

## FACILITY STATUS CHANGE FORM

<b>Date Submitted:</b> Feb 9, 2011 <b>Originator:</b> David Warren <b>Phone:</b> 539-6040	<b>Area:</b> 100-N Area <b>Facility ID:</b> 153-N Electrical Substation <b>Action Memorandum:</b> 100-N Ancillary Facilities	<b>Control #:</b> D4-100-N-0008 rev.1
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**This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.**

### Section 1: Facility Status

- All D4 operations required by action memo complete.
- D4 operations required by action memo partially complete, remaining operations deferred.

#### **Description of Completed Activities and Current Conditions:**

This Facility Status Change Form (FSCF) presents previously submitted information, and additional information as necessary, that documents completion of D4 activities at Hanford Facility 153-N Electrical Substation. The previously submitted information, "D4 Project Soils and/or Below Grade Structures Completion Form, 153-N Electrical Substation" (Document Number D4-100N-0008) does not conform to a current project requirement that specifies "each completed form must be signed by the DOE-Richland Operations Office (RL) and lead regulator project manager." This FSCF contains those required signatures.

#### **Description of Deferral (as applicable):**

None

### Section 2: Underlying Soil Status

- No waste site(s) present. No additional actions anticipated.
- Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.
- Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned.  
Cleanup and closeout to be addressed under Record of Decision.

#### **Description of Current/As-Left Conditions:**

See attachment 1: D4 Project Soils and/or Below Grade Structures Completion Form, 153-N Electrical Substation

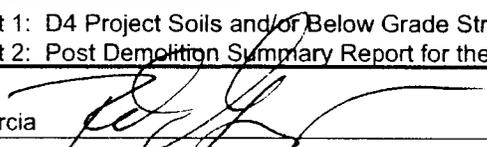
#### **Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):**

See attachment 1: D4 Project Soils and/or Below Grade Structures Completion Form, 153-N Electrical Substation

### Section 3: List of Attachments

Attachment 1: D4 Project Soils and/or Below Grade Structures Completion Form, 153-N Electrical Substation

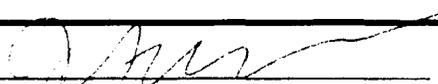
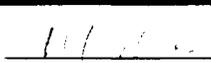
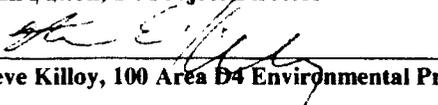
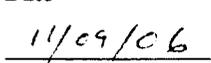
Attachment 2: Post Demolition Summary Report for the 153-N Electrical Substation

Rudy Guercia		
DOE-RL		2/16/11
Rick Bond		Date
Lead Regulator	<input type="checkbox"/> EPA <input checked="" type="checkbox"/> Ecology	3/1/11
		Date

100-N D4 Project Facility Completion Form

**Attachment 1**

## D4 Project Facility Completion Form 153-N Electrical Substation

<b>Date Submitted:</b> 11/9/06  <b>Originator:</b> S. E. Killoy  <b>Phone:</b> 373-5473	<b>Associated Building/ Facility:</b> 153N Electrical Substation <b>Associated Action Memorandum:</b> Action Memorandum 100N Ancillary Facilities	<b>Document Number:</b>  <u>D4-100N-0008</u>
<p><b><u>Purpose:</u></b>          This form, documents the as left conditions of soil and/ or below grade structures following completion of D4 activities. Requirements of the Action Memorandum for removal of the structure and related CERCLA hazardous materials have been completed. Although there are waste sites adjacent to this structure, no waste sites were within the footprint of this structure, and no new or suspected waste sites/contaminated soils were identified during the removal of the 153N structure.</p>		
<p><b><u>Basis for Determination (attach pertinent documentation):</u></b></p> <p>There are no indications of releases of hazardous materials from the facility; this determination was based on documented project knowledge of the facility operation and data collected during the demolition of the facility. The basis for this determination is supported as follows:</p> <ul style="list-style-type: none"> <li>• The 153N excavation was adjacent to four WIDS sites that included 100-N-28, 100-N-24, UPR-100-N-36, and 100-N-55. During facility removal activities the 153N demolition excavation extended to the southern edge of the UPR-100-N-36 waste site and may have intersected it. The excavation was visually inspected and no anomalies were identified. No other WIDS sites were affected during the demolition. However, during backfilling operations, several of the site markers were damaged. However, the boundary posts were replaced, and boundary rope was replaced.</li> <li>• Radiological surveys were completed after building demolition and before soil re-grading and no radiological contamination was identified. Following radiological surveys, the soils within the footprint of the structure and adjacent soils within the demolition boundary were down posted from an SCA back to a URMA. Because there were no indications of releases of hazardous materials from the facility, no soil sampling/analysis was performed to verify soil cleanup levels.</li> <li>• Process history for 153N supports these findings.</li> </ul> <p>Detailed information pertaining to waste profiles, radiological survey data and sampling data are contained within the demolition summary report (CCN#130629).</p>		
 _____ <b>John Fulton, D4 Project Director</b>		 _____ <b>Date</b>
 _____ <b>Steve Killoy, 100 Area D4 Environmental Project Lead</b>		 _____ <b>Date</b>



100-N D4 Project Facility Completion Form

**Attachment 2**

**WCH** Washington  
Closure  
Hanford

**Interoffice Memorandum**

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130629

TO: R. R. Nielson X5-50

DATE: November 1, 2006

COPIES: See Below  
Records and Document Control H4-11

FROM: J. W. Crocker *J. W. Crocker*  
100 Area D4 Characterization  
X5-50/376-4058

SUBJECT: **POST DEMOLITION SUMMARY REPORT FOR THE 153-N ELECTRICAL  
SUBSTATION**

Attached is the Post-demolition Summary Report for the 153-N Electrical Substation. This report documents the final status of the immediate ground area at the facility site after completion of D4 activities. The information in this report includes references to radiological and industrial hygiene surveys, waste profiles used to ship debris to the ERDF, and a status of WIDS sites associated with these facilities.

Please contact myself at 376-4058 or Dave Encke at 373-9733 if you have any questions about this information.

JWC:mkb

Attachment: Post Demolition Summary Report for the 153-N Electrical Substation

Copies (all w/a):

R.H. Bidstrup X0-18

J. W. Crocker X5-50

L. A. Dietz X5-50

R. G. Egge X5-50

D. B. Encke X5-50

A. M. Hood X5-50

I. D. Jacques L1-04

S. E. Killoy X5-50

S. L. Lachman X5-50

E. Y. Lauber X5-50

R. R. Nielson X5-50

C. R. Watson X5-50

# Post Demolition Summary Report for the 153-N Electrical Substation

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## Site Information

The 153-N Electrical Substation (153-N) converted 13.8 kV input to 4.16 kV output, provided power from off the grid until N Reactor could provide its own electrical power, and supplied electric power during shutdown operations.

A Characterization Summary Report (CSR) was developed for the 153-N (WCH, 2005).

Demolition activities began in March of 2006 and were completed in October of 2006.

The 153-N facility and foundation was removed including the entire piping structure five feet from the building foot print.

## Radiological and IH Scoping Surveys

Radiological and Industrial Hygiene (IH) scoping surveys were performed on the 153-N prior to demolition. Results of the radiological surveys are documented on RSR-IFSM-05-0357. Mud daubers nests on the roofline were identified. Consequently, during demolition of the above grade portion of the building, the site was controlled as a contamination area (CA).

The site then went through a number of posting changes to accommodate work activities (see RSR-IFSM2-06-0006, RSR-IFSM2-06-0011, RSR-IFSM2-06-0017, RSR-IFSM1-06-0090, and RSR-IFSM1-06-0094).

An industrial hygiene baseline survey was conducted on October 17, 2005 (CCN 0568530).

## Waste and other Characterization Samples

The 153-N was constructed of standard building materials (wood, metal, concrete, glass, fiberglass insulation). Existing waste profiles adequately described the waste stream therefore, no samples to designate the building were necessary.

Samples were collected to identify potential asbestos containing materials (WCH, 2005b).

Historical data revealed that there were no processes within 153-N facility which could have led to contamination of surrounding soils.

All sampling is summarized in Attachment I.

## Waste Profiles

Waste profile 100N007 was used to disposition generated waste for disposal at ERDF.

## Post Demolition Radiological Survey

The 153-N post demolition site was surveyed to remove the RBA and SCA postings and is documented by RSR-IFSM1-06-0106. As documented in RSR-IFSM1-06-0106:

“Entire area initially was up-posted from URMA to SCA / RBA during the demolition of Building 153N due to potential for contaminated Mud Dauber wasps to have nested in or on the building.

# Post Demolition Summary Report for the 153-N Electrical Substation

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Survey performed as a precaution due to the use of Radiologically Controlled Equipment to perform the backfill activities. No contaminated mud daubers have been found in this area.”

This down posting survey included tech smears of the excavation equipment and the 153-N demo site, except for the excavation. A GPERS survey was performed in the excavation (see Attachments 4 and 5). No contamination was detected during the demolition of 153-N, and is documented in these surveys.

## **Civil Survey Information (GPS, including elevation)**

A GPS civil survey was performed on the 153-N prior to demolition. This survey located the corners of the building and the corners and extents of near-by structures. A post demolition civil survey was performed. This survey documented the extent of the excavation (footprint and depth) as well as remaining structures (electrical conduits and concrete structures) extending into the excavation. It should be noted, that these remaining concrete structures are not from the 153-N facility but rather footings from adjacent structures.

These surveys are included as Attachment 2.

A simplified floor plan of the 153-N prior to its demolition is included as Figure 1.

## **Status of WIDS Sites Associated with Building Site**

100-N-28, Resin Disposal Pit Liquid Waste Site 2 - this inactive WIDS site was left marked with six steel posts, yellow rope, and caution tape.

100-N-24, Hydrogen Dry Well Liquid Waste Site, Hydrogen Peroxide Drywell – the metal lid was dislodged during demolition activities, and replaced with a plywood cover, and marked with steel posts, yellow rope, and caution tape. This site is inactive.

UPR-100-N-36, Diesel Generator Area – this inactive WIDS site is in an area used to work on compressor parts and had oil spills during this work. The WIDS description indicates that the most recent spills were cleaned up. The 153-N demolition excavation came up to the southern edge of this WIDS site, and may have intersected the WIDS site. During D4 demolition activities, the excavation was visually inspected for signs of staining. No staining was identified, and no indication of soil contamination could be found. Pictures of the facility excavation are provided as Figure 2.

100-N-55, French Drain – This inactive WIDS site was left with steel posts, yellow rope, and caution tape to indicate location.

## **Anomalies Discovered during Demolition**

The only anomalous waste discovered during demolition was asbestos cement pipe lining electrical conduits. The material was dispositioned to the ERDF without difficulty.

## **Lessons Learned**

## **Post Demolition Summary Report for the 153-N Electrical Substation**

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Cement Asbestos Piping (CAP) may exist in electrical pipe chases. Conduit pipe chases in the basement of 153-N were found to contain asbestos. The CAP was not identified on the drawings or in the hazmat removal package and caused a delay during demolition activities while it was abated.

Equipment tracking paths should be evaluated to ensure that underground structures are properly located. The area around 153-N contains numerous vaults and tunnels for utility distribution.

At 153-N the posts marking the locations of several WIDS sites were disturbed. Although the WIDS sites at 153-N remain intact, additional pre-cautions to protect WIDS sites from potential damage during demolition and re-grading activities should be considered. Communications during pre-evolution meetings regarding protection of the WIDS sites, when activities are being performed in the adjacent area may assist in avoiding future WIDS site disturbances.

### **Cost and Schedule Information**

As of September 2006 \$373,362 were charged to the 153-N cost accounts.

### **Final Building Status**

The 153-N Electrical Substation including the basement slab, footings, and transformers were dispositioned to ERDF.

During demolition activities, a ramp was excavated through native soils to allow heavy equipment access to the bottom of the excavation. This soil was stockpiled for use as backfill material. This material received periodic radiological work progress surveying. When the building was excavated, the excavation was surveyed using LARADS (GPERS as mentioned above) and showed no contamination. Based on the clean condition of the soil initially, process knowledge that indicated no processes occurred in the building that would result in contamination, and work progress surveys of the original soil, these soils were back filled into the excavation. The remaining back fill soil came from the "D" borrow pit at the 100-K Area (see Excavation Permit DAN-1-2592-1).

There is no deferral to the Field Remediation project. The adjacent WIDS sites were left intact with minimal disturbance during demolition activities. Although several of the posts marking the location of WIDS sites 100-N-28 and 100-N-24 were knocked down during re-grading, new posts were erected and clearly marked. These WIDS sites are within the FR project scope.

# Post Demolition Summary Report for the 153-N Electrical Substation

October 2006

## References

Excavation Permit DAN-1-2592-1

### Radiological Surveys:

Scoping survey: RSR-IFSM-05-0357

Work progress surveys: RSR-IFSM2-06-0006, RSR-IFSM2-06-0011, RSR-IFSM2-06-0017, RSR-IFSM1-06-0090, RSR-IFSM1-06-0094

Down posting survey: RSR-IFSM1-06-0106

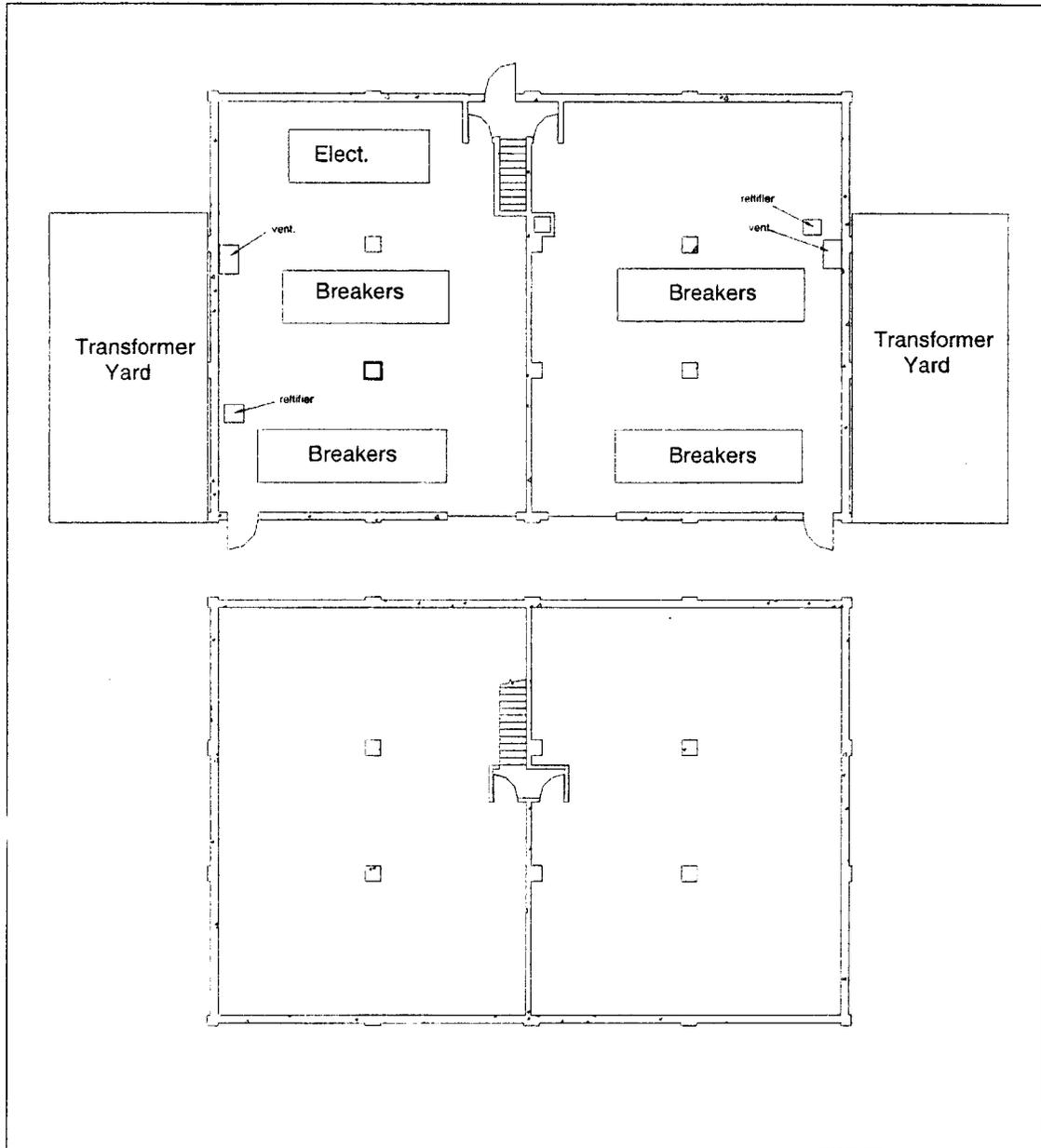
WCH, 2005, *Characterization Summary Report for the 151-N & 153-N Electrical Substations, 119-N Exhaust and 119-N Stack Air Monitoring Buildings, 1313-N Change Control Building, and 181-NC Sample Shack*, IOM 122923, dated November 10, 2005, Washington Closure Hanford, Richland, Washington.

WCH, 2005b, *Asbestos Summary Report, 153N Electrical Substation*, IOM dated 12/14/05, CCN# 125284, Richland, WA.

# Post Demolition Summary Report for the 153-N Electrical Substation

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## Figure 1 153-N Electrical Substation

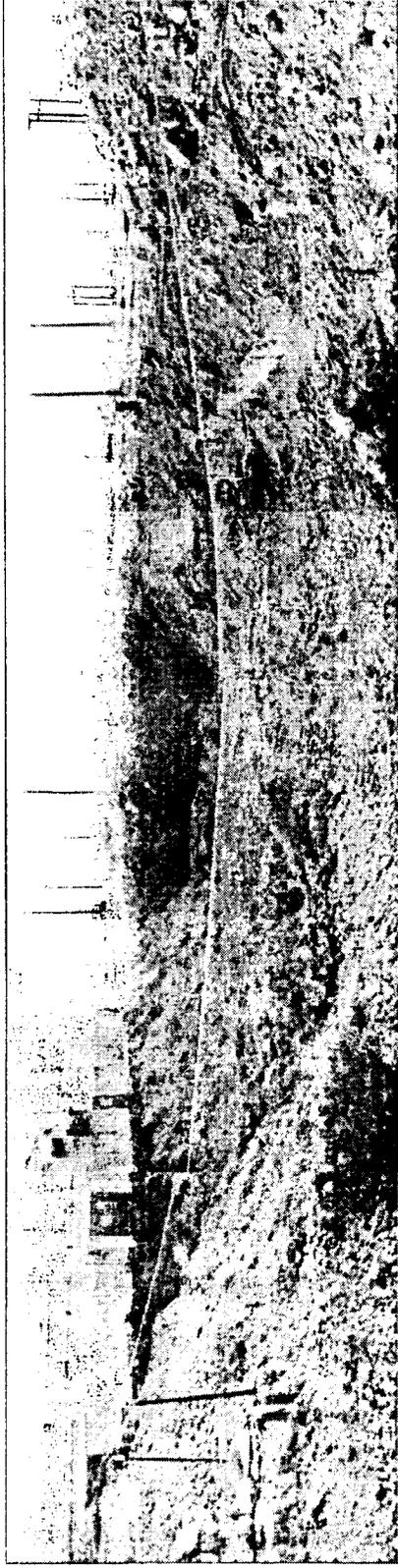


(Figure 1- Main Floor (top) and Basement Cable Tray Area (bottom))

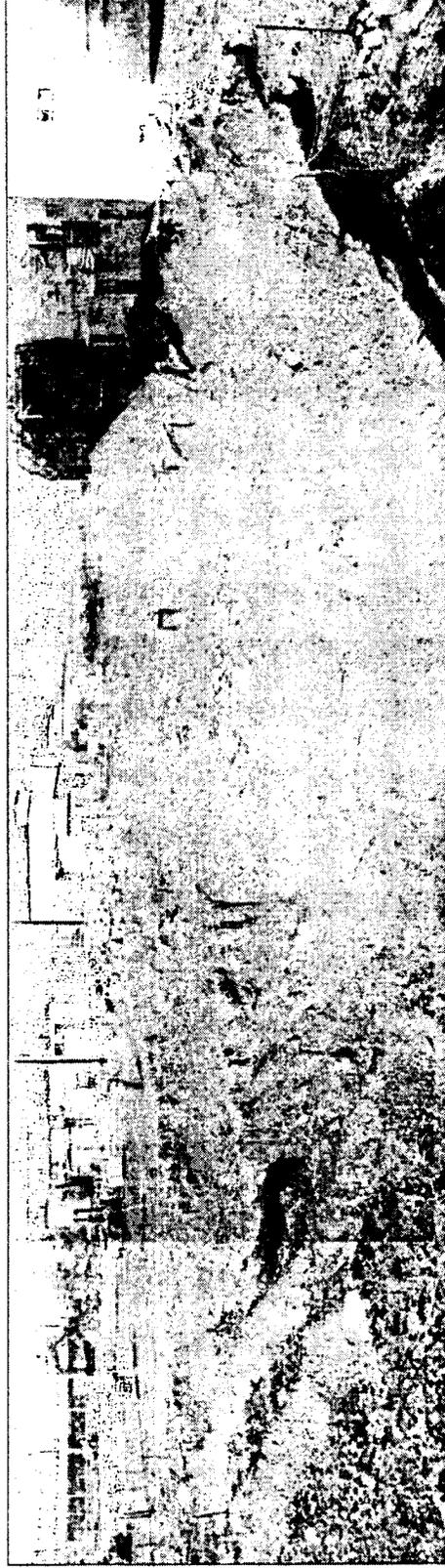
**Post Demolition Summary Report for the 153-N Electrical Substation**

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**Figure 2 - 153-N Electrical Substation Excavation**



**Facing East**



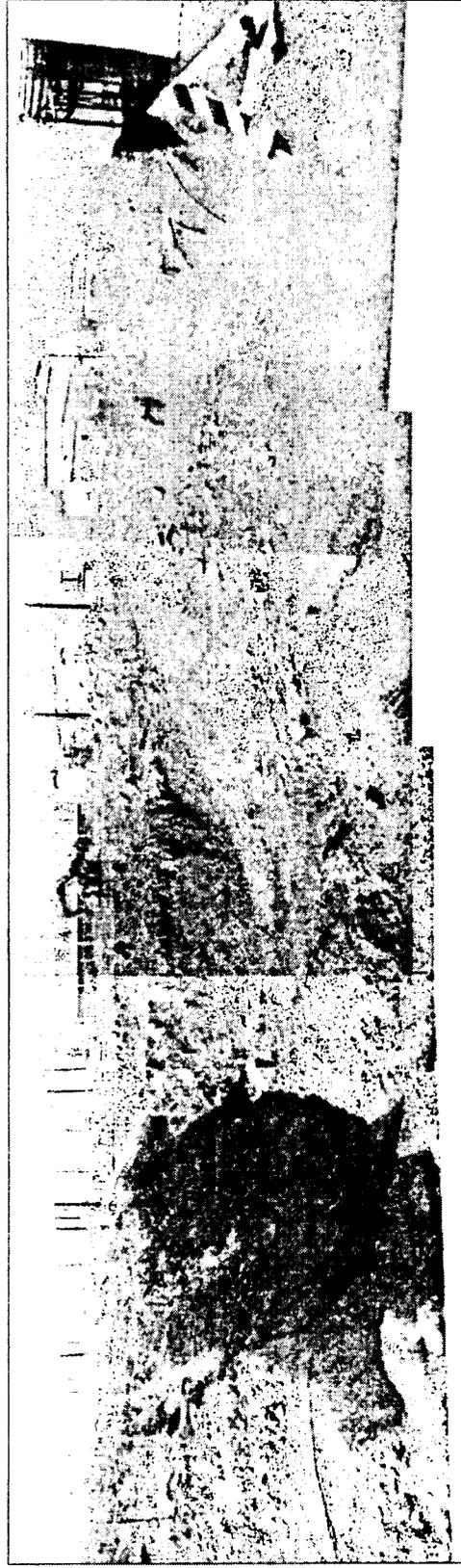
**Facing West**

**Post Demolition Summary Report for the 153-N Electrical Substation**

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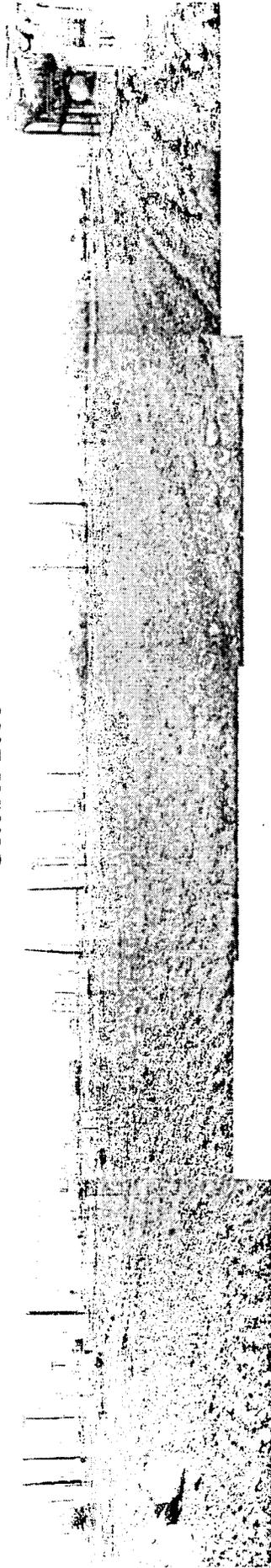
**Facing Northeast**



**Facing Southwest**

**Post Demolition Summary Report for the 153-N Electrical Substation**

**October 2006**



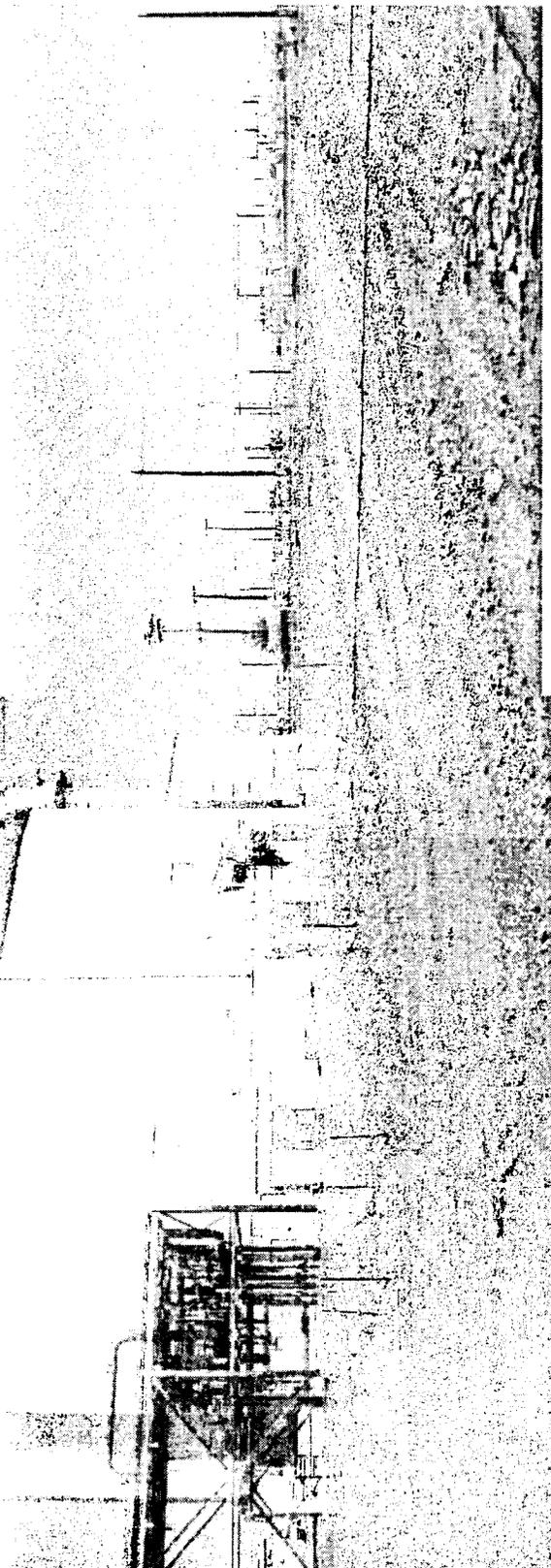
**Facing South (Left faces East, Right Faces West)**



**Facing West**

**Post Demolition Summary Report for the 153-N Electrical Substation**

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**Facing North East**

# Post Demolition Summary Report for the 153-N Electrical Substation

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## Attachment 1 Sample Summary for 153-N

HEIS #	SAMPLE DATE	LOG BOOK	LOGBOOK PAGE	LOCATION	COMMENTS	SDG
J10F21	10/31/05	EL-1516-7	89	Roof	white paint/tar surface, yellow foam, tar/gravel on base	05-A-6065
J10F22	10/31/05	EL-1516-7	89	Roof	white paint/tar surface, yellow foam, tar/gravel on base	05-A-6065
J10F23	10/31/05	EL-1516-7	89	Roof	white paint/tar surface, yellow foam, tar/gravel on base	05-A-6065
J10F24	10/31/05	EL-1516-7	90	Drain line, straight runs	white painted cloth wrap over yellow/white fibrous insulation	05-A-6065
J10F25	10/31/05	EL-1516-7	90	Drain line, straight runs	white painted cloth wrap over yellow/white fibrous insulation	05-A-6065
J10F26	10/31/05	EL-1516-7	90	Drain line, straight runs	white painted cloth wrap over yellow/white fibrous insulation	05-A-6065
J10F27	10/31/05	EL-1516-7	90	cold water supply, elbow, basement	white painted fabric over v. light grey mud	05-A-6065
J10F28	10/31/05	EL-1516-7	91	steam lines, straight runs, main level	white painted cloth over a thin tar layer over yellow fibrous	05-A-6065
J10F29	10/31/05	EL-1516-7	91	steam lines, straight runs, main level	white painted cloth over a thin tar layer over yellow fibrous	05-A-6065
J10F30	10/31/05	EL-1516-7	91	steam lines, straight runs, main level	white painted cloth over a thin tar layer over yellow fibrous	05-A-6065
J10F31	10/31/05	EL-1516-7	91	steam lines, elbows, main level	white painted cloth over grey crumbly material	05-A-6065
J10F32	10/31/05	EL-1516-7	91	steam lines, elbows, main level	white painted cloth over grey crumbly material	05-A-6065
J10F33	10/31/05	EL-1516-7	91	steam lines, elbows, main level	white painted cloth over grey crumbly material	05-A-6065
J10F34	10/31/05	EL-1516-7	92	cold water supply, straight runs	white painted cloth wrap over yellow/white fibrous insulation	05-A-6065
J10F35	10/31/05	EL-1516-7	92	cold water supply, straight runs	white painted cloth wrap over yellow/white fibrous insulation	05-A-6065
J10F36	10/31/05	EL-1516-7	92	caulking around wall penetration	yellow painted caulk, dark grey where not painted, hard	05-A-6065
J10F37	10/31/05	EL-1516-7	92	steam condensate lines to french drain, N. side	Al cladding over yellow fibrous insulation	05-A-6065
J120V2	4/27/06	EL-1516-10	2	below grade demo of 153N, where conduits dropped into chases	grey transit pipes containing wire	20060390
J120V3	4/27/06	EL-1516-10	2	below grade demo of 153N, where conduits dropped into chases	grey transit pipes containing wire	20060390
J120V4	4/27/06	EL-1516-10	2	below grade demo of 153N, where conduits dropped into chases	red granular hard brittle material	20060390



# Post Demolition Summary Report for the 153-N Electrical Substation

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## Attachment 3 - Pre-Demo Civil Survey Data

### Project : 100N-BUILDINGS

User name	maaye	Date & Time	9:04:20 AM 10/17/2006
Coordinate System	US State Plane 1983	Zone	Washington South 4602
Project Datum	NAD 1983 (Conus)		
Vertical Datum		Geoid Model	GEOID99 (Conus)
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

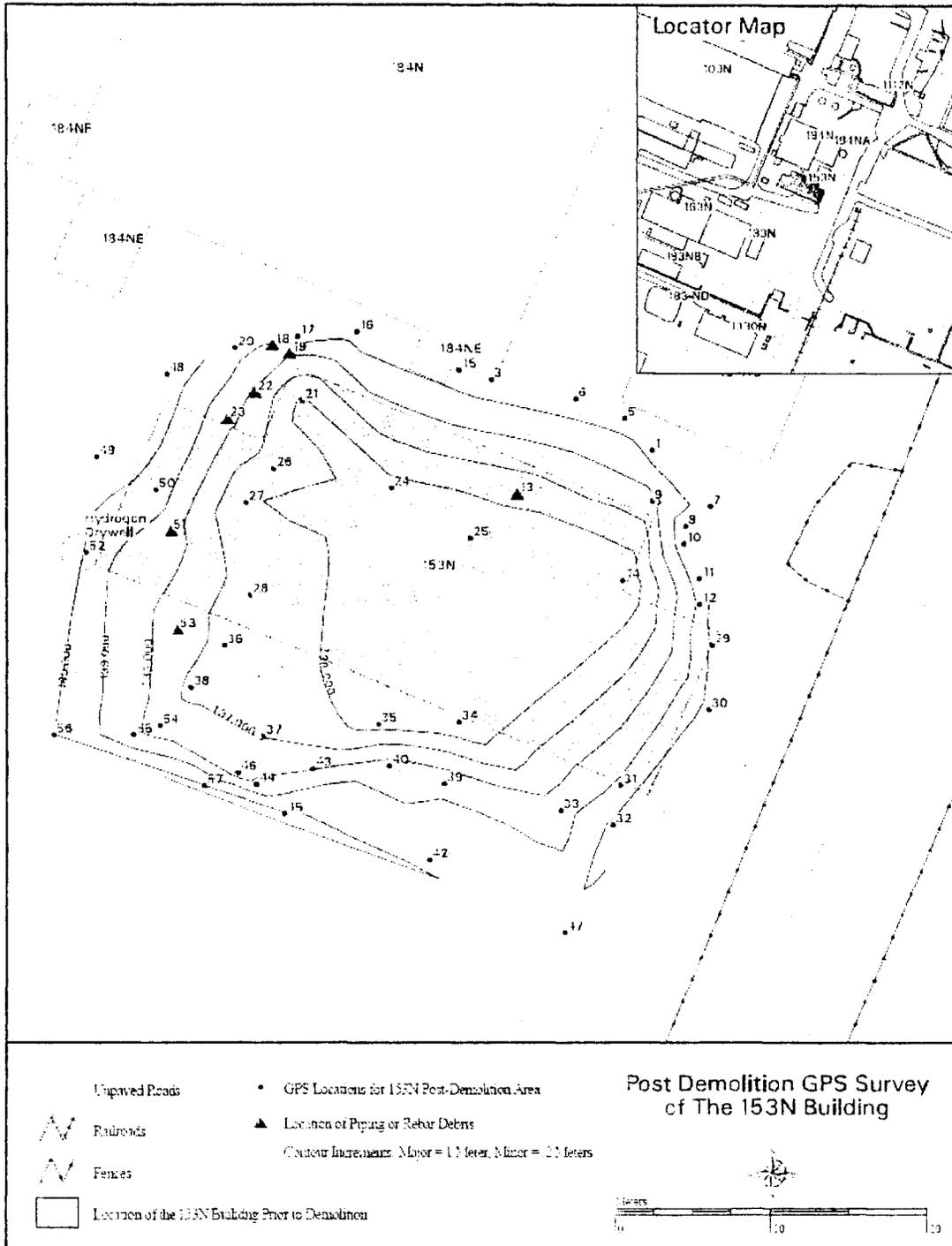
Survey Project Name/Title: 100N-BUILDINGS  
 Survey Purpose: GPS 153N building and surrounding features prior to D&D  
 Requested By: Dave Shea  
 General Site Location: 100-N  
 Charge Code: per building  
 Field Surveyor: MARGO AYE  
 Computer Software Used: MARGO AYE  
 Survey Equipment Used: 5800  
 Control Monuments Used:  
 Survey Method: RTK  
 Estimated Horizontal Precision: <=0.002m  
 Estimated Vertical Precision: <=0.005m  
 Fieldwork Start Date: November 29, 2005  
 Fieldwork Completion Date: December 12, 2005

Name	Feature Code	Northing	Easting	Elevation
948	bldg-corn	149370.356m	571288.706	139.485
950	french-drain-fence	149367.219m	571294.787	139.317
949	french-drain-fence	149368.230m	571293.926	139.348
1118	french-drain-fence	149367.382m	571292.366	159.962
951	french-drain-fence	149365.951m	571293.515	139.366
1038	bldg-corn	149365.571m	571286.459	146.399
1114	bldg-corn-offset	149379.990m	571265.703	139.286
1115	bldg-corn -offset	149374.902m	571263.832	139.286
947	bldg-corn	149363.255m	571293.065	139.399
946	bldg-corn	149352.071m	571288.434	139.490
1116	bldg-corn-offset	149377.842m	571257.480	139.286
942	fence	149375.118m	571240.811	139.350
940	fence	149371.192m	571251.107	139.267
945	bldg-corn	149367.140m	571252.835	139.253
939	fence	149366.443m	571249.183	139.407
941	fence	149373.395m	571245.684	139.187
944	fence	149368.803m	571243.736	139.288

# Post Demolition Summary Report for the 153-N Electrical Substation

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## Attachment 4 – Post-Demo Civil Survey





## Post Demolition Summary Report for the 153-N Electrical Substation

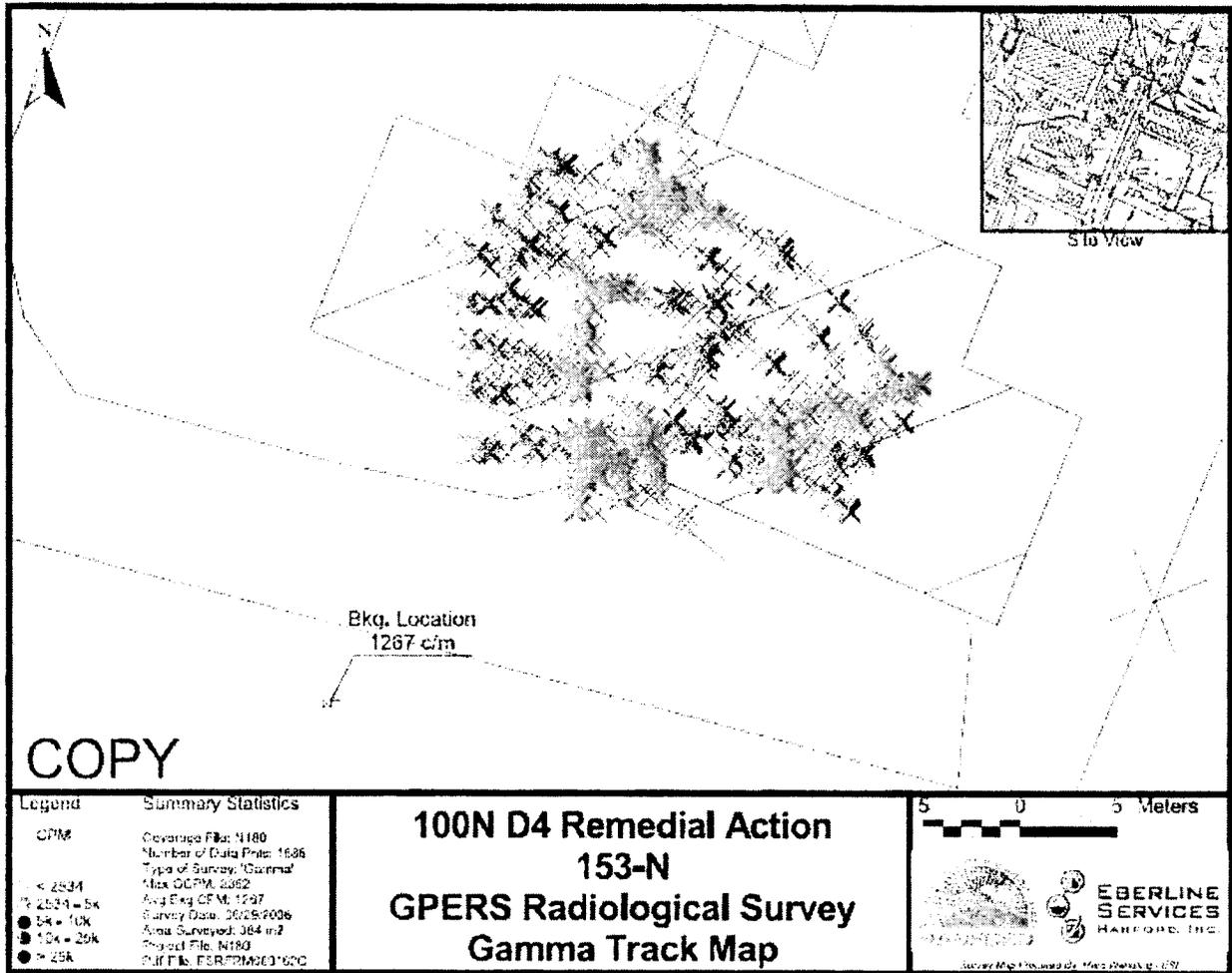
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Name	Northing	Easting	Elevation	Feature Code
22	149378.438m	571263.249m	137.838m	pipe-center
23	149376.749m	571261.525m	138.306m	pipe-center
24	149372.316m	571271.853m	135.654m	toe
25	149369.071m	571276.862m	135.270m	toe
26	149373.545m	571264.431m	136.400m	toe
27	149371.370m	571262.667m	136.048m	toe
28	149365.400m	571262.915m	136.402m	toe
29	149362.165m	571292.357m	140.205m	top
30	149358.005m	571292.190m	140.312m	top
31	149353.071m	571286.500m	139.189m	concrete
32	149350.516m	571286.012m	140.186m	top
33	149351.447m	571282.686m	138.564m	top
34	149357.197m	571276.195m	135.095m	toe
35	149357.047m	571271.040m	135.662m	toe
36	149362.109m	571261.325m	136.752m	bottom-ramp
37	149356.264m	571263.812m	136.938m	toe
38	149359.423m	571259.207m	136.856m	toe
39	149353.193m	571275.268m	138.801m	grade change
40	149354.322m	571271.746m	138.464m	top-ramp
42	149348.229m	571274.339m	139.769m	top-ramp
43	149354.142m	571266.961m	137.961m	top-ramp
44	149353.144m	571263.372m	138.183m	concrete-wall
45	149351.207m	571265.126m	140.148m	top
46	149353.891m	571262.168m	137.534m	grade change
47	149343.554m	571282.954m	139.878m	top-ramp
48	149379.631m	571257.621m	140.698m	top
49	149374.298m	571253.204m	140.801m	top
50	149372.187m	571256.928m	139.588m	grade change
51	149369.538m	571257.849m	138.461m	pipe-center
52	149368.107m	571252.486m	139.491m	top/dry well
53	149363.134m	571258.293m	137.474m	pipe-center
54	149356.946m	571257.212m	137.312m	grade change
55	149356.343m	571255.530m	138.276m	concrete-wall
56	149356.340m	571250.441m	140.031m	top
57	149353.046m	571260.087m	140.016m	top

# Post Demolition Summary Report for the 153-N Electrical Substation

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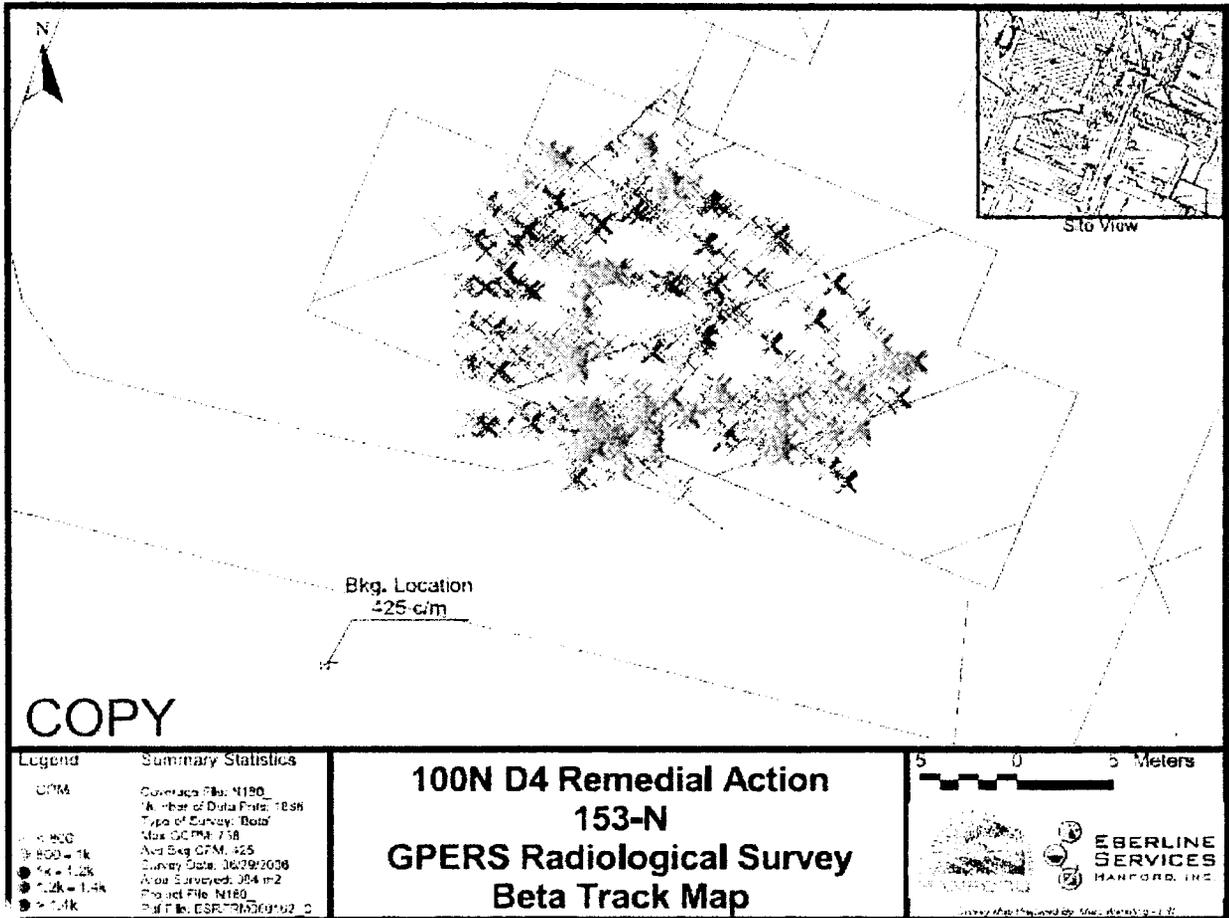
## Attachment 4 - GPERs Survey of 153-N Excavation, Gamma Track



# Post Demolition Summary Report for the 153-N Electrical Substation

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## Attachment 5 - GPERS Survey of 153-N Excavation, Beta Track





## FACILITY STATUS CHANGE FORM

**DISTRIBUTION:**

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D4 EPL: Clay McCurley, X5-50

Sample Design/Cleanup Verification: Megan Proctor, H4-22

FR Engineering: Rich Carlson, N3-30

FR EPL: Dan Saueressig, N3-30

