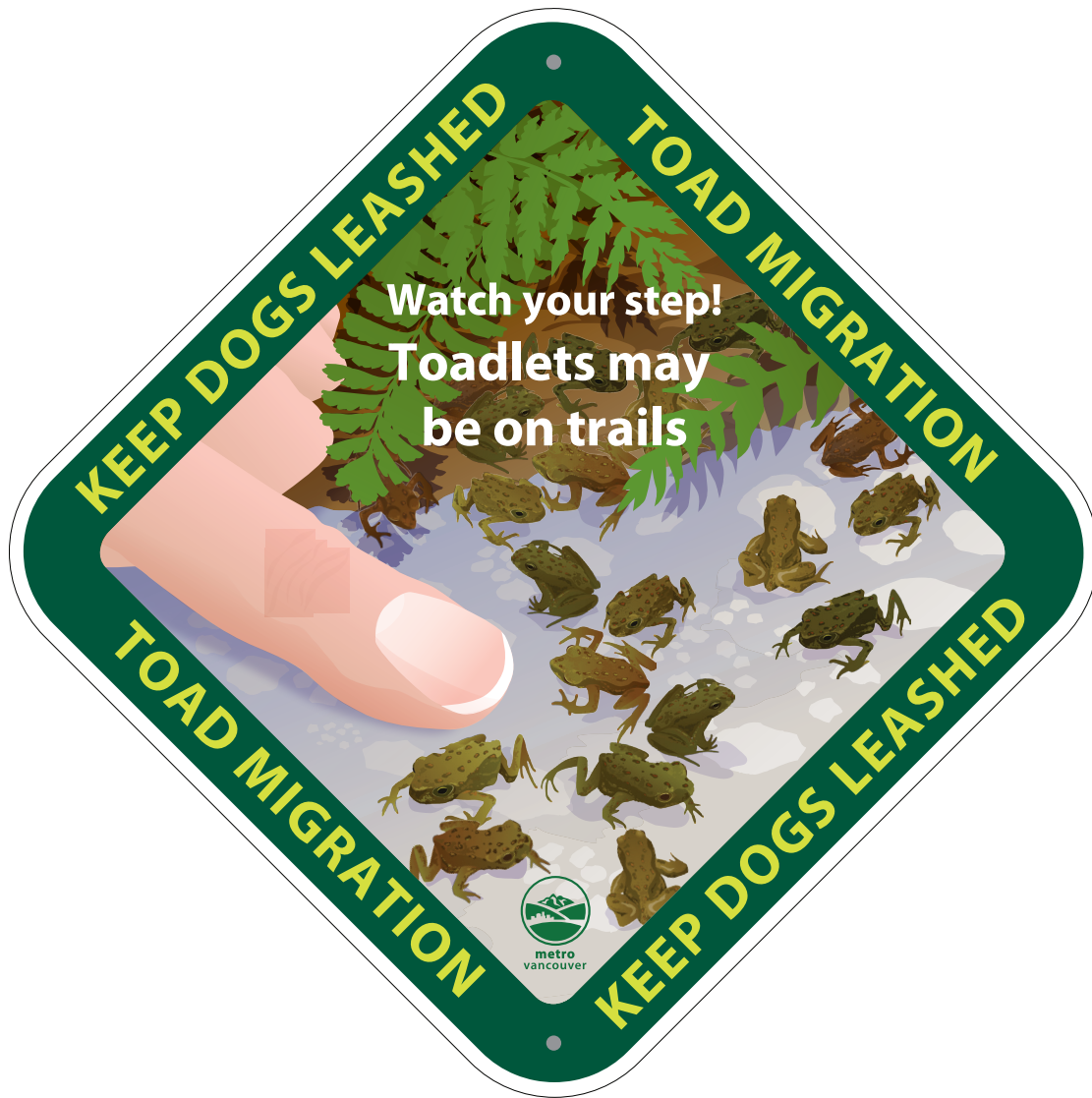
Fraser Valley Conservancy



Environment
Canada

Environnement
Canada





PROJECT: Toadlet Habitat Diamond Signs
 SIZE: 30cm x 30cm
 QTY: 6
 MATERIAL: .080 aluminum
 BACKGROUND: 3290 Reflective
 LAMINATE: Gloss Anti Graffiti
 SIDES: One
 COLOURS: Full
 FINISHING: 1.5" radius corners, holes as shown
 COLOUR PROOF: Yes, PDF
 INSTALL/DELIVER: Not included in price

FOR PROOFING ONLY

Note: Color output may not be exact when viewing or printing this drawing. All colors used are PMS or the closest CMYK equivalent. If these colors are incorrect, please provide the correct PMS match and a revision to this drawing will be made.

Date: Created: 03/14/16

Designer: MW

Page: 1 of 1

Revised: March 14, 2016 4:28 PM

Sales: Kim

Revise & Resubmit

Client: Metro Van Central

Approved

Project: Watch for Toadlets

Approved: _____

Debbie

Authorized Signature

SPS SCOTT PARAGON SIGNS

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