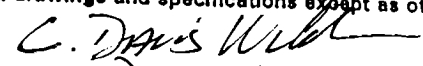
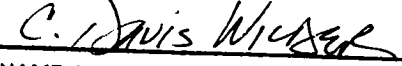


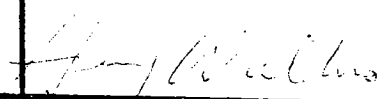
TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <small>(Read instructions on the reverse side prior to initiating this form)</small>	DATE <b>09 JUN 99</b>	TRANSMITTAL NO. <b>016</b>
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**SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS** *(This section will be initiated by the contractor)*

TO: <b>HANK WALTERS USACE - BUFFALO DIST.</b>	FROM: <b>RADIAN INTERNATIONAL</b>	CONTRACT NO. <b>DACA31-90-D-0026</b>	CHECK ONE: <input checked="" type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. <small>(Cover only one section with each transmittal)</small>	PROJECT TITLE AND LOCATION <b>LAKE ONTARIO ORDNANCE WORKS, NIAGARA COUNTY, NY</b>		

ITEM NO.	DESCRIPTION OF ITEM SUBMITTED <small>(Type size, model number/etc.)</small>	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. <small>(See instruction no. 8)</small>	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION <small>(See instruction No. 6)</small>	FOR CE USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.			
1.	<b>ASBESTOS MANAGEMENT PLAN</b>  <b>&lt;ACTIVITY # 10A OF EA 415-1-10&gt;</b>		5					B

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated. <div style="text-align: right;">               NAME AND SIGNATURE OF CONTRACTOR         </div>
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<b>SECTION II - APPROVAL ACTION</b>		
ENCLOSURES RETURNED <small>(List by Item No.)</small>	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
		<b>6/11/99</b>

ROUTING OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE FOR APPROVAL  
(USED TO ROUTE ENG FORM 4025 WITH ITEMS ATTACHED. NOT TO BECOME A PART OF THE CONTRACTOR'S RECORD)

1 TO: **ENGINEERING** FROM: NY-PA AREA OFFICE DATE: **09 JUN 1999**

THE ATTACHED ITEMS LISTED ON ENG FORM 4025 ARE FORWARDED FOR APPROVAL ACTION

CONTRACT NUMBER: **DACA 31-96-D-0026** CONTRACTOR: **RADEAN INTERNATIONAL**

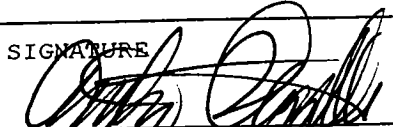
TRANSMITTAL NUMBER: **016** PROJECT TITLE AND LOCATION: **TNT & CHEM PIPELINE LOOP**

COMMENTS (ATTACH ADDITIONAL SHEET IF NECESSARY)  
**PLEASE REVIEW ASAP & RETURN TO NYPA BY 6-11-99**

NO. OF INCL: **4** TYPED NAME AND TITLE: **HAROLD LEGGETT CONSTRUCTION REP** SIGNATURE: 

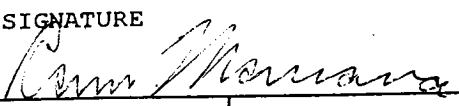
2 TO: **CARM MARRANCA** FROM: **TONY CAPPELLA** DATE: **6/11/99**

COMMENTS (ATTACH ADDITIONAL SHEET IF NECESSARY)

NO. OF INCL. TYPED NAME AND TITLE: **ANTHONY F. CAPPELLA INO. HYG** SIGNATURE: 

3 TO: **JOHN LANPAHL** FROM: **C. MARRANCA** DATE:

COMMENTS (ATTACH ADDITIONAL SHEET IF NECESSARY)

NO. OF INCL. TYPED NAME AND TITLE: **CARM MARRANCA CSD - CIVIL ENGINEER** SIGNATURE: 

4 TO: **H. LEGGETT** FROM: **J. LANPAHL CH. E/P DIV** DATE: **6/18/99**

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS LISTED ON ENG FORM 4025:


ACTION CODES

- A - APPROVED AS SUBMITTED
- B - APPROVED, ACCEPT AS NOTED ON DRAWINGS, RESUBMISSION NOT REQUIRED
- C - APPROVED, EXCEPT AS NOTED ON DRAWINGS, REFER TO ATTACHED SHEET, RESUBMISSION REQUIRED
- D - WILL BE RETURNED BY SEPARATE CORRESPONDENCE
- E - DISAPPROVED (SEE ATTACHED)
- F - RECEIPT ACKNOWLEDGED
- G - OTHER (SPECIFY)

ACTION CODES TO BE INSERTED IN COLUMN G, SECTION I, ENG FORM 4025 (ATTACH ADDITIONAL SHEETS IF NECESSARY)

ITEM NO. (TAKEN FROM ENG FORM 4025)	<b>1</b>								
CODE GIVEN	<b>AB</b>								

REMARKS: **NOTE TO CONTRACTOR CODE RULE 56 APPLIES**

NO. OF INCL. TYPED NAME AND TITLE: **JOHN LANPAHL CH. E/P DIV** SIGNATURE: 

**RADIAN INTERNATIONAL  
LAKE ONTARIO ORDNANCE WORKS  
ASBESTOS MANAGEMENT, HANDLING  
AND DISPOSAL PLAN**

3 JUNE 99

RECEIVED JUL 09 1999

**Introduction**

The Baltimore District U.S. Army Corps of Engineers (USACE) has selected Radian International (Radian) to provide all the required supervision, labor, and materials for the Interim Removal Actions (IRA) involving the TNT Pipeline and Chemical Waste Sewer (CWS) at the former Lake Ontario Ordnance Works (LOOW). The LOOW is located in the towns of Lewiston and Porter, New York. These tasks are being performed under PRAC Contract DACA31-96-D-0026, Delivery Order 0025.

As part of the mobilization and site preparation (i.e. clearing and grubbing, silt fence installation, access road construction, etc.), Radian encountered varying quantities of asbestos containing material (ACM) in the vicinity of CWS Lift Station Number 6. The ACM appears to be construction debris that was placed in the area by others, or was part of a previous building demolition activity. The debris includes transite panels, transite pipe, pipe insulation and other suspect ACM debris. It also appears that other areas of the site including portions within the proposed areas of disturbance for the CWS and TNT pipeline remediation have been impacted by the presence of ACM.

Radian proposed to remove all ACM encountered within the area of disturbance as part of the pipeline decontamination effort. This plan details Radian's approach to the handling, management and disposal of the ACM debris located in the vicinity of Lift Station Number 6 and any other areas encountered during Radian's remediation effort.

**Asbestos Handling and Management**

Radian will subcontract a New York State licensed asbestos contractor to perform the handling and management of the ACM debris. This subcontractor will obtain all state required notifications and/or variances based on the results of the initial ACM survey and this Asbestos Management, Handling and Disposal Plan and execute all asbestos removal activities. Copies of all certifications/notifications will be provided to the USACE prior to the commencement of work activities.

The selected subcontractor will perform an initial asbestos survey to positively identify ACM prior to the start of site removal activities. Only the ACM located in the proposed access roads, lay down areas and limits of disturbances will be removed. The selected

subcontractor will remediate all ACM in accordance with all local, state and federal regulations.

The initial effort will entail the establishment of regulated work areas and support zones. Based on visual surveys of the debris piles, Radian anticipates that ACM can best be removed by hand segregation. Once segregated, the ACM will be placed into a double lined roll off container. The double lined roll off container will be spotted within the edge of the regulated asbestos work zone. Other ACM that will be placed in the double lined roll off container, not mentioned previously, will include personal protective equipment, poly sheeting and other support materials generated during asbestos cleanup activities. When ACM cannot be segregated from a debris pile, due to small size or the inability to distinguish the ACM from other debris material, the entire debris pile will be placed into the double lined roll off container. The double lined roll off container will be covered at the end of the work shift and posted with the appropriate warning signs. The double lined roll off container will be monitored daily, and wet down as necessary, to assure that the ACM materials do not dry out and become friable.

In the event Thermal System Insulation (TSI) is encountered on pipes, fittings, or other structural components, it will be removed using the glove bag method. TSI materials will be removed and disposed of in a wet state and double wrapped in 6-mil thick plastic that is seamless at the bottom. All loose and friable material abutting the glove bag will be wrapped and sealed in two layers of 6-mil plastic. Vacuums equipped with high efficiency particulate absolute (HEPA) filters will be used throughout the glove bagging procedure to prevent asbestos fibers from becoming airborne in the work area. Loose or fallen TSI, if encountered, will be wetted and double wrapped in 6-mil plastic prior to disposal.

#### **ACM Encountered During Excavation Activities**

Suspect ACM may be encountered during excavation activities during the CWS and/or TNT pipeline remediation. If such conditions are encountered, Radian will establish the regulated work area and follow the same hand segregation, handling and management procedures as detailed in this plan.

#### **Worker Protection**

Asbestos workers will be protected in accordance with OSHA Standards 1910.1001 and 1926.1101 for Asbestos, USACE EM 385-1-1, Radian's Corporate Health and Safety Program and all applicable New York State asbestos requirements. All workers within the asbestos regulated area will be required to wear, at a minimum, a dual-cartridge full face-piece respirator. Workers will not be permitted to wear street clothing into the regulated area. Work clothing will consist of Tyvek coveralls over top of shorts or bathing suits.

### **Decontamination**

All workers will be required to perform personal and equipment decontamination when moving from the regulated area into the support zone. Tyvek coveralls will be removed and respirators will be decontaminated using wet disposable towels at an established contamination reduction zone (CRZ). All asbestos contaminated PPE and decontamination supplies generated during the decontamination process will be disposed of in asbestos labeled bags. Prior to leaving the CRZ these items will be double wrapped in asbestos labeled bags and placed in the double lined roll off container.

### **Accident Prevention**

Prior to the start of each work shift, a Morning Tailgate Safety Meeting will be held with all site workers. Workers will be informed of anticipated hazards, problems and activities for that shift. Each worker present at this meeting will be required to sign his/her name on the Daily Morning Tailgate Safety Meeting sheet. Any worker not present at this meeting will not be permitted to work that day.

The anticipated hazards associated with the asbestos removal activities have been outlined in the attached Activity Hazard Analyses. These Activity Hazard Analyses will be discussed with each asbestos worker prior to the start of each activity identified on the Activity Hazard Analysis. Workers will be encouraged to discuss hazards and identify ways that they suspect an accident could occur. Asbestos workers will discuss accident scenarios and will be encouraged to suggest appropriate control measures.

### **Disposal of Asbestos**

All ACM placed in double lined roll off containers will be disposed of in accordance with local, state and federal regulations.

## ACTIVITY HAZARD ANALYSIS

Activity: Mobilization, Regulated Area Set-up  
& Demobilization

Analyzed By/Date: Christopher Fisher – 6/99

PRINCIPLE STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
<p><u>Mobilization and Pad Set-Up</u></p> <ol style="list-style-type: none"> <li>1. Establish storage area for equipment, Supplies and flammable liquids.</li> <li>2. Establish office area.</li> <li>3. Accept equipment/supply deliveries.</li> <li>4. Secure materials in storage.</li> <li>5. Determine requirements for personnel and vehicle access to the site.</li> <li>6. Coordinate with Radian to identify existing utility locations.</li> </ol> <p><u>Demobilization</u></p> <ol style="list-style-type: none"> <li>1. Grade disturbed areas.</li> <li>2. Remove structures and supplies.</li> </ol>	<ol style="list-style-type: none"> <li>1. Muscle strain from improper lifting.</li> <li>2. Physical impacts/injury from heavy equipment or moving loads.</li> <li>3. Physical injury from use of hand or power tools.</li> <li>4. Slips, trips and falls.</li> <li>5. Vehicular incidents or collisions.</li> <li>6. Excessive noise exposure due to heavy equipment or power tool usage.</li> <li>7. Heat stress.</li> </ol>	<ol style="list-style-type: none"> <li>1. Wear Level D PPE.</li> <li>2. Practice good house keeping.</li> <li>3. Utilize hearing protection.</li> <li>4. Arrange traffic flow to accidents or collisions.</li> <li>5. Prevent unauthorized entry into work areas.</li> <li>6. Follow proper lifting techniques.</li> <li>7. Be aware of and keep hands out of potential nip/pinch points.</li> <li>8. Wear heavy work gloves.</li> <li>9. Properly store combustible and flammable materials. Post “No Smoking” or “Open Flames” signs.</li> <li>10. Equipment operators should look in the direction of travel.</li> <li>11. Drink fluids and take breaks as necessary to prevent heat related illnesses.</li> </ol>
EQUIPMENT TO BE USED	TRAINING REQUIREMENTS	INSPECTION REQUIREMENTS
<ol style="list-style-type: none"> <li>1. Power tools and hand tools.</li> <li>2. Hazard communication signs/labels.</li> <li>3. Heavy equipment and motor vehicles.</li> <li>4. Asbestos removal and disposal tools and equipment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Heavy equipment operations.</li> <li>2. Hearing Conservation Program.</li> <li>3. Hazard Communications Program.</li> <li>4. Heat stress awareness training.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect heavy equipment for function and safety features (i.e. horn, backup alarm, etc.) and general assembly (i.e. missing bolts, loose hoses, etc.).</li> <li>2. Inspect power tools for function of safety features (i.e. shut-off, GFCI, etc.) and general assembly (i.e. frayed wires, loose connections, etc.).</li> <li>3. Inspect hand tools for excessive wear and loose parts.</li> <li>4. Ensure that stored flammable and combustible materials do not present a fire hazard.</li> </ol>

## ACTIVITY HAZARD ANALYSIS

**Activity:** ACM Removal from Debris Piles

**Analyzed By/Date:**

Christopher Fisher 6/99

PRINCIPLE STEPS	POTENTIAL HAZARDS	RECOMMENED CONTROLS
<ol style="list-style-type: none"> <li>1. Establish Regulated Area.</li> <li>2. Don personal protective equipment.</li> <li>3. Segregate ACM from construction debris.</li> <li>4. Place ACM into double lined roll of container.</li> <li>5. Cover double lined roll of container at the end of the shift.</li> <li>6. Remove personal protective equipment and decontaminate.</li> <li>7. Dispose of contaminated personal protective equipment.</li> <li>8. Exit contamination reduction zone.</li> <li>9. Don street clothes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Exposure to airborne asbestos fibers.</li> <li>2. Slips, trips and falls.</li> <li>3. Excessive noise due to use of HEPA vacuums and hand tools.</li> <li>4. Electric shock from energized equipment.</li> <li>5. Physical injury from the use of hand tools.</li> <li>6. Muscle strains from improper lifting techniques.</li> <li>7. Heat stress.</li> </ol>	<ol style="list-style-type: none"> <li>1. Air monitoring for personal and area airborne asbestos fiber concentrations.</li> <li>2. PPE to be worn during asbestos abatement.</li> <li>3. Establishment of Regulated and Decontamination Areas.</li> <li>4. All electrical supply lines and lighting equipment must meet the requirements of NFPA 70.</li> <li>5. Follow proper lifting techniques.</li> <li>6. Practice good housekeeping.</li> </ol>
EQUIPMENT TO BE USED	TRAINING REQUIREMENTS	INSPECTION REQUIREMENTS
<ol style="list-style-type: none"> <li>1. Caution tape to delineate Regulated Area.</li> <li>2. Personal protective equipment (i.e. respirator, Tyvek coveralls, etc.).</li> <li>3. Area and personal airborne asbestos fiber monitoring.</li> <li>4. Double lined roll of container.</li> <li>5. Hand tools.</li> <li>6. Decontamination equipment (i.e. 55-gal drums, hand and face washes, etc.).</li> <li>7. HEPA vacuum.</li> </ol>	<ol style="list-style-type: none"> <li>1. New York asbestos removal training.</li> <li>2. Monitoring equipment operation.</li> <li>3. PPE Program.</li> <li>4. Hearing Conservation Program.</li> <li>5. Respiratory Protection Program.</li> <li>6. Heat stress awareness.</li> <li>7. Personal and equipment decontamination procedures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibration of monitoring equipment.</li> <li>2. Inspect hand tools for excessive wear and loose parts.</li> <li>3. Inspect electrical supply lines and lighting equipment to assure they meet the requirements of NFPA 70.</li> <li>4. Audit PPE programs and decontamination procedures.</li> </ol>

### ACTIVITY HAZARD ANALYSIS

**Activity:** TSI Removal from Pipes, Fittings and Structural Components

**Analyzed By/Date:**

Christopher Fisher 6/99

PRINCIPLE STEPS	POTENTIAL HAZARDS	RECOMMENED CONTROLS
<ol style="list-style-type: none"> <li>1. Establish Regulated Area.</li> <li>2. Don personal protective equipment.</li> <li>3. Protect loose and friable ACM adjacent to glove bag.</li> <li>5. Remove TSI from pipe, fittings or structural components.</li> <li>6. HEPA vacuum air from glove bag and seal.</li> <li>7. Place glove bag into double lined roll of container.</li> <li>8. Cover double lined roll of container at the end of the shift.</li> <li>9. Remove personal protective equipment and decontaminate.</li> <li>10. Dispose of contaminated personal protective equipment.</li> <li>11. Exit contamination reduction zone.</li> <li>12. Don street clothes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Exposure to airborne asbestos fibers.</li> <li>2. Slips, trips and falls.</li> <li>3. Excessive noise due to use of HEPA vacuums and hand tools.</li> <li>4. Electric shock from energized equipment.</li> <li>5. Physical injury from the use of hand tools.</li> <li>6. Muscle strains from improper lifting techniques.</li> <li>7. Heat stress.</li> </ol>	<ol style="list-style-type: none"> <li>1. Air monitoring for personal and area airborne asbestos fiber concentrations.</li> <li>2. PPE to be worn during asbestos abatement.</li> <li>3. Establishment of Regulated and Decontamination Areas.</li> <li>4. All electrical supply lines and lighting equipment must meet the requirements of NFPA 70.</li> <li>5. Follow proper lifting techniques.</li> <li>6. Practice good housekeeping.</li> </ol>
EQUIPMENT TO BE USED	TRAINING REQUIREMENTS	INSPECTION REQUIREMENTS
<ol style="list-style-type: none"> <li>1. Caution tape to delineate Regulated Area.</li> <li>2. Personal protective equipment (i.e. respirator, Tyvek coveralls, etc.).</li> <li>3. Area and personal airborne asbestos fiber monitoring.</li> <li>4. Double lined roll of container.</li> <li>5. Hand tools.</li> <li>6. Decontamination equipment (i.e. 55-gal drums, hand and face washes, etc.).</li> <li>7. HEPA vacuum.</li> </ol>	<ol style="list-style-type: none"> <li>1. New York asbestos removal training.</li> <li>2. Monitoring equipment operation.</li> <li>3. PPE Program.</li> <li>4. Hearing Conservation Program.</li> <li>5. Respiratory Protection Program.</li> <li>6. Heat stress awareness.</li> <li>7. Personal and equipment decontamination procedures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibration of monitoring equipment.</li> <li>2. Inspect hand tools for excessive wear and loose parts.</li> <li>3. Inspect electrical supply lines and lighting equipment to assure they meet the requirements of NFPA 70.</li> <li>4. Audit PPE programs and decontamination procedures.</li> </ol>



## ACTIVIY HAZARD ANALYSIS

**Activity:** Personnel and Equipment Decontamination

**Analyzed By/Date:** Christopher Fisher 6/99

PRINCIPLE STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
<ol style="list-style-type: none"> <li>1. Enter Contamination Reduction Zone.</li> <li>2. Wipe off equipment and place towel in asbestos labeled bag.</li> <li>3. Cover equipment with plastic to prevent recontamination.</li> <li>4. Remove Tyvek coveralls and place into asbestos labeled bag.</li> <li>5. Wipe off outside of respirator and place towel in asbestos labeled bag.</li> <li>6. Remove respirator.</li> <li>7. Wipe exterior of respirator and place towel in asbestos labeled bag.</li> <li>8. Place respirator into storage bag.</li> <li>9. Exit Contamination Reduction Zone.</li> <li>10. Don street clothes.</li> <li>11. Wash hands, arms and face prior to breaks, lunch and leaving the job site.</li> <li>12. Double bag contaminated PPE and towels in asbestos labeled bags and place in double lined roll off container.</li> </ol>	<ol style="list-style-type: none"> <li>1. Exposure to airborne asbestos fiber concentrations in excess of the OSHA PEL.</li> <li>2. Slips, trips and falls.</li> <li>3. Muscle strains from lifting and cleaning.</li> <li>4. Heat stress.</li> </ol>	<ol style="list-style-type: none"> <li>1. Monitor for good housekeeping practices.</li> <li>2. Always decontaminate equipment prior to personal decontamination.</li> <li>3. Provide drinking fluids and monitor workers for heat stress.</li> <li>4. Follow proper lifting techniques.</li> <li>5. Be aware and minimize wet surfaces.</li> <li>6. Monitor for unauthorized personnel entry into the Contamination Reduction Zone.</li> </ol>
EQUIPMENT TO BE USED	TRAINING REQUIREMENTS	INSPECTION REQUIREMENTS
<ol style="list-style-type: none"> <li>1. Basin of water to wet disposable towels.</li> <li>2. Disposable towels.</li> <li>3. Asbestos labeled bags.</li> <li>4. Double lined roll of container.</li> <li>5. Tyvek coveralls.</li> <li>6. Respirator storage bag.</li> <li>7. Plastic to protect decontaminated equipment.</li> </ol>	<ol style="list-style-type: none"> <li>1. New York asbestos removal training.</li> <li>2. PPE Program.</li> <li>3. Respiratory Protection Program.</li> <li>4. Heat stress awareness.</li> <li>5. Personal and equipment decontamination procedures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Audit, and modify as necessary, Decontamination procedures.</li> <li>2. Assure contaminated wastes are placed into double asbestos labeled bags.</li> <li>3. Monitor double lined roll off box to assure it is not overfilled and covered at the end of each shift.</li> </ol>