NY.17-14

Certification Docket for the Remedial Action Performed at the Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, from 1983 through 1986

Department of Energy
Former Sites Restoration Division
Oak Ridge Field Office

July 1992

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(continued)

FIGURES

TABLES

UNITS OF MEASURE

cm	centimeter
dpm	disintegrations per minute
ft	foot
g	gram
h	hour
ha	hectare
in.	inch
km	kilometer
L	liter
m	meter
mi	mile
mrem	millirem
pCi	picocurie
µg	microgram
µR	microroentgen
WL	working level
yd	yard
yr	year

ACRONYMS

AEC	Atomic Energy Commission
ANL	Argonne National Laboratory
BNI	Bechtel National, Inc.
CEQ	Council on Environmental Quality
DOE	U.S. Department of Energy
FUSRAP	Formerly Utilized Sites Remedial Action Program
IVC	independent verification contractor
LOOW	Lake Ontario Ordnance Works
MED	Manhattan Engineer District
NEPA	National Environmental Policy Act
NFSS	Niagara Falls Storage Site
ORAU	Oak Ridge Associated Universities
ORNL	Oak Ridge National Laboratory
OR	Oak Ridge Field Office
PCB	polychlorinated biphenyl
PMC	project management contractor
SFMP	Surplus Facilities Management Program
TLD	thermoluminescent dosimeter
TNT	trinitrotoluene

CERTIFICATION DOCKET FOR THE REMEDIAL ACTION PERFORMED AT THE NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES IN LEWISTON, NEW YORK, FROM 1983 THROUGH 1986

JULY 1992

Prepared for

United States Department of Energy

Oak Ridge Field Office

Under Contract No. DE-AC05-91OR21949

By

Bechtel National, Inc.

Oak Ridge, Tennessee

Bechtel Job No. 14501

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INTRODUCTION TO THE
CERTIFICATION DOCKET FOR THE REMEDIAL ACTION
PERFORMED AT THE NIAGARA FALLS STORAGE SITE
VICINITY PROPERTIES IN LEWISTON, NEW YORK,
FROM 1983 THROUGH 1986

Description of the Formerly Utilized Sites Remedial Action Program at the Niagara Falls Storage Site, New York

The U.S. Department of Energy (DOE), Office of Environmental Restoration and Waste Management, Eastern Area Programs, Off-Site Branch (and/or the predecessor agency, offices, and divisions) has conducted a remedial action project at the Niagara Falls Storage Site (NFSS) and its vicinity properties in Lewiston, New York. DOE established the Surplus Facilities Management Program (SFMP) to manage and plan the ultimate disposition of surplus DOE-owned facilities such as NFSS. The SFMP Office assigned the NFSS project to the DOE Oak Ridge Field Office, Former Sites Restoration Division, which is also the DOE lead field office for the Formerly Utilized Sites Remedial Action Program (FUSRAP). The off-site NFSS work is being managed by FUSRAP under the direction of Eastern Area Programs, Off-Site Branch.

The United States Congress authorized DOE to initiate FUSRAP in 1974 to identify and clean up or otherwise control sites where residual radioactive material (exceeding current guidelines) remains from the early years of the nation's atomic energy program or from commercial operations causing conditions that Congress has authorized DOE to remedy. The objectives of FUSRAP are to:

- Identify and assess all sites formerly utilized to support early Manhattan Engineer District/Atomic Energy Commission nuclear work to determine whether further decontamination and/or control is needed
- Decontaminate and/or apply controls to these sites to permit conformance with current applicable guidelines

- Dispose of and/or stabilize all generated residues in an environmentally acceptable manner
- Accomplish all work in accordance with appropriate landowner agreements; local and state environmental and land-use requirements to the extent permitted by federal law; and applicable DOE orders, regulations, standards, policies, and procedures
- Certify, at the completion of remedial action, that the radiological conditions at the sites comply with guidelines and that the sites are appropriate for future use

As the project management contractor (PMC) for FUSRAP, Bechtel National, Inc., is the DOE contractor for planning, managing, and implementing FUSRAP.

NFSS is a remnant of the U.S. Army's original Lake Ontario Ordnance Works (LOOW), portions of which were used by the wartime MED for storage and transshipment of radioactive materials. As a result of these operations, some portions of the former LOOW other than the present NFSS were also contaminated. In addition, some of the radioactive materials stored at NFSS over the years were subject to water and wind erosion. As a result, radioactive materials migrated offsite, chiefly through the NFSS drainage ditches. These areas, located adjacent to or near NFSS, are referred to as the NFSS vicinity properties. FUSRAP is responsible for cleanup of the contaminated material in the off-site drainage ditches and on vicinity properties.

NFSS covers 77 ha (191 acres) of the approximately 607 ha (1,500 acres) originally used for shipment, storage, and burial of radioactive materials and wastes. Therefore, several contaminated properties that were once part of the federally owned land are now privately owned. Radiological surveys of these vicinity properties were performed from 1981 to 1985. In addition to these properties, three properties, one each in the City of Niagara Falls and the towns of Niagara Falls and Lewiston, were identified in late 1985 as being radioactively contaminated based on results of a radiological survey conducted with a scanning van. These additional properties are

referred to as the three anomalies and are included with the NFSS vicinity properties for the purpose of this certification docket. Executive Order 11991 empowered the Council on Environmental Quality (CEQ) to issue regulations to federal agencies for implementing those procedural provisions of the National Environmental Policy Act (NEPA) that are mandatory under law. The CEQ issued the regulations containing guidance and specific requirements in June 1979. The DOE guidelines for implementing the NEPA process and satisfying the CEQ regulations were made effective on March 28, 1980.

The NEPA process requires FUSRAP decision-makers to identify and assess the environmental consequences of proposed actions before beginning remedial activities, developing disposal sites, or transporting and emplacing radioactive wastes. Documentation required by NEPA in support of remedial action is prepared by Argonne National Laboratory (ANL). Supporting documentation is provided by the PMC through the preparation of a series of engineering studies and environmental reports to evaluate remedial action alternatives for the site under consideration. The action deemed appropriate by DOE based on the NEPA process evaluations is then implemented with consideration for public safety and in compliance with applicable federal, state, and local requirements.

For the site discussed in this report, the NEPA requirements were satisfied by the preparation of an action description memorandum, which led to issuance of a memorandum to file documenting that the project had no significant impact on the environment.

Work performed under FUSRAP is governed by the provisions of the DOE quality assurance program plan for FUSRAP, which complies with DOE Order 5700.6. Work performed under FUSRAP by the PMC or by architect-engineers, construction and service subcontractors, and other project subcontractors is governed by the quality assurance program plan as specified in the FUSRAP Project Quality Assurance Manual. Effectiveness of implementation is appraised on a regular basis by the BNI quality assurance organization and by DOE-OR. DOE developed a remedial action plan to remove the contamination from the

NFSS vicinity properties and the three anomalies. Cleanup of these properties began in 1983. The contaminated material excavated from these properties is stored at NFSS.

Remedial action was completed on the properties identified in this docket in November 1986. DOE certified that the properties are in compliance with DOE decontamination criteria and standards developed to protect health, safety, and the environment. A notice of certification was signed on October 17, 1991, and published in the Federal Register on October 25, 1991.

Purpose

This docket has been assembled to document the successful decontamination of the majority of the vicinity properties associated with NFSS. The material in this docket consists of documents supporting the certification by DOE that the radiological conditions at these properties are in compliance with radiological guidelines and standards determined to apply to the sites and that use of these properties will not result in any measurable radiological hazard to the general public derived from the activities of DOE predecessor agencies. Property use at the time of characterization and remediation activities prevented access to several small areas of three vicinity properties: (1) soil beneath Lagoon 6 and the berm surrounding that lagoon on Property E, (2) soil beneath a roadway and storage tanks containing polychlorinated biphenyls (PCBs) on Property E', and (3) soil beneath the liquid treatment pond on the western portion of Property G. Because these properties have not been characterized, they will not be certified as remediated at this time.

The certification docket contains only the material deemed most pertinent to the certification of these properties; the comprehensive package of records is available and will be archived after certification by DOE through the Assistant Secretary for Management and Administration. Copies of this docket will be available for public review between 9:00 a.m. and 4:00 p.m., Monday through Friday

(except federal holidays), at the DOE Public Reading Room located in Room 1E-190 of the Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C. Copies will also be available in the Public Reading Room, U.S. Department of Energy, Oak Ridge Field Office, Oak Ridge, Tennessee, and at the Lewiston Public Library, 505 Center Street, Lewiston, New York.

Property Identification

The properties discussed in this docket are listed below by using alphabetical identifiers, the respective property owner, and the deed descriptions. Drawings of the properties showing where remedial action was performed are provided in Exhibits I and III.

Accordingly, the following properties are released from FUSRAP:

Property A	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Somerset Group Inc., as described in the deed, liber 1588, pages 513 and 516 and liber 1503, page 752.
Property B	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), as described in the deed, liber 1588, page 516, and liber 1599, page 513.
Property C'	owned by Modern Landfill, Inc., as described in the deed, liber 1883, page 342.
Property D	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Somerset Group, Inc., as described in the deed, liber 1599, page 513, liber 1588, page 516, liber 1503, page 752, and liber 1728, page 33.
Property F	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), as described in the deed, liber 1588, pages 513 and 516.
Property H'	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), as described in the deed, liber 1728, page 33.
Property L	owned by Modern Landfill, Inc., as described in the deed, liber 2153, page 292.
Property M	owned by Modern Landfill, Inc., as described in the deed, liber 2153, page 292.

Property N/N' North	owned by Modern Landfill, Inc., as described in the deed, liber 1883, page 342.
Property N/N' South	owned by Modern Landfill, Inc., as described in the deed, liber 2153, page 292.
Property P	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), as described in the deed, liber 1588, page 519.
Property Q	owned by the Town of Lewiston, as described in the deed, liber 1369, page 74.
Property R	owned by the Niagara Mohawk Power Corporation, no deed reference.
Property S	owned by Town of Lewiston and CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), as described in the deed, liber 1567, page 762, and liber 1728, page 33.
Property T	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Somerset Group, Inc., as described in the deed, liber 1588, page 519, liber 1503, page 752, and liber 1728, page 33.
Property U	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Somerset Group, Inc., as described in the deed, liber 1588, page 519, liber 1503, page 752.
Property V	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Somerset Group, Inc., as described in the deed, liber 1588, pages 513, 516, and 519, liber 1503, page 752.
Property W	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Town of Lewiston, as described in the deed, liber 1728, page 33, and liber 1567, page 762.
Property X	owned by CWM Chemical Services, Inc. (formerly known as SCA Chemical Services, Inc.), and Town of Lewiston, as described in the deed, liber 1728, page 33, and liber 1567, page 762.

Properties located along the Central Drainage Ditch owned by the Somerset Group, Inc. (as described in the deed, liber 1503, page 752), New York Army National Guard (no deed reference), Mr. Roderick T. Tower (as described in the deed, liber 1387, page 409), Mr. George J. Wolf (as described in the deed, liber 1964, page 243), Mr. Richard Kahl and Robert Hille (as described in the deed, liber 1513, page 773), Town of Porter (no deed reference), and Niagara Falls County (no deed reference).

Areas along Pletcher Road extending from the intersection of Campbell Street and Pletcher Road to Creek Road, owned by the Town of Lewiston (no deed reference).

The following are the three anomalies where remedial action was conducted as part of the remedial action performed at NFSS vicinity properties from 1983 through 1986:

Areas located at the junction of Highways 18 and 104, referred to as Anomaly AA, owned by the people of the State of New York (no deed reference).

Areas located near the junction of Highway 31 and Military Road, referred to as Anomaly BB, owned by Angelo F. and Joseph S. Laduca (as described in the deed, liber 2175, page 100).

Areas located near the junction of Buffalo Avenue and Hyde Park Boulevard, referred to as Anomaly CC, owned by the City of Niagara Falls (no deed reference).

The properties discussed in this report are described in Section 3.0 of Exhibit I. However, only those properties where remedial action activities were performed are included for certification purposes.

Docket Contents

Exhibit I is a summary of remedial action activities conducted at the subject properties. It provides a brief history of the origin of the contamination at NFSS and its vicinity properties and summarizes the radiological characterizations conducted, the remedial action performed, and post-remedial action/verification activities.

The following documents contain the guidelines that determine the need for remedial action. The subject properties have been decontaminated to comply with these guidelines. Hazard assessments were performed for Property B and a section of the Central Drainage Ditch. Results of these analyses demonstrate compliance with the DOE guidelines. The first document listed is included as Appendix A of

Exhibit I; the remaining documents are included by reference in Exhibit II (1).

U.S. Department of Energy. "U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites," Rev. 1, July 1985.

U.S. Department of Energy. Design Criteria for Formerly Utilized Sites Remedial Action Program (FUSRAP) and Surplus Facilities Management Program (SFMP), 14501-00-DC-01, Rev. 1, Oak Ridge, Tenn., February 1986.

Memorandum, P. J. Gross, Department of Energy, Oak Ridge Operations Office, to J. J. Fiore, Department of Energy Headquarters, Office of Nuclear Energy. "NFSS Residual Radioactive Material Guidelines," BNI CCN 055358, August 30, 1988.

Bechtel National, Inc. Development of A Supplemental Residual Contamination Guideline for the NFSS Central Drainage Ditch, Oak Ridge, Tenn., December 1986.

The following documents authorized or designated the remedial action at the subject properties. A copy of each is included in Exhibit II (2).

Memorandum, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to L. F. Campbell, Technical Services Division, Oak Ridge Operations Office, Department of Energy. "Designation of NFSS Vicinity Property - Areas Along Pletcher Road," November 2, 1983.

Memorandum, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to E. L. Keller, Director, Technical Services Division, Oak Ridge Operations Office, Department of Energy. "Designation of Niagara Falls Storage Site Vicinity Properties," June 8, 1984.

Letter, W. E. Mott, Director, Environmental Control Technology Division, Office of Environment, to R. W. Ramsey. "Remedial Action at the Former Lake Ontario Ordnance Works Site," June 4, 1980.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to G. H. Spira, Vice President and General Manager, SCA Chemical Services, Inc., April 13, 1984.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to G. H. Spira, Vice President and General Manager, SCA Chemical Services, Inc., September 29, 1983.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to G. H. Spira, Vice President and General Manager, SCA Chemical Services, Inc., June 4, 1984.

Letter, E. G. DeLaney, Manager, FUSRAP/Surplus Facilities Group, Division of Remedial Action Projects, Department of Energy Headquarters, to L. F. Campbell, Technical Services Division, Oak Ridge Operations Office. "NFSS Decontamination Criteria," March 16, 1984.

Letter, G. P. Turi, FUSRAP/Surplus Facilities Group, Division of Remedial Action Projects, Department of Energy Headquarters, to G. H. Spira, Vice President and General Manager, SCA Chemical Services, Inc., July 13, 1983.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to S. Washuta, President, Modern Disposal Services, Inc., May 23, 1984.

Letter, G. P. Turi, FUSRAP/Surplus Facilities Group, Division of Remedial Action Projects, Department of Energy Headquarters, to S. A. Burger, Director, Division of Property and Engineering Management, Employment and Training and Administration, U.S. Department of Labor, July 11, 1983.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to S. Washuta, President, Modern Disposal Services, Inc., June 1, 1984.

Letter, G. P. Turi, FUSRAP/Surplus Facilities Group, Division of Remedial Action Projects, Department of Energy Headquarters, to E. L. Keller, Director, Technical Services Division, Oak Ridge Office. "Designation of Niagara Falls Storage Site Off-Site Properties H', L, M, Q, and N/N' South," June 29, 1983.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to C. Shultz, Town of Lewiston, August 23, 1983.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to R. Cleary, Jr., Vice President, Regional Operations, Niagara Mohawk Power Corporation, April 26, 1984.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to J. Sims, Somerset Group, Inc., May 23, 1984.

Letter, J. E. Baublitz, Director, Division of Remedial Action Projects, Office of Terminal Waste Disposal and Remedial Action, Office of Nuclear Energy, Department of Energy Headquarters, to C. Shultz, Town of Lewiston, May 23, 1984.

Letter, W. R. Voigt, Director, Office of Remedial Action and Waste Technology, Office of Nuclear Energy, Department of Energy Headquarters, to J. La Grone, Manager, Oak Ridge Operations Office, "Designation of Three NFSS Vicinity Properties," December 9, 1985.

The following documents describe radiological conditions at the subject properties before remedial action. They are referenced in Exhibit II (3).

Oak Ridge National Laboratory. Results of Ground Level Radiation Measurements in Support of the 1978 Aerial Survey of the Lake Ontario Ordnance Works, Lewiston, New York, ORNL/TM-7004, Oak Ridge, Tenn., September 1979.

EG&G. Radiological Survey of the Lake Ontario Ordnance Works and Vicinity in June 1972, EGG-1183-1554, Technical Report No. L-1076, November 3, 1972.

Battelle Columbus Laboratories. A Comprehensive Characterization and Hazard Assessment of the DOE-Niagara Falls Storage Site, BMI-2074 (Revised), Columbus, Ohio, June 1981.

The Aerospace Corporation. Background and Resurvey Recommendations for the Atomic Energy Commission Portion of the Lake Ontario Ordnance Works, ATR-82 (7963-04)-1, Washington, D.C., November 1982.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property A, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property B, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property C', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property D, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property F, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property H', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., June 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property L, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property M, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N North, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N' North, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N/N' South, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., August 1983.

Oak Ridge National Laboratory. Radiological Survey of a Portion of Property Owned by Modern Landfill, Inc. - Former LOOW Site, Summary Report, Oak Ridge, Tenn. March 1981.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property P, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property Q, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., July 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property R, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property S, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property T, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property U, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property V, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., April 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property W, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property X, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge National Laboratory. Results of the Mobile Gamma Scanning Activities in Niagara Falls, New York Area, ORNL/RASA-85/1, Oak Ridge, Tenn., August 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken in the Niagara Falls, New York Area (NF002), ORNL/TM-10076, Oak Ridge, Tenn., November 1986.

Oak Ridge Associated Universities. Preliminary Radiological Survey of Pletcher Road, Lewiston, New York, Oak Ridge, Tenn., September 13, 1983.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken Near Junction of Highway 31 and Military Road in Niagara Falls, New York, ORNL/RASA-85/42, Oak Ridge, Tenn., December 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken Near Junction of Buffalo Avenue and Hyde Park Boulevard in Niagara Falls, New York, ORNL/RASA-85/41, Oak Ridge, Tenn., December 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken at Junction of Highways 18 and 104 in Niagara Falls, New York, ORNL/RASA-85/40, Oak Ridge, Tenn., December 1985.

The following documents fulfill NEPA requirements for the subject properties. These documents are referenced in Exhibit II (4).

Argonne National Laboratory. Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983, (Nonaccelerated Program), Argonne, Ill., February 1983.

Argonne National Laboratory. Addendum to Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983-85 Accelerated Program, (1984 Vicinity Properties Cleanup), Argonne, Ill., July 1984.

Argonne National Laboratory. Environmental Impact Statement, Long-Term Management of the Existing Radioactive Waste and Residues at the Niagara Falls Storage Site, DOE/EIS-0109F, Argonne, Ill., April 1986.

Exhibit II (5) references the access agreements signed by the property owners and DOE before remedial action was initiated. The affected property owners are listed here by name along with the affected property or properties they own. All agreements were signed with the exception of one with Ms. Diana Raybon, who chose to allow DOE to exercise its rights under the Common Law.

SCA Chemical Services	Properties A, B, D, E, E', F, G, H', P, S, T, U, and W (including a portion of West Drainage Ditch)

Modern Landfill, Inc.	Properties C', N/N' North
Department of Labor	Properties L, M, N/N' South
Niagara Mohawk Power Corp.	Property R, including a portion of the West Drainage Ditch
Somerset Group, Inc.	Property V and property located along a portion of the Central Drainage Ditch
State of New York Department of Transportation	Anomalies AA and BB
City of Niagara Falls	Anomaly CC
Town of Lewiston	Properties Q and X (including a portion of West Drainage Ditch) and areas along Pletcher Road
New York Army Reserve National Guard	Property located along a portion of the Central Drainage Ditch
Mr. Tom Tower	Property located along a portion of the Central Drainage Ditch
Ms. Diana Raybon	Property located along a portion of the Central Drainage Ditch
Mr. Richard Kahl	Property located along a portion of the Central Drainage Ditch
Town of Porter	Property located along a portion of the Central Drainage Ditch
Niagara County	Property located along a portion of the Central Drainage Ditch

The following reports describe the extent of the remedial action and document the successful decontamination of the subject properties. These reports are included by reference in Exhibit II (6).

Oak Ridge Associated Universities. Post-Remedial Action Survey, Property of Modern Landfill, Inc., Former LOOW Site, Lewiston, New York, Oak Ridge, Tenn., January 1982.

Eberline Instrument Corporation. Remedial Action and Radiological Surveys Conducted at Property Owned by Modern Landfill, Inc., Lewiston, New York, Formerly a Portion of the Lake Ontario Ordnance Works, (undated).

Bechtel National, Inc. Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties - 1983 and 1984, DOE/OR/20722-84, Oak Ridge, Tenn., December 1986.

Bechtel National, Inc. Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties - 1985 and 1986, DOE/OR/20722-133, Oak Ridge, Tenn., January 1989.

Exhibit II (7) contains documents that verify the successful decontamination of the subject properties. These documents consist of interim verification letters to property owners and verification reports for each property. Independent verification contractor statements and independent verification reports for some properties are also listed in Exhibit II (7). The verification statements are included in this docket, and verification reports are included by reference.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to U.S. Department of Labor, Division of Property and Engineering Management. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to Town of Lewiston. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to Niagara Mohawk Power Corporation. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to Somerset Group, Inc. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to New York Army National Guard. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to T. Tower. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, E. L. Keller, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to D. Raybon, November 19, 1985.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to D. Raybon. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to R. C. Kahl. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to Niagara County, Department of Public Works. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to Town of Porter, Highway Department. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to SCA Chemical Services, Inc. "NFSS Post-Remedial Action Report 1983-84," December 29, 1986.

Letter, S. W. Ahrends, Director, Technical Services Division, Oak Ridge Operations, Department of Energy, to P. D. Eisman, New York State Department of Environmental Conservation, Division of Regulatory Affairs, Region 9. "Completion of Freshwater Wetlands Excavation, NYSDEC Permit No. 90-84-0976," September 10, 1986.

Letter, J. D. Berger, Manager, Radiological Site Assessment Program, Oak Ridge Associated Universities, to E. G. DeLaney, Director, Division of Facility and Site Decommissioning Projects, Office of Nuclear Energy, U.S. Department of Energy. "Verification of Niagara Falls Storage Site Vicinity Properties - 1983/1984 Remedial Actions," October 21, 1986.

Letter, J. D. Berger, Manager, Radiological Site Assessment Program, Oak Ridge Associated Universities, to J. J. Fiore, Director, Division of Facility and Site Decommissioning Projects, Office of Nuclear Energy, U. S. Department of Energy. "Verification Letter for Niagara Falls Storage Site Vicinity Properties - 1985/1986 Remedial Actions," March 10, 1989.

Letter, J. D. Berger, Manager, Radiological Assessment Program, Oak Ridge Associated Universities, to R. C. Robertson, Bechtel National, Inc. "Area of Suspected Contamination on NFSS Property N North," May 1, 1989.

Letter, R. C. Robertson, Project Manager - FUSRAP, Bechtel National, Inc., to J. D. Berger, Manager, Radiological Site Assessment Program, Oak Ridge Associated Universities. "Transmittal of Data from the Suspected Area of Residual Contamination on Property N North, South of the Old Railroad Tracks," May 15, 1989.

Letter, J. D. Berger, Manager, Radiological Site Assessment Program, Oak Ridge Associated Universities, to R. C. Robertson, Bechtel National, Inc. "Contamination Status of NFSS Property N North," May 31, 1989.

J. D. Berger, Oak Ridge Associated Universities, Verification Activities, Lot 21, Township 15, Range 9, Town of Porter, Niagara County, New York, Oak Ridge, Tenn., (undated).

Oak Ridge Associated Universities, 1989. Verification of 1983 and 1984 Remedial Actions, Niagara Falls Storage Site Vicinity Properties, Lewiston, New York, ORAU 89/J-178, Oak Ridge, Tenn. (December).

Oak Ridge Associated Universities, 1990. Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site Vicinity Properties, Lewiston, New York, Oak Ridge, Tenn. (July).

Exhibit II (8) states that comments and responses on the alternatives for the long-term management of the radioactive wastes and residues at NFSS are included in Appendix K of the Environmental Impact Statement.

Exhibit II (9) states that following remedial actions there will be no radiologically based restrictions on the subject properties. DOE's willingness to resurvey the areas that were inaccessible is also presented in Exhibit II (9).

The Federal Register notice informs the public of DOE's intent to certify that the subject properties are in compliance with applicable radiological criteria and guidelines. The text of the Federal Register notice is included in Exhibit II (10).

Grimm, P., Acting Director, Office of Environmental Restoration and Waste Management, Department of Energy Headquarters. Federal Register Notice: Department of Energy, Office of Nuclear Energy, "Certification of Remedial Action at the Niagara Falls Storage

Site Vicinity Properties in Lewiston, New York, from February 1983 through November 1986."

The following documents validate the final certification of the subject properties and are included in Exhibit II (11).

R. P. Whitfield, Associate Director, Office of Environmental Restoration, Department of Energy Headquarters, to Leo Duffy, Director, Office of Environmental Restoration and Waste Management, Department of Energy, "Recommendation for Certification of Remedial Action at the Niagara Falls Storage Site Vicinity Properties Associated with the Former MED/AEC Operations," October 8, 1991.

L. K. Price, Director, Former Sites Restoration Division, DOE Oak Ridge Field Office, Department of Energy, "Statement of Certification: Remedial Action at the Niagara Falls Storage Site Vicinity Properties Associated with the Former MED/AEC Operations" (one statement for each property owner).

The costs associated with the remedial action performed at the NFSS vicinity properties and at the three anomalies are included in Exhibit I of this docket. Drawings of the properties showing where remedial action was performed are provided in Exhibits I and III.

Exhibit I

Summary of Remedial Action Activities Performed at Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, from 1983 through 1986

1.0 INTRODUCTION

Exhibit I summarizes the activities culminating in the certification that radiological conditions at the properties discussed in this docket are in compliance with applicable guidelines and that use of the properties will result in no radiological exposure above Department of Energy (DOE) criteria and standards established to protect members of the general public and occupants of the site. These activities were conducted under the Formerly Utilized Sites Remedial Action Program (FUSRAP) (DOE 1980). This summary includes a discussion of the remedial action process at these properties: characterization of their radiological statuses, designation of the properties as requiring remedial action, performance of the remedial action, and verification that the radioactivity has been removed. Further detail on each activity can be found in the referenced documents.

The properties addressed in this docket include the properties identified with letters (e.g., Property A) that lie outside the boundaries of the current Niagara Falls Storage Site (NFSS) and were formerly part of the Atomic Energy Commission's (AEC) Lake Ontario Ordnance Works (LOOW); the section of Pletcher Road between the entrance to NFSS and Creek Road; the off-site drainage ditches; and three anomalies, one each in the City of Niagara Falls and the towns of Niagara Falls and Lewiston. Figure 1-1 shows the regional setting of NFSS. Figure 1-2 indicates the locations of the vicinity properties in relation to NFSS. The Central and West Drainage Ditches are shown in Figure 1-3. Anomalies AA, BB, and CC are shown in Figure 1-4.

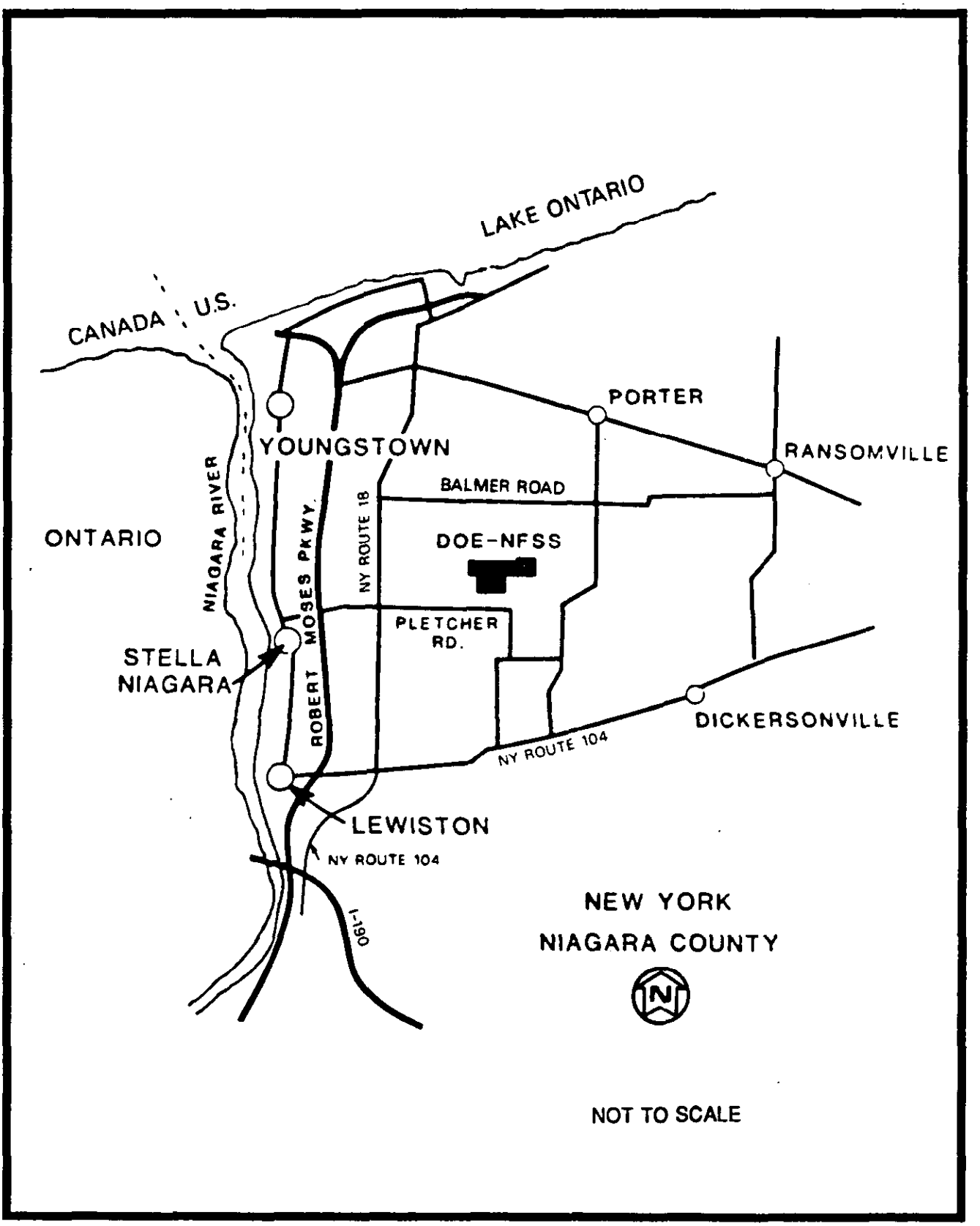

FIGURE 1-1 THE REGIONAL SETTING OF THE NFSS

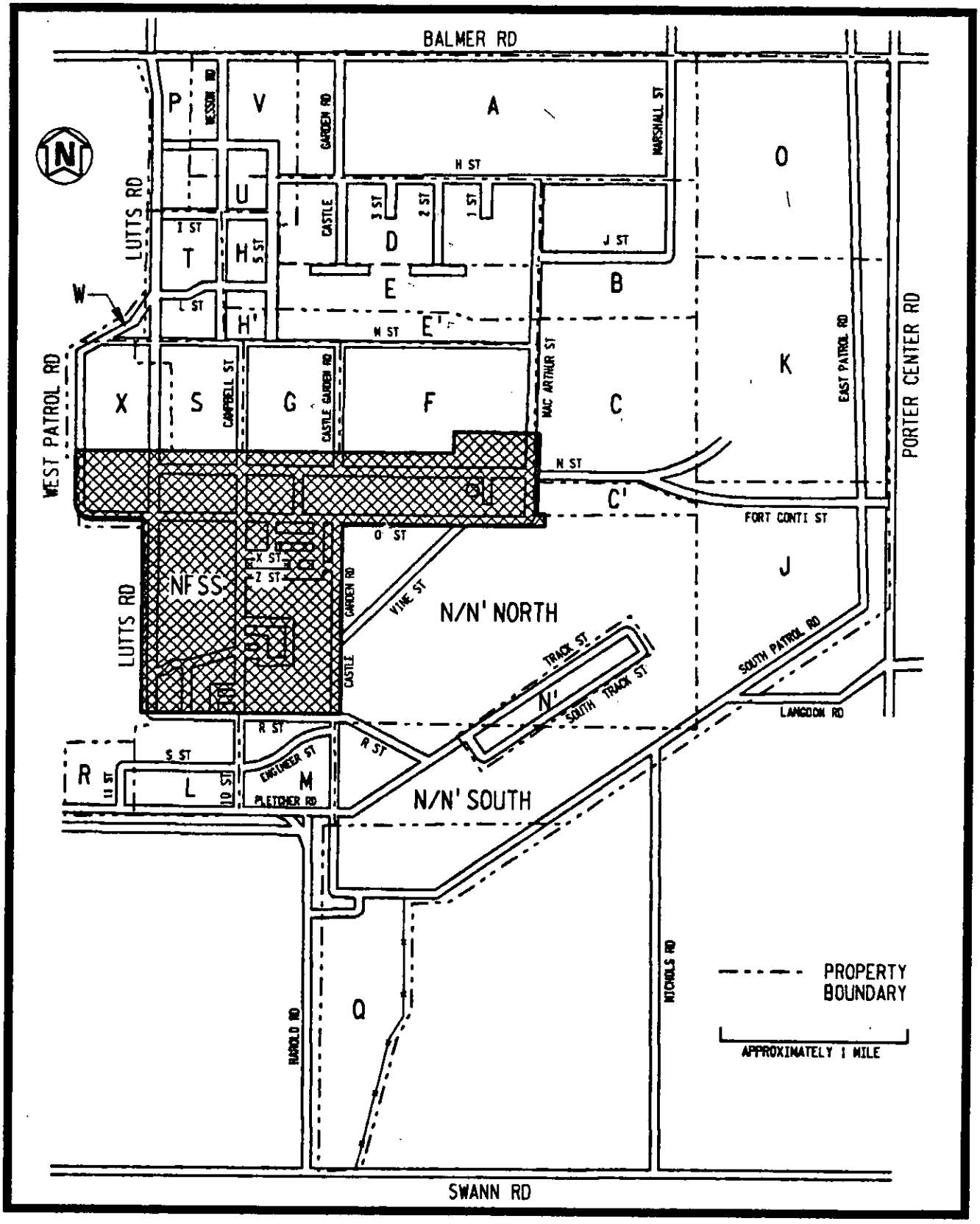

FIGURE 1-2 NIAGARA FALLS STORAGE SITE AND VICINITY PROPERTIES, LEWISTON, NEW YORK

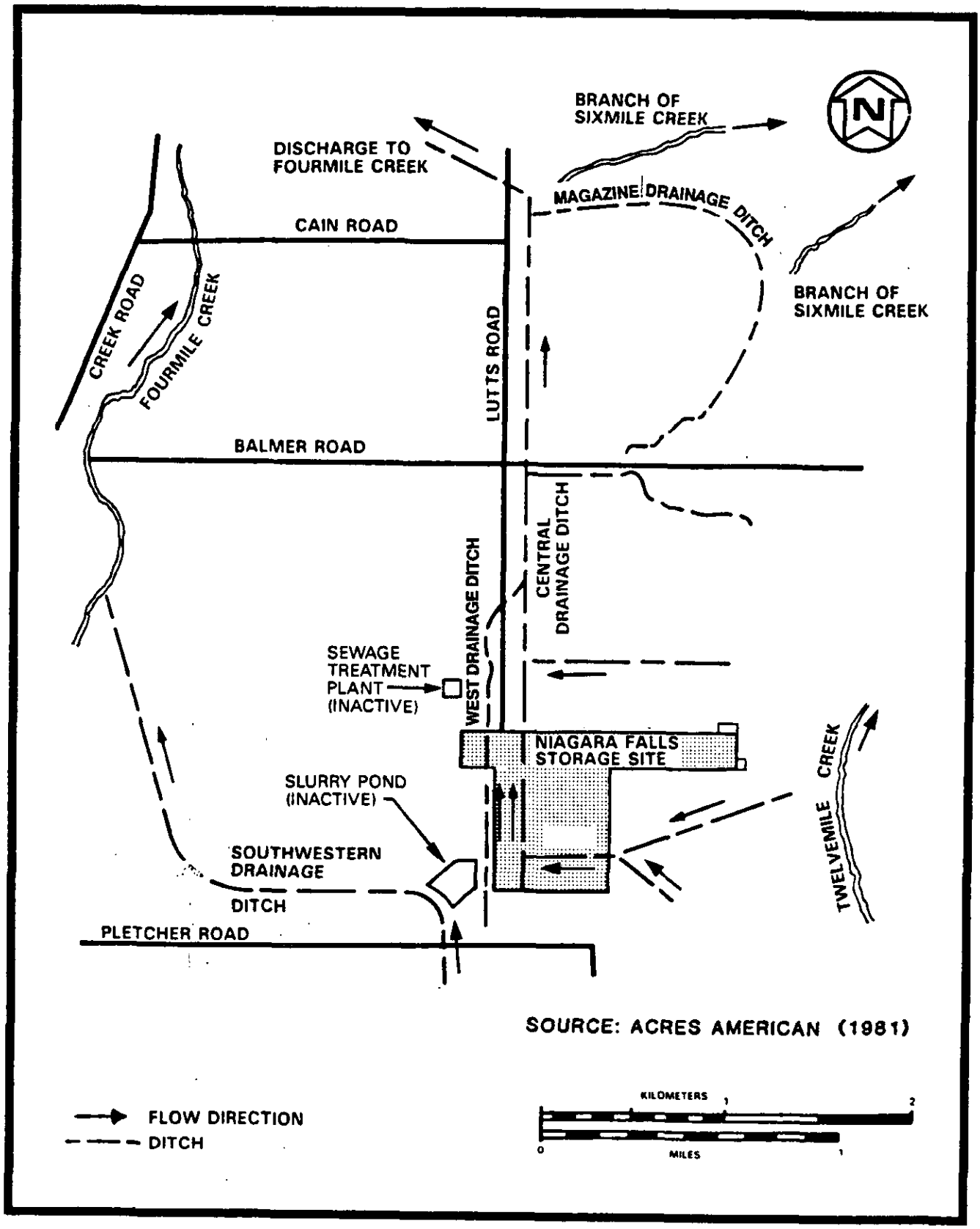

FIGURE 1-3 LOCATIONS OF CENTRAL AND WEST DRAINAGE DITCHES

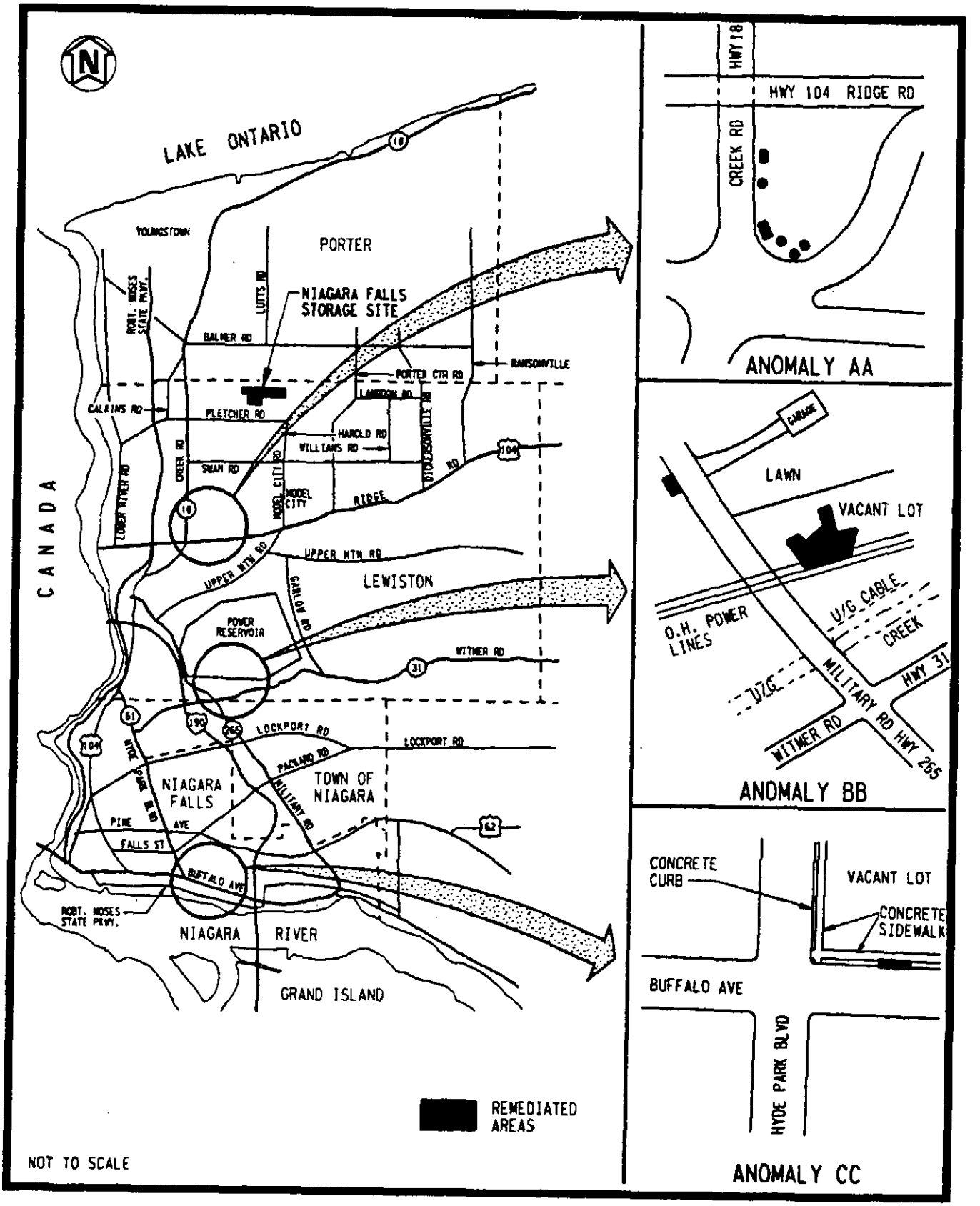

FIGURE 1-4 LOCATIONS OF ANOMALIES AA, BB, AND CC

2.0 SITE HISTORY

NFSS is a DOE facility that covers approximately 77 ha (191 acres) and is used for the storage of radioactive residues, soils, and rubble. NFSS is located approximately 16 km (10 mi) north of the City of Niagara Falls and lies within the Town of Lewiston, New York.

Both NFSS and NFSS vicinity properties were part of the U.S. Army's original 3,035-ha (7,500-acre) Lake Ontario Ordnance Works (LOOW), which was constructed and used for trinitrotoluene (TNT) production early in World War II. The site never went into TNT production and was subsequently reassigned to the Army Corps of Engineers - Manhattan Engineer District (MED). From 1944 to 1947, MED used the LOOW to store uranium ore processing residues from a ceramics plant. By 1948, 2,428 ha (6,000 acres) of the LOOW had been transferred or sold by the War Assets Administration. Ownership of the remaining 607 ha (1,500 acres) was given to the newly formed Atomic Energy Commission (AEC). AEC continued to use the 607-ha (1,500-acre) LOOW site to store additional residues. In addition to the storage of uranium ore processing residues, LOOW was also used for interim storage of uranium metal billets (rods) and as a disposal site for radioactive wastes. On-site storage operations had ceased by 1953, and an on-site steam plant was modified to separate nonradioactive isotopes of boron. The plant was in operation between 1953 and 1959 and again between 1965 and 1971. During the first period, a major cleanup of the site included consolidating and removing surface debris and shipping most of these wastes to Oak Ridge, Tennessee. Radioactively contaminated soils and residues were left at the site. From 1955 to 1975, more than 526 ha (1,300 acres) of the LOOW were transferred or sold to private concerns, leaving 77 ha (191 acres) as the current NFSS (USATHAMA 1981).

As a result of operations at the site, some portions of the former LOOW--other than the present NFSS--were also contaminated. In addition, some of the radioactive materials stored at NFSS over the

years were subject to water and wind erosion or otherwise migrated off-site onto other properties. DOE refers to all of the off-site contaminated properties as "the NFSS vicinity properties." DOE surveyed the NFSS vicinity properties for remedial action under FUSRAP and developed a remedial action plan to remove the contamination.

From 1983 to 1986, the NFSS vicinity properties described in Section 3.0 were decontaminated. The contaminated materials were disposed of at a waste containment facility located on NFSS. Post-remedial action surveys have demonstrated--and DOE has certified--that the listed properties are in compliance with DOE decontamination criteria and standards and that future use of the properties will result in no radiological exposure above current applicable radiological guidelines established to protect members of the general public or site occupants. NFSS is shown in Figure 1-1. The locations of the vicinity properties in relation to NFSS are shown in Figure 1-2. The Central and West Drainage Ditches are shown in Figure 1-3.

In addition to these properties, three properties, one each in the City of Niagara Falls and the towns of Niagara Falls and Lewiston, were identified late in 1985 as being radioactively contaminated based on results of a radiological survey conducted from a scanning van. These additional properties are referred to as the three anomalies and were cleaned as part of the remedial action conducted at the NFSS vicinity properties. The locations of these anomalies are shown in Figure 1-4.

In 1981, DOE chose Bechtel National, Inc. (BNI) as the FUSRAP project management contractor (PMC) for the NFSS project. Since then, BNI has been custodian of NFSS responsible for conducting remedial action at the site, as well as at the off-site or vicinity properties.

3.0 PROPERTY DESCRIPTIONS

The properties discussed in this report are described briefly below, and are shown in Figures 1-2 through 1-4.

3.1 PROPERTY A

Property A is approximately 1,285 m (4,216 ft) long; its width ranges from approximately 345 m (1,132 ft) to 365 m (1,198 ft). The property is bounded on the north by Balmer Road and on the south by H Street. Security fences form the east and west property boundaries. Castle Garden Road passes through the property. The property is undeveloped.

3.2 PROPERTY B

Property B is rectangular and is approximately 500 m (1,640 ft) long by 495 m (1,624 ft) wide. The western and northern boundaries are MacArthur Street and H Street, respectively. A haul road that runs parallel to an unused railroad track forms the southern boundary. The eastern boundary is a chain link fence. Marshall Street and J Street are contained within Property B. A warehouse is in the northeastern portion of the property, between Marshall Street and the railroad tracks, and a paved parking area is at the intersection of H Street and Marshall Street. The remainder of the property is not used.

3.3 PROPERTY C'

This property is undeveloped. The eastern portion contains swampy areas and has been determined by the State of New York to be a "wetlands" area. The property is fenced on the north, east, and west sides. A partially removed railroad track forms the southern property boundary.

3.4 PROPERTY D

Property D is rectangular and measures approximately 812 m (2,664 ft) long by 280 m (919 ft) wide. The site is bounded on the north, east, and west by H Street, MacArthur Street, and 5th Street, respectively. The western portion is occupied by landfills accessible by unpaved roads. Four chemical waste treatment ponds are on the property.

3.5 PROPERTY F

This property is approximately rectangular, measuring 670 m (2,198 ft) long by 400 m (1,312 ft) wide on the western side and 345 m (1,132 ft) wide on the eastern side. It is bounded on the west, north, and east by Castle Garden Road, M Street, and MacArthur Street, respectively. The southern boundary is a security fence that separates this property from NFSS. This property is occupied by landfills, salt areas, and waste treatment ponds. There are no permanent buildings on Property F.

3.6 PROPERTY H'

Property H' is rectangular and measures approximately 180 m (591 ft) by 90 m (295 ft). It is bounded on the west, south, and east by Wesson Road, M Street, and 5th Street, respectively. The land is level except for several drainage ditches near the center of the property and some low-lying areas scattered throughout the property. There are no buildings on Property H', but several small concrete pads are located on the eastern portion.

3.7 PROPERTY L

This property is rectangular and measures 375 m by 315 m (1,230 ft by 1,034 ft). The southern and eastern property boundaries are Pletcher Road and Campbell Street, respectively. The northern boundary is the fence that surrounds NFSS. The Central Drainage

Ditch originates on Property L. Several storm sewer gratings, manholes, and fire hydrants are scattered throughout the property. Property L is undeveloped.

3.8 PROPERTY M

Property M measures 320 m by 330 m (1,050 ft by 1,083 ft). The southern, western, and eastern property boundaries are formed by Pletcher Road, Campbell Street, and Castle Garden Road, respectively. The northern property boundary is the fence that surrounds NFSS. The eastern side of the property is heavily wooded. Several drainage ditches lie along Campbell Street and along the edge of the wooded area. There are two concrete pads on the northwest corner of the site. Property M is not used.

3.9 PROPERTY N/N' NORTH

Property N/N' North measures approximately 1,220 m (4,003 ft) long; its width ranges from 630 m to 668 m (2,061 ft to 2,192 ft). The western property boundary lies 15.25 m (50 ft) from the center line of Castle Garden Road. The western half of the northern property boundary lies 15.25 m (50 ft) south of the center line of O Street. A demolished railroad track lies along the eastern half of the northern property boundary. A security fence forms the eastern boundary. There are haul roads, an out-of-service railroad track, and drainage ditches on the property. The State of New York has identified the northeast corner of Property N/N' North as a "wetlands" area. The western half of the property is being used as a sanitary landfill.

3.10 PROPERTY N'

Property N' is bounded by Track Street and South Track Street. An unused railroad track passes through the center of the property; the rest of the property is undeveloped.

During the early 1950s, the N' Property was used for temporary storage and for classification of contaminated scrap from dismantled MED/AEC facilities. Much of this material was removed during the 1950s.

3.11 A PORTION OF MODERN LANDFILL, INC. PROPERTY ON N/N' NORTH

This property is triangular and is bounded by Vine and O Streets and by Castle Garden Road. It is presently used as a landfill and contains several trenches.

3.12 PROPERTY N/N' SOUTH

Property N/N' South is bounded on the west and southeast by Castle Garden Road and South Patrol Road, respectively. The Town of Lewiston property borders N/N' South on the south, and Modern Landfill, Inc., owns the property to the north. Major drainage ditches lie along Track Street and South Track Street on both sides of the southwestern portion of the out-of-service railroad tracks and in the northwest corner of the property. Property N/N' South is thickly wooded except for the Track Street area and the northwest corner.

Two areas of this property were previously used for handling or storing contaminated material and low-level radioactive wastes. The Track Street area was used for temporary storage of metal scrap, building rubble, and other miscellaneous material. Some of this material was radioactively contaminated.

3.13 PROPERTY P

Property P is approximately 490 m (1,608 ft) long and ranges in width from approximately 128 m (420 ft) at the south end to 185 m (607 ft) at the northern border. The north, south, and west property boundaries are Balmer Road, I Street, and Lutts Road, respectively. The Central Drainage Ditch easement forms the

eastern boundary. There are three buildings on the property and several access roads and paved parking areas in the vicinity of these buildings.

3.14 PROPERTY Q

Property Q is L-shaped and is bounded on the south and west by Swann Road and Harold Road, respectively. The northern boundary is a fence that divides the property owned by the Town of Lewiston from that owned by Modern Landfill. The northeast boundary of the property is formed by South Patrol Road. There are several buildings on the extreme southern end of the property. The northern portion of the property is being used by the Town of Lewiston as a landfill. Three warehouses were located on Property Q during AEC/MED operations; these structures have since been demolished or destroyed by fire. There is no indication that these warehouses were used for radioactive waste storage.

3.15 PROPERTY R

Property R is rectangular and measures approximately 190 m by 120 m (623 ft by 394 ft). Pletcher Road forms the southern boundary of the property. Drainage ditches are located along the eastern and western boundaries. Power transmission lines cross the property in a north-south direction, and a paved road provides access to these power lines. There are no structures on Property R.

3.16 PROPERTY S

This property is bounded by M Street on the north and by Campbell Street on the east. NFSS is located directly south of the property. The Town of Lewiston owns a section of Property X immediately bordering Property S on the west. There are no structures on this property; however, there is a concrete pad adjacent to M Street. The Central Drainage Ditch passes through Property S in a north-south direction.

3.17 PROPERTY T

Property T measures approximately 420 m (1,378 ft) long by 235 m (771 ft) wide. The property is bounded by I Street on the north, M Street on the south, Wesson Road on the east, and Lutts Road on the west. Sections of the West and Central Drainage Ditches pass through the property. Out-of-service railroad tracks are located on the western side of Property T. All the structures on this property were constructed for the Mathieson rocket fuel operations. Concrete pads and foundations remain at various locations on the property, indicating additional structures were present at one time.

3.18 PROPERTY U

Property U is approximately 120 m (394 ft) long by 310 m (1,017 ft) wide. The eastern, western, and southern property boundaries are formed by security fences. I Street is located just outside the southern perimeter fence line. Wesson, H, and 5th Streets, and several unnamed roads pass through the property. There is an out-of-service railroad track on the western portion of the site. There are also several structures and a larger number of concrete slabs. Most of the buildings are badly deteriorated. The Central Drainage Ditch passes along the western perimeter of the site. MED/AEC activity on this property included the construction of the Mathieson rocket fuel facility.

3.19 PROPERTY V

Property V is rectangular and measures approximately 360 m by 310 m (1,181 ft by 1,017 ft). The northern and southern property boundaries are formed by Balmer Road and H Street, respectively. A security fence runs along the eastern and western property boundaries. A fence also runs parallel to Balmer Road near the northern perimeter of the property. There are several interior roads and small ditches. Major drainage ditches lie parallel to

and outside of the eastern security fences on the western and northern sides. The Central Drainage Ditch is the major ditch. There are buildings and numerous foundations and slabs from previous structures on this property. Operations conducted on this property by the MED/AEC include the construction of the Mathieson rocket fuel facility.

3.20 PROPERTY W

Property W is roughly triangular. The southern boundary of the property is M Street. A chain link security fence forms the property boundary along the northwest perimeter. There are no structures on Property W. The West Drainage Ditch passes through the eastern section of the property.

3.21 PROPERTY X

Property X is roughly rectangular and measures approximately 223 m by 404 m (732 ft by 1,326 ft). M Street forms the northern property boundary. NFSS is located to the south of Property X. West Patrol Road and Lutts Road cross the property in the north-south direction along the western and eastern perimeters, respectively. Located near the center of Property X are facilities previously used for treatment of sanitary sewage effluents from the LOOW. Operation of the sewage treatment plant ceased in the mid-1970s, and the facilities have since deteriorated. The West Drainage Ditch passes through the property in a north-south direction. A chain link fence surrounds the property.

3.22 WEST DRAINAGE DITCH

The West Drainage Ditch is one of two major drainage ditches that flow on and off NFSS. The West and Central Drainage Ditches are shown in Figure 1-3. The West Drainage Ditch became radioactively contaminated as a result of surface erosion over the years. The

West Drainage Ditch begins at a point to the south of NFSS and flows northward for approximately 1,372 m (4,500 ft), where it intersects with the Central Drainage Ditch just north of NFSS.

3.23 CENTRAL DRAINAGE DITCH

The Central Drainage Ditch (the larger of the two major ditches) originates on Property L on NFSS. It flows north approximately 5.63 km (3.5 mi) to its confluence with Fourmile Creek northwest of NFSS.

3.24 AREAS ALONG PLETCHER ROAD

Several areas along the shoulders of Pletcher Road (Figure 1-4), from the intersection of Campbell Street and Pletcher Road to Creek Road, were identified as having elevated gamma radiation levels.

3.25 ANOMALY AA

A number of small areas with high gamma radiation levels located at the junction of New York Routes 18 and 104 in the Town of Lewiston are referred to collectively as Anomaly AA (Figure 1-4). The radioactive contamination in this area originated from the phosphate slag material used as bedding for asphalt driveways and fill rather than from materials connected with NFSS.

3.26 ANOMALY BB

A number of small areas with elevated gamma radiation levels located near the junction of Highway 31 and Military Road in the Town of Niagara Falls are referred to collectively as Anomaly BB (Figure 1-4). The radioactive contamination in this region originated from the phosphate slag material used as bedding for asphalt driveways and fill rather than from materials connected with NFSS.

3.27 ANOMALY CC

A number of small areas with elevated gamma radiation levels are located near the junction of Buffalo Avenue and Hyde Park Boulevard in the City of Niagara Falls; these areas are referred to as Anomaly CC (Figure 1-4). The radioactive contamination in this region originated from the phosphate slag material used as bedding for asphalt driveways and fill rather than from materials connected with NFSS.

4.0 RADIOLOGICAL HISTORY AND STATUS

4.1 RADIOLOGICAL SURVEYS

During October 1970 and June 1971, radiological surveys of the approximately 526 ha (1,300 acres) formerly held by the AEC indicated that contamination levels on approximately 2.6 ha (6.5 acres) exceeded the AEC exposure guideline of 50 μR/h then in effect. As a result of this survey, 12,000 m^3 to 15,000 m^3 (15,000 to 20,000 yd^3) of contaminated soil and debris were removed and transported to NFSS during 1972.

In 1971, an aerial survey of the greater Niagara Falls area was conducted by EG&G (EG&G 1971). This survey identified several areas of high gamma radiation levels. Most of these areas were later shown to contain a slag-type material similar to wollastonite ($CaSiO_3$). This material was reported to be of natural origin, probably the by-product of a local phosphorous extraction process. Other areas identified as contaminated were locations of known contamination such as the Linde Plant and NFSS.

In 1979 and 1980, Battelle Columbus Laboratories conducted a comprehensive radiological characterization at NFSS, including on- and off-site portions of the West and Central Drainage Ditches (Battelle 1981). This survey identified contamination in excess of DOE guidelines along the entire length of the West Drainage Ditch and most of the Central Drainage Ditch.

From 1981 to 1985, Oak Ridge Associated Universities (ORAU) and Oak Ridge National Laboratory (ORNL) performed radiological surveys of the approximately 526 ha (1,300 acres), formerly a part of the AEC's LOOW, that lie outside of the current NFSS (EG&G 1971; ORAU 1983a-f, 1984a-s; ORNL 1981 and 1986). Twenty-four of these properties were surveyed by ORAU. The inaccessible part of property N/N' North, owned by Modern Landfill, Inc., and Property O, which was inaccessible until 1985 because of delays in obtaining

an access permit, were surveyed by ORNL. Of the 25 properties, 21 were found to be contaminated in excess of DOE guidelines, two were found to be free of above-guideline contamination, and two were too close to a storage area containing uranium ore residues to allow accurate measurement of the low-level radiation. Following removal of residues from the storage area, these two properties were re-surveyed, found to be contaminated, and cleaned. In addition to these properties, the section of Pletcher Road between the entrance to NFSS and Creek Road was decontaminated in 1985 based on results of ORAU surveys (DOE 1983 and ORAU 1983f). Three more properties, one each in the City of Niagara Falls and the towns of Niagara Falls and Lewiston, were designated for remedial action in late 1985 based on results from an ORNL radiological scan performed by a mobile van and subsequent ground surveys of the areas showing high gamma radiation levels (ORNL 1985a-e). These three properties are referred to in this report as Anomalies AA, BB, and CC.

4.2 REMEDIAL ACTION GUIDELINES

The DOE guideline for residual radioactivity from radium-226 (the principal contaminant at NFSS), thorium-230, thorium-232, and radium-228 in surface soil is 5 pCi/g above the background level. Table 4-1 summarizes the DOE guidelines for residual contamination; the complete guidelines are provided in Appendix A. The concentrations of these radionuclides are averaged over a 100-m^2 (1,076-ft^2) area, and to a depth of 15 cm (6 in.). Below the 15-cm (6-in.) depth, the guideline increases to 15 pCi/g above background for each successive 15-cm (6-in.) layer within the 100-m^2 (1,076-ft^2) area (DOE 1985c). During previous surveys, the guideline for total uranium was 75 pCi/g above background (DOE 1984). However, the current guidelines for uranium-234, uranium-235, and uranium-238 (the isotopes comprising total uranium), are 44, 2, and 44 pCi/g, respectively, above background (DOE 1988). Argonne National Laboratory (ANL) conducted a site-specific study to outline the residual radioactive material guideline for the NFSS vicinity properties. Based on this study,

Table 4-1

Summary of Residual Contamination Guidelines for the NFSS Vicinity Properties

BASIC DOSE LIMITS

The basic limit for the annual radiation dose received by an individual member of the general public is 100 mrem/yr.

SOIL (LAND) GUIDELINES

Radionuclide	Soil Concentration (pCi/g) above background[a,b,c]
Radium-226 Radium-228 Thorium-230 Thorium-232	5 pCi/g, averaged over the first 15 cm of soil below the surface; 15 pCi/g when averaged over any 15-cm-thick soil layer below the surface layer.
Total Uranium	90 pCi/g[d]
Cesium-13	33 pCi/g
Other radionuclides	Soil guidelines will be calculated on a site-specific basis using the DOE manual developed for this use.

STRUCTURE GUIDELINES

Airborne Radon Decay Products

Generic guidelines for concentrations of airborne radon decay products shall apply to existing occupied or habitable structures on private property that has no radiological restrictions on its use; structures that will be demolished or buried are excluded. The applicable generic guideline (40 CFR 192) is: In any occupied or habitable building, the objective of remedial action shall be, and reasonable effort shall be made to achieve, an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 WL.[e] In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL. Remedial actions are not required in order to comply with this guideline when there is reasonable assurance that residual radioactive materials are not the cause.

External Gamma Radiation

The average level of gamma radiation inside a building or habitable structure on a site that has no radiological restrictions on its use shall not exceed the background level by more than 20 μR/h.

Indoor/Outdoor Structure Surface Contamination

	Allowable Surface Residual Contamination[f] (dpm/100 cm^2)		
Radionuclide[g]	Average[h,i]	Maximum[i,j]	Removable[i,k]
Transuranics, radium-226, radium-228, Th-230, Th-228 Pa-231, Ac-227, I-125, I-129	100	300	20
Th-Natural, Th-232, Sr-90, radium-223, radium-224 U-232, I-126, I-131, I-133	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay products	5,000 α	15,000 α	1,000 α

Table 4-1
(continued)

Indoor/Outdoor Structure Surface Contamination (continued)

Radionuclide[g]	Allowable Surface Residual Contamination[f] (dpm/100 cm^2) Average[h,i]	Maximum[i,j]	Removable[i,k]
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5,000 β-α	15,000 β-α	1,000 β-α

[a]These guidelines take into account ingrowth of radium-226 from thorium-230 and of radium-228 from thorium-232, and assume secular equilibrium. If either thorium-230 and radium-226 or thorium-232 and radium-228 are both present, not in secular equilibrium, the guidelines apply to the higher concentration. If other mixtures of radionuclides occur, the concentrations of individual radionuclides shall be reduced so that the dose for the mixtures will not exceed the basic dose limit.

[b]These guidelines represent allowable residual concentrations above background averaged across any 15-cm-thick layer to any depth and over any contiguous 100-m^2 surface area.

[c]Localized concentrations in excess of these limits are allowable provided that the average concentration over a 100-m^2 area does not exceed these limits.

[d]Revised guideline assumes 44 pCi/g uranium-234, 44 pCi/g uranium-238, and 2 pCi/g uranium-235 (DOE 1988).

[e]A working level (WL) is any combination of short-lived radon decay products in 1 liter of air that will result in the ultimate emission of 1.3×10^5 MeV of potential alpha energy.

[f]As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[g]Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

[h]Measurements of average contamination should not be averaged over more than 1 m^2. For objects of less surface area, the average shall be derived for each such object.

[i]The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm.

[j]The maximum contamination level applies to an area of not more than 100 cm^2.

[k]The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. The numbers in this column are maximum amounts.

DOE established remedial action guidelines of 90 pCi/g for total uranium and 33 pCi/g for cesium-137 (DOE 1988). The remedial action performed during 1983 and 1984 at these vicinity properties, however, brought the subject properties into compliance with the more stringent 75-pCi/g guideline in effect at that time.

The topography and long-term land usage of the Central Drainage Ditch indicated that certain radiation exposure pathways were not realistic. Therefore, several exposure pathways were evaluated to develop a specific guideline for this ditch. Based on this evaluation, DOE established a supplemental guideline of 20 pCi/g for radium-226, which is four times the general remedial action guideline of 5 pCi/g for radium-226 in surface soil (BNI 1986c).

Similarly, pathways analyses were performed to develop specific guidelines for soils and structures on Property B, which is part of a landfill licensed to dispose of PCBs. The concentrations of radionuclides in the soils on Property B comply with the guidelines specified in Table 4-1. However, a warehouse contaminated with radium-226 and presently used for storing PCBs remains on the property. An analysis was performed to verify that the structure could be demolished and the rubble buried in an environmentally acceptable manner (BNI 1987a). Demolition and burial of the warehouse at least 15 cm (6 in.) beneath the surface of the ground in a burial area were found to be feasible means of reducing radiation to below-guideline levels.

4.3 POST-REMEDIAL ACTION STATUS

As shown in the post-remedial action reports for these properties (ORAU 1982; Eberline undated; DOE 1985a-b; BNI 1986a and 1989), the soil samples taken after the radioactive materials were removed show that there is no area where radioactive contamination exceeds DOE guidelines. An independent review of the remedial action performed on the properties discussed in this report was conducted by an independent verification contractor (IVC), the Radiological

Site Assessment Survey Team of ORAU (ORAU 1986, 1989, and 1990). The purpose of the IVC assessment was to verify the data supporting the adequacy of the remedial action performed by BNI and to confirm that upon completion of remedial action, the NFSS vicinity properties were in compliance with the existing remedial action guidelines. Based on all data collected, these properties conform to all applicable DOE radiological guidelines established for release of these properties for future use.

5.0 SUMMARY OF REMEDIAL ACTION

The following subsections briefly describe the remedial action process conducted at the NFSS properties from 1983 through 1986 and the measures taken to protect the public and the environment.

5.1 PRE-REMEDIAL ACTION ACTIVITIES

Based on the radiological survey results, DOE "designated" the properties for remedial action; i.e., when radionuclide concentrations were found to exceed the guidelines listed in Table 4-1, contamination was removed from the property until the concentrations were within guideline values.

Alternatives to the remedial action and methods for performing the remedial action were then considered. For these properties, five alternatives were evaluated (ANL 1983 and 1984; DOE 1986).

One alternative was to take no action. This would have resulted in continued exposure to elevated levels of radioactivity of those people working on the contaminated properties. Selection of this alternative would also result in continuing concerns about health effects and could adversely affect property values (ANL 1983 and 1984; DOE 1986).

A second alternative was to delay action. This would have permitted further characterization of (1) areas that were identified during walkover scans as having elevated radiation levels but which were not sampled, (2) the parts of the properties that were inaccessible during previous surveys, and (3) areas exhibiting subsurface anomalies on the radiological scans to determine whether hazardous chemicals were present (ANL 1983 and 1984; DOE 1986).

A third alternative was to clean up contamination from nongovernment activities concurrently with remedial action being conducted under FUSRAP; however, DOE had no authority or funds to

clean up contamination resulting from nongovernment activities in the NFSS area (ANL 1983 and 1984; DOE 1986).

A fourth alternative was to move the radioactively contaminated wastes directly to other sites for long-term management. This offered the advantage of having to move the wastes only once should NFSS not be identified eventually as a long-term management facility, however, a permanent site for long-term management has not yet been identified. Funds were allocated for excavation and interim storage (ANL 1983 and 1984; DOE 1986).

A fifth alternative was to remove the contaminated wastes to NFSS; this alternative was chosen (ANL 1983).

Before remedial action was performed, access agreements were obtained from individual property owners authorizing entry to the property and granting permission to do the work. The agreements, termed Memo Agreements, granted DOE and its subcontractors the right to perform the remedial action. They also stated the scope of work and DOE responsibilities. Concurrently, BNI began engineering design work and related activities to hire local subcontractors to perform the cleanup work (DOE 1985d-e).

5.2 DECONTAMINATION ACTIVITIES

After the access agreements had been obtained, the design work completed, and a subcontract awarded, the local subcontractor began work. The subcontractor excavated the property based on drawings that showed the extent of contamination for each property. The subcontractor then removed the soil as indicated in the drawings, placed it in watertight dump trucks to prevent the spread of contamination to work areas and haul routes, and transported it to the waste containment facility at NFSS.

After the radioactively contaminated materials were removed, the properties were restored to their original conditions. This included backfilling the excavated areas with clean fill material.

During the cleanup, the subcontractor was required to keep all work areas free from airborne dust. This was accomplished by spraying contaminated areas with water. Personnel trained in radiation protection observed all operations to ensure that established safety procedures were followed. Air radon monitoring was performed at off-site locations to demonstrate compliance with DOE standards.

Haul trucks were surveyed for radioactive contamination before leaving the loading area. If contamination was found, it was removed before the truck was allowed to leave the loading area. Using this combination of procedures, the subcontractor controlled the contamination and prevented its spread outside controlled areas.

5.3 POST-REMEDIAL ACTION MEASUREMENTS

After the soil containing the radioactive contaminants was removed, another radiological survey was conducted to ensure that the excavated area complied with remedial action guidelines before the area was backfilled. This survey used the techniques outlined below.

5.3.1 Surface Gamma Radiation Scans

Two types of gamma radiation scans were conducted to determine whether all radioactively contaminated soil was removed. The first was a walkover scan. In this type of survey, the technician holds the radiation detector a few inches above the surface and moves it slowly from side to side as he walks over the excavated area. The purpose of a walkover scan is to quickly detect areas of residual contamination. The advantage of this type of survey is that the area can be scanned as the excavation proceeds.

The second gamma radiation scan was performed after all contamination detected by the walkover scan was removed. This

survey used a lead-shielded detector to ensure that the only radiation detected was coming from the ground under the detector. Measurements were made at 30 cm (12 in.) above the ground surface at each grid intersection point [3-m (10-ft) intervals].

5.3.2 Soil Sampling

The primary method of ensuring compliance with DOE guidelines was to take soil samples. These samples were collected at grid intersections [6 m (20 ft) apart] and were analyzed in a laboratory to determine the concentrations of thorium, radium, and uranium. Results of these analyses were used to demonstrate that remaining contamination, if any, was within DOE guidelines.

5.3.3 Radon Monitoring

Because radium was one of the radioactive materials found in the wastes, radon and radon decay products were monitored at 30 off-site locations. Radon is produced from the radioactive decay of radium and can be used as an indication of the presence of radium. None of the radon levels at the vicinity properties exceeded guidelines.

5.4 HAZARD ASSESSMENTS

In addition to the remedial action conducted on the vicinity properties, a hazard assessment was performed on an unexcavated section of the Central Drainage Ditch to determine whether remedial action was required. Results of the assessment indicated that the resulting dose to the public would be only a small fraction of the radiation protection standard (100 mrem/yr); therefore, DOE determined that decontamination of the Central Drainage Ditch met the radiation protection standard (DOE 1985b; BNI 1986a). The hazard assessment for the unexcavated section of the Central Drainage Ditch is contained in Appendix A of this docket.

A hazard assessment was also performed on portions of Property B to develop specific guidelines for soils or structures on this property. The assessment is provided in Appendix B of this docket.

5.5 VERIFICATION ACTIVITIES

The IVC is responsible for preparing a generic plan outlining the procedures to be used during verification activities. The IVC may conduct two types of verification reviews (Types A and B) at a site or group of properties. Type A verification reviews include a review of the remedial action and radiological subcontractor's data, and possibly the analyses of some samples. Type B verification reviews include an on-site visit and survey involving direct measurements and sampling and/or split sample analyses. The IVC may increase or decrease the scope of the verification survey on the basis of field data.

Beginning in April 1986, the Environmental Survey and Site Assessment Program of ORAU performed activities to independently verify the adequacy of remedial actions on 11 vicinity properties, Pletcher Road, and three off-site anomalies. The verification activities included document reviews, laboratory confirmation analyses, and independent measurements and sampling. Initial measurements and samples indicated that remediation had been effective in satisfying the established DOE guidelines for this project; however, small isolated areas of residual contamination were identified on some vicinity properties. Further remediation was performed, followed by additional verification measurements and samples, continuing into mid-1987. Based on the results and findings of these activities, it is ORAU's opinion that the remedial action was effective in satisfying the established DOE guidelines and that the documentation supporting the remedial action process is adequate and accurate (ORAU 1989 and 1990).

5.6 PUBLIC AND OCCUPATIONAL EXPOSURES

5.6.1 Public Exposure

Mound Laboratories performed radon monitoring at 30 off-site locations from 1981 through 1985. In 1984, 29 additional off-site monitoring locations were added to the existing program to measure concentrations of radon-222, the primary contaminant of concern, emitted to the environment at large. Eleven off-site monitoring locations were established for calendar year 1986. Mound's program uses passive environmental radon monitors, which have a thermoluminescent dosimeter (TLD) as the detection element. The TLDs were changed on a weekly basis. Monthly values for all years, 1981 through 1986, are within the expected range of natural background. In addition, direct gamma radiation monitoring for July 1984 at the additional 29 off-site locations indicated an average of 14 μR/h, with a range of 6 to 25 μR/h.

Data from radiological monitoring of off-site properties are presented in detail in the annual site environmental reports for NFSS (BNI 1983 a-b; BNI 1984a-b; 1985; 1986b; 1987b). A summary of monitoring from these reports is presented in Table 5-1.

5.6.2 Occupational Exposure

A health physics program conducted during remedial action consisted of contamination control, management of occupational exposures, and radiological monitoring.

During the remedial action period, 548 employees working on the NFSS vicinity properties were monitored for exposure to external beta-gamma radiation. Monitoring results indicated that 432 employees -- or almost 79 percent -- received no measurable exposures over their entire working period. Of the remaining 116 employees who received a measurable dose, only four received a dose exceeding 100 mrem. These doses were annual doses received in

Table 5-1

Radon Monitoring Results for NFSS

Vicinity Properties, 1981-1986

Year	Range (pCi/L)	Annual Average (pCi/L)	Percent of DOE Standard[a]
1981	0.11 - 0.89	0.25	8.3
1982	0.07 - 0.54	0.25	8.3
1983	0.10 - 0.50	0.18	6.0
1984	0.13 - 0.35	0.22	7.3
1985	0.10 - 0.48	0.23	7.8
1986	0.17 - 0.28	0.20	6.8

[a]The DOE guideline for radon-222 is 3 pCi/L of air for uncontrolled areas (DOE 1981).

1984 and 1985. Three of the doses ranged from 145 to 153 mrem/yr, while the fourth employee received the highest dose of 351 mrem/yr. These doses are well below the annual exposure limit for occupational workers of 5,000 mrem/yr established by DOE (DOE 1981). In fact, the highest dose is only 7 percent of this annual limit.

The exposure data shown in Table 5-2 reflect the number of employees in the appropriate dose-range category for the monitoring period.

The employees received an average of only about 7 mrem over the entire work period.

During the years 1983 through 1986, 3,660 urine samples from personnel working on the vicinity properties were analyzed to monitor workers for potential internal exposure to radionuclides, principally via the inhalation pathway. Of the samples analyzed, only three -- or about 0.08 percent -- showed activity at the action level requiring resampling and an evaluation of work conditions. None of the workers required work restrictions of any kind. The highest radium-226 concentration was 0.91 pCi/L, and the highest total uranium concentration was 18 μg/L. These values were only slightly higher than the operating procedure action levels of 0.7 pCi/L and 15 μg/L for radium-226 and natural uranium, respectively.

A second set of urinalyses showed no significant internal deposition of radionuclides. The conclusion is that the contribution of any internal dose to the total exposure dose would be insignificant.

Table 5-3 summarizes the urinalysis data for the years 1983 through 1986.

Table 5-2

Personnel Exposure Summary for Remedial Action at NFSS Vicinity Properties, 1983-1986

Number of Employees[a]	432	51	30	18	13	4
Dose Range (mrem)	0	1-20	20-40	40-60	60-100	100-351

[a]The doses for these individuals were annual doses.

Table 5-3

Summary of Urinalysis Data for Remedial Action at NFSS Vicinity Properties, 1983-1986

Year	Number of Radium-226 Analyses	Number of Total Uranium Analyses	Number of Results Greater Than Action Level[a]
1983	907	896	2
1984	1229	1228	0
1985	1066	1069	1
1986	458	458	0
Total	3660	3651	3

[a]Urinalysis results were only slightly higher than the action levels that required resampling and an evaluation of work conditions. None of the results was above the action level that requires work restriction.

5.7 COST

The costs accrued by Bechtel National, Inc., for the cleanup of the NFSS vicinity properties are given in Table 5-4.

Table 5-4

Costs Associated with Remedial Action at NFSS Vicinity Properties[a]

Activity	Year					
	Inception through 1983	1984	1985	1986	1987	Total
Site Characterization		79,370	101,089	8,031		188,490
Design Engineering		202,734	332,118	175,981	9,000	719,833
Remedial Action		3,309,800	4,009,895	2,993,238	241,000	10,553,933
Site Surveillance		-0-	-0-	58,812	-0-	58,812
Final Engineering Report		-0-	30,011	51,558	114,000	195,569
Project Management		674,043	1,118,621	1,049,285	203,000	3,044,949
Prior Years[b]	4,780,714					4,780,714
TOTAL	4,780,714	4,265,947	5,591,734	4,336,905	567,000	19,542,300

[a]Costs in dollars

[b]Costs relating to pre-BNI activities.

References

1. Argonne National Laboratory, 1983. Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983 (Nonaccelerated Program), Argonne, Ill. (February).

2. Argonne National Laboratory, 1984. Addendum to Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983-85 Accelerated Program (1984 Vicinity Properties Cleanup) Argonne, ILL. (July)

3. Battelle Columbus Laboratories, 1981. A Comprehensive Characterization and Hazard Assessment of the DOE - Niagara Falls Storage Site, BMI-2074 (Revised), Columbus, Ohio (June).

4. Bechtel National, Inc.1983a. Niagara Falls Storage Site (NFSS) Environmental Monitoring Report, Calendar Year 1981, 10-5-202-001, Oak Ridge ,Tenn.(May).

5. Bechtel National, Inc. 1983b. Niagara Falls Storage Site (NFSS) Environmental Monitoring Report, Calendar Year 1982, 10-5-202-002, Oak Ridge, Tenn.(May).

6. Bechtel National, Inc. 1984a. Niagara Falls Storage Site (NFSS) Environmental Monitoring Report, Calendar Year 1983, DOE/OR/20722-18, Oak Ridge, Tenn. (July).

7. Bechtel National, Inc. 1984b. Construction Environmental Monitoring Report for the Niagara Falls Storage Site, DOE/OR/20722-46a, Oak Ridge, Tenn. (July).

8. Bechtel National, Inc. 1985. Niagara Falls Storage Site (NFSS) Environmental Monitoring Report Calendar Year1984 DOE/OR/20722-55, Oak Ridge, Tenn. (June).

9. Bechtel National, Inc., 1986a. Post Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties – 1983 and 1984, DOE/OR/20722-84, Oak Ridge, Tenn. (December).

10. Bechtel National, Inc. 1986b. Niagara Falls Storage Site Annual Site Environmental Monitoring Report Calendar Year1985 DOE/OR/20722-98, Oak Ridge, Tenn. (April).

11. Bechtel National, Inc. 1986c. Development of a Supplemental Residual Contamination Guideline for the NFSS Central Drainage Ditch, Oak Ridge, Tenn. (December).

12. Bechtel National, Inc. 1987a. Estimate of Radium-226 Concentrations in Rubbled PCB Warehouse on Vicinity Property B Adjacent to the Niagara Falls Storage Site Oak Ridge, Tenn. (May)

13. Bechtel National, Inc., 1987b. Niagara Falls Storage Site Annual Site Environmental Monitoring Report, Calendar Year 1986, DOE/OR/20722-150 Oak Ridge, Tenn.(June).

References

14. Bechtel National, Inc., 1989. Post Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties- 1985 and 1986, DOE/OR/ 20722-133, (Draft), Oak Ridge, Tenn. (January)

15. Department of Energy, 1980. Description of the Formerly Utilized Sites Remedial Action Program, ORO-777, Oak Ridge, Tenn. (September).

16. Department of Energy, 1981. Environmental Protection, Safety, and Health Protection Program for DOE Operations, Chapter XI, Requirements for Radiation Protection, DOE Order 5480.1A (August13).

17. Department of Energy, 1983. Letter J.E. Baublitz, Office of Nuclear Energy, to L. Campbell, Department of Energy, Oak Ridge Operations Office. "Designation of NFSS Vicinity Property – Areas along Pletcher Road (November 2).

18. Department of Energy, 1984. Energy Systems Acquisition Project Plan, Formerly Utilized Sites Remedial Action Program (FUSRAP), Attachment 5, "U.S. Department of Energy Interim Residual Contamination and Waste Control Guidelines for Formerly Utilized Sites Remedial Action Program (FUSRAP) and Remote Surplus Facilities Management Program (SFMP) Sites, "(Draft) (March 21).

19. Department of Energy, 1985a. Memorandum, E.L. Keller, Director, Technical Services Division, Oak Ridge Operations Office, Department Of Energy, to Lowell F. Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, Department of Energy. "NFSS: Central Ditch Cleanup and Easement Continuance" (May 7).

20. Department of Energy, 1985b. Memorandum, Lowell F. Campbell, Director, Technical Services Division, Oak Ridge Operations Office, Department Of Energy, to Joseph F. Nemec, Project Director – FUSRAP, Bechtel National Inc. "NFSS: Central Ditch Cleanup and Easement Continuance" (May 14).

21. Department of Energy, 1985c. "U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program sites" Rev.1 (July).

22. Department of Energy, 1985d. Niagara Falls Storage Site Project Management Plan, ORO-845, Rev.1, Oak Ridge, Tenn. (September).

23. Department of Energy, 1985e. Niagara Falls Storage Site Project Management Information Supplement ORO-845 Rev.1 Oak Ridge, Tenn. (September).

24. Department of Energy, 1986. Environmental Impact Statement, Long-Term Management of the Existing Radioactive Waste and Residues at the Niagara Falls Storage Site, DOE/EIS-0109F, Washington, DC (April).

References

25. Department of Energy, 1988. Memorandum, P.J. Gross, Oak Ridge Operations Office, to J.J. Fiore, Department of Energy Headquarters, Office of Nuclear Energy. "NFSS Residual Radioactive Material Guidelines," BNI CCN 055358 (August 30).

26. Eberline Instrument Corporation, undated. Remedial Action and Radiological Surveys Conducted at Property owned by Modern Landfill, Inc. Lewiston, New York, Formerly a portion of the Lake Ontario Ordnance Works.

27. EG&G, Inc. 1971. Summary Report-Aerial Radiological Survey, Niagara Falls Areas, New York, WAMD-010 (November).

28. Oak Ridge Associated Universities, 1982. Post Remedial Action Survey, Property of Modern Landfill, Inc., Former LOOW Site, Lewiston, New York, Oak Ridge, Tenn. (January).

29. Oak Ridge Associated Universities, 1983a. Comprehensive Radiological Survey Off-Site Property H', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (June).

30. Oak Ridge Associated Universities, 1983b. Comprehensive Radiological Survey Off-Site Property L, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

31. Oak Ridge Associated Universities, 1983c. Comprehensive Radiological Survey Off-Site Property M, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

32. Oak Ridge Associated Universities, 1983d. Comprehensive Radiological Survey Off-Site Property N/N' South, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (August).

33. Oak Ridge Associated Universities, 1983e. Comprehensive Radiological Survey Off-Site Property O, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (July).

34. Oak Ridge Associated Universities, 1983f. Preliminary Radiological Survey of Pletcher Road, Lewiston, New York, Oak Ridge, Tenn. (September 13).

35. Oak Ridge Associated Universities, 1984a. Comprehensive Radiological Survey Off-Site Property A, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

36. Oak Ridge Associated Universities, 1984b. Comprehensive Radiological Survey Off-Site Property B, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

References

37. Oak Ridge Associated Universities, 1984c. Comprehensive Radiological Survey Off-Site Property C, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

38. Oak Ridge Associated Universities, 1984d. Comprehensive Radiological Survey Off-Site Property C', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

39. Oak Ridge Associated Universities, 1984e. Comprehensive Radiological Survey Off-Site Property D, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

40. Oak Ridge Associated Universities, 1984f. Comprehensive Radiological Survey Off-Site Property F, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (February).

41. Oak Ridge Associated Universities, 1984g. Comprehensive Radiological Survey Off-Site Property H, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

42. Oak Ridge Associated Universities, 1984h. Comprehensive Radiological Survey Off-Site Property J, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

43. Oak Ridge Associated Universities, 1984i. Comprehensive Radiological Survey Off-Site Property K, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

44. Oak Ridge Associated Universities, 1984j. Comprehensive Radiological Survey Off-Site Property N, North Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

45. Oak Ridge Associated Universities, 1984k. Comprehensive Radiological Survey Off-Site Property N', North Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

46. Oak Ridge Associated Universities, 1984l. Comprehensive Radiological Survey Off-Site Property P, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

47. Oak Ridge Associated Universities, 1984m. Comprehensive Radiological Survey Off-Site Property R, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (February).

References

48. Oak Ridge Associated Universities, 1984n. Comprehensive Radiological Survey Off-Site Property S, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (February).

49. Oak Ridge Associated Universities, 1984o. Comprehensive Radiological Survey Off-Site Property T, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

50. Oak Ridge Associated Universities, 1984p. Comprehensive Radiological Survey Off-Site Property U, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (March).

51. Oak Ridge Associated Universities, 1984q. Comprehensive Radiological Survey Off-Site Property V, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (April).

52. Oak Ridge Associated Universities, 1984r. Comprehensive Radiological Survey Off-Site Property W, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (February).

53. Oak Ridge Associated Universities, 1984s. Comprehensive Radiological Survey Off-Site Property X, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn. (May).

54. Oak Ridge Associated Universities, 1986. Letter, J.D. Berger, Manager, Radiological Site Assessment Program, Oak Ridge Associated Universities, to E.G. Delaney, Director, Division of Facility and site Decommissioning Projects, Office of Nuclear Energy, U.S. Department of Energy, "Verification of Niagara Falls Storage Site Vicinity Properties-1983/1984 Remedial Actions," (October 21).

55. Oak Ridge Associated Universities, 1989. Verification of 1983 and 1984 Remedial Actions, Niagara Falls Vicinity Properties, Lewiston, New York, ORAU 89/J-178, Oak Ridge, Tenn. (December).

56. Oak Ridge Associated Universities, 1990. Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site Vicinity Properties, Lewiston, New York, Oak Ridge, Tenn. (July).

57. Oak Ridge Associated Universities, 1981. Radiological Survey of a Portion of Property owned by Modern Landfill, Inc.-Former LOOW Site- Summary Report, Oak Ridge, Tenn. (March).

58. Oak Ridge National Laboratory, 1985a Results of the Mobile Gamma Scanning Activities in Niagara Falls, New York, Area, ORNL/RASA-85/1, Oak Ridge, Tenn. (August).

References

59. Oak Ridge National Laboratory, 1986b. Results of Radiological Measurements Taken in the Niagara Falls, New York, Area (NF002), ORNL/TM-10076, Oak Ridge, Tenn. (November).

60. Oak Ridge National Laboratory, 1985c. Results of Radiological Measurements Taken near Junction of Highway 31 and Military Road in Niagara Falls, New York, ORNL/RASA-85/42, Oak Ridge, Tenn. (December).

61. Oak Ridge National Laboratory, 1985d. Results of Radiological Measurements Taken near Junction of Buffalo Avenue and Hyde Park Boulevard in Niagara Falls, New York, ORNL/RASA-85/41, Oak Ridge, Tenn. (December).

62. Oak Ridge National Laboratory, 1985e. Results of Radiological Measurements Taken at Junction of Highways 18 and 104 in Niagara Falls, New York, ORNL/RASA-85/40, Oak Ridge, Tenn. (December).

63. Oak Ridge Associated Universities, 1986. Comprehensive Radiological Survey Off-Site Property O, Niagara Falls Storage Site, Lewiston, New York, ORNL/RASA-86/19, Oak Ridge, Tenn. (May).

64. USATHAMA, 1981. Memorandum, Donald L. Pugh, Systems Manager-Installation, USATHAMA, to Gordon N. Hobbs, Office of the Assistant Secretary of the Army for Installations, Logistics and Financial Management, “Memorandum for Record—Final Report on Records Search of Lake Ontario Ordnance Works” (February 24).

APPENDIX A

U.S. DEPARTMENT OF ENERGY
GUIDELINES FOR RESIDUAL RADIOACTIVITY AT
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM
AND
REMOTE SURPLUS FACILITIES MANAGEMENT PROGRAM SITES

U.S. DEPARTMENT OF ENERGY GUIDELINES FOR RESIDUAL RADIOACTIVITY AT FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM AND REMOTE SURPLUS FACILITIES MANAGEMENT PROGRAM SITES

(Rev. 1, July 1985)

A. INTRODUCTION

This document presents U.S. Department of Energy (DOE) radiological protection guidelines for cleanup of residual radioactive materials and management of the resulting wastes and residues. It is applicable to sites identified by the Formerly Utilized Sites Remedial Action Program (FUSRAP) and remote sites identified by the Surplus Facilities Management Program (SFMP).* The topics covered are basic dose limits, guidelines and authorized limits for allowable levels of residual radioactivity, and requirements for control of the radioactive wastes and residues.

Protocols for identification, characterization, and designation of FUSRAP sites for remedial action; for implementation of the remedial action; and for certification of a FUSRAP site for release for unrestricted use are given in a separate document (U.S. Dept. Energy 1984). More detailed information on applications of the guidelines presented herein, including procedures for deriving site-specific guidelines for allowable levels of residual radioactivity from basic dose limits, is contained in a supplementary document--referred to herein as the "supplement" (U.S. Dept. Energy 1985).

"Residual radioactivity" includes: (1) residual concentrations of radionuclides in soil material,** (2) concentrations of airborne radon decay products, (3) external gamma radiation level, and (4) surface contamination. A "basic dose limit" is a prescribed standard from which limits for quantities that can be monitored and controlled are derived; it is specified in terms of the effective dose equivalent as defined by the International Commission on Radiological Protection (ICRP 1977, 1978). Basic dose limits are used explicitly for deriving guidelines for residual concentrations of radionuclides in soil material, except for thorium and radium. Guidelines for

*A remote SFMP site is one that is excess to DOE programmatic needs and is located outside a major operating DOE research and development or production area.

**The term "soil material" refers to all material below grade level after remedial action is completed.

residual concentrations of thorium and radium and for the other three quantities (airborne radon decay products, external gamma radiation level, and surface contamination) are based on existing radiological protection standards (U.S. Environ. Prot. Agency 1983; U.S. Nucl. Reg. Comm. 1982). These standards are assumed to be consistent with basic dose limits within the uncertainty of derivations of levels of residual radioactivity from basic limits.

A "guideline" for residual radioactivity is a level of residual radioactivity that is acceptable if the use of the site is to be unrestricted. Guidelines for residual radioactivity presented herein are of two kinds: (1) generic, site-independent guidelines taken from existing radiation protection standards, and (2) site-specific guidelines derived from basic dose limits using site-specific models and data. Generic guideline values are presented in this document. Procedures and data for deriving site-specific guideline values are given in the supplement.

An "authorized limit" is a level of residual radioactivity that must not be exceeded if the remedial action is to be considered completed. Under normal circumstances, expected to occur at most sites, authorized limits for residual radioactivity are set equal to guideline values. Exceptional conditions for which authorized limits might differ from guideline values are specified in Sections D and F. A site may be released for unrestricted use only if the residual radioactivity does not exceed guideline values at the time remedial action is completed. Restrictions and controls on use of the site must be established and enforced if the residual radioactivity exceeds guideline values. The applicable controls and restrictions are specified in Section E.

DOE policy requires that all exposures to radiation be limited to levels that are as low as reasonably achievable (ALARA). Implementation of ALARA policy is specified as procedures to be applied after authorized limits have been set. For sites to be released for unrestricted use, the intent is to reduce residual radioactivity to levels that are as far below authorized limits as reasonable considering technical, economic, and social factors. At sites where the residual radioactivity is not reduced to levels that permit release for unrestricted use, ALARA policy is implemented by establishing controls to reduce exposure to levels that are as low as is reasonably achievable. Procedures for implementing ALARA policy are described in the supplement. ALARA policies, procedures, and actions must be documented and filed as a permanent record upon completion of remedial action at a site.

B. BASIC DOSE LIMITS

The basic limit for the annual radiation dose received by an individual member of the general public is 500 mrem/yr for a period of exposure not to exceed 5 years and an average of 100 mrem/yr over a lifetime. The committed effective dose equivalent, as defined in ICRP Publication 26 (ICRP 1977) and calculated by dosimetry models described in ICRP Publication 30 (ICRP 1978), shall be used for determining the dose.

C. GUIDELINES FOR RESIDUAL RADIOACTIVITY

C.1 Residual Radionuclides in Soil Material

Residual concentrations of radionuclides in soil material shall be specified as above-background concentrations averaged over an area of 100 m^2. If the concentration in any area is found to exceed the average by a factor greater than 3, guidelines for local concentrations shall also be applicable. These "hot spot" guidelines depend on the extent of the elevated local concentrations and are given in the supplement.

The generic guidelines for residual concentrations of Th-232, Th-230, Ra-228, and Ra-226 are:

- 5 pCi/g, averaged over the first 15 cm of soil below the surface
- 15 pCi/g, averaged over 15-cm-thick layers of soil more than 15 cm below the surface

These guidelines take into account ingrowth of Ra-226 from Th-230 and of Ra-228 from Th-232, and assume secular equilibrium. If either Th-230 and Ra-226 or Th-232 and Ra-228 are both present, not in secular equilibrium, the guidelines apply to the higher concentration. If other mixtures of radionuclides occur, the concentrations of individual radionuclides shall be reduced so that the dose for the mixtures will not exceed the basic dose limit. Explicit formulas for calculating residual concentration guidelines for mixtures are given in the supplement.

The guidelines for residual concentrations in soil material of all other radionuclides shall be derived from basic dose limits by means of an environmental pathway analysis using site-specific data. Procedures for deriving these guidelines are given in the supplement.

C.2 Airborne Radon Decay Products

Generic guidelines for concentrations of airborne radon decay products shall apply to existing occupied or habitable structures on private property that are intended for unrestricted use; structures that will be demolished or buried are excluded. The applicable generic guideline (40 CFR 192) is: In any occupied or habitable building, the objective of remedial action shall be, and reasonable effort shall be made to achieve, an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 WL.* In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL. Remedial actions are not required in order to comply with this guideline when there is reasonable assurance that residual radioactive materials are not the cause.

C.3 External Gamma Radiation

The average level of gamma radiation inside a building or habitable structure on a site to be released for unrestricted use shall not exceed the background level by more than 20 μR/h.

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*A working level (WL) is any combination of short-lived radon decay products in one liter of air that will result in the ultimate emission of 1.3×10^5 MeV of potential alpha energy.

C.4 Surface Contamination

The following generic guidelines, adapted from standards of the U.S. Nuclear Regulatory Commission (1982), are applicable only to existing structures and equipment that will not be demolished and buried. They apply to both interior and exterior surfaces. If a building is demolished and buried, the guidelines in Section C.1 are applicable to the resulting contamination in the ground.

Radionuclides†[2]	Allowable Total Residual Surface Contamination (dpm/100 cm²)†[1]		
	Average†[3],†[4]	Maximum†[4],†[5]	Removable†[4],†[6]
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100	300	20
Th-Natural, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay products	5,000α	15,000α	1,000α
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5,000β-γ	15,000β-γ	1,000β-γ

†[1] As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

†[2] Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

†[3] Measurements of average contamination should not be averaged over an area of more than 1 m². For objects of less surface area, the average should be derived for each such object.

†[4] The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm.

†[5] The maximum contamination level applies to an area of not more than 100 cm².

†[6] The amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm² is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. The numbers in this column are maximum amounts.

D. AUTHORIZED LIMITS FOR RESIDUAL RADIOACTIVITY

The remedial action shall not be considered complete unless the residual radioactivity is below authorized limits. Authorized limits shall be set equal to guidelines for residual radioactivity unless: (1) exceptions specified in Section F of this document are applicable, in which case an authorized limit may be set above the guideline value for the specific location or condition to which the exception is applicable; or (2) on the basis of site-specific data not used in establishing the guidelines, it can be clearly established that limits below the guidelines are reasonable and can be achieved without appreciable increase in cost of the remedial action. Authorized limits that differ from guidelines must be justified and established on a site-specific basis, with documentation that must be filed as a permanent record upon completion of remedial action at a site. Authorized limits differing from the guidelines must be approved by the Director, Oak Ridge Technical Services Division, for FUSRAP and by the Director, Richland Surplus Facilities Management Program Office, for remote SFMP--with concurrence by the Director of Remedial Action Projects for both programs.

E. CONTROL OF RESIDUAL RADIOACTIVITY AT FUSRAP AND REMOTE SFMP SITES

Residual radioactivity above the guidelines at FUSRAP and remote SFMP sites must be managed in accordance with applicable DOE Orders. The DOE Order 5480.1A requires compliance with applicable federal, state, and local environmental protection standards.

The operational and control requirements specified in the following DOE Orders shall apply to interim storage, interim management, and long-term management.

a. 5440.1B, Implementation of the National Environmental Policy Act

b. 5480.1A, Environmental Protection, Safety, and Health Protection Program for DOE Operations

c. 5480.2, Hazardous and Radioactive Mixed Waste Management

d. 5480.4, Environmental Protection, Safety, and Health Protection Standards

e. 5482.1A, Environmental, Safety, and Health Appraisal Program

f. 5483.1, Occupational Safety and Health Program for Government-Owned Contractor-Operated Facilities

g. 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements

h. 5484.2, Unusual Occurrence Reporting System

i. 5820.2, Radioactive Waste Management

E.1 Interim Storage

a. Control and stabilization features shall be designed to ensure, to the extent reasonably achievable, an effective life of 50 years and, in any case, at least 25 years.

b. Above-background Rn-222 concentrations in the atmosphere above facility surfaces or openings shall not exceed: (1) 100 pCi/L at any given point, (2) an annual average concentration of 30 pCi/L over the facility site, and (3) an annual average concentration of 3 pCi/L at or above any location outside the facility site (*DOE Order 5480.1A, Attachment XI-1*).

c. Concentrations of radionuclides in the groundwater or quantities of residual radioactive materials shall not exceed existing federal, state, or local standards.

d. Access to a site shall be controlled and misuse of onsite material contaminated by residual radioactivity shall be prevented through appropriate administrative controls and physical barriers--active and passive controls as described by the U.S. Environmental Protection Agency (1983--p. 595). These control features should be designed to ensure, to the extent reasonable, an effective life of at least 25 years. The federal government shall have title to the property.

E.2 Interim Management

a. A site may be released under interim management when the residual radioactivity exceeds guideline values if the residual radioactivity is in inaccessible locations and would be unreasonably costly to remove, provided that administrative controls are established to ensure that no member of the public shall receive a radiation dose exceeding the basic dose limit.

b. The administrative controls, as approved by DOE, shall include but not be limited to periodic monitoring, appropriate shielding, physical barriers to prevent access, and appropriate radiological safety measures during maintenance, renovation, demolition, or other activities that might disturb the residual radioactivity or cause it to migrate.

c. The owner of the site or appropriate federal, state, or local authorities shall be responsible for enforcing the administrative controls.

E.3 Long-Term Management

Uranium, Thorium, and Their Decay Products

a. Control and stabilization features shall be designed to ensure, to the extent reasonably achievable, an effective life of 1,000 years and, in any case, at least 200 years.

b. Control and stabilization features shall be designed to ensure that Rn-222 emanation to the atmosphere from the waste shall not: (1) exceed an annual average release rate of 20 $pCi/m^2/s$, and (2) increase the annual average Rn-222 concentration at or above any location outside the boundary of the contaminated area by more than 0.5 pCi/L. Field verification of emanation rates is not required.

c. Prior to placement of any potentially biodegradable contaminated wastes in a long-term management facility, such wastes shall be properly conditioned to ensure that (1) the generation and escape of biogenic gases will not cause the requirement in paragraph b of this section (E.3) to be exceeded, and (2) biodegradation within the facility will not result in premature structural failure in violation of the requirements in paragraph a of this section (E.3).

d. Groundwater shall be protected in accordance with 40 CFR 192.20(a)(2) and 192.20(a)(3), as applicable to FUSRAP and remote SFMP sites.

e. Access to a site should be controlled and misuse of onsite material contaminated by residual radioactivity should be prevented through appropriate administrative controls and physical barriers--active and passive controls as described by the U.S. Environmental Protection Agency (1983--p. 595). These controls should be designed to be effective to the extent reasonable for at least 200 years. The federal government shall have title to the property.

Other Radionuclides

f. Long-term management of other radionuclides shall be in accordance with Chapters 2, 3, and 5 of DOE Order 5820.2, as applicable.

F. EXCEPTIONS

Exceptions to the requirement that authorized limits be set equal to the guidelines may be made on the basis of an analysis of site-specific aspects of a designated site that were not taken into account in deriving the guidelines. Exceptions require approvals as stated in Section D. Specific situations that warrant exceptions are:

a. Where remedial actions would pose a clear and present risk of injury to workers or members of the general public, notwithstanding reasonable measures to avoid or reduce risk.

b. Where remedial actions--even after all reasonable mitigative measures have been taken--would produce environmental harm that is clearly excessive compared to the health benefits to persons living on or near affected sites, now or in the future. A clear excess of environmental harm is harm that is long-term, manifest, and grossly disproportionate to health benefits that may reasonably be anticipated.

c. Where the cost of remedial actions for contaminated soil is unreasonably high relative to long-term benefits and where the residual radioactive materials do not pose a clear present or future risk after taking necessary control measures. The likelihood that buildings will be erected or that people will spend long periods of time at such a site should be considered in evaluating this risk. Remedial actions will generally not

be necessary where only minor quantities of residual radioactive materials are involved or where residual radioactive materials occur in an inaccessible location at which site-specific factors limit their hazard and from which they are costly or difficult to remove. Examples are residual radioactive materials under hard-surface public roads and sidewalks, around public sewer lines, or in fence-post foundations. In order to invoke this exception, a site-specific analysis must be provided to establish that it would not cause an individual to receive a radiation dose in excess of the basic dose limits stated in Section B, and a statement specifying the residual radioactivity must be included in the appropriate state and local records.

d. Where the cost of cleanup of a contaminated building is clearly unreasonably high relative to the benefits. Factors that shall be included in this judgment are the anticipated period of occupancy, the incremental radiation level that would be effected by remedial action, the residual useful lifetime of the building, the potential for future construction at the site, and the applicability of remedial actions that would be less costly than removal of the residual radioactive materials. A statement specifying the residual radioactivity must be included in the appropriate state and local records.

e. Where there is no feasible remedial action.

G. SOURCES

Limit or Guideline	Source
Basic Dose Limits	
Dosimetry Model and Dose Limits	International Commission on Radiological Protection (1977, 1978)
Generic Guidelines for Residual Radioactivity	
Residual Concentrations of Radium and Thorium in Soil Material	40 CFR 192
Airborne Radon Decay Products	40 CFR 192
External Gamma Radiation	40 CFR 192
Surface Contamination	Adapted from U.S. Nuclear Regulatory Commission (1982)
Control of Radioactive Wastes and Residues	
Interim Storage	DOE Order 5480.1A
Long-Term Management	DOE Order 5480.1A; 40 CFR 192

H. REFERENCES

International Commission on Radiological Protection. 1977. Recommendations of the International Commission on Radiological Protection (Adopted January 17, 1977). ICRP Publication 26. Pergamon Press, Oxford. [As modified by "Statement from the 1978 Stockholm Meeting of the ICRP." Annals of the ICRP, Vol. 2, No. 1, 1978.]

International Commission on Radiological Protection. 1978. Limits for Intakes of Radionuclides by Workers. A Report of Committee 2 of the International Commission on Radiological Protection. Adopted by the Commission in July 1978. ICRP Publication 30. Part 1 (and Supplement), Part 2 (and Supplement), Part 3 (and Supplements A and B), and Index. Pergamon Press, Oxford.

U.S. Environmental Protection Agency. 1983. Standards for Remedial Actions at Inactive Uranium Processing Sites; Final Rule (40 CFR Part 192). Fed. Regist. 48(3):590-604 (January 5, 1983).

U.S. Department of Energy. 1984. Formerly Utilized Sites Remedial Action Program. Summary Protocol: Identification - Characterization - Designation - Remedial Action - Certification. Office of Nuclear Energy, Office of Terminal Waste Disposal and Remedial Action, Division of Remedial Action Projects. April 1984.

U.S. Department of Energy. 1985. Supplement to U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites. A Manual for Implementing Residual Radioactivity Guidelines. Prepared by Argonne National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, and Pacific Northwest Laboratory for the U.S. Department of Energy. (In preparation.)

U.S. Nuclear Regulatory Commission. 1982. Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material. Division of Fuel Cycle and Material Safety, Washington, DC. July 1982.

APPENDIX B

ESTIMATE OF RADIUM-226 CONCENTRATIONS IN RUBBLED PCB WAREHOUSE ON VICINITY PROPERTY B ADJACENT TO THE NIAGARA FALLS STORAGE SITE

3.0 RADIOLOGICAL ASSESSMENT

Estimating radium-226 concentrations in the rubbled warehouse on the basis of limited surface alpha activity data would imply more accuracy than is reasonable. Using the observed alpha activities and conservative assumptions for building material volumes and density, a reasonable estimate of the radium-226 concentrations in the rubbled building was determined.

To perform the alpha survey, the building was divided into four basic areas: (1) floor, (2) upper walls, (3) lower walls, and (4) ceiling structures. The floor is concrete, both upper and lower walls are block/brick, and the ceiling structures are wood. To estimate postrubbling radionuclide concentrations in the spoils on the basis of prerubbling surface alpha radioactivity, the four areas were considered individually.

To estimate the concentration in the floor, it was assumed that the concrete was at least 8 in. thick and that the density of the floor was 2.4 g/cm^3 (150 lb/ft^3). Applying these assumptions to the maximum surface alpha activity and maximum beta-gamma activity resulted in indicated radionuclide concentrations of 0.5 pCi/g and 3.7 pCi/g, respectively.

Radionuclide concentrations in the walls were estimated assuming wall construction was 8-in. by 8-in. by 16-in. concrete blocks with a weight of 22.7 kg (50 lb) per block. The walls were divided into upper and lower sections because of the significant difference in surface contamination. Radium-226 concentrations on the basis of maximum surface alpha activity were estimated to be 0.3 pCi/g in the upper walls and 0.02 pCi/g in the lower walls. Radium-226 concentrations on the basis of maximum beta-gamma activity were estimated to be 1.0 pCi/g in the upper walls and 0.3 pCi/g in the lower walls.

1.0 INTRODUCTION

1.1 OBJECTIVE AND SCOPE

This report describes the assumptions and methodology used to estimate radium-226 concentrations in the structural material of a PCB warehouse after rubbling. Estimates were made on the basis of existing radiological data. The PCB warehouse is located on Vicinity Property B at the Niagara Falls Storage Site (NFSS). Conservatism has been applied to reasonably ensure that actual radium-226 concentrations in the rubbled building will not exceed the level identified in this report. The property is to be subjected to PCB decontamination prior to rubbling. Since radiologic and PCB contamination are commingled, the PCB decontamination process will also reduce radiologic contamination and thereby reduce the concentration of radionuclides in the rubbled building. In the interest of conservatism, however, this reduction in radiation contamination levels has not been incorporated into the estimate presented in this report.

1.2 BACKGROUND

The NFSS is a U.S. Department of Energy (DOE) surplus facility located in the Town of Lewiston, Niagara County, New York (Figure A-1). The 77-ha (191-acre) site is a small portion of the original Lake Ontario Ordnance Works (LOOW) and was formerly used for the storage and transshipment and radioactive materials. The site is currently being managed for DOE by Bechtel National, Inc. (BNI), Oak Ridge, Tennessee, as part of the DOE Surplus Facilities Management Program (SFMP) established to plan and manage the ultimate disposition of surplus DOE-owned facilities. Portions of the former LOOW site and other vicinity properties are within the jurisdiction of another DOE remedial action program, the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP was established to evaluate former

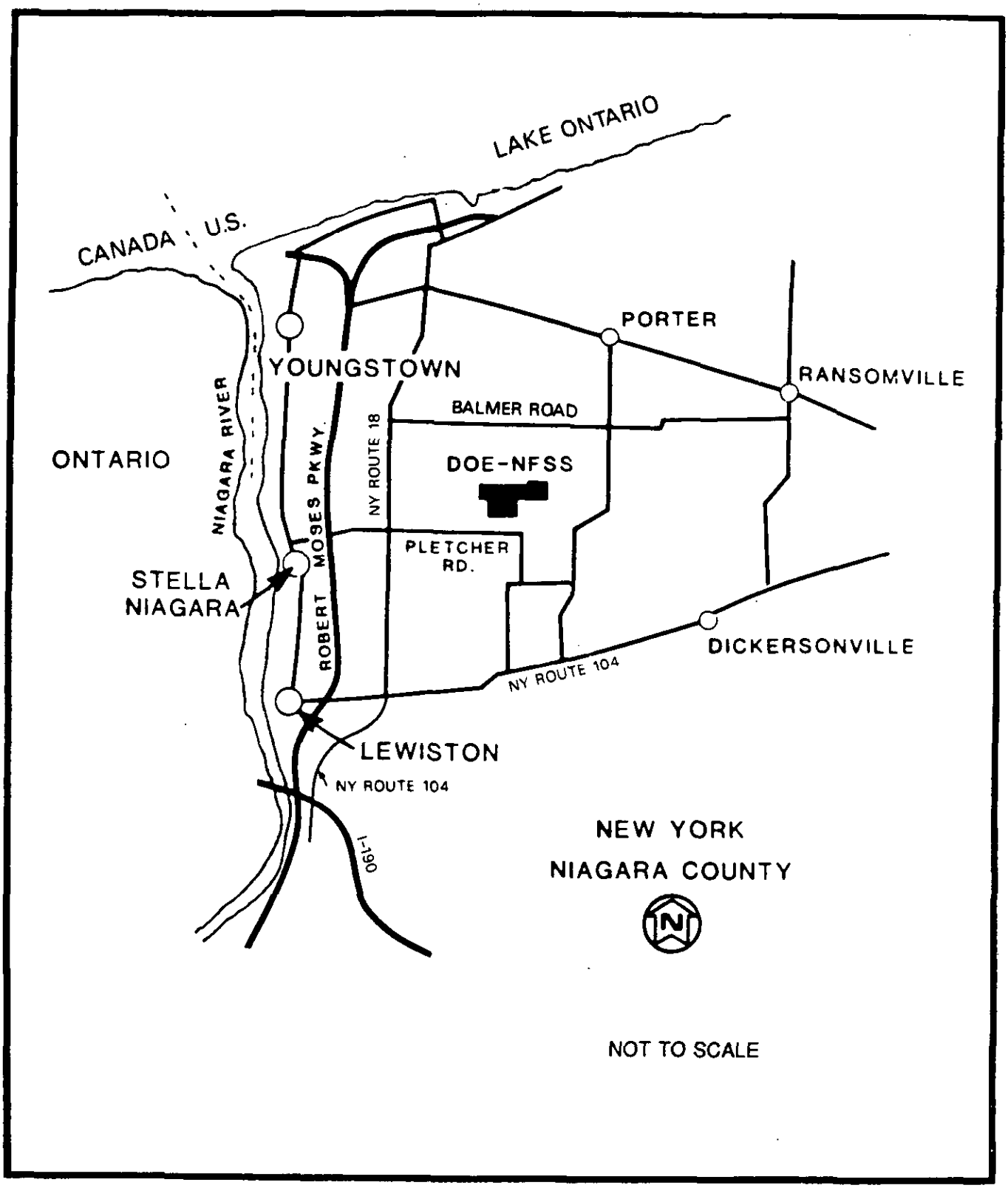


FIGURE A-1 THE REGIONAL SETTING OF THE NFSS

Manhattan Engineer District/Atomic Energy Commission (MED/AEC) sites and to conduct remedial action activities where residual radioactivity exceeds the remedial action guidelines established by DOE.

As a result of MED/AEC activities at the NFSS, some portions of the former LOOW other than the present NFSS were also contaminated. These radioactively contaminated areas located adjacent to or near the NFSS are referred to as vicinity properties and include Property B (Figure A-2).

A warehouse located on Property B is used by the owner to store and repackage PCB-contaminated materials. As a result of these operations, the building has become contaminated with PCBs. The PCB contamination presents an equal or greater hazard to workers and the environment than does the radiological contamination. However, exposure of workers in the building to residual radioactivity on the structure is not a concern under present operating conditions because of the low concentrations of radiological material and because worker occupancy and protection practices provide adequate protection against the radioactivity.

The warehouse is scheduled for PCB decontamination and demolition by the owner following installation of a PCB incinerator at an adjacent location. The wastes generated during PCB decontamination of the warehouse will be adequately controlled through hazardous waste (PCB) control requirements; no specific controls for the radiological materials are required to ensure protection of the workers, public, or environment. Once the PCB contamination has been removed, the building will be demolished and rubbled. As shown in this analysis, the resulting concentration of radium-226 in the soil and rubble will be significantly less than 5 pCi/g on the soil surface and 15 pCi/g beneath the surface layer. All disposal requirements, occupational safety, and public access requirements will be provided under existing site protocol.

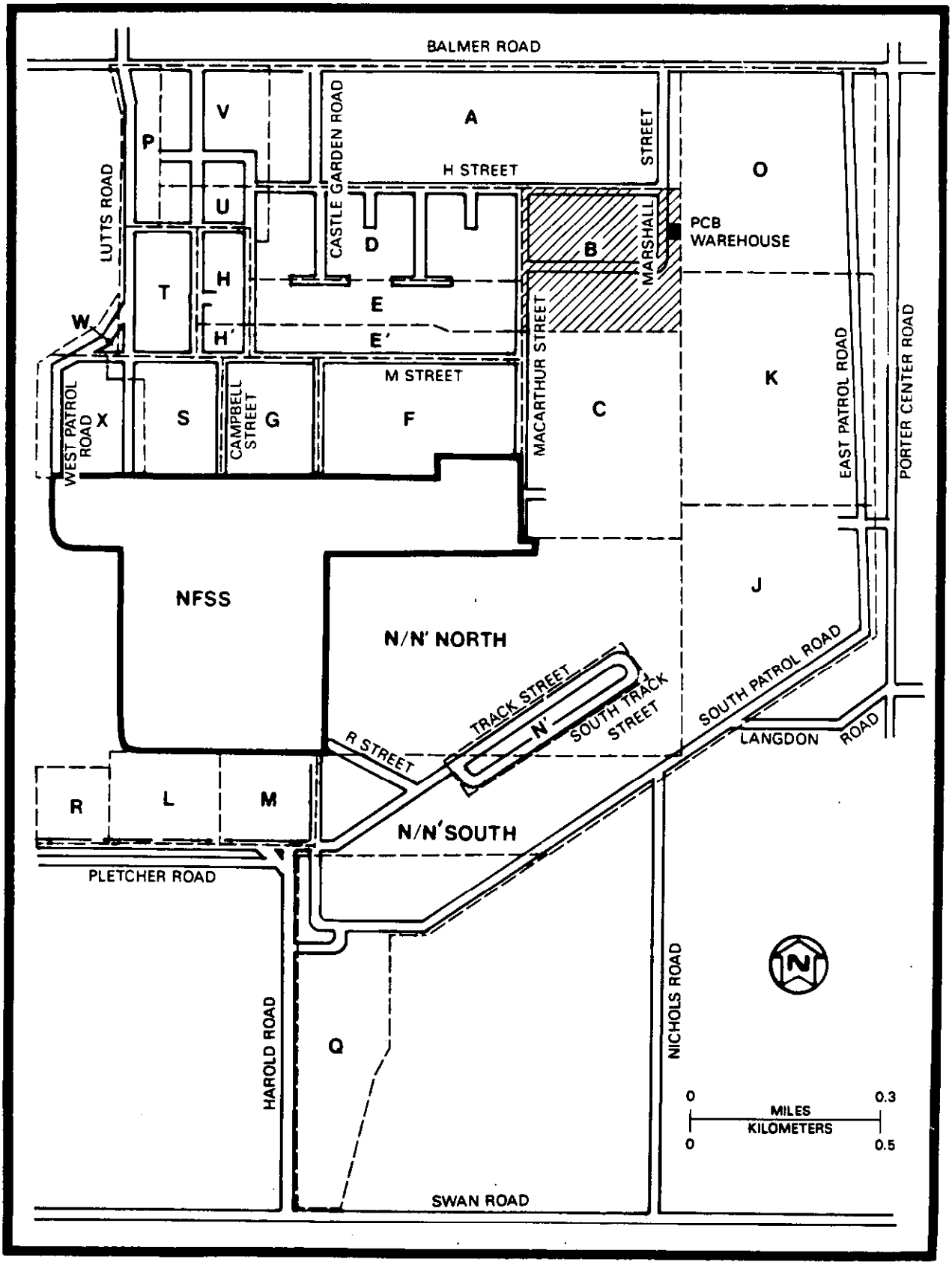


FIGURE A-2 LOCATION OF VICINITY PROPERTY B

2.0 DESCRIPTION AND RADIOLOGICAL STATUS OF THE PCB WAREHOUSE

2.1 DESCRIPTION OF THE PCB WAREHOUSE

The PCB warehouse is located on NFSS Vicinity Property B and is currently owned by Chemical Waste Management, Inc. (CWM). The warehouse is a 45-yr-old single-story building constructed of wood (ceiling and ceiling structures), concrete (floor), and brick and block (interior walls). The warehouse floor area is approximately 1,800 m^2 (19,368 ft^2) elevated about 1.2 m (4 ft) above grade.

2.2 CURRENT RADIOLOGICAL STATUS OF THE PCB WAREHOUSE

In 1984 Oak Ridge Associated Universities surveyed the Property B warehouse to provide a comprehensive assessment of the radiological conditions and associated potential health effects (Ref. 1). A gamma scan of the warehouse identified cracks and expansion joints in the concrete floor with contact radiation levels up to 130 uR/h. The majority of these cracks and joints were located in Rooms 1, 2, and 12 (Figure A-3). Samples of residue from these cracks were analyzed and the contaminant identified as radium-226. Exposure rates at 1 m above the floor throughout the building ranged from 6 to 14 uR/h.

Total alpha contamination averaged 5,580 dpm/100 cm^2 on the floor, 150 dpm/100 cm^2 on lower walls, and 1,850 dpm/100 cm^2 on the upper wall and ceiling surfaces. Beta-gamma contamination levels reached 39,700 dpm/100 cm^2 on the floor, 2,170 dpm/100 cm^2 on lower walls, and 5,930 dpm/100 cm^2 on the upper walls and ceiling. Rooms 1, 2, 3, and 12 have the highest levels of contamination, although all rooms except 10 and 11 contain areas which exceed the residual contamination guidelines (see Figure A-3). Horizontal ceiling surfaces such as beams, HVAC ducts, pipes, and ledges generally have elevated total alpha and beta-gamma contamination levels.

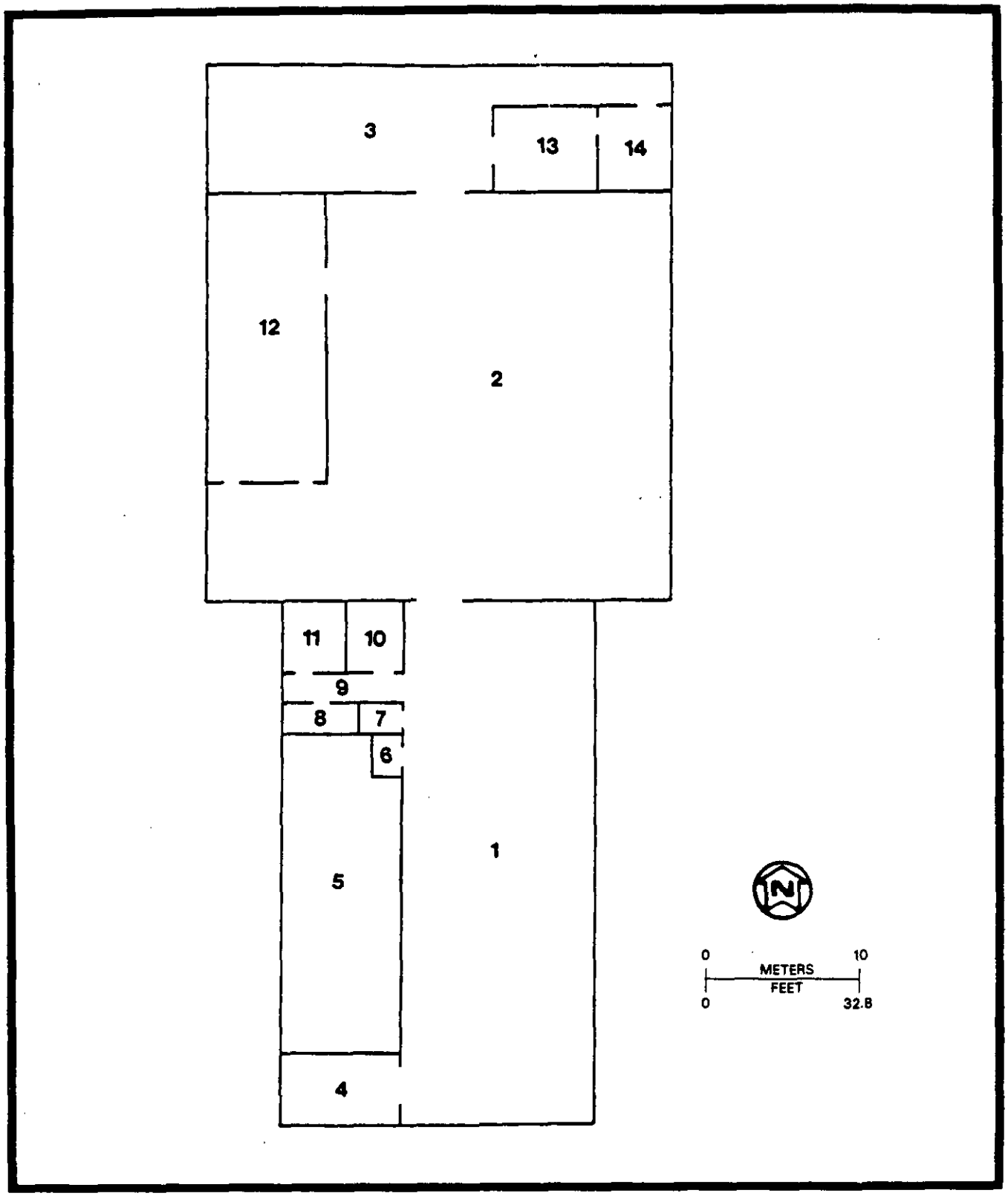


FIGURE A-3 PLAN OF WAREHOUSE INDICATING ROOM DESIGNATIONS FOR SURVEY REFERENCE

Removable (transferable) contamination was below guidelines; the maximum alpha and beta levels measured were 70 dpm/100 cm^2 and 48 dpm/100 cm^2.

3.0 RADIOLOGICAL ASSESSMENT

Estimating radium-226 concentrations in the rubbled warehouse on the basis of limited surface alpha activity data would imply more accuracy than is reasonable. Using the observed alpha activities and conservative assumptions for building material volumes and density, a reasonable estimate of the radium-226 concentrations in the rubbled building was determined.

To perform the alpha survey, the building was divided into four basic areas: (1) floor, (2) upper walls, (3) lower walls, and (4) ceiling structures. The floor is concrete, both upper and lower walls are block/brick, and the ceiling structures are wood. To estimate postrubbling radionuclide concentrations in the spoils on the basis of prerubbling surface alpha radioactivity, the four areas were considered individually.

To estimate the concentration in the floor, it was assumed that the concrete was at least 8 in. thick and that the density of the floor was 2.4 g/cm^3 (150 lb/ft^3). Applying these assumptions to the maximum surface alpha activity and maximum beta-gamma activity resulted in indicated radionuclide concentrations of 0.5 pCi/g and 3.7 pCi/g, respectively.

Radionuclide concentrations in the walls were estimated assuming wall construction was 8-in. by 8-in. by 16-in. concrete blocks with a weight of 22.7 kg (50 lb) per block. The walls were divided into upper and lower sections because of the significant difference in surface contamination. Radium-226 concentrations on the basis of maximum surface alpha activity were estimated to be 0.3 pCi/g in the upper walls and 0.02 pCi/g in the lower walls. Radium-226 concentrations on the basis of maximum beta-gamma activity were estimated to be 1.0 pCi/g in the upper walls and 0.3 pCi/g in the lower walls.

Radionuclide concentrations in the ceiling structures were estimated by assuming 4-in.-thick wood with a density of 0.8 g/cm^3 (50 lb/ft^3). The resultant estimates for radium-226 concentrations in the ceiling structures were 1.0 pCi/g on the basis of maximum alpha activity and 3.3 pCi/g on the basis of maximum beta-gamma activity.

The assumption was made that the rubbled mass of the building would be 40 percent floor, 20 percent upper wall, 20 percent lower wall, and 20 percent ceiling material. Based on these proportions and area concentrations, the weighted average concentration of radium-226 in the rubbled building was estimated to be 0.5 pCi/g on the basis of maximum surface alpha activity over all areas. Similarly, the weighted average concentration on the basis of beta-gamma activity was 2.4 pCi/g.

4.0 DISCUSSION AND CONCLUSIONS

Surface alpha and beta-gamma radiation activity measurements taken on various surfaces inside the PCB warehouse were used to estimate the radium-226 concentrations expected to be present in the rubbled building. Surface areas were divided into four categories: (1) floor, (2) upper walls, (3) lower walls, and (4) ceiling structures. In the interest of conservatism, the maximum activities detected in each area were used in calculating radium concentrations. On the basis of conservative assumptions and maximum surface alpha activity, the estimated upper limit of radium-226 in the rubbled warehouse would be 0.5 pCi/g, therefore allowing it to be released for unrestricted use. Using the same assumptions and the maximum beta-gamma activity, the upper limit would be 2.4 pCi/g, approximately 16 percent of the subsurface radium-226 guideline for soil. Both of these values are below the remedial action guidelines for radium-226 concentrations in soils when covered by more than 15 cm of clean soil. For the purpose of this analysis, it was assumed that all measured activity resulted from radium-226, because this provides the most conservative estimate. Actual radium-226 concentrations when averaged over 10-m by 10-m areas 0.15 m thick would be significantly lower than the calculated values.

The demolition and burial of the PCB warehouse in an unrestricted burial area is a viable alternative from a radiological standpoint. Taken in context with the PCB contamination associated with the structure, the preferred alternative is burial of the rubbled structure with no radiologically governed restriction.

REFERENCES

1. Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property B Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, TN, May 1984.

Exhibit II

Documents Supporting the Certification of the Remedial Action Activities Performed at Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, from 1983 through 1986

CONTENTS

Exhibit II (1) - Decontamination or Stabilization Criteria

The following documents contain the guidelines that determine the need for remedial action. The subject properties have been decontaminated to comply with these guidelines. The first document listed is included as Appendix A of Exhibit I; the remaining documents are included in this docket by reference.

U.S. Department of Energy. "U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites," Rev. 1, July 1985.

U.S. Department of Energy. Design Criteria for Formerly Utilized Sites Remedial Action Program (FUSRAP) and Surplus Facilities Management Program (SFMP), 14501-00-DC-01, Rev. 1, Oak Ridge, Tenn., February 1986.

Memorandum, P. J. Gross, Department of Energy, Oak Ridge Operations Office, to J. J. Fiore, Department of Energy Headquarters, Office of Nuclear Energy. "NFSS Residual Radioactive Material Guidelines," BNI CCN 055358, August 30, 1988.

Bechtel National, Inc. Development of A Supplemental Residual Contamination Guideline for the NFSS Central Drainage Ditch, Oak Ridge, Tenn., December 1986.

Exhibit II (2) - Designation or Authorization Documentation

The following documents authorized or designated remedial action to be performed at the subject properties. A copy of each is provided in this exhibit.

Exhibit II (2) - Designation or Authorization Documentation
(continued)

Exhibit II (2) - Designation or Authorization Documentation
(continued)

Exhibit II (2) - Designation or Authorization Documentation
(continued)

Exhibit II (2) - Designation or Authorization Documentation
(continued)

U.S. DEPARTMENT OF ENERGY

memorandum

DATE NOV 2 1983

REPLY TO ATTN OF NE-24

SUBJECT Designation of NFSS Vicinity Property - Areas Along Pletcher Road

TO Lowell Campbell
Oak Ridge Operations Office

Attached is the ORAU survey report for Pletcher Road, Lewiston, New York, site for your action. Soil samples have been taken along Pletcher Road, and some exceed the 5 pCi/g criteria. However, it has not been determined if the soil concentrations averaged over 100 m^2 exceed the criteria. To be cost effective we recommend that the detailed characterization survey and remedial action be conducted simultaneously because of the cause and location of the contamination. If you have any problems with this approach, please call Gale Turi.

We are directing ORAU to obtain additional information on routes used to transport radioactive material to the Lake Ontario Ordnance Works. We will keep you informed of the findings (expected January 1984).

John E. Baublitz

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

Attachment

cc:
J. Spath, NY State Energy Research
and Development Authority, w/attach. (5)
J. Berger, ORAU, w/o attach.

NE-24
GPT
Turi
6/7/84

NE-24
DeLaney
6/8/84

NE-24
Baublitz
6/8/84

JUN 8 1984

NE-24

Designation of Niagara Falls Storage Site Vicinity Properties

E. L. Keller, Director
Technical Services Division, OR

The attached is the list of NFSS vicinity properties designated for remedial action. Also attached is a summary table of the radiological status of the vicinity properties at NFSS. If you have any questions call Gale Turi.

/s/

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

2 Attachment

cc:
L. Campbell, OR
P. Merry-Libby, ANL
Subject
NE-73 (4)
NE-24
GPT Rdr

NE-24:GPTuri:mlw:353-2766:6784:415900 12/13 att :file: 3.30.8

NFSS Vicinity Properties Designated for Remedial Action

A	N-North
B	N'-North
C'	N/N'-South
D	P
E	Q
E'	R
F	S
G	T
H	U
H'	V
L	W
M	X
	Areas Along Pletcher Road

SUMMARY OF RADIOLOGICAL STATUS
OF OFF-SITE PROPERTIES AT THE NIAGARA FALLS STORAGE SITE

Property[a]	Contamination of MED/AEC Origin						Other (non-MED/AEC) Sources			Remarks
	Description	Principle Radionuclide	Depth (m)	Approx. Vol. (m^3)	Maximum Activity	Exceeds Criteria[b]	Description	Principle Radionuclide	Activity Level	
A	Individual "rocks" (0.2 to 1.5 kg each)	Ra-226	Surface	<1	6690 pCi/g	no	Crushed rock fill	Ra-226, U-238 (nat. occur.)	38 pCi/g (Ra-226)	
B	General soil and paved area around warehouse	Ra-226	0-0.15	5.4	70 pCi/g	yes	none	---	---	
	Isolated "hot spots"	Ra-226, U-238	0-0.15	<1	828 pCi/g	no		---	---	
	Warehouse interior surfaces	Ra-226	Surface	unknown	18,700 alpha dpm/100 cm^2	yes		---	---	
C	None	---	---	---	---	---	none	---	---	Direct radiation levels to 31 μR/h on southwest portion, resulting from residues stored on adjacent DOE property.
C'	General areas and isolated "hot spots"	Ra-226, U-238	0-0.15	21	22,500 pCi/g (Ra-226)	yes	Railroad Ballast	Ra-226, U-238 (nat. occur.)	7.2 pCi/g (Ra-226)	Direct radiation levels to 29 μR/h on west perimeter, resulting from residues in storage on adjacent DOE property.
D	Individual "rocks" (0.2 to 1.5 kg each)	Ra-226	Surface	<2	11,200 pCi/g	no	none	---	---	

prepared by Oak Ridge Associated Universities
April 26, 1984

SUMMARY OF RADIOLOGICAL STATUS
OF OFF-SITE PROPERTIES AT THE NIAGARA FALLS STORAGE SITE, cont.

Property	Contamination of MED/AEC Origin						Other (non-MED/AEC) Sources			Remarks
	Description	Principle Radionuclide	Depth (m)	Approx. Vol. (m^3)	Activity Level	Exceeds Criteria	Description	Principle Radionuclide	Activity Level	
	Metallic "rock"	Ra-226	Surface	<1	4250 pCi/g	yes	none	---	---	
E	General bare area containing multiple "hot spots" and contaminated buried containers.	Ra-226, U-238	1-2 (est.)	580-1160 (est.)	11.6 µCi (Ra-226) in small individual chips 22,600 pCi/g (U-238)	yes	Crushed rock fill	Ra-226, U-238 (nat. occur.)	12 pCi/g (Ra-226)	Additional characterization may be necessary.
E'	General area and isolated "hot spots"	Ra-226, U-238	to 1 m	25	3190 pCi/g (Ra-226) 12,900 pCi/g (U-238)	yes (in gen. areas)	none	---	---	Additional characterization may be necessary.
F	Isolated areas of soil	Ra-226	0-0.15	<1	22.4 pCi/g	no	Fly Ash	Ag-110m	27.7 pCi/g	Direct radiation levels to 40 µR/h on south east portion, resulting from residues stored on adjacent DOE property.
G	General areas of surface residues and contaminated rubble.	Ra-226, U-238	0-0.15 (to 0.50 in some areas)	260	1150 pCi/g (Ra-226)	yes	none	---	---	Evidence of containers remaining in excavated burial site.
	Isolated "hot spots" or individual pieces of material.	Ra-226, U-238	0-0.15	<5	1020 pCi/g(Ra-226) 1410 pCi/g(U-238)	no				

SUMMARY OF RADIOLOGICAL STATUS
OF OFF-SITE PROPERTIES AT THE NIAGARA FALLS STORAGE SITE, cont.

Property	Contamination of MED/AEC Origin						Other (non-MED/AEC) Sources			Remarks
	Description	Principle Radionuclide	Depth (m)	Approx. Vol. (m^3)	Activity Level	Exceeds Criteria	Description	Principle Radionuclide	Activity Level	
H	Individual pieces of rock-like material.	Ra-226, U-238, Th-232	Surface	<1	869 pCi/g(Ra-226) 71 pCi/g (U-238) 65 pci/g (Th-232)	no	Crushed rock fill	Ra-226, U-238 (nat. occur.)	50 pCi/g	
H'	Numerous isolated "hot spots"	Ra-226, U-238	0-0.5 (avg. 0.29)	1500	1750 pCi/g(Ra-226 1480 pCi/g (U-238)	yes	none	---	---	
J	None	---	---	---	---	---	none	---	---	
K	None	---	---	---	---	---	none	---	---	
L	General areas and and isolated "hot spots"	Ra-226	0-0.5	90	40 pCi/g	yes	none	---	---	
M	General area with isolated "hot spots"	Ra-226	0-0.5	75	1420 pCi/g	yes	none	---	---	
N-north	Isolated "hot spots"	Ra-226, U-238, Th-232	Surface	<1	210 pCi/g(Ra-226) 21,000 pCi/g(U-238) 76 pCi/g(Th-232)	no	none	---	---	Most of the contamination was removed by sampling.
N-south	General area and isolated "hot spots"	Ra-226	0-0.25	50	141 pCi/g	yes (Bechtel has performed remedial action.)	none	---	---	Direct radiation levels to 43 μR/h along north boundary resulting from residues stored on adjacent DOE property

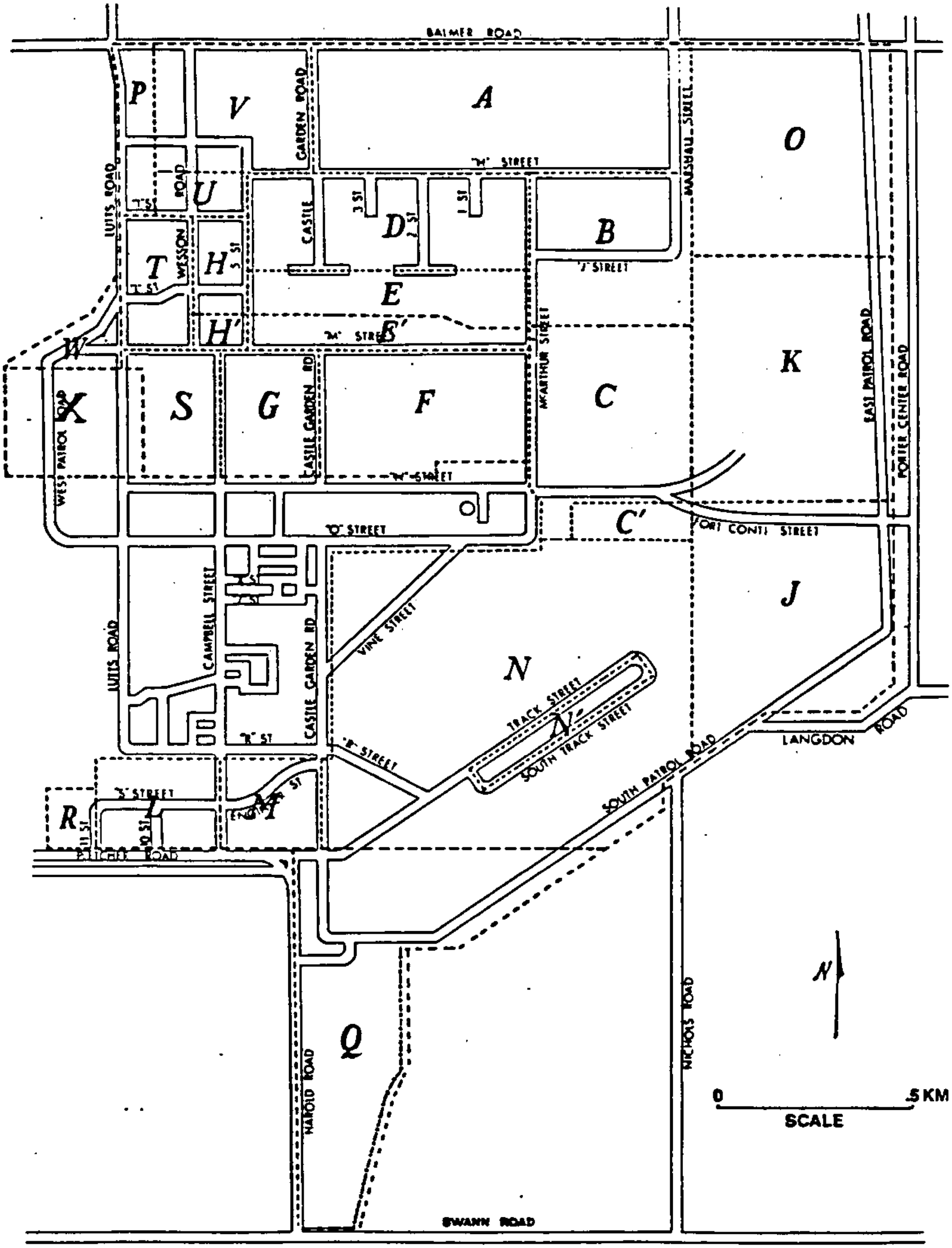
SUMMARY OF RADIOLOGICAL STATUS
OF OFF-SITE PROPERTIES AT THE NIAGARA FALLS STORAGE SITE, cont.

Property	Contamination of MED/AEC Origin						Other (non-MED/AEC) Sources			Remarks
	Description	Principle Radionuclide	Depth (m)	Approx. Vol. (m^3)	Activity Level	Exceeds Criteria	Description	Principle Radionuclide	Activity Level	
N¹-north	General areas with isolated "hot spots"	Ra-226, U-238, Cs-137	0-0.15	560	4290 pCi/g(Ra-226) 9430 pCi/g(U-238) 160 pCi/g(Cs-137)	yes	Railroad ballast	Ra-226, U-238 (nat. occurring)	5 to 10 pCi/g (Ra-226	
N¹-south	General area and isolated "hot spots"	Ra-226, U-238	0-0.29	200	431 pCi/g(Ra-226) 129 pCi/g(U-238)	yes	Railroad ballast	Ra-226, U-238 (nat. occurring)	5 to 10 pCi/g (Ra-226)	
O	Survey not performed -- access permission not granted by property owner.									
P	Isolated area of surface contam.	Ra-226	0-0.15	<1	15 pCi/g	no	Paving base	Ra-226, U-238, Th-232 (nat. occur.)	192 pCi/g (Ra-226, U-238) 944 pCi/g (Th-232)	
Q	General areas with isolated "hot spots"	Ra-226	0-0.15	46	1020 pCi/g	yes	none	---	---	
R	Isolated areas of surface contam.	Ra-226	0-0.15	30	30 pCi/g	yes	none	---	---	
S	Isolated are of surface contam.	Ra-226	0-0.15	<1	62 pCi/g	no	Crushed rock fill	Ra-226, U-238 (nat. occur.)	5 to 50 pCi/g	
T	Individual rocks or isolated soil "hot spots"	Ra-226	0-0.15	<1	570 pCi/g	no	Crushed rock fill	Ra-226, U-238, Th-232 (nat. occur.)	270 pCi/g (Ra-226, U-238) 1180 pCi/g (Th-232)	
	Sediment & debris (dredging from Central Drainage Ditch)	Ra-226	0-0.30	216	36 pCi/g	yes (Bechtel has performed remedial action at some of these locations.	Rocks, gravel, soil	Ra-226, U-238 (nat. occur.)	5 to 50 pCi/g	

SUMMARY OF RADIOLOGICAL STATUS
OF OFF-SITE PROPERTIES AT THE NIAGARA FALLS STORAGE SITE, cont.

Property	Contamination of MED/AEC Origin						Other (non-MED/AEC) Sources			Remarks
	Description	Principle Radionuclide	Depth (m)	Approx. Vol. (m^3)	Activity Level	Exceeds Criteria	Description	Principle Radionuclide	Activity Level	
U	General areas with some isolated "hot spots" and piles of rock-like material	Ra-226	0-0.30	<5	894 pCi/g	no	Crushed rock fill	Ra-226, U-238, Th-232 (nat. occur.)	281 pCi/g (Ra-226, U-238 942 pCi/g (Th-232)	
V	Isolated pieces of rock-like material	Ra-226, U-238, Th-232	Surface	<1	4280 pCi/g(Ra-226) 95 pCi/g (U-238) 89 pCi/g (Th-232)	no	Crushed rock fill	Ra-226, U-238 (nat. occur.)	20-50 pCi/g	
W	Isolated areas of surface contam.	Ra-226	0-0.15	<1	55 pCi/g	no	none	---	---	
	Mounds of dirt along West Drainage Ditch	Ra-226	0-0.50	<13	102 pCi/g	yes				
X	General area with some isolated "hot spots"	Ra-226	0-0.15	150	350 pCi/g	yes	Crushed rock	Ra-226, U-238 (nat. occur.)	10 pCi/g	

[a] See attached figure.
[b] Criteria averaged over 100 m^2.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MARSHALL STREET
LUITS ROAD
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MCARTHUR STREET
EAST PATROL ROAD
PORTER CENTER ROAD
WEST PATROL ROAD
CASTLE GARDEN RD
"N" STREET
"O" STREET
FORT CONTI STREET
CAMPBELL STREET
VINE STREET
TRACK STREET
SOUTH TRACK STREET
SOUTH PATROL ROAD
LANGDON ROAD
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JUN 4 1980

EV-13

Remedial Action at the Former Lake Ontario Ordnance Works Site

R. W. Ramsey, NE-30

As a result of Manhattan Engineer District/Atomic Energy Commission activities at the former 1500-acre Lake Ontario Ordnance Works Site, the central drainage ditch has been declared contaminated and, as you are aware, in need of early remedial action. Data, based upon the attached reports (WAMD 006 and ORNL TM-7004) and the latest information from the Battelle Columbus Institute (report number BMI 2045, UC-11) indicates that the contamination does not pose an immediate environmental hazard. However, attention should be given by the Office of Nuclear Energy to implementing remedial action at an early date.

In accordance with the Office of Environment, Environmental Control Technology Division overview function, please provide for our review and comment your proposed remedial action plan for decontaminating those portions of the central drainage ditch which have been designated as requiring action. An integral part of this plan should include a proposal to prevent recontamination of the central drainage ditch from onsite discharges. The BMI report shows that radioactive contamination originating from the spoil pile and other onsite contaminated areas eventually finds its way offsite into the central drainage ditch.

William E. Mott, Director
Environmental Control
Technology Division
Office of Environment

2 Attachments

bcc: Aerospace

dist: Subject
EV-1/RF
EV-10/RF
EV-13/RF (2)
EV Mailroom
AAbriss/RF

EV-131:AAbriss:dr:353-3030:6/3/80:DH-10
6/6/80

CONCURRENCES

RTG SYMBOL	INITIALS/SIG.	DATE
EV-13	Mott	6/ /80

APR 13 1984

Mr. George H. Spira
Vice President and General Manager
SCA Chemical Services, Inc.
1550 Balmer Road
Model City, New York 14107

Dear Mr. Spira:

Enclosed are radiological survey reports for sections of the SCA Chemical Services, Inc. property identified as A, H, S, and T (see enclosed figure). A brief summary of the survey results is provided in each of the reports. There is a small volume of radioactive material, approximately one cubic meter, on each of the properties, except for T, which has 216 cubic meters. The radionuclide concentrations in the material exceed current Environmental Protection Agency criterion levels, however, under present conditions the radioactive material does not pose a potential health risk. Further, there is no evidence that migration of the material is adversely affecting adjacent properties or the ground water. The Department plans to decontaminate these properties since the radioactive material is a result of activities by the Department's predecessor agencies. The decontamination work will be done as part of the Formerly Utilized Sites Remedial Action Program.

The Department's Oak Ridge Operations Office, which is responsible for conducting the remedial actions, will obtain SCA consent before any remedial actions are taken. Presently, we plan to decontaminate SCA properties A, H, H', S, and T during this construction season. If you have any questions relative to the remedial actions, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

Thank you for your continuing cooperation.

Sincerely,

/s/

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

bcc:
XXXXXXXXXXXXXXXXXXXXX
C. Yarbro, OR, w/o encls.
J. Berger, ORAU, w/o encls.
P. Merry-Libby, ANL, w/encls.

NE-73 (4)
NE-24 RF
Turi RF

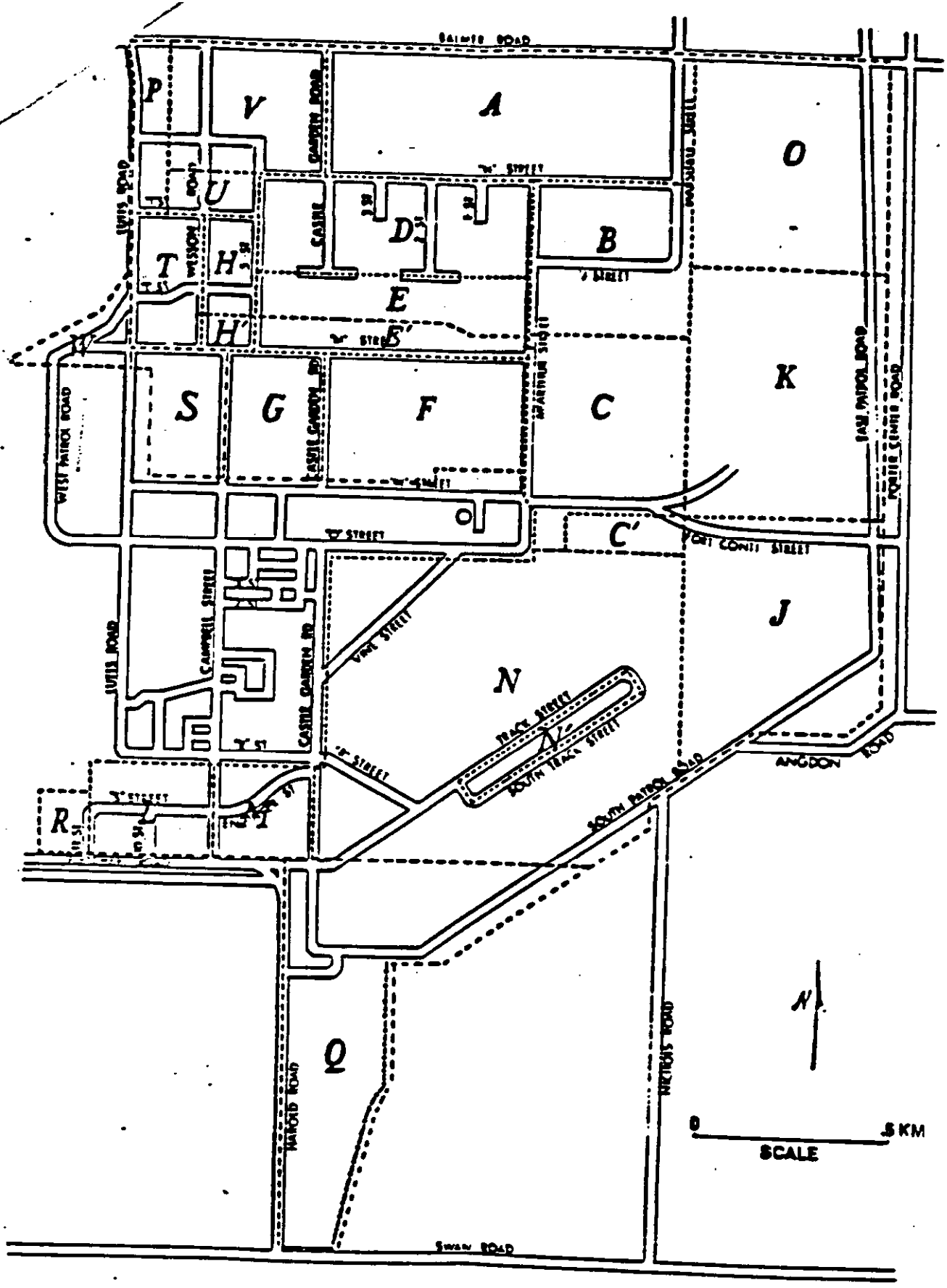
5 Enclosures

NE-24:GPJ
NE-24:GTuri:ph:353-2766:4/12/84:GT231:3.32.8

cc:
L. Campbell, OR, w/o encls.
J. Spath, NYS Energy Research
and Development Authority, w/encls. (5)

CONCURRENCE:

RTG. SYMBOL	INITIALS/SIG.	DATE
NE-24	Delaney	4/13/84
NE-24	Baublitz	4/13/84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SEP 29 1983

Mr. George H. Spira
Vice President and General Manager
SCA Chemical Services, Inc.
1550 Balmer Road
Model City, New York 14107

Dear Mr. Spira:

Enclosed for your information is the radiological survey report for part of the SCA Chemical Services, Inc. property north of Lewiston, New York, identified as E'. A summary of the results of the survey on page 15 of the report indicates numerous small, isolated areas of elevated direct radiation and surface soil contamination. Under present conditions of usage, the contaminants do not pose potential health risks to the public or site workers, and there is no evidence that migration of the radioactive materials is adversely affecting adjacent properties or the ground water. However, since at least one area of contamination exceeds current Environmental Protection Agency standards, this property will need remedial action.

The Department of Energy Oak Ridge Operations Office, which is responsible for conducting remedial actions, will be in communication with you to obtain SCA consent before remedial actions begin on the property. Presently, the plan is to complete remedial action at properties, like the SCA property, that were once part of the Lake Ontario Ordnance Works, by 1985. If you have questions relative to the remedial action, you can write Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

Mr. James Berger, Oak Ridge Associated Universities, provided us with the details of your July 21, 1983, meeting. We understand that there is only one area presently identified where remedial actions would involve areas of chemical contamination. That area is a portion of property E' near the PCB storage tanks where soil could be contaminated with PCB's and other chemicals. We understand that future SCA plans include removal of these storage tanks. We are directing the Oak Ridge Operations Office to explore your suggestion that the soils contaminated with both radioactive material and chemicals could be disposed of by mixing them with other waste and placing them in the SCA Landfill. As Mr. Berger stated, such an arrangement would require the concurrence of the appropriate New York State officials.

CONCURRENCES

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(7-79)

OFFICIAL FILE COPY

In closing, I would like to acknowledge your continuing cooperation in the Department's efforts to conduct remedial actions in the Lewiston area.

Sincerely,

Original signed by
J. E. Baublitz

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

Enclosure

cc: w/encl.
J. Spath, New York State Energy Research
and Development Authority (5)
J. Berger, ORAU
L. Campbell, OR

bcc:
C. Yarbro, OR, w/o encl.
P. Merry-Libby, ANL, w/encl.
E. Hardison, OR, w/o encl.
J. White, RL, w/o encl.
NE-73 (4)
NE-24 RF
Turi RF

NE-24:GTuri:ph:353-2766:9/27/83:V-7-B-9/10:3.32.8

CONCURRENCES

RTG SYMBOL	INITIALS/SIG.	DATE
NE-24	DeLaney	9/27/83
NE-24	Baublitz	9/28/83

U.S. DEPARTMENT OF ENERGY

memorandum

DATE: SEP 20 1983

REPLY TO ATTN OF: ER-111

SUBJECT: ORAU FINAL REPORT - OFF-SITE PROPERTY E', NFSS

TO: John E. Baublitz, Director, Division of Remedial Action Projects, NE-24, Headquarters, Germantown, Maryland

Attached is the ORAU final report on the radiological survey of off-site property E' at the Niagara Falls Storage Site.

for Claude D. Gaulin
William D. Adams, Acting Director
Energy Programs and Support Division

ER-111:CLY

Attachment:
Report (10)

cc w/atchmt:
W. E. Mott, EP-323, HQ, GTN
E. L. Keller, CE-53, ORO (4)

JUN 4 1984

Mr. George H. Spira
Vice President and General Manager
SCA Chemical Services, Inc.
1550 Balmer Road
Model City, New York 14107

Dear Mr. Spira:

Enclosed are radiological survey reports for sections of the SCA Chemical Services, Inc. property identified as B, C, D, E, F, G, J, K, P, and W. A brief summary of the survey results is provided in each of the reports. Properties B, D, F, P, and W have small areas of surface contamination that exceed current guidelines. There is approximately 840 to 1420 cubic meters of contaminated material on properties G and E. Additional survey work is being scheduled to better characterize the volume of material on property E in the retention pond berm. While the radionuclide concentrations in the material exceed the current Environmental Protection Agency criterion level of 5 picocuries per gram of radium-226, under present conditions the radioactive material does not pose a health risk. Further, there is no evidence that migration of the material is adversely affecting adjacent properties or the ground water. The Department plans to decontaminate properties B, D, E, F, G, P, and W since the radioactive material is a result of activities by the Department's predecessor agencies. The decontamination work will be done as part of the Formerly Utilized Sites Remedial Action Program.

The Department's Oak Ridge Operations Office, which is responsible for conducting the remedial actions, will obtain SCA consent before any remedial actions are taken. If you have any questions relative to the remedial actions, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

3328

The survey results for properties C, J, and K indicate that there is no contaminated material on these properties. Therefore, no remedial action is needed.

Thank you for your continued cooperation.

NE-24
DeLaney
6/1/84

NE-24
Baublit
6/1/84

Sincerely,

/S/

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

Enclosures

cc:
L. Campbell, OR, w/o encls.
J. Spath, NYS Energy Research
and Development Authority, w/encls. (5)

bcc:
C. Yarbro, OR, w/o encls.
J. Berger, ORAU, w/o encls.
P. Merry-Libby, ANL, w/encls.

NE-73 (4)
NE-24 RF
Turi RF

YRJ

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MAR 16 1984

NE-24

NFSS Decontamination Criteria

NE-24
DeLaney
3/16/84

Lowell Campbell
Technical Services Division
Oak Ridge Operations Office

This is in response to the February 23, 1984, letter from R. L. Rudolph to E. L. Keller on "as low as reasonably achievable" (ALARA) cleanup of several NFSS vicinity properties. We agree that properties J and K do not require any remedial action since they are free of contamination. We also agree that properties H, U, and V do require remedial action. However, these properties do not exceed FUSRAP decontamination criteria when averaged over 100 m^2, since the contamination is so limited. The properties will be decontaminated because of the Department's policy to maintain radiation exposures to the individuals and population groups as low as reasonably achievable.

The soil criteria in the FUSRAP decontamination criteria are upper limits that are not to be exceeded for properties released for unrestricted use. It is the policy of the Department to decontaminate sites to contamination levels at or below the limits in a manner consistent with ALARA.

Bechtel should proceed with plans to decontaminate properties H, U, and V as outlined in our February 7, 1984, memorandum. There should be no need for any engineering design or additional survey work before the cleanup, and the cleanup should be accomplished at a minimal incremental cost (approximately $2,000 per property).

/s/

Edward G. DeLaney, Manager
FUSRAP/Surplus Facilities Group
Division of Remedial Action Projects

cc:
E. Hardison, OR

bcc:
A. Whitman, NE-24
J. Berger, ORAU

NE-73 (4)
NE-24 RF
Turi RF

NE-24:GTuri:ph:353-2766:3/15/84:GT10 3.32.8

Bechtel National, Inc.
Engineers - Constructors

Oak Ridge Office
Jackson Plaza Tower
800 Oak Ridge Turnpike
Oak Ridge, Tennessee
Mail Address: P.O. Box 350, Oak Ridge, TN 37831-0350

FEB 23 1984

U. S. Department of Energy
Oak Ridge Operations
Post Office E
Oak Ridge, Tennessee 37830

Attention: L. F. Campbell, Deputy Director
Technical Services Division

Subject: Bechtel Job. No. 14501, FUSRAP Project
DOE Contract DE-AC05-81OR20722
ALARA Cleanup of Several NFSS Vicinity Properties
File No. 191, 115

Reference: Letter from DeLaney to Campbell, Dated February 7, 1984

Dear Mr. Campbell:

The referenced letter indicates that the Department of Energy is considering decontamination of several vicinity properties at the Niagara Falls Storage Site which do not require remedial action consistent with the FUSRAP decontamination criteria. This policy should be carefully considered. It could establish an undesirable precedence and make the rationale of our decontamination criteria questionable. It is likely that GAO and/or the IG would view the proposed decontamination action as beyond the scope of the program. Consequently, we recommend that only vicinity properties having contamination levels above the FUSRAP decontamination criteria be considered for remedial action.

According to discussions with ORAU, the conclusions stated in the referenced letter that properties H, J, K, U, and V do not exceed FUSRAP decontamination criteria were based on telephone conversations with Washington before the data was analyzed. Current ORAU reports define minimal cleanup requirements on properties H, U, and V but none for J and K. Approximately 11 cubic yards of material must be removed from properties H, U, and V. This cleanup

will be accomplished concurrent with other vicinity property cleanup. We do not plan additional cleanup beyond the 11 cubic yards and recommend that the Department not consider remedial actions on properties unless dictated by the FUSRAP decontamination criteria.

Very truly yours,

Robert L. Rudolph

Robert L. Rudolph
Project Manager - FUSRAP

JFN:jm

cc: E. L. Keller

FEB 7 1984

NE-24

ALARA Cleanup of Several NFSS Vicinity Properties

Lowell Campbell
Technical Services Division
Oak Ridge Operations Office

There are several vicinity properties at the Niagara Falls Storage Site (NFSS) that are contaminated with radioactive material from past MED/AEC activities. The contamination levels on some of the properties (e.g. H, J, K, U, and V) do not exceed proposed FUSRAP decontamination criteria. However, in keeping with the policy of the Department to maintain exposure to the general public to levels as low as reasonably achievable, we are evaluating the decontamination of these properties. The policy will be to decontaminate properties where the incremental costs are minimal (less than $2,000 per property), even though the imputed health effects would be very small. We consider this to be appropriate since the contamination is clearly a result of MED/AEC activities, no additional survey work is needed prior to remedial action, a team will already be in the field and mobilized to conduct remedial actions at nearby properties, the volumes of material are very small (often less than one cubic meter) and the material can be disposed of at an insignificant cost with the NFSS waste.

The following approach is recommended:

1. DRAP will provide ORNL survey reports to property owners along with a statement that the property does not exceed criteria related to health effects but will be decontaminated by Bechtel while they are performing remedial actions at nearby properties to alleviate any possible concern from the minor contamination.

2. Bechtel will contact the property owners and schedule removal of radioactive contamination. There will be no need for any engineering design or additional survey work, other than what is done at the time of the cleanup.

3. Based on Bechtel's field records of the cleanup, OR will send the property owners a letter stating that the radioactive material identified in the ORNL survey report has been removed from the property.

This approach should be reviewed by OR and Bechtel to determine if this decontamination work can be accomplished at minimal incremental costs when

other work is being performed at or near the site (i.e., less than $2,000 per property). It is requested that OR provide comments and recommendations on this approach by February 24.

Original signed by:
Edward G. DeLaney

Edward G. DeLaney, Manager
FUSRAP/Surplus Facilities Group
Division of Remedial Action Projects

cc:
C. Yarbro, OR
J. Berger, ORAU
E. Hardison, OR

bcc:
A. Whitman, NE-24

NE-73 (4)
NE-24 RF
Turi RF

NE-24:GTuri:ph:353-2766:2/6/84:GT69:3.32.8

JUL 13 1983

Mr. George H. Spira
Vice President and General Manager
SCA Chemical Services, Inc.
1550 Balmer Road
Model City, New York 14107

Dear Mr. Spira:

Enclosed for your information is the radiological survey report for a section of the SCA Chemical Services Inc. property in Lewiston, New York. A summary of the survey results is on page 13 of the enclosed report. The property has numerous areas of surface soil contamination that exceed current Environmental Protection Agency criteria. Subsurface sampling and measurements indicate that this contamination is limited to the top 50 centimeters of soil, averaging about 25 centimeters deep. Although the contamination exceeds criteria, under present conditions of usage the contaminants do not pose potential health risks and there is no evidence of migration adversely affecting adjacent properties or the ground water.

As a result of the radioactive contamination, I have referred your properties to the Department of Energy's Oak Ridge Operations Office for remedial action. The Oak Ridge Operations Office will obtain consent from SCA Chemical Services Inc. before any remedial actions are taken. Presently, the plan is to complete by 1985 remedial action at properties like this property that were once part of the Lake Ontario Ordnance Works. If you have questions relative to the remedial action, you can write Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U. S. Department of Energy, P. O. Box E, Oak Ridge, Tennessee 37830. We request that you contact the Department before you take any actions that would disturb the contaminated soil.

Thank you for your cooperation in the Department of Energy effort to conduct appropriate remedial actions and thus protect the public health and safety.

Sincerely,

151

Gale P. Turi
FUSRAP/Surplus Facilities Group
Division of Remedial Action Projects

bcc w/o encl
C. Yarbro, OR
E. DeLaney, NE-24

Enclosure (PROPERTY H')

cc w/enclcl
W. O'Brien, NY Dept. of Health
L. Campbell, DOE/OR

Subject
NE-73 (4)
NE-24
Turi RF II-29

NE-24:GTuri:mlw:353-2766:7/13/83:

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CONCURRENCES

RTG. SYMBOL	INITIALS/SIG.	DATE
NE-24	GPT	7/13/83
NE-24	EDeLaney	7/13/83

MAY 23 1984

Mr. Steven Washuta
President
Modern Disposal Services, Inc.
P. O. Box 209
Model City, New York 14107

Dear Mr. Washuta:

Enclosed for your information is the radiological survey report (Enclosure 1) for the Modern Landfill, Inc. property identified by the letter C' on the Enclosure 2. The results, summarized on pages 9 and 10 of the report, show radium-226 and uranium-238 contamination in the surface soil in the south-central portion of the property, believed to be the result of activities by DOE predecessor agencies. While the radionuclide levels exceed current guidelines they do not pose a health risk under existing conditions and there is no evidence that migration of radioactive materials is adversely affecting adjacent properties.

With your permission, DOE will remove the contaminated material (less than 30 cubic meters) described above and will bear all costs for this work. DOE will contact you to obtain your consent and make the necessary arrangements before work is begun. We will also need to coordinate our activities with the Regional Wetlands Administrator since the area where the contamination is located is designated as wetlands. If you have any questions relative to the remedial action, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, P. O. Box E, Oak Ridge, Tennessee 37830, telephone: 615-576-1052.

3.32.8

NE-24
GPT
Turi
5/16/

Thank you for your cooperation in the DOE efforts to locate the contamination and conduct appropriate remedial actions.

Sincerely,

/s/

NE-24
for DeLan
5/23/

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

NE-24
Baubl
5/23/

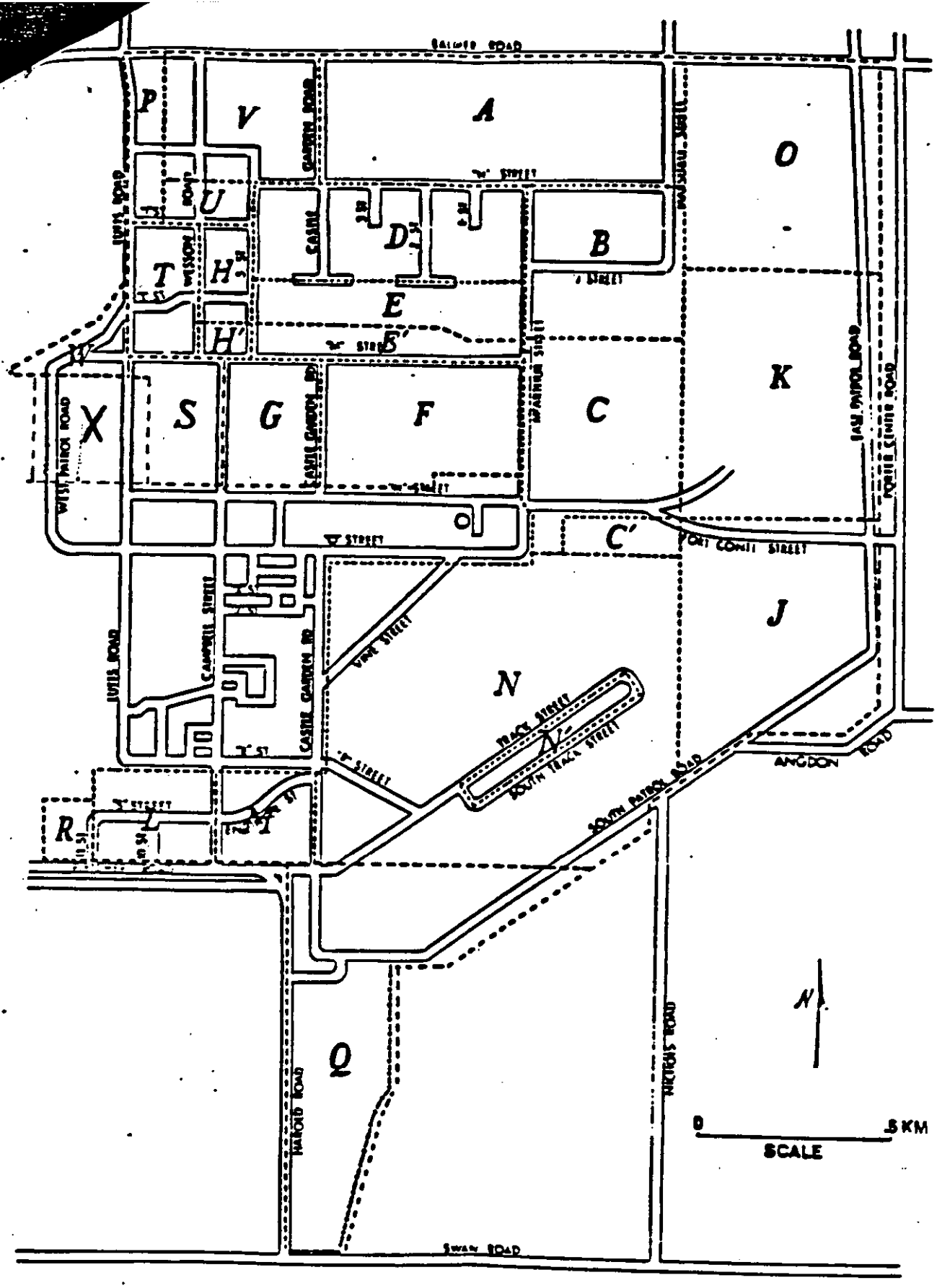
2 Enclosures

cc w/o encls
L. Campbell, OR
J. Spath, New York Energy Research
and Development Authority
S. Doleski, Regional Wetlands Administrator,
Division of Regulatory Affairs

bcc:
C. Yarbro, OR
J. Berger, ORAU
P. Merry-Libby, ANL

Subject
NE-74 (4)
NE-24
GPT Rdr

NE-24:GPTuri:mlw:353-2766:5/16/84:4137000 1 :file: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JUL 11 1983

Mr. Stanley A. Burger, Director
Division of Property and
Engineering Management
Employment and Training Administration
U.S. Department of Labor
601 D Street, N.W.
Washington, D.C. 20213

Dear Mr. Burger:

Enclosed for your information are radiological survey reports for part of the Department of Labor (DOL) property in Lewiston, New York. A report on the remainder of the DOL property will be provided to you within the next 2 months. Summaries of the survey results are on page 12 of each of the enclosed reports. Both of the properties (identified as L and M in the reports) have some radioactive contamination that exceeds current Environmental Protection Agency criteria. However, the contaminants do not pose any present health risk, and there is no evidence of migration adversely affecting adjacent properties or the ground water.

As a result of the radioactive contamination, I have referred your properties to the Department of Energy's Oak Ridge Operations Office for remedial action. The Oak Ridge Operations Office will obtain DOL consent before any remedial actions are taken. Presently, the plan is to complete remedial action at properties like the DOL property that were once part of the Lake Ontario Ordnance Works by 1985. If you have questions relative to the remedial action, you can write Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

Thank you for your cooperation in the Department of Energy effort to conduct appropriate remedial actions and thus protect the public health and safety.

Sincerely,

151

Gale P. Turi
FUSRAP/Surplus Facilities Group
Division of Remedial Action Projects

bcc: w/o encls.
C. Yarbro, OR
E. DeLaney NE-24
NE-73 (4)
NE-24 RF
Turi RF

Enclosures

GPT
NE-24:GTuri:ph:353-2766:7/6/83:V-4-B-30 3.32.8

cc: w/o encls.
W. O'Brien, NY Dept. of Health
L. Campbell, DOE/OR

CONCURRENCES

RTG SYMBOL	INITIALS/SIG.	DATE
NE-24	DeLaney	7/7/83

JUN 1 1984

Mr. Steven Washuta
President
Modern Disposal Services, Inc.
P.O. Box 209
Model City, New York 14107

Dear Mr. Washuta:

Enclosed for your information are the radiological survey reports for the Modern Landfill, Inc. property identified as N North and N' North. The results for property N North on page 11 of Enclosure 1 indicate a few small areas of surface soil contamination that exceed the guidelines for radium-226 and uranium-238. The volume of contaminated material on this property is less than 1 cubic meter. The results for property N' North on pages 8 and 9 of Enclosure 2 indicate areas of surface radium-226 and uranium-238 contamination that also exceed guidelines. The volume of contaminated material on this property is approximately 560 cubic meters. While the radionuclide levels exceed current guidelines, they do not pose a health risk under existing conditions, and there is no evidence that migration of radioactive materials is adversely affecting adjacent properties.

With your permission, the Department of Energy (DOE) will remove the contaminated material described above and will bear all costs for this work. DOE will contact you to obtain your consent and make the necessary arrangements before work is begun. If you have any questions relative to the remedial action, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, P.O. Box E, Oak Ridge, Tennessee 37830, telephone: 615-576-1052.

3.328

Thank you for your cooperation in the DOE efforts to locate the contamination and conduct appropriate remedial actions.

Sincerely,

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

NE-24
Delaney
5/30/84
NE-24
Baublitz
5/31/84

2 Enclosures

cc:
L. Campbell, w/o encls.
J. Spath, NYS Energy Research
and Development Authority, w/encls. (5)

bcc:
C. Yarbro, w/o encls.
J. Berger, ORAU, w/o encls.
P. Merry-Libby, ANL, w/encls.

NE-74 (4)
NE-24 RF
Turi RF

NE-24:GTuri;ph:353-2766:5/30/84:IBM:41510006:3.32.8

JUN 29 1983

NE-24

Designation of Niagara Falls Storage Site Offsite Properties H', L, M, Q, and N/N' South

E. L. Keller, Director
Technical Services Division
Oak Ridge Operations Office

The subject properties are designated for your consideration for remedial action. Attached are final radiological survey reports for properties H', L, and M, and a draft report for property Q. A draft report for property N/N' south will be provided to you within the next 2 weeks.

If you or the Bechtel National, Inc. staff have any questions on these reports, you can contact James Berger, ORAU, directly.

/s/

Gale P. Turi
FUSRAP/Surplus Facilities Group
Division of Remedial Action Projects

4 Attachments

cc: w/o attachs.
W. Bibb, OR
L. Campbell, OR
J. Berger, ORAU

NE-73 (4)
NE-24 RF
Turi RF

NE-24:GTuri:ph:353-2766:6/23/83 3.32.8

CONCURRENCES

RTG SYMBOL	INITIALS/SIG.	DATE
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AUG 23 1983

Town of Lewiston
ATTN: Mr. Calvin Shultz
Town Maintenance Garage
Swann Road
Lewiston, New York 14092

Dear Mr. Shultz:

Enclosed for your information is the radiological survey report for the Town of Lewiston property identified by the letter Q. A summary of the survey results on page 12 of the report indicates that there are isolated areas of surface soil contamination that exceed current Environmental Protection Agency criteria. However, the contaminants do not pose potential health risks, and there is no evidence of migration adversely affecting adjacent properties or the ground water.

As a result of the radioactive contamination, the Town of Lewiston property will need remedial action. The Department of Energy's (DOE) Oak Ridge Operations Office, which is responsible for conducting the remedial action, will obtain Town of Lewiston consent before any remedial action is taken. Presently, the plan is to complete remedial action at properties, like the Town of Lewiston property, that were once part of the Lake Ontario Ordnance Works, by 1985. If you have questions relative to the remedial action, you can write Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

Thank you for your cooperation in the DOE effort to conduct appropriate remedial actions and thus protect the public health and safety.

bcc:
C. Yarbro, OR, w/o encl.
J. Berger, ORAU, w/o encl.
P. Merry-Libby, ANL, w/encl.

NE-73 (4) Turi RF
NE-24

Sincerely,
Original signed by:
Edward G. DeLaney

for John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

Enclosure

GRJ
NE-24:GTuri:ph:353-2766:8/22/83:V-6-A-11 3.32.8

cc: w/encl.
L. Campbell, OR
J. Spath, New York State Energy
Research and Development
Authority, w/encl. (5)

CONCURRENCES

RTG. SYMBOL	INITIALS/SIG.	DATE
NE-24	DeLaney	8/23/83
NE-24	Baublitz	8/23/83

DOE F 1325.10 (7-79)

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Y3/2 - for distrib.

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

July 25, 1983

John E. Baublitz, Director, Division of Remedial Action Projects, NE-24,
Headquarters, GTN

ORAU RASCA PROGRAM - FINAL REPORT, OFFSITE PROPERTY Q, NFSS

Attached is the ORAU final report: Comprehensive Radiological Survey, Offsite Property Q, Niagara Falls Storage Site, Lewiston, New York.

Claude L. Galvao
for W. D. Adams, Acting Director
Energy Programs and Support Division

ER-111:CLY

Attachment:
Subject report (10)

cc w/atchmt:
W. E. Mott, EP-323, HQ, GTN
E. L. Keller, CE-53, ORO (4)

APR 2 6 1984

Mr. Robert Cleary, Jr.
Vice President, Regional Operations
Niagara Mohawk Power Corporation
535 Washington Street
Buffalo, New York 14203

Dear Mr. Cleary:

After receiving your consent in June of 1983, the Department of Energy (DOE) conducted a radiological survey of the Niagara Mohawk property in Lewiston, New York, identified by the letter R on Enclosure 1. This survey was conducted under the DOE Formerly Utilized Sites Remedial Action Enclosure 2, Comprehensive Radiological Survey - Off-Site Property R. The results indicate a narrow strip of radium contaminated surface soil (0-15 centimeters deep) along the shoulder of Pletcher Road that exceeds the current Environmental Protection Agency criterion. However, the contamination does not pose a potential health risk nor is there any evidence that the contamination is migrating onto nearby properties or into the ground water.

Since the contamination on the Niagara Mohawk property is a result of activities of DOE predecessor agencies, DOE will perform the necessary remedial action with your permission and will bear all costs for this work. We plan to complete the work by the fall of 1984 if you agree. DOE will contact you to obtain your consent and make any other necessary arrangements before the remedial action is begun. If you have any questions relative to the remedial action, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office. U. S. DOE, P. O. Box E, Oak Ridge, Tennessee 37830 (telephone: 615-576-1052).

3.32.8

Thank you for your cooperation in the DOE efforts to locate the contamination and to conduct appropriate remedial action for protection of the public health and safety.

NE-24 for Turi 4/23/84

Sincerely,

NE-24 DeLaney 4/24/84

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

NE-24 Baublitz 4/24/84

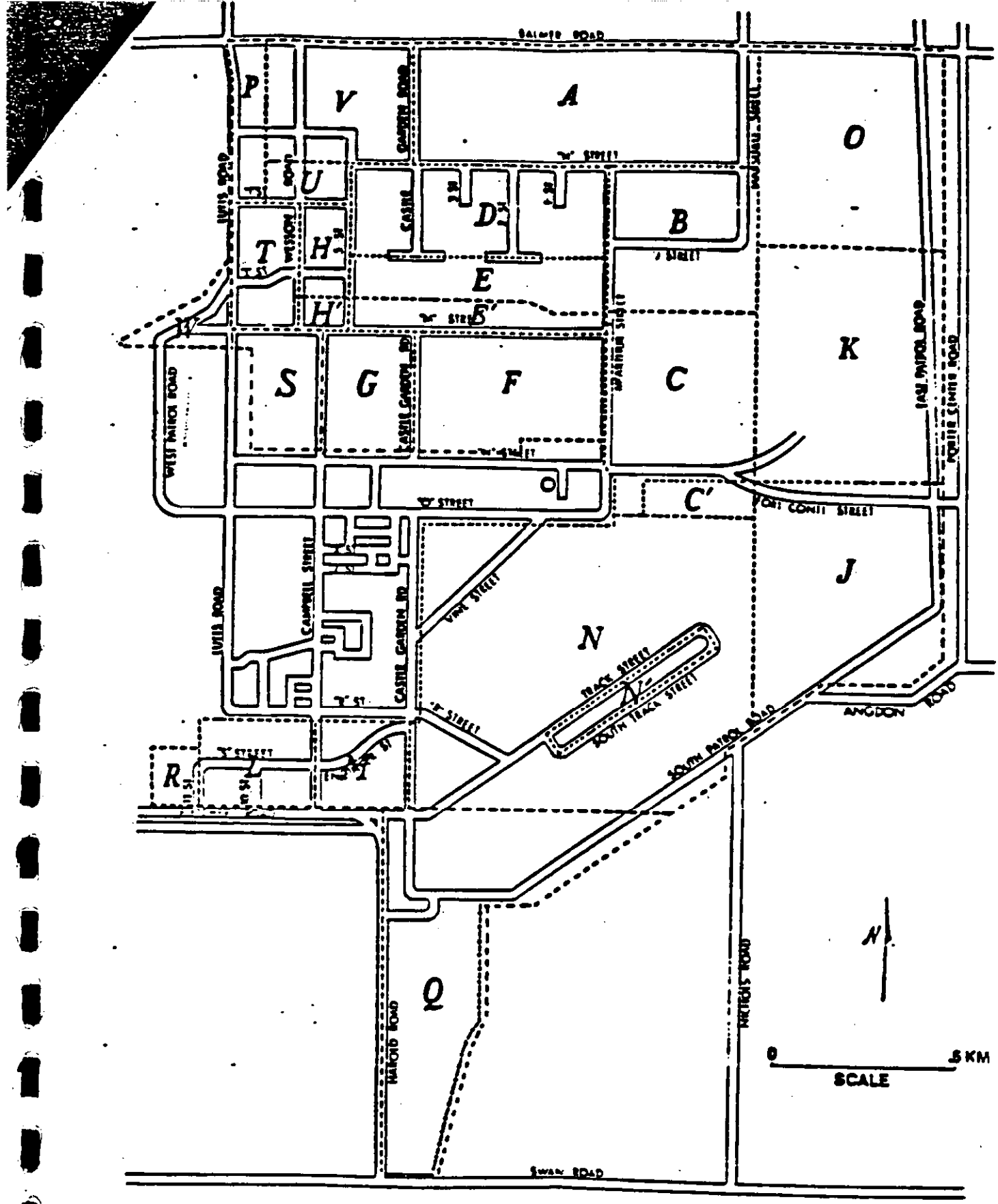
Enclosures

L. Campbell, OR
J. Spath, New York State Energy
Research and Development Authority w/enclosure (5)

bcc:
C. Yarbro, OR w/o encl
J. Berger, ORAU w/o encl
P. Merry-Libby, ANL w/encl

Subject
NE073 (4)
NE-24
GT Rdr

NE-24:GPTuri:mlw:353-2766:41140005:file 3.32.8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MAY 2 3 1984

Mr. John Sims
Somerset Group, Inc.
Lew-Port Industrial Park
Youngstown, New York 14174

Dear Mr. Sims:

After receiving your consent in 1983, the Department of Energy (DOE) conducted a radiological survey of Somerset Group, Inc. property in Youngstown, New York, identified by the letters U and V on Enclosure 1. The survey was conducted under the DOE Formerly Utilized Sites Remedial Action Program, and the survey results are presented in Enclosures 2 and 3. There is a small volume (less than 6 cubic meters) of material on the property that contains radium-226 levels which exceed Environmental Protection Agency guidelines that is likely a result of activities by DOE predecessor agencies. However, under present conditions the contaminants do not pose health risks, and there is no evidence that migration of the radioactive material is adversely affecting adjacent properties.

With your permission, DOE will remove the contaminated material described above and will bear all costs for this work. DOE will contact you to obtain your consent and make the necessary arrangements before work is begun. We plan to complete the remedial action by the fall of 1984. If you have any questions relative to the remedial action, you can write or call Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830, Telephone 617-576-1052.

3.32.8

Thank you for your cooperation in the DOE efforts to locate the contamination and to conduct appropriate remedial action.

Sincerely,

NE-24
for Delane
5/22/8

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

NE-24
Baubli
5/23/8

3 Enclosures

cc:
L. Campbell, OR, w/o encls.
J. Spath, NYS Energy Research and
Development Authority, w/encls. (5)

bcc:
C. Yarbro, OR, w/o encls.
J. Berger, ORAU, w/o encls.
P. Merry-Libby, ANL, w/encls.

NE-73 (4)
NE-24 RF
Turi RF

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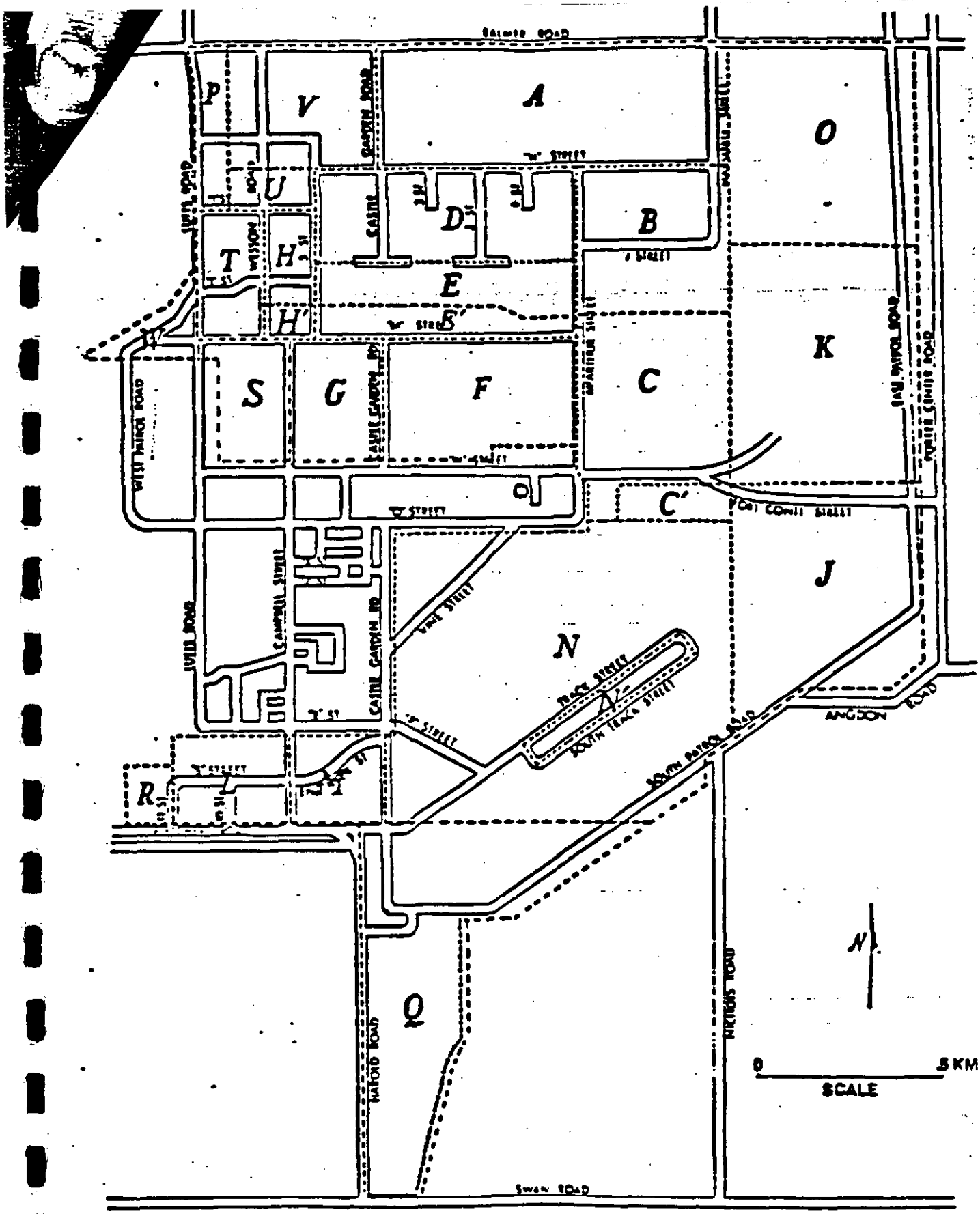
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MAY 2 3 1984

Town of Lewiston
ATTN: Mr. Calvin Shultz
Town Maintenance Garage
Swann Road
Lewiston, New York 14092

Dear Mr. Shultz:

Enclosed for your information is the radiological survey report for the Town of Lewiston property identified by the letter X. A summary of the survey results on page 10 of the report indicates that there are areas of surface soil contamination that exceed current Environmental Protection Agency criteria. However, under existing conditions, the contaminants do not pose health risks, and there is no evidence of migration adversely affecting adjacent properties or the ground water.

As a result of the radioactive contamination, the Town of Lewiston property will need remedial action. The Department of Energy's (DOE) Oak Ridge Operations Office, which is responsible for conducting the remedial action, will obtain Town of Lewiston consent before any remedial action is taken. Presently, the plan is to complete remedial action at properties, like the Town of Lewiston property, that were once part of the Lake Ontario Ordnance Works, by 1985. If you have questions relative to the remedial action, you can write Mr. Lowell Campbell, Deputy Director, Technical Services Division, Oak Ridge Operations Office, U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830.

Thank you for your cooperation in the DOE effort to conduct appropriate remedial actions and thus protect the public health and safety.

Sincerely,

JEB

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action
Office of Nuclear Energy

Enclosure

3.32.8

cc: w/encl.
L. Campbell, OR
J. Spath, New York State Energy
Research and Development
Authority (5)

NE-24
DeLane
5/22/8

NE-24
Baubli
5/24/84

bcc:
C. Yarbro, OR, w/o encl.
J. Berger, ORAU, w/o encl.
P. Merry-Libby, ANL, w/encl.

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NE-20

Designation of Three NFSS Vicinity Properties

Joe LaGrone, Manager
Oak Ridge Operations Office

This memorandum will confirm the telephone conversation between Mr. A. J. Whitman, Division of Site and Facility Decommissioning Projects (NE-23) and Mr. J. Wing, Technical Services Division, Oak Ridge Operations Office on November 22, 1985, in which Mr. Whitman gave Mr. Wing verbal approval to conduct remedial action at the following three vicinity properties in Niagara Falls, New York.

1. Junction of Buffalo Ave. and Hyde Park Blvd.

2. Junction of Highways 18 an 104.

3. Junction of Highway 31 and Military Road.

Authority to conduct remedial action was based on the radiological data reported in the attached draft reports of the three aforementioned vicinity properties. The radiological data presented in these reports are not expected to change in the final reports as the only comments on the attached reports are editorial.

If there are any questions, please call Arthur Whitman on FTS 233-5439.

/s/ VOIGT

William R. Voigt, Jr.
Director
Office of Remedial Action
and Waste Technology
Office of Nuclear Energy

3 Attachments

bcc:
E. Keller, OR
J. Wing, OR
B. Berven, ORNL
W. Bibb, OR
J. Berger, ORAU
G. Turi, NE-23
A. Whitman, NE-23
Aerospace
Baublitz RF
Whitman RF
NEG (4)

NE-23:AWhitman:ph:353-5439:11/26/85:IBM:330/47:3.32.8

NE-23
Whitman
11/26/85

NE-23
DeLaney
12/2/85

NE-20
Baublitz
12/6/85

NE-20
Voigt
12/6/85

Exhibit II (3) - Radiological Characterization Reports

The documents listed in this section address the pre-remedial action status of the subject properties. The following documents are included in this docket by reference.

Oak Ridge National Laboratory. Results of Ground Level Radiation Measurements in Support of the 1978 Aerial Survey of the Lake Ontario Ordnance Works, Lewiston, New York, ORNL/TM-7004, Oak Ridge, Tenn., September 1979.

EG&G. Radiological Survey of the Lake Ontario Ordnance Works and Vicinity in June 1972, EGG-1183-1554, Technical Report No. L-1076, November 3, 1972.

Battelle Columbus Laboratories. A Comprehensive Characterization and Hazard Assessment of the DOE-Niagara Falls Storage Site, BMI-2074 (Revised), Columbus, Ohio, June 1981.

The Aerospace Corporation. Background and Resurvey Recommendations for the Atomic Energy Commission Portion of the Lake Ontario Ordnance Works, ATR-82 (7963-04)-1, Washington, D.C., November 1982.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property A, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property B, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property C', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Exhibit II (3) - Radiological Characterization Reports (continued)

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property D, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property F, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property H', Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., June 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property L, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property M, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N North, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N' North, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property N/N' South, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., August 1983.

Exhibit II (3) - Radiological Characterization Reports (continued)

Oak Ridge National Laboratory. Radiological Survey of a Portion of Property Owned by Modern Landfill, Inc. - Former LOOW Site, Summary Report, Oak Ridge, Tenn., March 1981.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property P, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property Q, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., July 1983.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property R, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property S, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property T, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property U, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., March 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property V, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., April 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property W, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., February 1984.

Oak Ridge Associated Universities. Comprehensive Radiological Survey Off-Site Property X, Niagara Falls Storage Site, Lewiston, New York, Oak Ridge, Tenn., May 1984.

Oak Ridge National Laboratory. Results of the Mobile Gamma Scanning Activities in Niagara Falls, New York Area, ORNL/RASA-85/1, Oak Ridge, Tenn., August 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken in the Niagara Falls, New York Area (NF002), ORNL/TM-10076, Oak Ridge, Tenn., November 1986.

Oak Ridge Associated Universities. Preliminary Radiological Survey of Pletcher Road, Lewiston, New York, Oak Ridge, Tenn., September 13, 1983.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken Near Junction of Highway 31 and Military Road in Niagara Falls, New York, ORNL/RASA-85/42, Oak Ridge, Tenn., December 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken Near Junction of Buffalo Avenue and Hyde Park Boulevard in Niagara Falls, New York, ORNL/RASA-85/41, Oak Ridge, Tenn., December 1985.

Oak Ridge National Laboratory. Results of Radiological Measurements Taken at Junction of Highways 18 and 104 in Niagara Falls, New York, ORNL/RASA-85/40, Oak Ridge, Tenn., December 1985.

Exhibit II (4) - NEPA Documents

The documents listed in this section are those that fulfill the NEPA requirements for the subject properties. These documents are included in this docket by reference.

Argonne National Laboratory. Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983, (Nonaccelerated Program), Argonne, Ill., February 1983.

Argonne National Laboratory. Addendum to Action Description Memorandum, Niagara Falls Storage Site, Proposed Interim Remedial Actions for FY 1983-85 Accelerated Program (1984 Vicinity Properties Cleanup), Argonne, Ill., July 1984.

Argonne National Laboratory. Environmental Impact Statement, Long-Term Management of the Existing Radioactive Wastes and Residues at the Niagara Falls Storage Site, DOE/EIS-0109F, Argonne, Ill., April 1986.

Exhibit II (5) - Access Agreements

Access agreements were obtained from each property owner before remedial action activities began. The properties for which access agreements exist are listed below by property owner name and the affected property. All agreements were signed with the exception of one with Ms. Diana Raybon, who chose to allow DOE to exercise its rights under the Commmon Law.

SCA Chemical Services	Properties A, B, D, E, E', F, G, H', P, S, T (including a portion of the West Drainage Ditch), U, and W (including a portion of the West Drainage Ditch)
Modern Landfill, Inc.	Properties C' and N/N' North
Department of Labor	Properties L, M, N/N' South
Niagara Mohawk Power Corp.	Property R (including a portion of the West Drainage Ditch)
Somerset Group, Inc.	Property V and property located along a portion of the Central Drainage Ditch
State of New York Department of Transportation	Anomalies AA and BB
City of Niagara Falls	Anomaly CC
Town of Lewiston	Properties Q and X (including a portion of the West Drainage Ditch) and areas along Pletcher Road
New York Army Reserve National Guard	Property located along a portion of the Central Drainage Ditch
Mr. Tom Tower	Property located along a portion of the Central Drainage Ditch
Ms. Diana Raybon	Property located along a portion of the Central Drainage Ditch

Exhibit II (5) - Access Agreements (continued)

Mr. Richard Kahl	Property located along a portion of the Central Drainage Ditch
Town of Porter	Property located along a portion of the Central Drainage Ditch
Niagara County	Property located along a portion of the Central Drainage Ditch

Exhibit II (6) - Post-Remedial Action Reports

The following reports document the remedial action activities and the post-remedial action radiological status for each of the subject properties. These post-remedial action reports are included in this docket by reference.

Oak Ridge Associated Universities. Post-Remedial Action Survey, Property of Modern Landfill, Inc., Former LOOW Site, Lewiston, New York, Oak Ridge, Tenn., January 1982.

Eberline Instrument Corporation. Remedial Action and Radiological Surveys Conducted at Property Owned by Modern Landfill, Inc., Lewiston, New York, Formerly a Portion of the Lake Ontario Ordnance Works, (undated).

Bechtel National, Inc. Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties - 1983 and 1984, DOE/OR/20722-84, Oak Ridge, Tenn., December 1986.

Bechtel National, Inc. Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties - 1985 and 1986, DOE/OR/20722-133, Oak Ridge, Tenn., January 1989.

Exhibit II (7) - Interim Verification Letters to Property Owners and Verification Statements and Reports

Documents included in this exhibit are related to the successful decontamination of the subject properties. The following interim verification statements were sent to each of the property owners. Copies are included in this exhibit.

Exhibit II (7) - Interim Verification Letters to Property Owners and Verification Statements and Reports (continued)

Exhibit II (7) - Interim Verification Letters to Property Owners and Verification Statements and Reports (continued)

Exhibit II (7) - Interim Verification Letters to Property Owners and Verification Statements and Reports (continued)

Exhibit II (7) - Interim Verification Letters to Property Owners and Verification Statements and Reports (continued)

Page

Oak Ridge Associated Universities. Verification of the 1985 and 1986 Remedial Actions, Niagara Falls Storage Site Vicinity Properties, Lewiston, New York, Oak Ridge, Tenn., July 1990. ref.

042348 Niagara
86-346

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

U. S. Department of Labor
Division of Property and Engineering
Management
Employment and Training Administration
601 D Street, N.W.
Washington, DC 20213

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell E. Campbell

for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

Received by
JAN 2 1987
FUSRAP PDCC

ATTACHMENT
NOT RECEIVED
By FUSRAP PDCC

842348
86-347

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Town of Lewiston
1375 Ridge Road
Lewiston, New York 14092

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

for Lowell F. Campbell
S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

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Received by
JAN 2 1987
FUSRAP PDCC

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Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Niagara Mohawk Power Corp.
535 Washington Street
Buffalo, NY 14203

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell F. Campbell

for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

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Received by
JAN 2 1987

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842351
83-349

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Somerset Group, Inc.
Lew-Port Industrial Park
Balmer Road
Youngstown, New York 14174

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell E. Campbell

for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

New York Army National Guard
184 Connecticut Street
Buffalo, New York 14213

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

for Lowell E. Campbell
S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Mr. Thomas Tower
P. O. Box 400
Youngstown, New York 14174

Dear Mr. Tower:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell E. Campbell
for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

32803

November 19, 1985

Ms. Diana Raybon
1281 Swann Road
Youngstown, New York 14174

Dear Ms. Raybon:

I am pleased to inform you that the remedial action on the property, described on deed as property belonging to Diana Raybon in the Town of Porter, County of Niagara and State of New York located north of Cain Road and west of Lutts Road as part of Lot 21, Township 15, Range 9, has been satisfactorily completed. The property is now in compliance with applicable standards and guidelines. The data supporting this determination are enclosed.

A formal certification statement will be forwarded to you in the near future.

Thank you for your cooperation and if there are any questions, please feel free to call me on 615-576-0948.

Sincerely,

E. L. Keller

E. L. Keller, Director
Technical Services Division

CE-53:Atkin

Enclosure:
As stated

842854

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Ms. Diana B. Raybon
1281 Swann Road
Youngstown, New York 14174

Dear Ms. Raybon:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

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JAN 2 1987
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042355

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Mr. Richard C. Kahl
1 Main Street
Youngstown, New York 14174

Dear Mr. Kahl:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell F. Campbell
for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

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JAN 2 1987
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NOT RECEIVED
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Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Niagara County
Department of Public Works
225 S. Niagara Street
Lockport, New York 14094

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell F. Campbell
for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

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Received by
JAN 2 1987
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042887

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Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

Town of Porter
Highway Department
1800 Braley Road
Porter, New York 14092

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell F. Campbell
for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

Received by
JAN 2 1987

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By FUSRAP PDCC

042472

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

December 29, 1986

SCA Chemical Services, Inc.
Model City Facility
P. O. Box 200
1550 Balmer Road
Model City, New York 14107

Dear Sir:

NFSS POST-REMEDIAL ACTION REPORT 1983-84

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on your property has been satisfactorily completed. The property is now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). The data supporting the determination are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted. As I'm sure you are aware, this does not apply to your PCB warehouse for which we have previously agreed to provide radiological support during your destruction of the building.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bob Bowles of my staff at (615) 576-4451.

Sincerely,

Lowell F. Campbell

for S. W. Ahrends, Director
Technical Services Division

CE-53:Bowles

Enclosure

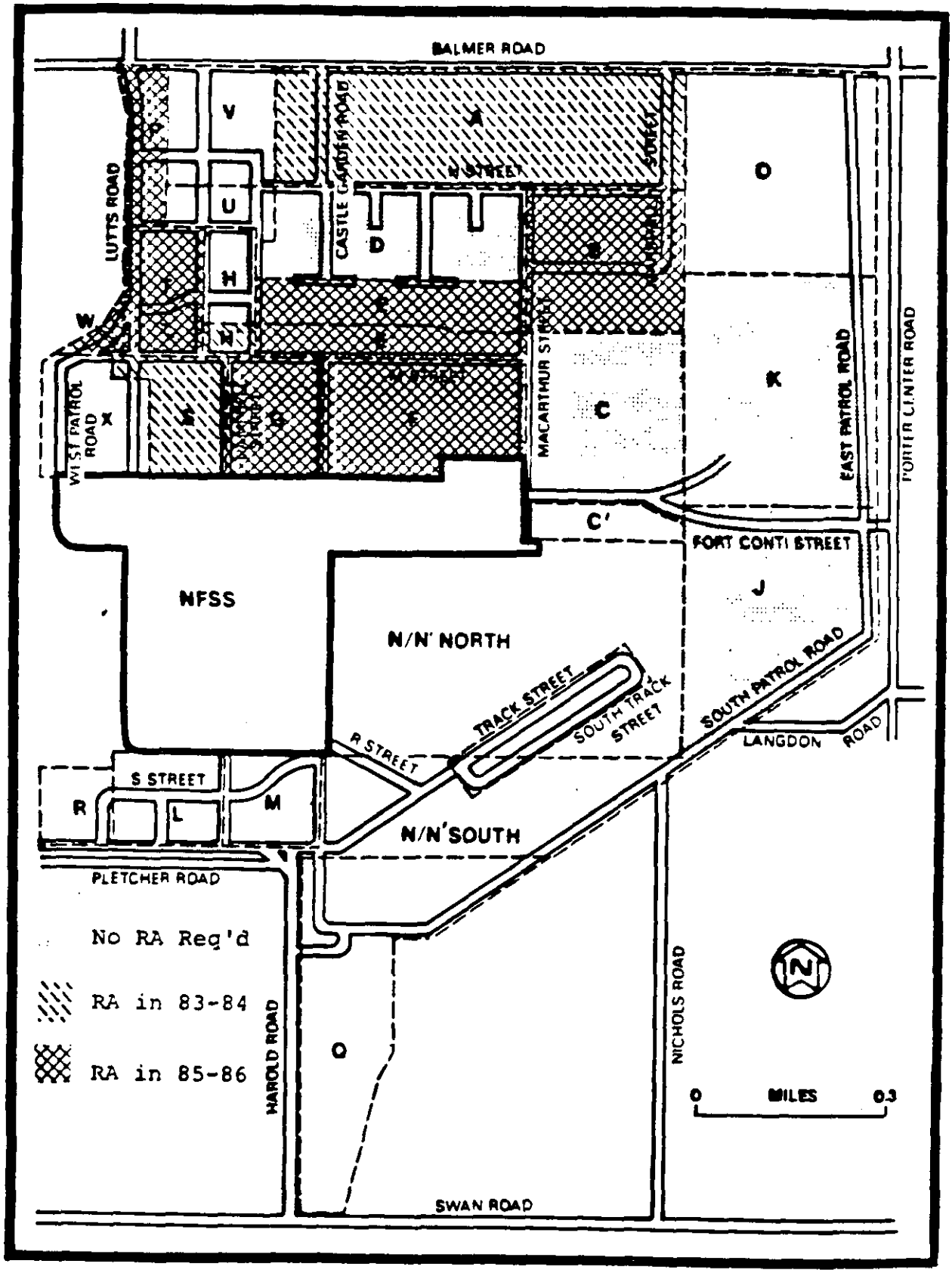

FIGURE 1 LETTER-DESIGNATED VICINITY PROPERTIES

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

September 10, 1986

Mr. Paul D. Eismann
New York State Department
of Environmental Conservation
Division of Regulatory Affairs
Region 9
600 Delaware Avenue
Buffalo, New York 14202-1073

Dear Mr. Eismann:

COMPLETION OF FRESHWATER WETLANDS EXCAVATION, NYSDEC PERMIT NO. 90-84-0976

This letter is to confirm that the excavation work permitted by NYSDEC Freshwater Wetlands RV-1 Permit No. 90-84-0976 was completed on July 31, 1986. Independent verification of decontamination was received on August 11, 1986.

The original volume of contaminated soil removed from Area C' was 22.2 cubic yards. The discovery of areas of contamination penetrating to greater depths (up to three feet) resulted in the excavation of an additional 232 cubic yards. The final figures are 254 cubic yards of contaminated soil excavated and approximately 3650 square feet of surface area disturbed.

All contaminated soil excavated from Area C' was transported to the NFSS Waste Containment Facility for interim secure storage.

If you require additional information, please contact Steve McCracken of my staff at (615) 576-4403.

Sincerely,

S. Ahrends

S. W. Ahrends, Director
Technical Services Division

86-127:Oldham, 86-127

cc:
J. F. Wing, DOE
J. Snider, NYSDEC, Region 9
S. J. Doleski, NYSDEC, Region 9
A. J. Kuhaida, BNI
S. Washuta, Modern Landfill

SEP 11 [illegible]

040907

Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

Manpower Education, Research and Training Division

October 21, 1986

Mr. Edward G. Delaney, Director
Division of Facility and Site
Decommissioning Projects
Office of Nuclear Energy
U.S. Department of Energy
Washington, DC 20545

Subject: VERIFICATION OF NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES - 1983/1984 REMEDIAL ACTIONS

Dear Mr. Delaney:

Oak Ridge Associated Universities (ORAU) has completed independent verification activities on vicinity properties at the Niagara Falls Storage Site, which were remediated during the 1983 and 1984 construction seasons. Based on the results of document reviews, confirmatory sample analyses, and independent site surveys it is ORAU's opinion that the remedial actions have been effective in meeting the DOE radiological guidelines for the following vicinity properties: A, E', L, M, N/N' South, Q, R, S, U, X, West Drainage Ditch (outside DOE property boundaries), and Central Drainage Ditch (outside DOE property boundaries). A report, describing the verification activities findings in being prepared.

Questions regarding this matter may be referred to me at FTS 626-3305.

Sincerely,

James D. Berger, Manager
Radiological Site Assessment Program

JDB:mec

cc: G. Turi, DOE/NE
S. Ahrends, DOE/OR/TSD
R. Boles, DOE/OR/TSD
J. Nemec, BNI
B. Borden, BNI
R. Glenn, BNI
C. Hickey, BNI
A. Boerner, ORAU

LOT 23

059895

Oak Ridge
Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

March 10, 1989

Mr. James J. Fiore, Director
Division of Facility and Site
Decommissioning Projects
Office of Nuclear Energy
U.S. Department of Energy
Washington, DC 20545

Subject: VERIFICATION LETTER FOR NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES - 1985/1986 REMEDIAL ACTIONS

Dear Mr. Fiore:

Oak Ridge Associated Universities (ORAU) has performed independent verification activities on vicinity properties at the Niagara Falls Storage Site (NFSS), which were remediated during the 1985 and 1986 construction seasons. These activities have included document reviews, confirmatory sample analyses, and independent site surveys. Based on our findings, it is ORAU's opinion that remedial actions have been effective in meeting the established DOE radiological guidelines at the following NFSS vicinity properties.

Property B	Property P
Property C'	Property T
Property D	Property W
Property E'	Pletcher Road
Property F	Anomalies AA, BB, and CC
Property G	

Additional vicinity properties at NFSS were verified earlier, and a verification letter for those activities were provided on October 21, 1986. The only remediated vicinity property for which a verification statement cannot be issued at this time is N/N' North. A verification letter for that property will be provided following resolution of several minor issues. Reports, describing the verification activities and findings, are being prepared.

If I can be of further assistance, please contact me at FTS 626-3305.

Sincerely,

James D. Berger, Manager
Radiological Site Assessment Program

JDB:jls

cc: A. Wallo, DOE/NE
P. Gross, DOE/ORO/TSD
B. Atkin, DOE/ORO/TSD
G. Hovey, BNI
R. Robertson, BNI

Oak Ridge
Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

May 1, 1989

Mr. R. C. Robertson
Bechtel National, Inc.
P.O. Box 350
Oak Ridge, TN 37831-0350

Subject: AREA OF SUSPECTED CONTAMINATION ON NFSS PROPERTY N NORTH

Dear Mr. Robertson:

This letter is provided to update the status of the small area of suspected residual contamination on vicinity property N North at the Niagara Falls Storage Site (reference my letter of February 8, 1989 and your letter of April 18, 1989).

The results of the March 24, 1989 resurvey of the suspected area, which Mr. McNamee conveyed to me by phone, contained significantly lower uranium concentrations and a higher radium to uranium ratio than our samples had contained. I was therefore concerned that the sampling had not been performed at the specific area in questions. On April 21, 1989, while in Buffalo for another meeting, I visited the NFSS site and was accompanied by site employees to the area. They pointed out the location where the March 24 measurements and sampling had been conducted. This location was on the north side of the former railroad track, in the previously excavated and verified section of vicinity property C. The survey had not addressed the area of property N North in question, which is on the south side of the former railroad track.

I performed an abbreviated gamma scan of the area of concern and located a small region with contact gamma levels ranging up to four times the background level. This region was on the south bank of the rail bed, about 1 foot above the level of standing water. Although there were no previous marking flags visible and recent earthmoving activities have covered some of this bank, I observed some small pieces of scrap metal stampings, which were identical to those found during our earlier survey. Two surface samples were collected - #1 at the location of highest direct gamma and #2 about 2 feet west of the first sample . Contact direct radiation levels increased slightly as the top layer of soil was removed. Unfortunately I was not prepared to perform an in depth survey during this brief visit. The analyses of these samples are:

Sample No.	Concentration (pCi/g) U-238	Ra-226
1	83.2 ± 4.9	1.3 ± 0.3
2	36.6 ± 2.6	2.5 ± 0.3

As I indicated during our meeting on April 25, I do not believe there is sufficient data available yet to show that uranium contamination does not exceed the guideline levels. In addition, because this area on N North was identified in the initial designation/characterization report, it is my opinion that it must be addressed in the post remedial action document.

It is my understanding that further cleanup and/or sampling will be conducted in that area to adequately resolve this concern, and data demonstrating that the guidelines are met will be generated. As I indicated in our April 25 meeting, ORAU will pursue timely completion of the verification report for the 83/84 and 85/86 remedial actions, so that the Certification docket can be published by mid-summer this year.

If there are any questions regarding this information, please contact me at (615) 576-3305 or FTS 626-3305.

Sincerely,

James D. Berger, Manager
Radiological Site Assessment Program

JDB:jls

cc: A. Wallo, DOE/NE
P. Gross, DOE/OR/TSD
W. Seay, DOE/OR/TSD
J. Beck, BNI
E. McNamee, BNI

061229

Bechtel National, Inc.
Systems Engineers — Constructors

Jackson Plaza Tower
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37830

Mail Address: P.O. Box 350, Oak Ridge, TN 37831-0350
Telex: 3785873

MAY 15 1989

Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

Attention: James D. Berger, Manager
Radiological Site Assessment Program

Subject: Bechtel Job No. 14501, FUSRAP Project
DOE Contract No. DE-AC05-81OR20722
Transmittal of Data from the Suspected Area of Residual Contamination on Property N North, South of the Old Railroad Tracks
Code: 7200/WBS: 115

Reference: Letter from J. D. Berger (ORAU) to R. C. Robertson (BNI), Area of Suspected Contamination on NFSS Property N North, May 1, 1989, CCN 061046

Dear Mr. Berger:

On May 1, 1989, additional samples were collected on NFSS vicinity property N North from the area of residual contamination on the south bank of the rail bed. The area was initially identified with a walkover gamma scan. The gamma scan delineated a small area of residual contamination that covered approximately 1 m^2. The vicinity around the contaminated area contained small pieces of scrap metal stampings, similar to those identified in your letter.

Once the area was identified, seven soil samples were collected. The first soil sample was a composite post-remedial action type sample from a 100 m^2 area containing the contamination. The next two soil samples were profile samples (profile #1), and were collected from the area with the highest gamma readings. The remaining four samples were profile samples (profile #2) from the area adjacent to the contamination that had been covered with road ballast. The preliminary results of the analysis of these soil samples are given below.

Sample No.	Description of Sample	Depth (ft)	Concentration (pCi/g) U-238	Ra-226	Cs-137
641	Composite Sample	0-0.5	11.6	2.7	0.6
642	Profile #1	0-0.5	94.3	2.9	0.5
643	Profile #1	0.5-2.0	20.3	1.0	0.2
644	Profile #2	0-0.5	7.7	5.8	0.7
645	Profile #2	0.5-1.0	7.3	5.8	0.3
646	Profile #2	1.0-2.0	4.0	1.1	0.3
647	Profile #2	2.0-2.5	5.0	1.0	0.3

After reviewing the data, the area in question appears to meet the average concentration guidelines and the "hot spot" criteria. Therefore, based on this sampling information, remedial action does not appear to be necessary.

If you have any further questions or information concerning this property, please contact me at (615) 576-4718.

Very truly yours,

RCRobertson

R. C. Robertson
Project Manager - FUSRAP

EMM:gmh:9810A

cc: William M. Seay, DOE

CONCURRENCE

EMM

061714

Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

May 31, 1989

Mr. R. C. Robertson
Bechtel National, Inc.
P.O. Box 350
Oak Ridge, TN 37831-0350

Subject: CONTAMINATION STATUS OF NFSS PROPERTY N NORTH
REFERENCE: LETTER FROM J. D. BERGER TO R. C. ROBERTSON OF MAY 1, 1989.

Dear Mr. Robertson:

ORAU has reviewed the radiological data for the small area of suspected uranium contamination immediately south of the old railroad tracks on Niagara Falls Storage Site (NFSS) Vicinity Property N North. On the basis of that data, ORAU concurs with BNI's opinion that this area is in compliance with the applicable guidelines for that site and that no remedial action is required. ORAU will proceed with issuance of a verification letter for that property and preparation of a report of verification activities for the 85/86 remedial action activities on NFSS vicinity properties.

Sincerely,

James D. Berger, Manager
Environmental Survey and
Site Assessment Program

JDB:jws

cc: A. Wallo, DOE/NE
W. Seay, DOE/OR/TSD
P. Gross, DOE/OR/TSD
J. Beck, BNI

Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37830

Manpower Education
Research and Training
Division

November 18, 1985

Mr. Art Whitman
FUSRAP/Surplus Facilities Group
Division of Remedial Action
Office of Nuclear Energy
U.S. Department of Energy
Washington, DC 20545

SUBJECT: VERIFICATION SURVEY REPORT - PROPERTY OF DIANA RAYBON
TOWN OF PORTER, NEW YORK

Dear Mr. Whitman:

Enclosed is a brief report describing ORAU activities, performed with regard to verifying cleanup of the Raybon Property, in the vicinity of the Niagara Falls Storage Site. This report is a followup to my letter of October 1985 on the same subject.

Questions concerning this information should be directed to me at FTS 626-3305.

Sincerely,

James D. Berger
Program Manager
Radiological Site Assessment Program

JDB:mec

Enclosures

cc: J. Wing, (DOE/OR/TSD)
J. Borden (BNI)

VERIFICATION ACTIVITIES
LOT 21, TOWNSHIP 15, RANGE 9
TOWN OF PORTER
NIAGARA COUNTY, NEW YORK

Prepared by

James D. Berger

INTRODUCTION AND BACKGROUND

Between July and September 1984, Bechtel National, Inc. (BNI) conducted remedial actions to remove soils and sediments, contaminated with low-level radioactivity, from a portion of the Central Drainage Ditch adjacent to Lot 21, Township 15, Range 9 in the Town of Porter, Niagara County, New York. The excavated material was initially placed along the south bank of the ditch, under the assumption that the average concentration of radionuclide contamination would satisfy the Department of Energy's guidelines for soil. Further analyses and proposed use of soils from this property as fill indicated that the excavated soil should be removed and relocated to the nearby Niagara Falls Storage Site for interim storage. This removal was accomplished in June 1965 and followup radiological surveys were conducted by BNI. On October 24, 1985, the Department of Energy requested that the Radiological Site Assessment Program of Oak Ridge Associated Universities (ORAU) perform an independent review to verify the BNI survey results, prior to release of the area for unrestricted use.

VERIFICATION ACTIVITIES

The following documents were obtained from BNI:

1. Drawing 15-DD40-C-09; "NFSS and Vicinity Properties FUSRAP Cleanup, Ditch Excavation Plan and Profile", REV 0, undated.

2. A diagram plotting the locations of soil samples, collected after the soil was removed from the property.

Prepared by the Radiological Site Assessment Program, Manpower Education, Research, and Training Division of Oak Ridge Associated Universities, Oak Ridge, Tennessee, under Contract DE-AC05-760R00033 with the Department of Energy.

November 18, 1985

3. A table (Table 1), "Post Remedial Action Sampling Results". This table presents the concentrations of U-238, Ra-226, and Th-232 in 217 samples collected after the soil removal.

At the time these documents were received 6 samples were identified by ORAU and requested for confirmatory analysis. These samples were provided to ORAU on October 28, 1985, and analyzed by gamma spectrometry on that same day.

FINDINGS

The above documents indicate that soil was removed from a narrow strip along the ditch, approximately 30 ft. in width and 1400 ft. in length. A total of 212 soil samples was obtained from the surface exposed by soil removal (see Figure 1). An additional 3 samples were obtained from the property near the cleanup area and 2 samples were obtained from the ditch. The ranges of concentrations (including background) measured by BNI in these samples are:

Ra-226: <0.4 to 5.1 $\pm$ 1.4* pCi/g
U-238: <2.0 to <11.0 pCi/g
Th-232: <0.04 to 4.7 $\pm$ 1.2* pCi/g

* Errors are 2σ.

For comparison, the DOE guidelines for average residual contamination above background levels in surface soil are Ra-226, 5 pCi/g; U-238, 75 pCi/g (assumes natural abundance of uranium isotopes); and Th-232, 5 pCi/g. All of the sample results presented in the table from BNI were within these DOE guideline concentrations.

The results of the confirmatory analyses performed by ORAU on 6 BNI samples are presented in the attached Table 1. With the exception of the Th-232 activity for the samples from grid location 1370 W, 10530 N, all analytical results by BNI and ORAU are in agreement within the 2σ (95%) confidence limits. All of the measured concentrations are within the DOE guideline criteria for surface soil. The one sample result which was not in agreement contained a Th-232 concentration of 1.07 $\pm$ 0.34 pCi/g, according to the ORAU analysis, as

compared to the BNI-determined level of <0.5 pCi/g. Although these two values differ slightly, this difference is not considered unusual or significant, for analytical procedures at such low concentration. Also both values were well below the 5 pCi/g (above background) DOE guideline for Th-232.

CONCLUSION

Based on independent review and confirmatory sample analysis, it is ORAU's opinion that the BNI data and documents are adequate and accurate in describing the remedial action activities and that the current conditions of the property satisfy DOE's radiological guidelines for release for unrestricted use.

TABLE 1

CONFIRMATORY ANALYSES OF SURFACE SOIL SAMPLES
COLLECTED FOLLOWING REMOVAL OF EXCAVATED MATERIAL

Sample Location W	N	Analyzed By	Radionuclide Concentration (pCi/g) ± 20* Ra-226	U-238	Th-232
170	990	BNI	1.5 ± 0.8	<3.0	0.8 ± 1.0
		ORAU	2.02 ± 0.32	1.25 ± 0.97	1.37 ± 0.65
400	10080	BNI	0.7 ± 0.6	<3.0	0.5 ± 0.8
		ORAU	1.14 ± 0.22	0.55 ± 0.45	1.16 ± 0.34
1360	10500	BNI	2.9 ± 1.0	3.6 ± 6.0	<0.5
		ORAU	3.40 ± 0.36	1.87 ± 0.77	0.74 ± 0.30
1370	10530	BNI	3.6 ± 1.2	<6.0	<0.5
		ORAU	4.26 ± 0.53	<0.72	1.07 ± 0.34
1380	10500	BNI	4.1 ± 1.4	<4.0	1.2 ± 1.0
		ORAU	4.46 ± 0.51	1.31 ± 1.71	0.59 ± 0.48
1396	10530	BNI	2.6 ± 1.0	<4.0	0.9 ± 0.8
		ORAU	3.29 ± 0.37	<0.70	1.07 ± 0.51

*Results have not been corrected for typical background radionuclide concentrations in this area.

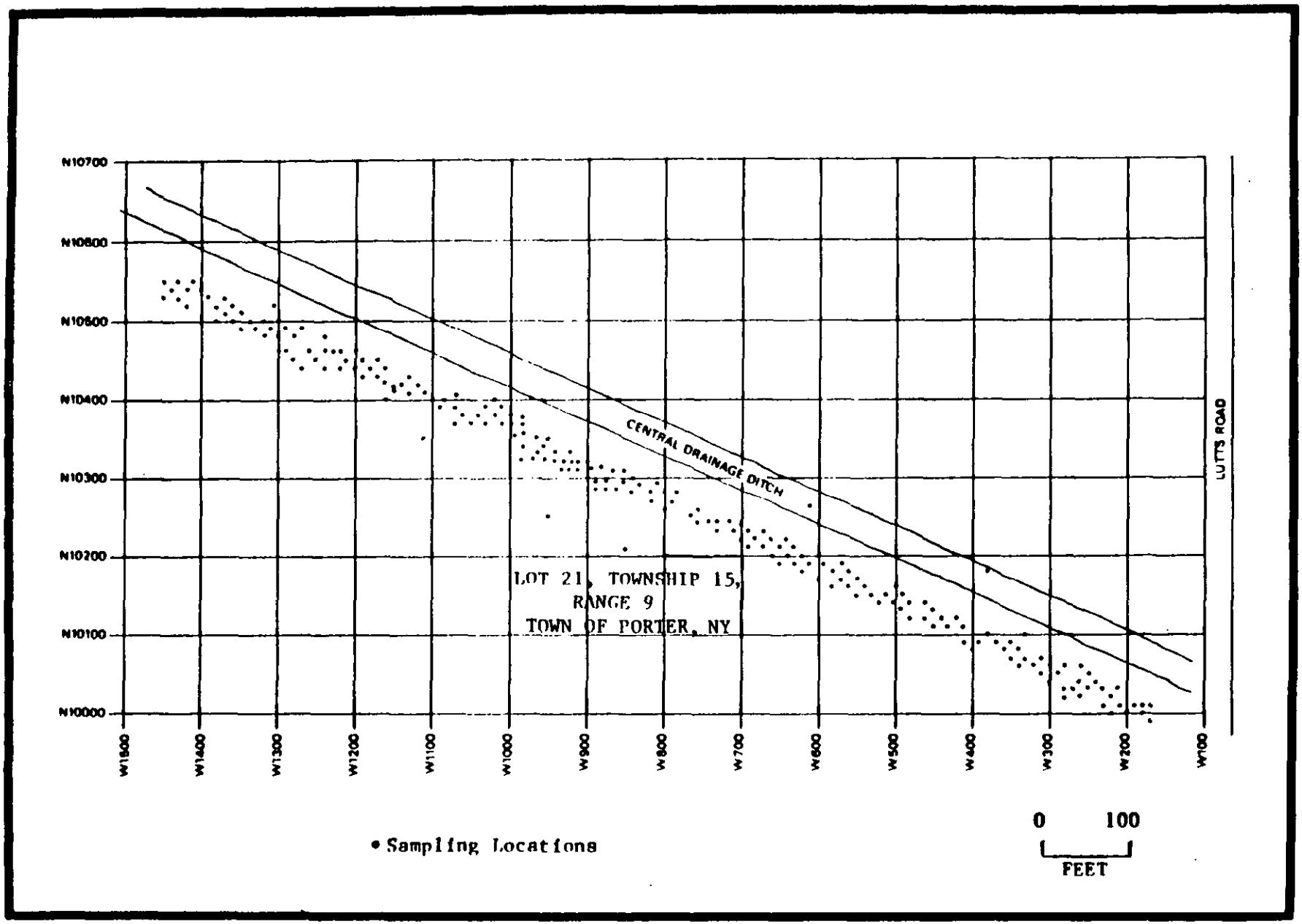

FIGURE 1: SOIL SAMPLING LOCATIONS

Exhibit II (8) - State, County, and Local Comments on Remedial Action

Comments and responses on the alternatives for the long-term management of the radioactive wastes and residues at NFSS are included in Appendix K of the Environmental Impact Statement.

Exhibit II (9) - Restrictions

There will be no radiologically based restrictions on the subject properties following the completion of remedial action under FUSRAP. DOE has expressed to SCA Chemicals (owner of Property E') its willingness to resurvey the area beneath Lagoon 6 when that area becomes accessible. A copy of a letter from DOE to SCA Chemicals to this effect was attached to the 1985-86 PRAR and is included in this exhibit.

During completion of the independent verification report, it was determined that two additional properties (E and G) did not meet the requirements for certification. These additional properties are owned by CWM Chemical Services Inc. (formerly SCA Chemical Services, Inc.). The letter reaffirms DOE's willingness to resurvey these properties when they become accessible. A copy of the letter is enclosed in this exhibit.

059660

Department of Energy
Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831-8723

March 6, 1989

SCA Chemical Services, Inc.
Model City Facility
1550 Blamer Road
Model City, New York 14107

Dear Sirs:

NFSS POST-REMEDIAL ACTION REPORT 1985-86

I am pleased to inform you that the results of the post-remedial action radiological surveys have been verified and that remedial action on SCA properties B, D, E', F, G, P, T, U and W have been satisfactorily completed. These properties are now in compliance with the standards and guidelines applicable to the remedial actions at the Niagara Falls Storage Site (NFSS). For property E no survey was made of the soil beneath Lagoon 6 since PCB's are currently being stored there. It is therefore not possible to state categorically that contamination does or does not exist in that area. After the lagoon is decommissioned and upon written notification by SCA that the area is accessible, DOE will survey the area beneath Lagoon 6.

The data supporting the determinations are in the enclosed post-remedial action report. This report also describes the radiological surveys and remedial actions conducted on your property and other properties in your area on which appropriate remedial activities were conducted.

A formal certification statement on your property will be forwarded to you in the near future.

Thank you for your cooperation, and if there are any questions, contact me or Mr. Bill Seay of my staff at (615) 576-1830.

Sincerely,

Peter J. Gross, Director
Technical Services Division

Enclosure:
As stated

cc: John Spagnoli, NYDEC
Town Clerk, Town of Lewiston
Town Clerk, Town of Porter

CE-53:RGAtkin:sm:6-1826:3/2/89
IBM(PS)2 ATKIN B:NFSSRA.LTR

CE-53
Atkin 3/2/89
CE-53
Seay 3/2/89
CE-53
Walker 3/3
CE-53
Gross 3/3/89

bcc w/encl:

R. Wadlinger, Lewiston Town Supervisor
F. Luscher, NFSS Oversight Committee
P. Giardina, EPA-II
A. Wallo, NE-23, GTN
G. Turi, NE-23, GTN
N. Beskid, ANL

bcc w/o encl:

R. Robertson, BNI
R. Hargrove, EPA-II
J. Berger, ORAU
J. Foutch, CC-10
G. Benedict, CE-50
R. Swaja, ORNL

Department of Energy
Field Office, Oak Ridge
P.O. Box 2001
Oak Ridge, Tennessee 37831— 8723

May 7, 1992

Mr. George H. Spira
Vice President and General Manager
CWM Chemical Services, Inc.
P.O. Box 200
1550 Balmer Road
Model City, New York 14107

Dear Mr. Spira:

CERTIFICATION OF THE REMEDIAL ACTION PERFORMED AT THE NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES FROM 1983 THROUGH 1986

The Department of Energy (DOE) has completed radiological surveys and taken remedial actions to decontaminate the properties in the vicinity of the DOE-owned Niagara Falls Storage Site (NFSS) in Lewiston, New York. These vicinity properties had been contaminated by radioactive materials that had originally been stored at NFSS.

The final step in this decontamination effort is to certify that these properties are in compliance with applicable decontamination criteria and standards. This certification of compliance provides assurance that future use of the property will result in no radiological exposure above DOE criteria and standards established to protect members of the general public or site occupants. Enclosed you will find a certification statement for the properties owned by CWM Chemical Services, Inc., with the exception of properties E, E', and G.

During the certification of the CWM properties, it was determined that these three properties could not be released based on available information. Property use at the time of characterization and remediation activities prevented access to several small areas that included (1) soil beneath Lagoon 6 and the berm surrounding that lagoon on Property E, (2) soil beneath a roadway and PCB storage tanks on Property E', and (3) soil beneath the liquid treatment pond on the western edge of Property G. In a letter dated March 6, 1989, it was stated that radiological post-remedial action surveys verified that remedial action had been satisfactorily completed for properties E' and G. This meant that the areas that were remediated at that time met guidelines, but it did not mean that the entire property was verified for release.

Each of the non-released areas either has the potential for residual contamination, based on historical data, or is known to contain contamination that may exceed DOE guidelines for release. It is therefore not possible to state categorically that contamination does not exist in those areas. If these areas become accessible for surveying and upon written notification by CWM that the areas are accessible, DOE will survey the areas to determine their status.

When completed, a formal certification docket will be placed in the Lewiston library. This docket will summarize all actions taken to bring the NFSS vicinity properties into compliance with DOE criteria and standards, and will provide references to all pertinent documents.

If you have any questions, please contact Mr. Ronald Kirk at (615) 576-7477.

Sincerely,

Lester K. Price, Director
Former Sites Restoration Division

EW-93:Kirk

Enclosure

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following properties are in compliance with DOE decontamination criteria and standards.

Properties owned by CWM Chemical Services, Inc., including:

A portion of Property A as described in the deed, liber 1588, pages 513 and 516.

Property B as described in the deed, liber 1588, page 516, and liber 1599, page 513.

A portion of Property D as described in the deed, liber 1599, page 513, liber 1588, page 516, and liber 1728, page 33.

Property F as described in the deed, liber 1588, pages 513 and 516.

Property H' as described in the deed, liber 1728, page 33.

Property P as described in the deed, liber 1588, page 519.

A portion of Property S as described in the deed, liber 1728, page 33.

A portion of Property T as described in the deed, liber 1588, page 519, and liber 1728, page 33.

A portion of Property U as described in the deed, liber 1588, page 519.

A portion of Property V as described in the deed, liber 1588, pages 513, 516, and 519.

A portion of Property W as described in the deed, liber 1728, page 33.

A portion of Property X as described in the deed, liber 1728, page 33.

This certification of compliance provides assurance that future use of these properties will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for Lester K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

Exhibit II (10) - Federal Register Notice

This section contains a copy of the published Federal Register notice. It documents the certification that the subject properties are in compliance with all applicable decontamination criteria and standards.

matters which are informative to the public consistent with the policy of title 5 U.S.C. 552b will be available to the public within 14 days of the meeting.

The full Council will meet in open session on Friday, November 8, 1991 from 9 a.m. to approximately 4 p.m. for an informational business meeting. This portion of the meeting is open to the public and will include a staff report, presentation from Dr. John Tippeconnic, Director, Office of Indian Education, staff report from the Bureau of Indian Affairs Higher Education Office, Alan Lovesee, House Education and Labor Committee, and Donna Leno, Indian Health Service.

Records shall be kept of all Council proceedings open to the public and shall be available for public inspection at the office of the National Advisory Council on Indian Education located at 330 C Street SW., room 4072, Washington, DC 20202-7556.

John T. MacDonald,

Assistant Secretary for Elementary and Secondary Education.

[FR Doc. 91-25676 Filed 10-24-91; 8:45 am]

BILLING CODE 4000-01-M

DEPARMTENT OF ENERGY

Certification of the Radiological Condition of Certain Niagara Falls Storage Site Vicinity Properties in Lewiston, NY Following Cleanup Activities From 1983 Through 1986

AGENCY: Office of Environmental Restoration and Waste Management, Department of Energy.

ACTION: Notice of certification.

SUMMARY: The Department of Energy has completed radiological surveys and taken remedial action to decontaminate certain properties in Lewiston, Niagara Falls, and Porter, New York. These properties, located near or adjacent to the Department's Niagara Falls Storage Site, were found to contain quantities of radioactive material from early Manhattan Engineer District/Atomic Energy Commission activities. The Department has certified that these properties are in compliance with DOE decontamination criteria and standards and that future use of the properties will result in no radiological exposure above current applicable radiological guidelines established to protect members of the general public or site occupants.

FOR FURTHER INFORMATION CONTACT: James J. Fiore, Director, Division of Eastern Area Programs, Office of Environmental Restoration and Waste Management (EM-42), U.S. Department of Energy, Washington, DC 20585, 301-353-8141.

SUPPLEMENTARY INFORMATION: The Department of Energy (DOE), Office of Environmental Restoration and Waste Management, Division of Eastern Area Programs, implemented two remedial action projects, one on the Niagara Falls Storage Site (NFSS) and the other on properties in its vicinity in the Lewiston, New York, area referred to herein as "the NFSS vicinity properties." The NFSS on-site remedial action was managed by DOE's Surplus Facilities Management Program (SFMP). The off-site work associated with remediation of NFSS vicinity properties is being administered by DOE's Formerly Utilized Sites Remedial Action Program (FUSRAP) under the direction of the Office of Environmental Restoration and Waste Management, Division of Eastern Area Programs, Off-Site Branch. The objective of SFMP is to manage and plan the ultimate disposition of surplus DOE-owned facilities and to ensure that properties contaminated as a result of activities of either DOE or DOE's statutory predecessors can be certified to be in compliance with DOE decontamination criteria and standards. The SFMP assigned the NFSS project to the Former Sites Restoration Division of the DOE Field office, Oak ridge (OR) which is also the DOE lead field office for FUSRAP.

Both NFSS and NFSS vicinity properties were part of the U.S. Army's original 3,035-ha (7,500-acre) Lake Ontario Ordnance Works (LOOW), which was constructed and used for TNT production early in World War II. The site never went into TNT production and was subsequently reassigned to the Army Corps of Engineers—Manhattan Engineer District (MED). From 1944 to 1947, the MED used by LOOW to store uranium ore processing residues from a ceramics plant. By 1948, 2,428 ha (6,000 acres) of the LOOW had been transferred or sold by the War Assets Administration. Ownership of the remaining 607 ha (1,500 acres) was given to the newly formed Atomic Energy Commission (AEC). AEC continued to use the 607-ha (1,500-acre) LOOW site to store additional residues. In addition to the storage of uranium ore processing residues, LOOW was also used for interim storage of uranium metal billets (rods) and as a disposal site for radioactive wastes. On-site storage operations had ceased by 1953, and an on-site steam plant was modified to separate nonradioactive isotopes of boron. The plant was in operation between 1953 and 1959 and again between 1965 and 1971. During the first period, a major cleanup of the site included consolidating and removing surface debris and shipping most of these wastes to Oak Ridge, Tennessee. Radioactively contaminated soils and residues were left at the site. From 1955 to 1975, more than 526 ha (1,300 acres) of the LOOW were transferred or sold to private concerns, leaving 77 ha (191 acres) at the current NFSS.

As a result of these operations, some portions of the former LOOW—other than the present NFSS—were also contaminated. In addition, some of the radioactive materials stored at NFSS over the years were subject to water and wind erosion or otherwise migrated off-site onto other properties. DOE refers to all of the above contaminated properties as "the NFSS vicinity properties." DOE surveyed the NFSS vicinity properties for remedial action under FUSRAP and developed a remedial action plan to remove contamination from the NFSS vicinity properties.

From 1983 to 1986, the NFSS vicinity properties listed below were decontaminated. The contaminated materials were disposed of at a waste containment facility located on NFSS. Post-remedial action surveys have demonstrated—and DOE has certified—that the listed properties are in compliance with DOE decontamination criteria and standards and that future use of the properties will result in no radiological exposure above current applicable radiological guidelines established to protect members of the general public or site occupants. These findings are supported by the DOE Certification Docket for the Remedial Action Performed at Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, From 1983 through 1986. Accordingly, these properties are released from FUSRAP.

The certification docket will be available for review between 9:00 a.m. and 4:00 p.m., Monday through Friday (except for Federal holidays) in the Department of Energy Public Reading Room located in room 1E-190 of the Forrestal Building, 1000 Independence Avenue SW., Washington, DC. Copies of the certification docket will also be available in OR's Public Document Room in Oak Ridge, Tennessee, and at the Lewiston Public Library, 505 Center Street, Lewiston, New York, 14092.

The Department of Energy, through OR's Former Sites Restoration Division, has issued the following statement:

S-310999 0025(01)(24-OCT-91-14:50:55)

4703.FMT...[16,30]...12-28-90

Statement of Certification: Niagara Falls Storage Site Vicinity Properties Associated With the Former Manhattan Engineer District (MED) Atomic Energy Commission (AEC) Operations

The Former Sites Restoration Division of the DOE Field Office, Oak Ridge, has reviewed the radiological data obtained following the remedial action at the properties listed below. Based on this review, DOE is certifying that the properties listed below are in compliance with DOE decontamination criteria and standards. This certification of compliance provides assurance that future use of the properties will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants. Accordingly, the following properties are released from DOE's FUSRAP.

Property A—as described in the deed, liber 1588, pages 513 and 516 and liber 1503, page 752.
Property B—as described in the deed, liber 1588, page 516, and liber 1599, page 513.
Property C'—as described in the deed, liber 1883, page 342.
Property D—as described in the deed, liber 1599, page 513, liber 1588, page 516, liber 1503, page 752, and liber 1728, page 33.
Property F—as described in the deed, liber 1588, pages 513 and 516.
Property H'—as described in the deed, liber 1728, page 33.
Property L—as described in the deed, liber 2153, page 292.
Property M—as described in the deed, liber 2153, page 292.
Property N/N' North—as described in the deed, liber 1883, page 342.
Property N/N' South—as described in the deed, liber 2153, page 292.
Property P—as described in the deed, liber 1588, page 519.
Property Q—as described in the deed, liber 1369, page 74.
Property R—no deed reference.
Property S—as described in the deed, liber 1568, page 762, and liber 1728, page 33.
Property T—as described in the deed, liber 1588, page 519, liber 1503, page 762, and liber 1728, page 33.
Property U—as described in the deed, liber 1588, page 519, liber 1503, page 752.
Property V—as described in the deed, liber 1588, page 513, 516 and 519, liber 1503, page 752.
Property W—as described in the deed, liber 1728, page 33, and liber 1567, page 762.
Property X—as described in the deed, liber 1728, page 33, and liber 1567, page 762.

Properties located along the Central Drainage Ditch owned by the Somerset Group, Inc. (as described in the deed, liber 1503, page 752, New York Army National Guard (no deed reference), Mr. Roderick T. Tower (as described in the deed, liber 1387, page 409), Mr. George J. Wolf (as described in the deed, liber 1964, page 243), Mr. Richard Kahl and Robert Hille (as described in the deed, liber 1513, page 773), Town of Porter (no deed reference), and Niagara Falls County (no deed reference).

Areas along Pletcher Road extending from the intersection of Campbell Street and Pletcher Road to Creek Road, owned by the Town of Lewiston (no deed reference).

Areas located at the junction of Highways 18 and 104, referred to as Anomaly AA, owned by the people of the State of New York (no deed reference).

Areas located near the junction of Highway 31 and Military Road, referred to as Anomaly BB, owned by Angelo F. and Joseph S. Lauduca (as described in the deed, liber 2175, page 100).

Areas located near the junction of Buffalo Avenue and Hyde Park Boulevard, referred to as Anomaly CC, owned by the City of Niagara Falls (no deed reference).

Dated: October 17, 1991.

Paul Grimm,

Acting Director, Office of Environmental Restoration and Waste Management.

[FR Doc. 91-25761 Filed 10-24-91; 8:45 am]
BILLING CODE 6450-01-M

Federal Energy Regulatory Commission

[Docket Nos. QF91-187-001, et al.]

Seneca Power Partners, L.P., et al.; Electric rate, Small power production, and Interlocking Directorate filings

Take notice that the following filings have been made with the Commission:

1. Seneca Power Partners, L.P.

[Docket No. QF91-187-001]

October 17, 1991.

On October 7, 1991, Seneca Power Partners, L.P. tendered for filing an amendment to its filing in this docket.

The amendment provides additional information pertaining primarily to technical data and the ownership structure of the cogeneration facility.

Comment date: November 4, 1991, in accordance with Standard Paragraph E end of this notice.

2. Central Vermont Public Service Corporation

[Docket No. ER92-69-000]

October 18, 1991.

Take notice that Central Vermont Public Service Corporation (CVPS) on October 7, 1991, tendered for filing as an initial rate schedule a contract under which CVPS has agreed to sell 2,000 KW System Capacity and Energy associated therewith to the Village of Ludlow Electric Department.

CVPS requests the Commission to waive its notice of filing requirements to permit the rate schedule to become effective as of October 31, 1987.

Comment date: November 1, 1991, in accordance with Standard Paragraph E at the end of this notice.

Central Power and Light Co. West Texas Utilities Co.

[Docket No. ER92-87-000]

October 18, 1991.

Taken notice that on October 7, 1991, West Texas Utilities Company (WTU) and Central Power and Light Company (CPL) tendered for filing the transmission service agreements listed below:

WTU Agreements

1. Agreement for Planned Capacity Transmission Wheeling Service for the Texasgulf Transaction between TU Electric, WTU and Texasgulf, Inc.
2. Agreement for As Available Transmission Wheeling Service for the Texasgulf Transaction, between TU Electric, WTU and Texasgulf, Inc.
3. Agreement for Planned Capacity Transmission Wheeling Service for the Cogenron Transaction between TU Electric, WTU and Cogenron, Inc.
4. Agreement for As Available Transmission Wheeling Service for the Cogenron Transaction, between TU Electric, WTU and Cogenron, Inc.
5. Agreement for As Available Transmission Wheeling Service for the Cogen Lyondell Transaction between TU Electric and WTU
6. Agreement for AS Available Transmission Wheeling Service for the Dow Chemical Transaction between TU Electric and WTU
7. Letter Agreement for Transmission Wheeling Service for the AES-Deepwater Transaction between TU Electric and WTU

CPL Agreements

1. Agreement for Planned Capacity Transmission Wheeling Service for the Texasgulf Transaction between TU Electric, CPL and Texasgulf, Inc.

Exhibit II (11) - Approved Certification Statements

The following memorandum and statements document the certification of each of the subject properties for future use.

DOE F 1325.8
(6-89)
EFG (07-90)

United States Government **Department of Energy**

memorandum

DATE: OCT 8 1991

REPLY TO ATTN OF: EM-421 (J. Wagoner, 3-8147)

SUBJECT: Certification of Remedial Action at the Niagara Falls Storage Site Vicinity Properties Associated with the Former Manhattan Engineer District/Atomic Energy Commission Facility in Lewiston, New York

TO:

Leo P. Duffy, Director
Office of Environmental Restoration
and Waste Management

I am attaching for your signature the Federal Register Notice for the certification of remedial action at the Niagara Falls Storage Site (NFSS) vicinity properties associated with the former Manhattan Engineer District (MED)/Atomic Energy Commission (AEC) facility in Lewiston, New York. In the past, the certification statements have been signed at the Office Director level. The statements are not controversial and, in effect, give notice that properties have been cleaned up and released from DOE's Formerly Utilized Sites Remedial Action Program.

NFSS and its adjacent vicinity properties were part of the U.S. Army's original 3,035 hectares (ha) (7,500-acre) Lake Ontario Ordnance Works (LOOW) that was constructed for TNT production early in World War II. The site never went into TNT production and was subsequently re-assigned to MED, which became AEC in 1947. By 1948, 2,428 ha (6,000 acres) of LOOW were transferred or sold by the War Assets Administration, with ownership of the remaining 607 ha (1,500 acres) given to AEC. MED/AEC activities at NFSS included: storage of uranium ore processing residues; storage of uranium metal billets; and disposal of radioactive wastes.

In 1953, on-site storage operations were stopped, and an on-site steam plant was modified to separate non-radioactive isotopes of boron. The plant operated from 1953 to 1959 and again between 1965 and 1971. During the first period, a major cleanup of the site occurred, including shipment of most of the wastes to Oak Ridge, Tennessee. Radioactively contaminated soils and residues were left at the site. From 1955 to 1975, more than 526 ha (1,300 acres) of LOOW had been transferred or sold to private concerns, leaving 77 ha (191 acres) as the current NFSS. During the course of the MED/AEC activities, some portions of the former LOOW--other than the present NFSS--were also contaminated. In addition, some of the radioactive materials stored at the NFSS over the years were subject to water and wind erosion. As a result, radioactive materials migrated off-site, chiefly through the NFSS on-site and off-site drainage ditches. Radiological surveys conducted for DOE identified contamination in excess of DOE guidelines.

As a result, from 1983 to 1986, DOE performed remedial actions at the following properties:

Property A as described in the deed, liber 1588, pages 513 and 516 and liber 1503, page 752.

Property B as described in the deed, liber 1588, page 516, and liber 1599, page 513.

Property C' as described in the deed, liber 1883, page 342.

Property D as described in the deed, liber 1599, page 513, liber 1588, page 516, liber 1503, page 752, and liber 1728, page 33.

Property F as described in the deed, liber 1588, pages 513 and 516.

Property H' as described in the deed, liber 1728, page 33.

Property L as described in the deed, liber 2153, page 292.

Property M as described in the deed, liber 2153, page 292.

Property N/N' North as described in the deed, liber 1883, page 342.

Property N/N' South as described in the deed, liber 2153, page 292.

Property P as described in the deed, liber 1588, page 519.

Property Q as described in the deed, liber 1369, page 74.

Property R no deed reference.

Property S as described in the deed, liber 1567, page 762, and liber 1728, page 33.

Property T as described in the deed, liber 1588, page 519, liber 1503, page 752, and liber 1728, page 33.

Property U as described in the deed, liber 1588, page 519, liber 1503, page 752.

Property V as described in the deed, liber 1588, pages 513, 516, and 519, liber 1503, page 752.

Property W as described in the deed, liber 1728, page 33, and liber 1567, page 762.

Property X as described in the deed, liber 1728, page 33, and liber 1567, page 762.

Properties located along the Central Drainage Ditch owned by the Somerset Group, Inc. (as described in the deed, liber 1503, page 752), New York Army National Guard (no deed reference), Mr. Roderick T. Tower (as described in the deed, liber 1387, page 409), Mr. George J. Wolf (as described in the deed, liber 1964, page 243), Mr. Richard Kahl and Robert Hille (as described in the deed, liber 1513, page 773), Town of Porter (no deed reference), and Niagara Falls County (no deed reference).

Areas along Pletcher Road extending from the intersection of Campbell Street and Pletcher Road to Creek Road, owned by the Town of Lewiston (no deed reference).

Areas located at the junction of Highways 18 and 104, referred to as Anomaly AA, owned by the people of the State of New York (no deed reference).

Areas located near the junction of Highway 31 and Military Road, referred to as Anomaly BB, owned by Angelo F. and Joseph S. Laduca (as described in the deed, liber 2175, page 100).

Areas located near junction of Buffalo Avenue and Hyde Park Boulevard, referred to as Anomaly CC, owned by the City of Niagara Falls (no deed reference).

Based on a review of all documents related to these properties, the DOE Field Office Oak Ridge, has certified these properties to be in compliance with DOE decontamination criteria and standards, that are reflected in DOE Order 5400.5 Chapter IV, "Residual Radioactive Material." This Order incorporates all applicable or relevant and appropriate DOE, Environmental Protection Agency and Nuclear Regulatory Commission standards and criteria.

Three vicinity properties (E, E', and G) still contain residual contamination in excess of DOE decontamination criteria and standards and are, therefore, not included in this certification. At the present time, these areas are not accessible by the public and may require remedial action if land use changes.

Following your concurrence of the certification, this office will notify interested State and local agencies, the public, local land offices, and

the specific property owners of the certification actions by correspondence and local newspaper announcements, as appropriate. The documents transmitted with the certification statement and the Federal Register Notice will be compiled in final docket form by the Division of Eastern Area Programs, Off-Site Branch, for retention in accordance with DOE Order 1324.2 (Disposal Schedule 25).

R. P. Whitfield
Associate Director
Office of Environmental Restoration

Attachment

070608

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE
VICINITY PROPERTIES ASSOCIATED WITH THE
FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Technical Services Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following properties are in compliance with DOE decontamination criteria and standards:

Properties owned by Modern Landfill Inc. including:

Property C' as described in the deed, liber 1883, page 342

Property L as described in the deed, liber 2153, page 292

Property M as described in the deed, liber 2153, page 292

Property N/N' North as described in the deed, liber 1883, page 342

Property N/N' South as described in the deed, liber 2153, page 292

This certification of compliance provides assurance that future use of these properties will result in no radiological exposure above applicable criteria and standards established to protect members of the general public or site occupants.

By: L. K. Price
L. K. Price, Director
Technical Services Division
Oak Ridge Operations Office
U.S. Department of Energy

Date: 8/20/90

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following properties are in compliance with DOE decontamination criteria and standards.

Properties owned by CWM Chemical Services, Inc., including:

A portion of Property A as described in the deed, liber 1588, pages 513 and 516.

Property B as described in the deed, liber 1588, page 516, and liber 1599, page 513.

A portion of Property D as described in the deed, liber 1599, page 513, liber 1588, page 516, and liber 1728, page 33.

Property F as described in the deed, liber 1588, pages 513 and 516.

Property H' as described in the deed, liber 1728, page 33.

Property P as described in the deed, liber 1588, page 519.

A portion of Property S as described in the deed, liber 1728, page 33.

A portion of Property T as described in the deed, liber 1588, page 519, and liber 1728, page 33.

A portion of Property U as described in the deed, liber 1588, page 519.

A portion of Property V as described in the deed, liber 1588, pages 513, 516, and 519.

A portion of Property W as described in the deed, liber 1728, page 33.

A portion of Property X as described in the deed, liber 1728, page 33.

This certification of compliance provides assurance that future use of these properties will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for Lester K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Properties owned by Somerset Group, Inc., including:

A portion of Property A as described in the deed, liber 1503, page 752.

A portion of Property D as described in the deed, liber 1503, page 752.

A portion of Property T as described in the deed, liber 1503, page 752.

A portion of Property U as described in the deed, liber 1503, page 752.

A portion of Property V as described in the deed, liber 1503, page 752.

A portion of Lot 13 along the Central Drainage Ditch as described in the deed, liber 1503, page 752.

This certification of compliance provides assurance that future use of these properties will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property owned by Niagara Mohawk Power Corporation, including:

Property R, no deed reference.

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

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Property owned by the People of the State of New York, including:

Areas located at the junction of Highways 18 and 104, referred to as Anomaly AA (no deed reference).

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

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Property owned by Angelo F. and Joseph S. Laduca, including:

> Areas located near the junction of Highway 31 and Military Road, referred to as Anomaly BB, as described in the deed, liber 2175, page 100.

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

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Property owned by the City of Niagara Falls, including:

Areas located near the junction of Buffalo Avenue and Hyde Park Boulevard referred to as Anomaly CC (no deed reference).

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

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Property owned by the New York Army National Guard, including:

Areas located at Balmer Road and Lutts Road along the Central Drainage Ditch (no deed reference).

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: wo L. K. Price Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Properties owned by the Town of Lewiston, including:

Property Q as described in the deed, liber 1369, page 74.

A portion of Property S as described in the deed, liber 1567, page 762.

A portion of Property W as described in the deed, liber 1567, page 762.

A portion of Property X as described in the deed, liber 1567, page 762.

Areas along Pletcher Road extending from the intersection of Campbell Street and Pletcher Road to Creek Road (no deed reference).

This certification of compliance provides assurance that future use of these properties will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: /s/ L. K. Price Date: 2/26/91

L. K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property owned by Mr. Roderick T. Tower, including:

A portion of the property along the Central Drainage Ditch as described in the deed, liber 1387, page 409.

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: L.K. Price Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property owned by George J. Wolf, Jr., including:

A portion of the property along the Central Drainage Ditch as described in the deed, liber 1964, page 243.

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L.K. Price _____ Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property owned by Mr. Richard Kahl and Robert Hille, including:

A portion of the property along the Central Drainage Ditch as described in the deed, liber 1513, page 773.

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: /s/ L.K. Price Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property owned by the Town of Porter, including:

A portion of the right-of-way remediated along the Central Drainage Ditch (no deed reference).

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

STATEMENT OF CERTIFICATION: NIAGARA FALLS STORAGE SITE VICINITY PROPERTY ASSOCIATED WITH THE FORMER MED/AEC OPERATIONS

The U.S. Department of Energy, Oak Ridge Operations Office, Former Sites Restoration Division, has reviewed and analyzed the radiological data obtained following remedial action at Niagara Falls Storage Site vicinity properties that were contaminated by material similar to that stored at the former Lake Ontario Ordnance Works in Lewiston, New York. Based on this analysis of all data collected, the Department of Energy (DOE) certifies that the following property is in compliance with DOE decontamination criteria and standards.

Property located along the Central Drainage Ditch owned by Niagara Falls County (no deed reference).

This certification of compliance provides assurance that future use of the property will result in no radiological exposure above applicable guidelines established to protect members of the general public or site occupants.

By: for L. K. Price _____ Date: 2/26/91

L.K. Price, Director
Former Sites Restoration Division
Oak Ridge Operations Office
U.S. Department of Energy

Exhibit III

Diagrams of the Remedial Action Activities Performed at Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, from 1983 through 1986

The figures provided on the following pages are taken from the post-remedial action reports and indicate the types of remedial action performed at the subject properties.

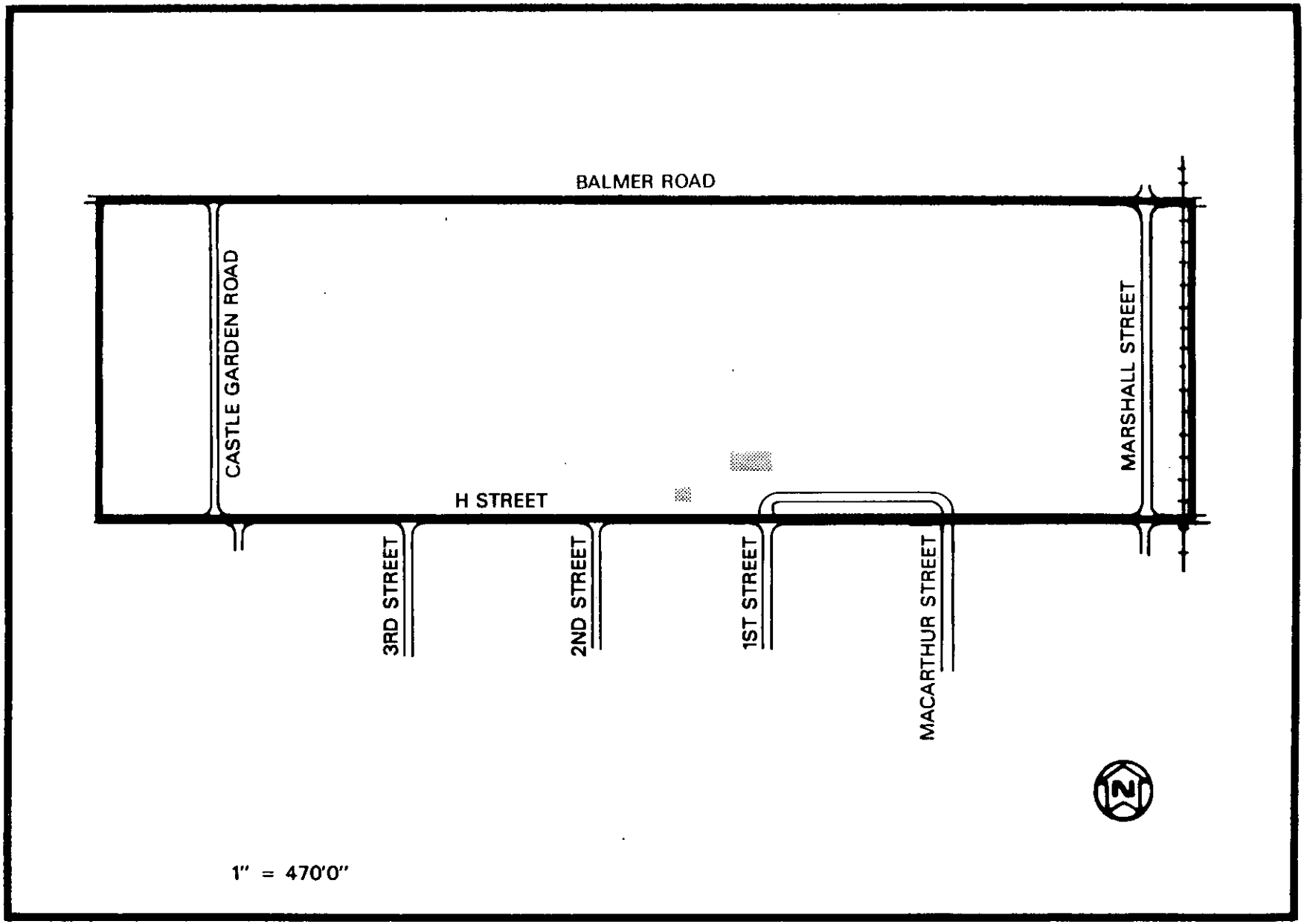


FIGURE 1 EXCAVATED AREA ON PROPERTY A

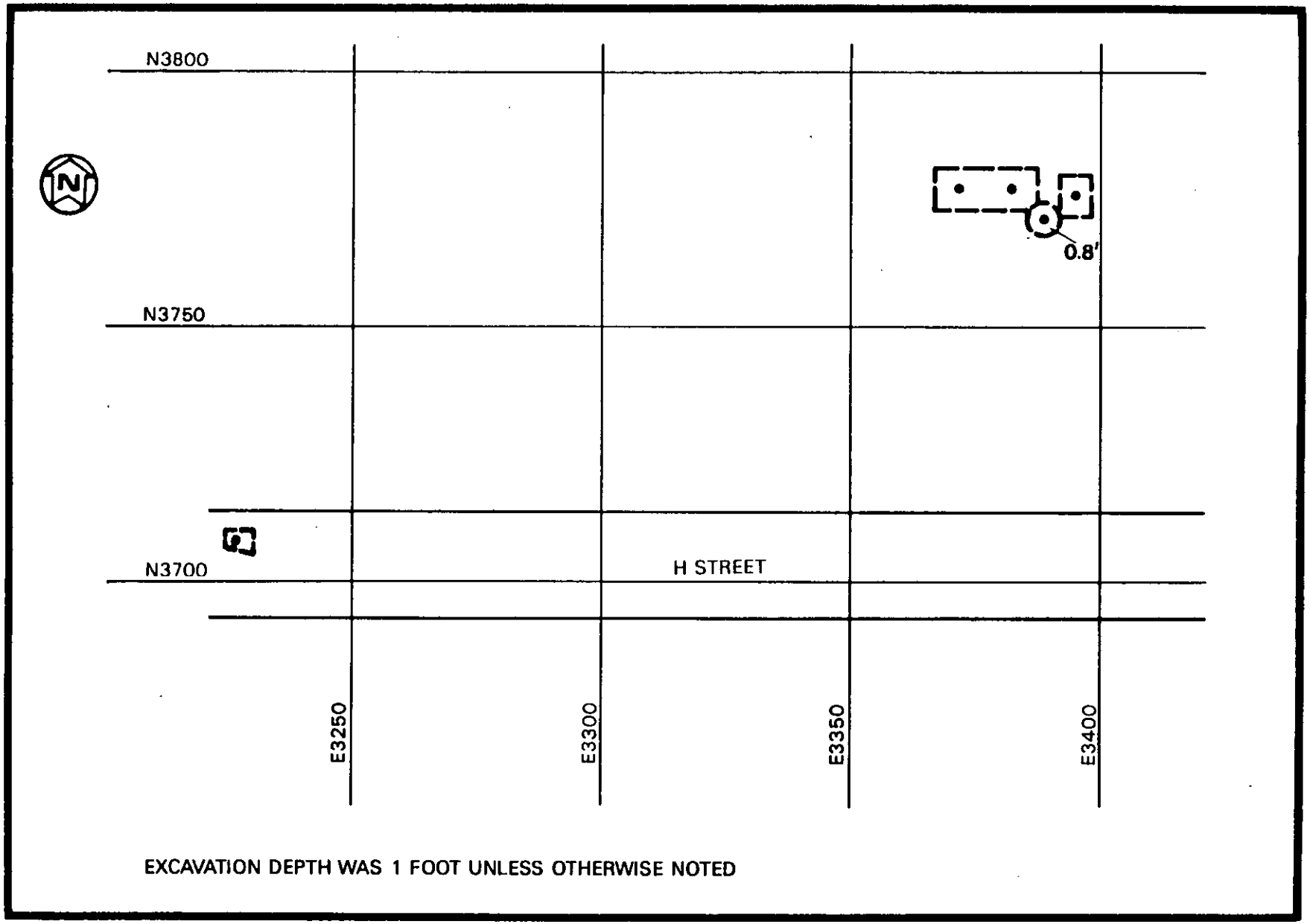


FIGURE 2 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY A

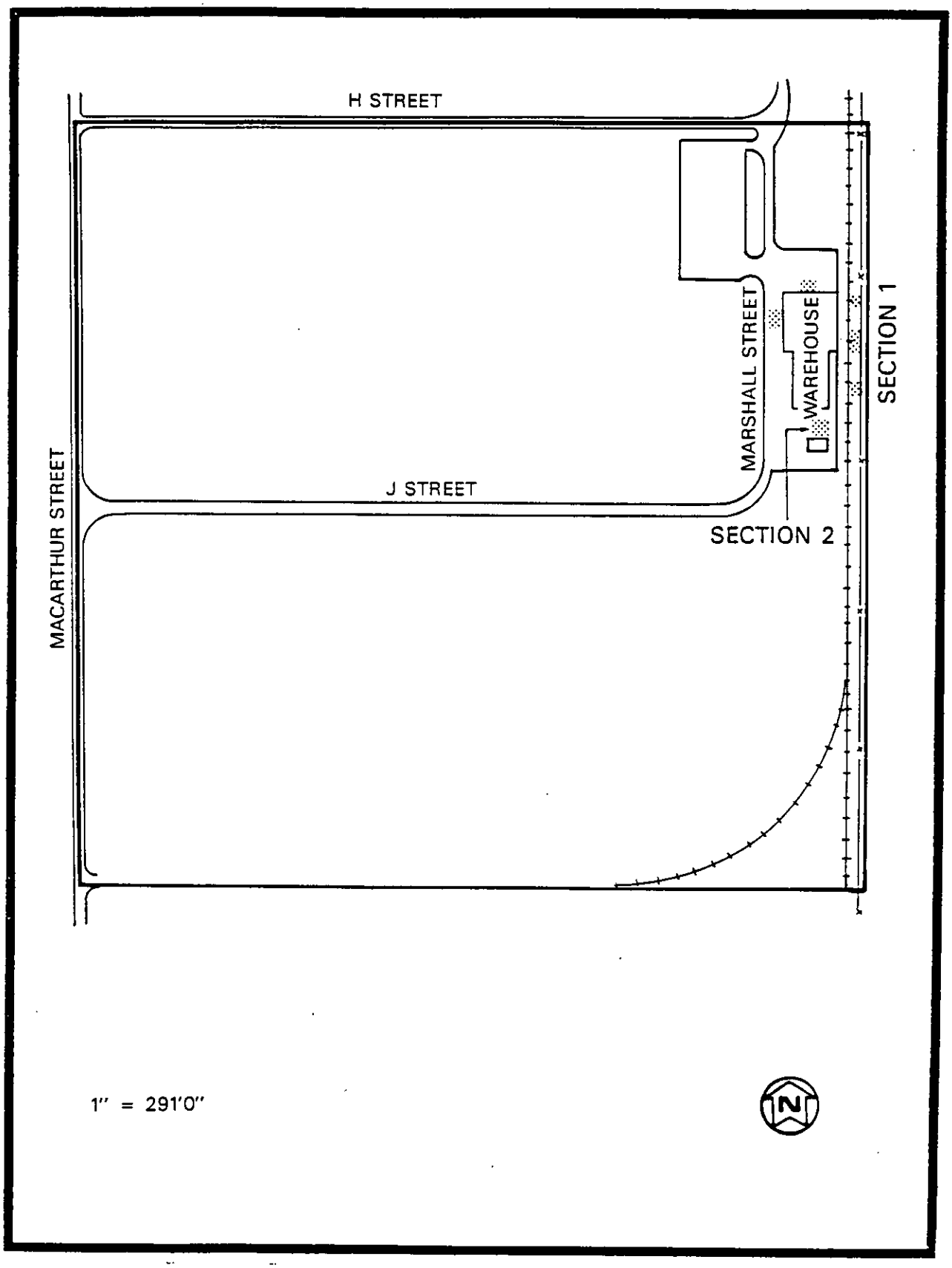


FIGURE 3 EXCAVATED AREAS ON PROPERTY B

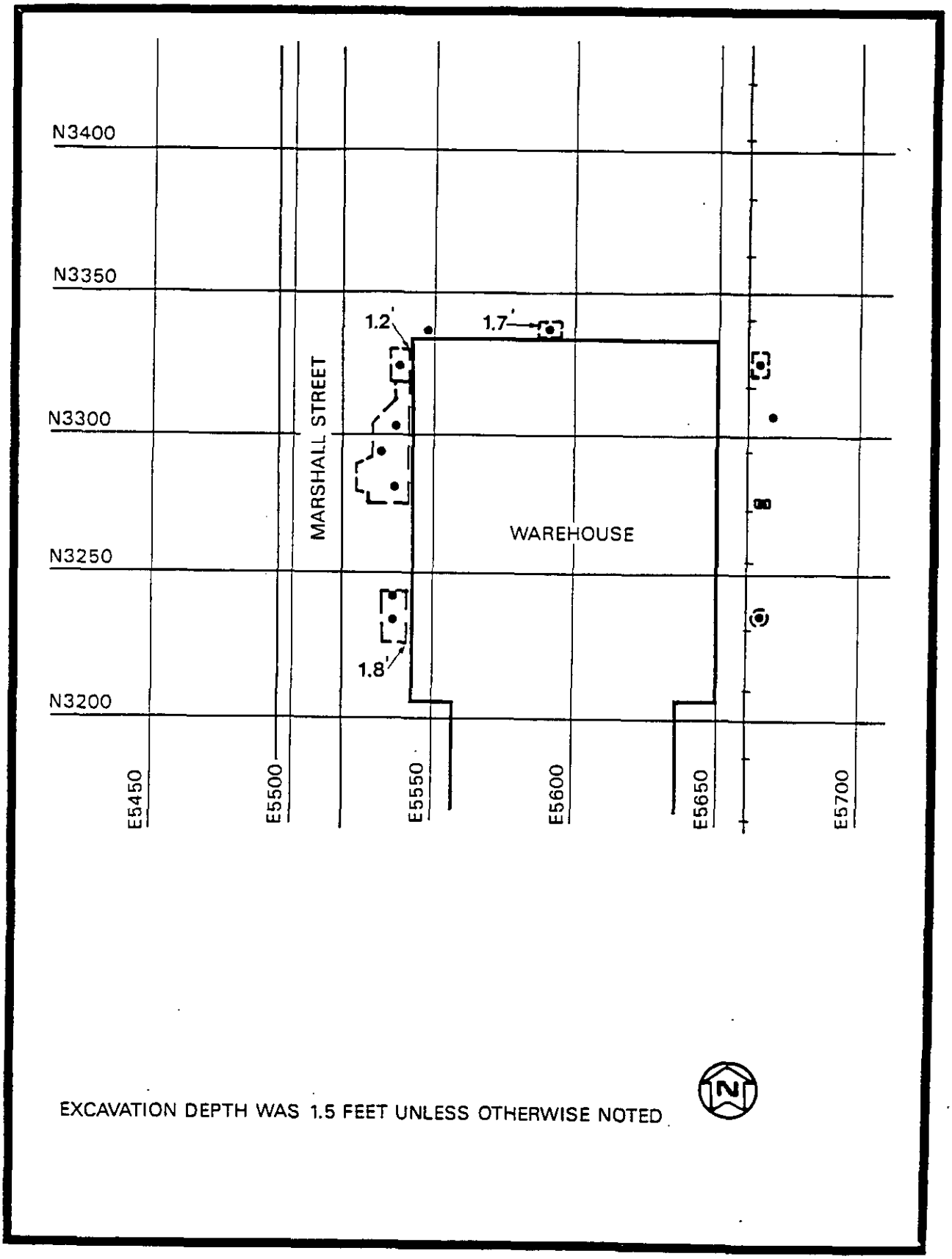
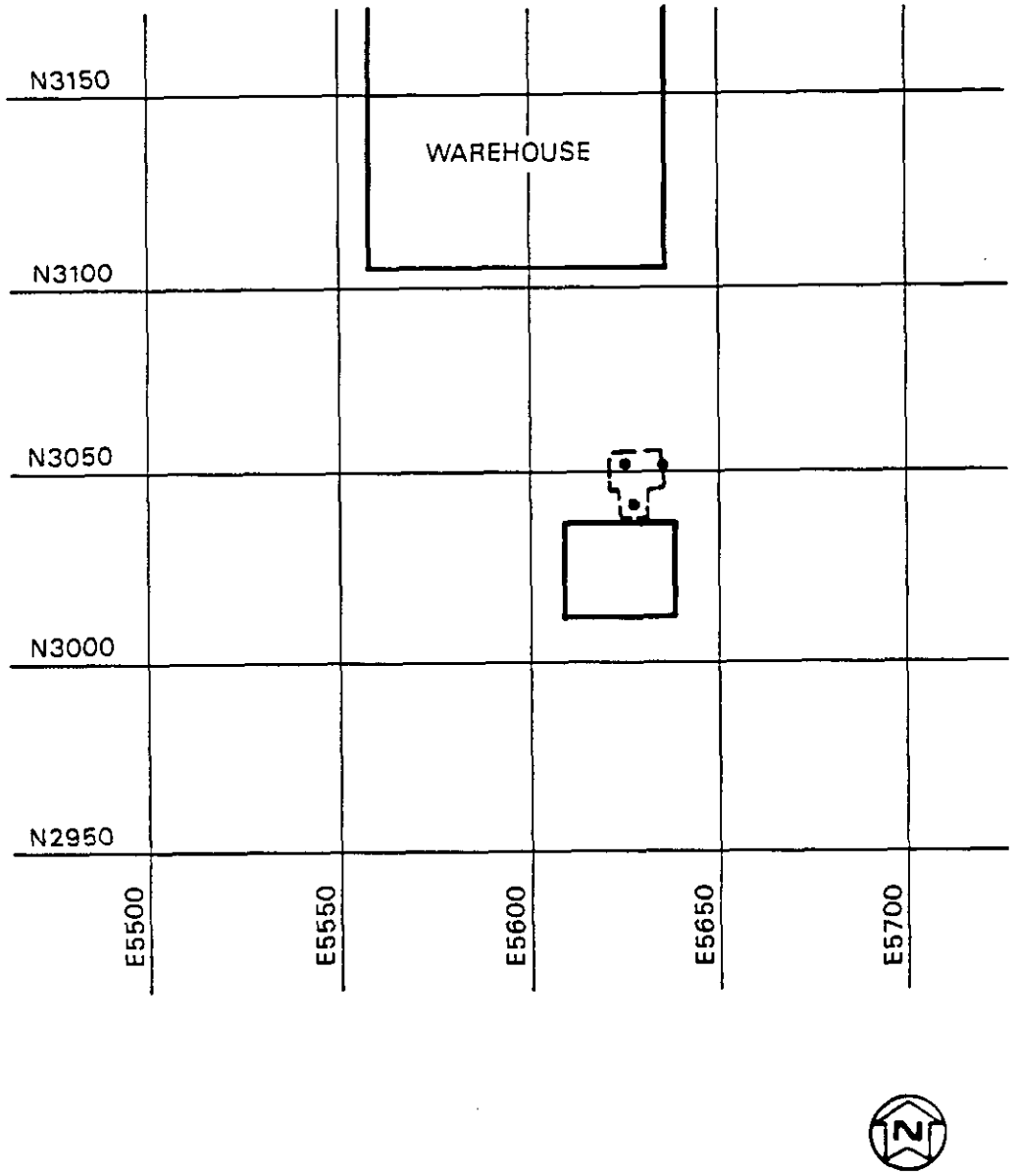


FIGURE 4 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY B - SECTION 1



EXCAVATION DEPTH WAS 0.5 FEET

FIGURE 5 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY B - SECTION 2

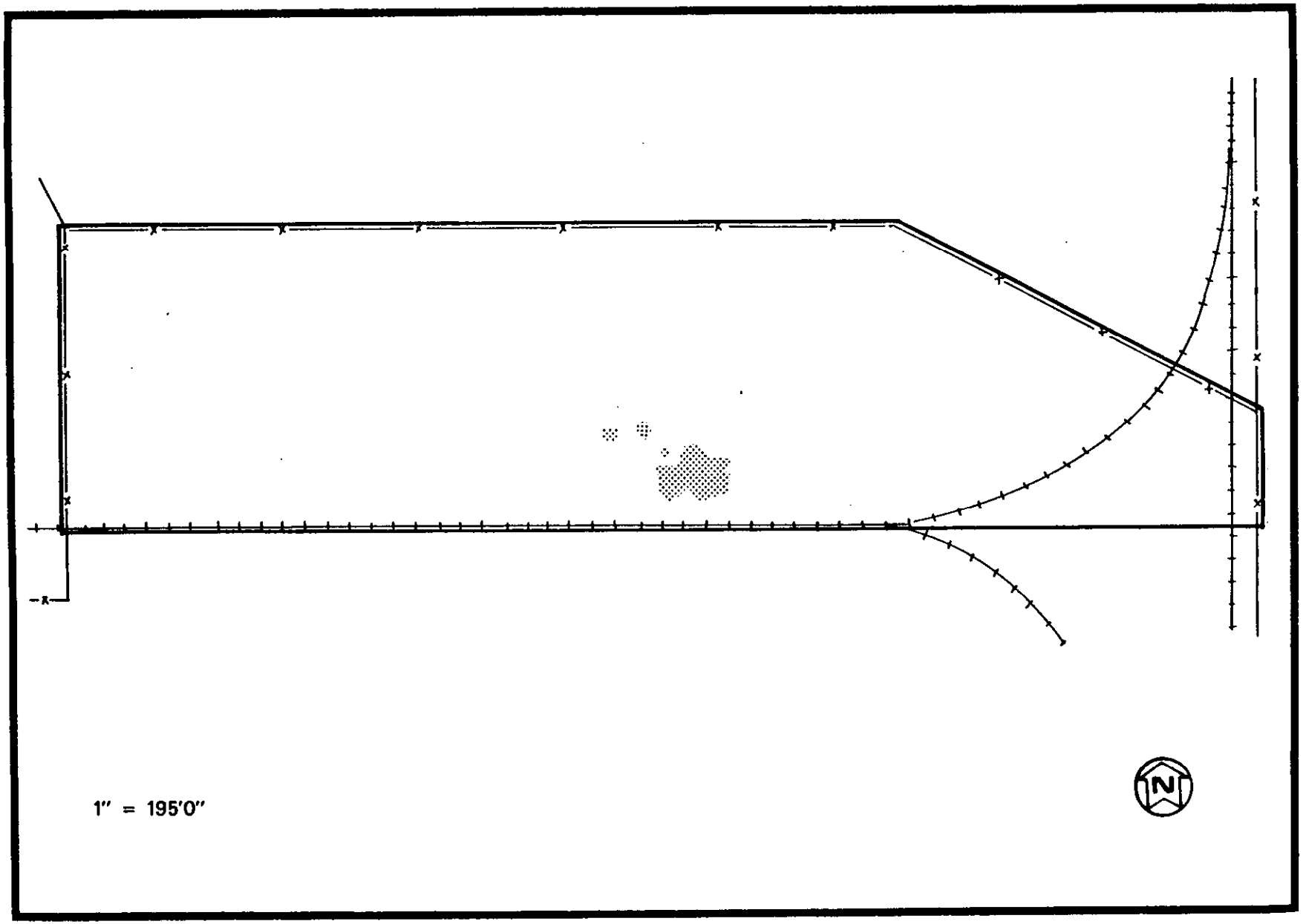


FIGURE 6 EXCAVATED AREAS ON PROPERTY C'

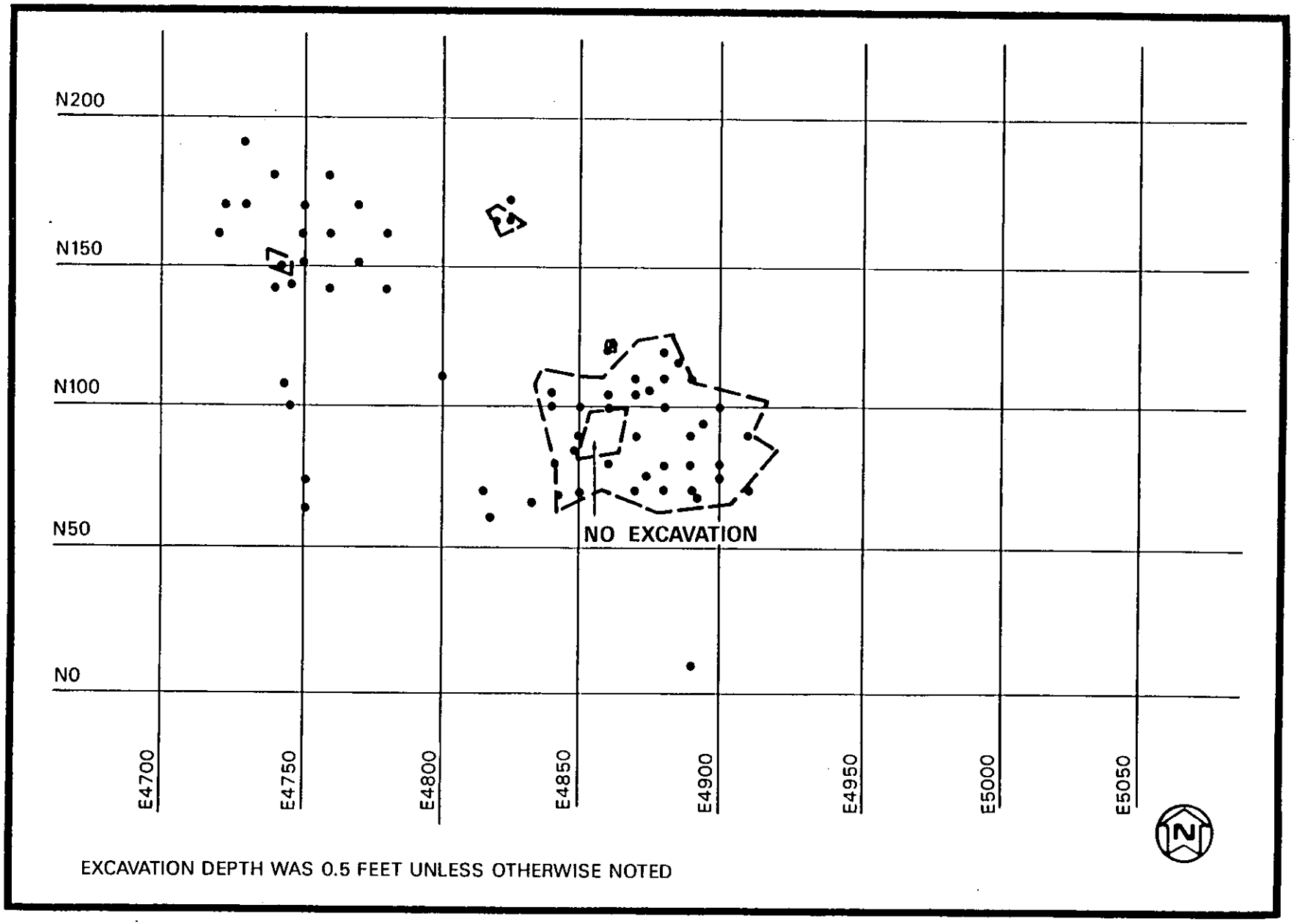


FIGURE 7 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY C'

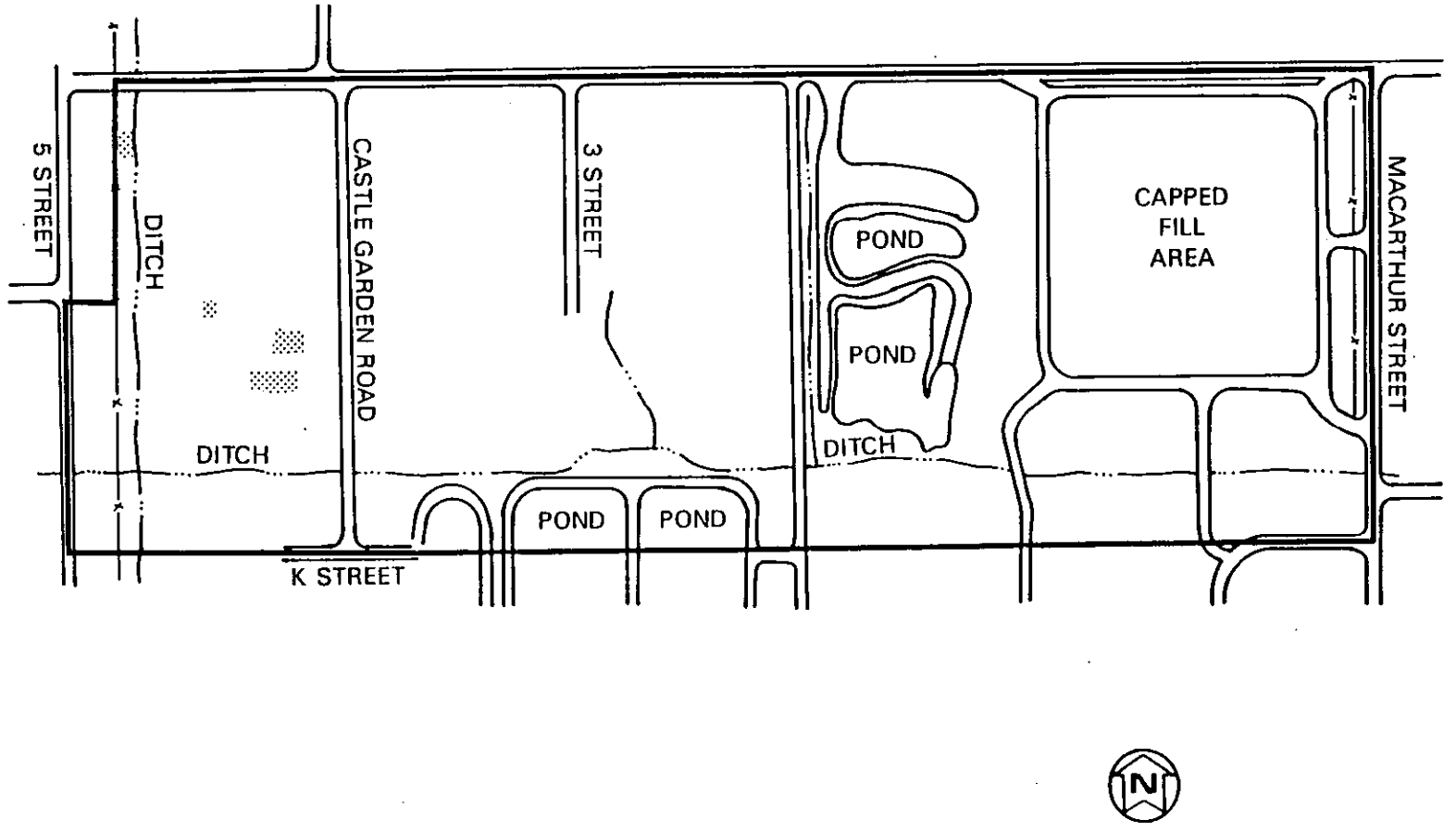


FIGURE 8 EXCAVATED AREAS ON PROPERTY D

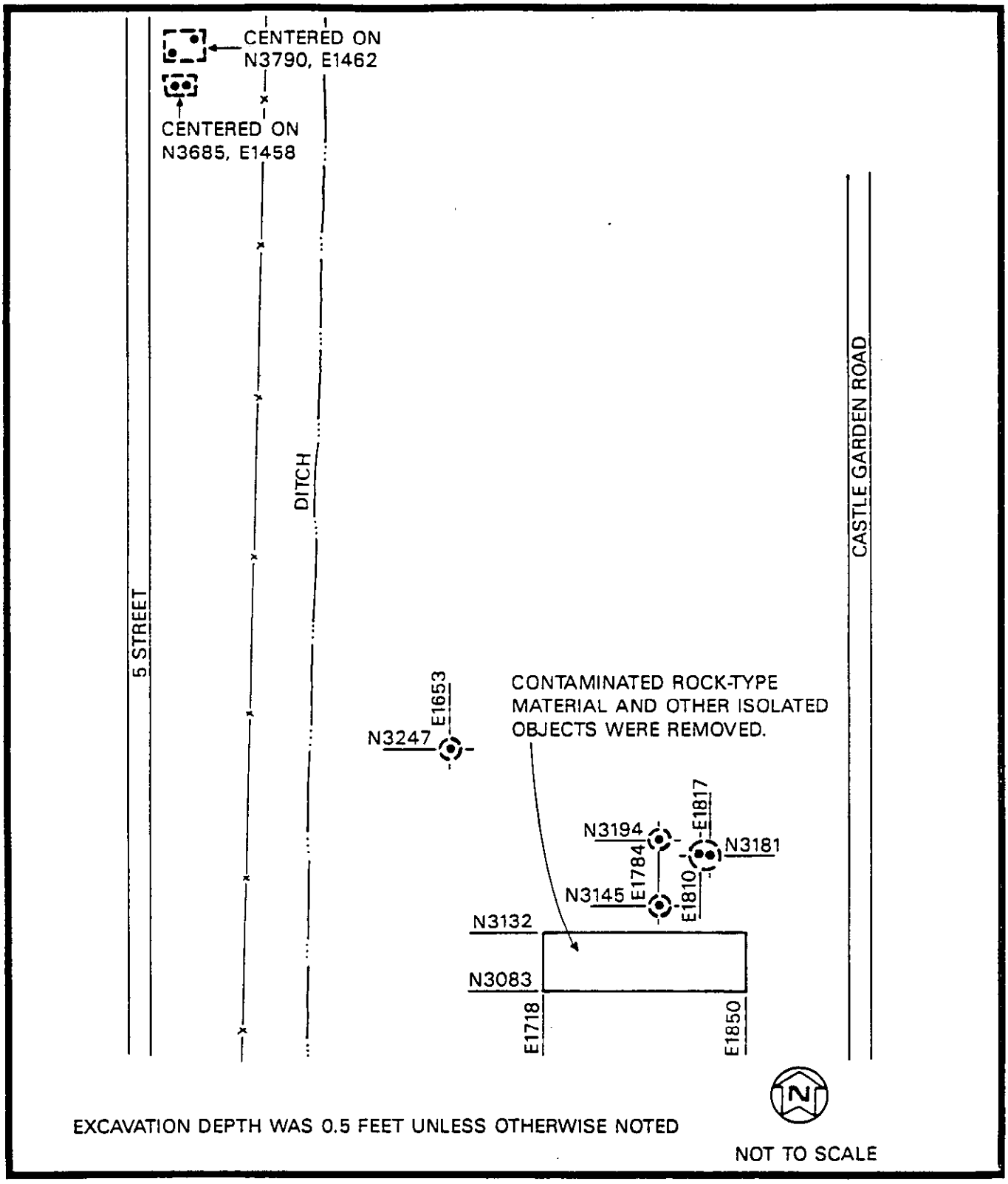


FIGURE 9 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY D

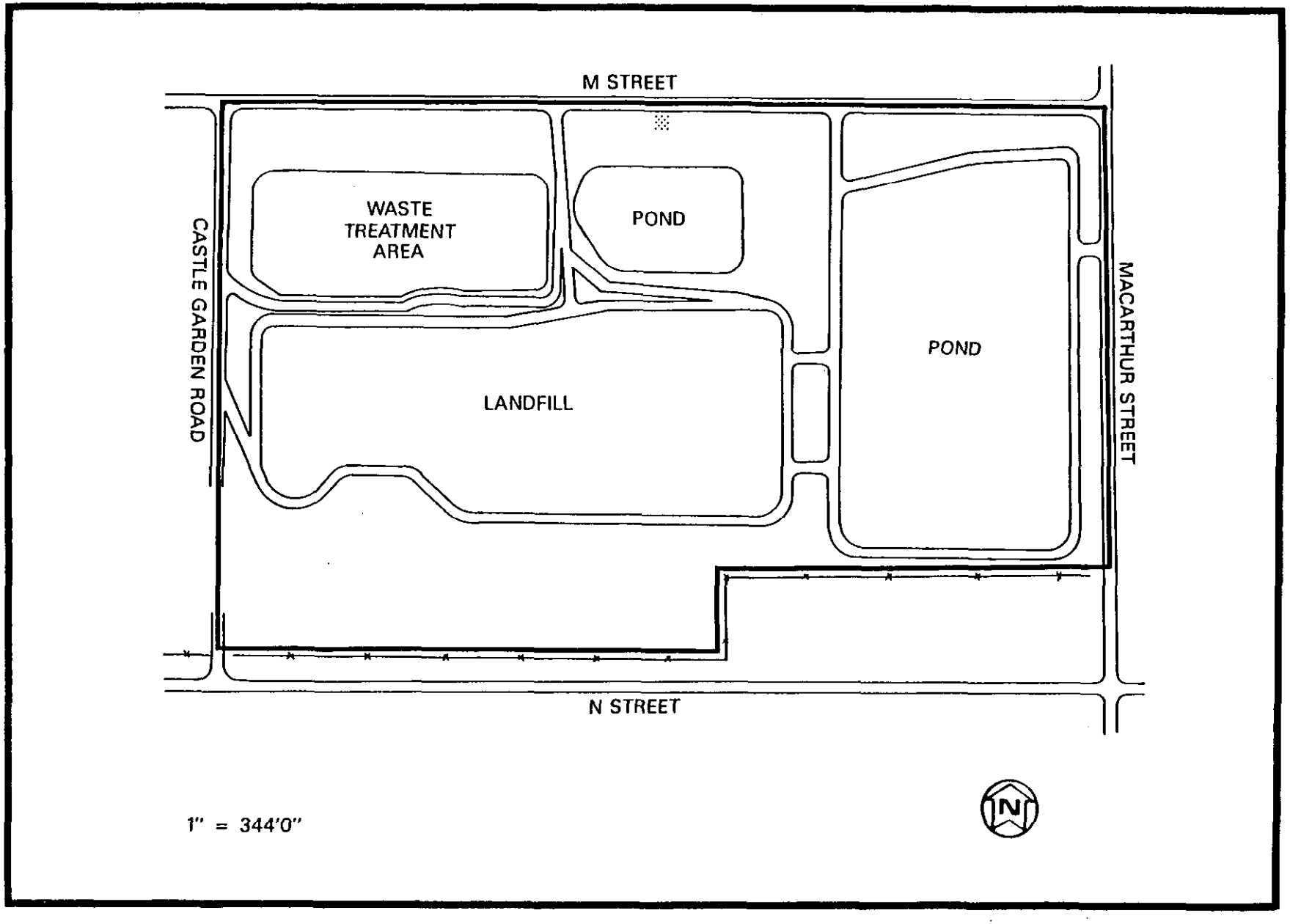


FIGURE 10 EXCAVATED AREA ON PROPERTY F

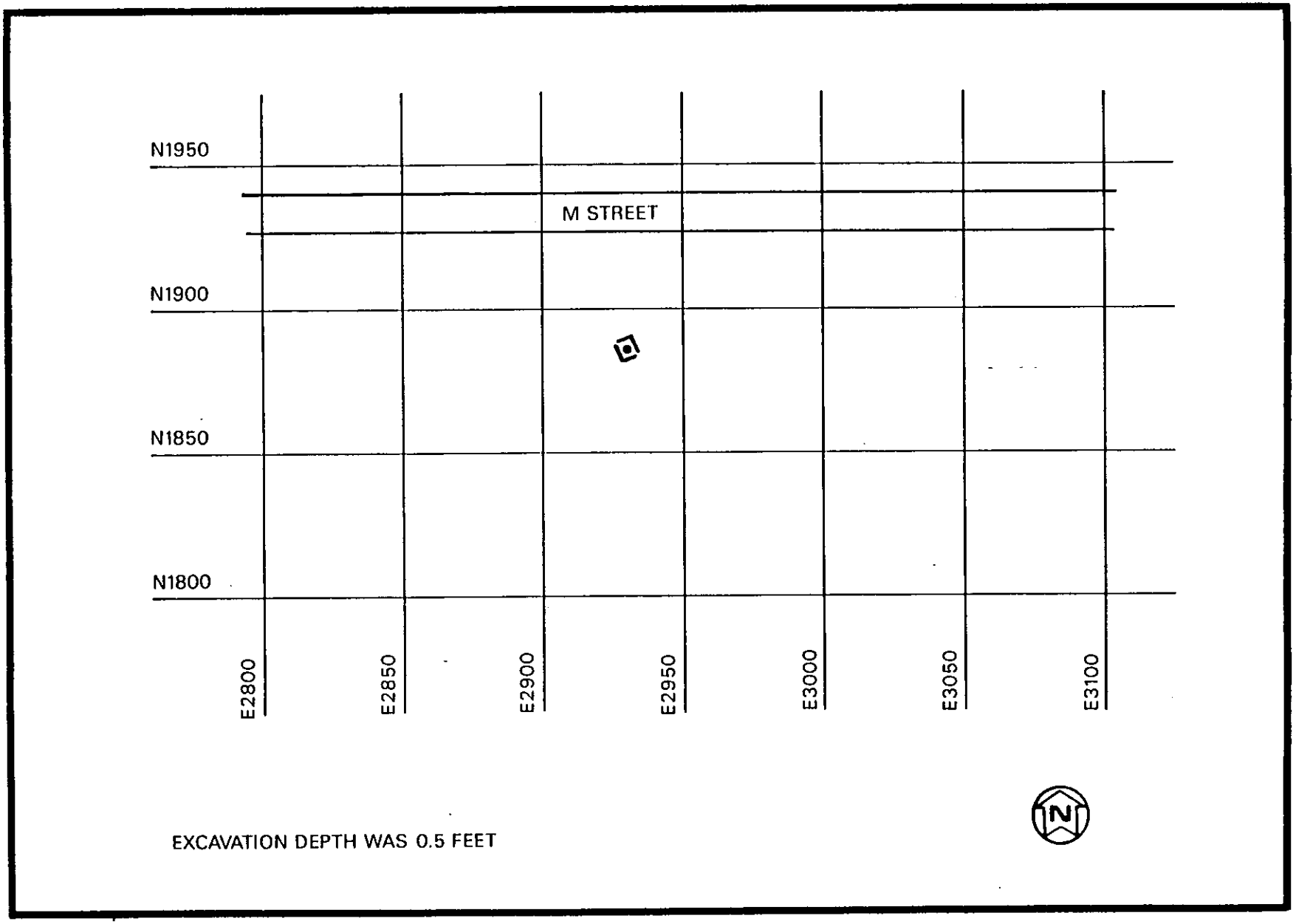


FIGURE 11 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY F

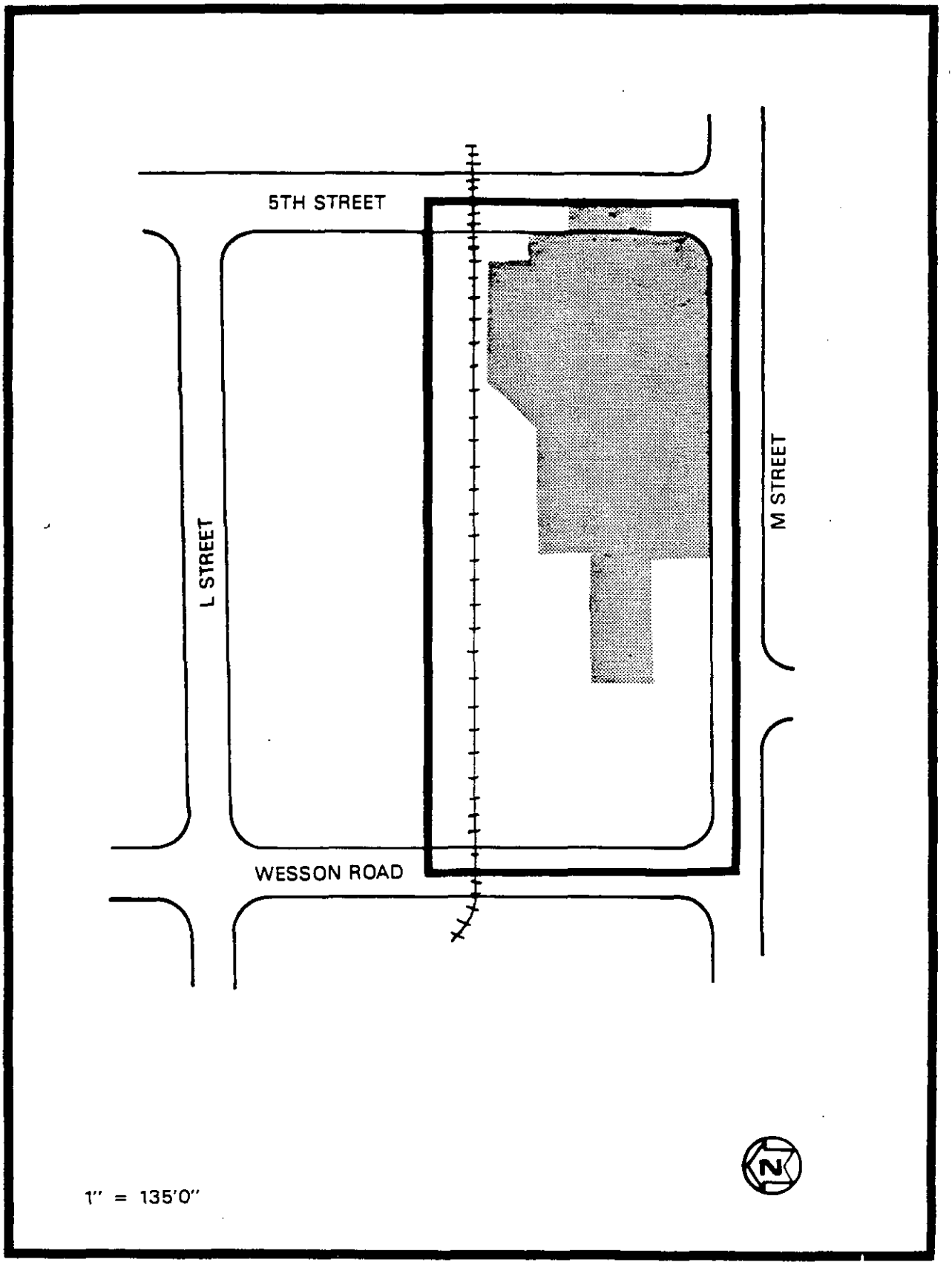


FIGURE 12 EXCAVATED AREA ON PROPERTY H'

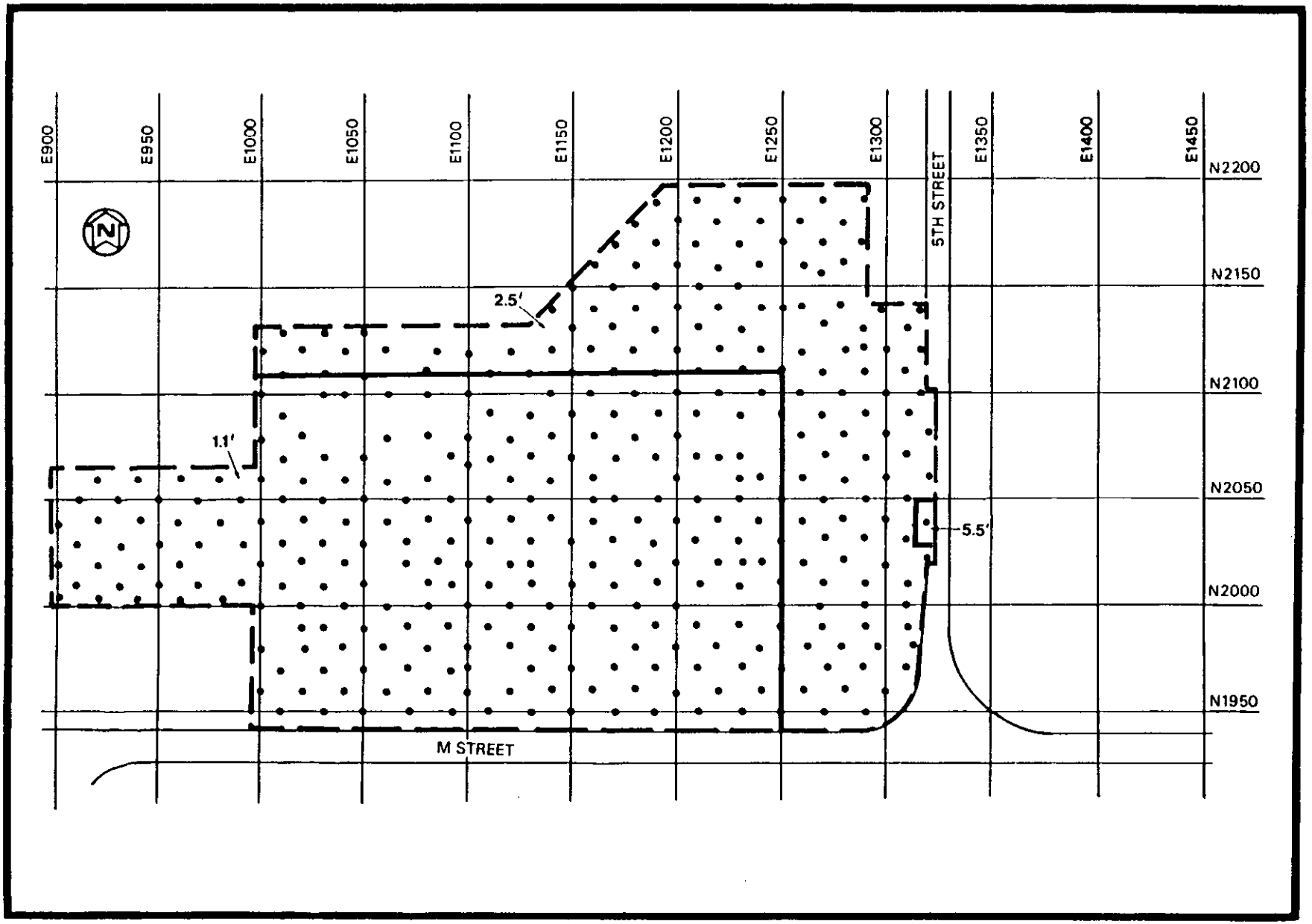


FIGURE 13 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY H'

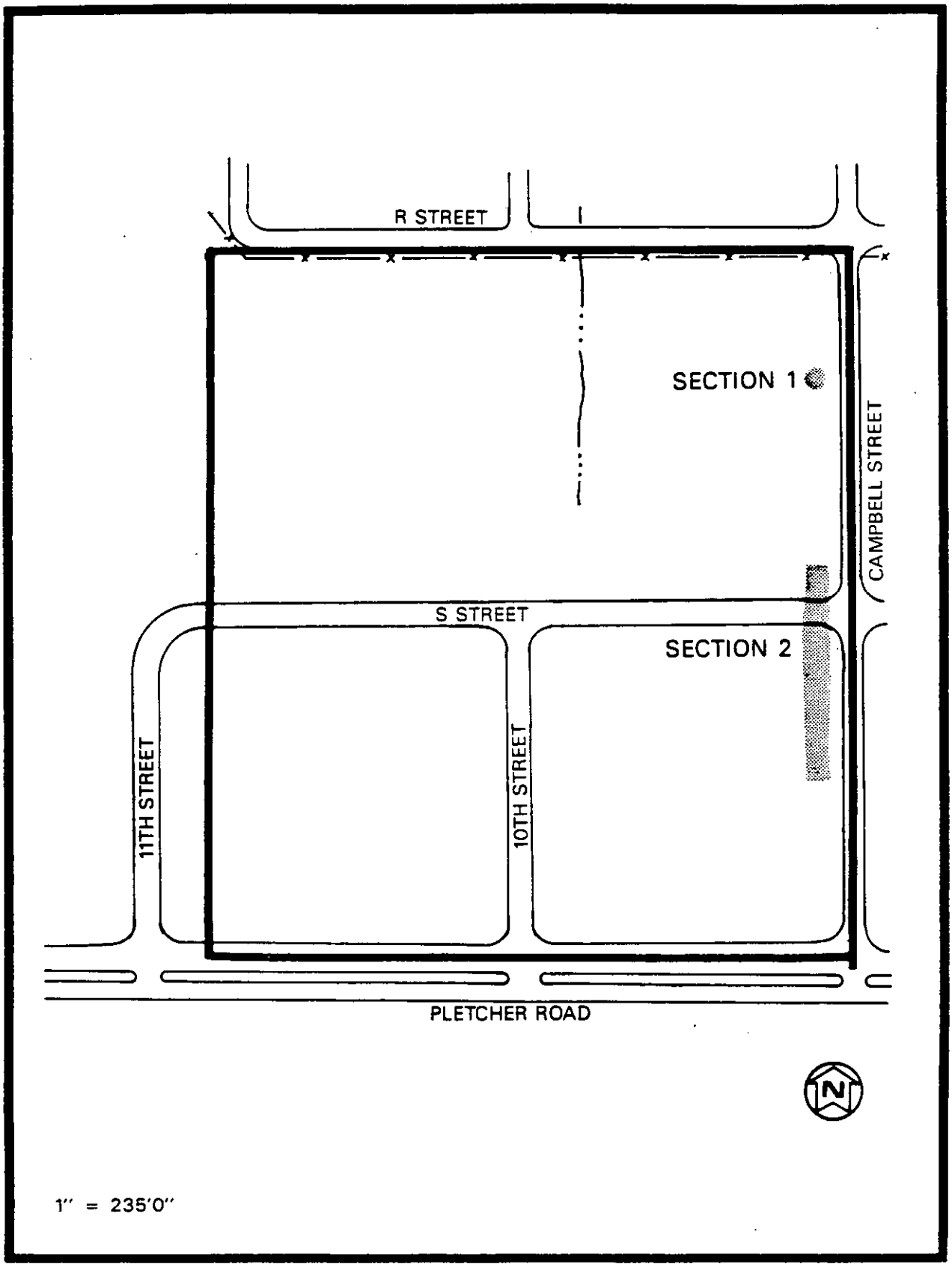


FIGURE 14 EXCAVATED AREAS ON PROPERTY L

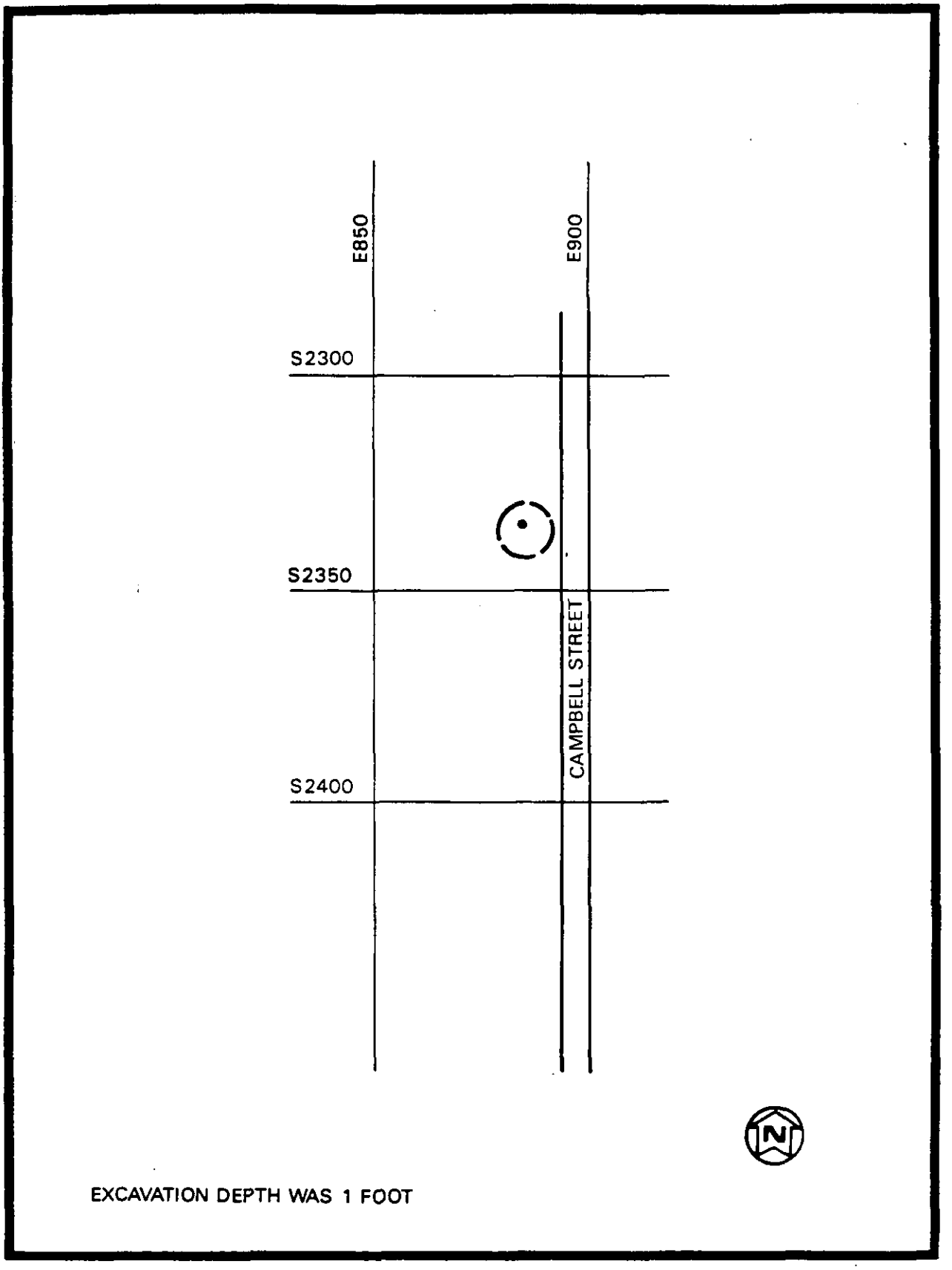


FIGURE 15 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY L - SECTION 1

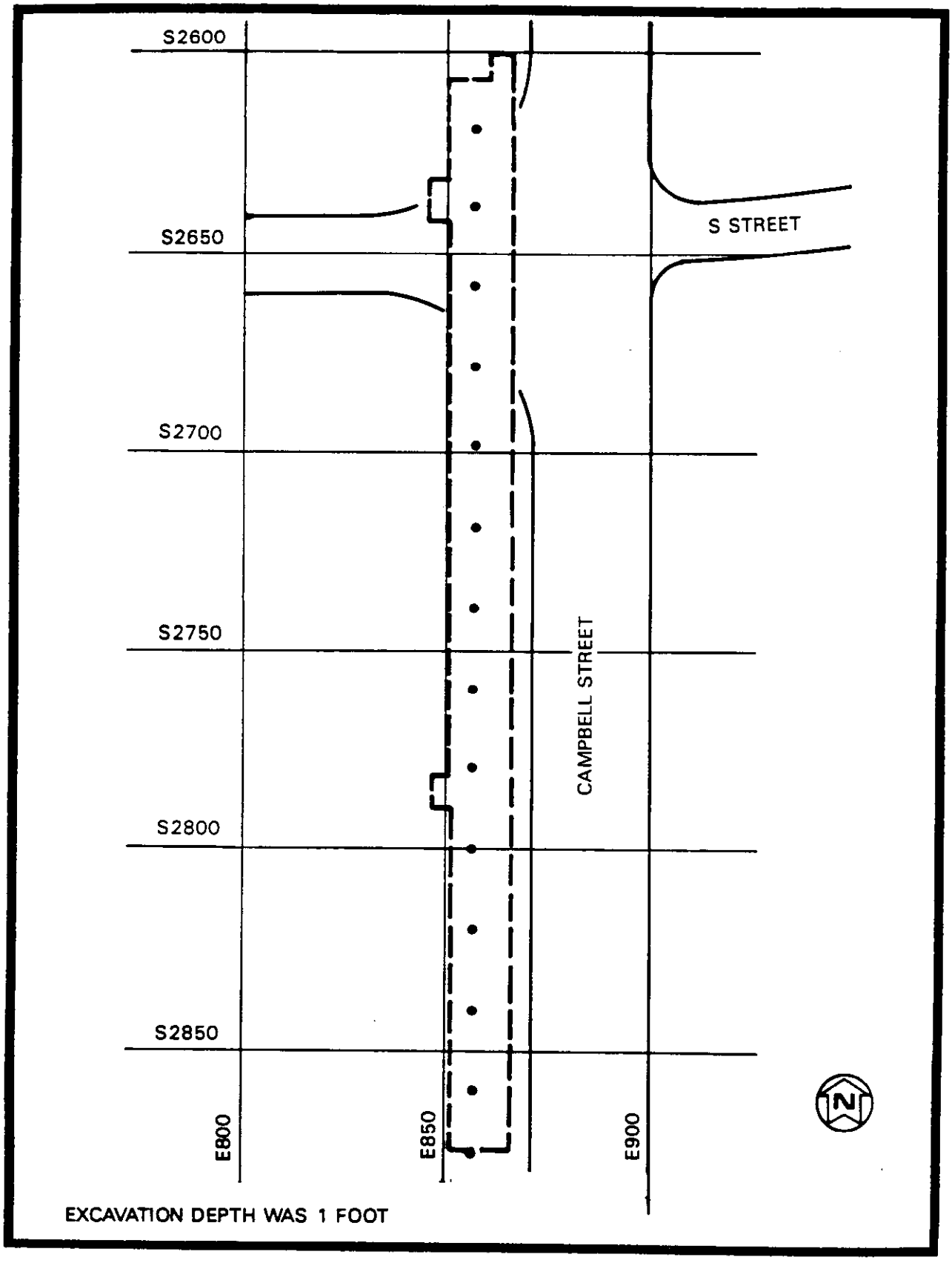


FIGURE 16 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY L - SECTION 2

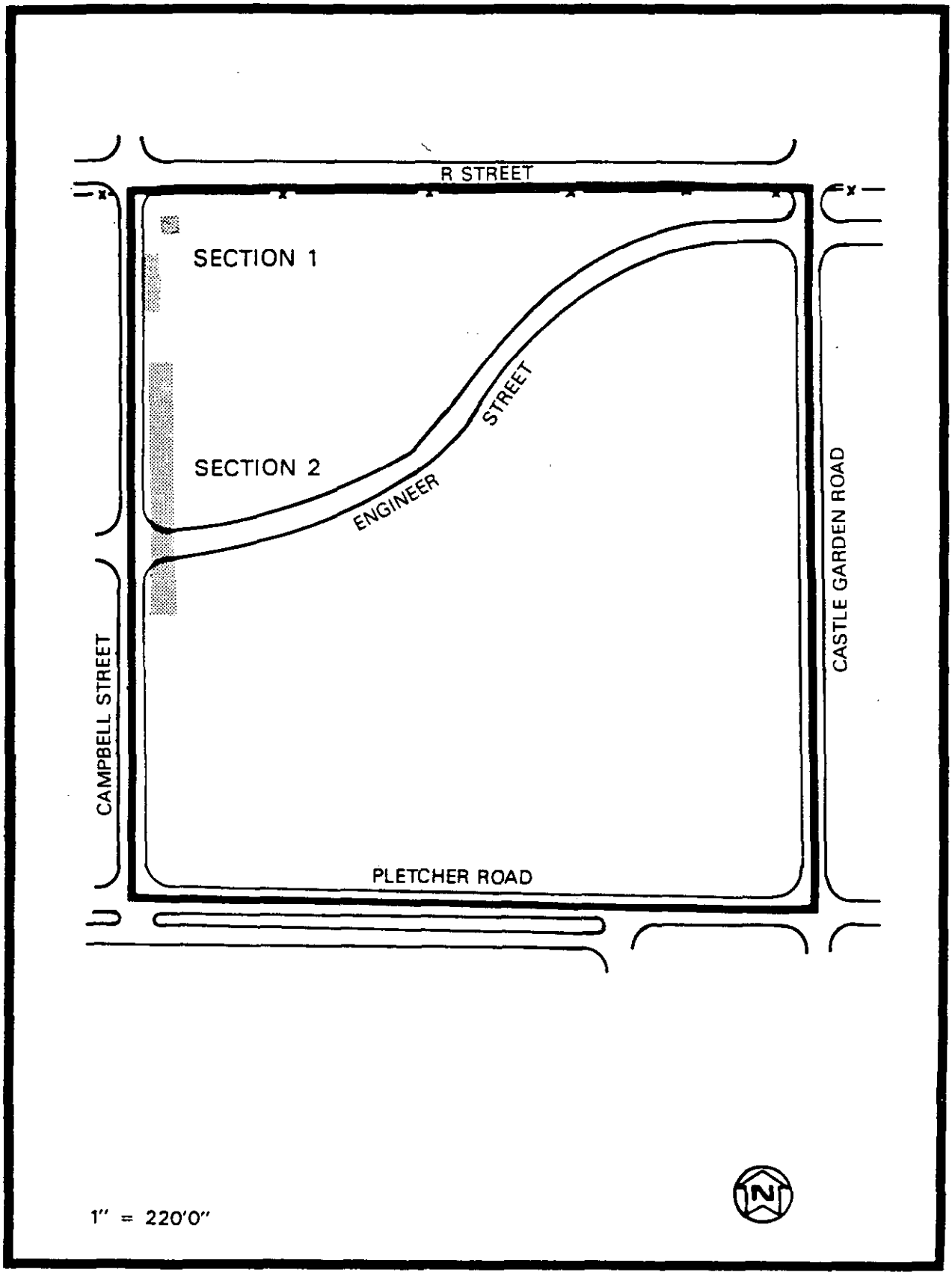


FIGURE 17 EXCAVATED AREAS ON PROPERTY M

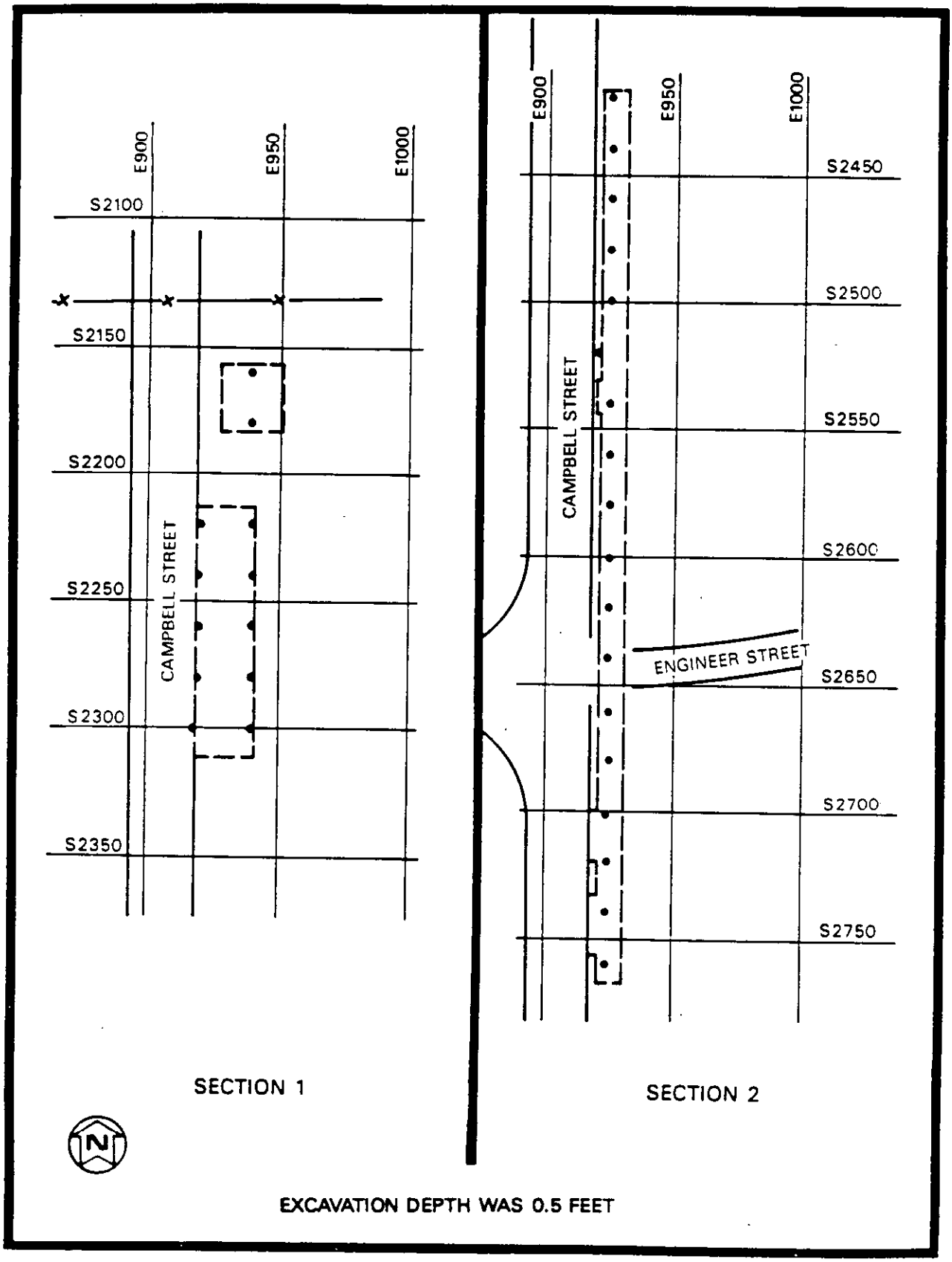


FIGURE 18 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY M - SECTIONS 1 AND 2

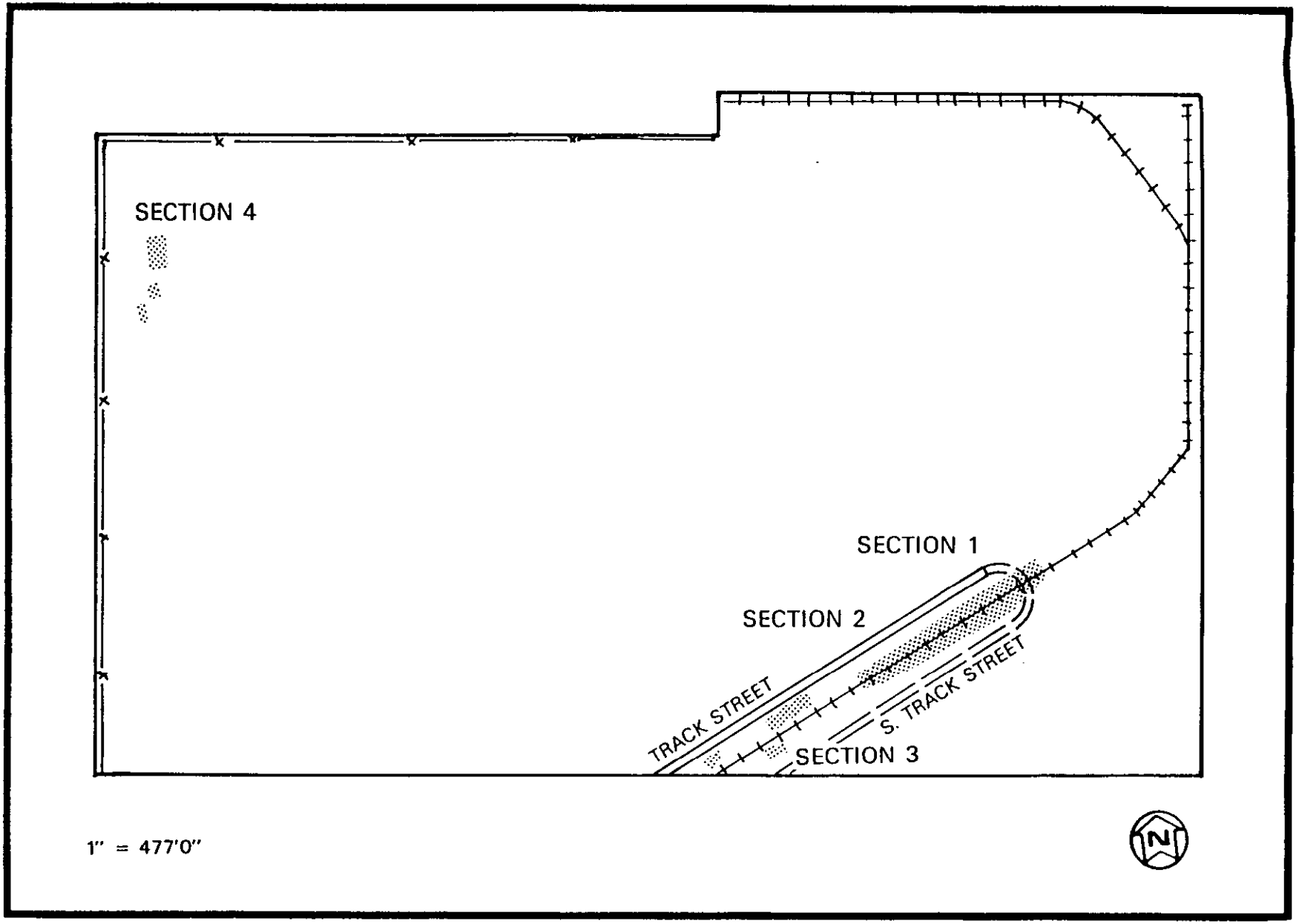


FIGURE 19 EXCAVATED AREAS ON PROPERTY N/N' NORTH

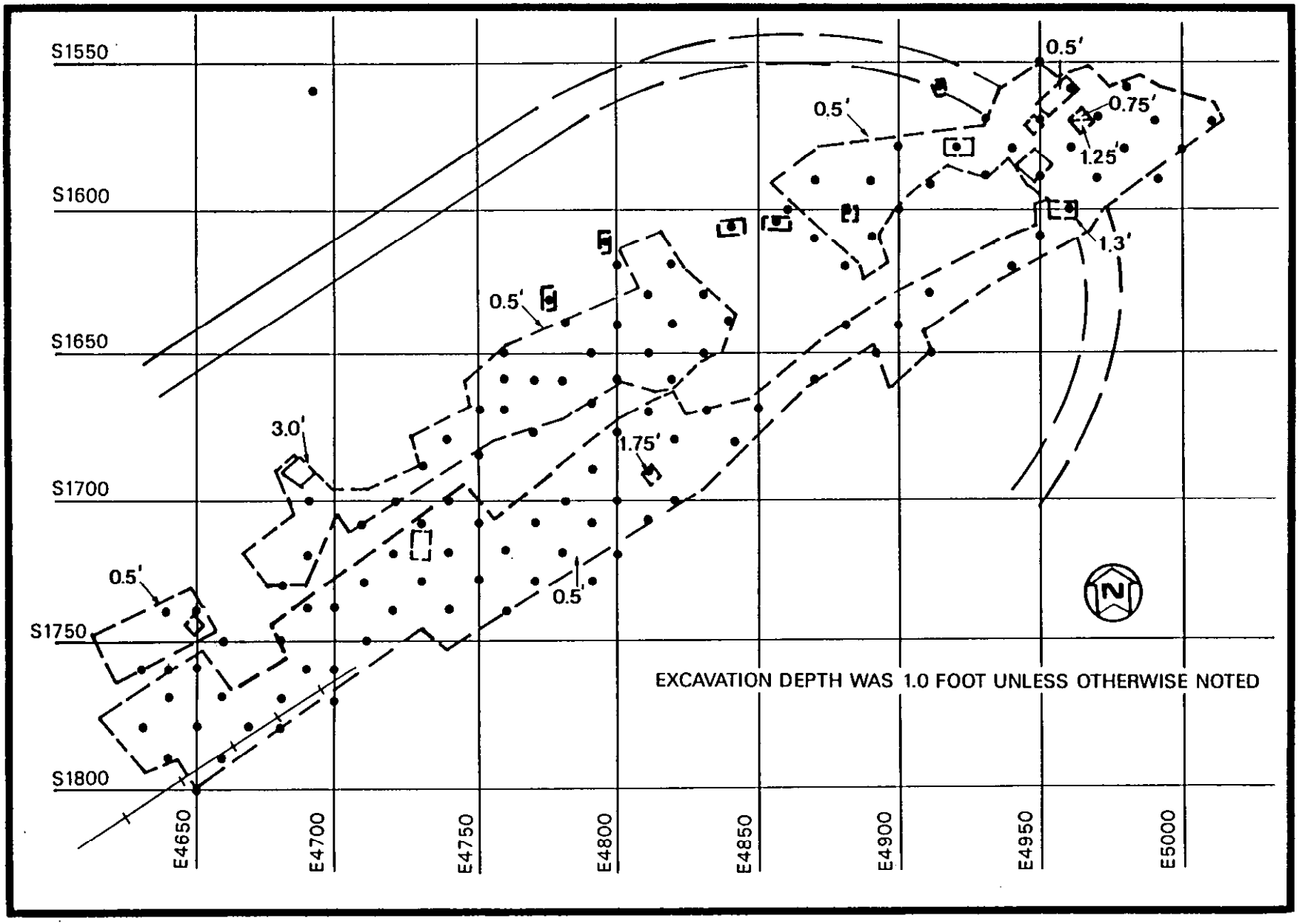


FIGURE 20 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' NORTH - SECTION 1

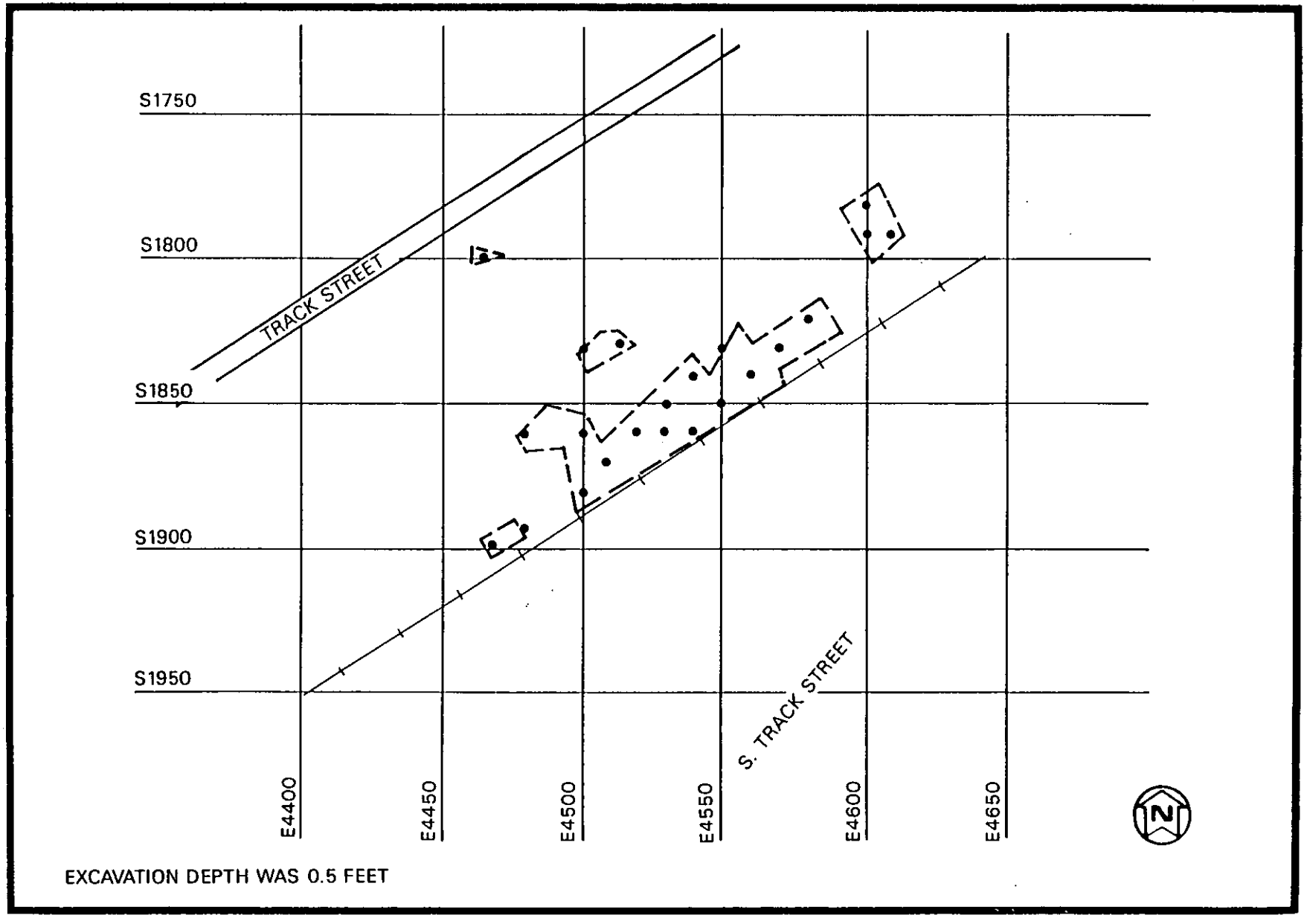


FIGURE 21 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' NORTH - SECTION 2

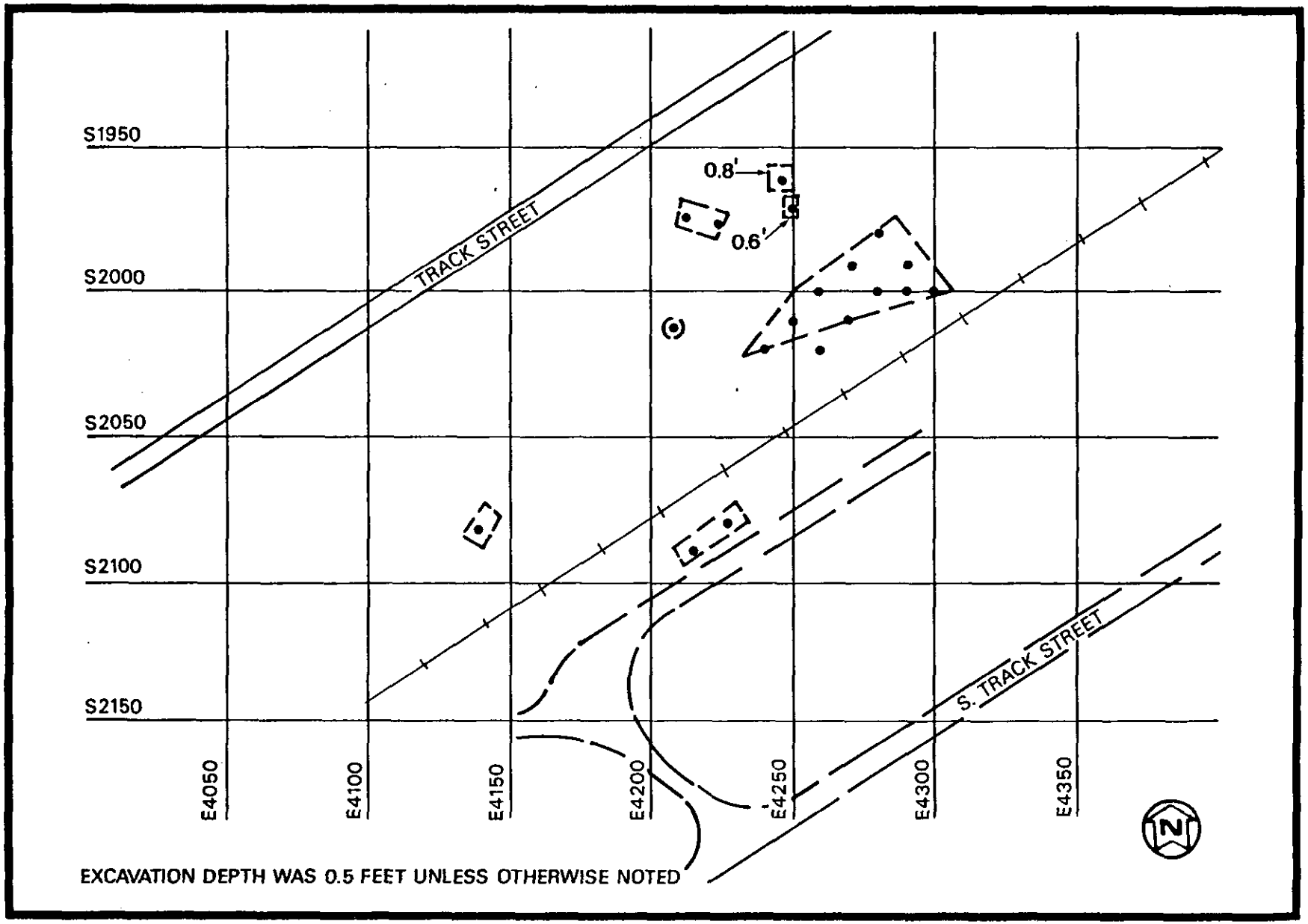


FIGURE 22 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' NORTH - SECTION 3

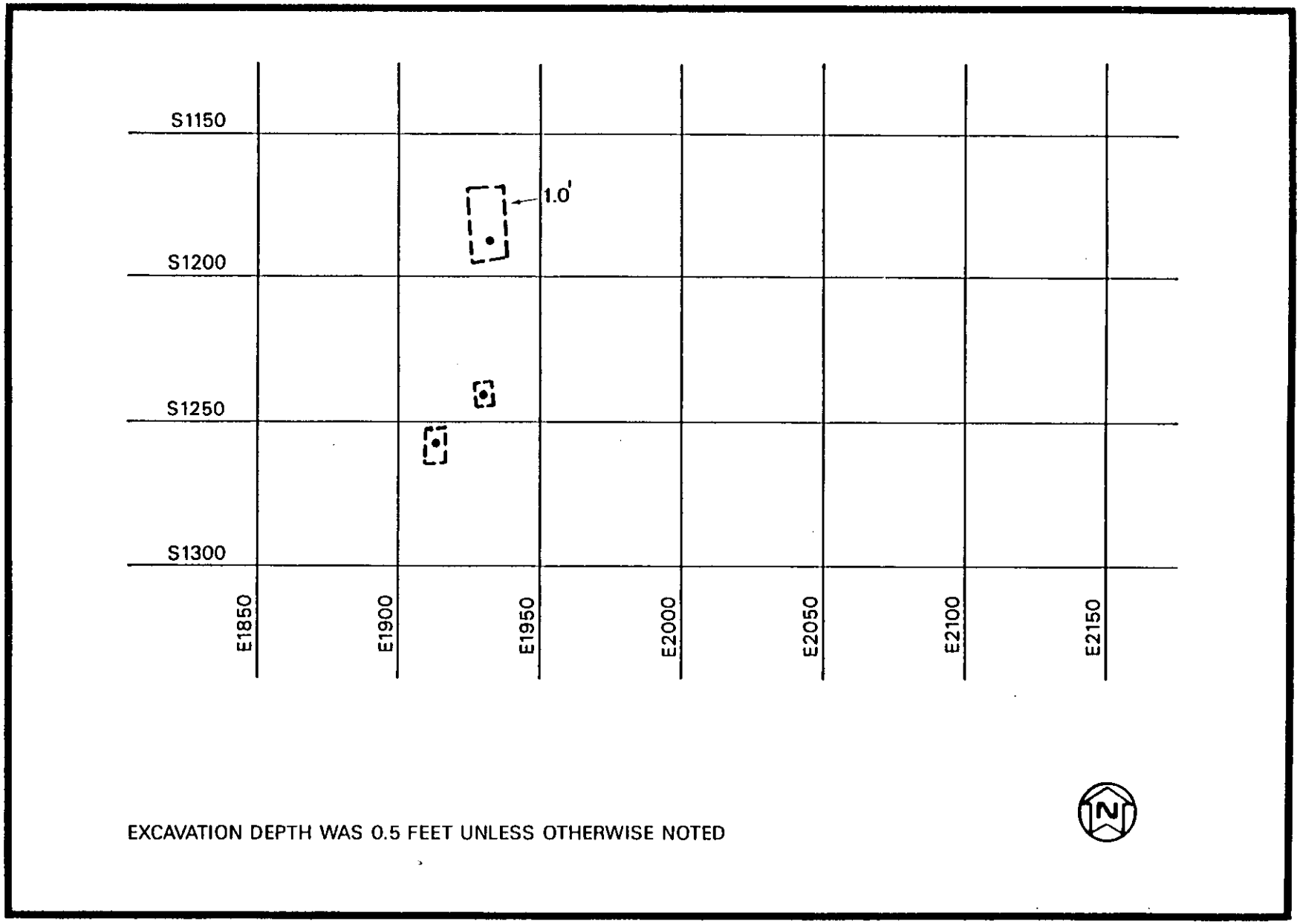


FIGURE 23 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' NORTH - SECTION 4

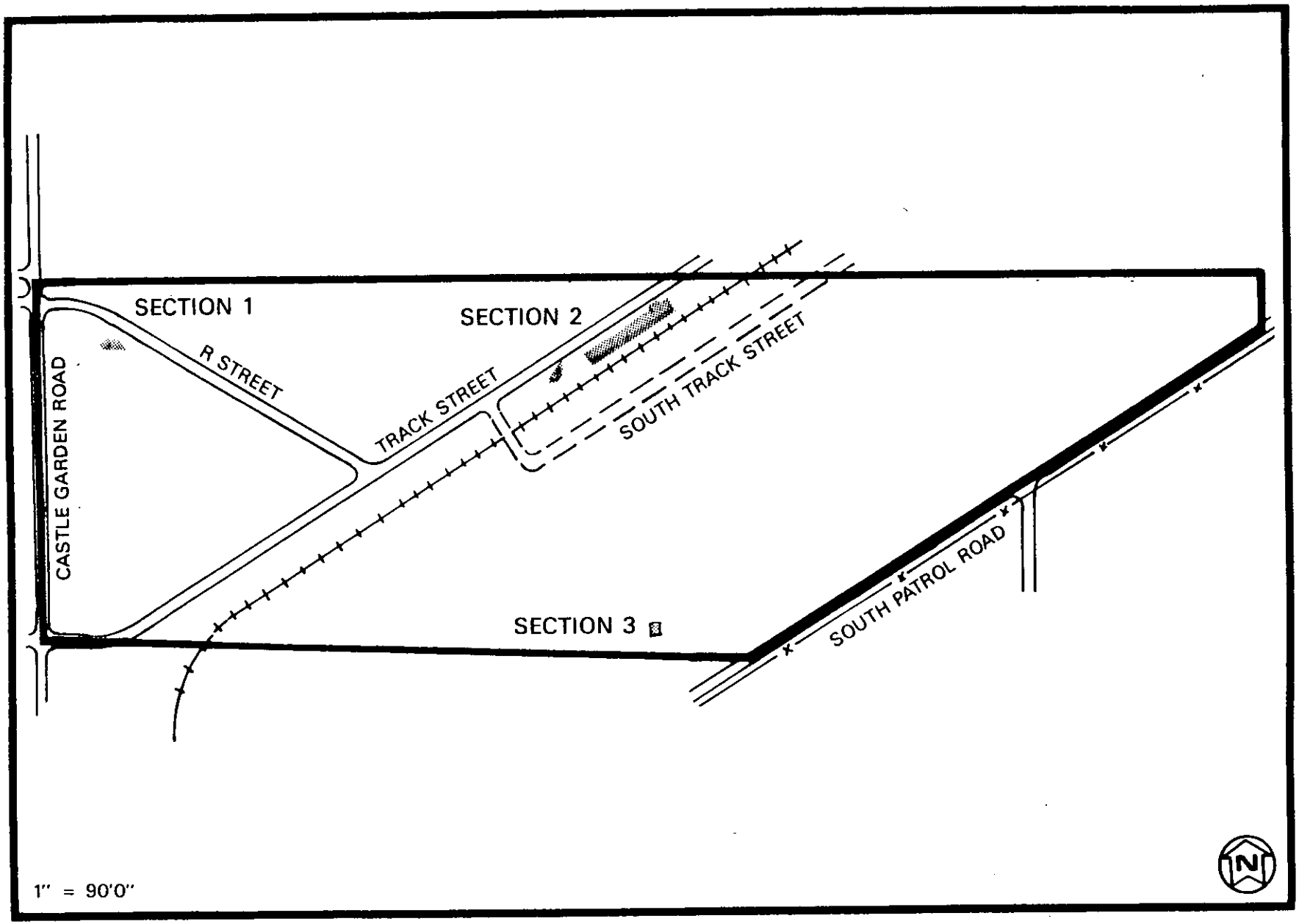
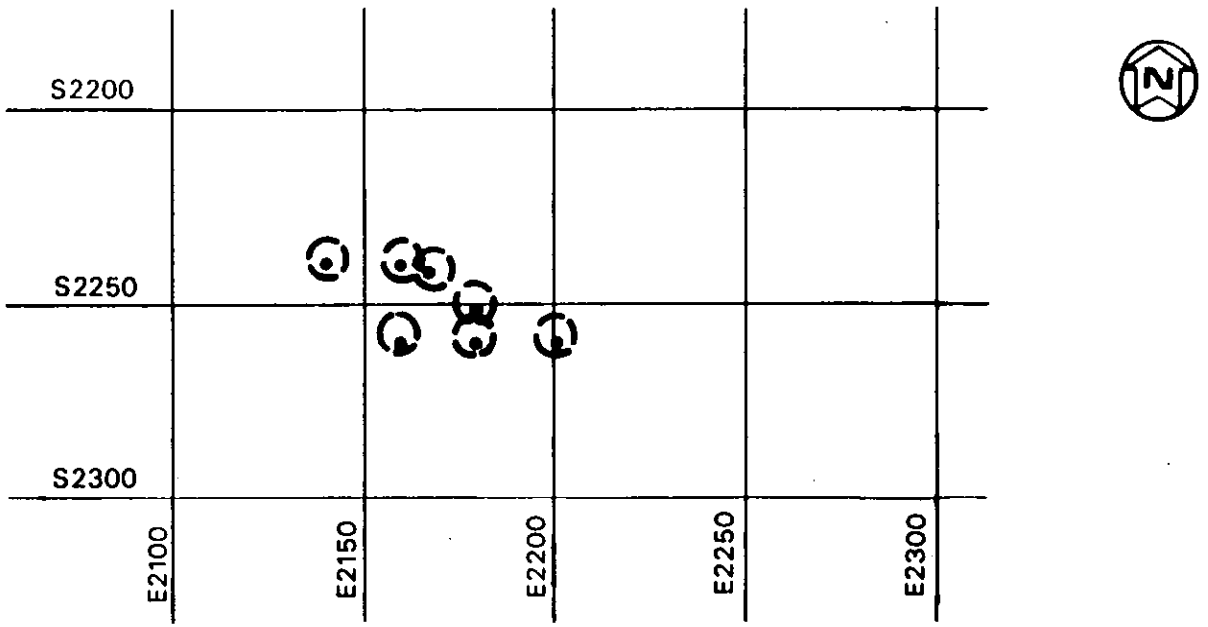


FIGURE 24 EXCAVATED AREAS ON PROPERTY N/N' SOUTH



EXCAVATION DEPTH WAS 1 FOOT

FIGURE 25 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 1

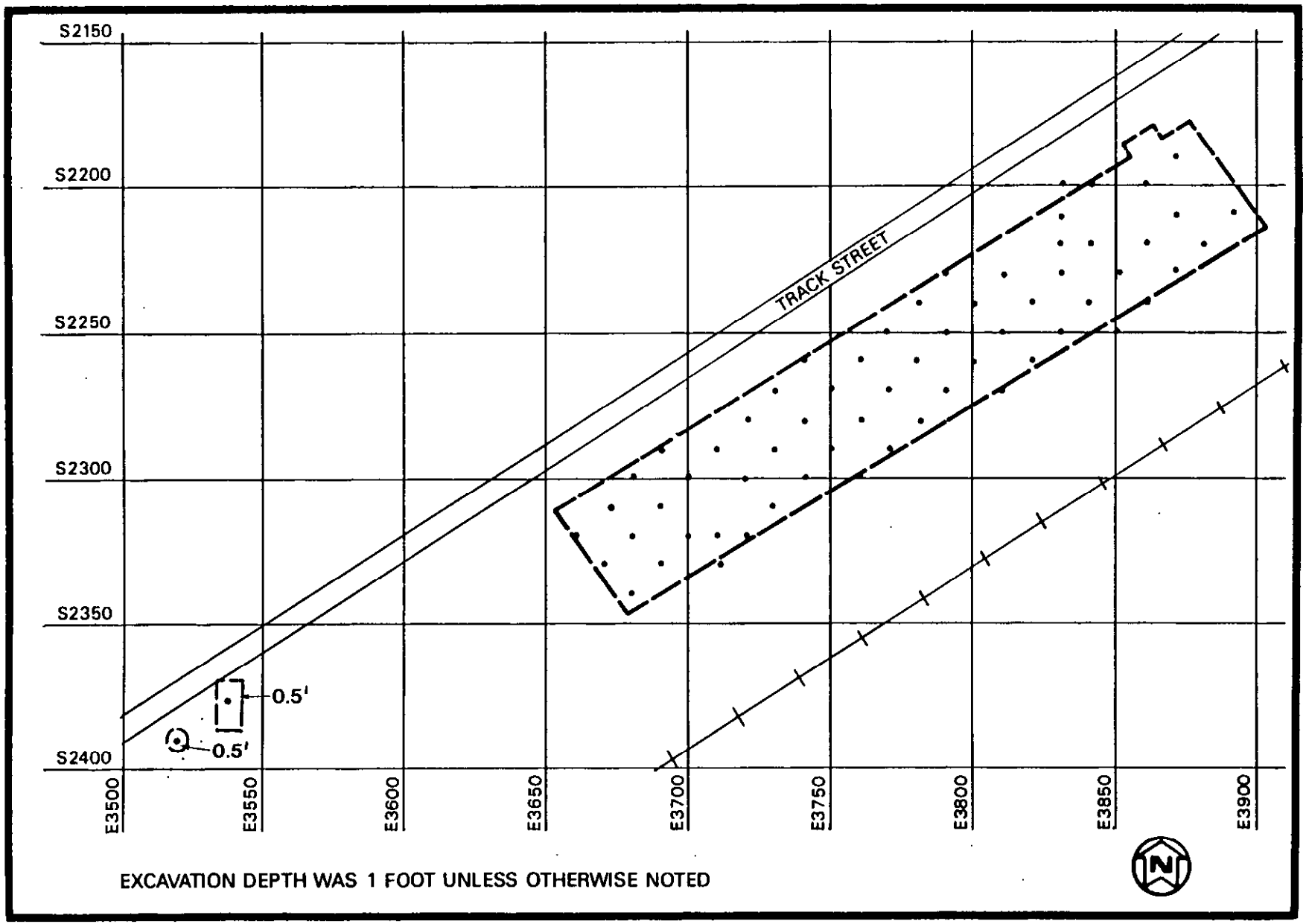


FIGURE 26 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 2

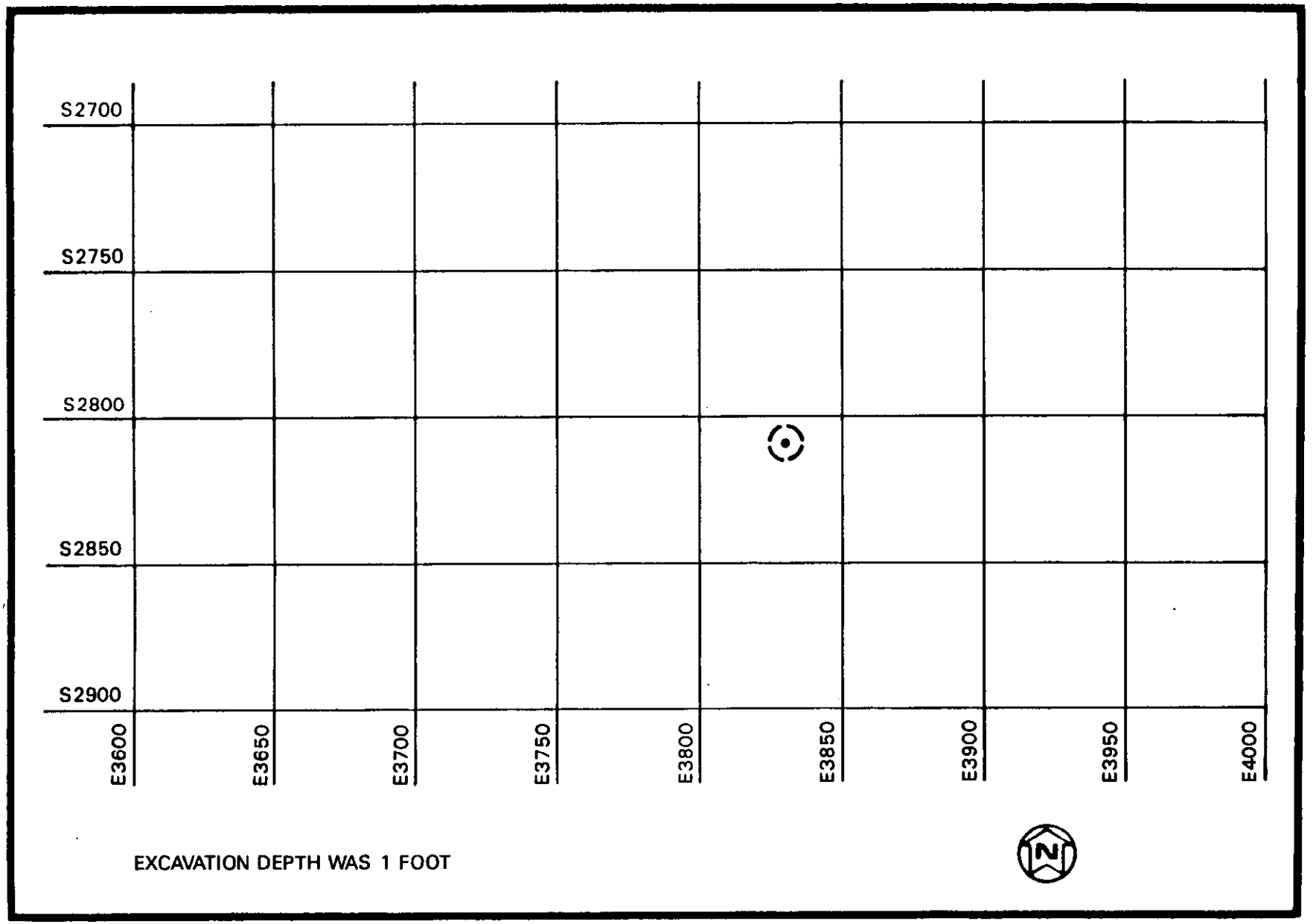


FIGURE 27 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 3

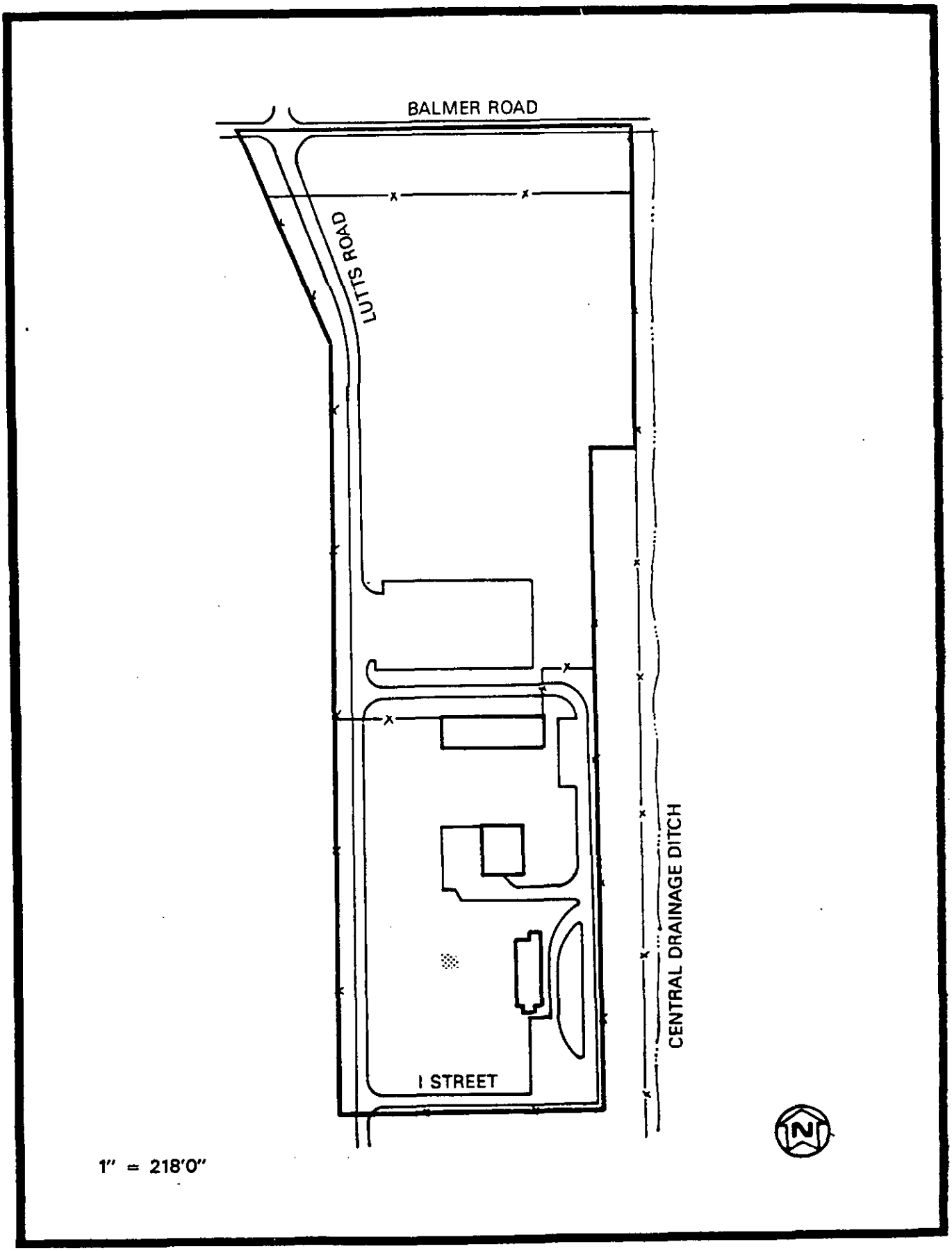


FIGURE 28 EXCAVATED AREA ON PROPERTY P

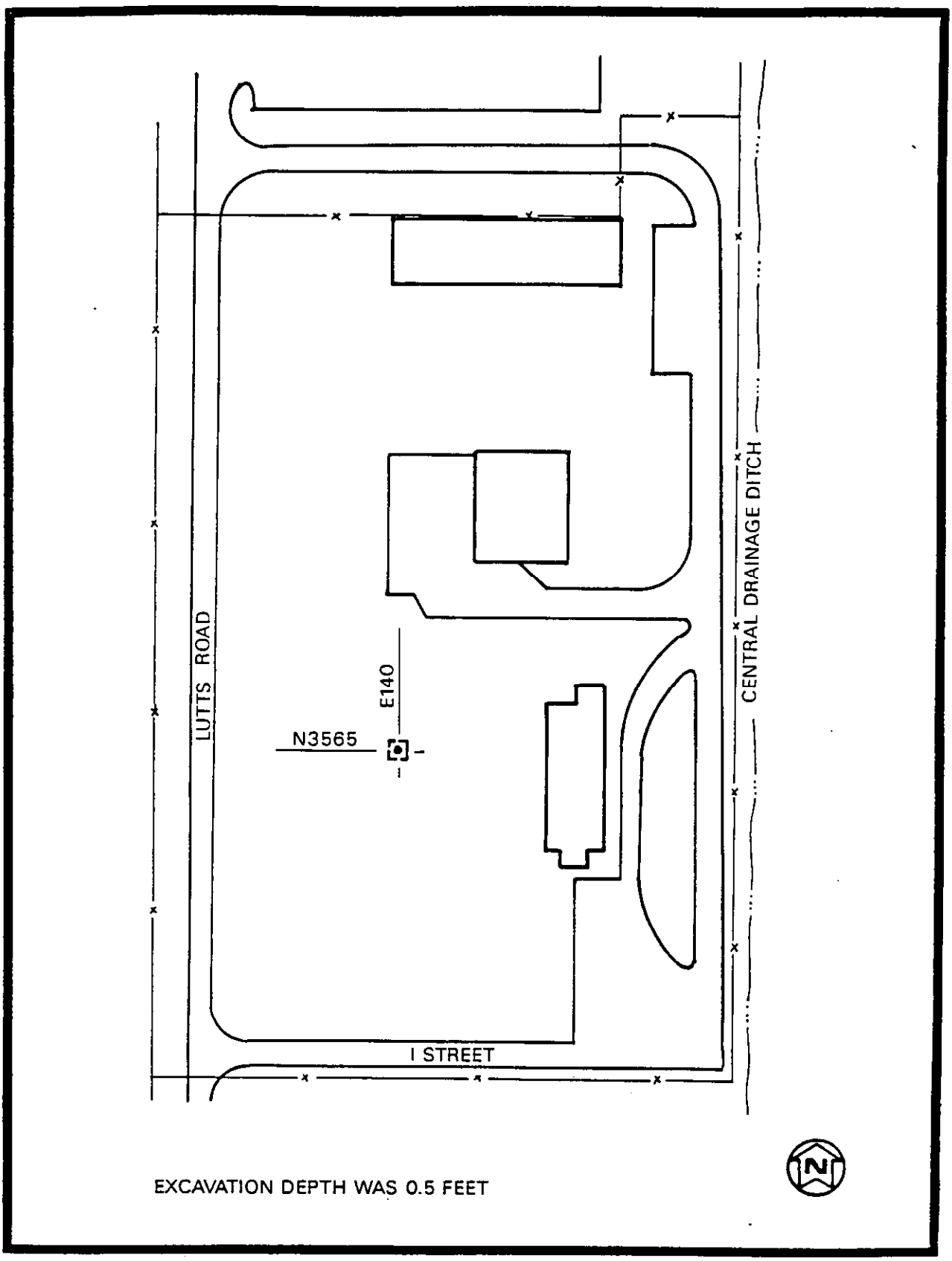


FIGURE 29 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY P

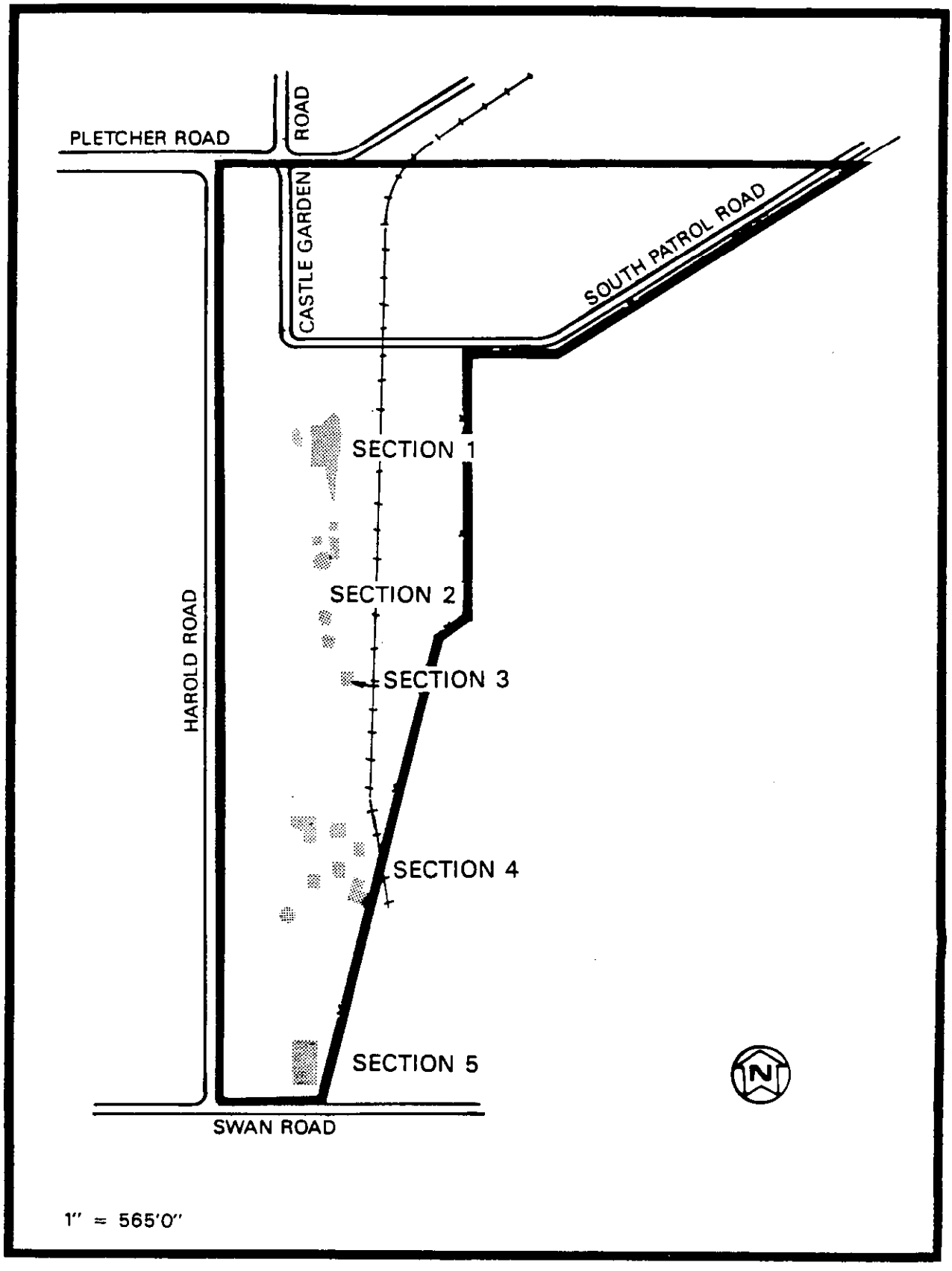


FIGURE 30 EXCAVATED AREAS ON PROPERTY Q

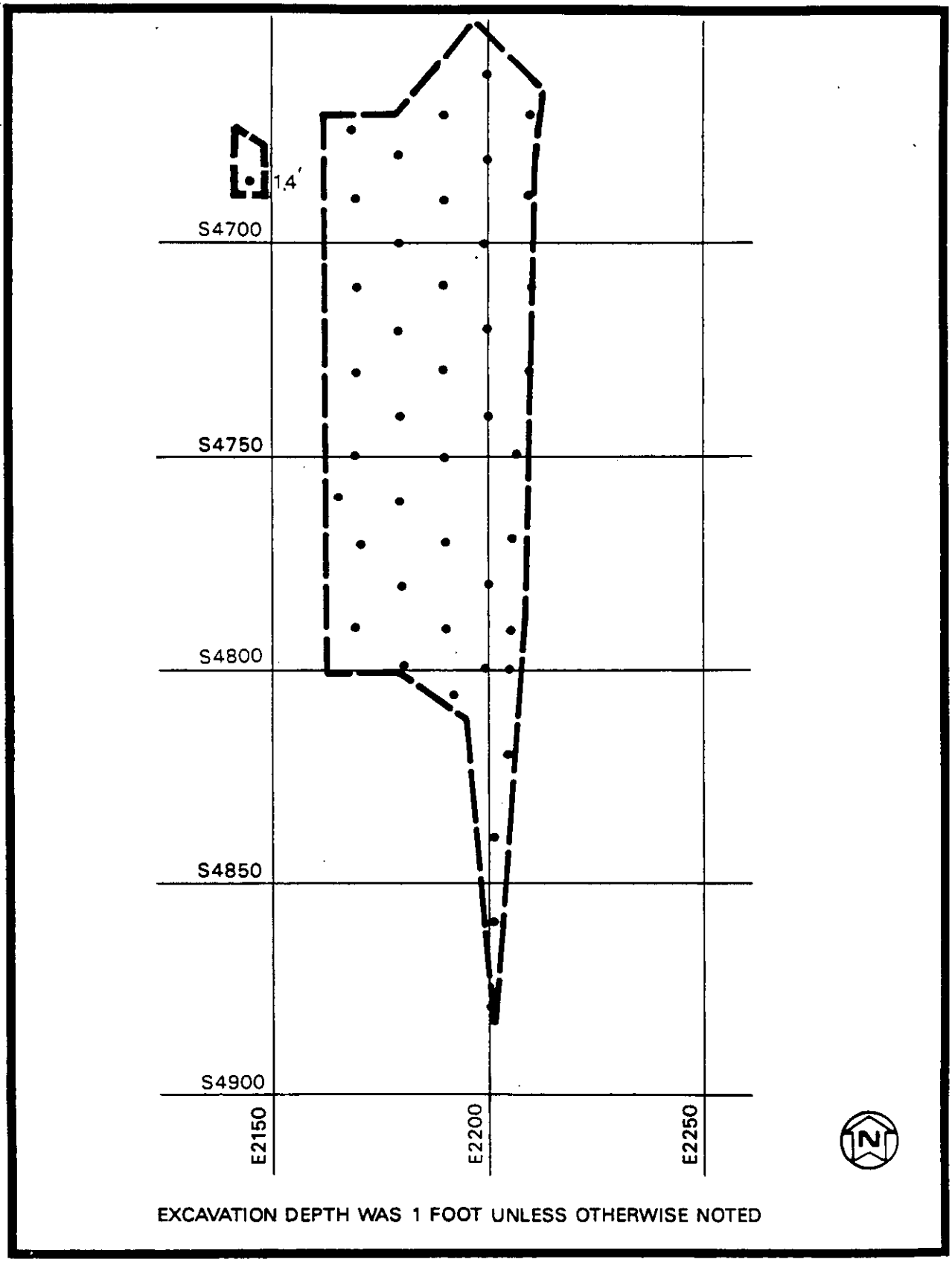


FIGURE 31 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 1

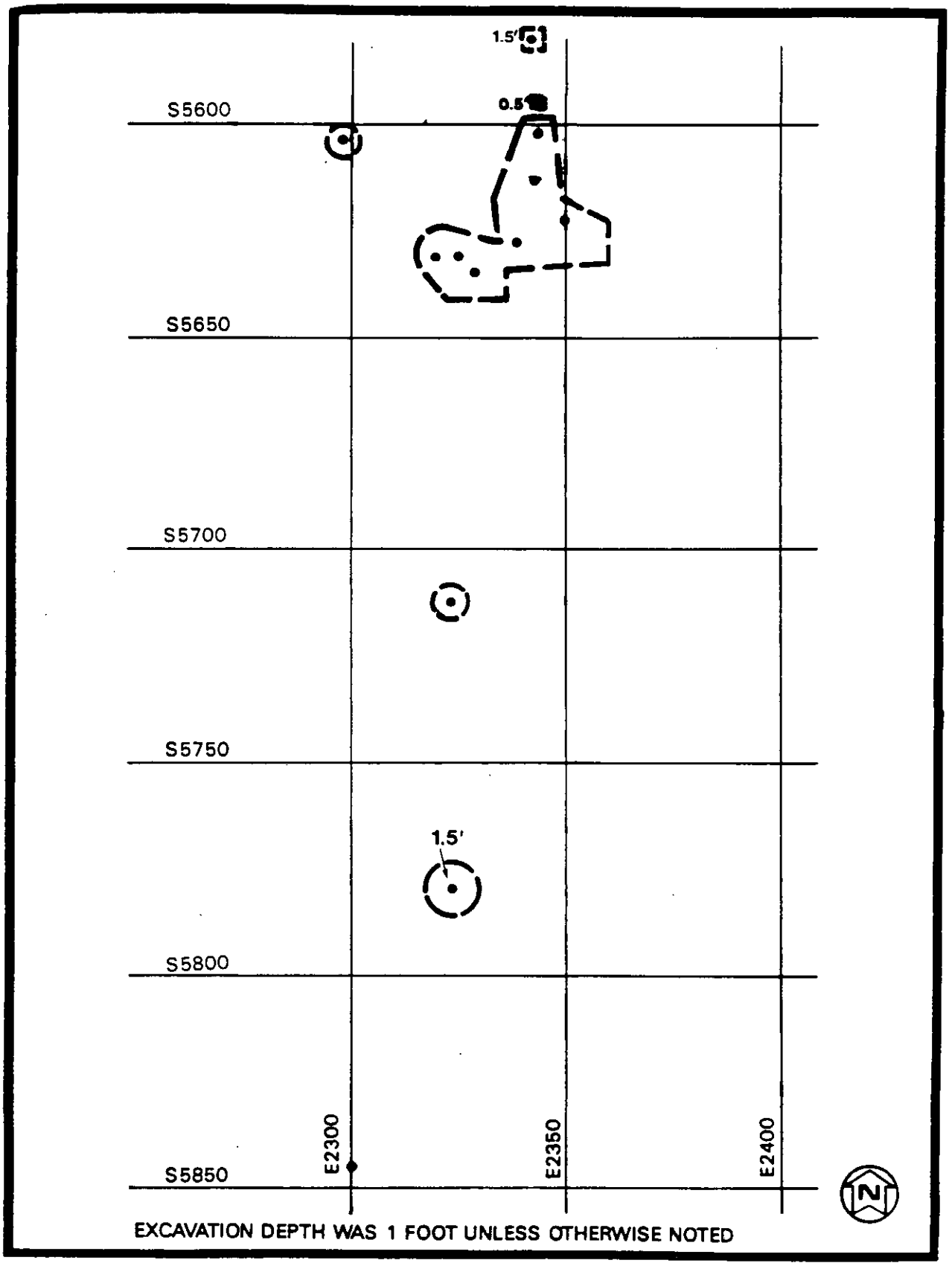


FIGURE 32 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 2

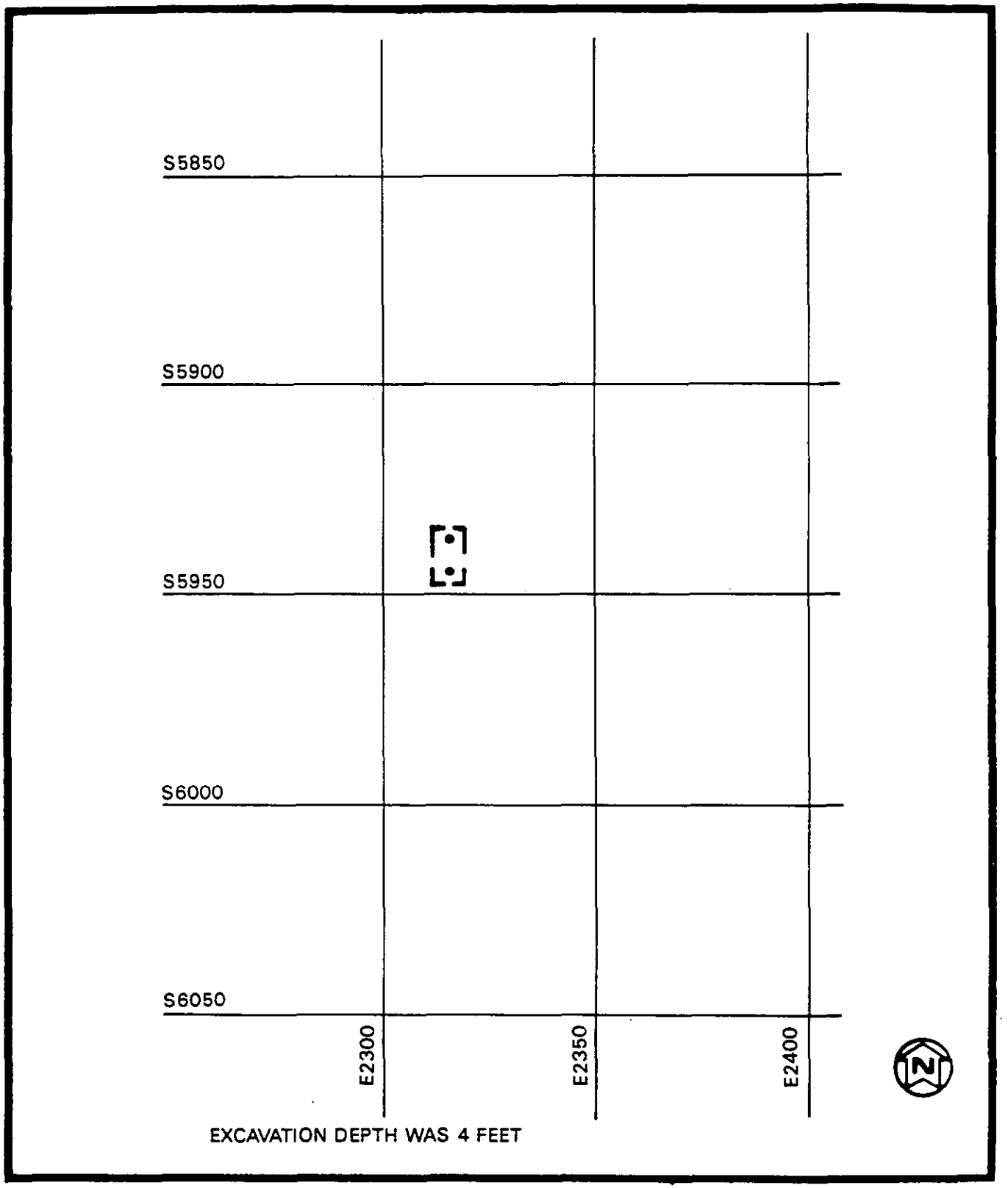


FIGURE 33 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 3

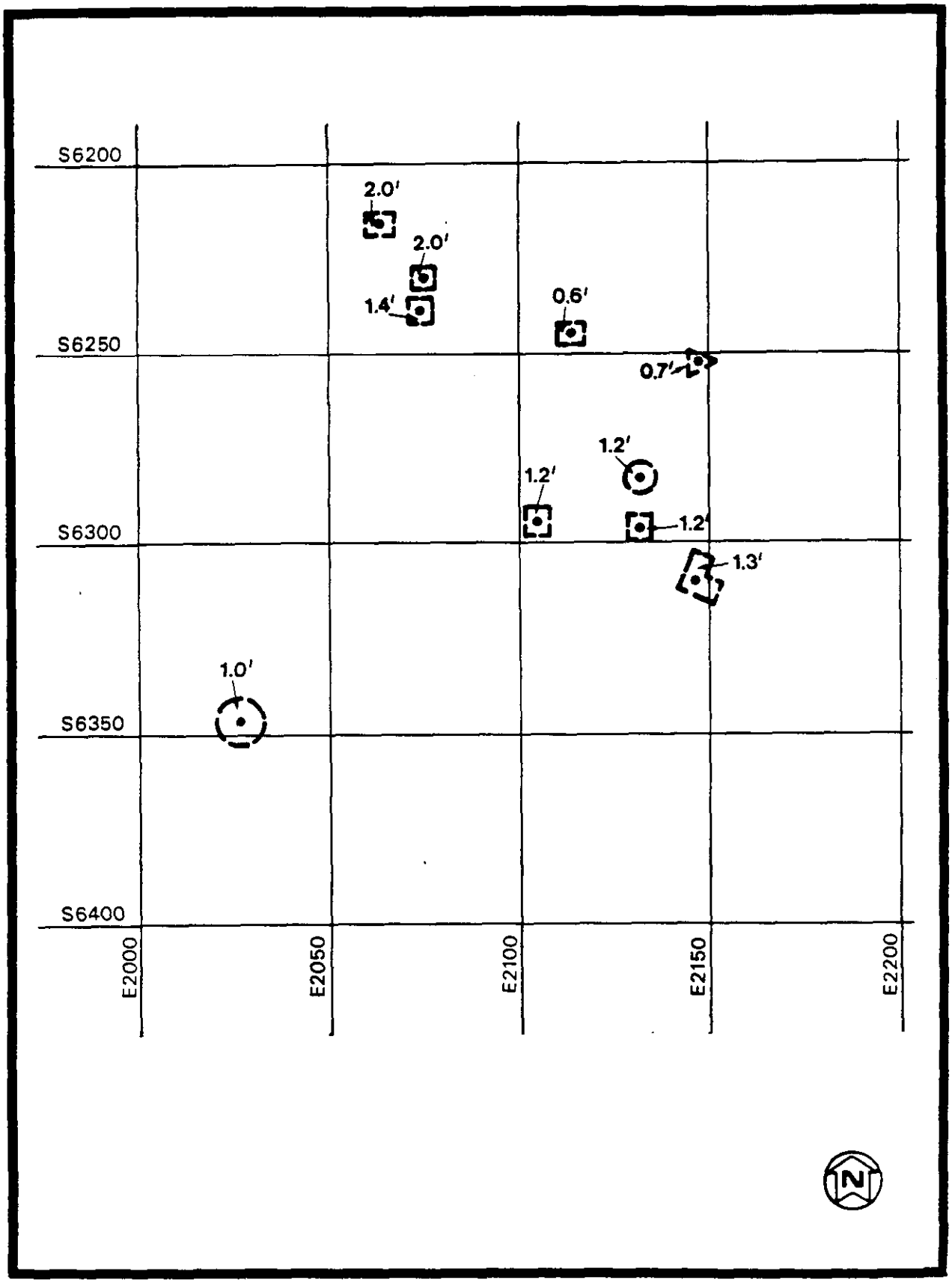


FIGURE 34 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 4

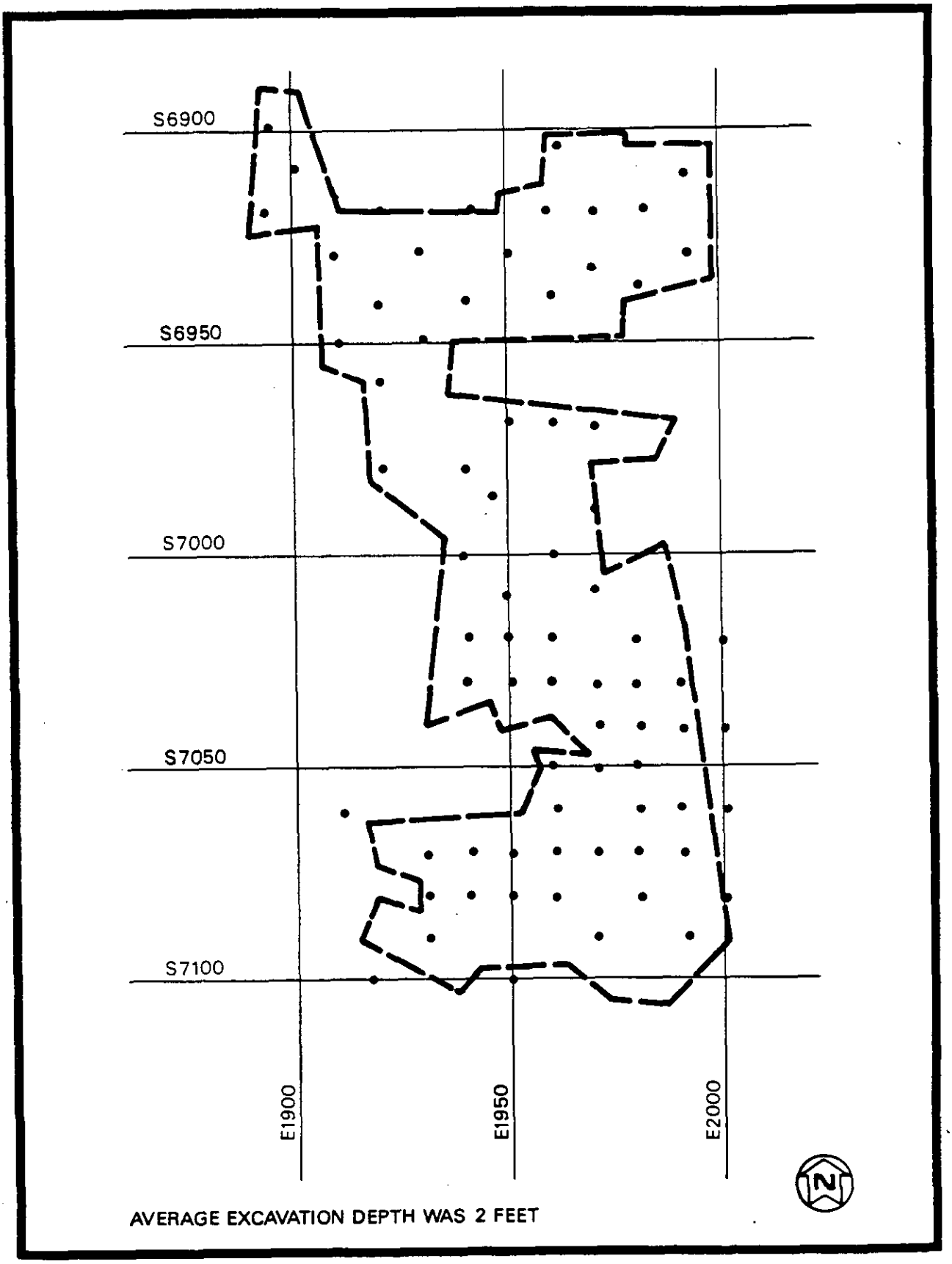


FIGURE 35 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 5

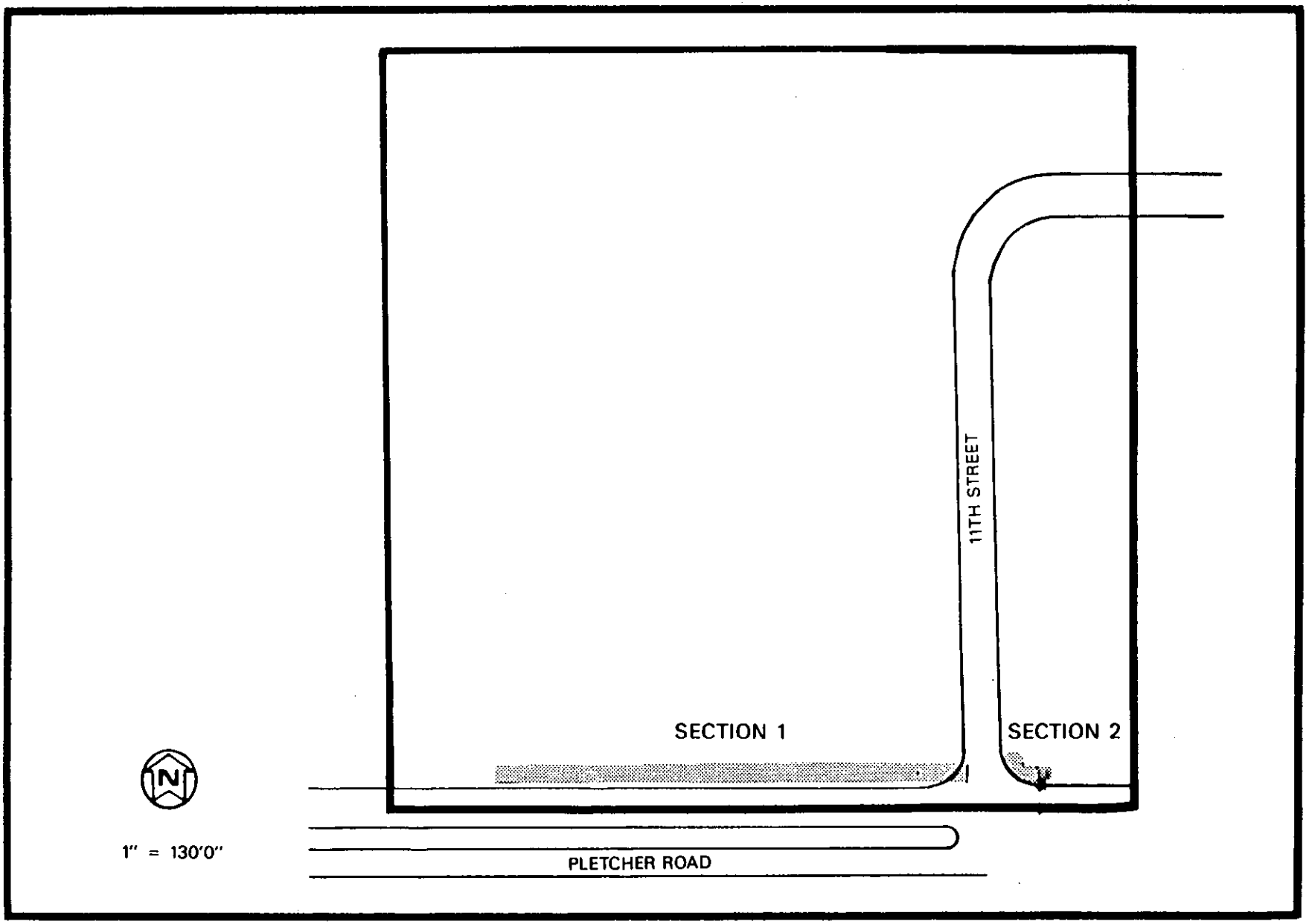


FIGURE 36. EXCAVATED AREA ON PROPERTY R

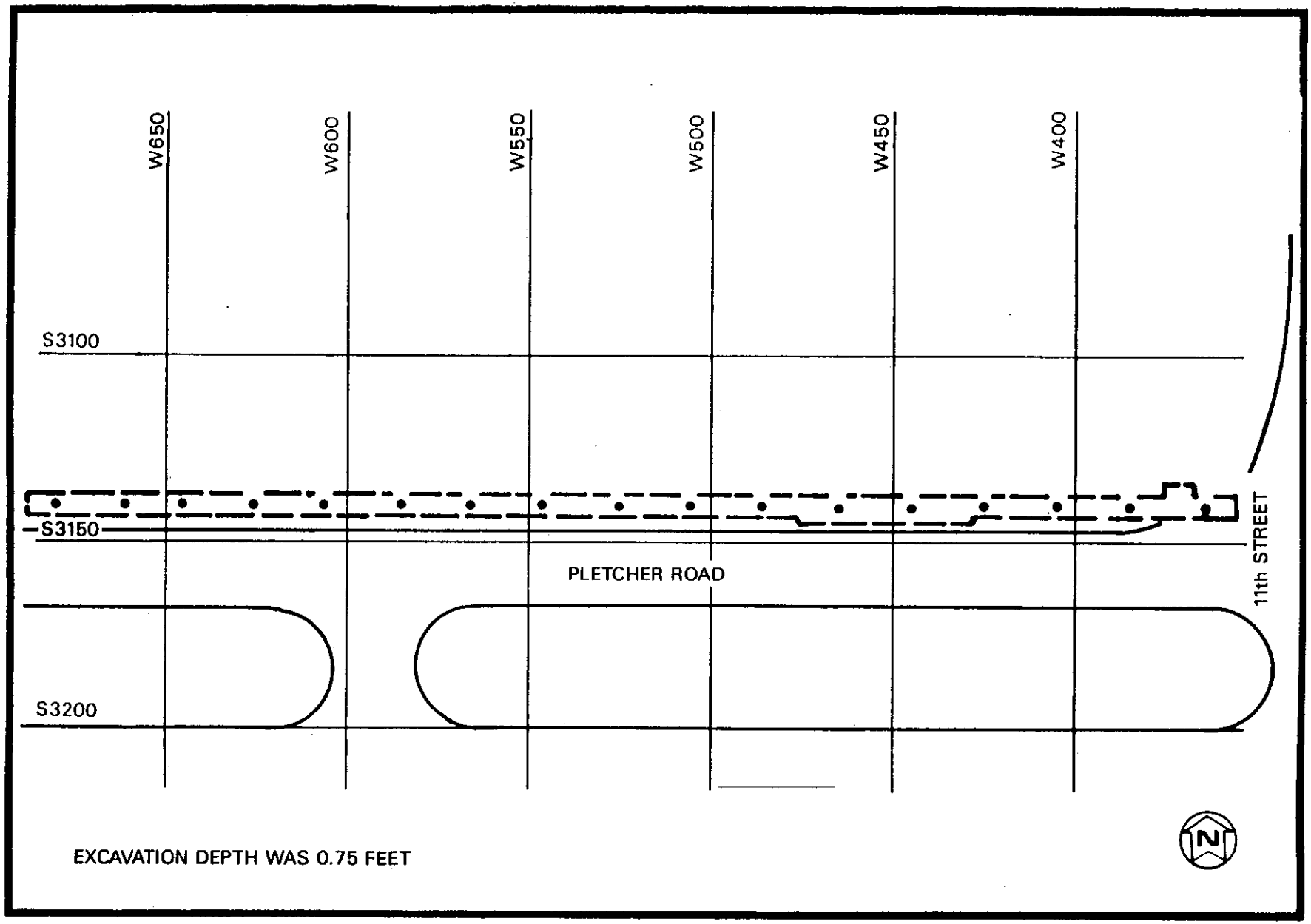
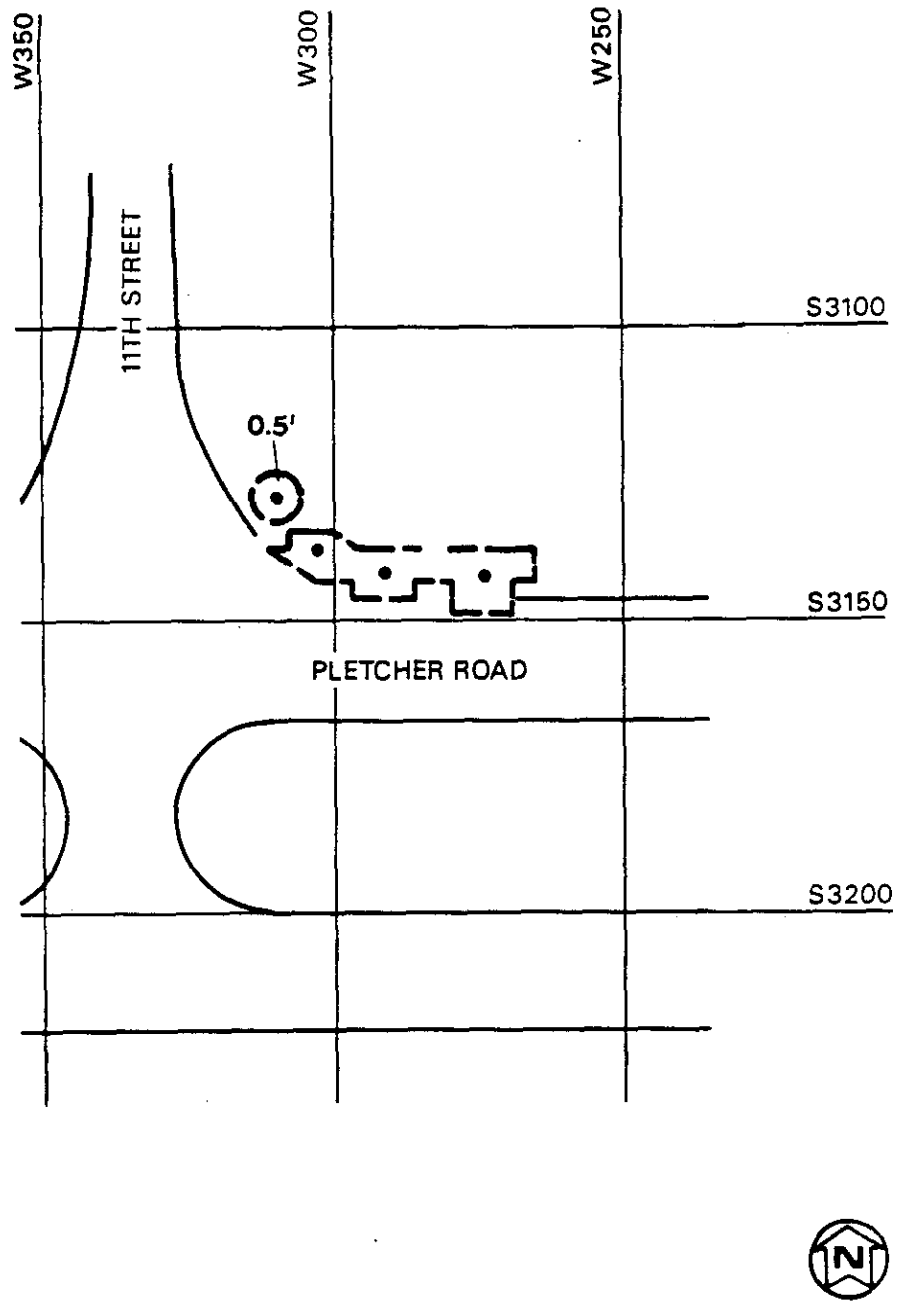


FIGURE 37 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY R - SECTION 1



EXCAVATION DEPTH WAS 1 FOOT UNLESS OTHERWISE NOTED

FIGURE 38 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY R - SECTION 2

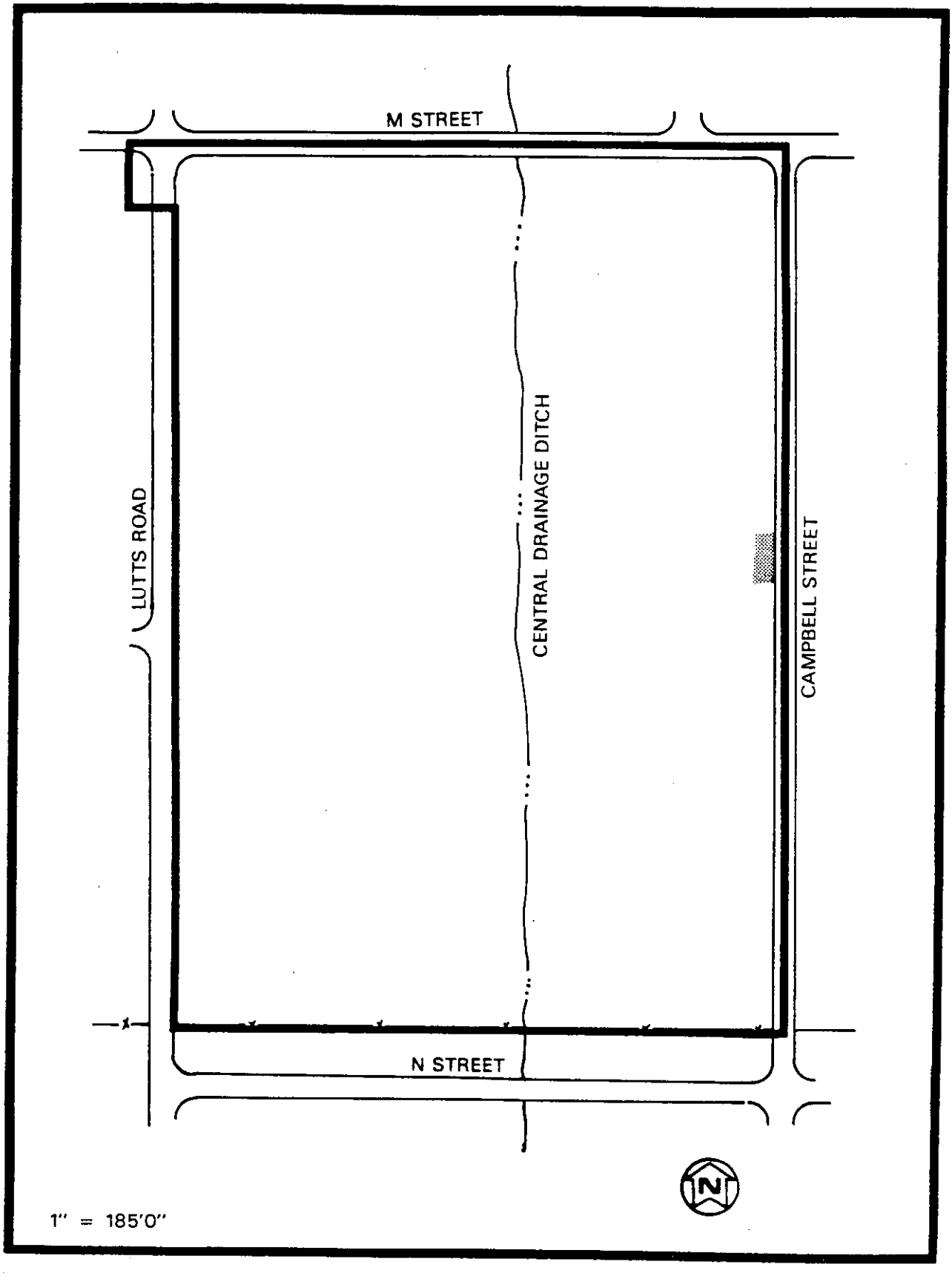


FIGURE 39 EXCAVATED AREA ON PROPERTY S

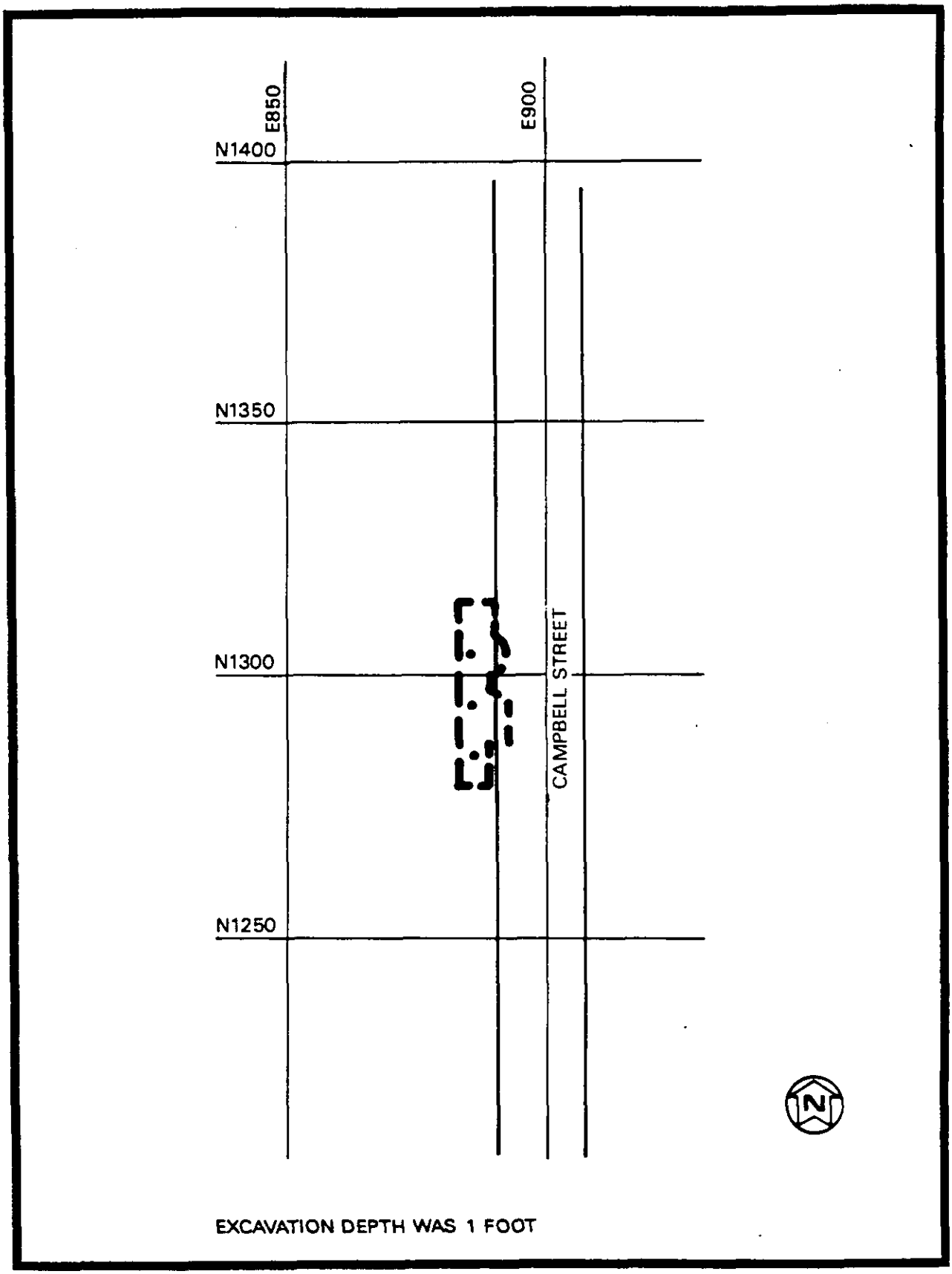


FIGURE 40 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY S

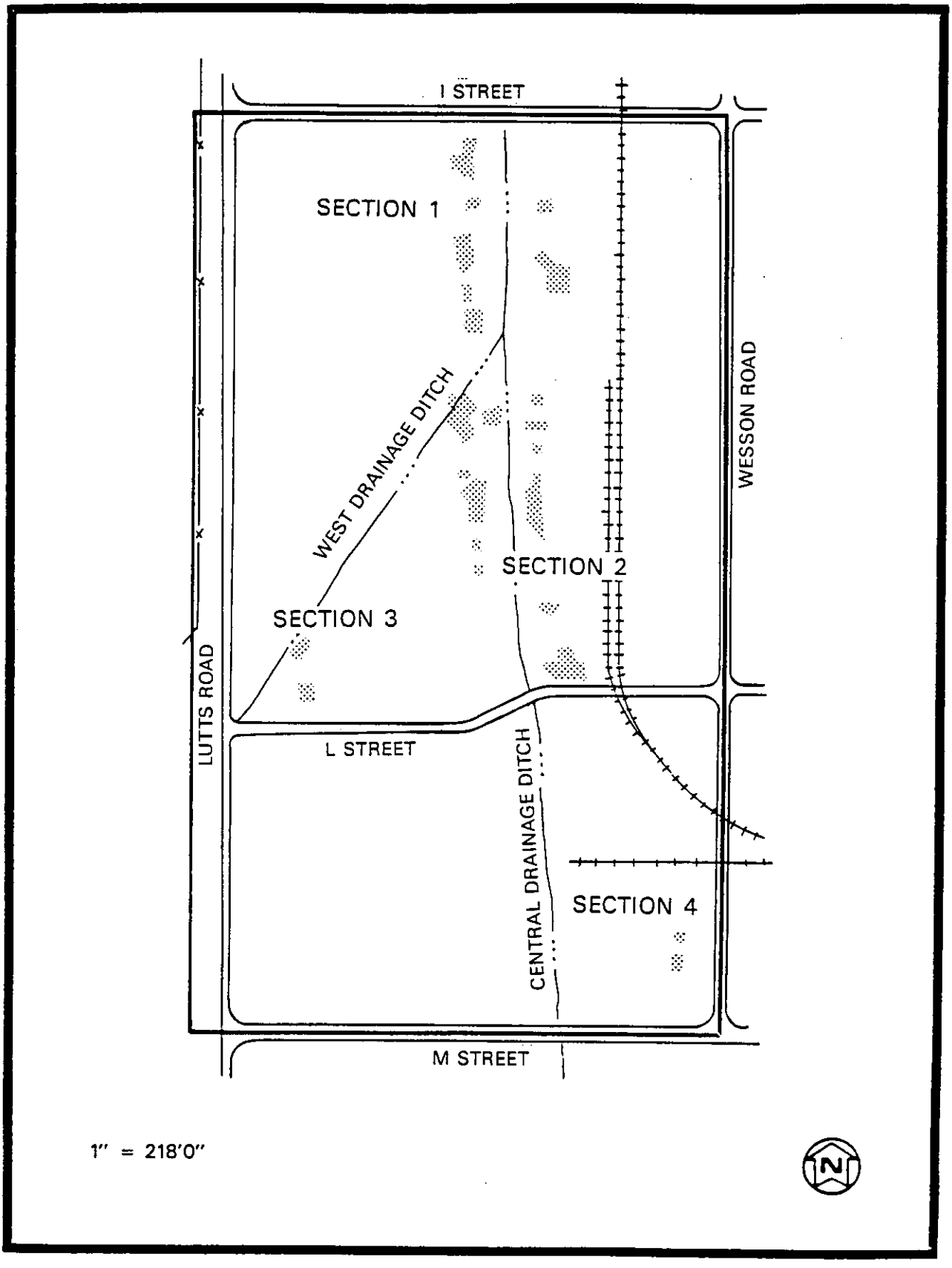


FIGURE 41 EXCAVATED AREAS ON PROPERTY T

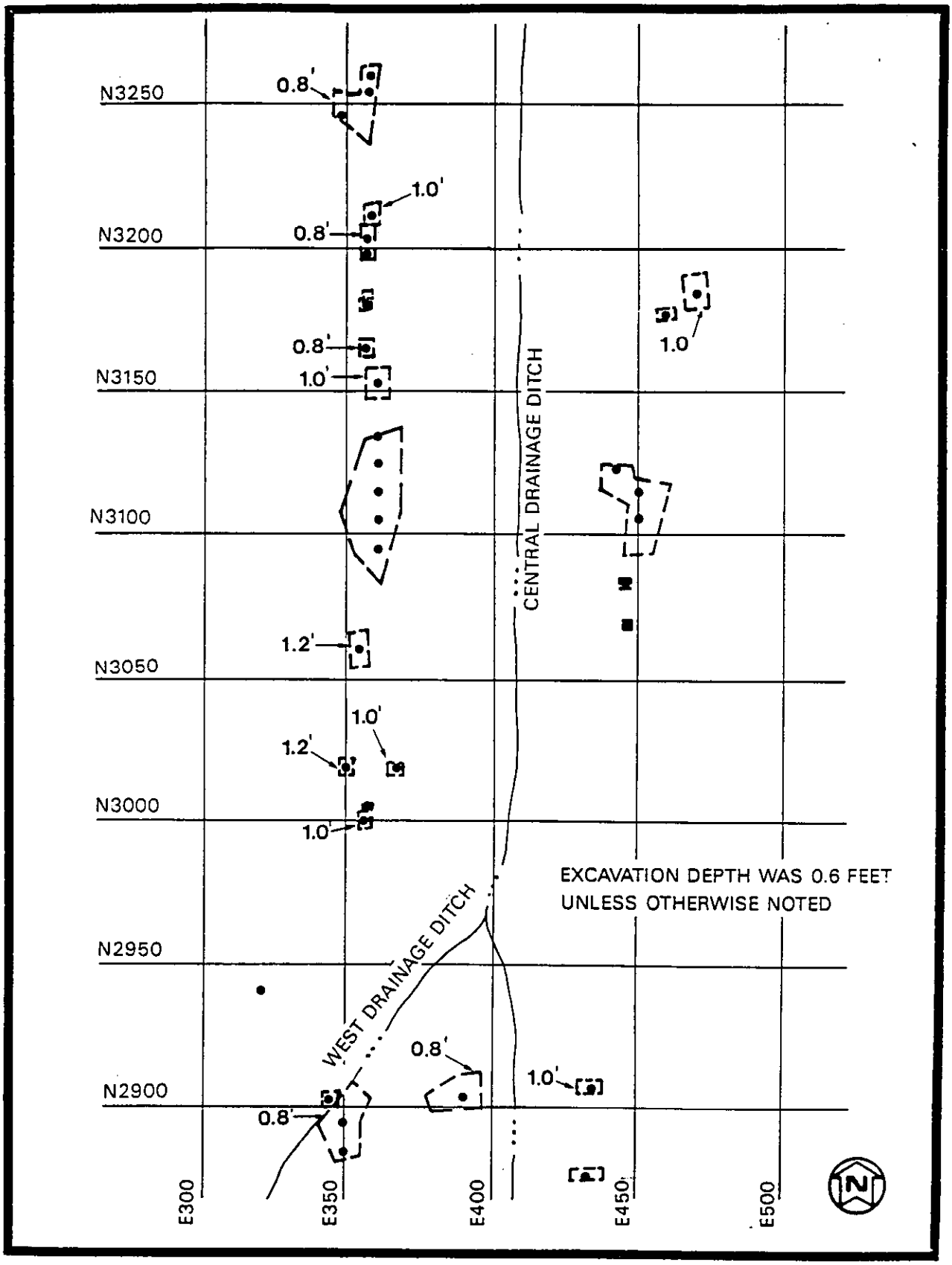


FIGURE 42 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 1

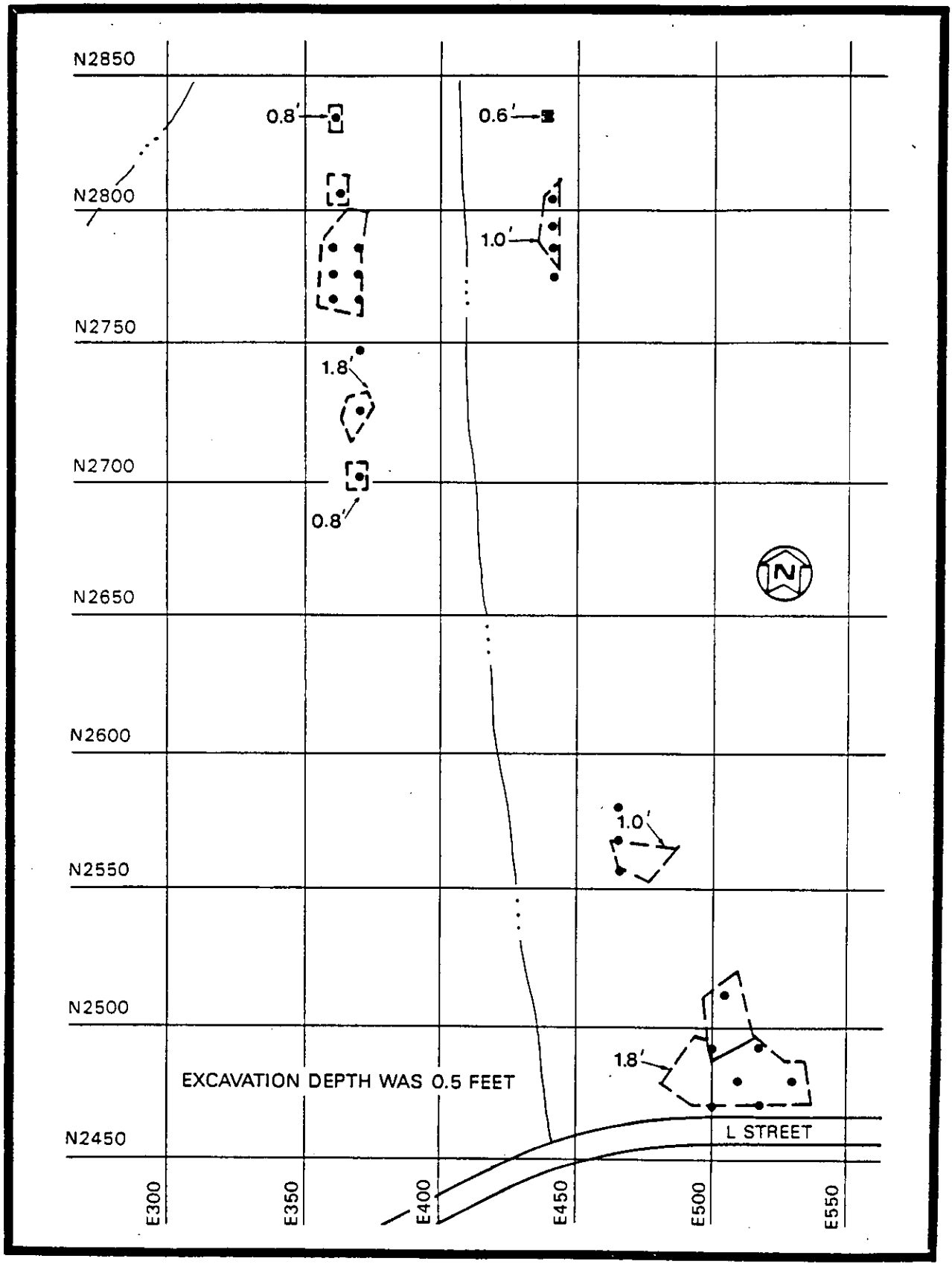


FIGURE 43 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 2

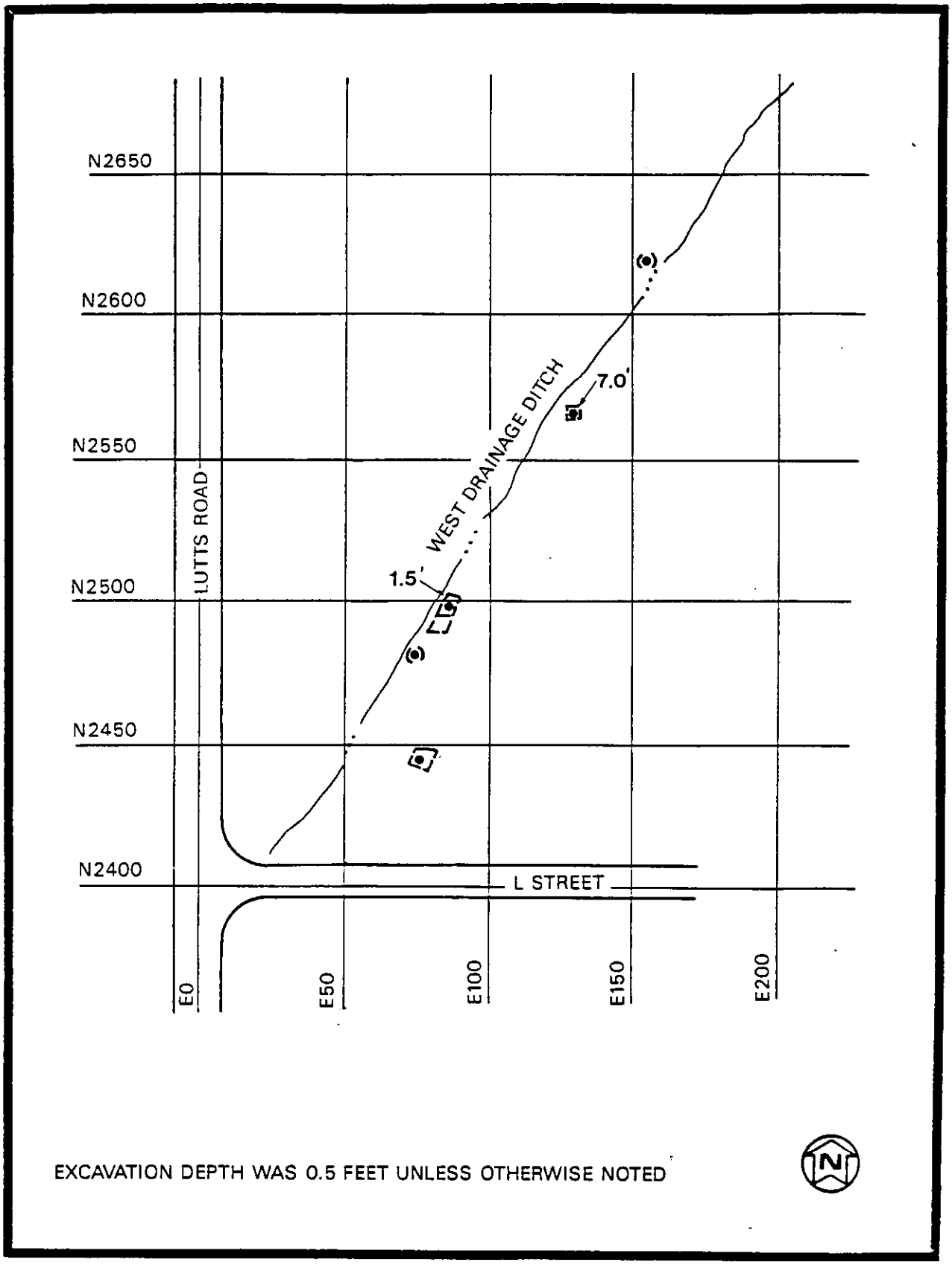


FIGURE 44 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 3

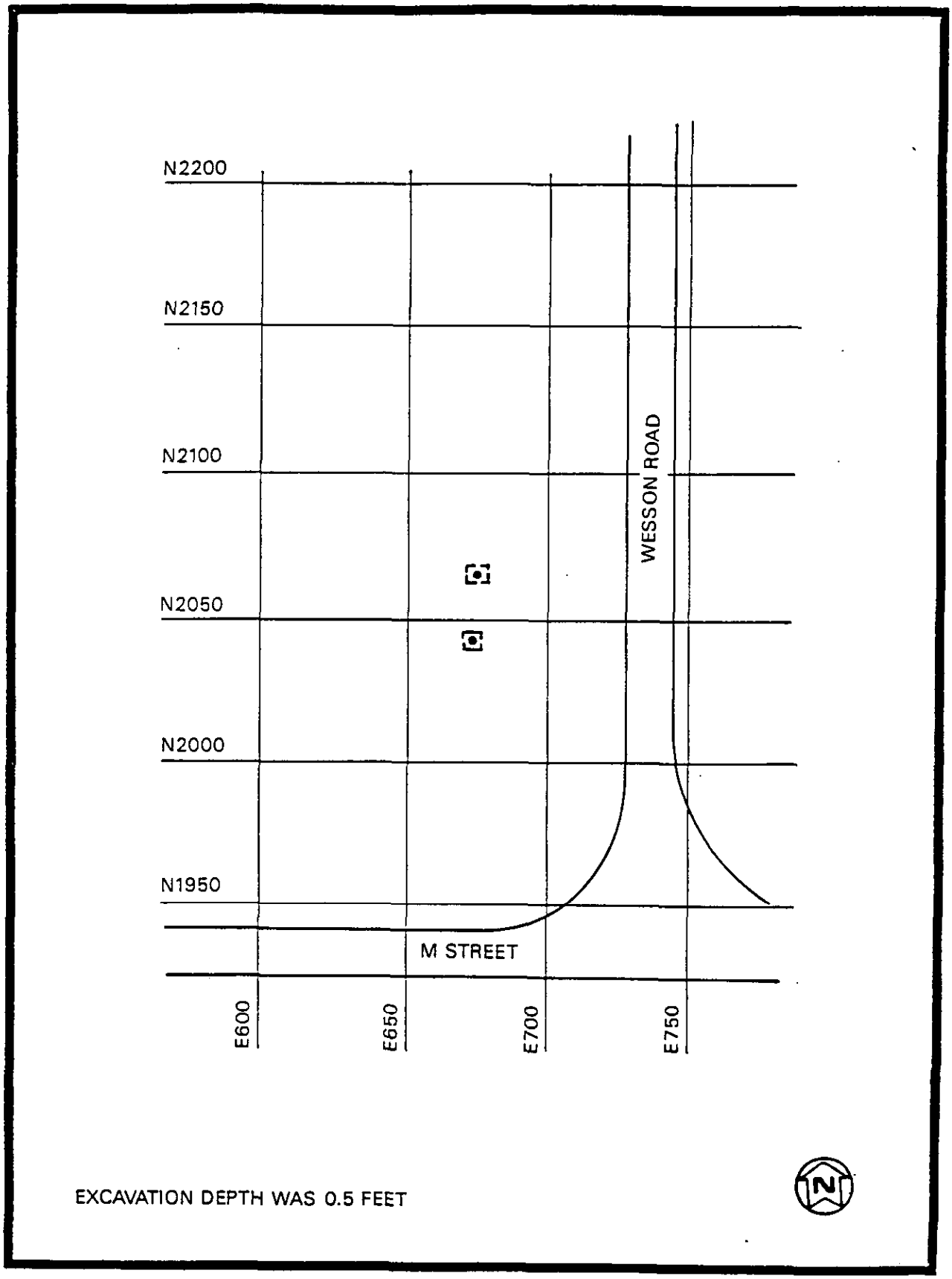


FIGURE 45 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 4

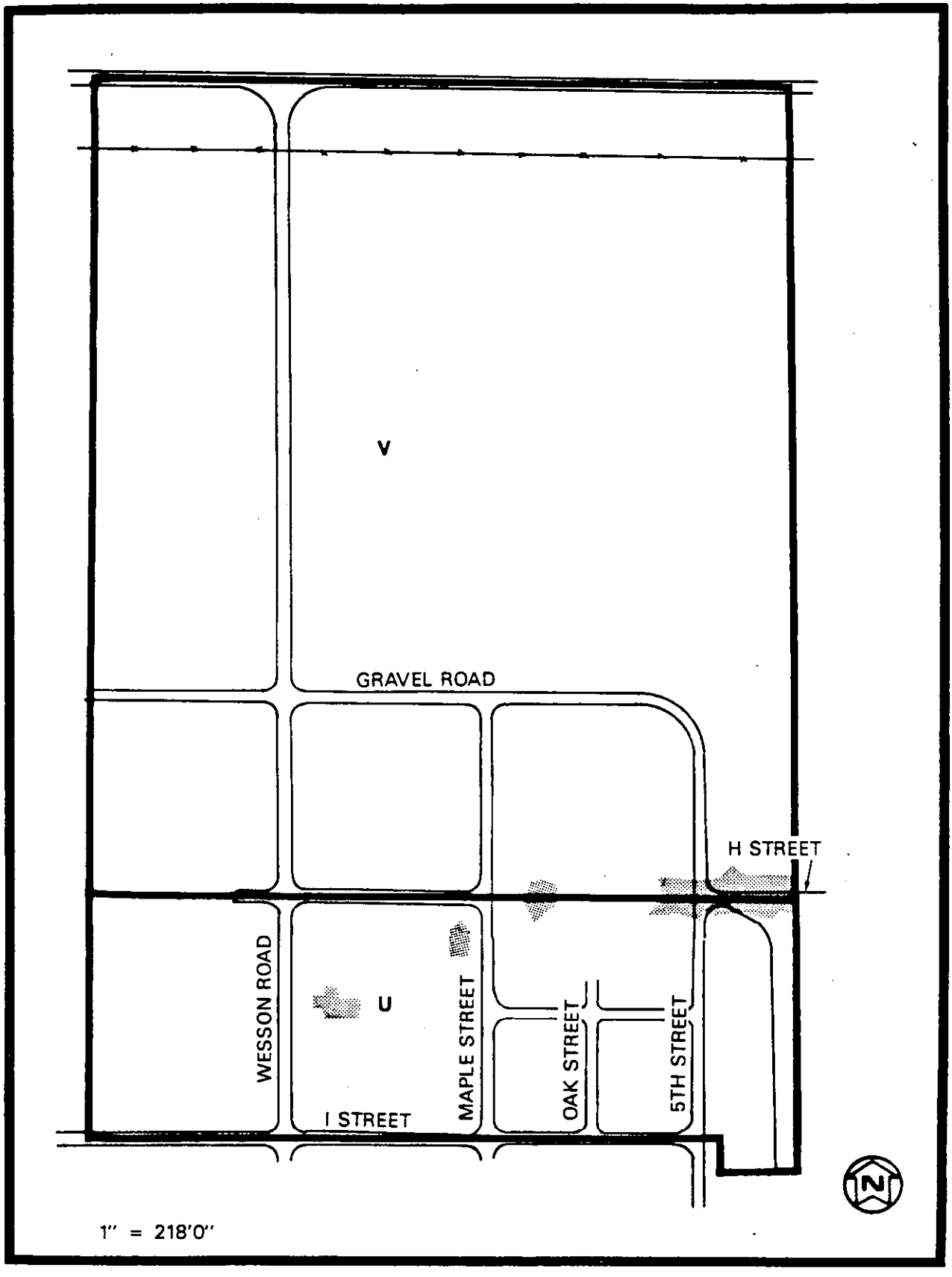


FIGURE 46 EXCAVATED AREAS ON PROPERTIES U AND V

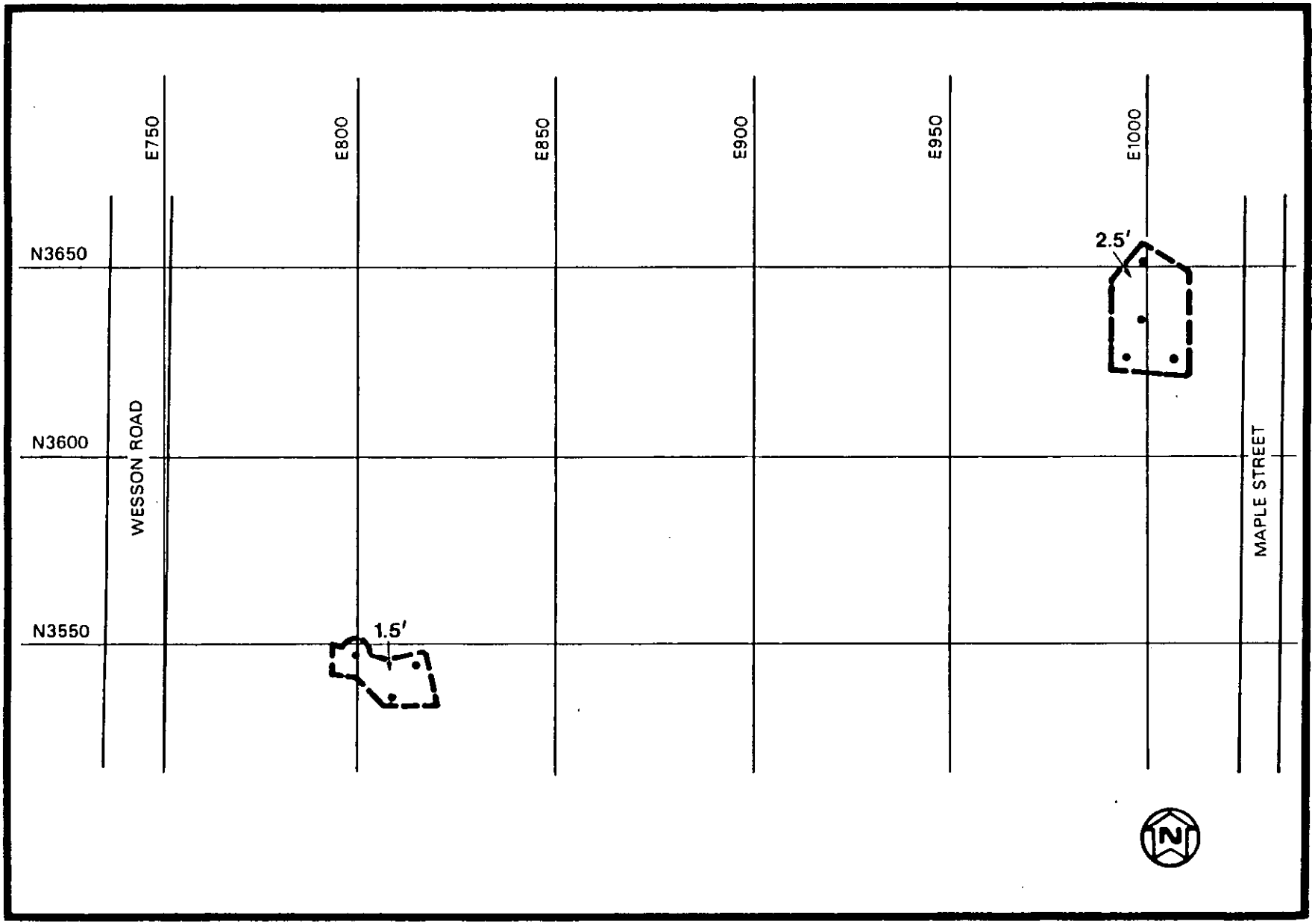


FIGURE 47 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTIES U AND V - SECTION 1

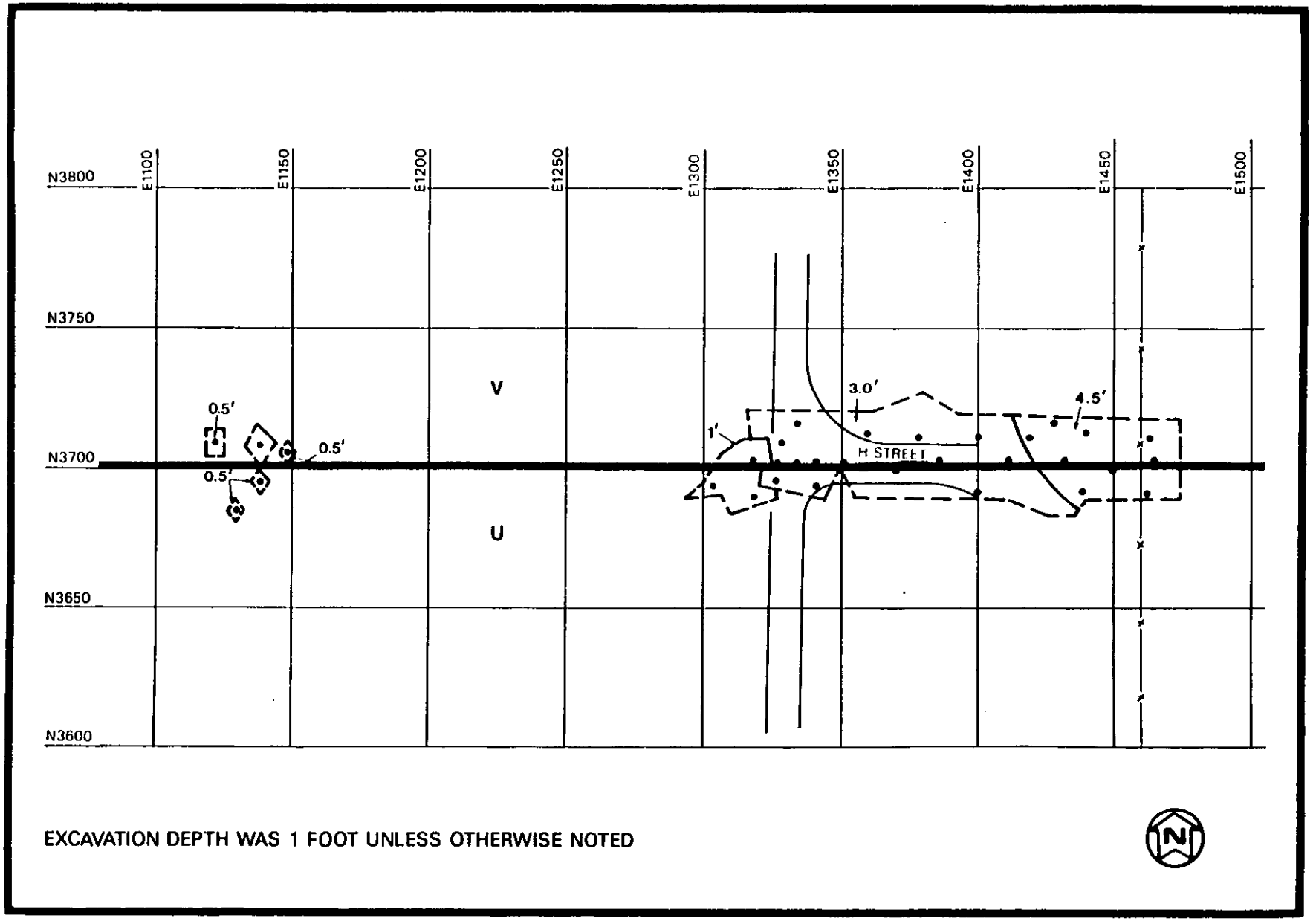


FIGURE 48 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTIES U AND V - SECTION 2

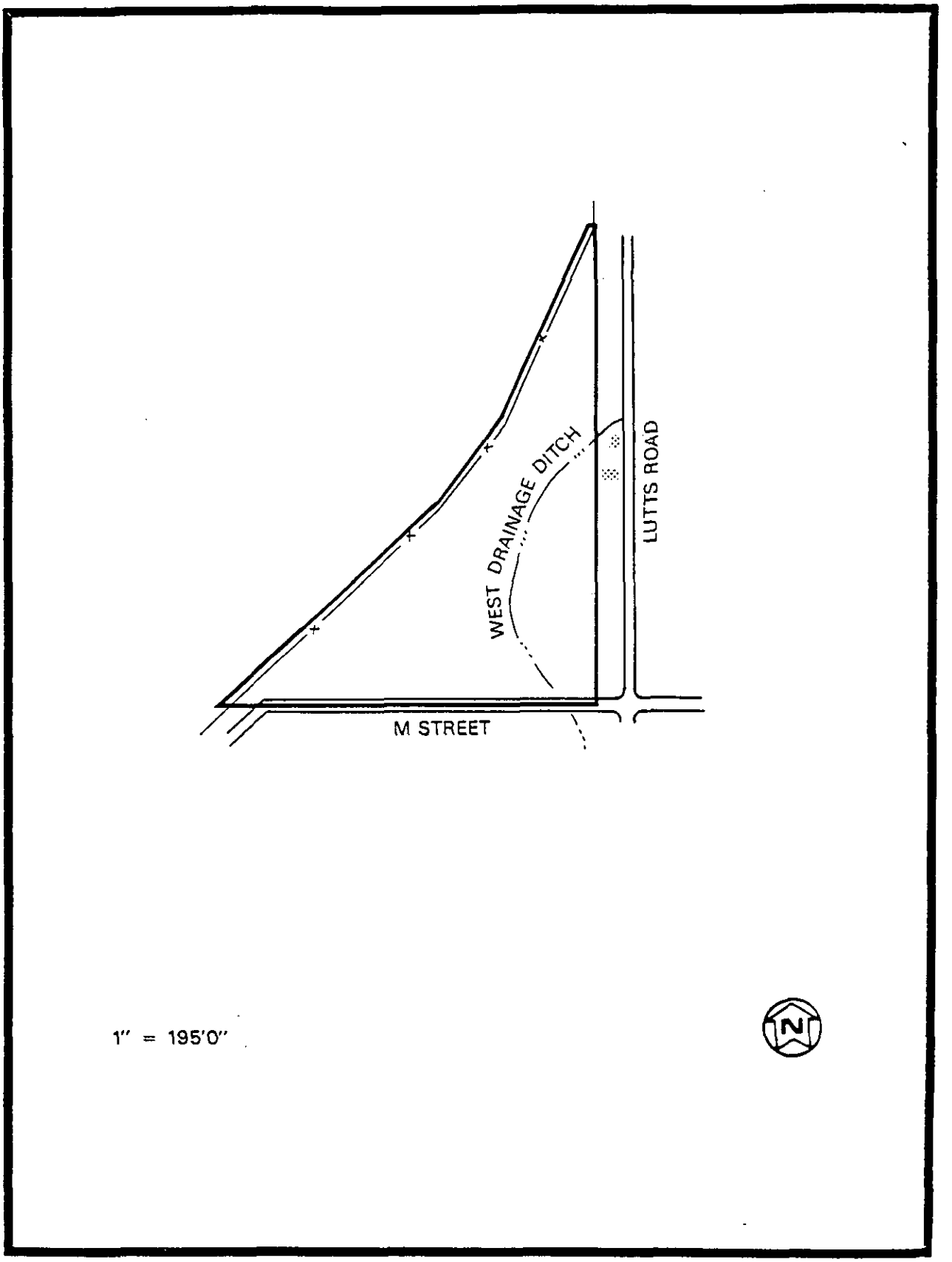


FIGURE 49 EXCAVATED AREAS ON PROPERTY W

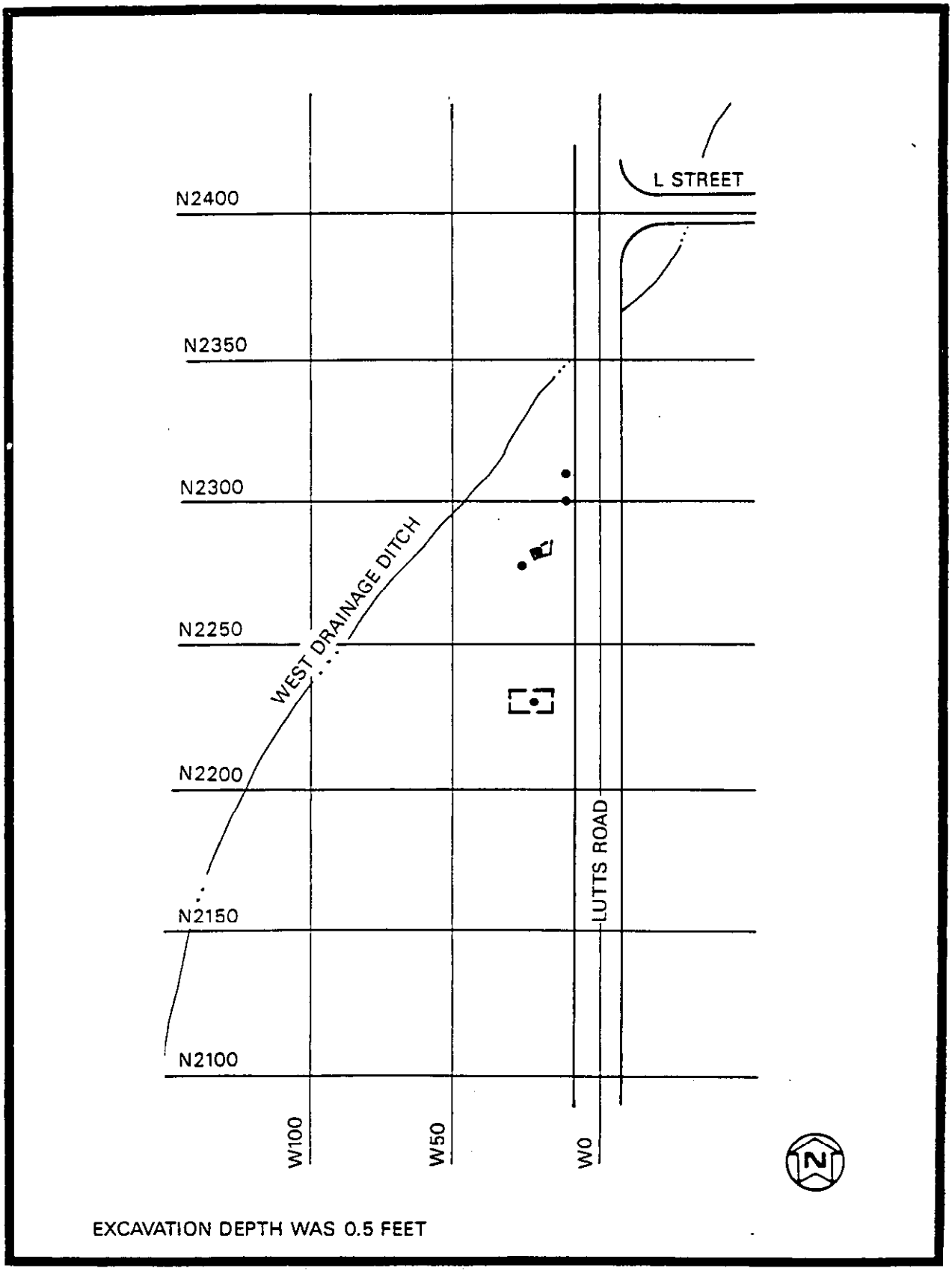


FIGURE 50 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY W

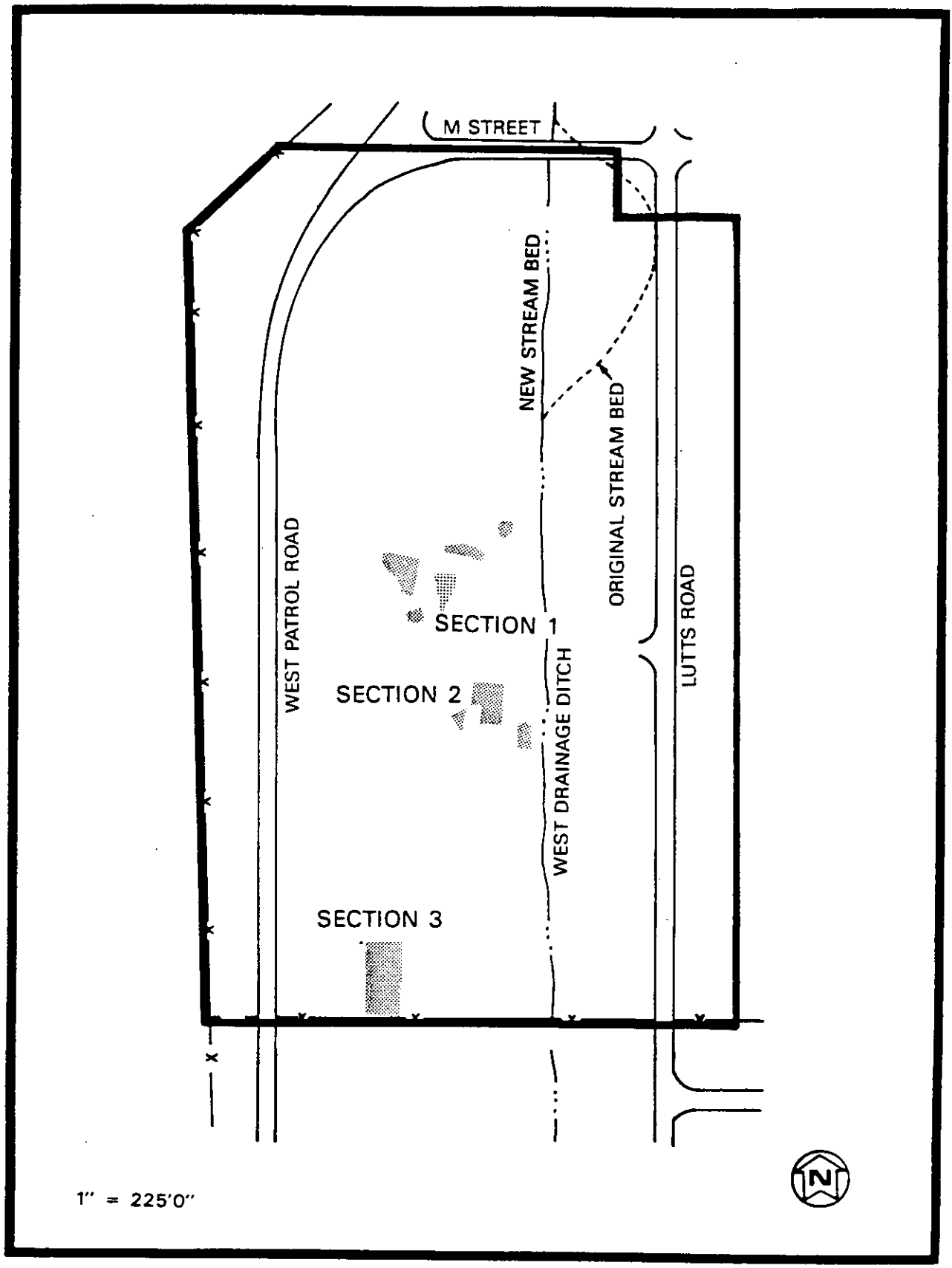


FIGURE 51 EXCAVATED AREAS ON PROPERTY X

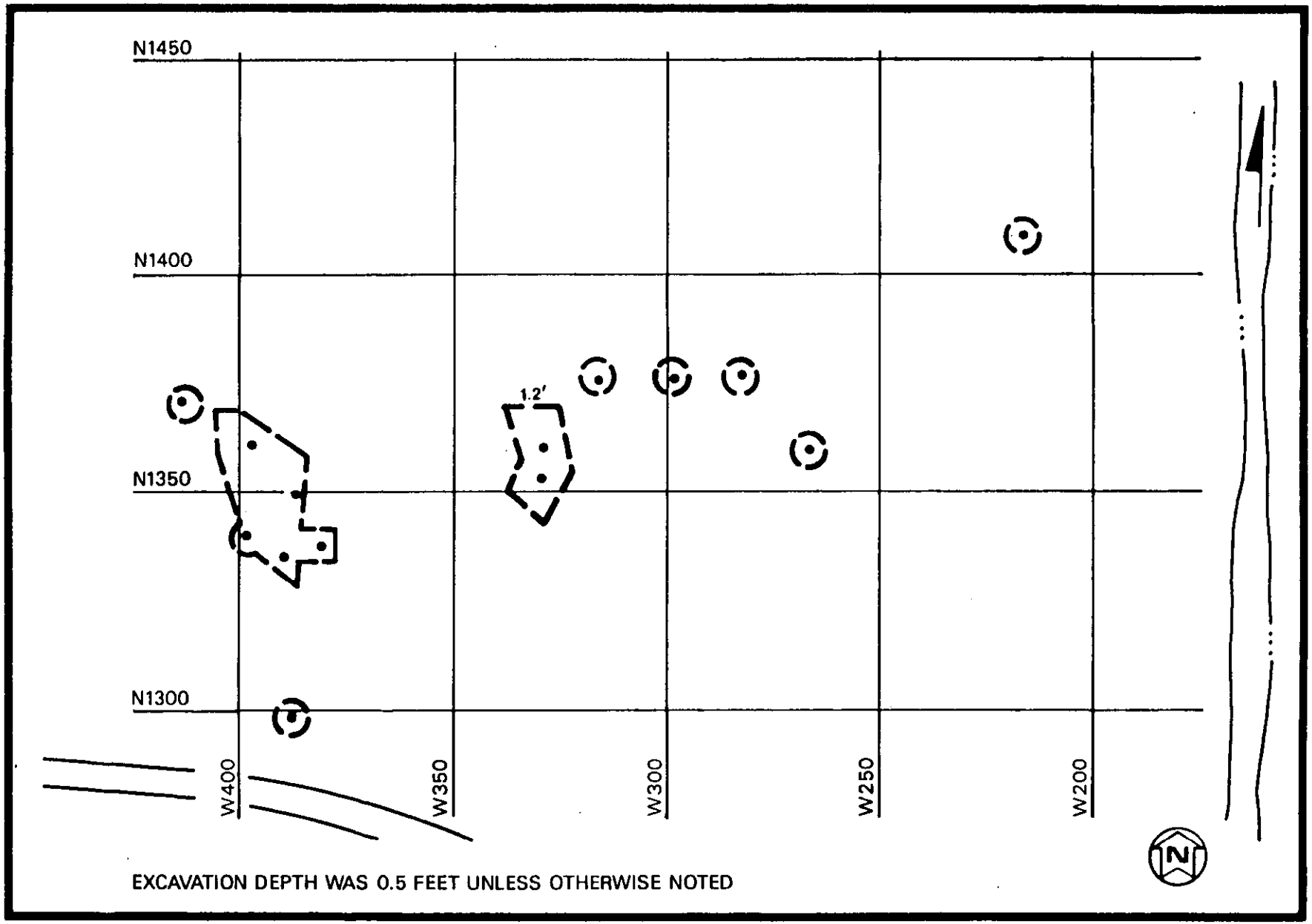


FIGURE 52 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 1

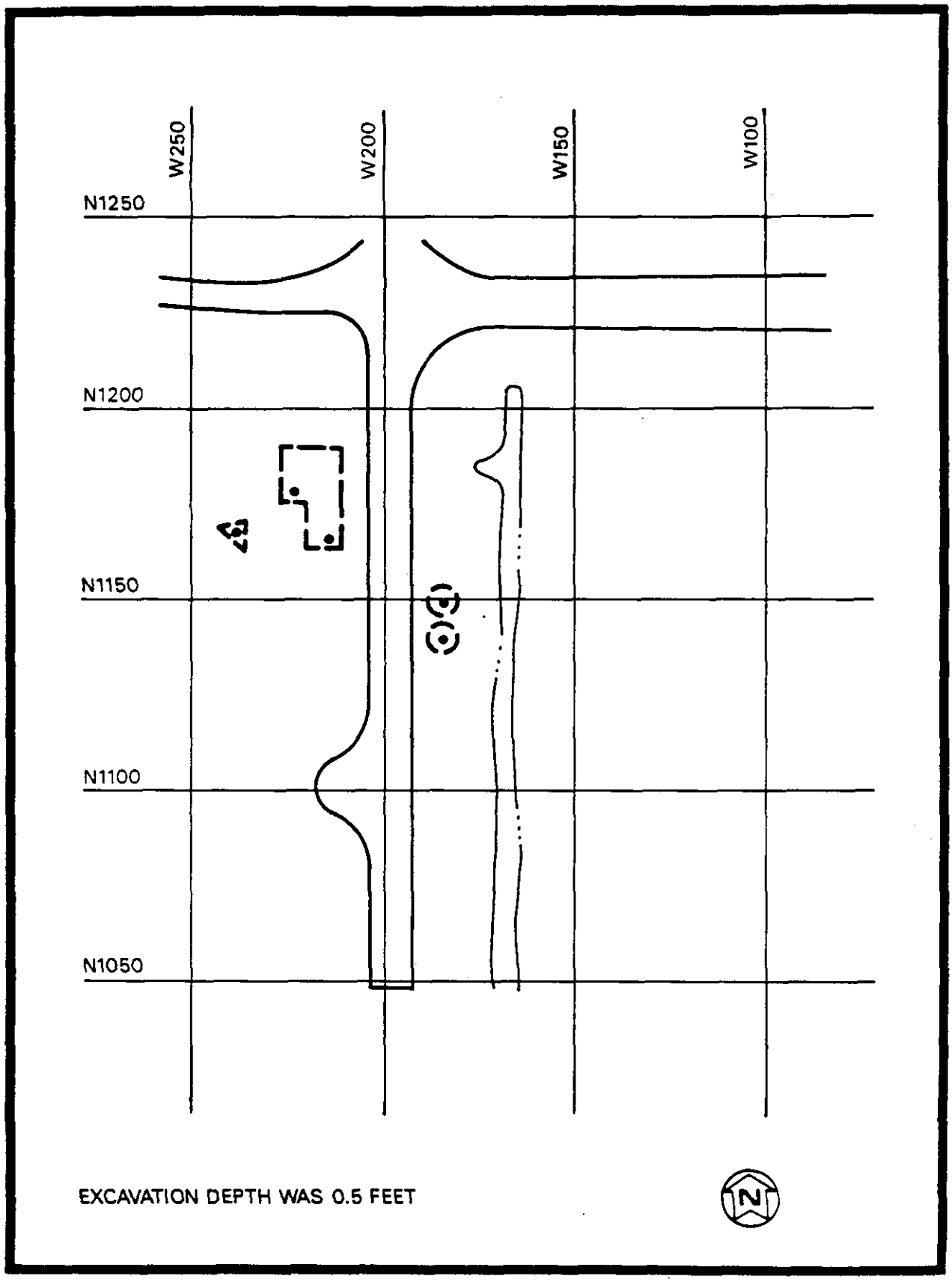


FIGURE 53 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 2

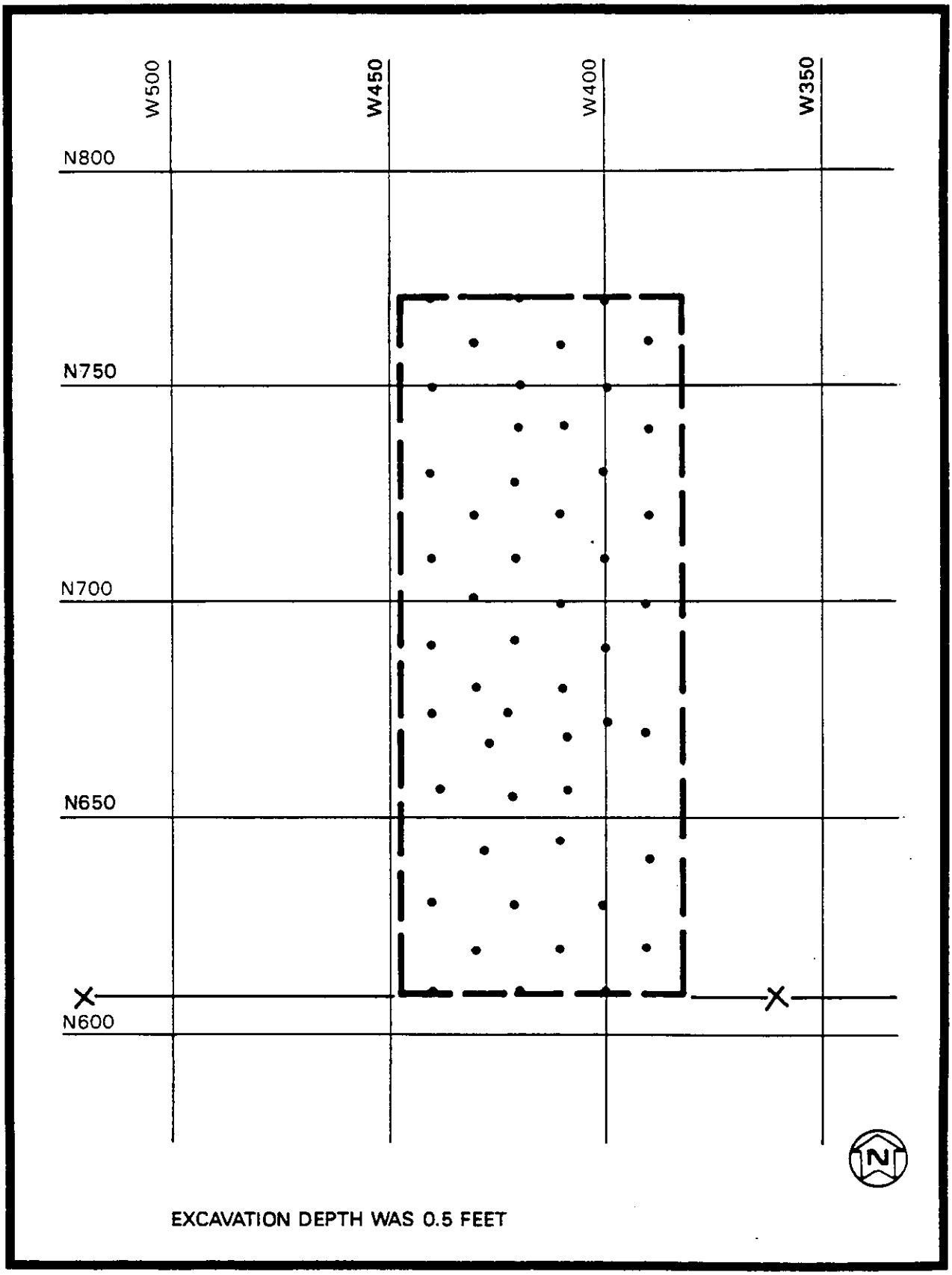


FIGURE 54 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 3

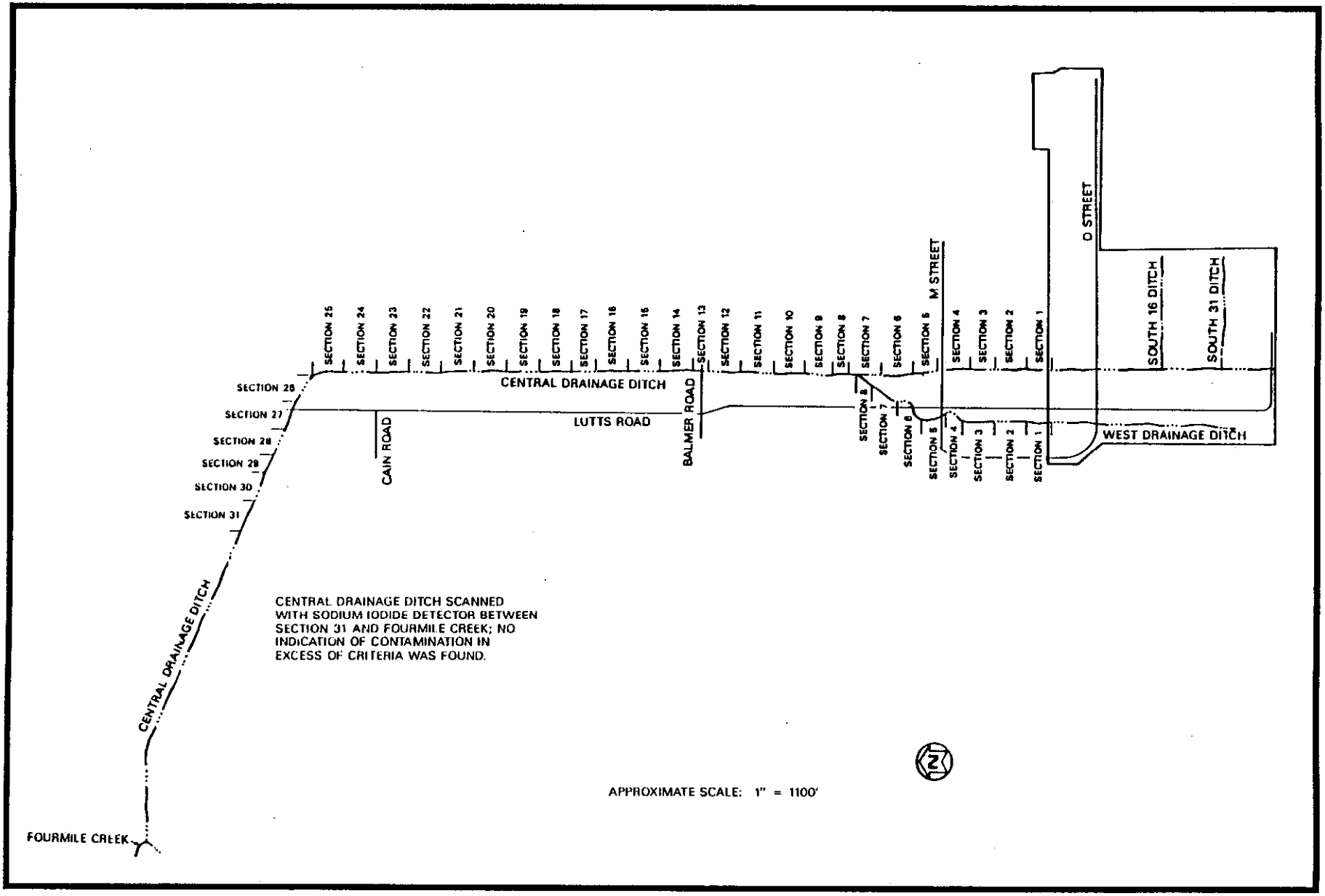


FIGURE 55 LOCATION AND REFERENCE DRAWING FOR THE WEST AND CENTRAL DRAINAGE DITCH EXCAVATIONS

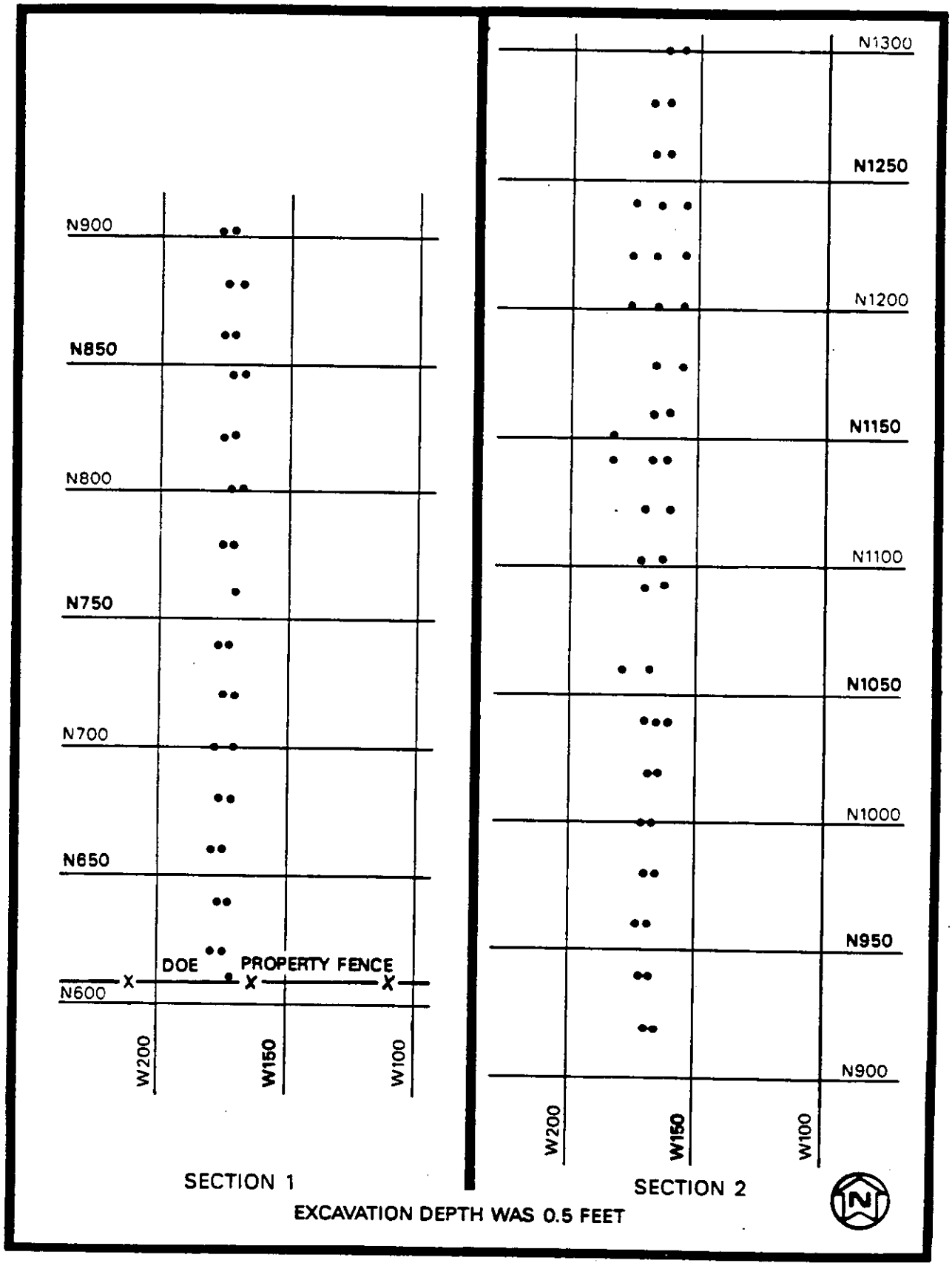


FIGURE 56 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTIONS 1 AND 2

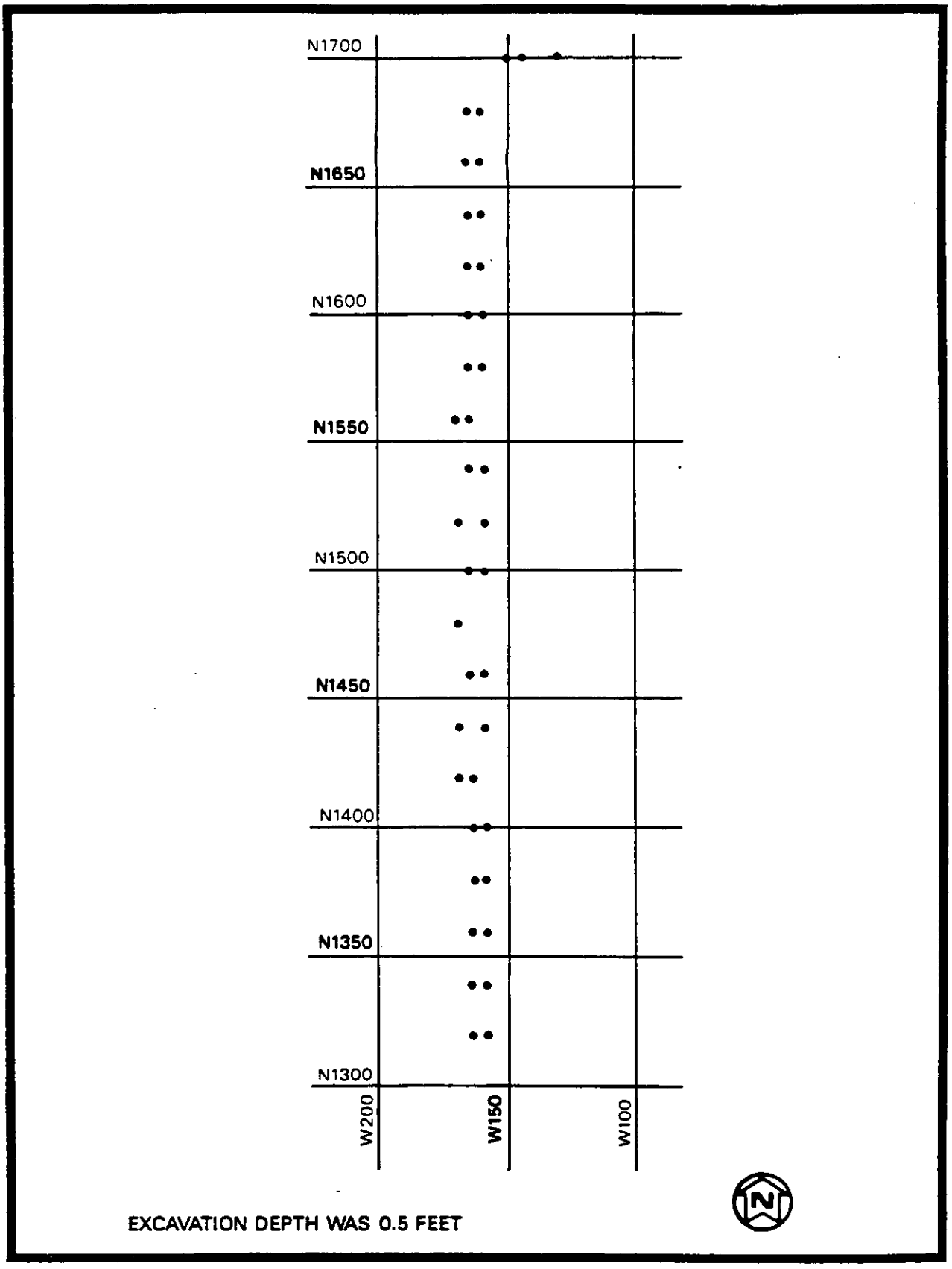


FIGURE 57 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 3

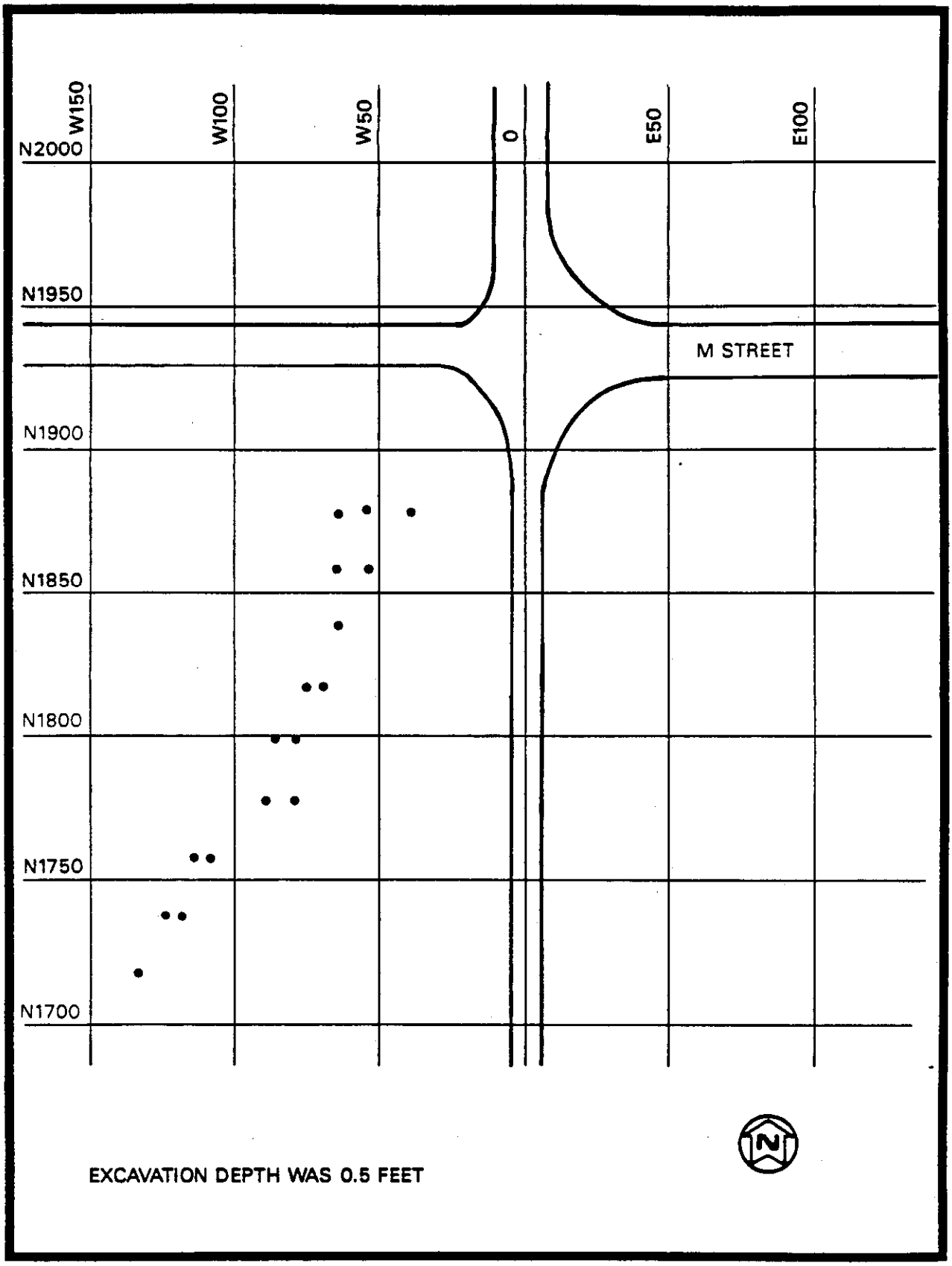


FIGURE 58 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 4

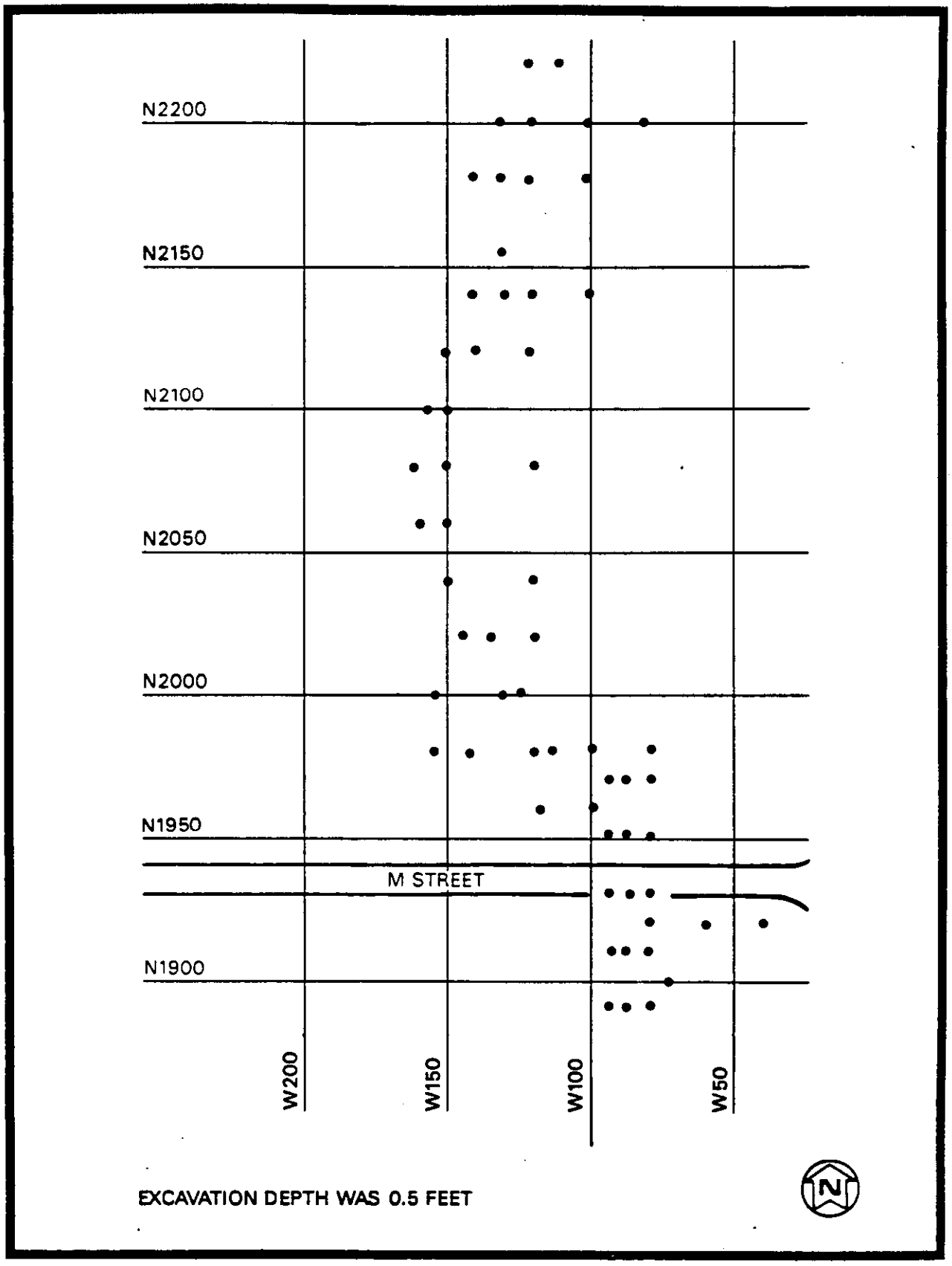


FIGURE 59 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 5

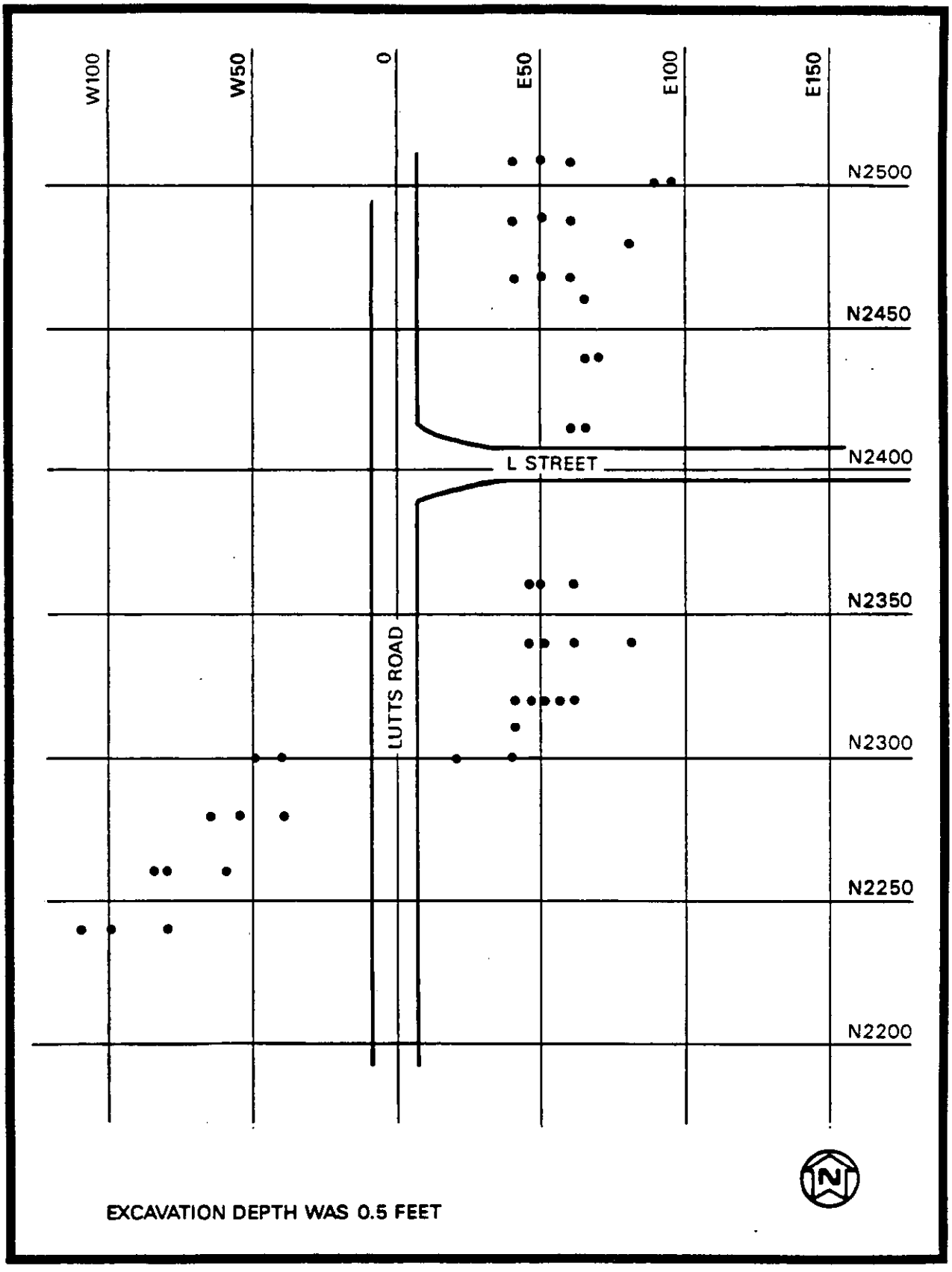


FIGURE 60 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 6

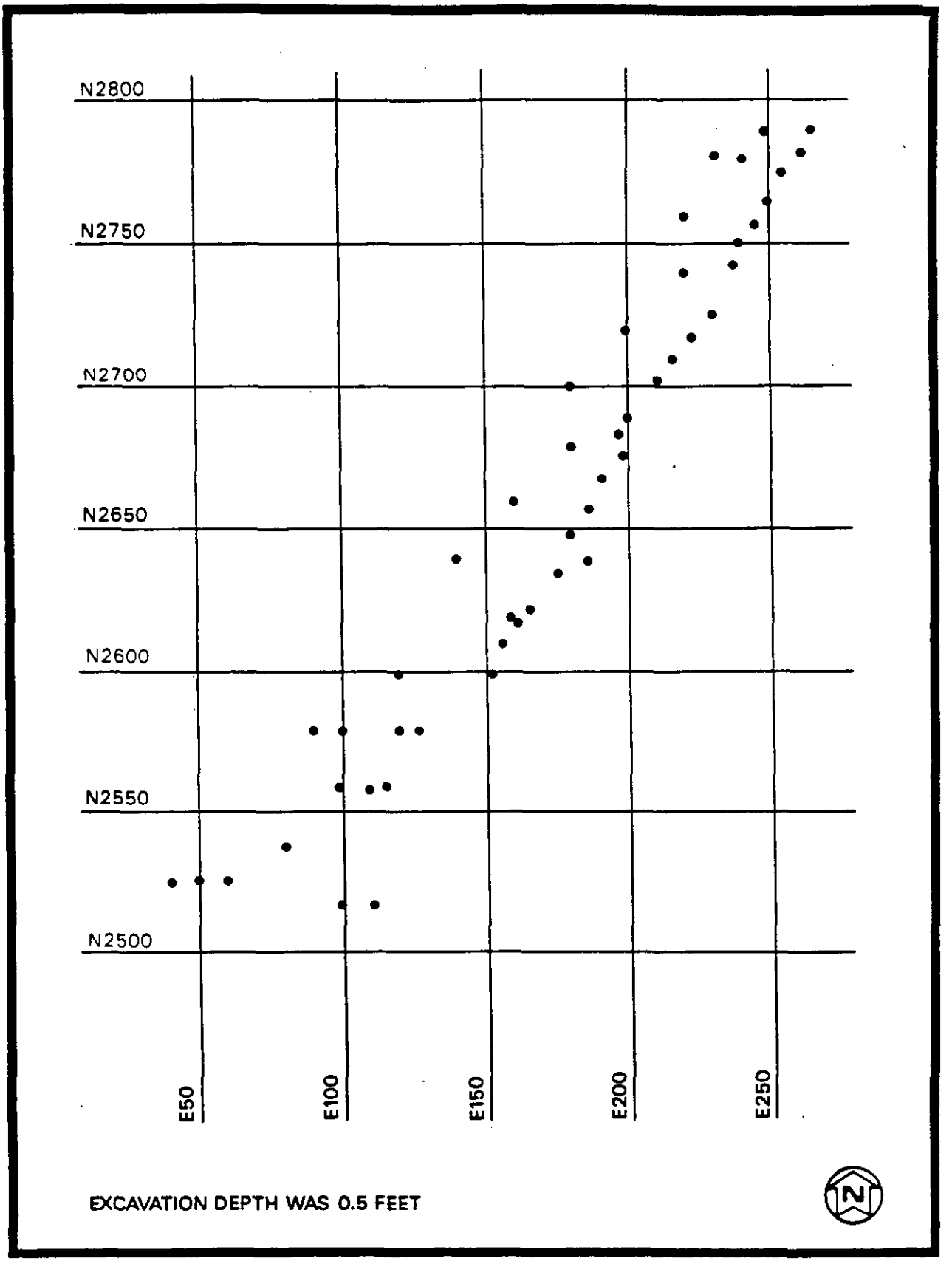


FIGURE 61 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 7

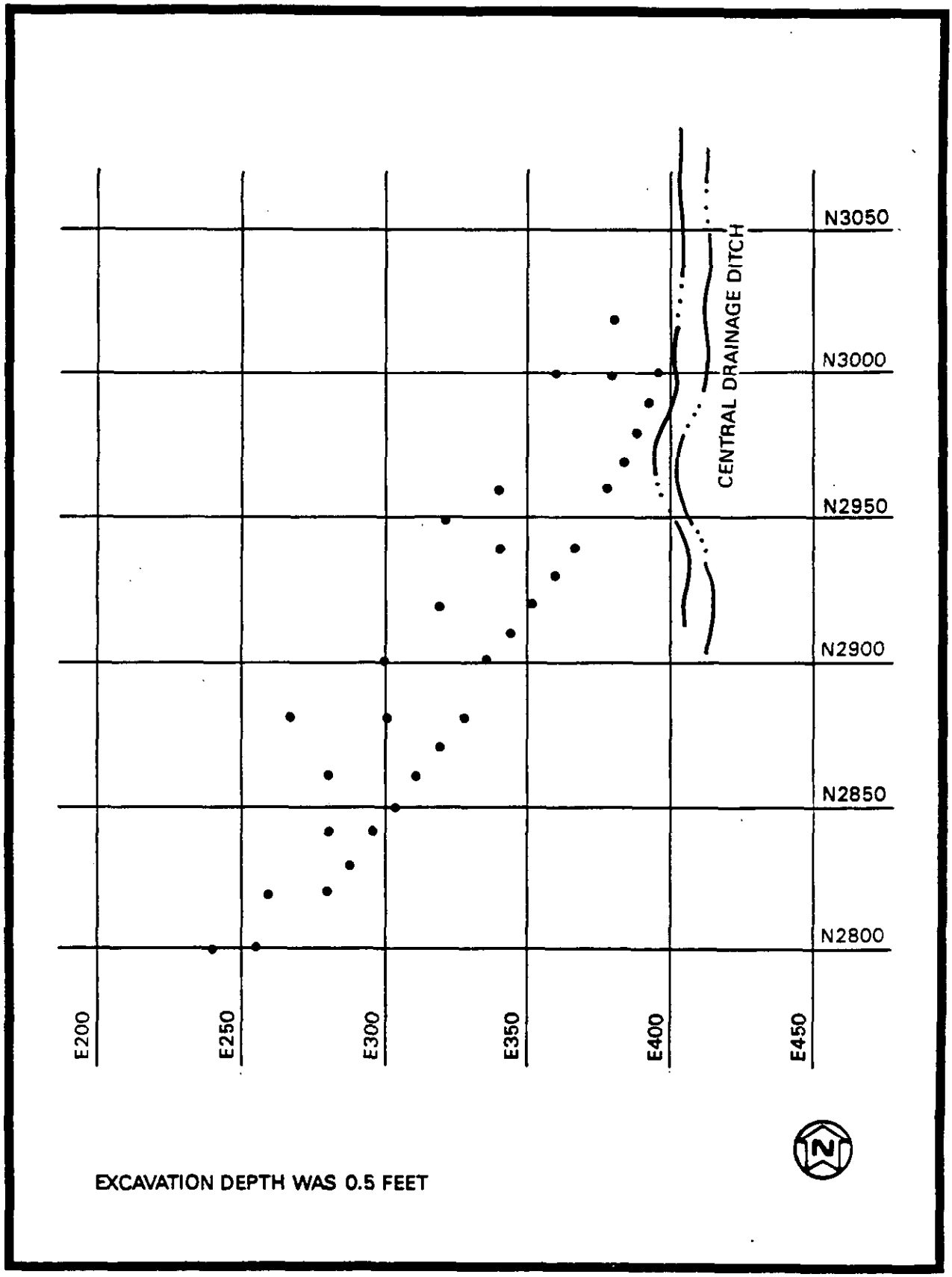


FIGURE 62 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 8

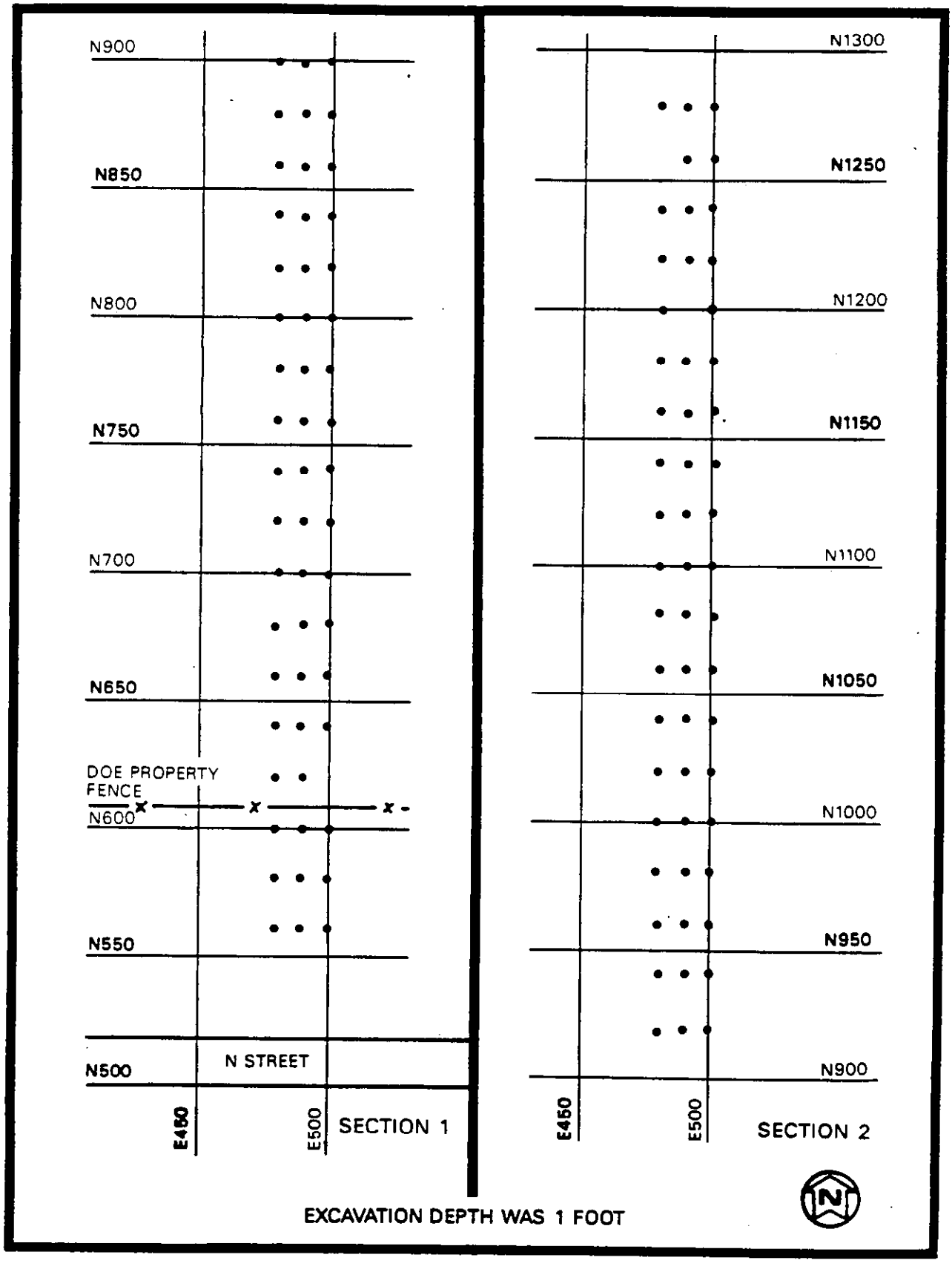


FIGURE 63 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 1 AND 2

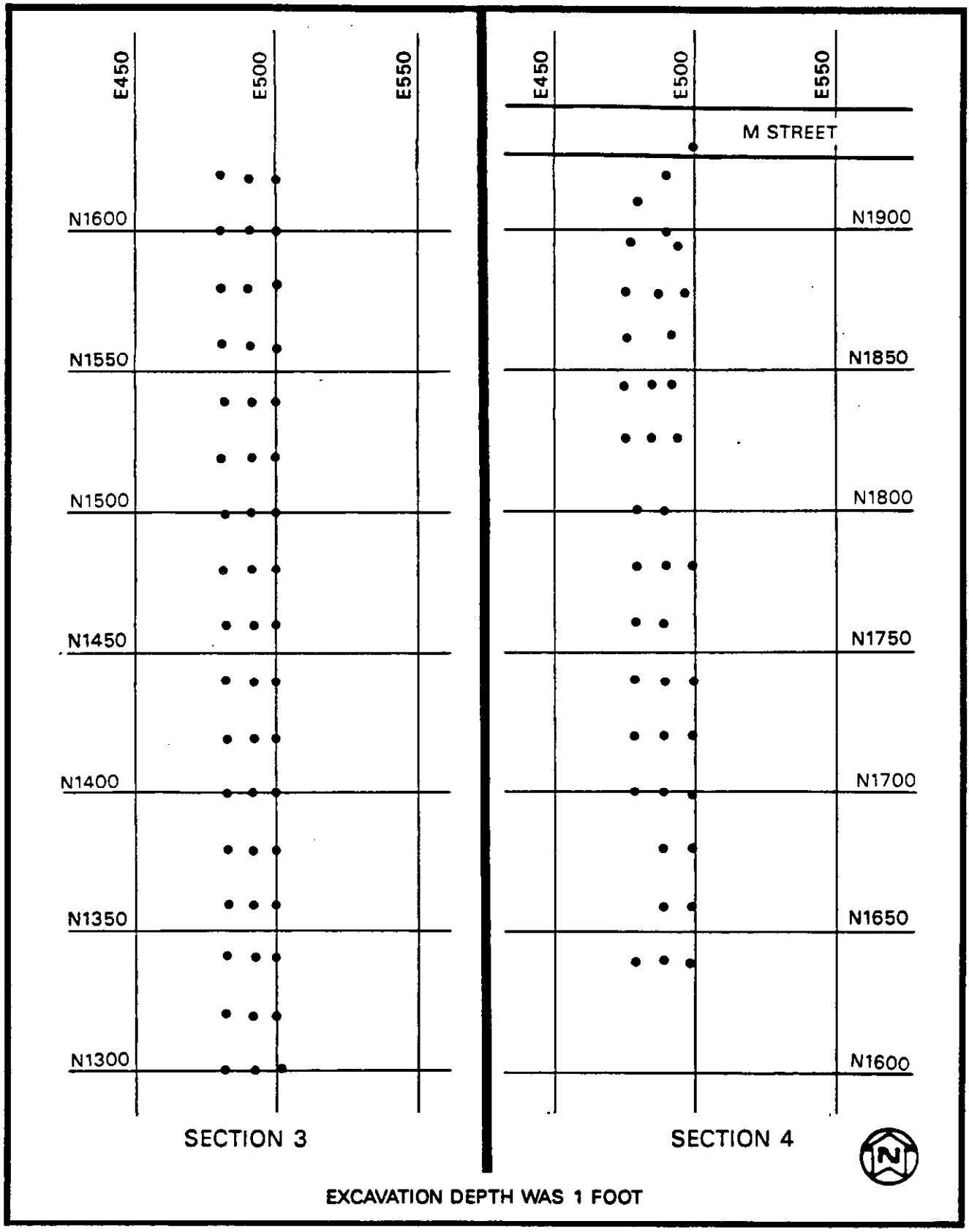


FIGURE 64 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 3 AND 4

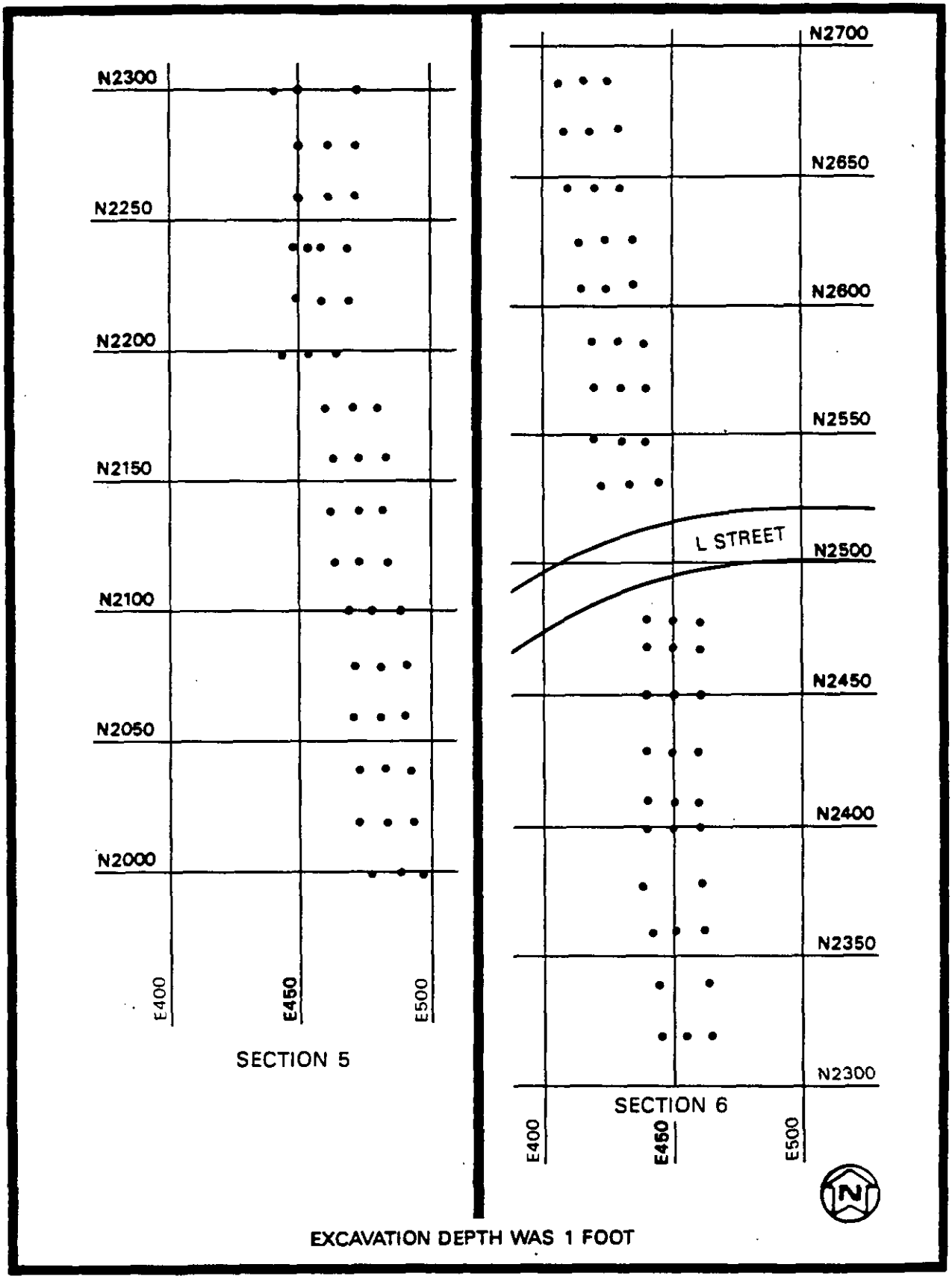


FIGURE 65 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 5 AND 6

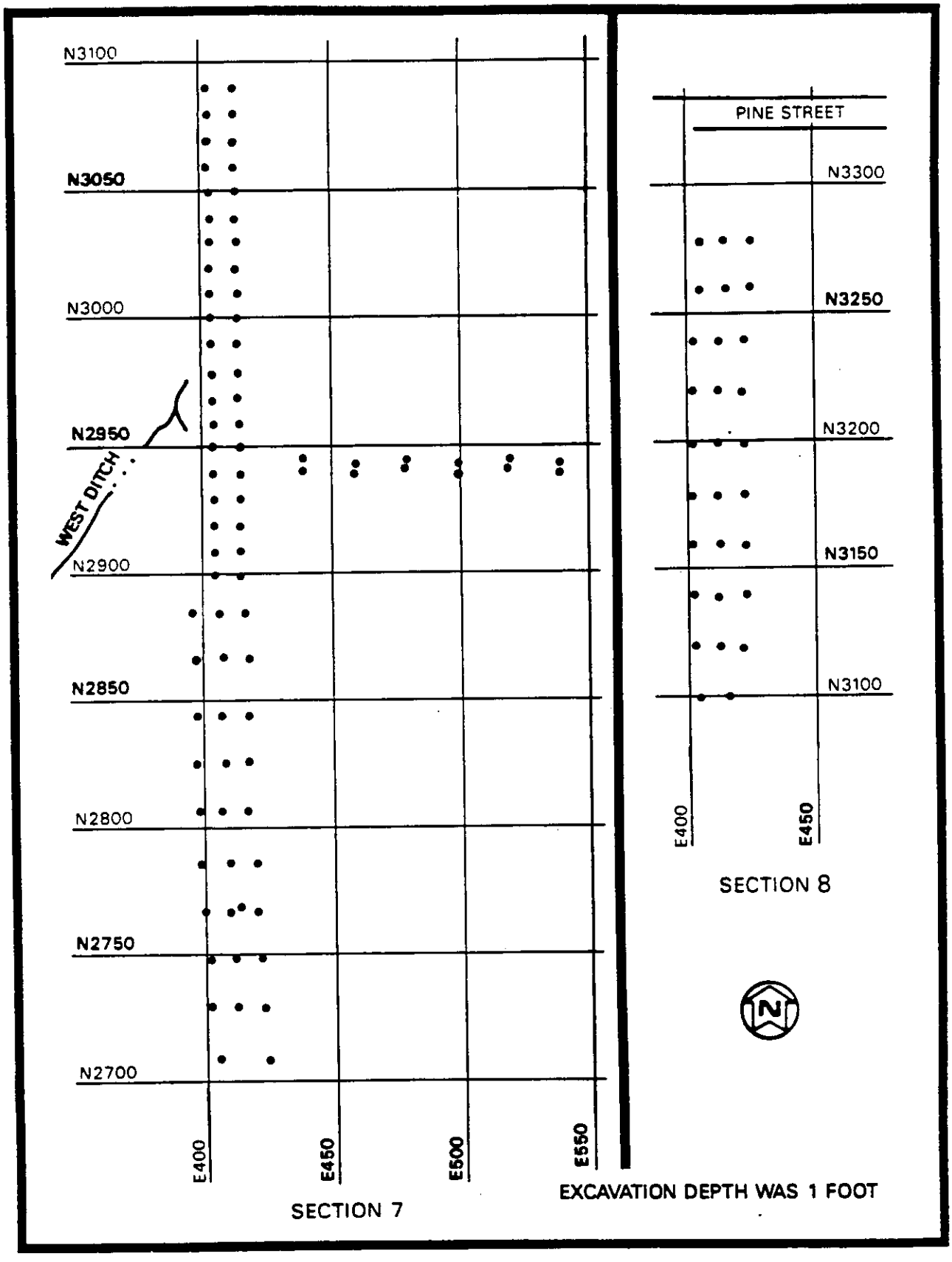


FIGURE 66 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 7 AND 8

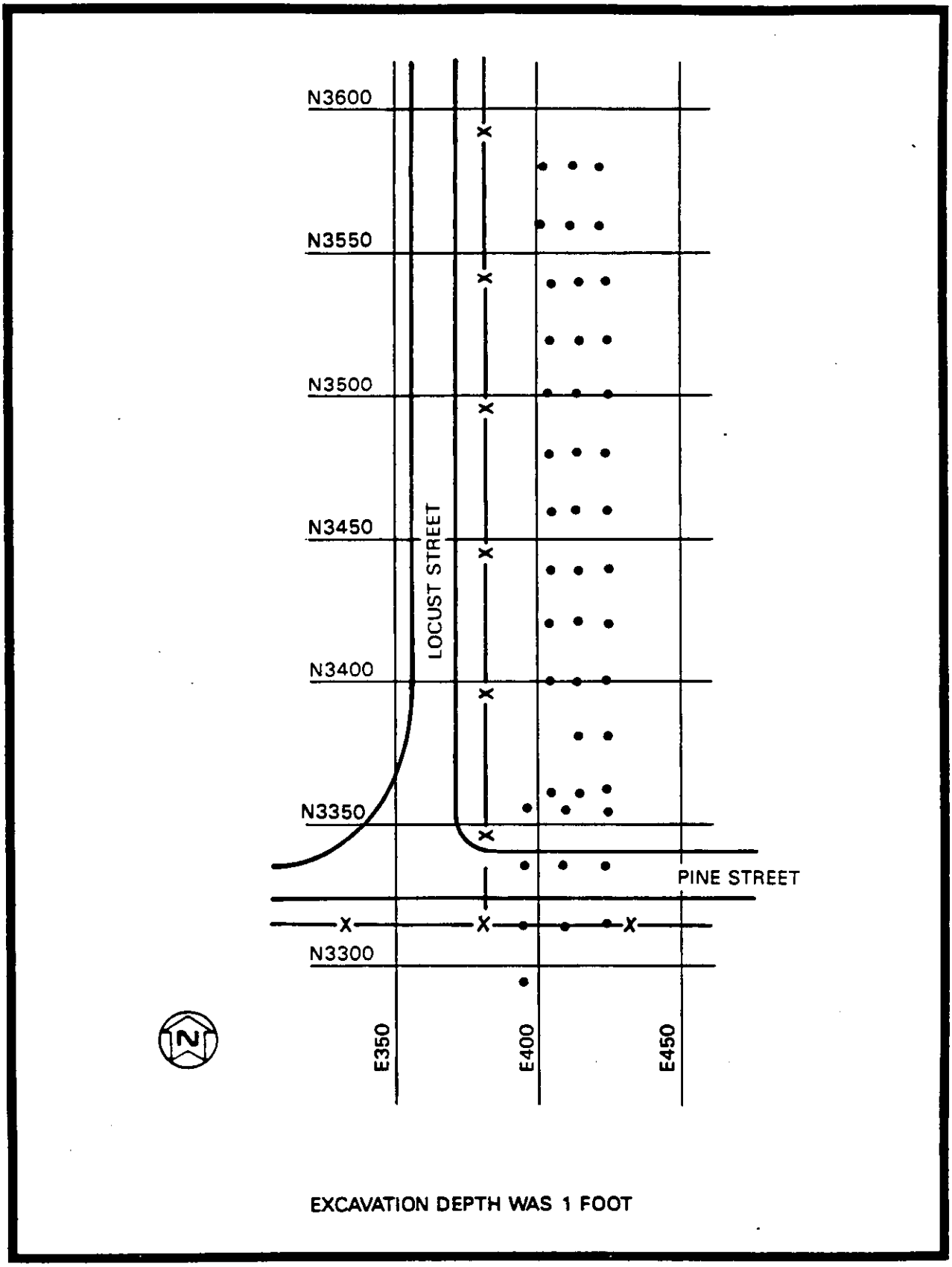


FIGURE 67 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 9

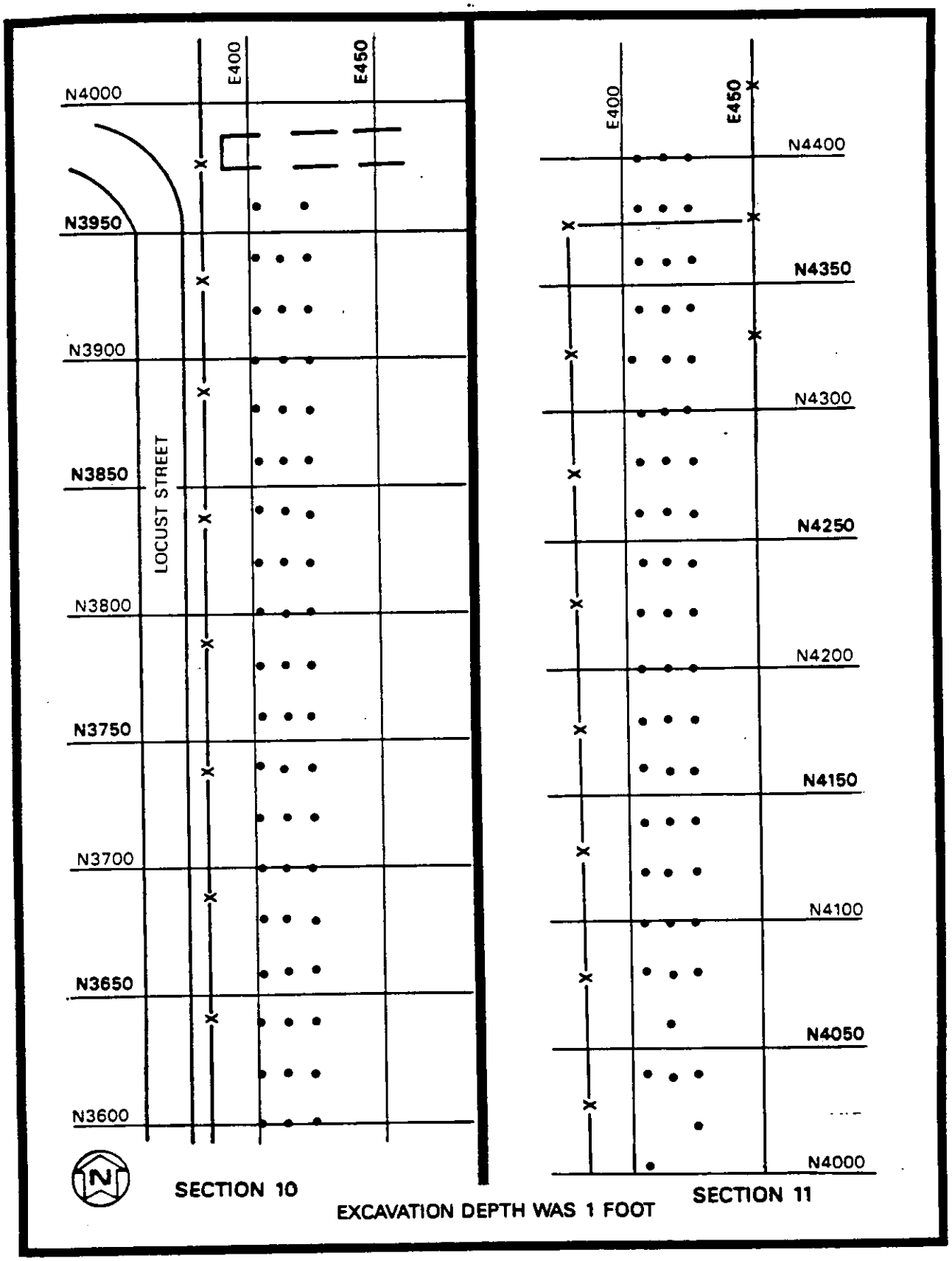


FIGURE 68 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 10 AND 11

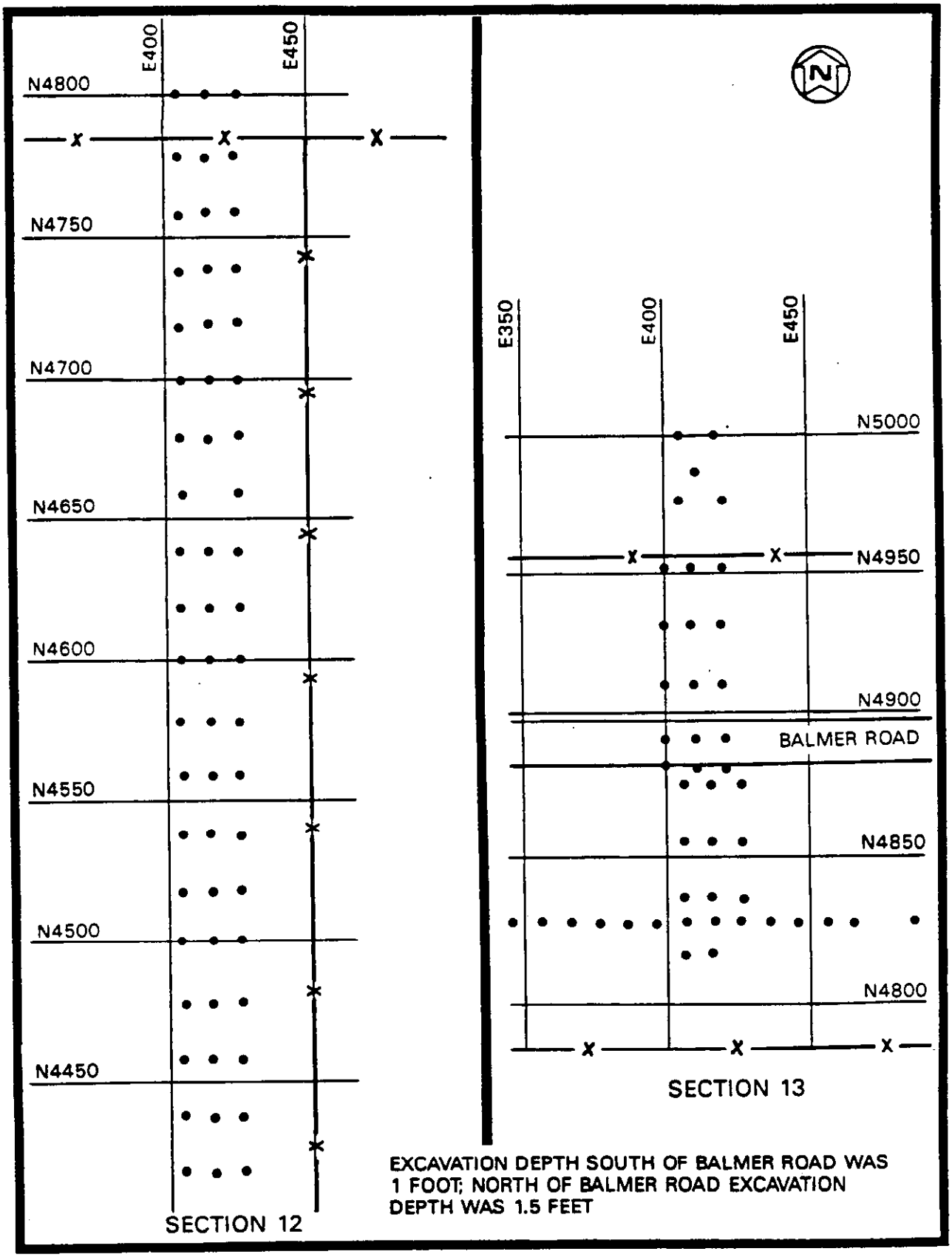


FIGURE 69 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 12 AND 13

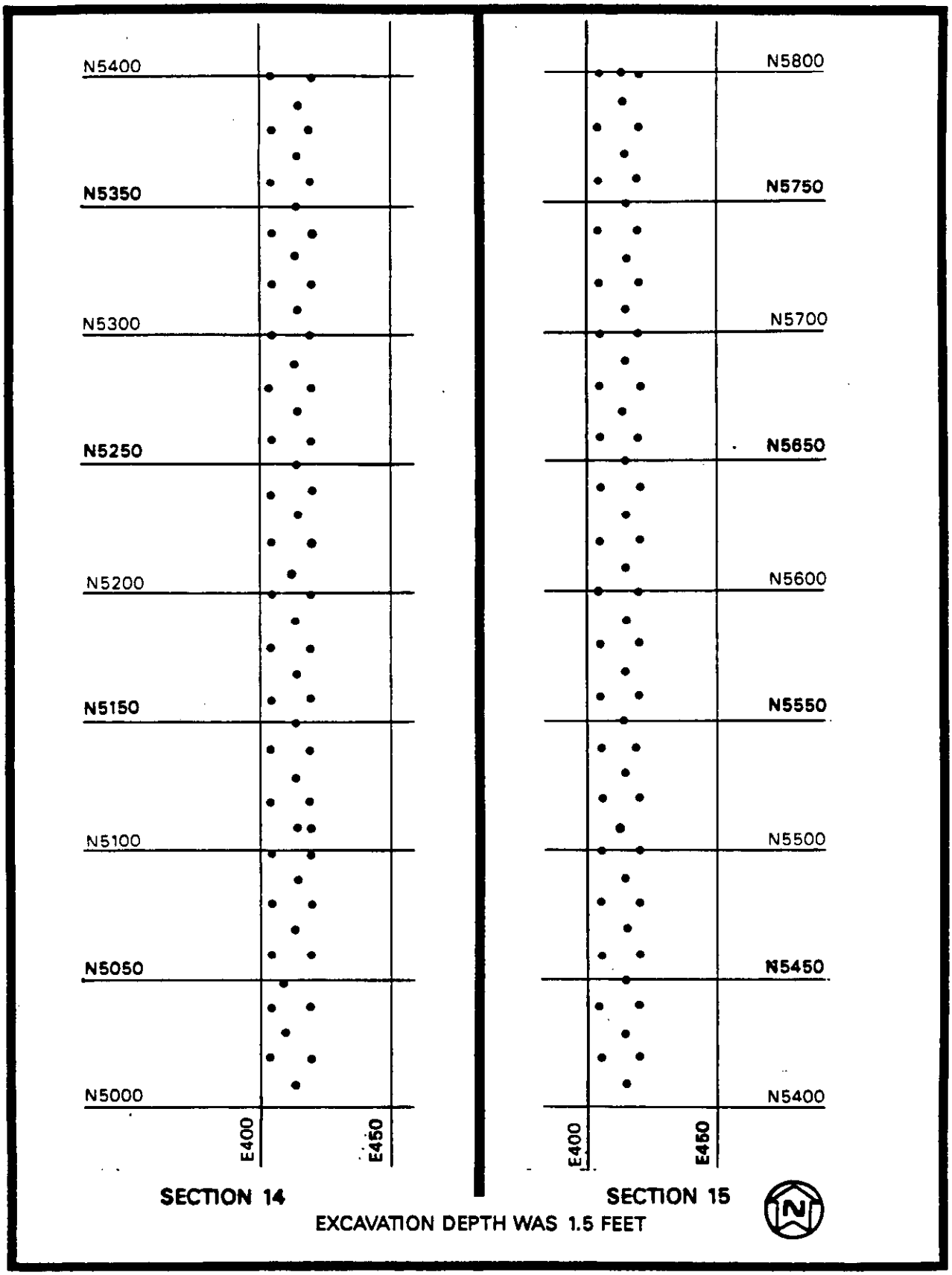


FIGURE 70 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 14 AND 15

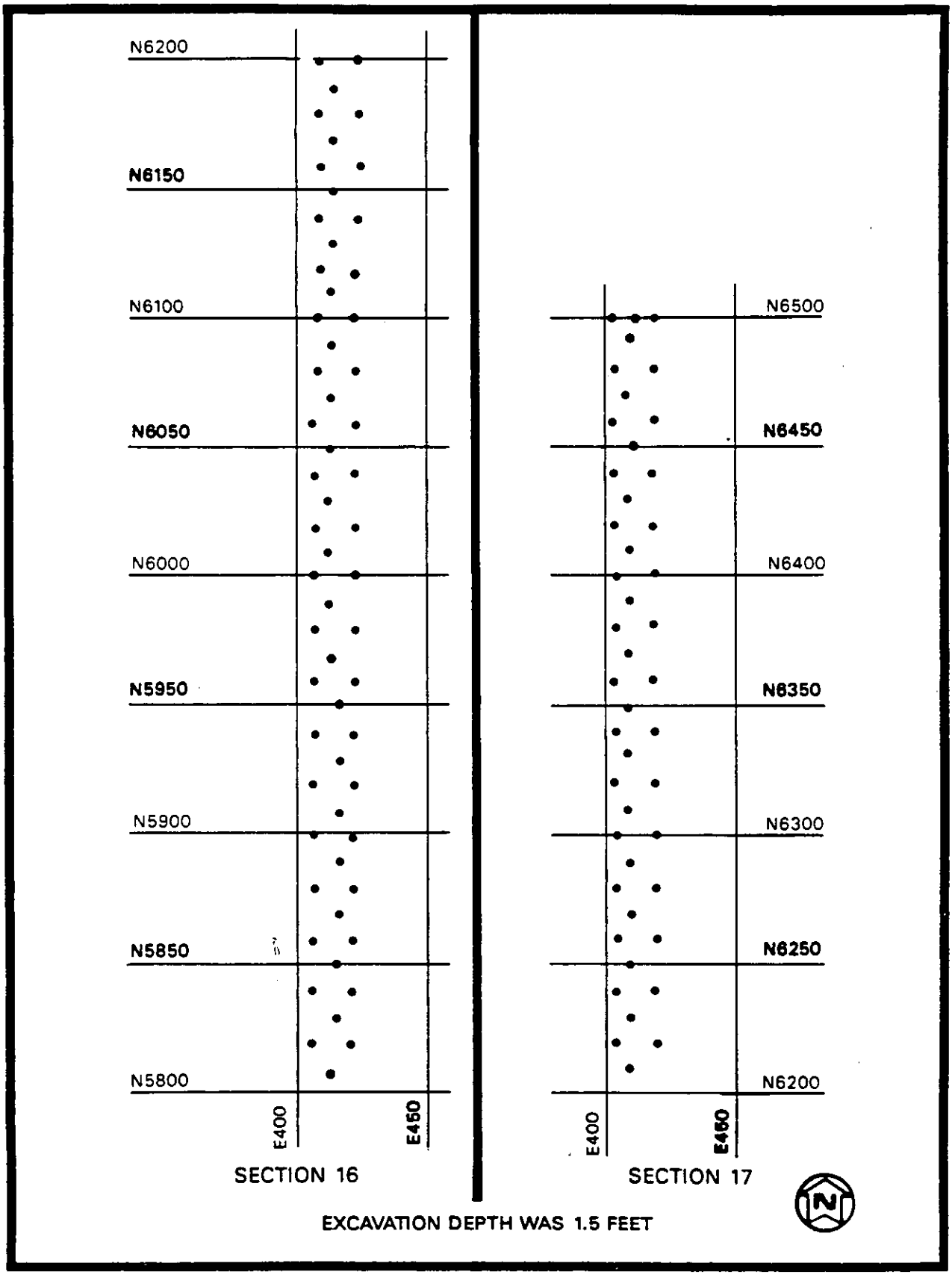


FIGURE 71 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 16 AND 17

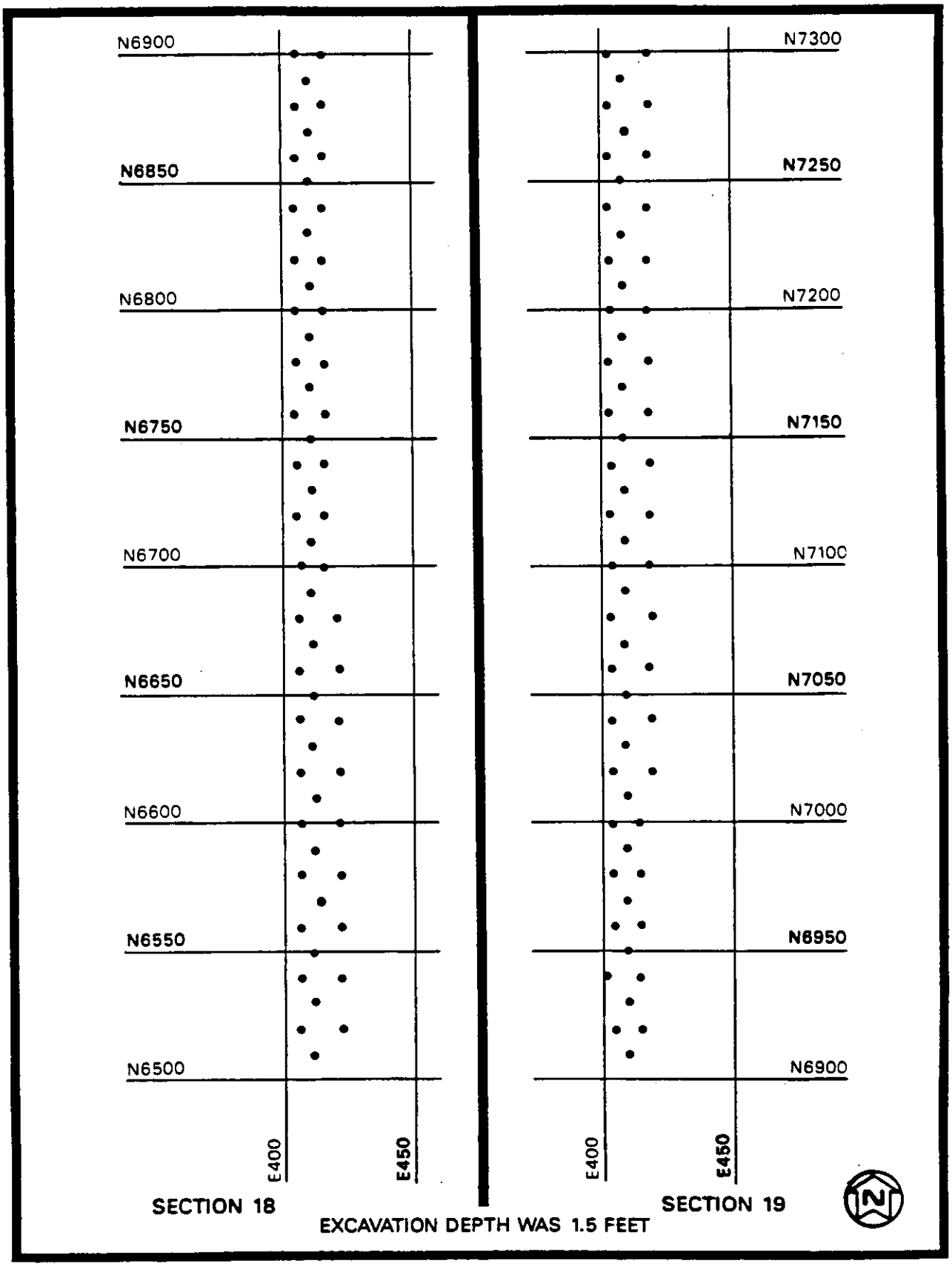


FIGURE 72 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 18 AND 19

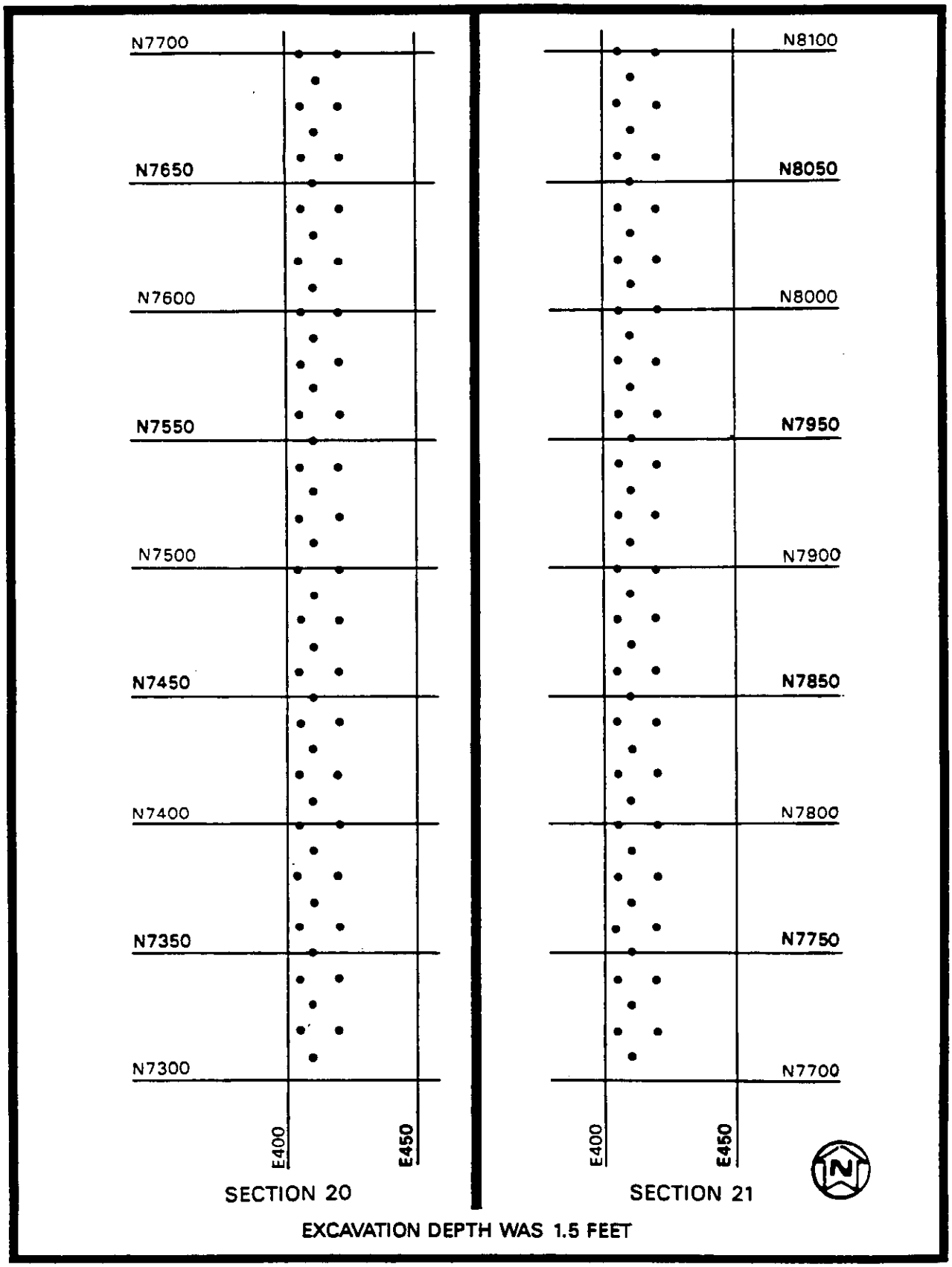


FIGURE 73 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 20 AND 21

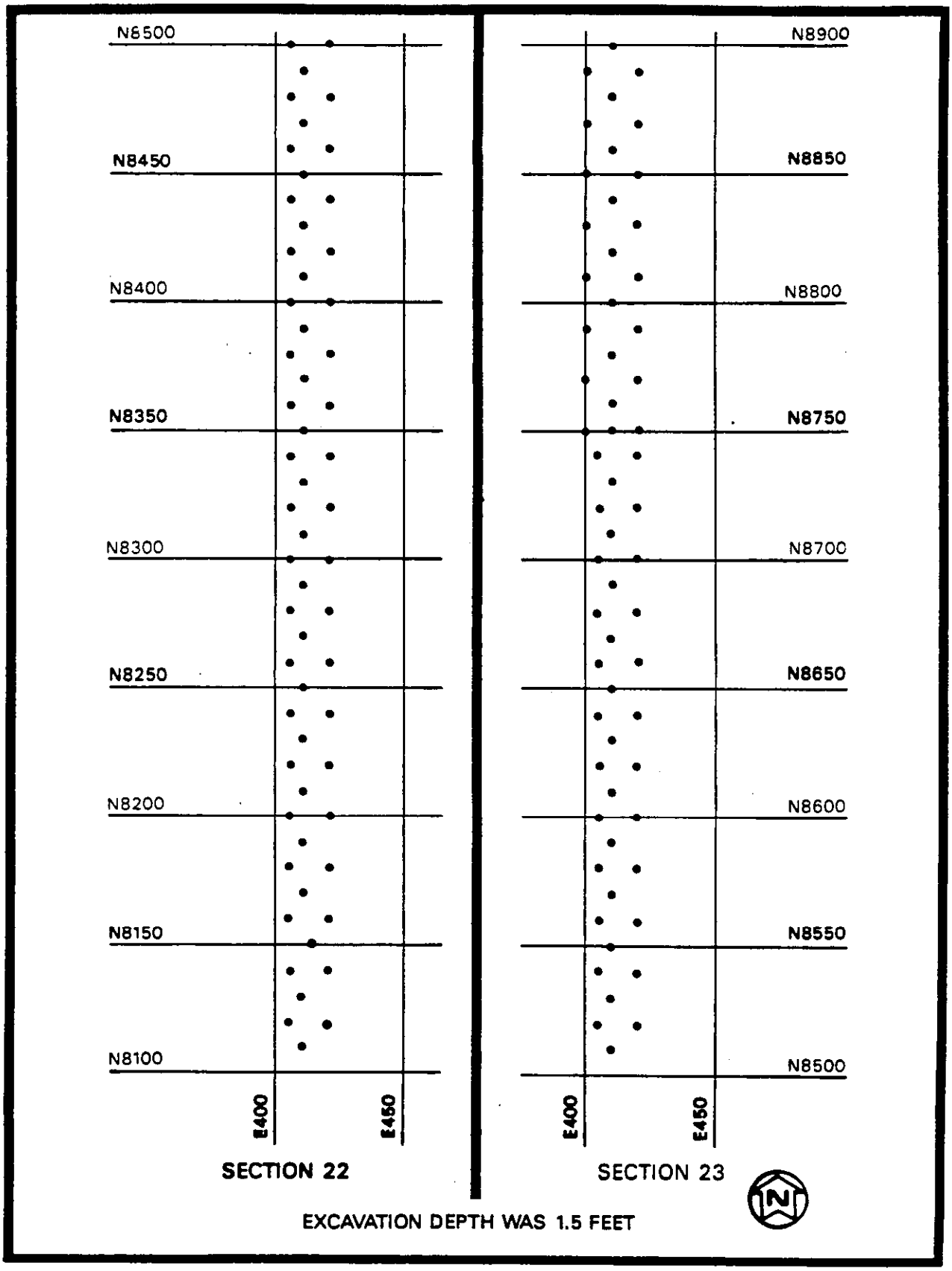


FIGURE 74 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 22 AND 23

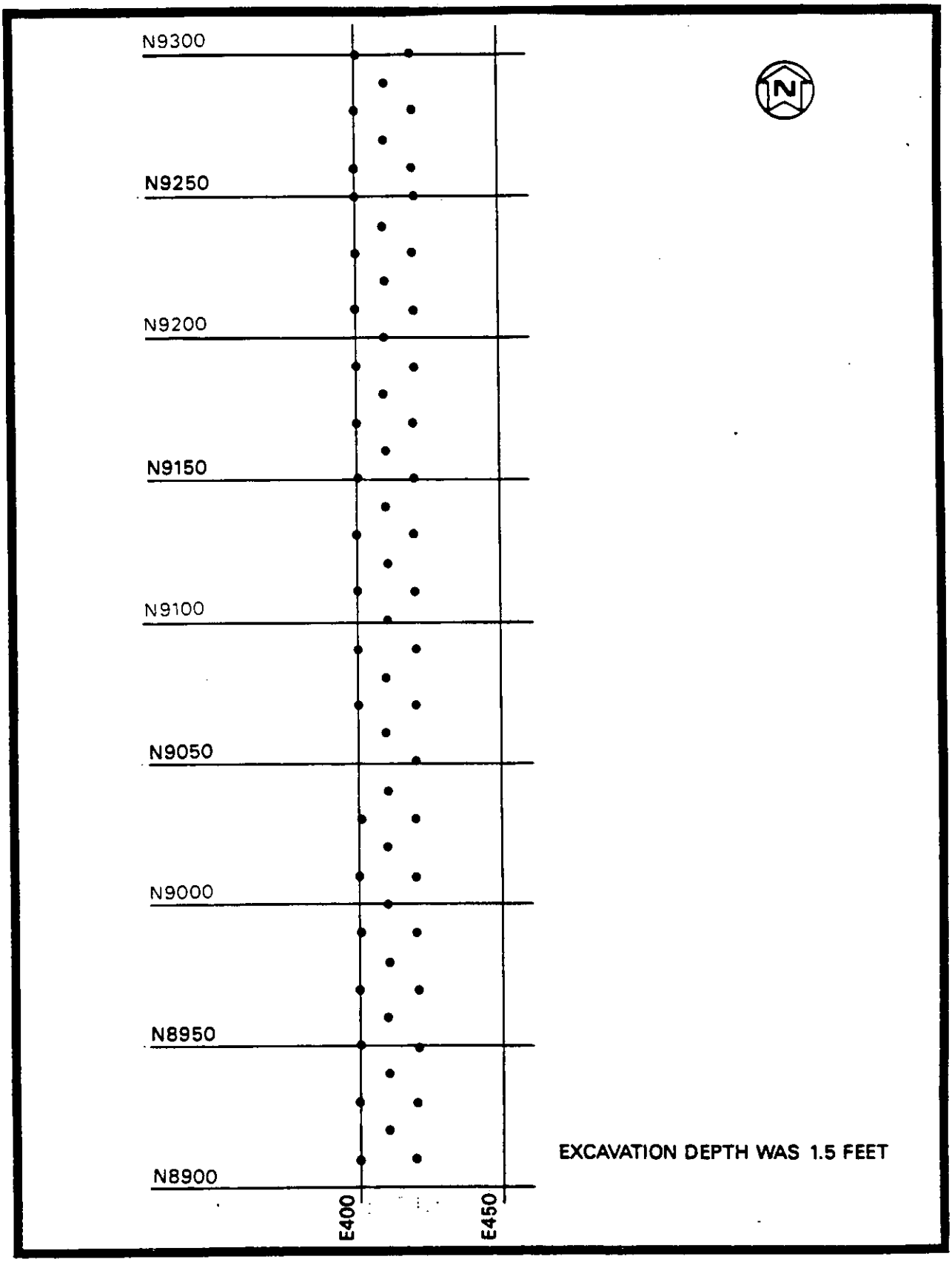


FIGURE 75 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 24

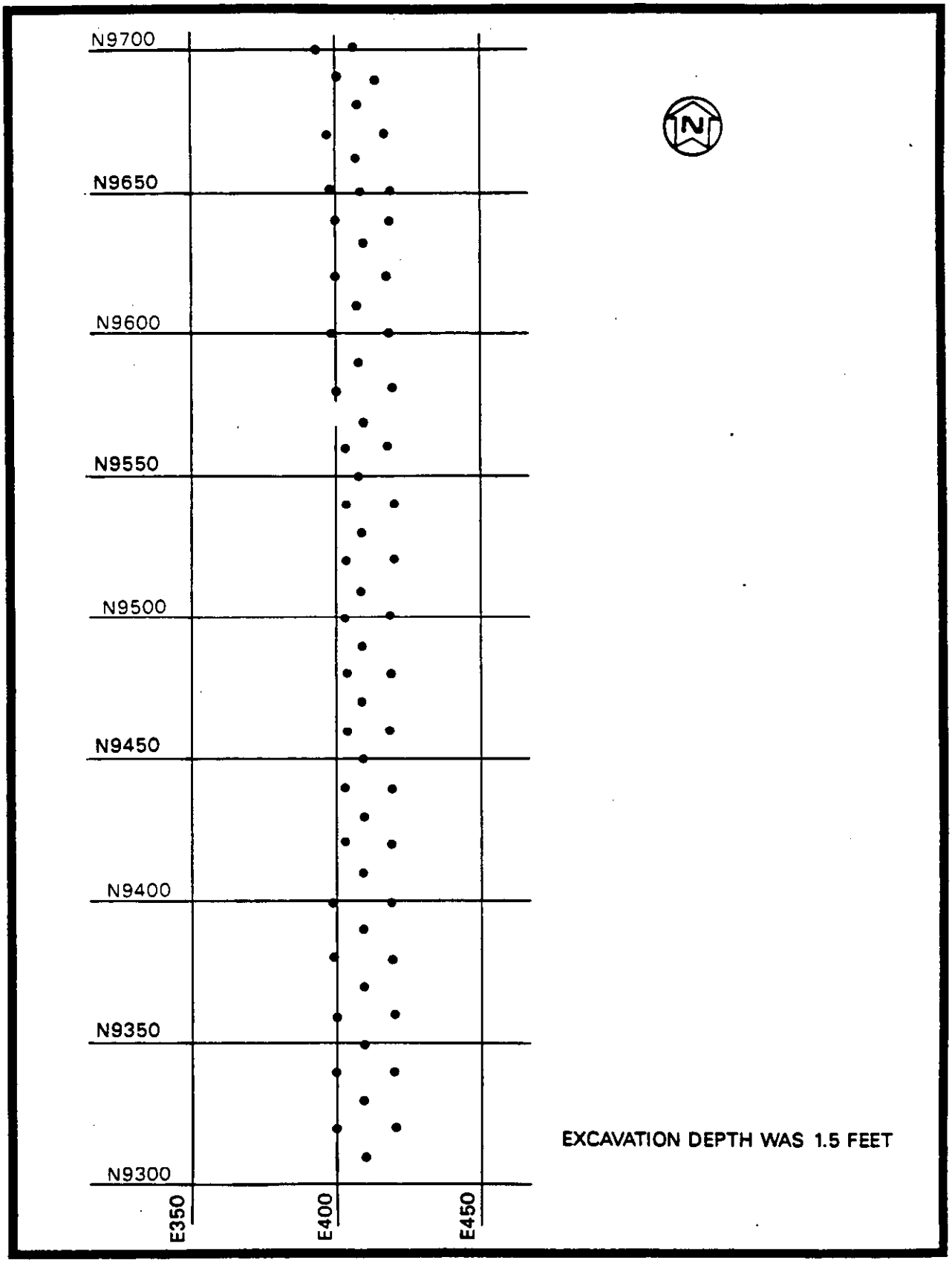


FIGURE 76 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 25

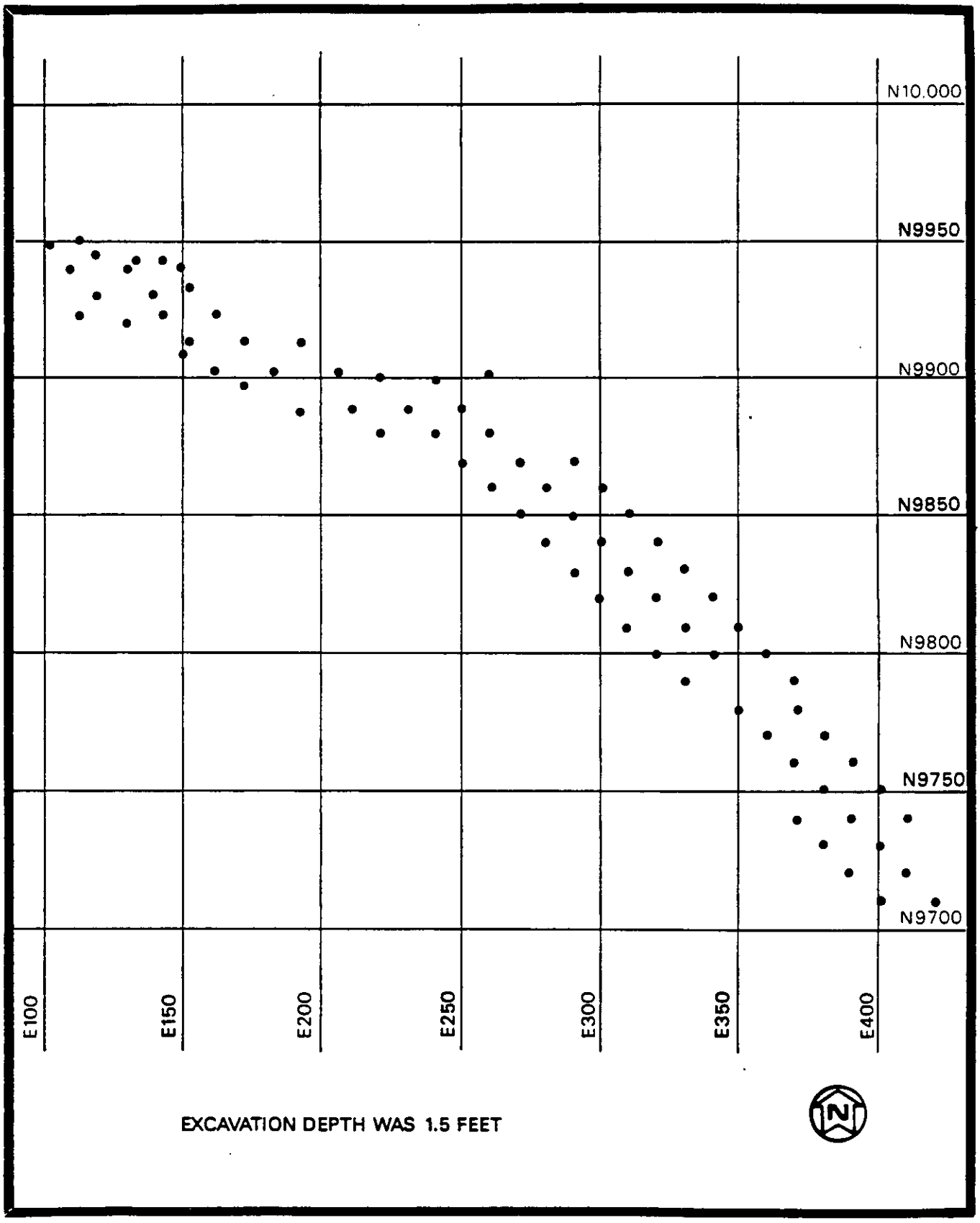


FIGURE 77 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 26

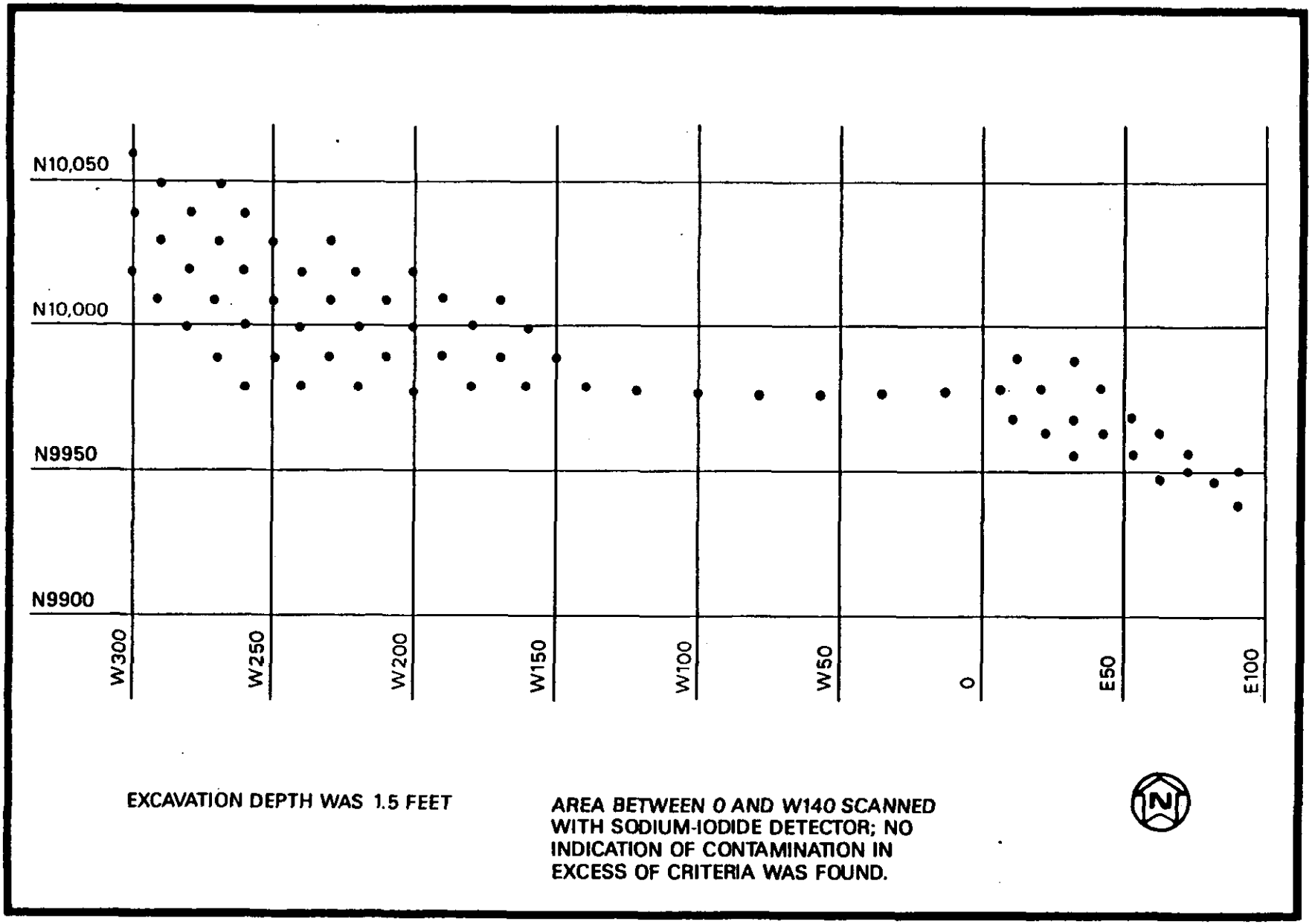


FIGURE 78 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 27

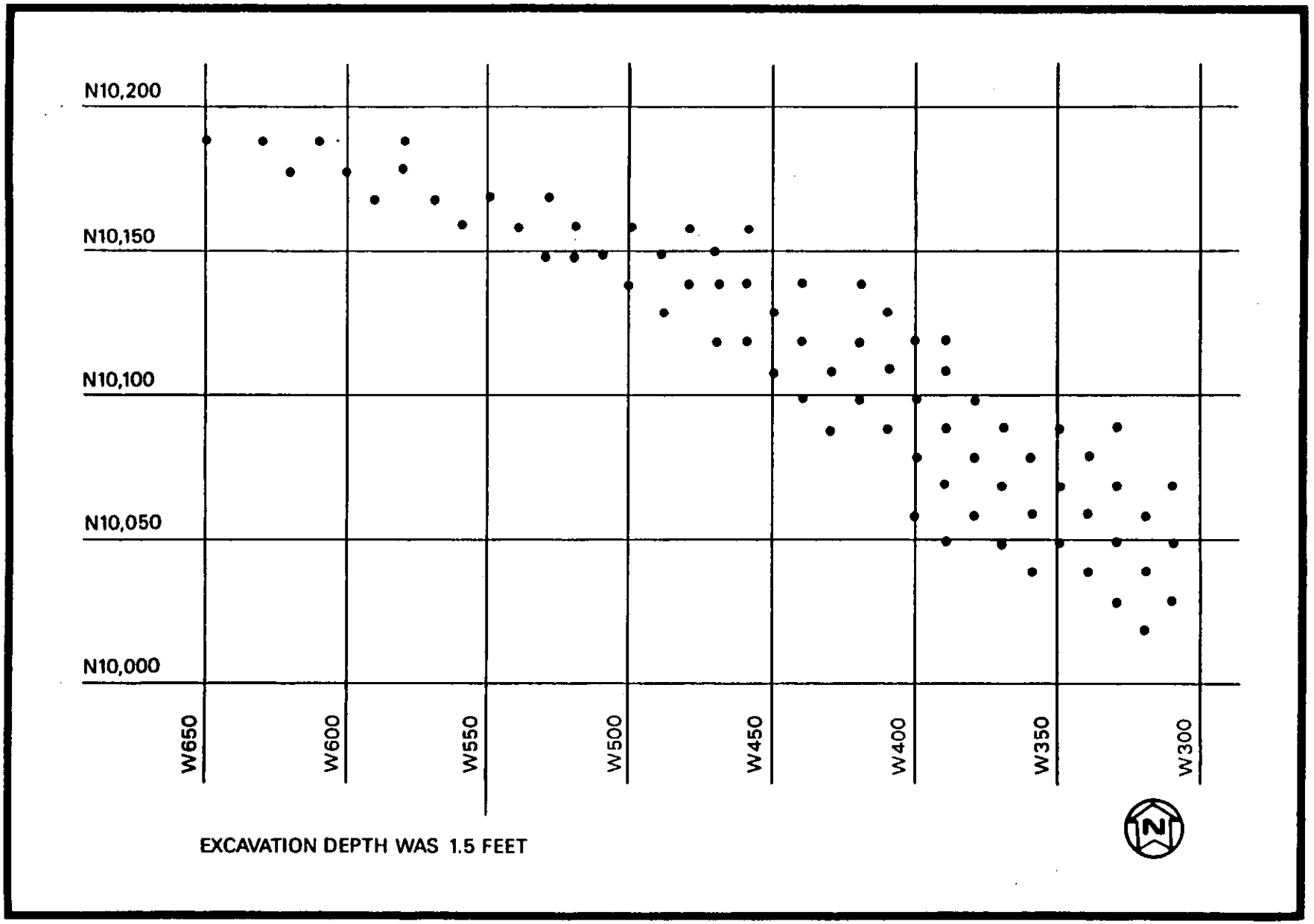


FIGURE 79 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 28

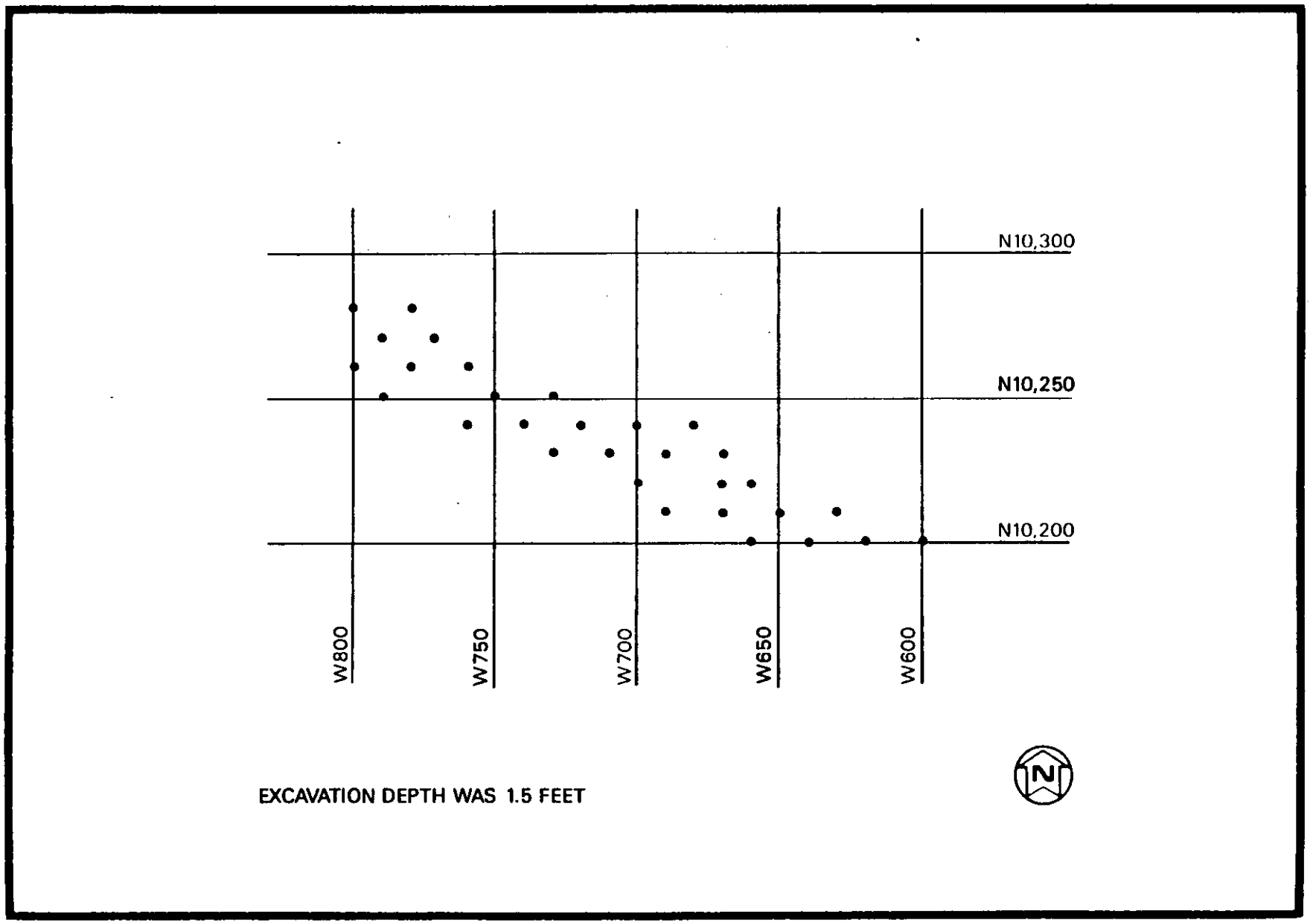


FIGURE 80 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 29

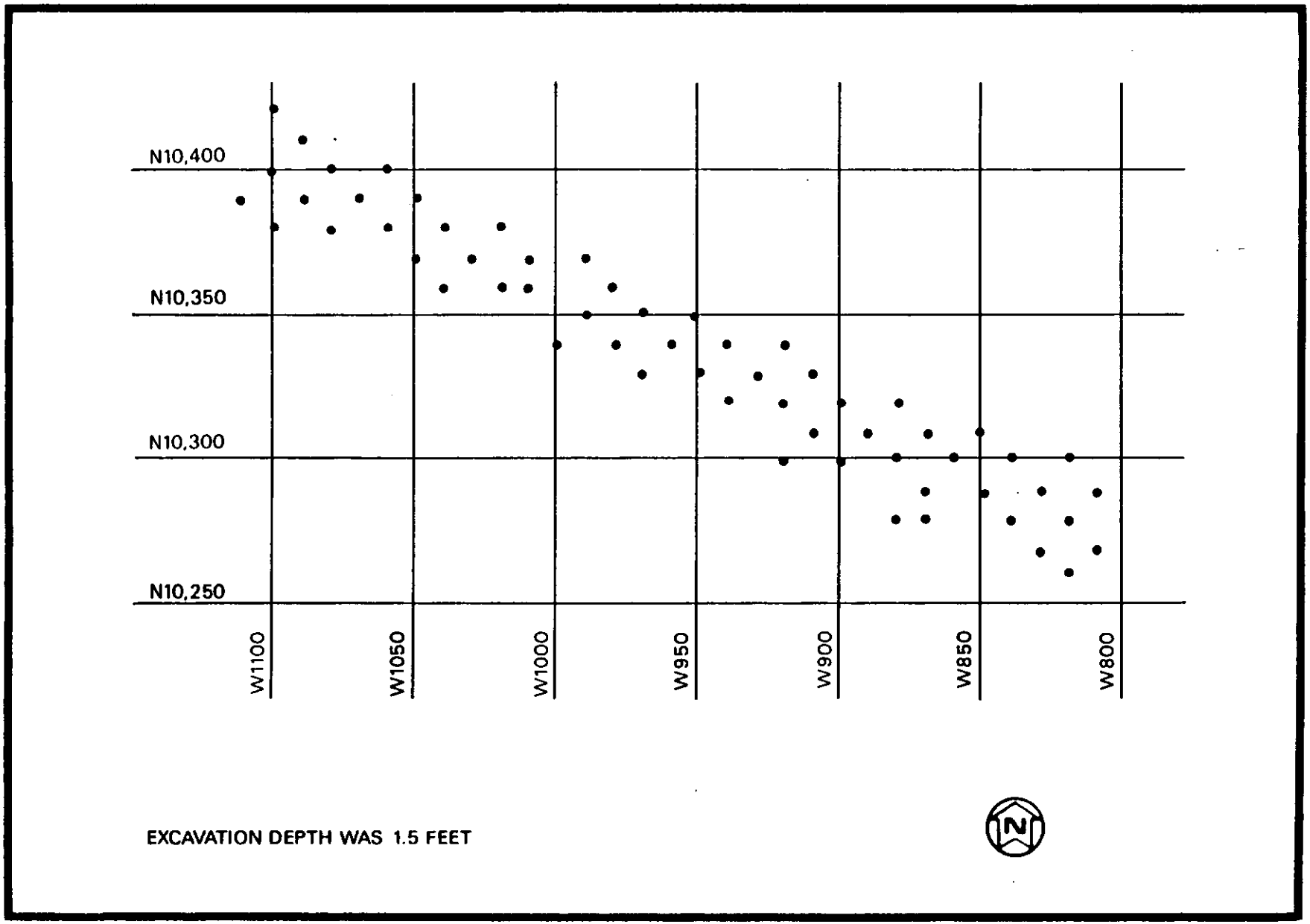


FIGURE 81 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 30

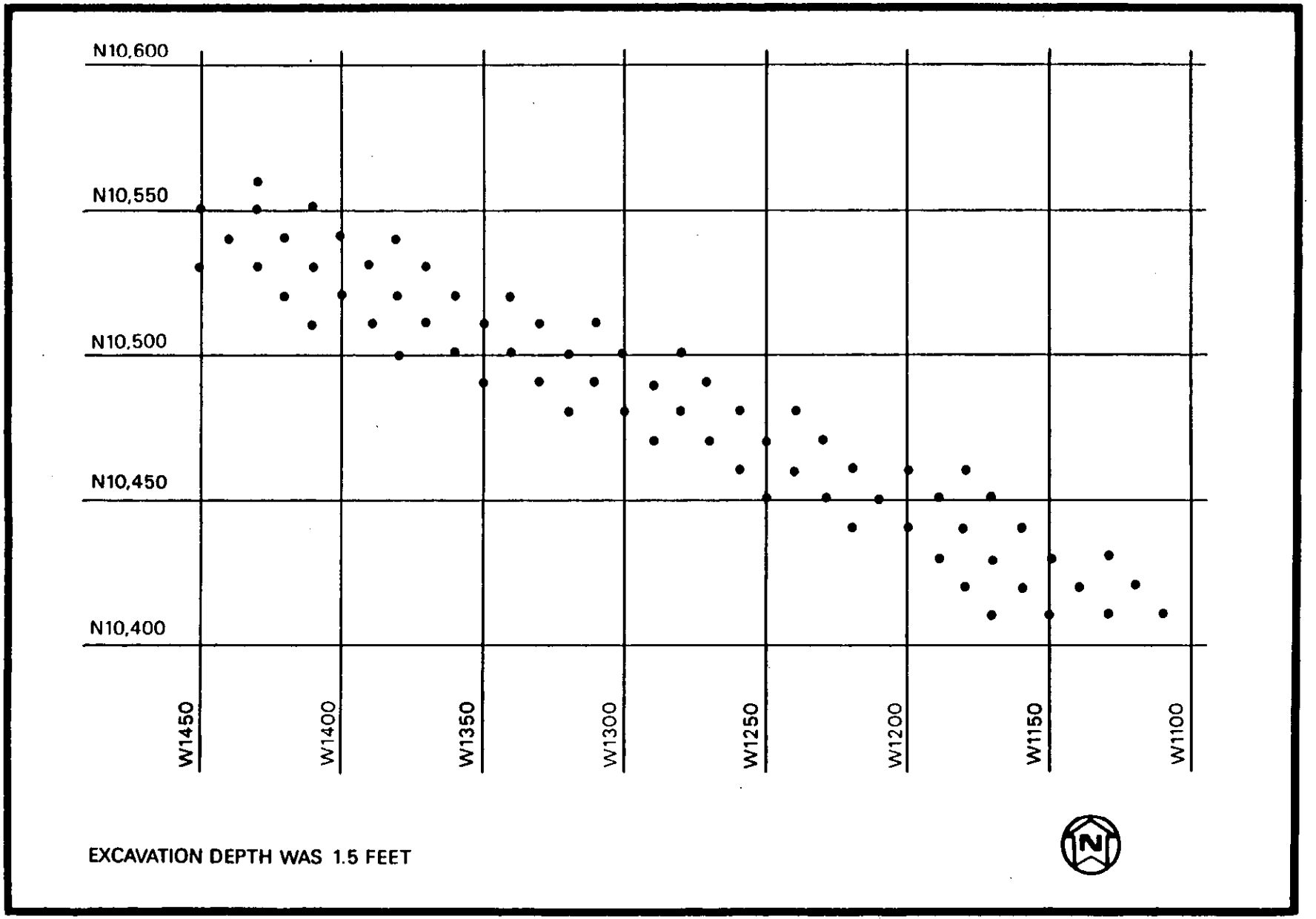


FIGURE 82 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 31

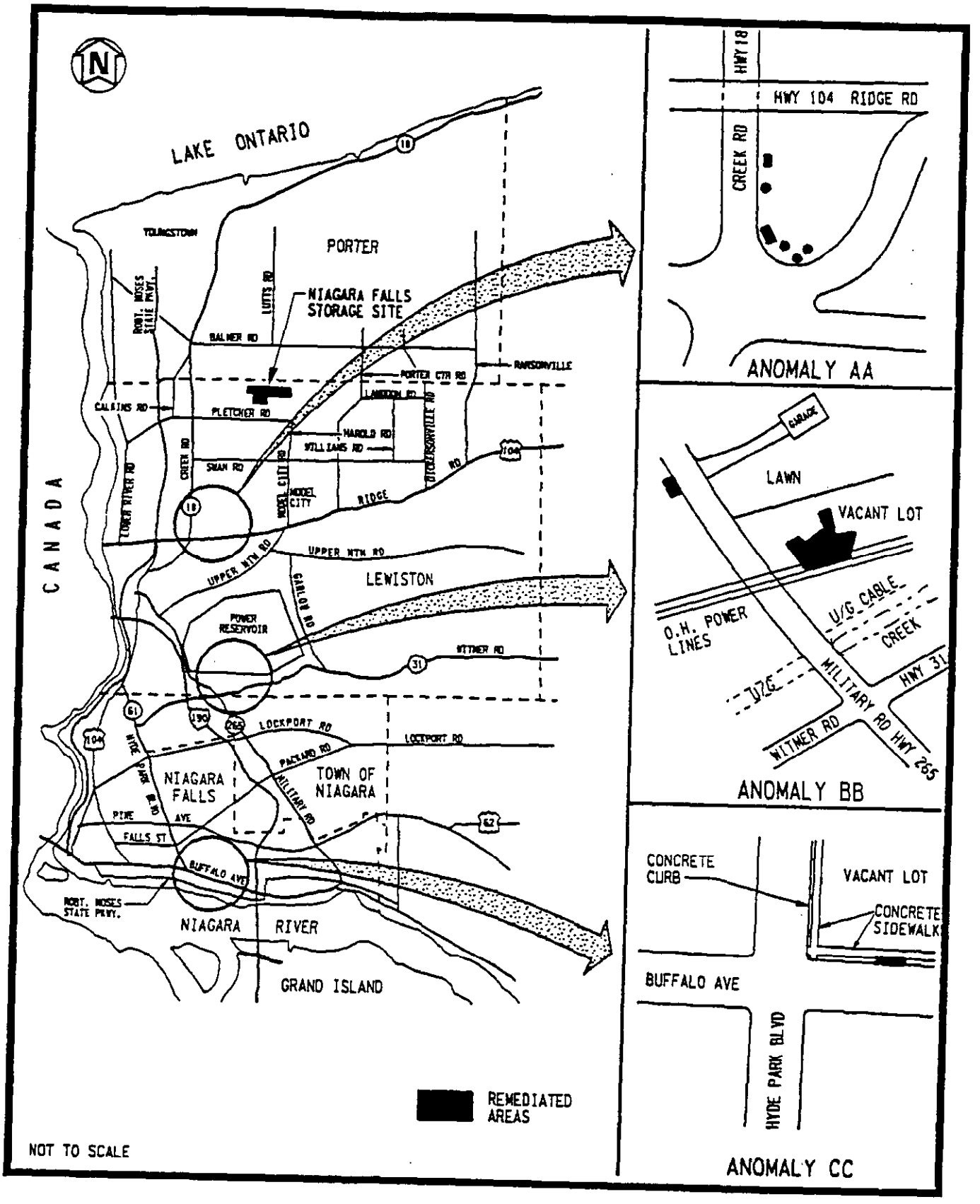


FIGURE 83 LOCATIONS OF ANOMALIES AA, BB, AND CC

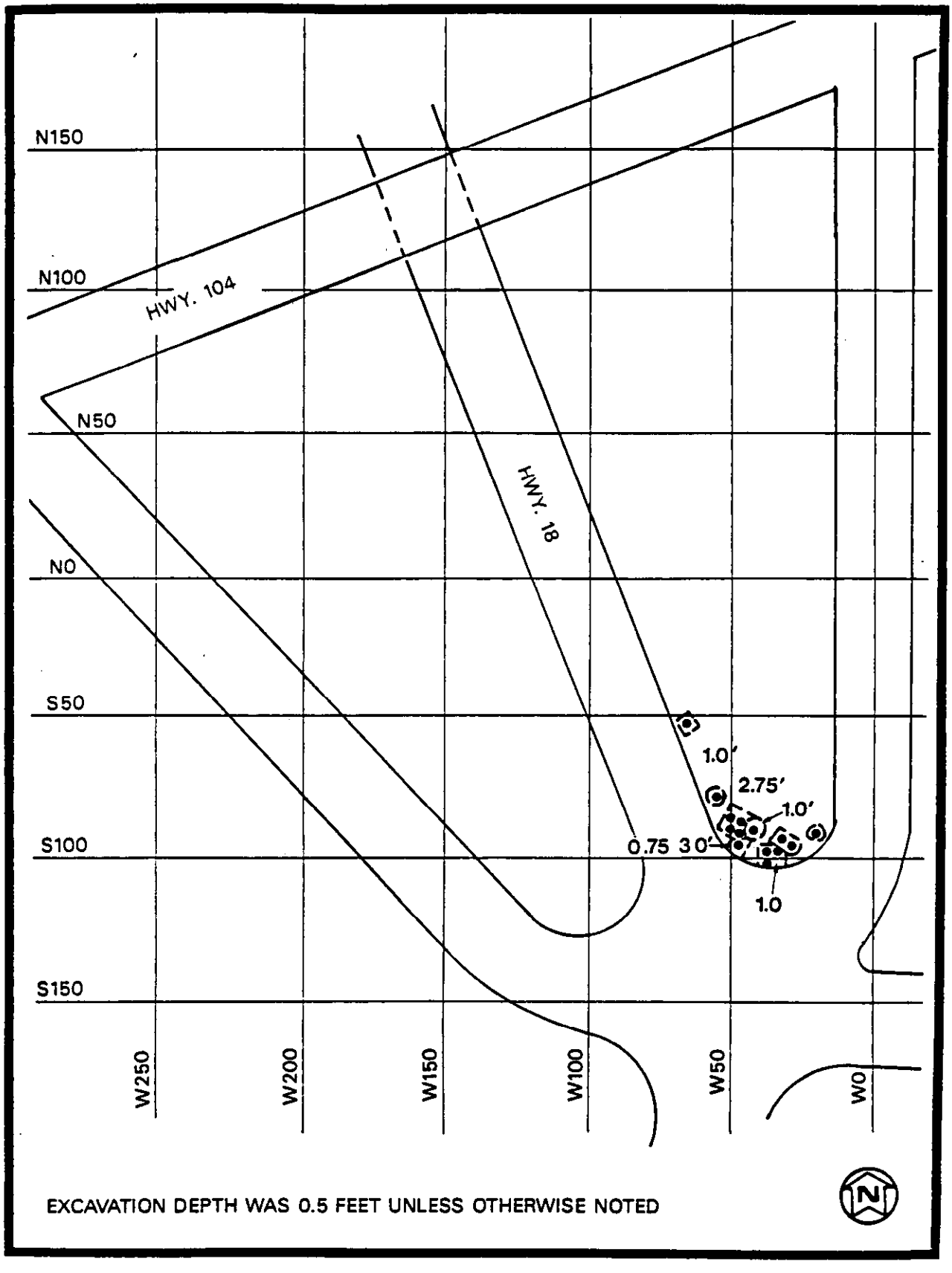


FIGURE 84 EXCAVATED AREAS AND POST-REMEDIAL ACTION SAMPLING LOCATIONS FOR ANOMALY AA

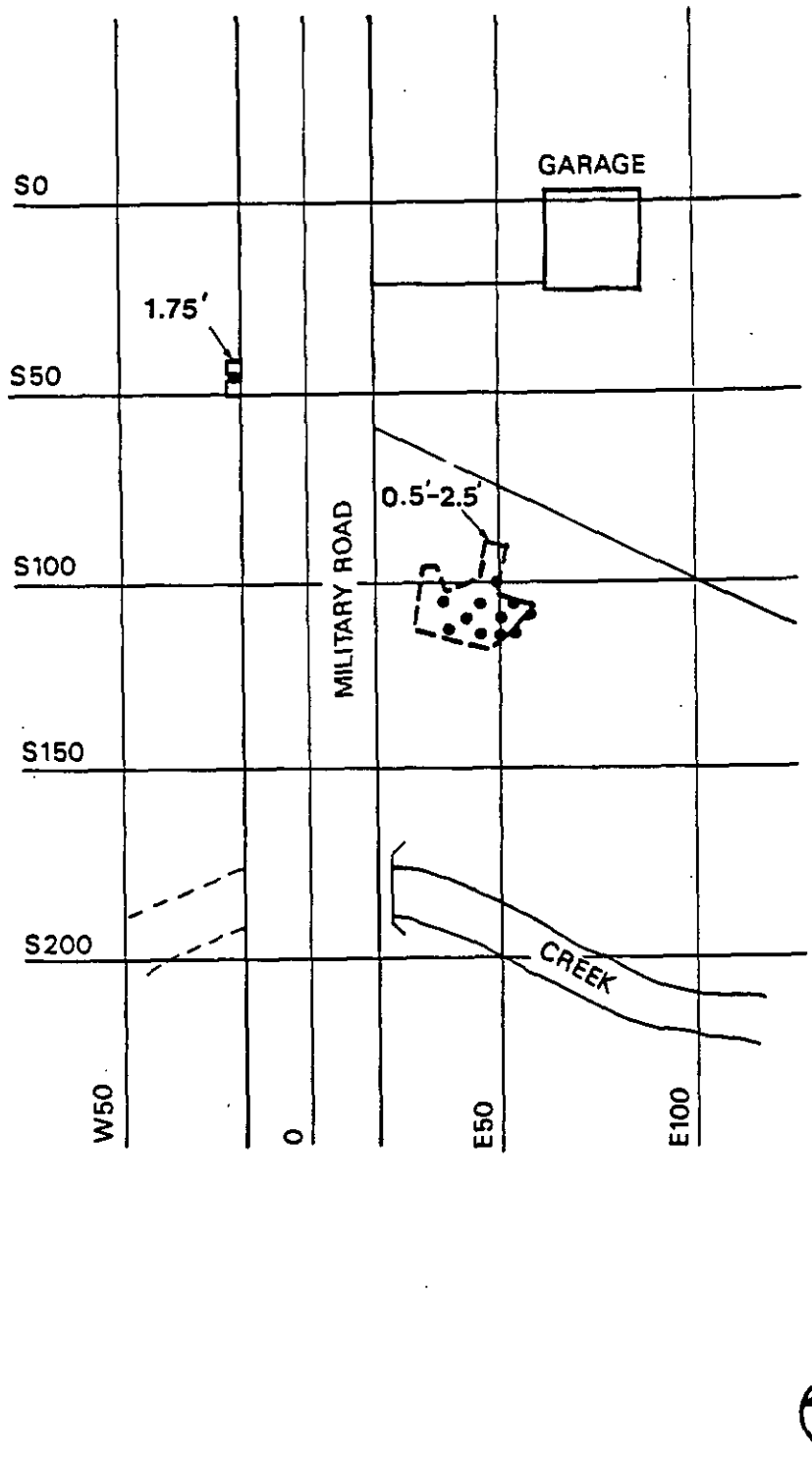


FIGURE 85 EXCAVATED AREAS AND POST-REMEDIAL ACTION SAMPLING LOCATIONS FOR ANOMALY BB

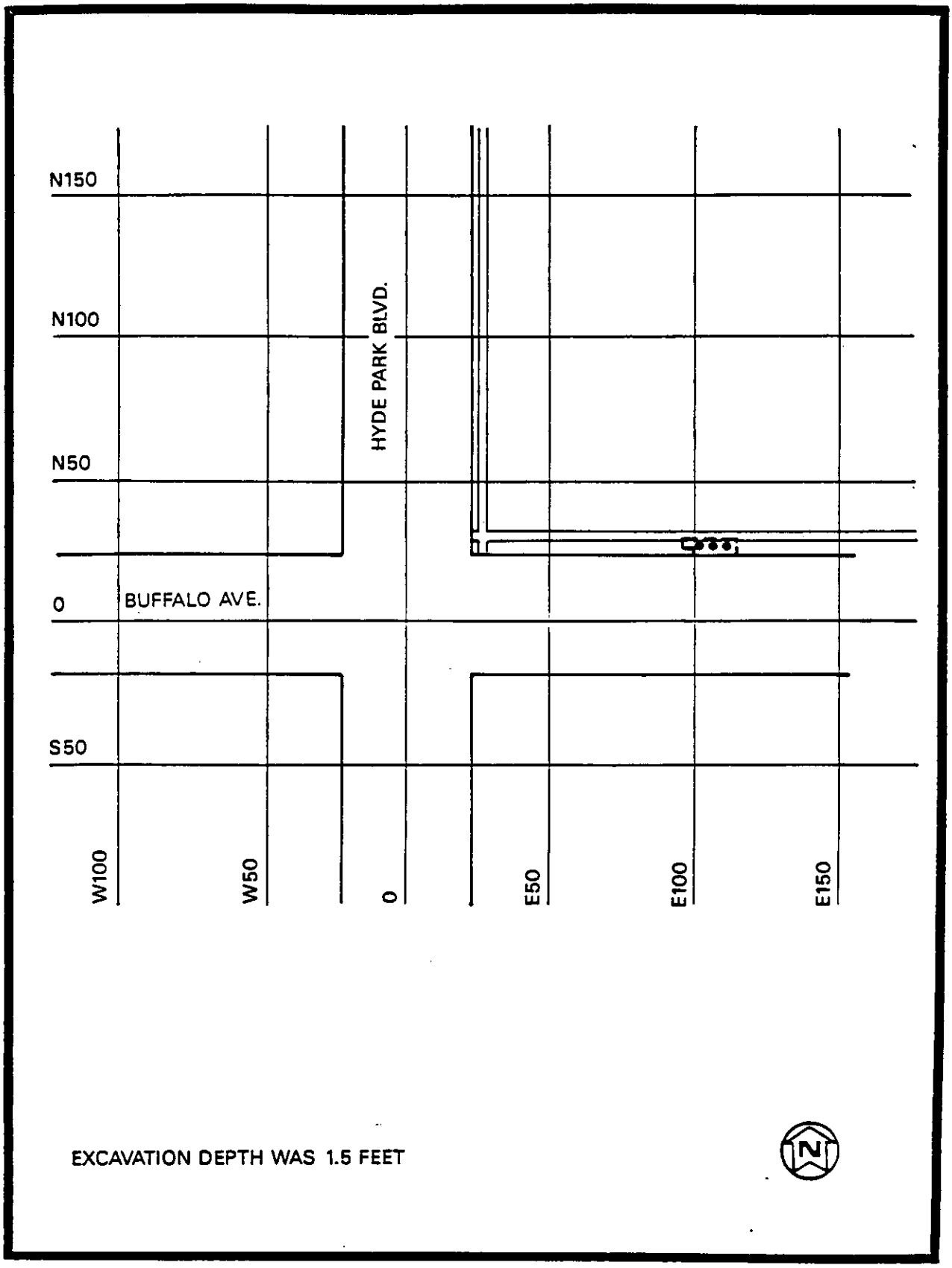


FIGURE 86 EXCAVATED AREAS AND POST-REMEDIAL ACTION SAMPLING LOCATIONS FOR ANOMALY CC

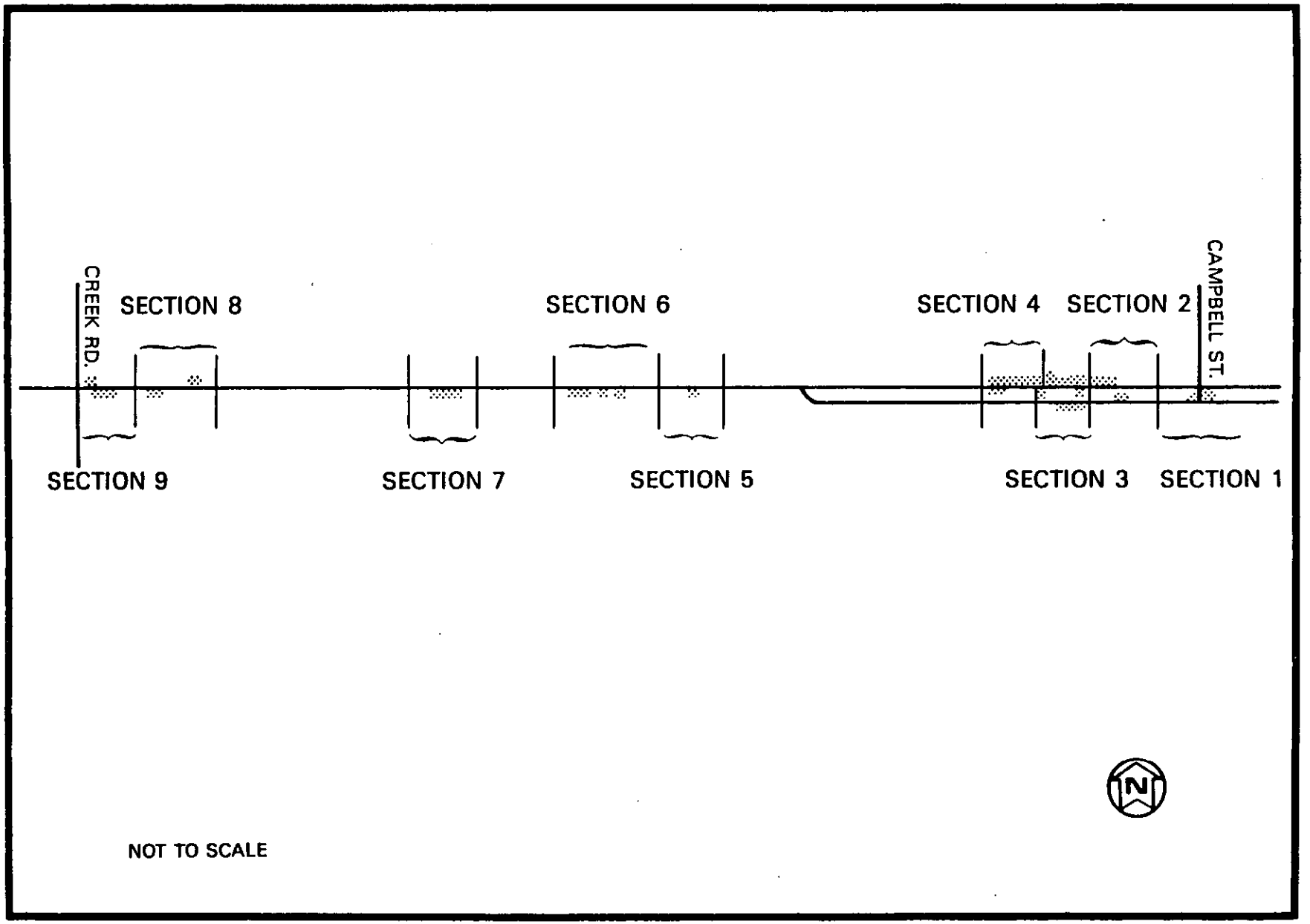


FIGURE 87 EXCAVATED AREAS ON PLETCHER ROAD

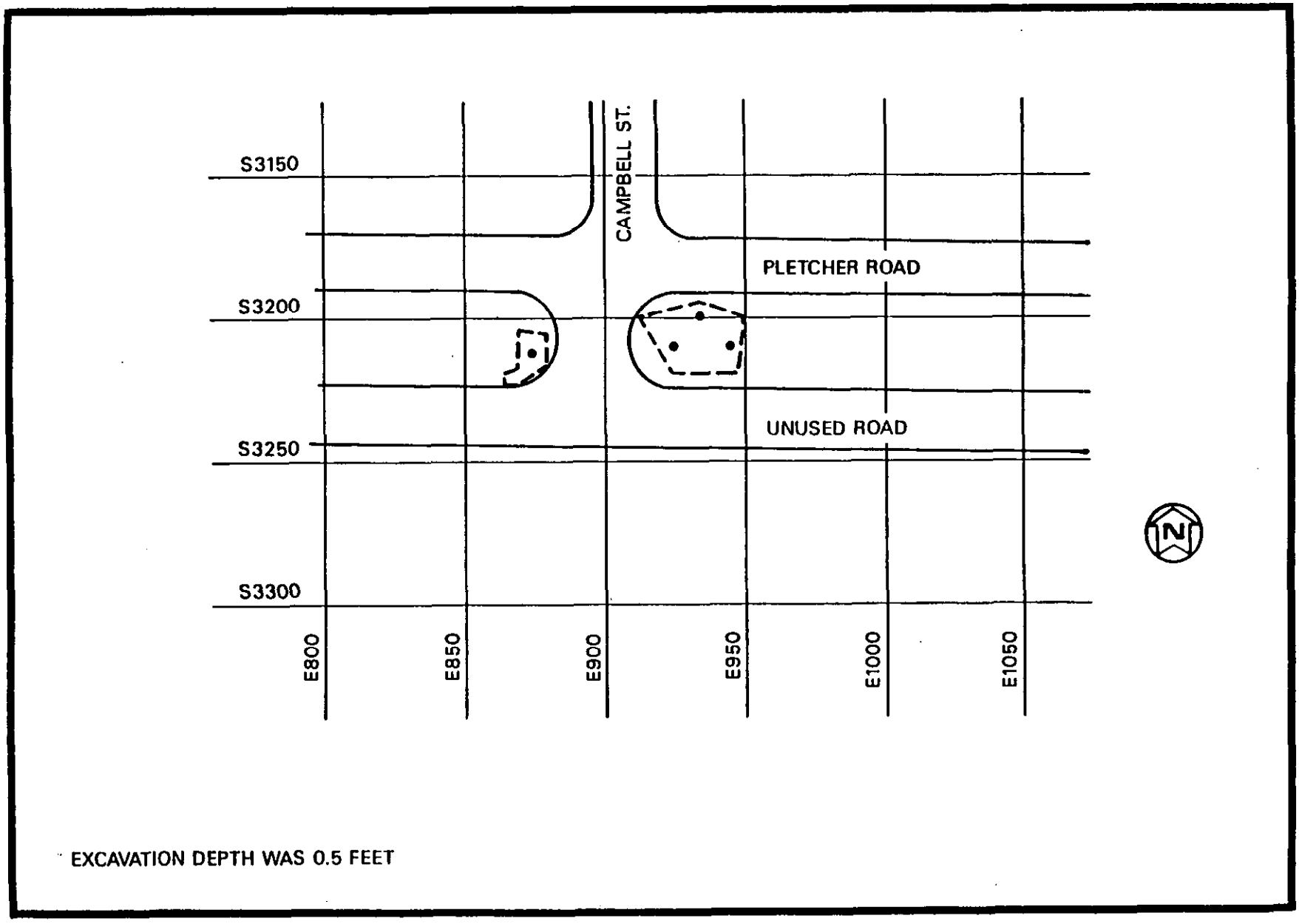


FIGURE 88 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 1

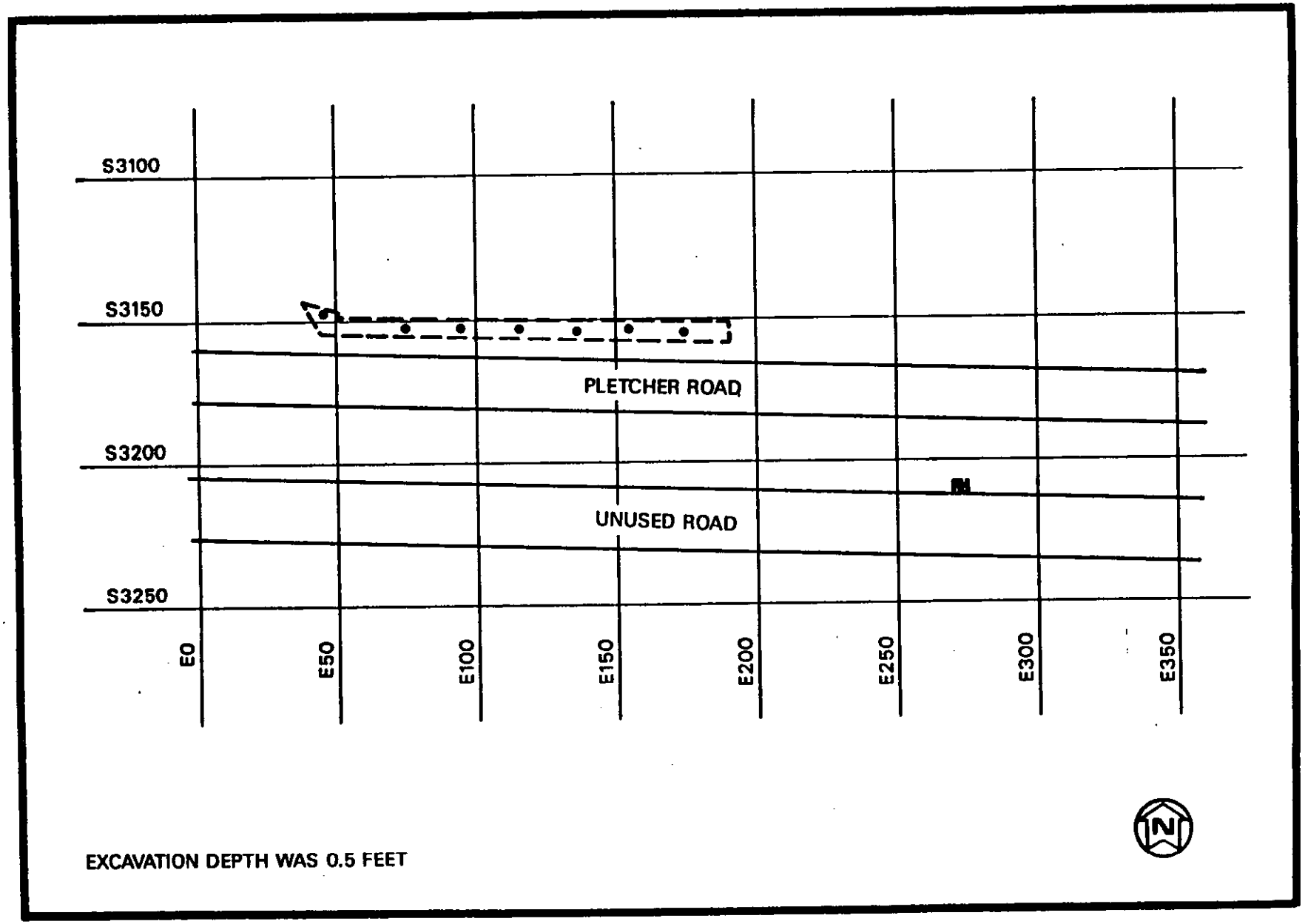


FIGURE 89 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 2

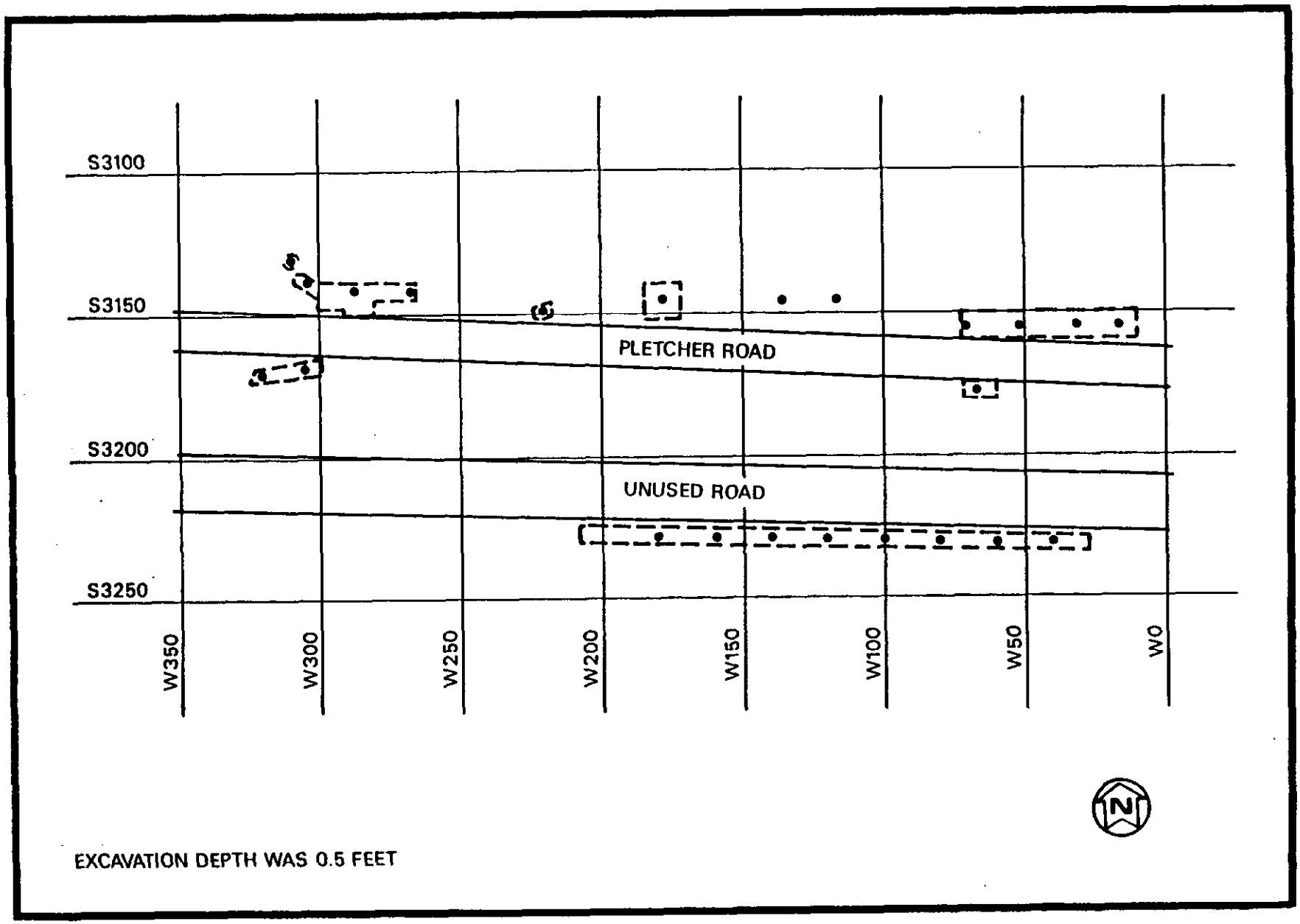


FIGURE 90 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 3

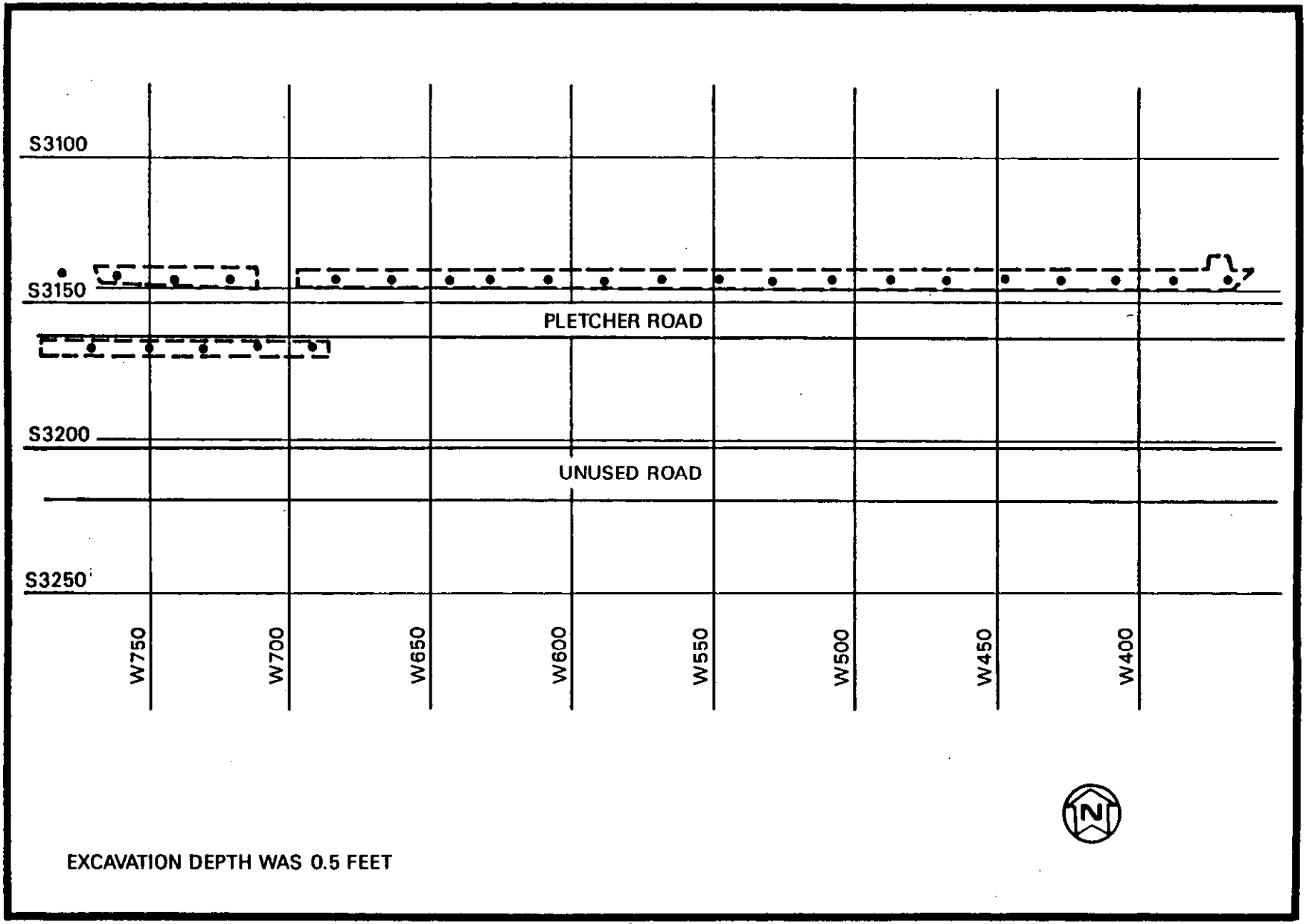


FIGURE 91 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 4

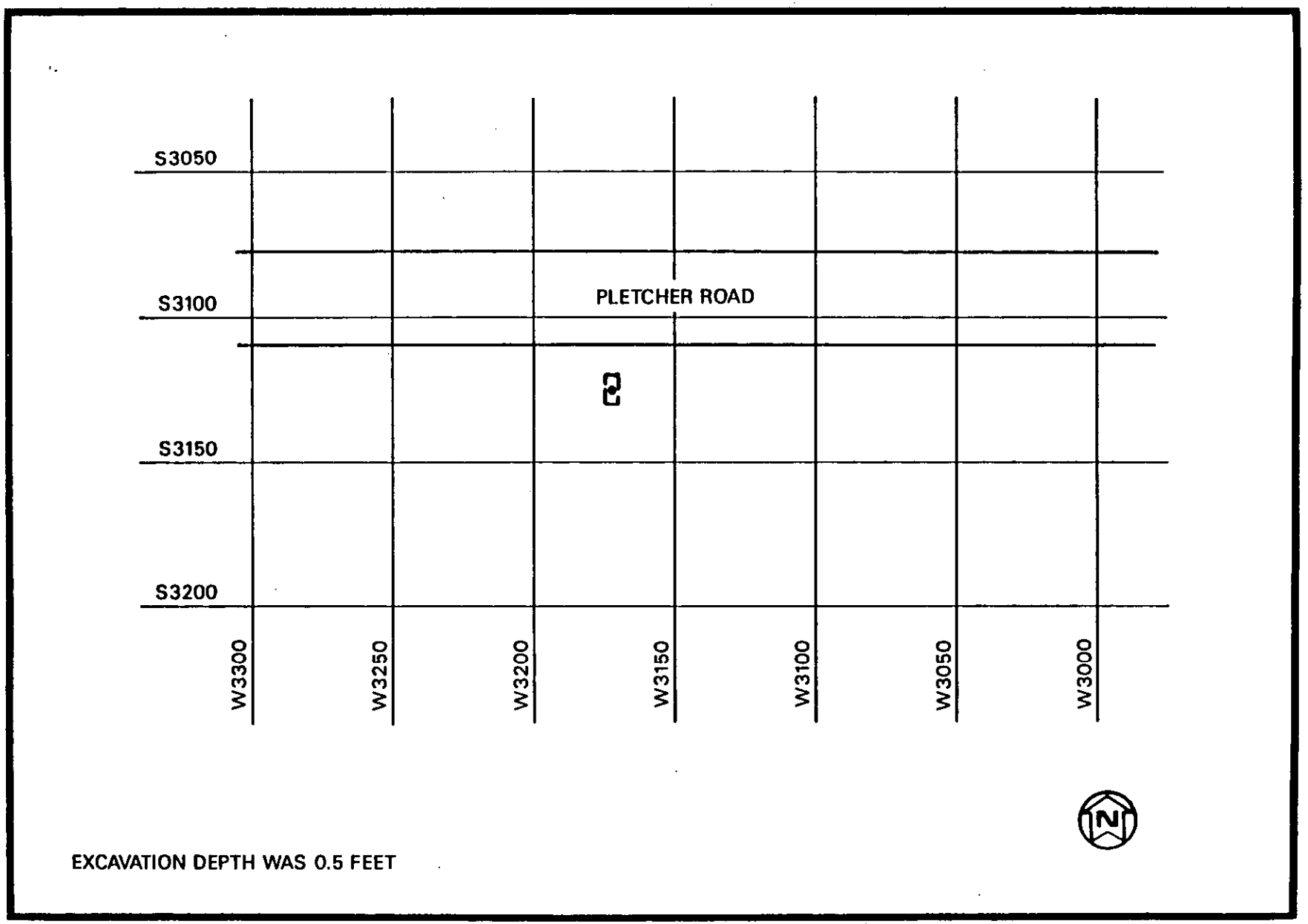


FIGURE 92 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 5

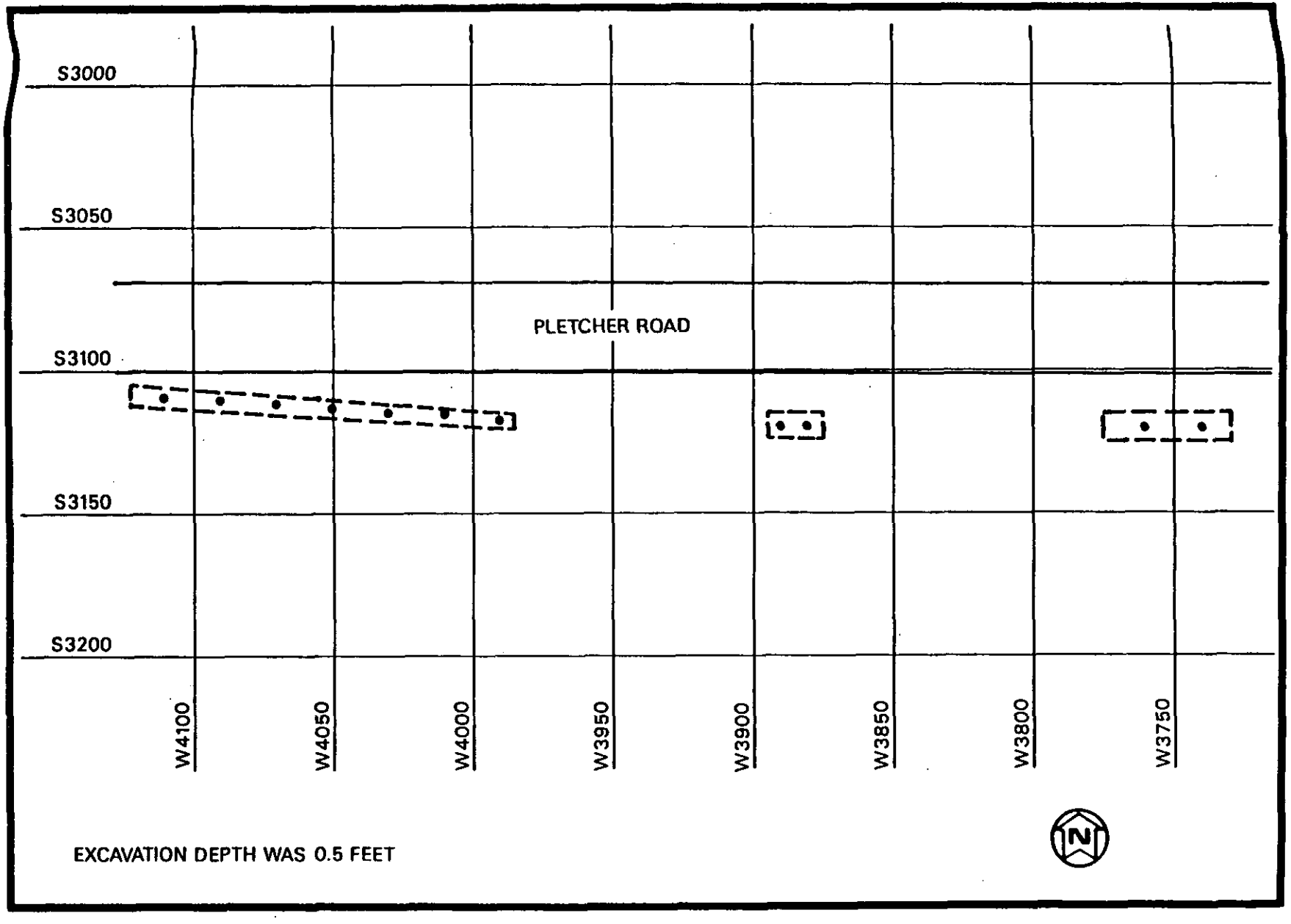


FIGURE 93 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 6

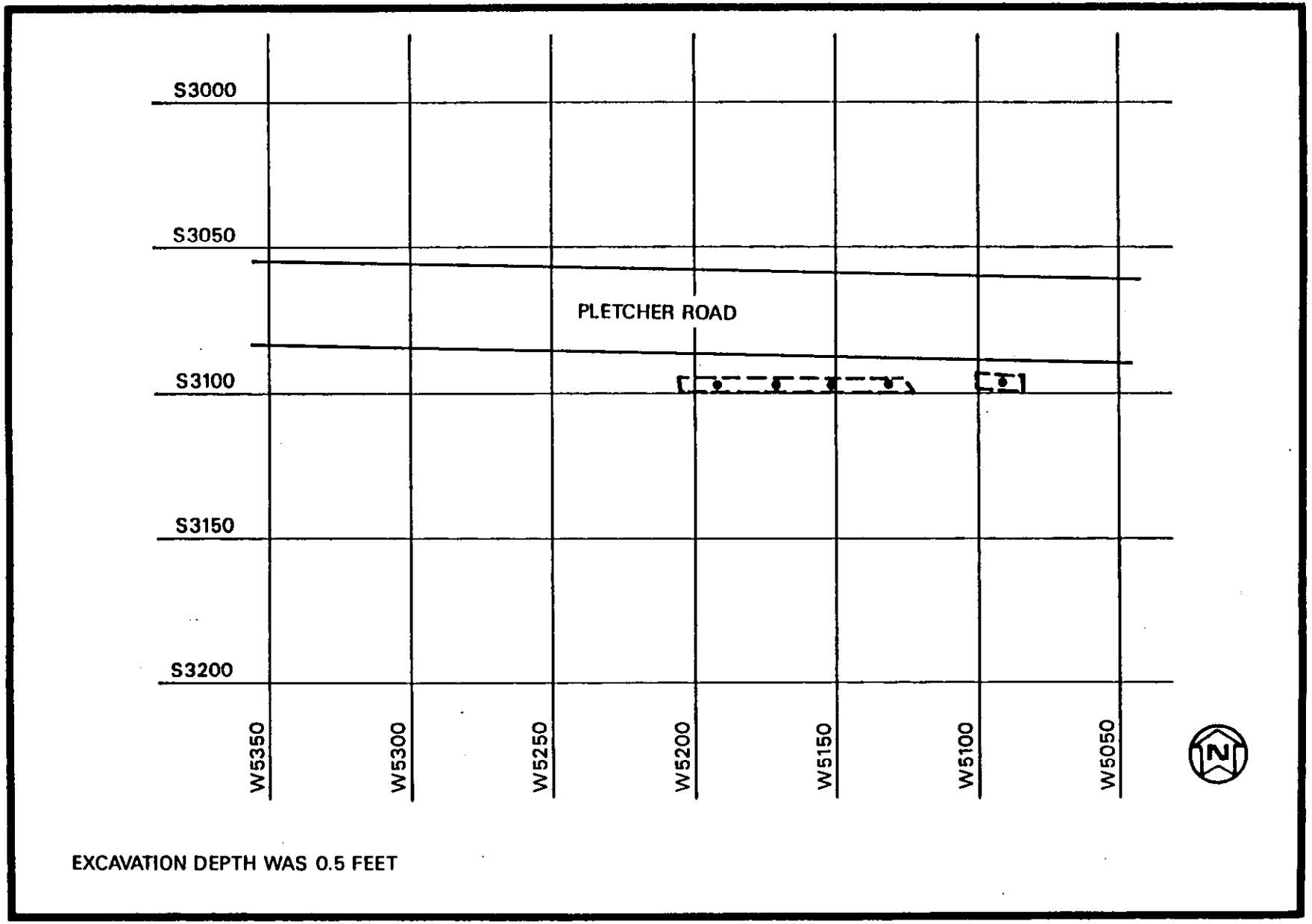


FIGURE 94 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 7

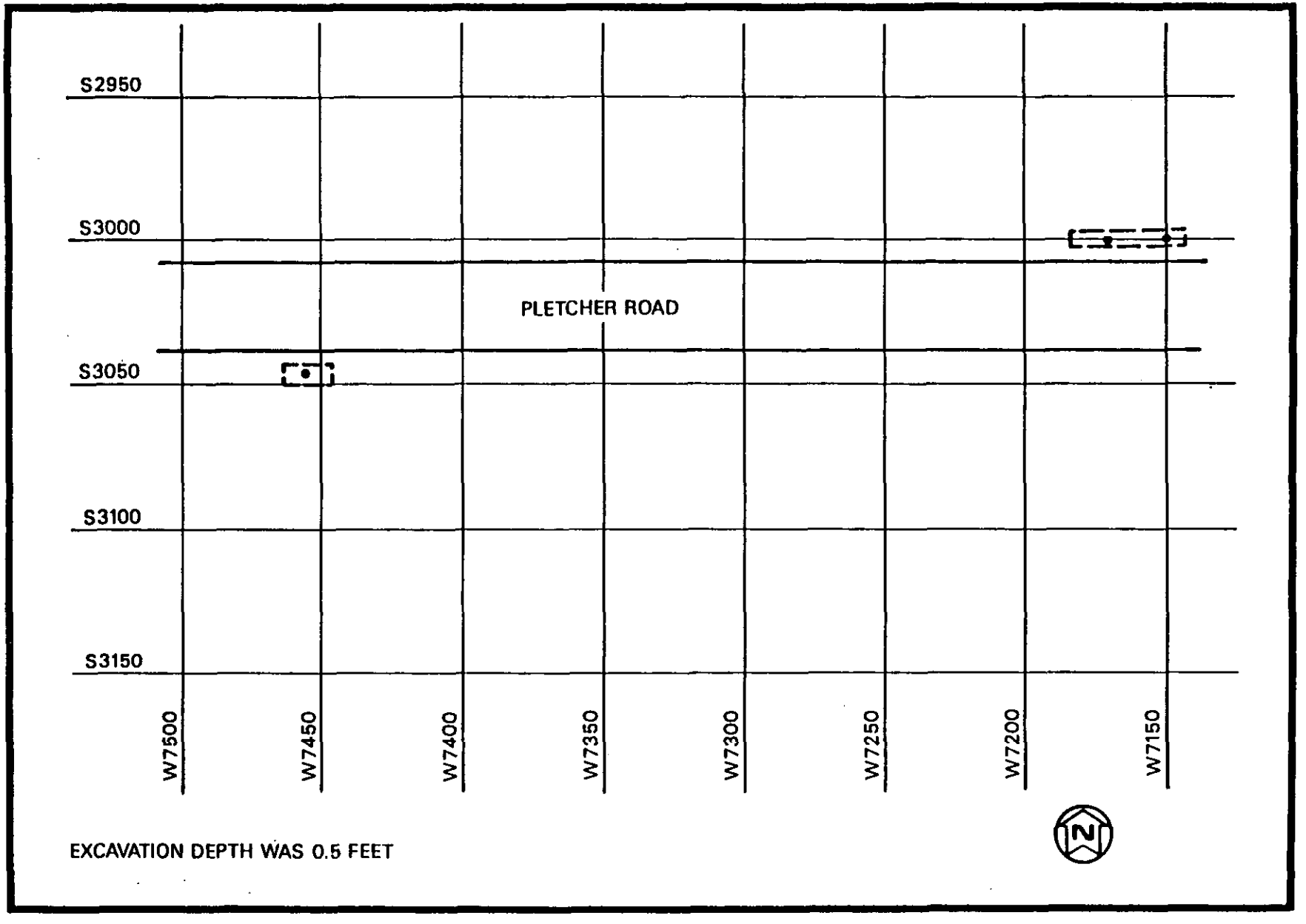


FIGURE 95 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 8

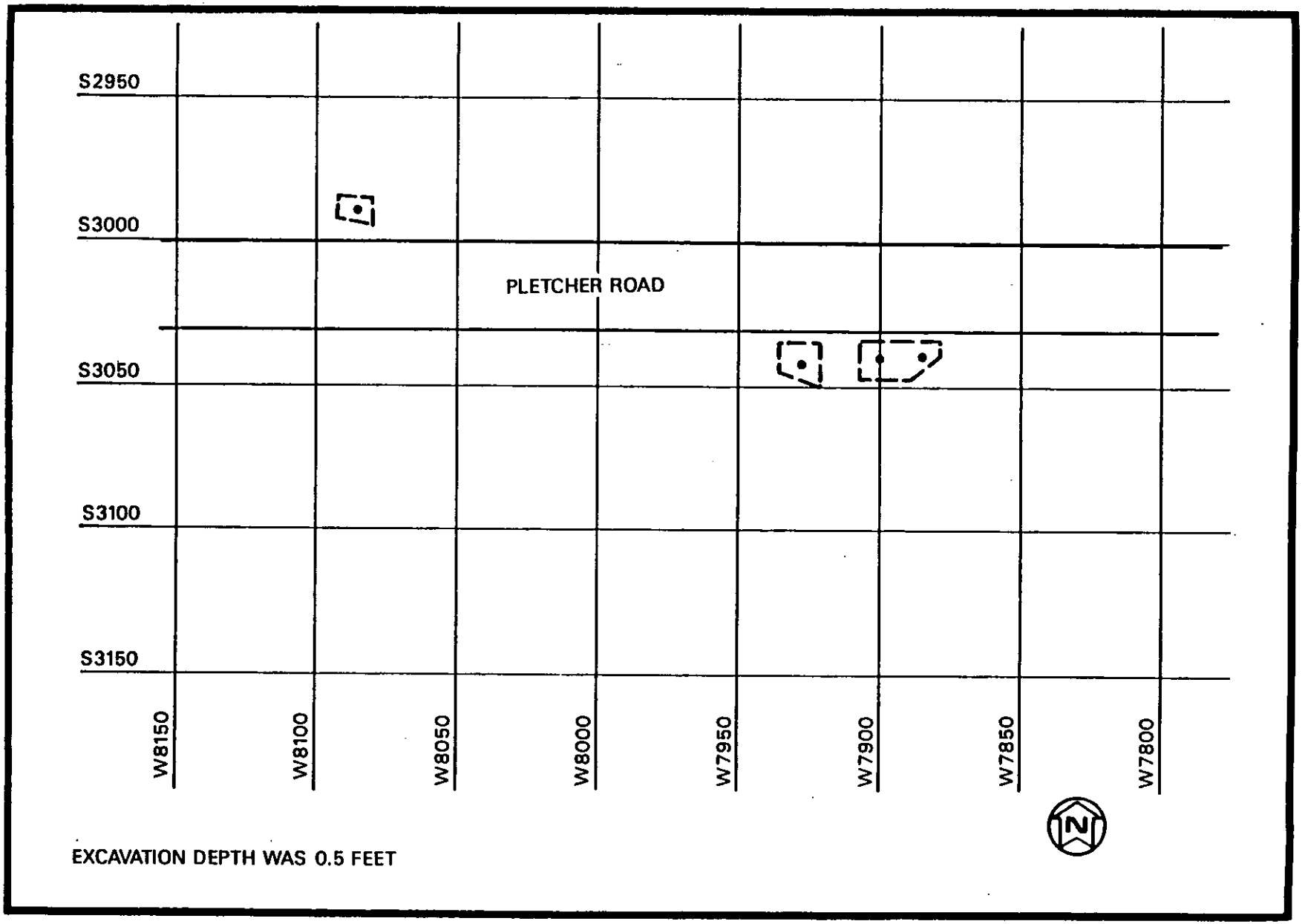


FIGURE 96 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PLETCHER ROAD - SECTION 9