1. **Position Identification**

<table>
<thead>
<tr>
<th>Position Number</th>
<th>992114, 992229, 993130 992697 992692</th>
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<tbody>
<tr>
<td>Position Title:</td>
<td>Metadata and Data Curation Specialist</td>
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<tr>
<td>Department:</td>
<td>ONC</td>
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<tr>
<td>Reports to:</td>
<td>Data Stewardship and Operations Support Team Lead</td>
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<tr>
<td>Number of Direct/Indirect Reports</td>
<td>Direct 0     Indirect 0</td>
</tr>
<tr>
<td>Classification Level</td>
<td>SG 7</td>
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<tr>
<td>Current Incumbent (if applicable)</td>
<td>n/a</td>
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2. **Position Summary**

Ocean Networks Canada (ONC) is a world-leading organization supporting ocean discovery and technological innovation. ONC is a not-for-profit society that operates and manages innovative cabled observatories on behalf of the University of Victoria that supply continuous power and Internet connectivity to various scientific instruments located in coastal, deep-ocean, and Arctic environments. ONC’s cable arrays host hundreds of sensors distributed in, on and above the seabed along with mobile and land based assets strategically located, instruments that address key scientific and policy issues (subsea earthquakes and tsunamis, ocean acidification, marine biodiversity, etc.) within a wide range of environments.

ONC also provides coastal and oceanographic data acquisition, curation, and distribution services to third party clients like the Pacific Salmon Foundation, the Department of Fisheries and Oceans and the Fundy Ocean Research Center for Energy.

The Metadata and Data Curation Specialist is primarily responsible for acquiring, verifying and maintaining metadata and data for ONC. Secondary duties include providing support during infrastructure maintenance operations, mainly on-shore but occasionally in the field. Curation activities enhance metadata and data discovery and retrieval, provenance, quality, archival and interoperability.

3. **Key Responsibilities and Expectations**

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<th>Key Responsibilities</th>
<th>% of time</th>
<th>Expectations:</th>
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| Metadata Curation    | 35%       | - Compiles, evaluates and maintains complete and compliant metadata that describe infrastructure, datasets and field operations  
- Coordinates and proposes metadata schema and processes, adopting existing recognized standards when appropriate  
- Organizes, classifies and stores instrument documentation (e.g., manuals, calibration sheets, pictures and reports) and software that have been produced by manufacturers, data providers or staff; these documents are maintained in Alfresco or on wiki pages for staff and external users to access  
- Develops metadata integration and quality assurance |
procedures

- Monitors and contributes to the development of ocean data provider community metadata standards and trends
- Verifies metadata is accurately represented in data products
- Stays current on standards important for data exchange, reuse and interoperability
- Prepares internal and end-user documentation describing ONC metadata procedures and guidelines

Data Curation 35%
- Performs data file manipulations, data reprocessing and other corrections as needed
- Completes autonomous and cruise data ingestion tasks (file name standardization, data conversions, and archival)
- Conducts multimedia manipulations like video transcoding and embedding metadata in images
- Contributes to investigations, decision-making, and documentation for data curation procedures

Operations Support 20%
- Collects and organizes documentation and metadata pertaining to instrument configurations and calibrations
- Assists with ensuring that dive logs are complete, accurate and adherent to observatory guidelines
- Assists with tracking post-analysis results and protocols for physical samples

Miscellaneous 10%
- Generates metadata summaries and reports as required
- Reviews and recommends improvements to metadata contained in instrument initialization sequences
- Completes peer-reviews of tasks completed by other team members, as a best practices approach to ensuring final metadata and data integrity

4. Classification Factors:

(a) Independence of action, authority and decision making:
The Metadata and Data Curation Specialist assumes independent decision making around time management and methods to complete assigned tasks. Resolving minor metadata discrepancies or omissions will rely upon the Specialist’s expert judgment. In circumstances where established procedures do not exist, consultation with the Data Stewardship Team Lead is expected.

(b) Accountability – scope and impact:
The Metadata and Data Curation Specialist has an important role in maintaining the integrity of ONC metadata and archived data. Fundamentally, that involves careful documentation and verification of metadata for ONC infrastructure, datasets and operations, and proper preparations and archival of raw datasets. In this capacity, the Specialist is expected to closely interact with staff throughout the organization. When new situations are encountered, the Specialist gathers internal metadata/data requirements and coordinates efforts with international scientific metadata experts and relevant ocean data providers to identify and recommend suitable appropriate procedures and standards for ONC’s metadata and data curation, and metadata dissemination. Since ONC is continually expanding its operations, it is anticipated that existing processes will need to be evaluated and new processes will need to be established frequently. Metadata standards and procedures adopted by ONC will enable interoperability by fulfilling agreements with third party institutions like the U.S. Ocean Observatories Initiative, and by broadening the long-term usability and accessibility of ONC data for scientists and other end-users.

(c) Supervision given and received:
The Metadata and Data Curation Specialist works under the general supervision of the Data
Stewardship Team Lead. Since many team tasks have direct and lasting impact on metadata and data, the Specialist will conduct and receive peer-reviews to reduce errors and improve methods. The Specialist will also instruct non-team members on metadata or raw data related tasks to support operations in the field.

(d) Budget, Financial and Material Resources:
This position does not have responsibility for budget or materials expenditures, but has shared responsibility for maintaining metadata and data integrity of all ONC’s observatory infrastructure and third party data-sets hosted by ONC. These assets are of significant importance and value to the organization, and to the international scientific and research communities.

(e) Problem-Solving
This position requires careful consideration of metadata management choices based upon input from staff, scientists and the ocean data community. Reaching consensus is challenging given the heterogeneity of the problem (instrument types, data sets, data collection methods, and end-user expectations) and the evolving state of ocean metadata and data standards. The oceanographic community has yet to converge on many facets due to the complexity of the problem. Thus, the position requires someone who can combine big-picture and detail-oriented thinking when developing solutions. An excellent ability to identify patterns, assess limitations and compare options is essential.

5. Summary of qualifications
The position requires a Bachelor’s degree in Information Science, Computer Science or related field, and 3 years of experience working in a related discipline.

A scientific or research background sufficient to understand the technical aspects of Ocean Networks Canada activities is essential. A qualified candidate will possess excellent communication skills, time-management, and problem-solving capabilities. Flexibility to manage multiple tasks and priority in a dynamic working environment is highly desired.

In addition, the following knowledge and experience are required:
• Demonstrated experience with metadata schemas, controlled vocabularies, linked data
• Familiarity with XML, RDF, NetCDF tools and formats
• Expertise with geospatial and oceanographic community conventions and standards
• Experience with web-services for scientific data discovery and delivery
• Ability to program in Python, Matlab, R, or other scripting languages
• Fluent in the use of SQL-based database access tools
• Experience with digital content management tools
• Basic knowledge of scientific instrumentation and measurements

Moreover, the following skills or knowledge areas would be an asset:
• Technical writing
• Manipulation of large and/or scientific data sets
• Multimedia data types and utilities
• Earth and ocean sciences

Date of Submission: ____________________________________________

Signature of Responsible Manager: ________________________________