

ENVIRONMENTAL ASSESSMENT

3215 HALL ROAD, KELOWNA, BC

PREPARED FOR:

514 DESIGN BUILD
3021A PANDOSY STREET
KELOWNA, BC V1Y 1W3

PREPARED BY:

CSR CONSULTANTS LTD.
206 – 3855 HENNING DRIVE
BURNABY, BC V5C 6N3

PROJECT NO.: 291-01E

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DEFINITION OF ABBREVIATIONS

BC ENV	British Columbia Ministry of Environment and Climate Change Strategy
BEC	Biogeoclimatic Ecosystem Classification
CDC	Conservation Data Centre
DFO	Department of Fisheries and Oceans Canada
GIS	Geographic Information System
LWD	Large Woody Debris
m	Meter(s)
NE DP	Natural Environment Development Permit
PP	Ponderosa Pine zone
RAPR	Riparian Areas Protection Regulation
SPEA	Streamside Protection Enhancement Area
WFH DP	Wildland Fire Hazard Development Permit

1.0 INTRODUCTION

CSR Consultants Ltd. (CSR) is pleased to present this report summarizing the results of an Environmental Assessment (the Project) for the property at 3215 Hall Road, Kelowna, BC (the Site) for 514 Design Build (the Client). The purpose of the Project is to provide an on-Site review of environmental features and present the findings and recommendations in this report in support of obtaining a development permit for the proposed residential development on the Site.

1.1 OBJECTIVES

The objectives of this report are to evaluate the Site's developable area, constraints, opportunities, and mitigation measures in relation to the proposed development in accordance with applicable regulations, and guidelines.

1.2 METHODS

CSR collected the existing available information through desktop reviews and visual observations, assessments, and measurements made during a Site reconnaissance conducted on February 15, 2023. The following assessment includes a general description of the Site's environmental setbacks established by The City of Kelowna (the City), riparian vegetation, and their relation to possible future developments.

2.0 SITE CONDITIONS

2.1 SITE DESCRIPTION

The Site is approximately 9,555 square meters (m²) in area in Rural Residential (RR2) zoning, south of Maquinna Road and northeast of Hall Road in Kelowna, BC. According to the City of Kelowna (The City) Geographic Information System (GIS, Kelowna map viewer), an unnamed pond (Unnamed Pond) is located in the southern area, east of the current access road, of the Site and a historical pond (Historical Pond) was situated in the northern portion of the Site. The Historical Pond has since been filled and currently there is a densely vegetated depression area partially on the Site. The current entrance to the Site is from Hall Road southwest of the Site.

The Client is interested in re-developing the Site to accommodate a new single-family home. Based on the GIS, The Site is within the Wildland Fire Hazard Development Permit (WFH DP) area, and a portion of the north and south of the Site are within a Natural Environment Development Permit (NE DP) area. The Site entrance is paved and is located near the Unnamed Pond. **Figure 1** presents a Site plan with the current and proposed developments.

Based on the Site plan prepared by RK STUDIO Residential Design dated March 3, 2023, the Site currently contains three structures. The residential building on the Site that will be demolished subsequent to completion of the proposed residential home that is proposed to be constructed outside of the northern and southern NE DP areas. The current garage structure is situated within the Unnamed Pond's 15m setback protected area within the southern NE DP (**Figure 1**). No structures are proposed to be constructed in the Unnamed Pond's protected area on the Site as part of the development and the ground will be restored as part of the yard. The current storage shed is situated outside of the protected areas and will be retained as part of the Site.

Based on the survey conducted by Runnalls Denby dated April 7, 2022 the Historical Pond previously located along the northwestern edge of the Site that is now consists of a dense brushes and trees. The Site plan by RK Studio and Site Survey by Runnalls Denby are presented in **Appendix I**.

CSR attended the Site on February 15, 2023 and measured the distance of the existing garage to be 8 m and 7.4 m from the high-water mark from its west and eastern corners of the Unnamed Pond respectively. CSR also noted that the depressed area, which was formally the Historical Pond north of the Site was dry and overgrown with dense vegetation shrubs and trees. Site photographs with descriptions are presented in **Appendix II**. Historical aerial photographs presenting the Unnamed Pond and the Historical Pond are included in **Appendix III**.

2.2 RIPARIAN AREA

The City defines a 15 m minimum streamside setback in their Riparian Area Regulation (RAR) information for residential buildings in vicinity of wetlands and ponds if no fish habitat is associated with it. The Unnamed Pond located on the southern portion of the property was observed to have no inflows or outflows of water with no observed fish presence. The area noted by the GIS as natural environment DPA was previously an established pond; however due to development on the neighbouring property, the pond was filled and was not observed as per the 2003 arial photograph (**Appendix III, Photograph 2**). Increased vegetation and development of the area are observed in subsequent years following the 2003 arial photograph (**Appendix III, Photographs 3-9**). The proposed development, existing house, and storage shed are located outside of the northern NE DP, and the current garage is located within the 15 m setback of the Unnamed Pond in the southern portion of the Site (**Appendix II, Photograph 4**). As the development is outside of the NE DP, there is no requirement for submission and acceptance of a RAR [RAPR] Assessment Report, or a natural development permit, prior to development approval.

2.3 WILDLIFE AND VEGETATION

The Site is located in the Ponderosa Pine (PP) Biogeoclimatic Ecosystem Classification (BEC) zone (BC CDC, 2020b). The PP is characterized by mature stands comprised mainly of Ponderosa pine (*Pinus ponderosa*), and on colder and moister sites, Douglas-fir (*Pseudotsuga menziesii*). Shrub layers in PP often include blue bunch wheatgrass (*Pseudoroegneria spicata*), rough fescue (*Festuca arundinacea*), and arrow-leaved balsamroot (*Balsamorhiza sagittata*).

On-Site, the riparian vegetation adjacent to the Unnamed Pond located southwest of the Site provides cover, shade, large woody debris (LWD), and leaf litter inputs. During the Site reconnaissance, CSR noted the presence of Weeping willow (*Salix babylonica*), Ponderosa pine (*Pinus ponderosa*), Trembling Aspen (*Populus tremuloides*), and Broadleaf cattail (*Typha latifolia*). The wildlife encountered during the Site reconnaissance included ducks (species unknown) and songbirds (species unknown). The environmental inventory for the Site can be concluded to be ESA – 3, (Moderate) to ESA – 4 (Low) due to the sparsity of vegetation and the fragmented nature of the Ponderosa Pine stands. ESA – 3 are areas delineated to have a low significance and represent disturbed and fragmented habitats. ESA – 4 are areas with little to no value and development is encouraged in these areas.

2.4 SPECIES AT RISK

CSR reviewed Habitat Wizard and the BC Conservation Data Centre (BC CDC) Map to collect existing environmental information related to the Site and its surrounding area including the presence of fish, and red and blue listed species and ecosystems. Based on the available information online, critical habitat for American Badger (*Taxidea taxus*), a red-listed species, is present within the Site boundaries. As the American Badger is a wide-ranging and sparsely distributed species, and their decline is largely attributed to roadkill, if the American Badger is spotted at the Site, extra care for drivers is recommended.

The Department of Fisheries and Oceans Canada (DFO)'s Aquatic Species at Risk Map was consulted for information on critical habitat and distribution of aquatic species listed under the Species at Risk Act (SARA). Within a 1-km radius of the Site, no critical habitat or species at risk were identified on the map.

3.0 PROJECT DESCRIPTION

3.1 PROPOSED DEVELOPMENT

It is CSR's understanding that the Client is building a two-story residence with a connected garage, outdoor pool, and gravel driveway. The proposed development building will be located outside of the City designated NE DP, which is inclusive of the 15 m maximum setback for the Unnamed Pond south of the Site and an area consistent with the Historical Pond north of the Site. Based on the provided Site plan by RK STUDIO the proposed development does not encroach onto areas within the NE DP. Therefore, compensation is not required. However, the current Site entrance and existing garage are within the 15 m setback of the Unnamed Pond. Protection of the Unnamed Pond during demolition and construction is required, Section 3.2 discussed the possible protections needed.

The constraints, opportunities, and mitigation measures presented in this report are based on currently available information, as of the date of the report and information gathered from our Site reconnaissance on February 15, 2023, City-mandated setbacks, and the proposed development plan for the Site.

3.2 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Prior to any construction at the Site, a Site-specific Construction Environmental Management Plan (CEMP) including an Erosion and Sediment Control (ESC) Plan prepared by a QEP may be required by the City if any development is conducted within the City mandated NE DP. If required, the CEMP will comment on Site-specific mitigation measures to be undertaken during construction, to prevent encroachment, control soil movement on-Site, and mitigate potential erosion and discharge of sediment-laden water into nearby surface waters and to provided compensation methods if required.

4.0 LIMITATIONS

CSR prepared this report for 514 Design Build for the intended use of completing a Riparian Assessment Report for the property at 3215 Hall Road, Kelowna, BC. The assessment was made based on existing available information through desktop reviews, visual assessments and measurements collected during a Site reconnaissance survey conducted on February 15, 2023, and information made available to us at the time of this report.

Arborist report, windthrow assessment, geotechnical assessment, stormwater management plan, flood mitigation plan, and Wildlife or species at risk surveys were not conducted as part of this Environmental Assessment for the Site.

Any use which a third party makes of this report, or any reliance on or decisions made based on it are at the risk of the responsible third party. CSR is not liable or responsible for any damages or losses of any kind as a result of third-party decisions made based on this report.

5.0 CLOSURE

We trust the information provided in this report meets your requirements at the present time. Should any questions arise, please do not hesitate to contact Mamoud Bashi at 604.559.7100 or via email at mamoud@csrgroup.ca at your convenience.

Yours sincerely,
CSR Consultants Ltd.

Reviewed By:

Mamoud G. Bashi, MBA, PEng
Principal and Environmental Engineer

Written By:



Henry Lam, B.Sc., BIT
Environmental Technologist

7.0 REFERENCES

British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2020a. Fisheries Inventory Data Queries. <http://a100.gov.bc.ca/pub/efdq/viewWatershedDictionary.do> [Accessed February 2023].

British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2020b. HabitatWizard. <https://maps.gov.bc.ca/ess/hm/habwiz/> [Accessed February 2023].

British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2008. Riparian Restoration Guidelines.

BC Conservation Data Centre. 2020a. BC Species and Ecosystem Explorer. BC Ministry of Environment, Victoria BC. <http://a100.gov.bc.ca/pub/eswp/> [Accessed February 2023].

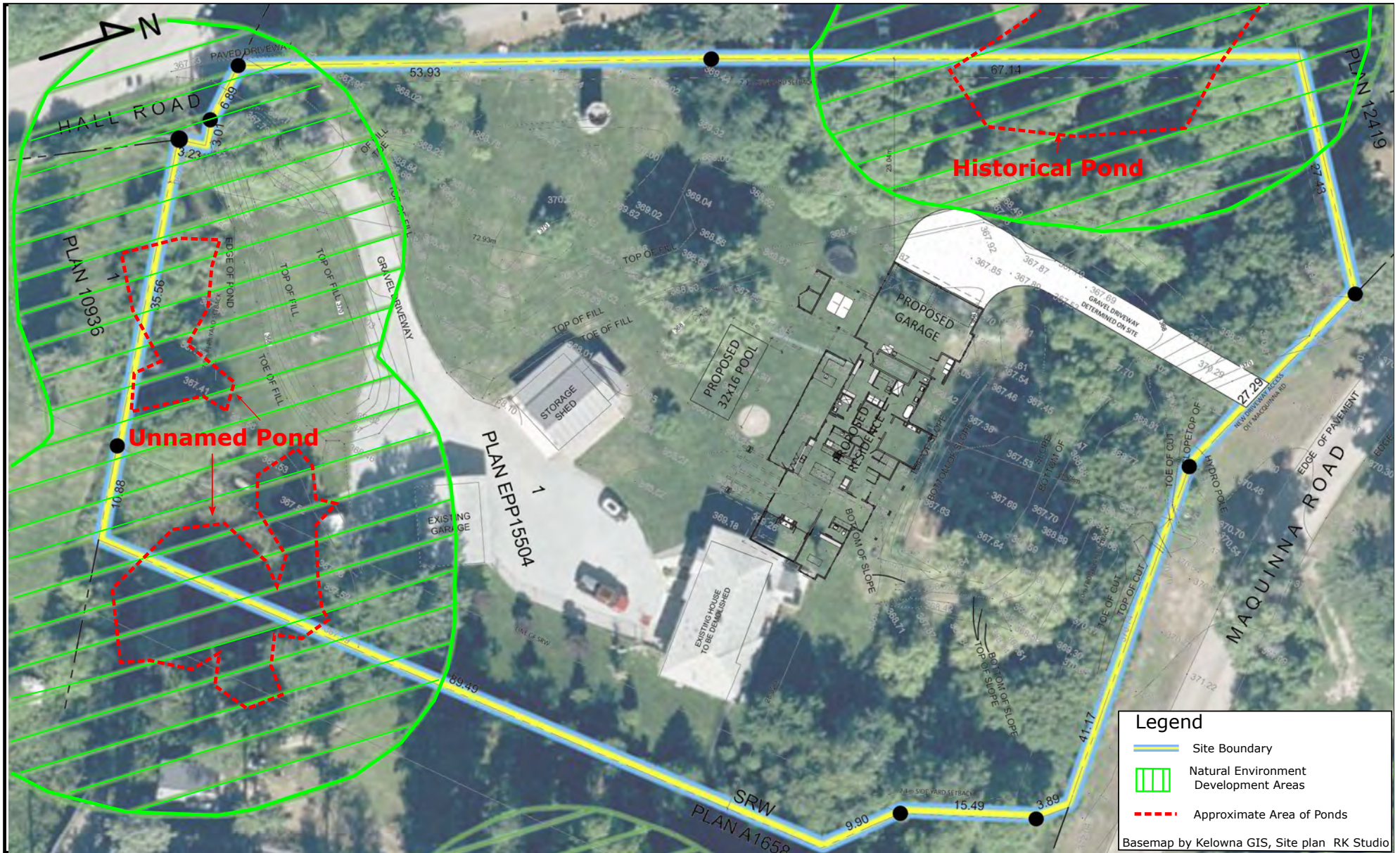
BC Conservation Data Centre: CDC iMap [web application]. 2020b. Victoria BC. <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/known-locations-of-species-and-ecosystems-at-risk/cdc-imap-theme> [Accessed February 2023].

City of Kelowna. Kelowna GIS. <https://maps.kelowna.ca/public/mapviewer/> [Accessed February 2023].

Department of Fisheries and Oceans Canada (DFO). Aquatic Species at Risk Map. <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html> [Accessed February 2023].

Resources Inventory Committee (RIC). 2001. Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures. <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/recce2c.pdf> [Accessed February 2023].


FIGURES



Legend

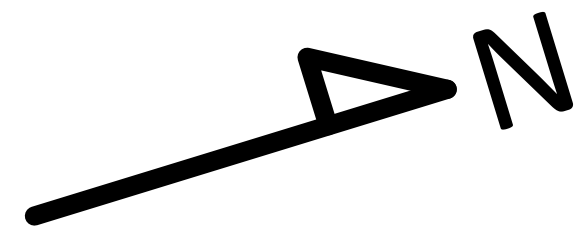
- Site Boundary
- Natural Environment Development Areas
- Approximate Area of Ponds

Basemap by Kelowna GIS, Site plan RK Studio

 <p>206 - 3855 Henning Drive Burnaby, BC, V5C 6N3 TEL: 604-559-7100 www.csrenviro.com</p>	Project:	Job No.:	291-01E	Drawing No.:	Figure 1
	Environmental Assessment	Drawn By:	ZZ/AHT		
		Checked By:	M. Bashi		
	Address:	Scale:	Date:	Client Name:	Drawing Title:
	3215 Hall Road Kelowna, BC	Scale/Not to scale	2023/03/08	514 Design Builds	

APPENDIX I

DRAWINGS PROVIDED BY OTHERS



HALL ROAD

PLAN 109336

PAVED DRIVEWAY

EDGE OF POND

7.5m REAR YARD SETBACK

GRAVEL DRIVEWAY

PLAN EPP15504

EXISTING GARAGE

STORAGE SHED

PROPOSED 32x16 POOL

PROPOSED GARAGE

PROPOSED RESIDENCE

EXISTING HOUSE TO BE DEMOLISHED

MAQUINNA ROAD

PLAN 12419

SRW PLAN A1658

SITE STATISTICS
 ZONING: RR2 - SMALL LOT RURAL RESIDENTIAL
 TOTAL LOT AREA = 2.36 ACRES
 30% MAX. SITE COVERAGE (ALL BUILDINGS) = 30,848 SQ.FT.
 SITE COVERAGE AS PROPOSED (ALL BUILDING) = 4,578 SQ.FT.
 60% MAX. SITE COVERAGE W/ IMPERMEABLE SURFACE = 61,696 SQ.FT.
 SITE COVERAGE W/ IMPERMEABLE SURFACE = 8,878 SQ.FT.

REQUIRED:	PROPOSED:
MAX. HEIGHT: 10.0m	6.46m
FRONT YARD SETBACK: 6.0m	28.79m
RIGHT SIDE YARD SETBACK: 2.1m	23.04m
LEFT SIDE YARD SETBACK: 2.1m	28.35m
REAR YARD SETBACK: 7.5m	72.93m

LEGAL DESCRIPTION
 3215 HALL RD. KELOWNA, BC
 LOT 1, PLAN EPP15504, ODYD

SITE PLAN
 SCALE: 1/16" = 1'-0"

NOTE: EXACT HOUSE LOCATION DETERMINED ON SITE
 HEIGHT OF MAIN FLOOR DETERMINED ON SITE

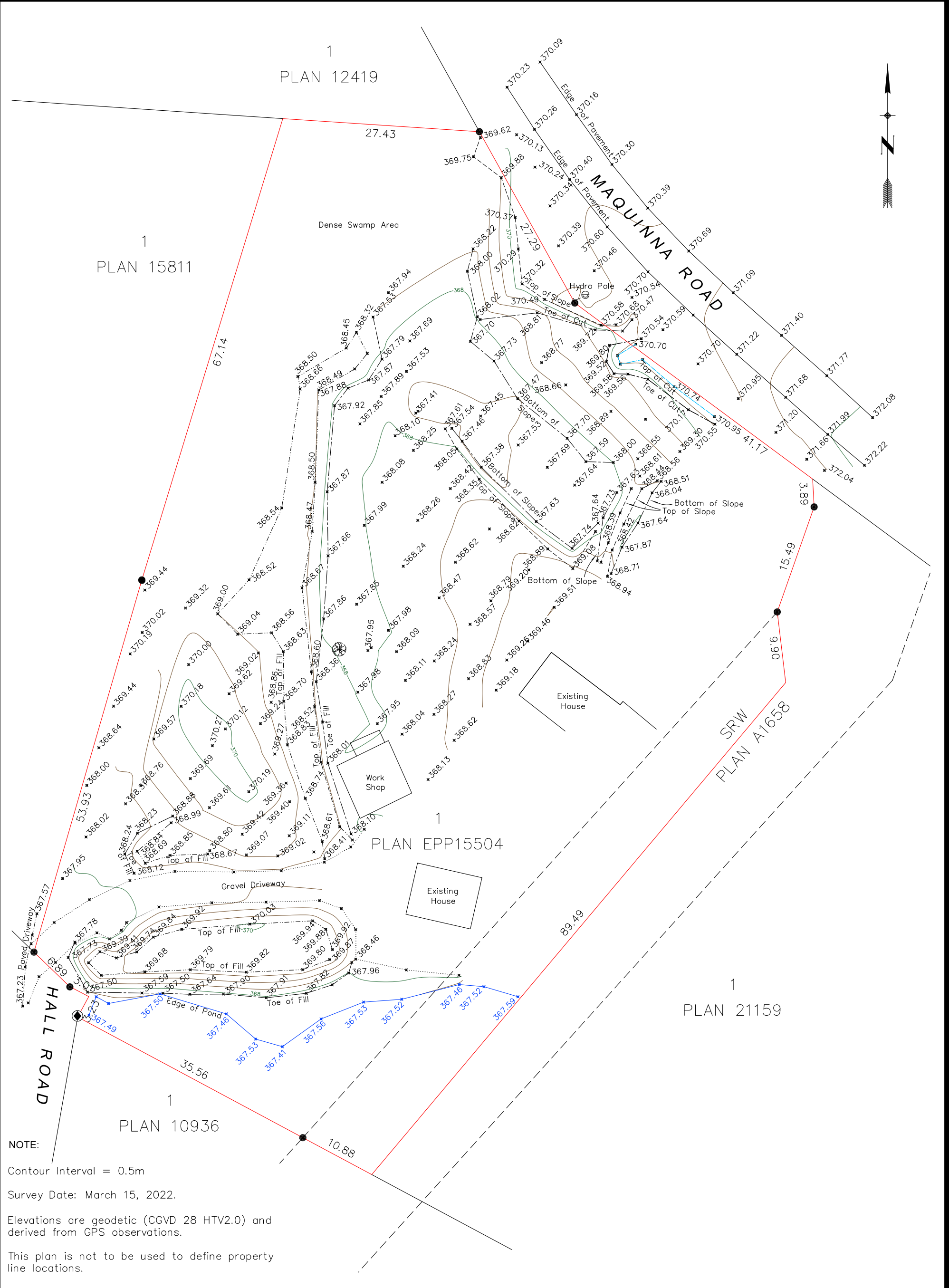
GENERAL NOTES:
 -ALL WORK SHALL CONFORM TO THE STANDARDS OF THE B.C. BUILDING CODE 2018 AND ALL LOCAL CODES, BYLAWS AND AMENDMENTS
 -ALL WORK SHALL BE OF GOOD BUILDING PRACTICE
 -ALL BUILDING MATERIALS TO BE OF GOOD QUALITY
 -DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS
 -PRIOR TO CONSTRUCTION THE BUILDER MUST CONFIRM ALL DETAILS AND DIMENSIONS TO VERIFY THEY ARE CORRECT AND THERE ARE NO DISCREPANCIES
 -RK STUDIO IS NOT RESPONSIBLE OR LIABLE FOR ANY ERRORS AND OMISSIONS THAT MAY ALTER THE OVERALL CONSTRUCTION
 -PLEASE REPORT ANY DISCREPANCIES IN THESE DRAWINGS TO RK STUDIO
 -ALL TRADES SHALL CONFIRM ALL DIMENSIONS ON SITE PRIOR TO STARTING WORK
 -EXTERIOR DIMENSIONS TAKEN FROM OUTSIDE FACE OF STUD AND EXTERIOR FACE OF CONCRETE (U.N.O.)
 -INTERIOR DIMENSIONS TAKEN FROM CENTER LINE OF STUD (U.N.O.)
 -FOUNDATION WALLS AND FOOTINGS TO BE CONFIRMED BY P.ENG.



RK | STUDIO
 RESIDENTIAL DESIGN AND DRAFTING
 1760 KLOPPENBURG RD. KELOWNA, BC
 (250)-317-6875 ryan.rkstudio@gmail.com

PROJECT NAME: 3215 HALL ROAD - GROSS/GANSKE RESIDENCE		SHEET TITLE: SITE PLAN	
DRAWN BY: RK	ISSUED FOR: HOME ORIENTATION	DATE: YYYY-MM-DD 2023-03-06	SCALE: 3/16" = 1'-0"
NOTES:		LEGAL DESCRIPTION: LOT 1, PLAN EPP15504, SECTION 16 TOWNSHIP 26, ODYD	

A1



NOTE:

Contour Interval = 0.5m

Survey Date: March 15, 2022.

Elevations are geodetic (CGVD 28 HTV2.0) and derived from GPS observations.

This plan is not to be used to define property line locations.

TITLE: SITE PLAN OF LOT 1, SEC. 16, TP. 23, O.D.Y.D., PLAN EPP15504 (3215 Hall Road, Kelowna)

DRAWN BY: **RUNNALLS DENBY**
british columbia land surveyors
 259A Lawrence Avenue Phone: (250)763-7322
 Kelowna, B.C. Fax: (250)763-4413
 V1Y 6L2 Email: neil@runnallsdenby.com

SCALE: 1:500 (11" x 17")
DATE: April 7, 2022
DWG: 16369 SITE

CLIENT: **TED GROSS**

FILE No.: 16369 **REV.** 0

APPENDIX II

SITE PHOTOGRAPHS

FEBRUARY 15, 2023



Photograph 1: Looking west, viewing the Unnamed Pond and the Site entrance from Hall Road.



Photograph 2: Looking south at the Unnamed Pond and the neighbouring property south of the Site.



Photograph 3: Looking east at the Unnamed Pond and the fill bordering north of the pond.



Photograph 4: Looking east at the garage and the edge of the Unnamed Pond.



Photograph 5: Looking north at the Historical Pond area currently dry and covered in dense vegetation.



Photograph 6: Looking west at the Historical Pond area currently covered in dense vegetation and at the neighbouring property west of the Site.



Photograph 7: Looking northwest at the Historical Pond area currently covered in dense vegetation and at the neighbouring property west of the Site.



Photograph 8: Looking southeast at the proposed development area, currently occupied by a trampoline and fire pit, and the current house, storage shed, and garage.



Photograph 9: Looking south at the proposed gravel driveway.



Photograph 10: Looking east at the proposed entrance of the gravel driveway from Maquinna Road.

APPENDIX III

HISTORICAL PHOTOGRAPHS OBTAINED FROM KELOWNA GIS



Photograph 1: Aerial photograph of the Site in the year 2000, a pond is shown to the northwest of the Site and to the southeast (Arrows indicate ponds).



Photograph 2: Aerial photograph of the Site in the year 2003, a pond is shown to the northwest of the Site and to the southeast (Arrows indicate ponds).



Photograph 3: Aerial photograph of the Site in the year 2006, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



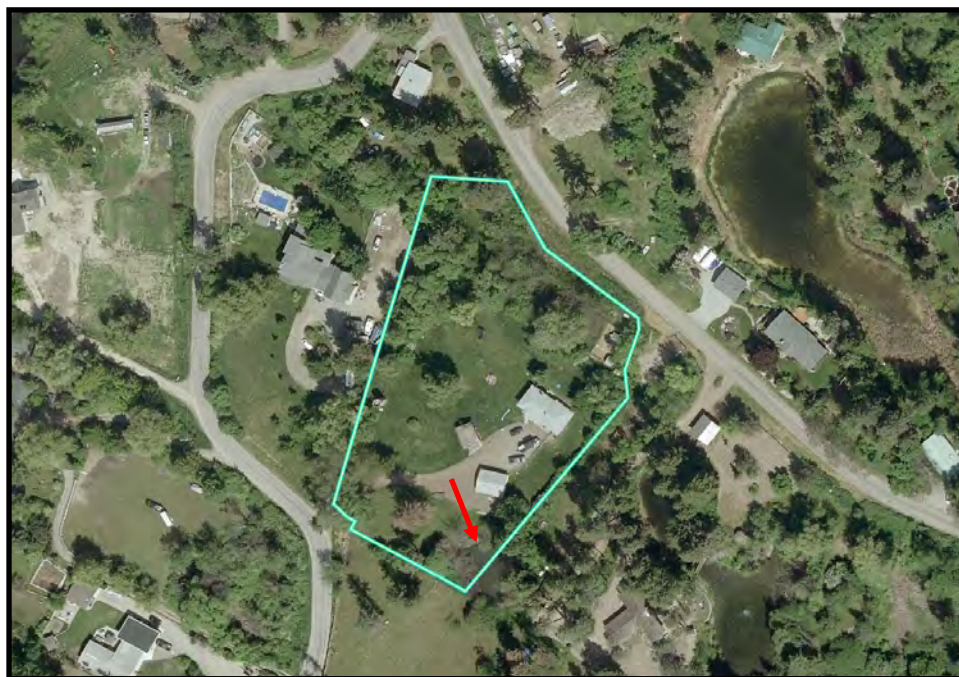
Photograph 4: Aerial photograph of the Site in the year 2009, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



Photograph 5: Aerial photograph of the Site in the year 2012, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



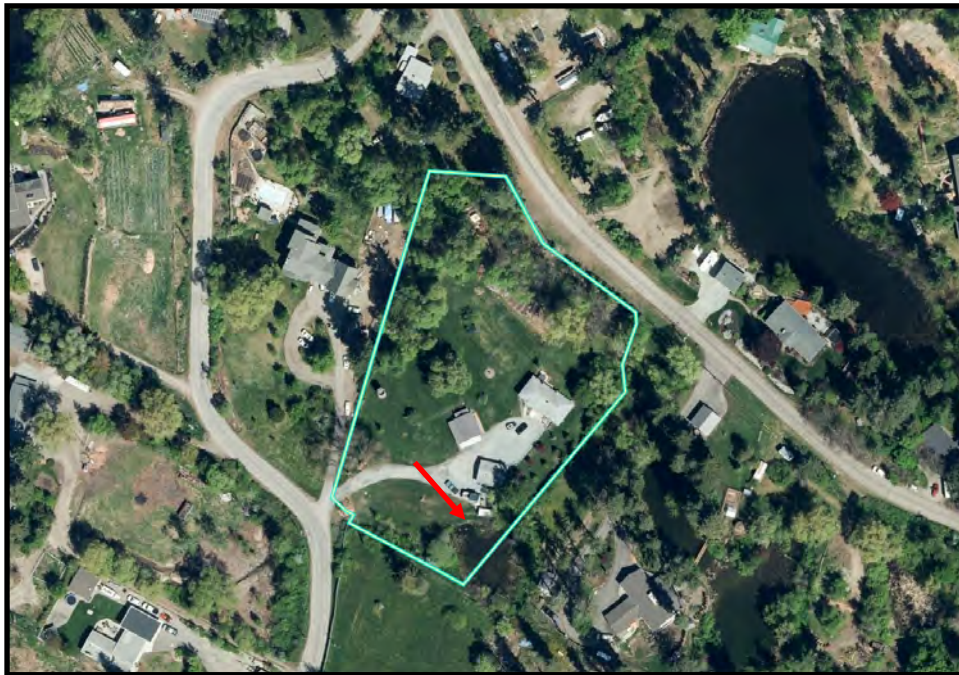
Photograph 6: Aerial photograph of the Site in the year 2015, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



Photograph 7: Aerial photograph of the Site in the year 2017, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



Photograph 8: Aerial photograph of the Site in the year 2019, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).



Photograph 9: Aerial photograph of the Site in the year 2021, the northwest pond is not observed and the southeast pond is shown (Arrow indicates the pond).