

Prepared by the U.S. Geological Survey for publication by the Defense Mapping Agency Hydrographic/Topographic Center, Washington, D.C.
MAP INFORMATION AS OF 1989.

LEGEND

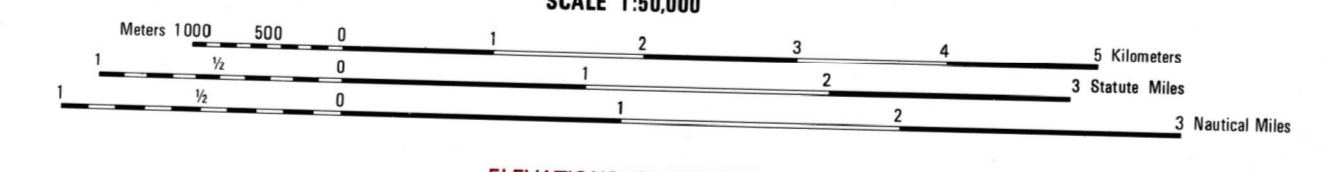
CAUTION: ALL TELEPHONE AND ELECTRIC SERVICE LINES ARE NOT SHOWN.
A LANE ON THIS MAP IS CONSIDERED TO BE 2.5 METERS WIDE.
IN DEVELOPED AREAS ONLY THROUGH ROADS ARE CLASSIFIED.
THERE MAY BE PRIVATE HOLDINGS WITHIN THE BOUNDARIES OF THE NATIONAL OR STATE RESERVATIONS SHOWN ON THIS MAP.

ROADS

- Divided highway with median strip
- Primary, all weather, hard surface
- Secondary, all weather, hard or improved surface
- Light duty, all weather, hard or improved surface
- Fair or dry weather, unimproved surface
- Trail
- Route markers: Interstate, Federal, State
- Car line
- Bridge
- Railroad: Standard gauge (143.5 cm - 4'8 1/2")
- Single track
- Multiple track
- Interlocking
- Railroad station: Location known, Location unknown
- Car line
- Railroad bridge
- Tunnel: Highway, Railroad
- Stations: National, with monument
- County, parish
- Civil township, town
- Incorporated city, village, town
- Reservation: National, State, Military

STRUCTURES

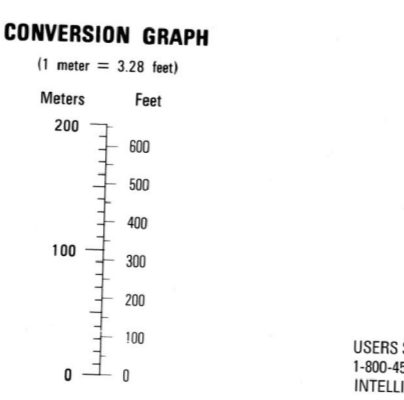
- Power transmission line
- Buildings
- Structure
- Church, School
- Power substation
- Windmill, Watermill
- Well, Tank
- Mine shaft
- Open pit mine or quarry
- Historical control station
- Bench mark, non-monumented
- Bench mark, non-monumented
- Spot elevations in meters
- Leaves, rims, dikes
- Bluffs, cliffs
- Woodland
- Scattered trees: Scrub
- Vineyard, Orchard, plantation
- Interruption: Lake, Dam, Earthen, Masonry
- Swamp, Fenland, Intermittent
- Marsh, swamp
- Small falls, Large falls
- Small rapids, Large rapids



ELEVATIONS IN METERS
CONTOUR INTERVAL 10 METERS

ELLIPSOID: GEODETIC REFERENCE SYSTEM 1980
GRID: 1,000-METER UTM ZONE 18 (BLACK NUMBERED TICKS)
1,000-METER UTM ZONE 17 (RED NUMBERED TICKS)
5,000-METER STATE GRID TICKS (WEST AND NORTH ZONES)
PROJECTION: TRANSVERSE MERCATOR
VERTICAL DATUM: NATIONAL VERTICAL DATUM OF 1929
CONTROLS BY: U.S. AND NOS/NOAA
PREPARED BY: U.S. GEOLOGICAL SURVEY
NIMA 6-97

Revised by NGA 95-06
FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092



100 METER REFERENCE

- Read large numbers labeling the VERTICAL grid line left of point and estimate tenths (100 meters) from grid line to point 12.2
- Read large numbers labeling the HORIZONTAL grid line below point 43.8 and estimate tenths (100 meters) from grid line to point 43.8

Example: 1234.56

WHEN REPORTING ACROSS A 100-METER LINE, PREFIX THE 100-METER SQUARE IDENTIFIERS IN WHICH THE POINT LIES.

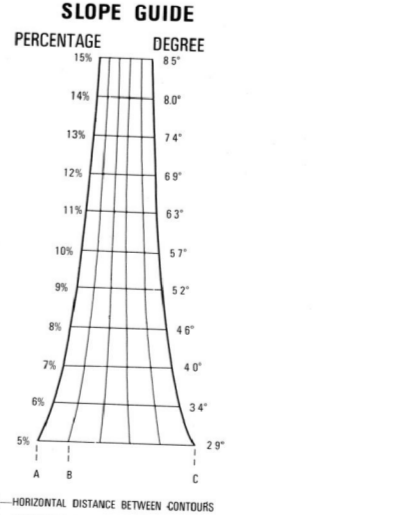
Example: 123456

WHEN REPORTING ACROSS THE GRID ZONE DISCONTINUITY AREA, PREFIX THE GRID ZONE DESIGNATION.

Example: 18T123456

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Example: 18T123456



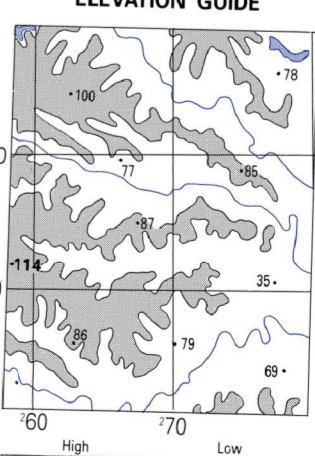
BOUNDARIES

1. Hanover County
2. Caroline County
3. Loudoun County
4. Spotsylvania County

ADJOINING SHEETS

5450 II	5450 I	5550 II
5459 IV	5459 I	5559 IV
5459 III	5459 II	5559 III

Sheet 5459 I falls within 43° 51' 10" N, 78° 12' 00" W



THIS MAP IS RED-LIGHT READABLE

TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH: SUBTRACT GM ANGLE

TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH: ADD GM ANGLE

TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH: SUBTRACT GM ANGLE

TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH: ADD GM ANGLE

GM ANGLE: 7° (72' MILES)

GM ANGLE: 24' (181' MILES)

GM ANGLE: 13' (101' MILES)

GM ANGLE: 7' (52' MILES)

GM ANGLE: 3' (23' MILES)