

NCDOTStructureLocationsPolygon, 1st Quarter 2025 - NC Department of Transportation

File Geodatabase Feature Class



Tags

Bridge, Pipe, Culvert, Structures Management Unit, Go!NC, Structures, Deck

Summary

To provide a polygon representation of all non-sign structures currently inventoried by the Structures Management Unit (SMU). The polygons outline the extents of the structures visible in the State imagery provided by CGIA & NCOneMap and using Structure Length from the database. Where aerial imagery is outdated, such as in cases of new construction, all available information and other image sources are used to best locate the structure polygon and await confirmation through the State imagery.

Description

The structure deck polygons outline the extents of the structures visible in the State imagery provided by CGIA & NCOneMap and using Structure Length from the database. Where aerial imagery is outdated, such as in cases of new construction, all available information and other image sources are used to best locate the structure polygon and await confirmation through the State imagery.

This polygon file represents North Carolina bridges and other non-sign structures. Structure polygons match to structures visible in the State imagery, while structure points found in a separate layer are snapped to the road lines, also found in a separate layer. In cases where the road lines do not match the visible pavement, the structure point may not sit inside the structure polygon. If all features are in agreement with the imagery, the structure point and road line should intersect the structure polygon.

Polygons are reviewed in an ongoing, year-round visual QC that occurs between processes. This is in addition to the updates to the structures layer that occur on a quarterly basis. The purpose of this visual QC is to look for changes in the State imagery and adjust structure polygons where needed, especially in cases of new construction where structures were rebuilt in place, keeping their existing ID number. Also, areas of new construction, with or without the road lines updated, are reviewed for any changes that might affect the current inventory of structures. Several other features not confined to structures are also taken into consideration during this review.

Credits

The deck layer is a compilation of data originally used in a hydraulic study, then individually reviewed and manually revised to keep up with changes in inventory and imagery.

Use limitations

The availability and accuracy of the structures-related datasets are dependent upon an ongoing process of integration between the NCDOT GIS Unit and the Structures Management Unit. Discrepancies may exist since the frequency with which the sources are updated is not the same among the different groups. Please take this into account prior to utilizing any structures layer.

This polygon layer is also dependent upon the State imagery which can be found on NCOneMap.com. Deck polygons for all structures contained within this layer are matched to the visible structures in the State imagery. Where structures are not visible, other layers and information are utilized to best approximate their location.

Where structures are significantly updated or rebuilt, a polygon may not match the structure if it is not visible in the imagery yet. For new construction reflected in the database, the polygon can be updated to at least show the new structure length. Where new construction is not reflected in the database but can be seen in the imagery, it depends upon whether the structures have been reviewed in the area as to whether or not they will also reflect those changes. Thus, there is another ongoing process attempting to keep the deck polygons matched to the State imagery. The NEWCONSTR field in this layer reflects those polygons with structure lengths updated in the database but not yet in the imagery. Please keep this in mind when reviewing the deck polygons.

Extent

West -84.402420 **East** -75.426360
North 36.614236 **South** 33.763802

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE environment, inlandWaters, location, planningCadastre, structure, transportation

*** CONTENT TYPE** Downloadable Data
EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS North Carolina

TEMPORAL KEYWORDS 1st Qtr 2025

THEME KEYWORDS Bridge, Pipe, Culvert, bridge maintenance, AGOL, Go!NC, Structures Management Unit, Structures, Deck

Hide Topics and Keywords ▲

Citation ►

TITLE NCDOTStructureLocationsPolygon, 1st Quarter 2025 - NC Department of Transportation
PUBLICATION DATE 2025-06-09 00:00:00

PRESENTATION FORMATS * digital map

Hide Citation ▲

Citation Contacts ►

RESPONSIBLE PARTY
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ORGANIZATION'S NAME NCDOT GIS Unit
CONTACT'S ROLE point of contact

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ADDRESS

TYPE physical

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POSTAL CODE 27604

COUNTRY US

E-MAIL ADDRESS gishelp@ncdot.gov

HOURS OF SERVICE

8 am to 5 pm, M-F

CONTACT INSTRUCTIONS

For further information about bridge attributes, contact Cary Clemmons of the Bridge Maintenance Unit, at (919) 707-6458 or cclemmons@ncdot.gov

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES * English (UNITED STATES)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

SPATIAL REPRESENTATION TYPE * vector

SUPPLEMENTAL INFORMATION

This polygon layer, like the structures point layer, contains many kinds of structures currently maintained by the Structures Management Unit (SMU) of the NCDOT. They reflect an ongoing attempt by the NCDOT GIS Unit to portray the traffic-carrying structures found in the NCDOT SMU's Structures Database and shown in the GIS Structures layer in as timely a manner as possible. Until such time as the GIS Unit can approximate the maintenance schedule of the SMU, the GIS layer may not accurately reflect the structures currently in service or the additions and deletions to the Bridge Inventory System which are performed on a daily basis by the SMU.

Minimal attribute information is attached to this layer. It can be joined to the main structures point layer via the Brdg_Nbr value, gaining access to that point layer's more complete attribute listing. It can also be joined to any table requested from SMU via the Brdg_Nbr.

* PROCESSING ENVIRONMENT Version 6.2 (Build 9200) ; Esri ArcGIS 10.8.1.14362

CREDITS

The deck layer is a compilation of data originally used in a hydraulic study, then individually reviewed and manually revised to keep up with changes in inventory and imagery.

[Hide Resource Details ▲](#)

Extents ►

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -84.402420

* EAST LONGITUDE -75.426360

* NORTH LATITUDE 36.614236

* SOUTH LATITUDE 33.763802

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE 412569.425611
* EAST LONGITUDE 3049484.060236
* SOUTH LATITUDE 46803.960064
* NORTH LATITUDE 1042525.784234
* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME GIS Help Desk
ORGANIZATION'S NAME NCDOT GIS Unit
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY quarterly

OTHER MAINTENANCE REQUIREMENTS

Time Period of content: 1st Qtr 2024 (source date 04/26/25)

[Hide Resource Maintenance ▲](#)

Resource Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

The availability and accuracy of the structures-related datasets are dependent upon an ongoing process of integration between the NCDOT GIS Unit and the Structures Management Unit. Discrepancies may exist since the frequency with which the sources are updated is not the same among the different groups. Please take this into account prior to utilizing any structures layer.

This polygon layer is also dependent upon the State imagery which can be found on NOneMap.com. Deck polygons for all structures contained within this layer are matched to the visible structures in the State imagery. Where structures are not visible, other layers and information are utilized to best approximate their location. Where structures are significantly updated or rebuilt, a polygon may not match the structure if it is not visible in the imagery yet. For new construction reflected in the database, the polygon can be updated to at least show the new structure length. Where new construction is not reflected in the database but can be seen in the imagery, it depends upon whether the structures have been reviewed in the area as to whether or not they will also reflect those changes. Thus, there is another ongoing process attempting to keep the deck polygons matched to the State imagery. The NEWCONSTR field in this layer reflects those polygons with structure lengths updated in the database but not yet in the imagery. Please keep this in mind when reviewing the deck polygons.

[Hide Resource Constraints](#) ▲

Spatial Reference ►

ARCgis COORDINATE SYSTEM

- * TYPE Projected
- * GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983
- * PROJECTION NAD_1983_StatePlane_North_Carolina_FIPS_3200_Feet
- * COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 102719
X ORIGIN -121841900
Y ORIGIN -93659000
XY SCALE 3048.0060960121928
Z ORIGIN -100000
Z SCALE 10000
M ORIGIN -100000
M SCALE 10000
XY TOLERANCE 0.0032808333333333331
Z TOLERANCE 0.001
M TOLERANCE 0.001
HIGH PRECISION true

LATEST WELL-KNOWN IDENTIFIER 2264

WELL-KNOWN TEXT

PROJCS["NAD_1983_StatePlane_North_Carolina_FIPS_3200_Feet",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert_Conformal_Conic"],PARAMETER["False_Easting",2000000.002616666],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-79.0],PARAMETER["Standard_Parallel_1",34.33333333333334],PARAMETER["Standard_Parallel_2",36.16666666666666],PARAMETER["Latitude_Of_Origin",33.75],UNIT["Foot_US",0.3048006096012192],AUTHORITY["EPSG",2264]]

REFERENCE SYSTEM IDENTIFIER

- * VALUE 2264
- * CODESPACE EPSG
- * VERSION 6.12(9.0.0)

[Hide Spatial Reference](#) ▲

Spatial Data Properties ►

VECTOR ►

* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

FEATURE CLASS NAME Deck_polygons

* OBJECT TYPE composite

* OBJECT COUNT 20148

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME Deck_polygons

* FEATURE TYPE Simple

* GEOMETRY TYPE Polygon

* HAS TOPOLOGY FALSE

* FEATURE COUNT 20148

* SPATIAL INDEX TRUE

* LINEAR REFERENCING FALSE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL attribute

[Hide Scope of quality information ▲](#)

DATA QUALITY REPORT - QUANTITATIVE ATTRIBUTE ACCURACY ►

EVALUATION METHOD

There are no measurement, precision, spatial, or data schema standards assigned to this dataset.

[Hide Data quality report - Quantitative attribute accuracy ▲](#)

DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY ►

EVALUATION METHOD

There are no measurement, precision, spatial, or data schema standards assigned to this dataset.

[Hide Data quality report - Conceptual consistency ▲](#)

DATA QUALITY REPORT - COMPLETENESS OMISSION ►

EVALUATION METHOD

There are no measurement, precision, spatial, or data schema standards assigned to this dataset.

The bridge layer contains many kinds of structures currently maintained by the Structures Management Unit of the NCDOT. They reflect an ongoing integration between the structures found in the GIS bridge layer and the bridge database maintained by the Structures Management Unit. As such, the GIS layer may not accurately reflect the structures currently in service or the additions and deletions to the Bridge Inventory system which are performed on a daily basis.

[Hide Data quality report - Completeness omission ▲](#)

DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►
DIMENSION horizontal

EVALUATION METHOD

Structures were compared for accuracy against the most current imagery and against field inspection reports where necessary. Structure points are snapped to the relevant state-maintained routes in the center of the structures where possible. In the case of intersecting, non-divided routes, the structure point is snapped to the routes' intersection point. In the case of divided highways, the structure point is snapped to the intersection of the inventory sides of the routes. Otherwise, there are no measurement, precision, spatial, or data schema standards assigned to this dataset.

[Hide Data quality report - Absolute external positional accuracy ▲](#)

[Hide Data Quality ▲](#)

Lineage ►

LINEAGE STATEMENT

Structure decks were created via a program utilizing the structure points in the GIS layer and attributes from the structures database. Following their usage in a hydrology study, they were adopted for use alongside the structures point layer and truck routing network.

Quarterly, the GIS Unit requests a structures database update from SMU and compares this update against the existing GIS Structures layer. Non-matching structure records are sorted according to whether they are additions or deletions compared to the existing structures layer. Deletions are removed to a separate layer and additions are merged into the existing layer, followed by a period of review using the latest imagery for location verification. Polygons are created for all non-sign structures added to this layer. Polygons for deleted points are also removed to a separate layer, allowing for a one-to-one relationship between the deck polygons and the non-sign structures.

[Hide Lineage ▲](#)

Distribution ►

DISTRIBUTOR ►

CONTACT INFORMATION

INDIVIDUAL'S NAME GIS Help Desk
ORGANIZATION'S NAME NCDOT GIS Unit
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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TYPE physical

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ADMINISTRATIVE AREA NC

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E-MAIL ADDRESS gishelp@ncdot.gov

HOURS OF SERVICE

8 am to 5 pm, M-F

CONTACT INSTRUCTIONS

For further information about bridge attributes, contact Cary Clemmons of the Bridge Maintenance Unit, at (919) 707-6458 or cclemmons@ncdot.gov

[Hide Contact information ▲](#)

[Hide Distributor ▲](#)

DISTRIBUTION FORMAT

VERSION ArcGIS 10.1

* NAME File Geodatabase Feature Class

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [Deck_polygons ►](#)

* TYPE Feature Class

* ROW COUNT 20148

DEFINITION

Bridges and other structures along NC highways

DEFINITION SOURCE

NCDOT Structures Management Unit

FIELD [BRDG_NBR ►](#)

* ALIAS Brdg_Nbr

* DATA TYPE String

* WIDTH 10

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

2-digit county number + 4-digit bridge number

DESCRIPTION SOURCE

NCDOT Structures Management Unit

[Hide Field BRDG_NBR ▲](#)

FIELD [Shape ►](#)

* ALIAS Shape

- * DATA TYPE Geometry
- * WIDTH 0
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Feature geometry.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES

Coordinates defining the features.

Hide Field Shape ▲

FIELD OBJECTID ►

- * ALIAS OBJECTID
- * DATA TYPE OID
- * WIDTH 4
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

Hide Field OBJECTID ▲

FIELD Shape_Length ►

- * ALIAS Shape_Length
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0
- * FIELD DESCRIPTION

Length of feature in internal units.

* DESCRIPTION SOURCE

Esri

* DESCRIPTION OF VALUES

Positive real numbers that are automatically generated.

Hide Field Shape_Length ▲

FIELD Shape_Area ►

- * **ALIAS** Shape_Area
- * **DATA TYPE** Double
- * **WIDTH** 8
- * **PRECISION** 0
- * **SCALE** 0
- * **FIELD DESCRIPTION**
Area of feature in internal units squared.
- * **DESCRIPTION SOURCE**
Esri
- * **DESCRIPTION OF VALUES**
Positive real numbers that are automatically generated.

Hide Field Shape_Area ▲

FIELD **NEWCONSTR** ►

- * **ALIAS** NEWCONSTR
- * **DATA TYPE** String
- * **WIDTH** 1
- * **PRECISION** 0
- * **SCALE** 0

FIELD DESCRIPTION

"New Construction" polygons for the purposes of this layer are defined as those structures rebuilt or altered prior to any update of the State imagery showing that structure. As such, the outline of the polygon in this layer may not match the structure visible in the latest imagery for those designated as "new construction." Polygons are drawn to match the most current Structure Length in the database, so New Construction polygons may not match the actual structures until they are visible in the imagery, and the corners can be confirmed.

A "Y" (yes) value in this field indicates that the structure is new construction and may not match the imagery.

An "N" (no) indicates the structure is not new construction and should match the imagery.

DESCRIPTION SOURCE

NCDIT GIS Unit

Hide Field NEWCONSTR ▲

FIELD **STRCTR_LEN** ►

- * **ALIAS** STRCTR_LEN
- * **DATA TYPE** Double
- * **WIDTH** 8
- * **PRECISION** 0
- * **SCALE** 0

FIELD DESCRIPTION

The length of the structure, as provided by the Structures Mgmt Unit.

DESCRIPTION SOURCE

NCDOT Structures Mgmt Unit

Hide Field STRCTR_LEN ▲

FIELD BRDG_TYP_NM ►

* ALIAS Bridge Type
* DATA TYPE String
* WIDTH 25
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Type of structure as a text string.

DESCRIPTION SOURCE

NCDIT GIS Unit

Hide Field BRDG_TYP_NM ▲

Hide Details for object Deck_polygons ▲

Hide Fields ▲

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)

METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset

SCOPE NAME * dataset

* LAST UPDATE 2025-05-13

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

METADATA STYLE FGDC CSDGM Metadata

STANDARD OR PROFILE USED TO EDIT METADATA ISO19139

CREATED IN ARCGIS FOR THE ITEM 2025-05-13 10:16:04

LAST MODIFIED IN ARCGIS FOR THE ITEM 2025-05-13 13:50:49

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2025-05-13 13:50:49

Hide Metadata Details ▲

Metadata Contacts ►

METADATA CONTACT

INDIVIDUAL'S NAME GIS Help Desk

ORGANIZATION'S NAME NCDOT GIS Unit

CONTACT'S ROLE point of contact

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[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Metadata Maintenance ►

MAINTENANCE
UPDATE FREQUENCY quarterly

[Hide Metadata Maintenance ▲](#)

Metadata Constraints ►

CONSTRAINTS
LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

LEGAL CONSTRAINTS
OTHER CONSTRAINTS

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