

• Consulting • Engineering • Construction • Management Services



COPY	
BOARD.	5
G.W.	1
E.A.	1
W. RES.	08210
File-	1784

UMA Engineering Ltd.  
2540 Kensington Road NW, Calgary, AB, T2N 3S3, Canada  
tel (403) 270-9200 fax (403) 270-9200 web www.umagroup.com

## Transmittal

To: Northwest Territories Water Board  
2<sup>nd</sup> Floor, Goga Cho Building  
P.O. Box 1500  
YELLOWKNIFE, NT X1A 2R3

Project/File No: 0171-095-84-02

Date: 2002 March 12

Att'n: Gordon Wray, Chairman

Routing: courier

cc:

From: Eva Schulz

☐ Urgent ☐ For Your Use ☒ For Review ☐ For Your Information ☐ Confidential

RE: WATER USE LICENSE APPLICATION

We are sending you the following:

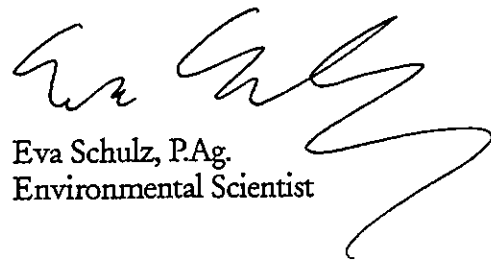
NO. OF COPIES	DESCRIPTION	DATE
2	Water Use License Application and supporting documents for the additional work at the PIN-M, Cape Parry DEW Line site	March 2002

### Comments/Instructions:

Please acknowledge receipt of these documents via e-mail to [eschulz@umagroup.com](mailto:eschulz@umagroup.com).

Yours truly,

UMA ENGINEERING LTD.

  
Eva Schulz, P.Ag.  
Environmental Scientist



### Important Note:

If quantities or numbers do not match, please call the sender immediately at (403) 270-9200.



March 11, 2002

File: PIN-M 3.6

Gordon Wray, Chairman  
Northwest Territories Water Board  
2<sup>nd</sup> Floor, Goga Cho Building  
P.O. Box 1500  
Yellowknife, NT X1A 2R3

COPY	
BOARD.	3
G.W.	1
E.A.	1
W. RES.	SLK
File-	1784

Dear Mr. Wray:

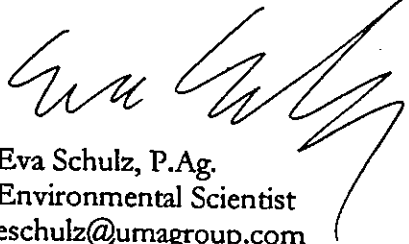
**RE: Water Use License Application for the Clean Up of Three Landfills at the PIN-M, Cape Parry DEW Line Site**

On behalf of Defence Construction Canada (DCC) and the Department of National Defence (DND), we are submitting an application for a water use license for the additional clean up work at the PIN-M, Cape Parry DEW Line site. The application is in response to the requirements of the *Northwest Territories Waters Regulations*, and includes a completed copy of Schedule III Application for Licence, and supporting information on the project.

If there are any questions or concerns regarding the information presented in this application, please contact us at (403) 270-9200.

Sincerely,

**UMA ENGINEERING LTD.**

  
Eva Schulz, P.Ag.  
Environmental Scientist  
eschulz@umagroup.com

EMS:elt

Encl. Water Use License Application  
Project Description

cc: Suzanne Belanger-Fontaine, DCC

SCHEDULE III  
(Subsection 6(1))

APPLICATION FOR LICENCE, AMENDMENT OF LICENCE. OR RENEWAL OF LICENCE

1. NAME AND MAILING ADDRESS OF APPLICANT

Defence Construction Canada on behalf of the Department of National Defence  
Place de Ville, Tower B, 17 th Floor  
112 Kent St.  
Ottawa, Ontario K1A 0K3  
Attn: Suzanne Belanger-Fontaine

2. ADDRESS OF HEAD OFFICE IN  
CANADA IF INCORPORATED

N/A

TELEPHONE: (613) 991-9358 FAX: (613) 998-1061

3. LOCATION OF UNDERTAKING (describe and attach a map, indicating watercourses and location of any proposed waste deposits)

The West Landfill at the PIN-M Cape Parry, DEW Line site is to be removed. A topographic map segment, as well as drawings showing the layout of the site, have been included in Appendix II of the attached Project Description.

Latitude 70° 10' N Longitude 124° 43' W

4. DESCRIPTION OF UNDERTAKING (describe and attach plans)

The PIN-M site is one of the 21 sites under the DEW Line Clean Up Project. The aim of the DEW Line Clean Up Project is to decommission facilities no longer required as part of the North Warming System and restore the site to an environmentally safe condition. The main portion of the clean up was completed in 1998; however, the removal of the West Landfill, and extension of the Main Landfill are to be completed this year. For specific details regarding the remainder of the clean up at PIN-M refer to the enclosed Project Description

5. TYPE OF UNDERTAKING

- |                             |                |                 |   |
|-----------------------------|----------------|-----------------|---|
| 1. Industrial               | 4. Power       | 6. Conservation | X |
| 2. Mining and mining        | 5. Agriculture | 7. Recreation   |   |
| 3. Municipal                |                |                 |   |
| 8. Miscellaneous (describe) |                |                 |   |

6. WATER USE

- |  |   |                                       |
|--|---|---------------------------------------|
| To obtain water                            | X | Flood Control                         |
| To cross a watercourse                     |   | To divert water                       |
| To modify the bed or bank of a watercourse |   | To alter the flow of, or store, water |

Water for camp and contractor use will be obtained from the Water Supply Lake at the site. Water from the lake will likely be pumped into a water tank on a truck using a portable pump and then transferred to a water storage tank at the Camp. As the contract for the clean up work has not yet been awarded the size of the tank is not available.

7. QUANTITY OF WATER INVOLVED (litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

Water use is estimated at 15,000 litres/day (15 m<sup>3</sup>/day). It is estimated that domestic water for the camp use will be 6,000 litres/day and construction use will be 9,000 litres/ day. The contractor will require water for, but not limited to, washing vehicles, cleaning tanks and compaction of backfill. Please note the amount of water that the contractor will use will vary depending on daily activities.

**8. WASTE DEPOSITED (quantity, quality, treatment and disposal)**

All wastewater will be discharged to the ground surface a minimum of 30 metres from natural drainage courses. Wastewater discharged will be tested and must comply with the wastewater discharge criteria as specified in Appendix A. This includes treated sewage from the construction camp, washwater from contractor's activities and water collected from dewatering of excavation of contaminated soil areas.

Sewage will be discharged to a temporary sewage lagoon. The temporary lagoon will be situated a minimum of 100 metres from natural drainage courses and 450 metres from water bodies that support aquatic life. See Appendix B for more details.

Non-hazardous solid wastes will be disposed at the Station Area Landfill extension. Domestic non-hazardous waste will be incinerated prior to disposal in the Station Area Landfill.

Hazardous wastes will be removed from the site for disposal at a licensed facility. Wastes that are considered hazardous are those defined as hazardous under the Northwest Territorial and the Federal legislation or as "hazardous goods" under *Transportation of Dangerous Goods Act*.

**9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (give name, mailing address and location; attach list if necessary)**

This project should not have any effects on any persons or properties. The nearest community is Paulatuk, approximately 100 km to the southeast.

**10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION**

Refer to the enclosed Project Description for a description of the predicted environmental impacts and proposed mitigation measures.

**11. CONTRACTOR AND SUB-CONTRACTORS (names, addresses and functions)**

Contract to be tendered March 2002. Contractor and sub-contractors names will not be available until the contract has been awarded.

**12. STUDIES UNDERTAKEN TO DATE (attach list if necessary)**

The following list provides a brief summary of the past studies:

1991 – Environmental Clean Up Study of 21 DEW Line Sites in Canada. UMA Engineering Ltd. in association with Hardy BBT Limited and Jacques Whitford and Associates Limited. Volume 8 of the report contains site specific results and recommendations for PIN-M. This report concluded that additional sampling be conducted and that remediation and restoration of all facilities be undertaken.

1993 – Environmental Study of Eleven Dew Line Sites. Environmental Sciences Group (ESG). Volume One Part One of the report contains site-specific results and recommendations for PIN-M. The purpose of this investigation was to provide information on the environmental status of the site. This report recommended that contaminated soils be removed from three areas at the Station and along the sewage outfall channel.

1993 - UMA Engineering Ltd. conducted a site survey which included: survey of contaminated soil areas, evaluation of closure/remediation requirements for existing landfills, identification of potential areas for the development of new landfills, inventory of all buildings to be demolished, and provided other site specific information as required to develop contract drawings and specifications.

1996- Detailed Site investigations, ESG and UMA Engineering Ltd. This investigation allowed a detailed review of the site investigation data, including the delineation of contaminated soil areas. Final contract drawings and specifications were finalized.

1997 to 1998 – Clean up activities in 1997 and 1998 included the removal of contaminated soils, demolition of surplus facilities, remediation of existing landfills, and construction of a new landfill for the disposal of non-hazardous debris and wastes.

13. PROPOSED TIME SCHEDULE

On-site activities are expected to begin July 2002 and be completed October 2002.

Start date: July 2002 Completion date: October 2002

Eva Schultz  
NAME (Print)

Environmental Scientist  
TITLE (Print)

[Signature]  
SIGNATURE

Mar. 12, 2002  
DATE

FOR OFFICE USE ONLY

APPLICATION FEE

Amount: \$ \_\_\_\_\_ Receipt No.: \_\_\_\_\_

WATER USE DEPOSIT

Amount: \$ \_\_\_\_\_ Receipt No.: \_\_\_\_\_

## APPENDIX A: WASTEWATER DISCHARGE CRITERIA

Parameter	Maximum Allowable Level
pH	6 to 9
Oil and Grease	None visible
Arsenic (total)	100 µg/L
Cadmium (dissolved)	10 µg/L
Chromium (total)	100 µg/L
Cobalt (dissolved)	50 µg/L
Copper (dissolved)	200 µg/L
Lead (dissolved)	50 µg/L
Mercury (total)	0.6 µg/L
Nickel (dissolved)	200 µg/L
PCB: discharge to barren area	50 µg/L
PCB: discharge to vegetated area	5 µg/L
Phenols	20 µg/L
Zinc (total)	1,000 µg/L

## APPENDIX B: SEWAGE DISPOSAL REQUIREMENTS

- .1 Discharge sewage to temporary lagoon area.
- .2 Size the lagoon to provide capacity for 90 days of wastewater storage, or the duration of the construction season, whichever is less. The maximum fluid height shall not exceed one metre.
- .3 Locate the temporary lagoon area:
  - .1 a minimum of 100 metres from construction camp, Engineer's office, and/or other temporary facilities;
  - .2 a minimum of 100 m from drainage paths;
  - .3 a minimum of 450 m from water bodies supporting aquatic life; and
  - .4 downwind of the camp based on the prevailing wind direction.
- .4 Submit to the Engineer prior to opening of the camp, details of the sewage disposal system.
- .5 At the completion of construction, backfill temporary lagoon to provide a minimum of 300 mm granular fill over settled solids.