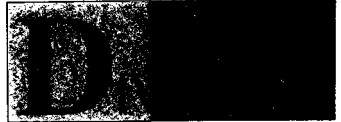


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IMAGERY

ANALYSIS



STAFF

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PHOTOGRAPHIC INTELLIGENCE REPORT

VITAL RECORDS COPY
COMMUNICATIONS FACILITIES

KRASNOYE SELO, USSR

Declass Review by NIMA/DOD



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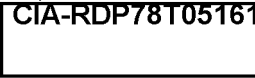
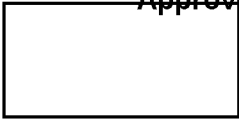
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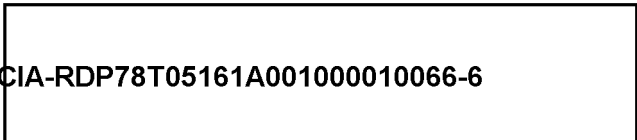


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COMMUNICATIONS FACILITIES
KRASNOYE SELO, USSR

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FIGURE 1

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COMMUNICATIONS FACILITIES, KRASNOYE SELO, USSR

This report is concerned with communications/electronics installations within a 15 nautical mile (nm) radius of Krasnoye Selo, USSR (59-45N 30-06E). Ten communications/electronics installations were observed in the Krasnoye Selo area. One installation, the Krasnoye Selo HF Communications Facility No. 3, was newly identified as a result of this search. Figure 2, representing the area within 15 nm of Krasnoye Selo, portrays the locations of the ten communications/electronics installations. Annotations 1 through 3, Figure 2, represent the communications facilities examined in detail in this report. Annotations 4 through 10 indicate the seven other communications/electronics installations in the area. Photographs of the latter installations may be found at the end of this report (Figures 9 through 15). Listed below are the ten communications/electronics installations observed near Krasnoye Selo, USSR.

<u>Annotation</u>	<u>Name</u>	<u>Coordinates</u>
1	Krasnoye Selo HF Communications Facility No. 1	59-44N 30-01E
2	Krasnoye Selo HF Communications Facility No. 2	59-43N 30-02E
3	Krasnoye Selo HF Communications Facility No. 3	59-45N 30-07E
4	Leningrad Hardened Communications Facility	59-46N 30-12E
5	Leningrad Radio Astronomy Research Institute (Pulkovo)	59-46N 30-19E
6	Leningrad Possible HF Communications Facility	59-44N 30-15E
7	Leningrad Space Tracking/Receiving Facility	59-43N 30-10E
8	Krasnoye Selo THICK EIGHT Antenna Facility	59-42N 30-03E
9	Leningrad HF Communications Facility	59-41N 29-59E
10	Verolantsy KRUG Antenna Facility (Gatchina)	59-34N 29-59E

All dimensions shown in this report were provided by the NPIC Technical Intelligence Division, with the exception of the data derived for projected antennas and antennas under construction. These were computed by the project analyst. Separate accuracy statements are included for each facility examined.

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Krasnoye Selo HF Communications Facility No. 1

The Krasnoye Selo Communications Facility No. 1 is located approximately 15 nm southwest of Leningrad and 2 nm west of Krasnoye Selo at 59-44-00N 30-01-30E (Figure 2). This secured road-served facility is generally square in shape and covers an area approximately 4,910 by 4,855 feet. The facility consists of at least twenty-eight receiving antennas, a T-shaped control building, a support area and a small arms firing range (Figures 3 and 4).

The receiving antennas are composed of two types: rhombic and fishbone. Nineteen confirmed and eight projected double rhombic antennas, and one probable single-bay fishbone antenna, are arranged in a roughly circular pattern around the T-shaped control building. Some of the rhombic antennas appear in matching day/night pairs utilizing space and frequency diversity reception. Numerous stick masts indicate probable additional antennas, not identifiable as to type. Table I portrays the pertinent antenna data as regards number, size and azimuth of the receiving antennas observed at this facility.

The T-shaped control building is centrally located within the antenna field and is separately secured by a five sided fence. Also within this separately secured area is one large support building and a small storage-type building. An access road leads directly from the control building to the main support area.

The main support area contains at least thirty-five buildings and appears to be divided, by the main access road, into two functionally separate sections (Table II). The first section, located in the east side of the access road, appears to contain the housing and administrative section of the facility. This area consists of eight multi-story barracks, six support buildings, two multi-story administrative buildings, one probable storage building and a water tower. The second section, on the west side of the road, appears to contain the maintenance/technical section of the facility. Located within this area are six support-type buildings, three vehicle maintenance buildings, three probable technical/support buildings, one T-shaped mess hall, two multi-story administrative-type buildings, one probable barracks-type building, two probable storage buildings, and an athletic field. Numerous small buildings and structures are scattered throughout the facility.

This communications facility was first observed and identified on [redacted] and cannot be negated. No significant changes have occurred at this facility between 1956 and the present.

Measurements were made by the NPIC Technical Intelligence Division with the exception of those shown for the projected antennas, which were

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made by the project analyst. The NPIC/TID measurements are considered to be accurate as follows:

1. Buildings - Within \pm 5 feet or 5 percent, whichever is greater
2. Rhombic Antennas - Within \pm 15 feet or 10 percent, whichever is greater
3. Antenna Azimuths -

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Krasnoye Selo HF Communications Facility No. 2

The Krasnoye Selo HF Communications Facility No. 2 is located approximately 15 nm southwest of Leningrad and 1.5 nm southwest of Krasnoye Selo at 59-43-30N 30-02-00E (Figure 2). This road served facility is located adjacent to the Krasnoye Selo HF Communications Facility No. 1. The facility consists of an irregular antenna pattern containing at least fourteen receiving antennas, a T-shaped control building and an adjacent support area (Figures 5 and 6).

The receiving antennas at this facility all appear to be of the standard Soviet fishbone design. These antennas are arranged in various arrays consisting of two quadruple-bay arrays, (one under construction), one triple-bay array, and one double-bay array (under construction), and two single-bay arrays. The antenna arrays are irregularly spaced in a roughly circular pattern around the T-shaped control building. Detailed photographic analysis revealed that these arrays contain a total of fourteen separate fishbone antennas. These include ten completed fishbone antennas, three fishbone antennas under construction, and one projected fishbone antenna. However, numerous pole footings and ground scarring indicate a further expansion of the antenna field. Table III lists the pertinent antenna data as regards number, size, and azimuth of the receiving antennas observed at this facility.

The T-shaped control building is road served and is located in the center of the antenna field. A security fence is evident within the antenna field, encompassing two arrays, the control building, three support buildings, and four storage-type buildings. However, portions of this fence have been removed and new antenna arrays are currently under construction beyond the original fence perimeter. An access road connects the control building with the facility support area.

The support area, located immediately south of the antenna field, is unsecured and contains a water tower and approximately twenty-eight various support buildings (Table 4). These include twelve barracks, eight support

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buildings, three storage-type buildings, two maintenance-type buildings, one vehicle maintenance building, one multi-story administrative building, and one probable mess hall. Extensive ground scarring throughout the support area indicates that this facility is currently engaged in a high level of activity.

This facility was first observed on poor quality photography [redacted] although identification as to function could not be made at that time. Positive identification of this facility as an HF communications facility was first determined on [redacted] Excellent quality photography of [redacted] Figure 5) revealed that the antenna field was currently being expanded, although the support area appeared virtually unchanged [redacted]

Measurements of this facility were made by the NPIC Technical Intelligence Division with the exception of those shown for the antennas under construction which were made by the project analyst. The NPIC/TID measurements are considered to be accurate as follows:

1. Buildings - Within [redacted] 5 percent, whichever is greater
2. Antenna Azimuths - [redacted]

Krasnoye Selo HF Communications Facility No. 3

The Krasnoye Selo HF Communications Facility No. 3 is located approximately 12 nm southwest of Leningrad and 2 nm northeast of Krasnoye Selo at 59-45-45N 30-07-30E (Figure 2). The facility is road served, roughly square in shape, and covers an area approximately 1,465 by 1,445 feet. The entire area is fence secured and contains eight high frequency (HF) antennas, a centrally located control building, three support buildings, and a probable security building (Figures 7 and 8).

The HF antennas consist of one double rhombic antenna, one single rhombic antenna, two vee antennas, and four dipole antennas. Quality of photography precluded a positive identification of whether this facility performs a transmitting or receiving function. However, the various types of typical transmitting antennas visible at this facility together with the lack of any visible receiving type antennas strongly indicates that the function of this facility is probably transmitting. Table V portrays the pertinent antenna data for this facility.

The centrally located control building is served by the main facility access road. Located adjacent to this access road are three support buildings and the probable security building (Table VI). Two of the support buildings,

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one large multi-story and one small, are separately secured and are situated immediately inside the perimeter security fence.

This facility was first observed on photography of [redacted] and cannot be negated. No apparent changes have occurred at this facility between [redacted]

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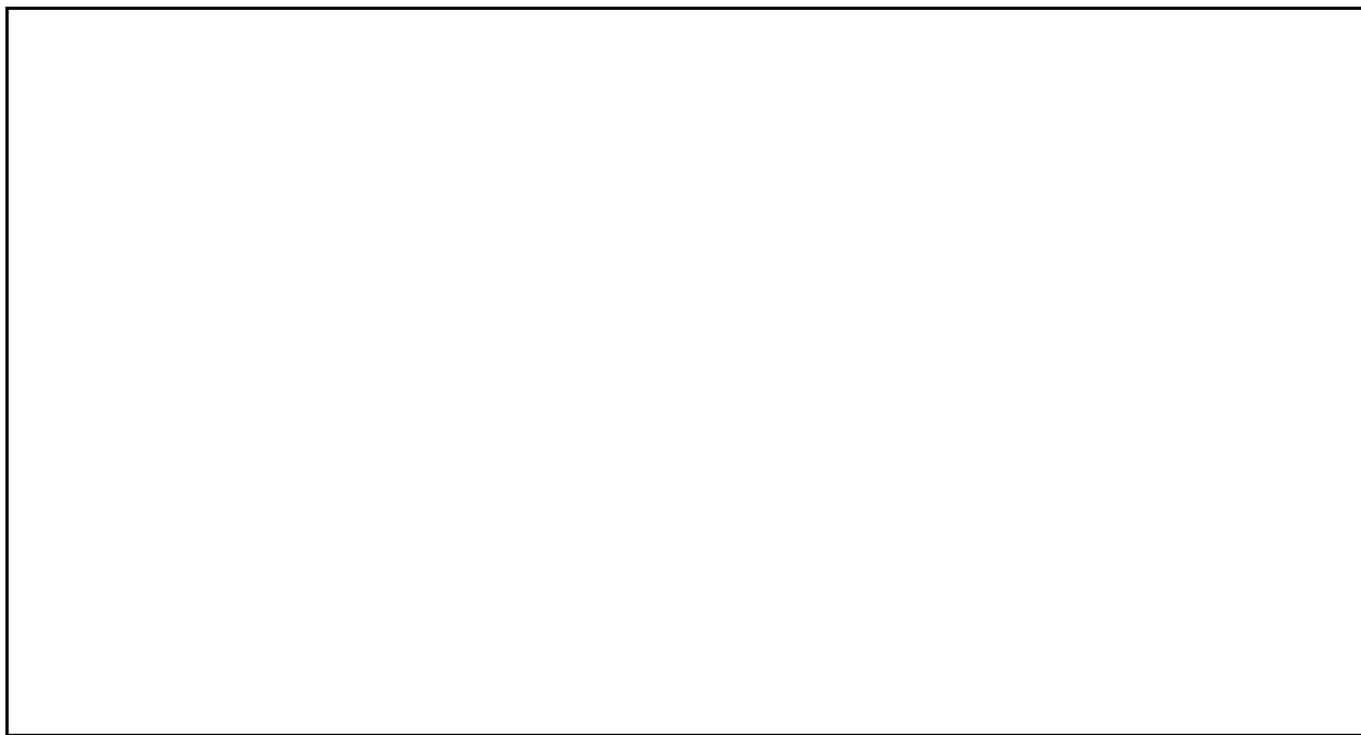
All measurements were made by the NPIC Technical Intelligence Division and are considered to be accurate within ± 5 feet [redacted] whichever is greater. Orientation azimuths are considered accurate within [redacted]

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REFERENCES

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DOCUMENTS



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2. DOD. Intelligence Information Report No. [redacted] September 1965 (SECRET)

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REQUIREMENTS

C-DS6-83,697

C-DS6-84,023

DDI/IAS PROJECTS

31334-6

30401-7 (partial)

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[Redacted]

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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.1
59-44N 30-01E



FIGURE 3

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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.1
59-44N 30-01E

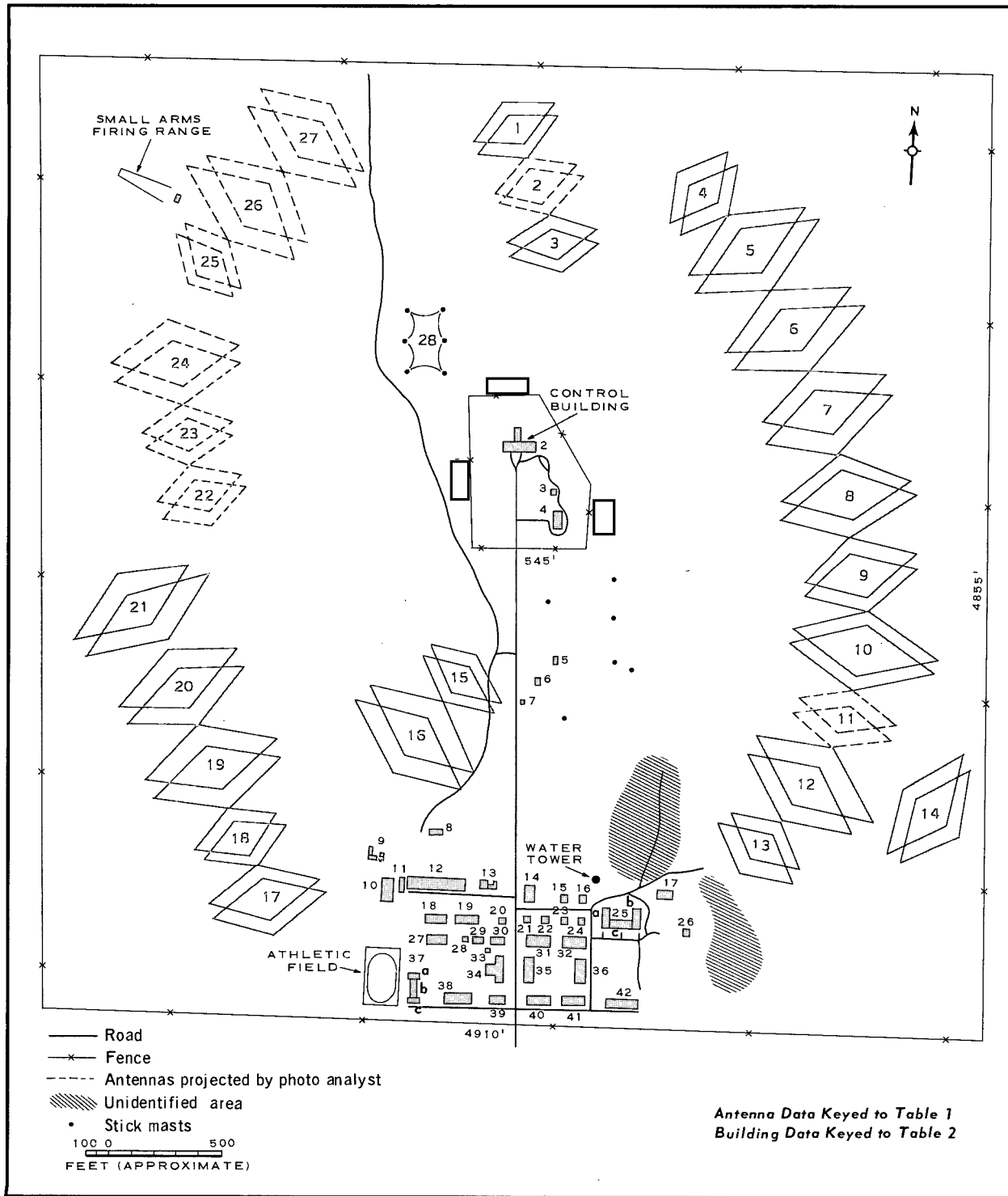


FIGURE 4

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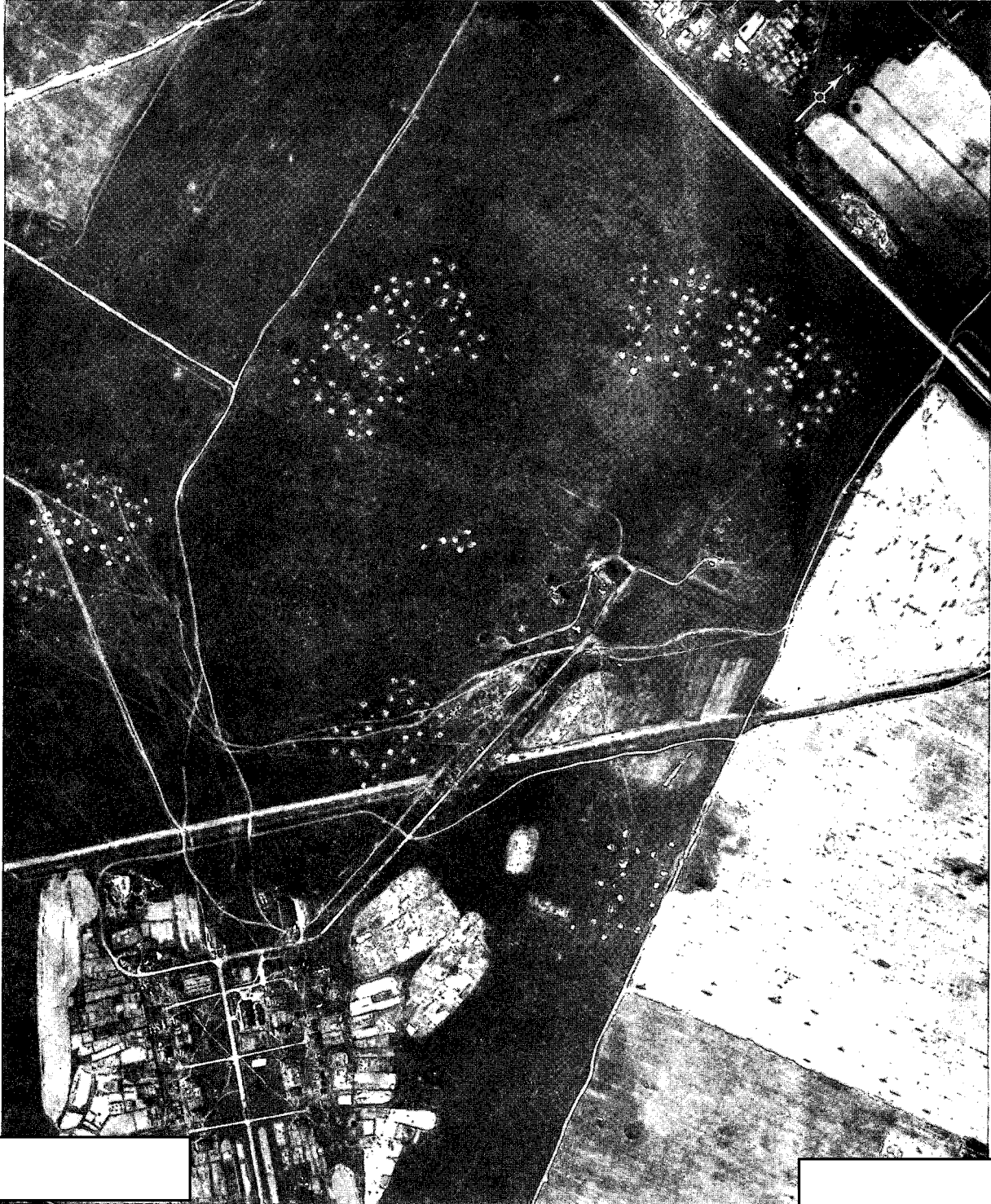
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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.2
59-43N 30-02E



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FIGURE 5

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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.2
59-43N 30-02E

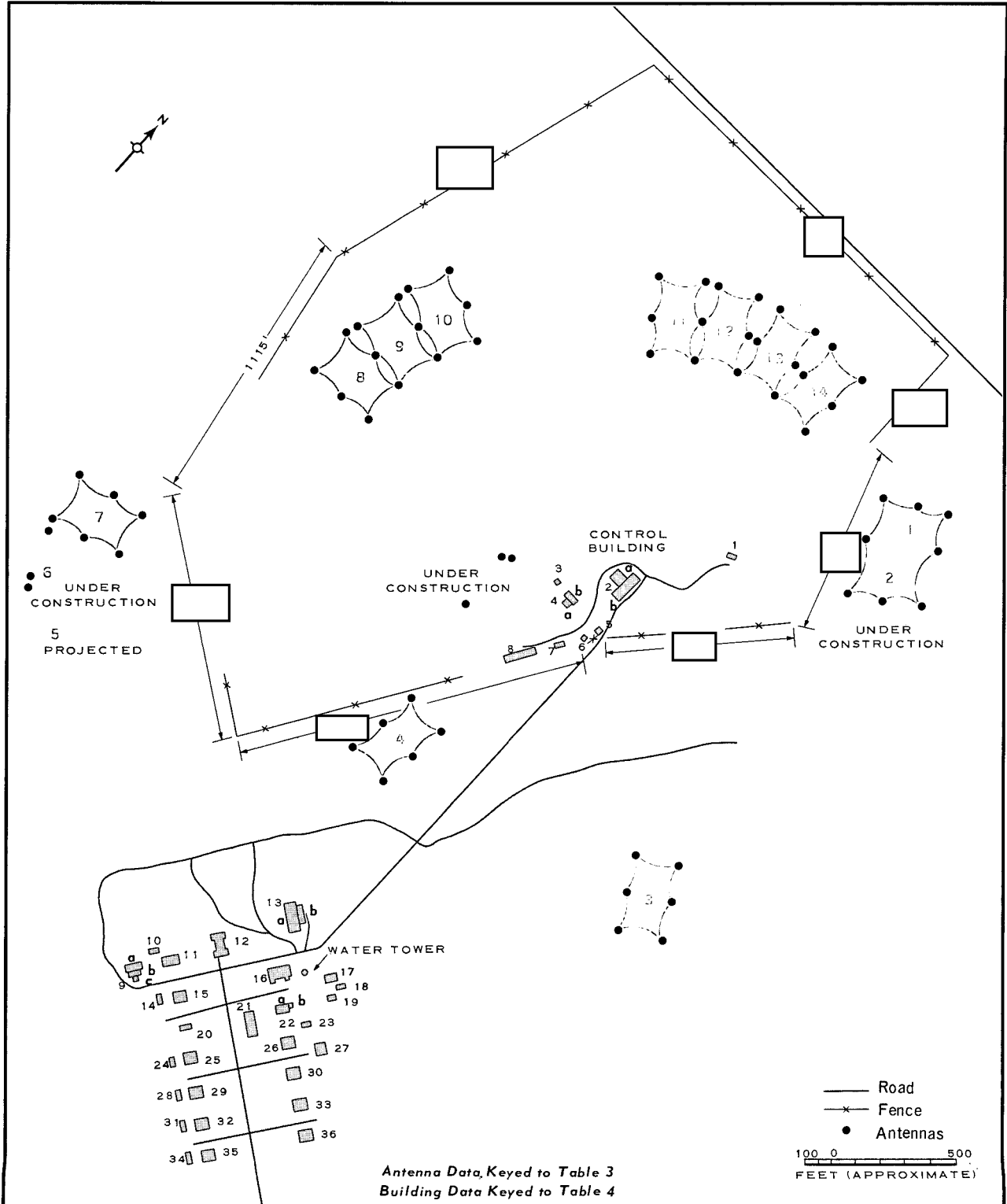


FIGURE 6

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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.3
59-45N 30-07E

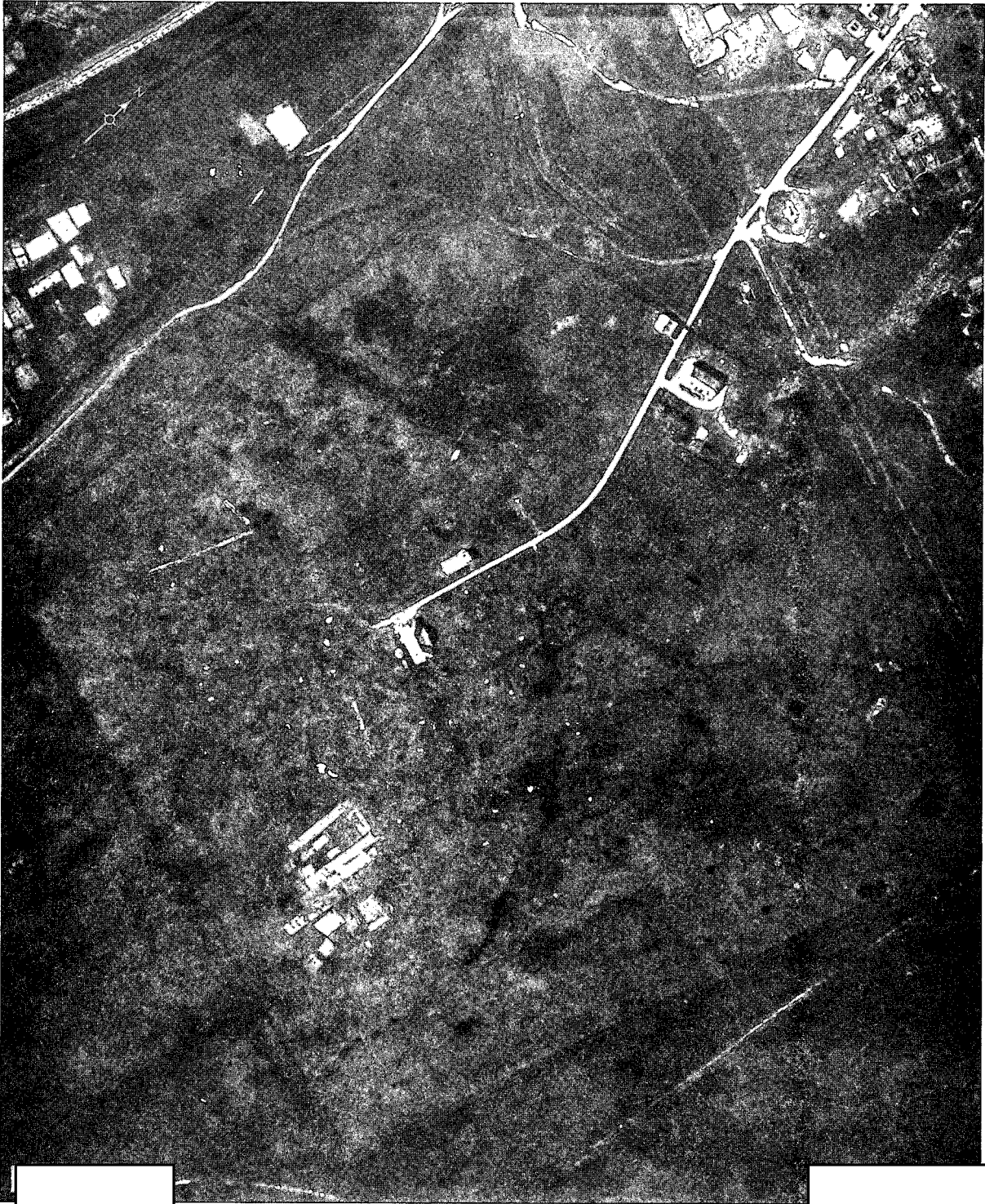


FIGURE 7

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KRASNOYE SELO HF COMMUNICATIONS FACILITY NO.3
59-45N 30-07E

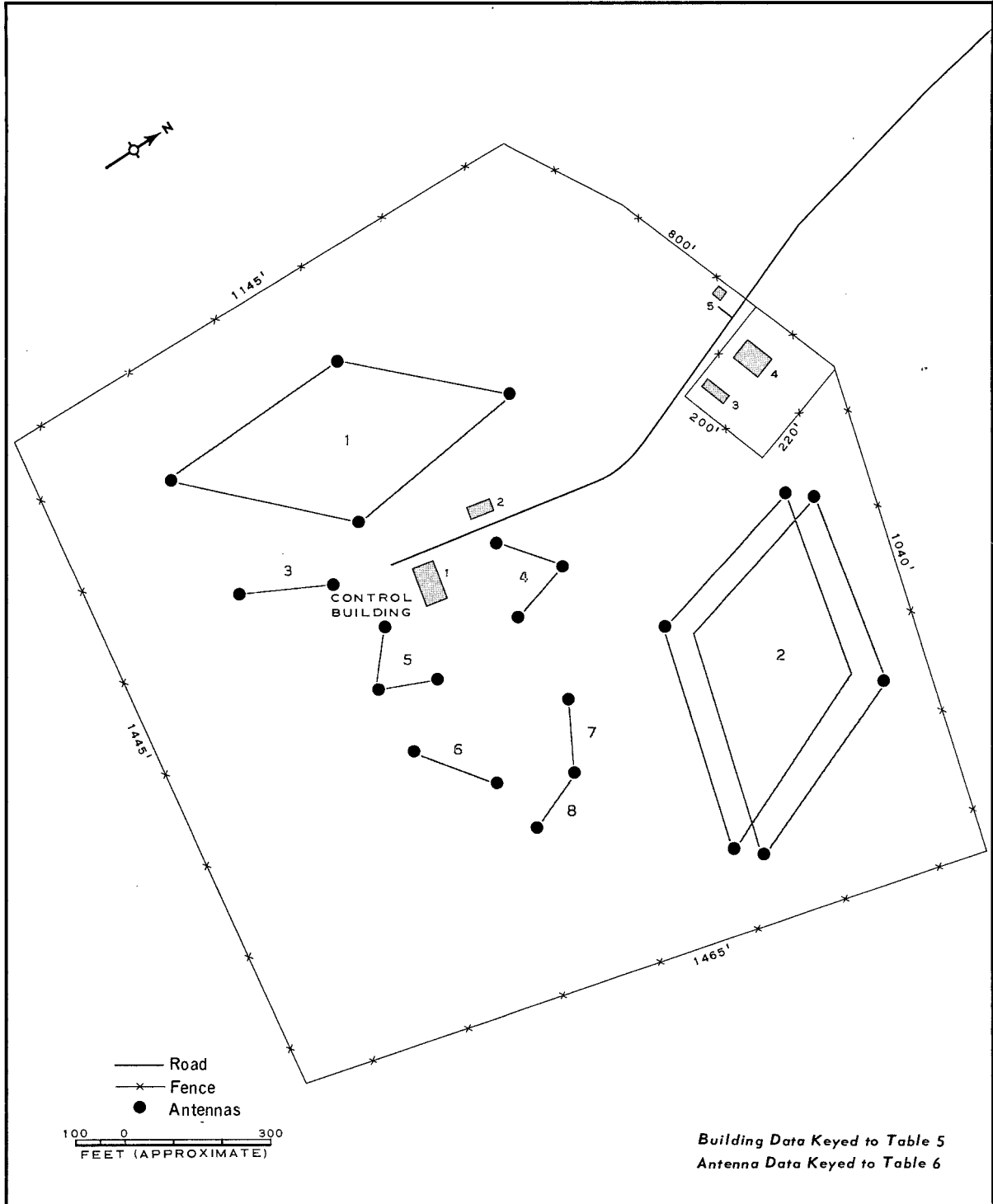


FIGURE 8

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DESCRIPTION OF ANTENNAS
 KRASNOYE SELO HF COMMUNICATIONS FACILITY NO. 3


Antenna No	Type	Major Axis (ft)	Minor Axis (ft)	Length of leg (ft)	Tilt Angle	Azimuth	Possible Correspondent
1	Single Rhombic	730	345	400	65		Minsk
2	Double Rhombic	740	410	415			Penza
3	Dipole	-	-	190	-		Undetermined
4	Vee	-	-	140	-		-
5	Vee	-	-	145	-		-
6	Dipole	-	-	190	-		Moscow
7	Dipole	-	-	145	-		Murmansk
8	Dipole	-	-	150	-		60/240 Riga

TABLE 5

DESCRIPTION OF BUILDINGS
 KRASNOYE SELO HF COMMUNICATIONS FACILITY NO. 3





Item	Dimensions		Function
	Length (Feet)	Width (Feet)	
1	85		Control Building
2			Support
3	60	25	Support
4		40	Support
5	25	25	Security

TABLE 6

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PHOTOGRAPHS OF ADDITIONAL COMMUNICATION
FACILITIES LOCATED WITHIN 15 NAUTICAL MILES
OF KRASNOYE SELO, USSR

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LENINGRAD HARDENED COMMUNICATIONS FACILITY
59-46N 30-12E

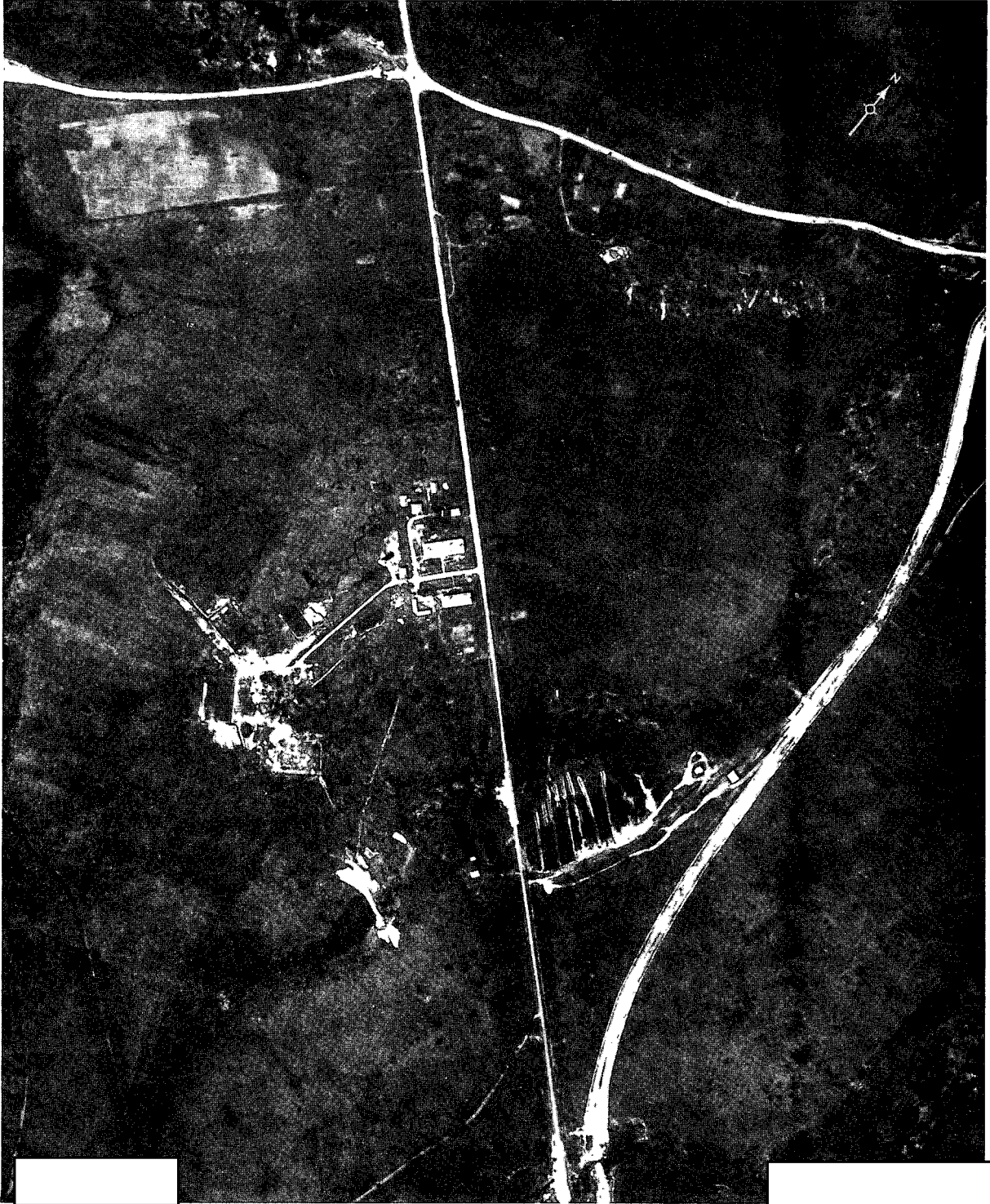


FIGURE 9

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**LENINGRAD RADIO ASTRONOMY RESEARCH INSTITUTE (POLKOVO)
59-46N 30-19E**



FIGURE 10

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LENINGRAD POSSIBLE HF COMMUNICATIONS FACILITY
59-44N 30-15E

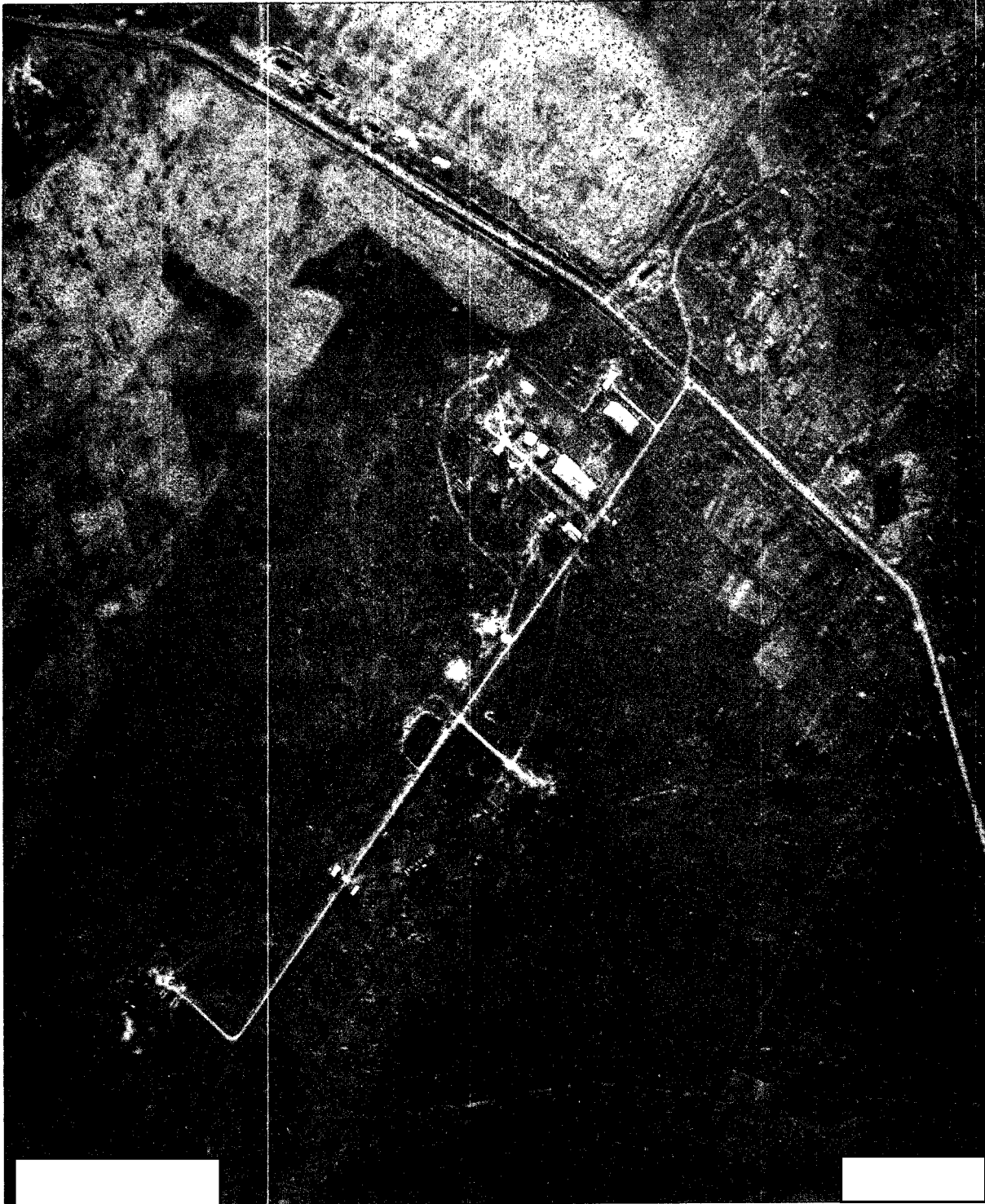


FIGURE 11

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DDI IMAGERY ANALYSIS STAFF
LENINGRAD SPACE TRACKING/RECEIVING FACILITY
59-43N 30-10E



FIGURE 12

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KRASNOYE SELO THICK EIGHT ANTENNA FACILITY
59-42N 30-03E



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FIGURE 13

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LENINGRAD HF COMMUNICATIONS FACILITY

59-41N 29-59E



FIGURE 14

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VEROLANTSY KRUG ANTENNA FACILITY (GATCHINA)

59-34N 29-59E



FIGURE 15

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