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February 20, 2023

Sean Stewart, RPP MCIP
Environmental Planner
Conservation Halton
2596 Britannia Road West
Burlington, ON L7P 0G3

Dear Mr. Stewart

RE: Ascot Motel Burlington, 2076 Old Lakeshore Road
Shoreline Hazards Review Update
Our file 17-2616

We reviewed the comments provided by Conservation Halton (CH) dated July 22, 2022. The report provides comments on a number of planning issues related to the project. The critical issue is what is referred to as the Engineered Development Setback (EDS) and our response addresses that aspect of the comments.

The letter states, in the second last paragraph of the first page, that the …*The toe of the slope is generally taken from behind the all shore protection works and staff currently consider that to be the line labelled "edge of Stone" on Figure 1 within the letter by Shoreplan (Dated June 6, 2022).* " With respect, it is our experience that this is not the standard typically applied by CH when determining development setback. The use of this approach would be inconsistent with the CH guidelines and information contained in the provincial technical guide.

To illustrate this, we have prepared a short list of projects that were reviewed by CH staff over the past few years where development setbacks were determined. The reports prepared by Shoreplan are on file with CH. None of the past reports prepared by Shoreplan and ultimately accepted by CH make a reference to a setback from the top of back side of shore protection works.

The sample locations include:

18 West Street, Oakville
2036 Waters Edge Drive, Oakville
3110 Seneca Drive, Oakville

Other locations within the CH watershed are available and can be provided and/or discussed with you.

We also draw your attention to the often used diagram from the provincial guide. This diagram is presented as Figure 1. Variation of this diagram are used by most Conservation Authorities in defining and explaining the erosion

hazard limits within their watershed. CH has made up their own variation of this diagram and it is illustrated in “Living on the Lake” leaflet published by CH. The diagram is reproduced as Figure 2 and can be found on page 2 of the referred leaflet. The diagrams refer to Toe of Bank or Toe of Natural Bank.

It is the toe of bank that we tried to establish in our previous submission to CH of June 9, 2022. You recognized in your letter that establishing the toe of bank with shore protection works is challenging. Our previous report provided a reasoned argument for locating the toe of bank as we did. These reasons included:

i) It is consistent with previously completed shoreline hazard assessment for the Old Lakeshore Road shoreline sector for the City of Burlington.
ii) It is consistent with development setback previously approved by CH for the development on the west side of Pearl Street
iii) It is consistent with our observation during the construction of the shore protection works
iv) Bedrock profile along the line indicated was found to be at elevation consistent with CH recognized toe of slope elevations at other sites.

Detailed toe of bank survey was not completed during the construction of shore protect ion works. We agree with you that to complete such as survey now would be challenging with the protection works in place. For that reason, we hope that with the previously provided information and the additional information provided below regarding the proposed location of the toe of bank, an agreement can be reached on the toe of bank location.

Please consider the following. CH typically considers toe of bank to be within the bedrock profile within elevations of 74.5m to 75.5 m. This range of toe of slope elevations is consistent with elevation we have used in the past and also with a toe of slope identified in a number of geotechnical reports we or our clients have commissioned along the Halton waterfront in the past.

We prepared cross-sections of the bank at the site that show the preconstruction (prior to completion of shore protection works) and post construction profiles. The locations of these cross-sections are shown on the site plan from our previous submission, now updated and attached as Figure 3. The sections are presented on Figure 4. We plotted the bedrock profile through the site based on the three boreholes completed by Terraprobe. The average elevation of bedrock is relatively consistent at 78.7 m or higher. We extended the bedrock profile lines to the outer preconstruction profile. This configuration would be typical of shale formation. Then we continue the bedrock profile line on the cross-sections at an inclination slope of 1.4h:1v down to the typical “toe of bank” elevation range of 74.5 m to 75.5 m. The 1.4h:1v slope is stable slope acceptable to CH for shale banks. You will note that this scenario produces an intersection of the pre-construction profile and bedrock projection in proximity of the toe of bank line we have proposed in the June 6 submission and are requesting again herein. We are of the opinion that this is another indication that this is a reasonable approximation of the toe of bank.

Further, observations of our staff who visited the site during the construction of the revetment confirm that the above described toe of bank elevation is consistent with their site observations. We have site photographs taken during construction, but none of our photos clearly show bedrock at known elevations.

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We can confirm that the toe armour stones of the revetment structure are placed on bedrock and the bedrock elevations at the toe stones are shown on Figures 3 and 4. We have correspondence with the contractor that describes the difficulties he was having digging into bedrock to place the toe of the structure. We can share this correspondence with you if it is critical to your acceptance of the proposed toe of bank location.

Closing Comments

It is our opinion that the information presented in this response and in the previous correspondence of June 6, 2022 supports the toe of bank location that is the bedrock elevation in the range of 74.5m to 75.5m at the toe of bank location identified on Figure 1 of the June 6, 2022 report and reiterated herein.

As stated previously, it is our view that the description of the Erosion Hazard Limit and the Engineering Development Setback (EDS) described in our submission are a reasonable interpretation of the site conditions and consistent with CH approvals granted for other projects nearby.

We would be pleased to discuss our report with Conservation Halton staff. If you have any questions about this report or require any further assistance on this project, please feel free to contact either of the undersigned.

Yours truly,

Shoreplan Engineering Limited

M. Sturm, P. Eng.



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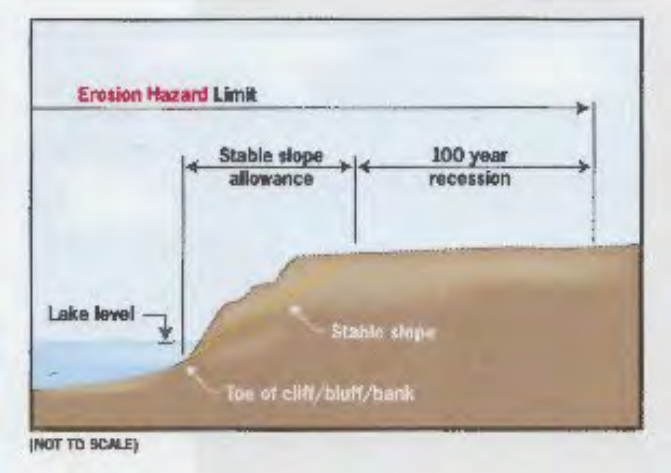


Figure 1

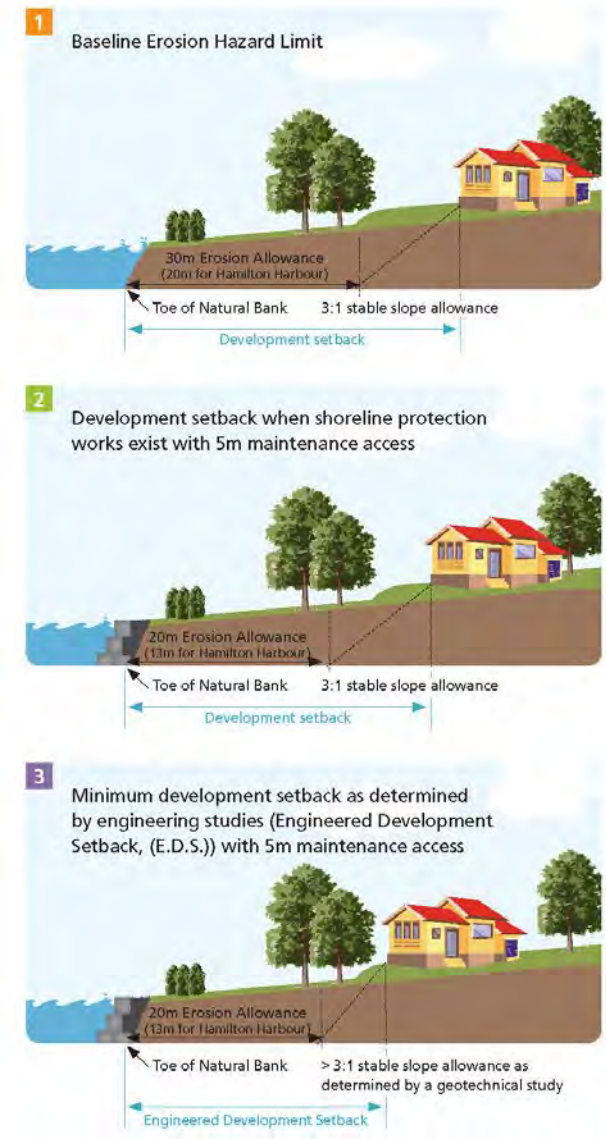


Figure 2

OLD LAKESHORE ROAD

APPROXIMATE PROPERTY LINE

EROSION HAZARD LIMIT USING 2:1 STABLE SLOPE

TERRAPROBE (2021) BOREHOLE (TYP.)

DEVELOPMENT SETBACK USING 2:1 STABLE SLOPE

TOP OF 2:1 STABLE SLOPE

PRELIMINARY ENGINEERED DEVELOPMENT SETBACK

STABLE SLOPE ALLOWANCE (12.20m)

EROSION ALLOWANCE (20.00m)

TOE OF BANK FROM 2007 CITY OF BURLINGTON REPORT

NOV. 11 2021 REPORT TOE OF BANK

PROPOSED TOE OF BANK DESCRIBED IN THIS SUBMISSION 2023/02/20

LAKE ONTARIO

BH1 BH2 BH3

A B C

74.49 73.69 74.38 73.92 74.38 73.69 74.46 73.62 74.18 73.78 74.37 73.57 74.32 73.51

PART 1, PLAN 20R-5383

LOT 1 LOT 2 LOT 3 LOT 4

BLOCK

PLAN No. 92

2 STOREY BRICK AND VINYL SIDED BUILDING No. 2076

2 STOREY VINYL SIDED BUILDING No. 2084

1 STOREY STUCCO & BRICK DWELLING

1 STOREY VINYL SIDED BUILDING

PROPOSED BUILDING

COLONNADE

TERRACE

EXIT

EXHAUST AIR SHAFT BELOW

LANDSCAPING (NOTE 1)

PC ZONE LIMIT

TO REMAIN UNDISTURBED (TYP.) Ex. Bollards (Typ.)

Edge of Concrete

Concrete Area TO REMAIN UNDISTURBED (TYP.)

STEPS

Metal Hand Rail

Edge of Pavement

CONCRETE SIDEWALK

47.34 N63°37'00"E

15.62 N27°00'00"W

0.46 N67°15'10"E

LEGEND

5m ACCESS FOR MAINTENANCE

2007 CITY OF BURLINGTON REPORT

C.H. APPROVED DEVELOPMENT SETBACK ON NEIGHBOURING PROPERTY

APRIL 2022 PROPOSED SETBACK

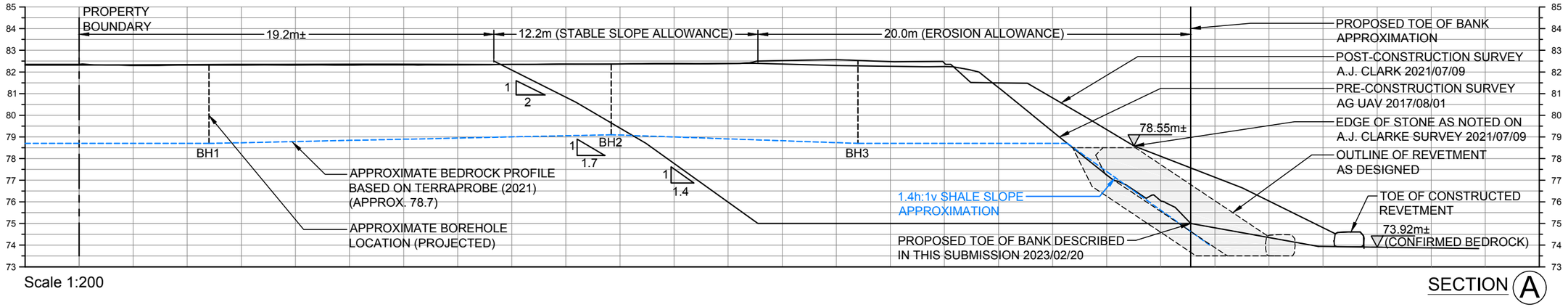
TOP OF ARMOUR STONE OF CONSTRUCTED REVETMENT + 74.32

UNDERSIDE OF TOE ARMOUR STONE (BEDROCK) + 73.51

Project #17-2616
Scale 1:400
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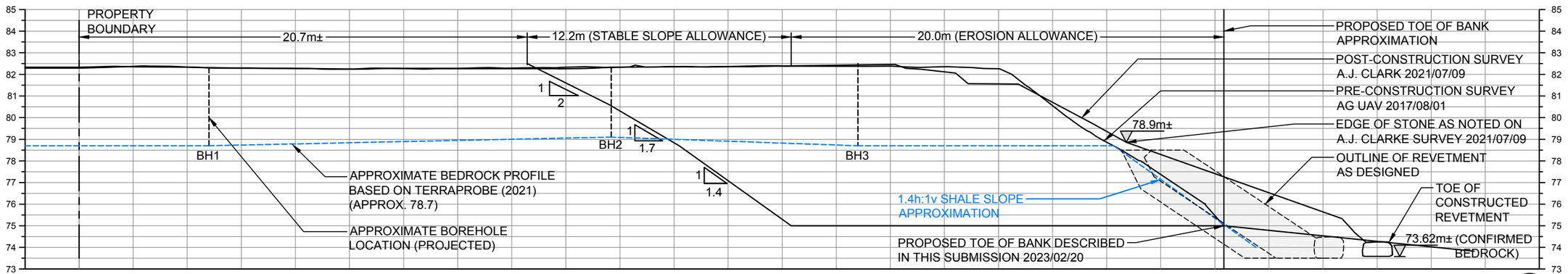
Figure 3
Ascot Motel, Burlington
Hazard Limits & Development Setback

Drawing Location: S:\Shoreplan Project Files\Files 2600-2699\17-2616 Ascot Motel, Burlington\Drawings\2616 r1o.dwg



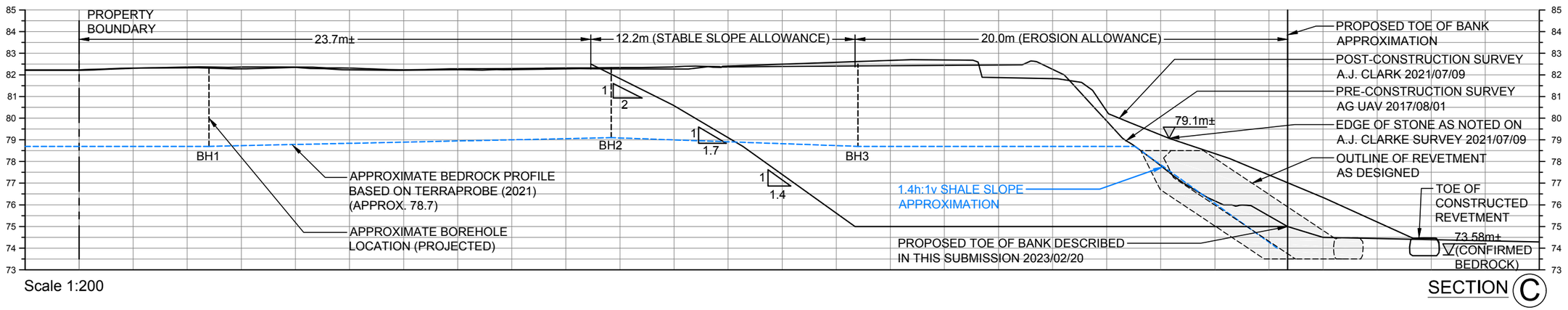
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SECTION A



Scale 1:200

SECTION B



Scale 1:200

SECTION C

Project #17-2616
Scale 1:200
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Figure 4
Ascot Motel, Burlington
Hazard Limits & Development Setback

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