

NOVA SCOTIA AQUACULTURE REVIEW BOARD

IN THE MATTER OF: *Fisheries and Coastal Resources Act, SNS 1996, c 25*

- and -

IN THE MATTER OF: An Application by KELLY COVE SALMON LTD. for a boundary amendment and two new finfish aquaculture licenses and leases for the cultivation of Atlantic salmon (*Salmo salar*) - AQ#1205x, AQ#1432, AQ#1433, in Liverpool Bay, Queens County (the "**Application**")

Supplemental Affidavit of Christopher Glebe affirmed on February 19, 2024

I affirm and give evidence as follows:

1. I am Christopher Glebe of St. Stephen, New Brunswick. I am an architectural designer and the principal of Suasive Visual Design Ltd.
2. I have personal knowledge of the evidence affirmed in this affidavit except where otherwise stated to be based on information and belief.
3. I state, in this affidavit, the source of any information that is not based on my own personal knowledge, and I state my belief of the source.
4. A previous version of my CV was attached as Exhibit B to my Affidavit affirmed on January 19, 2024 and filed in this proceeding by the Applicant Kelly Cove Salmon Ltd. ("**KCS**").
5. At the request of Stewart McKelvey on behalf of KCS, I prepared a CV which provides greater detail on my training and qualifications to provide expert opinion evidence on the three-dimensional modelling of structures to approximate their visual impact from selected locations (my "**Detailed CV**").
6. My Detailed CV is attached as **Exhibit A**.

AFFIRMED before me virtually on MS Teams with Mr. Glebe in St. Stephen, New Brunswick and me in Halifax, Nova Scotia, on February 19, 2024.

[Redacted Signature]

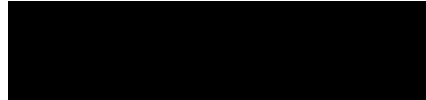
David A. Barry
A Barrister of the Supreme Court of Nova Scotia

[Redacted Signature]

Christopher Glebe

**KCS' Application re AQ#1205X, AQ#1432,
AQ#1433 in Liverpool Bay, Queens County**

This is **Exhibit A** referred to in the Affidavit
of Christopher Glebe, affirmed before me
on February 19, 2024.



David A. Barry
A Barrister of the Supreme Court of Nova
Scotia



**To: Nova Scotia Aquaculture
Review Board**

2024-02-19

Christopher Glebe
Principal

Suasive Visual Design Ltd.

St. Stephen, NB, [REDACTED]

P [REDACTED]

C [REDACTED]

E [REDACTED]

W [REDACTED]

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RE: Statement of Expert Knowledge for Visualization

In summarizing my expert qualifications for the production and verification of visual studies, it is critical to clearly identify precisely how and where such knowledge is being applied in this study. A visual study of this nature contains images that clearly describe a close approximation of the anticipated appearance of a project and summarizes conclusions that a reasonable person might make based on the review of such visuals. The utility of a visual study utilizing 3D imagery is that by its very nature it is intended to be accessible to persons with no expert knowledge and its conclusions can be self-verified by the review of its content (in this case 3D imagery composited with existing photographs). Upon completing the report, I concluded based on the 3D imagery a reasonable person would likely agree this project has what one would describe as minimal visual impact, but as the study clearly notes this interpretation can be subjective, and as such study imagery is by design easily independently reviewed by viewing its images. I hope this clearly establishes how no expert knowledge is required to review the content or draw conclusions from the study, but expert knowledge is required to produce the primary content (imagery) of the report. Simply put, we let the images tell the story.

This raises the question of what constitutes a reasonable approximation. This can also be independently verified in the study itself with no expert knowledge. This project has the benefit of having an existing cage site for comparison. If one reviews the existing cage site vs the 3D model can see there is slight variation due to the simplification of the elements, slight variations in lighting, and position (due to unpredictable lighting conditions like clouds, variation in position from tides, small inaccuracies in GPS data, etc.; all of which are typical), but I believe a reasonable person would agree that these variations are not visually significant.

Although much of my training and experience has been in the field of architecture, visualization and visual studies are applied

to a wide range of project types. A visual study is typically produced in cooperation with the project design team, typically engineers, architects, or some other design professionals. And this project is no exception and was produced with input from Kelly Cove Salmon Ltd.'s (KCS) engineer Adam Turner who communicated the design through a series of drawings to confirm the location, composition, and details of the elements constituting the projects and confirmed our interpretation of said design. Obviously, this is not an architecture project, as no architect was involved. This is not an engineering document either per say, it is a visualization study, examining the appearance of the design only. Simply put, we produced images that simulate the appearance of the project.

While I did attend engineering and architecture schools during my education, I am not a practicing architect or engineer. And this education, while beneficial, was not critical to my professional visualization skills using 3D technology, for the simple reason that my use of 3D technology predates widespread use. As such I was one of the pioneers of its application in my fields. Simply put, I and other early adopters developed its use prior to the existence of organized training programs.

Hopefully this clearly delineates the application of expert knowledge applied to this study, and it is self-evident that it is largely a technical exercise in correctly utilizing the appropriate technology to produce the imagery that is a close approximation of the anticipated appearance of a project to aid in interpreting the design and understanding its potential visual impact. While I do possess what one might describe as expert knowledge in design, it is irrelevant to a visual study other than the technical advantages to interpreting the design. Each project has its own unique requirements; I clearly outlined the process and software selected to produce the images in the beginning of the study. I have made a point to include a detailed description of my experience in these areas in the below resume in addition to outlining my experience in the design industry where I have applied my expertise in visualization.

Career Summary

Professional experience: I have extensive experience on a wide range of architectural, engineering, and graphic design projects spanning over 25 years. I have worked on projects of varying scope across the spectrum of the industry utilizing an array of

media including 3D visualization, Building Information Modelling (BIM, Revit), Mapping, Graphic Design, and Video Production. I started his career in 1997 for Fellows and Company Ltd., Fredericton, NB, Canada and advanced to senior designer at ARK Inc. (Petroff partnership Architects sister firm, Toronto) in 2008, and went on to hold positions with various firms including NORR Architects and Engineers (Toronto, ON), Delcan Engineering (Markham, ON), Diamond Schmitt Architects (Toronto, ON), and DesignitMill Inc. (Toronto, ON). Most recently I founded Suasive Visual Design Ltd. In St. Stephen, NB as its principal in 2022. Suasive currently provides design, visualization, mapping, graphic art and design to Architects, designers, organizations, and engineers throughout Canada. During my career I have produced hundreds of visual studies for various applications, the majority for engineering, and architecture.

Technology: I have professional proficiency with a wide range of advanced design and documentation technologies including building information management (BIM, Revit and others), advanced drafting and modelling (AutoCAD, Rhino 3D, and others), media production and graphic design (Adobe suite of software), virtual reality (SimLab, Oculus/Meta and others), and specialized multidisciplinary parametric design software (Grasshopper, Dynamo and others). I bring innovative, but proven technology to the companies I work with, with a focus on automation, developing methodology to improve reliability and efficiency, and removing obstacles to design documentation realization. I have used 3D software (AutoCAD, 3Ds Max, Rhino 3D, Open GIS, Sketchup and others), and editing software (Photoshop, Premiere, InDesign, and others) professionally for over 28 years, which predates its wide usage and as such was a pioneer in their application in design.

Years of Experience: 28

What others say about him: “Chris was a team leader responsible for the preparation, coordination and execution of complex project portfolios and presentations. His design and rendering skills are outstanding. Coupled with his extensive technical knowledge of computer software programs and equipment, his strong management and communication skills, during his time at Petroff Partnership Architects, Chris quickly rose to become a leader within our design team.” – Guela Solow, Partner (ARK Inc./Petroff Partnership Architects)

Detailed Past Employment:

2022-Present Suasive Visual, St. Stephen, NB, Canada

2001-2022 Contract Design, various Design Firms/Organizations

I have offered contract design services, with a heavy focus on visualization, for over 20 years. Typically, in partnership with a relevant design firm (Architects and Engineers), or with organizations that have their own internal capability. My clients have included design firms, including past employers such as Fellowes and Company, Petroff Partnership Architects, ARK Inc, Caruthers, and Shaw Architects, Design It Mill Ltd, and others. As well as other organizations, such as Metrolinx, the Government of Canada, Smart Centres, and others. Most of my work is providing visualization for projects utilizing advanced 3D software and design knowledge. These visualizations were often utilized in review or approval processes including Site Plan Approval (SPA) visual studies, environmental impact assessments, and other similar review processes. More recently I have relocated from Toronto to St. Stephen, NB, Canada and expanded my clients to include local engineering firms, and some larger companies with internal design capability including Irving Oil and Cooke Aquaculture.

2012-2014 Designer, Diamond Schmitt Architects, Toronto, Ontario, Canada.

Developed designs and drawings, visualization, and BIM models on a variety of projects with a primary focus on large institutional. Visual studies (including 3D printing) were completed on several projects including the National Arts Centre and The Senate of Canada Building. Greatly expanded my integration of Autodesk Revit and BIM (Building Information Modelling) in my workflow and experimented with 3D printing of projects at a conceptual level. Was primarily working on conceptual and preliminary architecture design at the firm, which utilized visual studies for client and internal review.

2011-2012 Designer, Delcan Engineering Ltd., Markham, ON, Canada

Developed designs and advanced drafting documentation, with a primary focus on visualization and large transit projects. Delcan is one of Canada's largest engineering companies, part of the Parsons Company, with close to one thousand employees.

Produced visual studies for a wide range of projects including numerous GO transit locations, a visual study on the electrification of the GO transit system, and major civil engineering projects such as the sunken corridor for the Pearson Airport Rail Link. These studies were primarily produced for Metrolinx (Province of Ontario's main transit organization), for public consultation, assessments, and internal review. Utilized Autodesk (3ds Max, AutoCAD, and Revit), Rhino 3D, Adobe (Photoshop, Illustrator, InDesign, and Premiere) in most projects.

2008 Senior Designer, Zeidler Partnership Architects, Toronto, ON, Canada

Worked primarily as a designer on commercial buildings. Zeidler Partnership architects was one of the largest architecture firms in the country with over 120 employees during my time working there. Produced 3D visualization for internal and client review on projects including a proposed Hyatt Airport Hotel and two residential towers. Expanded my experience in working on rapid visualization (a form of quick conceptualization conducive to rapid design) utilizing google SketchUp, Autodesk (3ds Max, AutoCAD, and Revit), Adobe (Photoshop and Illustrator), which were used on all projects.

2001-2007 Senior Designer, ARK Inc. (Petroff Partnership Architects), Toronto, ON, Canada

Worked as designer on projects including retail, commercial, residential, institutional, educational, and media for many of the largest corporate clients and developers in Canada. Developed 3-D models, renderings, and animations to illustrate and market design concepts Pioneered firm's use of graphic media and 3d modeling for project proposals and approvals. Visual studies were produced for a variety of applications including Client Review, Ontario Municipal Board Review, Site Plan Approval Review, Impact assessment, project evaluation and other typical applications. Typical visual studies consisted of composite imagery mixing existing site photographs and 3D images, as well as rendered 2D projections such as rendered elevations. Pioneered the use of 3D animation and renderings in projects for the firm and for proposals. For example, Petroff Partnership Architects and Carlos Ott Architect were partnered on numerous large-scale projects including the Henan Art Centre, Wenzhou Grand Theatre, and Shanghai Trade Centre, which I developed

a standardized way for visualizing for proposal evaluation. This was later established as a standard for all designs evaluated by the Chinese design review board based on my work. Site Plan Approval (SPA) visual studies are too numerous to fully list, but included SPAs for projects for Smart Centres, Wal-Mart, Lowes, Future shop, BestBuy, Government of Canada, UJA, BMW, and others. By way of example, I produced all the SPA documents (3D renderings and 2D Renderings) for all Lowes projects in Canada, which exceeded thirty projects. Petroff Partnership Architects was one of the largest architecture firms in the country with over 130 employees during my time working there. Pioneered the use of Autodesk 3D visualization (3ds Max, AutoCAD, and Revit), Adobe (Photoshop, Premiere, and Illustrator) for the firm.

1998-2000 Junior Designer, NORR Architects and Engineers, Toronto, ON, Canada

Selected as a co-op employee while attending University of Waterloo. Worked as designer on projects including retail, commercial, residential, institutional, educational, and media valued for many of the largest corporate clients and developers in Canada. Developed 3-D models, renderings, and animations to illustrate and market design concepts Pioneered firm's use of graphic media and 3d modeling for project proposals and approvals. 3D visualization, and computer rendering was in still in its infancy at this time (hand painted renderings and physical models were still common), so I developed new ways to produce visual studies using combinations of software.

1997 Architectural Renderer Fellows and Company Architects, Fredericton, NB, Canada

Selected as a co-op employee while attending University of Waterloo. My first professional position in the design industry was over 27 years ago. Provided numerous renderings and visual studies (mixture of 2D projections and 3D renderings) primarily pursuant to supporting the design of the Leo Hayes High School, in addition to other projects as needed.

Education:

1996-1999. **School of Architecture.** University of Waterloo, Waterloo, ON, Canada. SSEF Scholarship and Design Studio Excellence Awards.

2016 – 2017. Attended **Bachelor of Engineering Chemical Engineering Program**. University of New Brunswick, Fredericton, NB, Canada. Navy League of Canada and Connors Scholarships.

1988-1994 **High School Diploma with Honours**. High School Sir James Dunn Academy, St. Andrews, NB, Canada

Sincerely,

Christopher Glebe

Principal, Suasive Visual Design Ltd.