

# NCDOT Geotechnical Borings - NC Department of Transportation

## SDE Geodatabase Feature Class



### Tags

Point, NCDOT, Transportation, Highway, Roads, Structures, State Highway Network, Location, Geology, Geotechnical Investigation, Geotechnical Borings, Boring, Geotechnical Engineering, Structure, Drill Method, Subsurface Investigation. Subsurface Inventory.

### Summary

This geospatial data contains points representing Geotechnical Borings (Geotechnical Investigations) for roadway and structure projects for the North Carolina Department of Transportation. Attributes such as Site Description, NCDOT TIP ID, Work Breakdown Structure ID, Project Type, Drill Method, Boring Hole Type, precise location information, ground water depth, and links to the online Subsurface Inventory Reports are available in this data.

Geotechnical Investigations are performed in accordance with current practices, policies and procedures of the Division of Technical Services, Geotechnical Engineering Unit.

The North Carolina Department of Transportation, Geotechnical Engineering Unit generally adheres to the descriptions and methods in the National Highway Institute (NHI) manual, Publication No FHWA NHI-01-031, "Manual on Subsurface Investigations", 2002. The manual can be viewed at <https://www.fhwa.dot.gov/engineering/geotech/pubs/012546.pdf>.

For more information, see NCDOT's Geotechnical Investigations and Recommendations Manual: <https://connect.ncdot.gov/resources/Geological/Documents/Geotechnical%20Investigation%20and%20Recommendations%20Manual.pdf>

Additional information regarding Geotechnical Investigations is available in the NCDOT Project Delivery Network (PDN), PDN identifiers 1GT1 – 5GT1 (PDF pages 65 – 82):

<https://connect.ncdot.gov/projects/Project-Management/Documents/NCDOT%20Project%20Delivery%20Network.pdf>

### Description

The purpose of conducting Geotechnical Borings is to identify geotechnical impacts to proposed projects at a very early stage of project development to help minimize unnecessary project costs. This input is useful in understanding the design feasibility of proposed roadways and bridges.

Borings may be needed for preliminary design purposes to identify potential rock excavation, groundwater elevations or for soil classification. The goal is to provide the planners with enough information to know if a design is feasible or cost effective. Borings are located within the proposed earthwork boundaries to identify potential geotechnical impacts to the project. Boring locations are limited to critical areas, and boring spacing is increased from that used during a typical roadway investigation. These borings may also be used in future inventory reporting. In addition to required information recorded on a standardized form, other information such as the presence of rock in cut slopes, highly plastic soils within cut sections or under embankments, presence of soft/alluvial soils under proposed embankment, location of boring on NC Geologic Map, wetland impact, whether earthwork will impact groundwater, soils suitability for embankment construction and stability, presence of degradable rock or Triassic soils, recommended slope, condition of existing slopes, preference for detour location, etc. is noted.

All borings are recorded on an approved NCDOT boring log form. The boring log created in the field at the time the boring is performed will remain the "log of record" for that boring and may only be modified by the "red-lining" process. The groundwater level is also a critical measurement required for most Geotechnical Investigations. Both soil and rock core borings are done in the state. There are many methods for obtaining subsurface information and they vary greatly across the physiographic regions of North Carolina. The following required data must be included on the field log for each boring performed by or for NCDOT.

- NCDOT WBS number
- NCDOT TIP number
- Boring number
- Total depth
- Collar elevation (via survey for structures or .tin file for roadways)
- Station
- Offset
- Alignment
- Northing and Easting coordinates (red-lined once fieldwork is completed)
- Date started
- Date completed
- Personnel
- Equipment (with DOT Equip. No. or Serial No. for PEFs)
- Drill method
- Type of boring and tests performed
- 0 and 24 hour water depth
- Material descriptions
- Stratigraphic breaks or contacts and interpretation
- Estimated soil classifications
- Final soil classifications (AASHTO) if tested (red-lined from soil test results)
- Moisture estimation
- In-situ test results
- Termination notes
- Any other soil and strata descriptors that may be Geotechnically significant

### **Roadway Investigations**

The roadway subsurface investigation provides other Units within NCDOT subsurface information needed to design or upgrade the transportation system. The results of the investigation are presented in two documents: the Roadway Subsurface Inventory and the Roadway Recommendations Report. The Roadway Subsurface Inventory report lists the areas investigated and presents all of the data collected and interpretations of the data in written and graphical formats. The Inventory Report includes a text portion detailing the presence of critical items and a graphics portion showing all the borings performed and results for all samples that were tested. Inventory and Recommendations Reports are required for all roadway projects.

Comprehensive drilling is required for a roadway investigation in order to accomplish sufficient geotechnical coverage. The documents should provide a clear picture of the existing field conditions within the proposed Right-of-Way Limits.

The level of subsurface investigation for Roadway projects is dependent on the scope of earthwork associated with its construction. For small roadway projects such as bridge approaches with very little earthwork, minimal investigations may be sufficient.

### **Structure Investigations**

The objective of a structure investigation is to obtain adequate subsurface information to allow a safe, environmentally acceptable, cost effective foundation design. The data obtained during the investigation are shown in the Structure Subsurface Inventory Report and are used to generate the Foundation Recommendations.

### **Investigation Criteria for all Bridges**

Drilled pier foundation drilling criteria should be used in investigations with the following conditions: (Note that borings should be performed at the proposed drilled pier locations when possible.)

1. When there is less than 10 feet of functional pile length below the Design Scour Elevation.
2. In water when rock is shallow such that insufficient material exists to provide lateral support for sheet pile cofferdams.

3. For high structures such as those with column heights over 25 feet where the depth to rock is less than 16 feet.
4. Railroad structures with high design load criteria and where other foundation designs may require the use of shoring.

### Credits

The North Carolina Department of Transportation, Division of Highways, Geotechnical Engineering Unit.

Support and maintenance of the enterprise spatial database where this data resides is handled by the North Carolina Department of Information Technology-Transportation, GIS Unit.

### Use limitations

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.

### Extent

**West** -84.401511    **East** -75.423573  
**North** 36.602137    **South** 33.758240

### Scale Range

**Maximum (zoomed in)** 1:5,000  
**Minimum (zoomed out)** 1:500,000

### ArcGIS Metadata ►

### Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE    geoscientific information, location, transportation, structure

CONTENT TYPE    Geographic Services  
EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION    No

PLACE KEYWORDS    North Carolina

#### THESAURUS ►

TITLE    User  
CREATION DATE    2023-11-14 00:00:00  
PUBLICATION DATE    2023-11-14 00:00:00

*Hide Thesaurus ▲*

THEME KEYWORDS    Point, NCDOT, Transportation, Highway, Roads, Structures, State Highway Network, Location, Geology, Geotechnical Investigation, Geotechnical Borings, Boring, Geotechnical Engineering, Structure, Drill Method, Subsurface Investigation. Subsurface Inventory.

#### THESAURUS ►

TITLE    User  
CREATION DATE    2023-11-14 00:00:00  
PUBLICATION DATE    2023-12-14 00:00:00

*Hide Thesaurus ▲*

*Hide Topics and Keywords ▲*

### Citation ►

TITLE NCDOT Geotechnical Borings - NC Department of Transportation  
ALTERNATE TITLES Geotechnical Borings  
CREATION DATE 2023-11-14 00:00:00  
PUBLICATION DATE 2023-11-14 00:00:00

PRESENTATION FORMATS \* digital map

[Hide Citation ▲](#)

## Citation Contacts ►

### RESPONSIBLE PARTY

ORGANIZATION'S NAME North Carolina Department of Transportation, Geotechnical Engineering Unit  
CONTACT'S POSITION Geotechnical Investigations Supervisor  
CONTACT'S ROLE originator

### CONTACT INFORMATION ►

#### PHONE

VOICE 919-707-6850

#### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [cyoungblood@ncdot.gov](mailto:cyoungblood@ncdot.gov)

#### HOURS OF SERVICE

9:00am - 5:00pm Monday - Friday

#### CONTACT INSTRUCTIONS

Please send an email with any issues, questions, or comments regarding the data. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

### RESPONSIBLE PARTY

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE resource provider

### CONTACT INFORMATION ►

#### ADDRESS

TYPE physical

DELIVERY POINT Century Center – Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

E-MAIL ADDRESS [gishelp@ncdot.gov](mailto:gishelp@ncdot.gov)

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CONTACT'S ROLE point of contact

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## Resource Details ►

DATASET LANGUAGES \* English (UNITED STATES)  
DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS on-going  
SPATIAL REPRESENTATION TYPE \* vector

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

### CREDITS

The North Carolina Department of Transportation, Division of Highways, Geotechnical Engineering Unit.

Support and maintenance of the enterprise spatial database where this data resides is handled by the North Carolina Department of Information Technology-Transportation, GIS Unit.

[Hide Resource Details ▲](#)

## Extents ►

### EXTENT

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

\* WEST LONGITUDE -84.401511

\* EAST LONGITUDE -75.423573

\* NORTH LATITUDE 36.602137

\* SOUTH LATITUDE 33.758240

\* EXTENT CONTAINS THE RESOURCE Yes

#### VERTICAL EXTENT

\* MINIMUM VALUE 0.000000

\* MAXIMUM VALUE 0.000000

### EXTENT IN THE ITEM'S COORDINATE SYSTEM

\* WEST LONGITUDE 412597.000031

- \* EAST LONGITUDE 3050461.999881
- \* SOUTH LATITUDE 44774.999884
- \* NORTH LATITUDE 1038120.000066
- \* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

### POINT OF CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE point of contact

### CONTACT INFORMATION ►

#### ADDRESS

TYPE physical  
DELIVERY POINT Century Center – Building B, 1020 Birch Ridge Drive  
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E-MAIL ADDRESS [gishelp@ncdot.gov](mailto:gishelp@ncdot.gov)

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[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

## Resource Maintenance ►

### RESOURCE MAINTENANCE

UPDATE FREQUENCY as needed

SCOPE OF THE UPDATES dataset

### OTHER MAINTENANCE REQUIREMENTS

The North Carolina Department of Transportation, Division of Highways, Geotechnical Engineering Unit.

Support and maintenance of the enterprise spatial database where this data resides is handled by the North Carolina Department of Information Technology-Transportation, GIS Unit.

### MAINTENANCE CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE point of contact

### CONTACT INFORMATION ►

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[Hide Contact information ▲](#)

[Hide Resource Maintenance ▲](#)

## Resource Constraints ►

#### CONSTRAINTS

##### LIMITATIONS OF USE

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#### LEGAL CONSTRAINTS

##### LIMITATIONS OF USE

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#### SECURITY CONSTRAINTS

CLASSIFICATION unclassified

CLASSIFICATION SYSTEM None

##### LIMITATIONS OF USE

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[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 0

M SCALE 1

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",2000000.0026166666],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 Boring

\* OBJECT TYPE point

\* OBJECT COUNT 45188

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME Boring

\* FEATURE TYPE Simple

\* GEOMETRY TYPE Point

\* HAS TOPOLOGY FALSE

\* FEATURE COUNT 45188

\* SPATIAL INDEX TRUE

\* LINEAR REFERENCING FALSE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

## Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL dataset

[Hide Scope of quality information ▲](#)

DATA QUALITY REPORT - COMPLETENESS COMMISSION ►

MEASURE DESCRIPTION

Data quality assessments are performed by the NC Department of Transportation's Geotechnical Engineering Unit on the source data at their discretion. No additional quality assessments are made on the GIS product.

CONFORMANCE TEST RESULTS

TEST PASSED Yes

RESULT EXPLANATION

Pass.



#### PRODUCT SPECIFICATION ▶

TITLE NCDOT Geospatial Data Specifications

CREATION DATE 2023-11-14 00:00:00

PUBLICATION DATE 2023-11-14 00:00:00

[Hide Product specification ▲](#)

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

[Hide Data Quality ▲](#)

## Lineage ▶

#### LINEAGE STATEMENT

This dataset was originally created by the North Carolina Department of Transportation, Geotechnical Engineering Unit. The data represents points locations of Geotechnical Borings (Geotechnical Investigations) for North Carolina Department of Transportation roadway and structure projects. Geotechnical Borings are necessary to identify geotechnical impacts to proposed projects at a very early stage of project development to help minimize unnecessary project costs. Information from Geotechnical Investigations is useful in understanding the design feasibility of proposed roadways and bridges. The Geotechnical Engineering Unit houses the borings data in a database with descriptive attributes gathered from boring logs, including geographic coordinate information. These coordinates are used to create georeferenced points when the data is extracted from the database using a program supplied by Engineering Applications Development and integrated with the North Carolina Department of Information-Transportation (NCDIT-T) GIS Unit database system. This spatial representation is then distributed in the form of geospatial services in Go! NC (<https://ncdot.maps.arcgis.com/home/index.html>).

#### PROCESS STEP ▶

WHEN THE PROCESS OCCURRED 2023-10-02 00:00:00

##### DESCRIPTION

Geotechnical Boring records are entered by Geotechnical Engineering Unit staff into an SQL Database utilizing gINT software by Bentley Systems.

#### PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation, Geotechnical Engineering Unit

CONTACT'S POSITION Geotechnical Investigations Supervisor

CONTACT'S ROLE originator

#### CONTACT INFORMATION ▶

##### PHONE

VOICE 919-707-6850

##### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [cyoungblood@ncdot.gov](mailto:cyoungblood@ncdot.gov)

##### HOURS OF SERVICE

9:00am - 5:00pm Monday - Friday

##### CONTACT INSTRUCTIONS

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[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ▶

WHEN THE PROCESS OCCURRED 2023-10-20 00:00:00

DESCRIPTION

Engineering Applications Development provides GEOgINTLoad.exe to the North Carolina Department of Information-Transportation (NCDIT-T) GIS Unit, which when run, outputs records from the boring database to a CSV file (gINTEExportPoint PROD Init [Date].csv). Scripts written by the GIS Units process the CSV file into a table in the GIS Unit's database system.

PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE resource provider

CONTACT INFORMATION ▶

ADDRESS

TYPE physical

DELIVERY POINT Century Center – Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

E-MAIL ADDRESS [gishelp@ncdot.gov](mailto:gishelp@ncdot.gov)

HOURS OF SERVICE

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CONTACT INSTRUCTIONS

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[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ▶

WHEN THE PROCESS OCCURRED 2023-11-14 00:00:00

DESCRIPTION

The geographic coordinates allow for the translation of the tabular information in the GIS Unit's database system into a spatial representation for distribution in the form of geospatial services in Go!NC.

PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE point of contact

CONTACT INFORMATION ▶

ADDRESS

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[Hide Contact information ▲](#)

[Hide Process step ▲](#)

[Hide Lineage ▲](#)

## Distribution ►

### DISTRIBUTOR ►

#### CONTACT INFORMATION

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit  
CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE distributor

#### CONTACT INFORMATION ►

##### ADDRESS

TYPE physical  
DELIVERY POINT Century Center – Building B, 1020 Birch Ridge Drive  
CITY Raleigh  
ADMINISTRATIVE AREA NC  
POSTAL CODE 27610  
E-MAIL ADDRESS [gishelp@ncdot.gov](mailto:gishelp@ncdot.gov)

##### HOURS OF SERVICE

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##### CONTACT INSTRUCTIONS

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[Hide Contact information ▲](#)

[Hide Distributor ▲](#)

### DISTRIBUTION FORMAT

NAME SDE Geodatabase Feature Class  
VERSION ArcGIS Pro 2.9.9

[Hide Distribution ▲](#)

## Fields ►

### DETAILS FOR OBJECT Boring ►

\* TYPE Feature Class  
\* ROW COUNT 45188

#### DEFINITION

Geotechnical Borings

#### DEFINITION SOURCE

North Carolina Department of Transportation, Geotechnical Engineering Unit

### 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 **gINTProjectID** ►

\* ALIAS gINTProjectID

\* DATA TYPE Integer

\* WIDTH 4

\* PRECISION 0

\* SCALE 0

DESCRIPTION SOURCE

NCDOT

FIELD DESCRIPTION

Internal ID number from gINT geotechnical data management software by Bentley Systems.  
For more information, see <https://www.bentley.com/software/geotechnical-engineering/>.

DESCRIPTION OF VALUES

Values vary

*Hide Field gINTProjectID ▲*

FIELD **SiteDescription** ►

\* ALIAS Site Description

\* DATA TYPE String

\* WIDTH 255

\* PRECISION 0

\* SCALE 0

DESCRIPTION SOURCE

NCDOT

FIELD DESCRIPTION

Site location description for the geotechnical boring(s).

DESCRIPTION OF VALUES

Text.

*Hide Field SiteDescription ▲*

FIELD **Route** ►

\* ALIAS Route

\* DATA TYPE String

\* WIDTH 255

\* PRECISION 0

\* SCALE 0

DESCRIPTION SOURCE

NCDOT

FIELD DESCRIPTION

The NCDOT name of the dominant route.

DESCRIPTION OF VALUES

Values vary.

*Hide Field Route ▲*

FIELD **Structure** ►

\* ALIAS Structure

\* DATA TYPE String  
\* WIDTH 255  
\* PRECISION 0  
\* SCALE 0  
DESCRIPTION SOURCE  
NCDOT

FIELD DESCRIPTION

ID for the structure for which the geotechnical boring is conducted. The first two digits represent the county location. This is the 00 - 99 county ID number range (00 = Alamance County, 99 = Yancey County). The remaining digits is the structure's (bridge, culvert, retaining wall, etc.) identifier.

DESCRIPTION OF VALUES  
Values vary.

*Hide Field Structure ▲*

FIELD TIP ►

\* ALIAS TIP  
\* DATA TYPE String  
\* WIDTH 30  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Transportation Improvement Program project ID.

DESCRIPTION SOURCE  
NCDOT

DESCRIPTION OF VALUES  
Values vary.

*Hide Field TIP ▲*

FIELD WBS ►

\* ALIAS WBS  
\* DATA TYPE String  
\* WIDTH 30  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

The Work Breakdown Structure ID for funding of an NCDOT project.

DESCRIPTION SOURCE  
NCDOT

DESCRIPTION OF VALUES  
Values vary.

*Hide Field WBS ▲*

FIELD County ►

\* ALIAS County  
\* DATA TYPE String  
\* WIDTH 255  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

County location of the boring.

DESCRIPTION SOURCE  
NCDOT

CODED VALUES

NAME OF CODELIST The 100 North Carolina County Names - [https://www2.census.gov/programs-surveys/decennial/2010/partners/pdf/FIPS\\_StateCounty\\_Code.pdf](https://www2.census.gov/programs-surveys/decennial/2010/partners/pdf/FIPS_StateCounty_Code.pdf)

SOURCE U.S. Geological Survey, Geographic Names Information System (GNIS)

*Hide Field County ▲*

FIELD ProjectType ►

\* ALIAS Project Type

\* DATA TYPE String

\* WIDTH 255

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

NCDOT Project type requiring the geotechnical boring. Examples: Roadway, Bridge, Culvert, Noise Wall, Retaining Wall, Pipe, Railroad, Sign, Slope, etc.

DESCRIPTION SOURCE

NCDOT

LIST OF VALUES

VALUE BR

DESCRIPTION Bridge

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR ADD

DESCRIPTION Bridge Addendum

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR DB

DESCRIPTION Bridge Design Build

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR MAINT

DESCRIPTION Bridge Maintenance

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR REV

DESCRIPTION Bridge Revised

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR REVIEW

DESCRIPTION Bridge Review

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BR REVIEW (Division)

DESCRIPTION Bridge Review for Division

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE BRDG + RWAL

DESCRIPTION Bridge with Retaining Walls

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE CULV

DESCRIPTION Culvert

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE CULV REVIEW

DESCRIPTION Culvert Review

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE CULV-3 sided

DESCRIPTION A three sided Culvert  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE DB INVENTORY  
DESCRIPTION Design Build Inventory  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE DB INVENTORY REVIEW  
DESCRIPTION Design Build Inventory Review  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE DB REVIEW  
DESCRIPTION Design Build Review  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE DETOUR  
DESCRIPTION Detour  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE DMS  
DESCRIPTION Dam  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE FERRY  
DESCRIPTION Ferry  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE HAMMER  
DESCRIPTION Hammer Calibrations  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE HMLT  
DESCRIPTION High Mount Light Tower  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE INFILTRATE  
DESCRIPTION Infiltrate  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE MISC  
DESCRIPTION Miscellaneous projects  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE NOISE WALL  
DESCRIPTION Noise Wall  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE miscellaneous

VALUE PDI  
DESCRIPTION Pavement Design Investigating  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE PIPE  
DESCRIPTION Pipe  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE POND  
DESCRIPTION Pond  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RAILROAD  
DESCRIPTION Railroad  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RDWY  
DESCRIPTION Roadway  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RDWY ADD  
DESCRIPTION Roadway Addendum  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RDWY REV  
DESCRIPTION Roadway Revised  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RDWY REVIEW  
DESCRIPTION Roadway Review  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE REST AREA  
DESCRIPTION Rest Area  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RET WALL  
DESCRIPTION Retaining Wall  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE RET WALL REVIEW  
DESCRIPTION Retaining Wall Review  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE SIGN  
DESCRIPTION Sign  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE SIGNAL POLE  
DESCRIPTION Signal Pole  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE SLIDE  
DESCRIPTION Slide  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE SLOPE  
DESCRIPTION Slope  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE SPECIAL  
DESCRIPTION Special project  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE TEMP SHORING  
DESCRIPTION Temporary Shoring  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE TEMP SHORING REVIEW  
DESCRIPTION Temporary Shoring Review  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE UTILITY  
DESCRIPTION Utility  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE UTILITY PRE-LET



DESCRIPTION Utility Pre-Let  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

DESCRIPTION OF VALUES  
Values vary.

*Hide Field ProjectType ▲*

FIELD ProjectFileName ►

- \* ALIAS Project File Name
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

FIELD DESCRIPTION

File name of the NCDOT Geotechnical Unit's Subsurface Inventory Report. The files are in PDF format. The file naming convention often starts with the NCDOT TIP ID followed by "GEO" and the type of project. Online URL links to each file are available in the AttachURL field.

The Subsurface Inventory Report lists the areas investigated and presents all of the data collected and interpretations of the data in written and graphical formats. The Inventory Report includes a text portion detailing the presence of critical items and a graphics portion showing all the borings performed and results for all samples that were tested.

DESCRIPTION OF VALUES  
Text, PDF file name.

*Hide Field ProjectFileName ▲*

FIELD DateCompleted ►

- \* ALIAS Date Completed
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Date of completion for the geotechnical investigative boring and subsurface investigation.

DESCRIPTION SOURCE  
NCDOT

DESCRIPTION OF VALUES  
Dates vary.

*Hide Field DateCompleted ▲*

FIELD Location ►

- \* ALIAS Location
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

FIELD DESCRIPTION

This is a query field and not a gINT field. Query fields define the structure and type of the data that the system sends to and receives from the underlying search. It combines features of a data filter with a search and lookup field.

DESCRIPTION OF VALUES  
Text.

[Hide Field Location ▲](#)

FIELD **PointID** ▶

- \* ALIAS PointID
- \* DATA TYPE String
- \* WIDTH 30
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

ID of the boring point. This is not unique across all borings in the state, but will be unique among a set of multiple borings conducted for a project (TIP ID or WBS ID)

DESCRIPTION SOURCE  
NCDOT

DESCRIPTION OF VALUES  
Values vary.

[Hide Field PointID ▲](#)

FIELD **Station** ▶

- \* ALIAS Station
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

FIELD DESCRIPTION

The NCDOT Station reference. A station is the horizontal measurement along the centerline (sometimes called the baseline) of a project. Distances are measured and points are identified on the plans with reference to station numbers. A highway station is one hundred feet. Boring locations referenced in distance from a station such as 3+35.27 and station 16+22.56, e.g., Station 3 + 35.27 feet and Station 16 + 22.56 feet. These are noted as 1622.56 and 335.27, with a distance difference of 1,287.29 feet.

DESCRIPTION OF VALUES  
Values vary.

[Hide Field Station ▲](#)

FIELD **Offset** ▶

- \* ALIAS Offset
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

FIELD DESCRIPTION

Offset distance in feet from the project station's centerline.

DESCRIPTION OF VALUES  
Values vary.

[Hide Field Offset ▲](#)

FIELD **North** ▶

- \* ALIAS North
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

The boring location's North coordinate, in feet, of the North Carolina State Plane coordinate system.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary

*Hide Field North ▲*

FIELD East ►

- \* ALIAS East
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

The boring location's East coordinate, in feet, of the North Carolina State Plane coordinate system.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary.

*Hide Field East ▲*

FIELD Alignment ►

- \* ALIAS Alignment
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE

NCDOT

FIELD DESCRIPTION

Location alignment indicator. Related to Station and Offset.

DESCRIPTION OF VALUES

Values vary.

*Hide Field Alignment ▲*

FIELD Elevation ►

- \* ALIAS Elevation
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Boring surface elevation in feet or meters above sea level.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary.

[Hide Field Elevation ▲](#)

FIELD **HoleDepth** ▶

- \* ALIAS HoleDepth
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Boring hole lowest depth below ground in feet or meters.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary.

[Hide Field HoleDepth ▲](#)

FIELD **DrillMethod** ▶

- \* ALIAS Drill Method
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

The drill method used to create the boring such as auger, directional, mud rotary, etc. The method may be among those listed here:

- Hollow Stem Auger
- Standard Penetration Test
- Cone Penetration Test
- Dynamic Penetration Test
- Advancer
- Core Boring
- Wash Boring
- Mud Rotary
- Hand Auger
- PVC Pipe Push Probe
- Rotary Sounding
- Rotary Wash
- Solid Auger

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary.

[Hide Field DrillMethod ▲](#)

FIELD **BoringHoleType** ▶

- \* ALIAS Boring Hole Type
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE

NCDOT

FIELD DESCRIPTION

Bring hole type representing symbology used on the plan sheets. This may include types such as hand or power auger, rod sounding, standard penetration testing, core boring, etc.

#### DESCRIPTION OF VALUES

Values vary.

[Hide Field BoringHoleType ▲](#)

#### FIELD LabData ►

- \* ALIAS Lab Data
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

#### FIELD DESCRIPTION

This field was created a few years ago and contains no values since the gINT software will soon be discontinued. It was originally created to link Lab Data Results but was never used and will be removed in the near future.

#### DESCRIPTION OF VALUES

Text.

[Hide Field LabData ▲](#)

#### FIELD LoadTest ►

- \* ALIAS Load Test
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

DESCRIPTION SOURCE  
NCDOT

#### FIELD DESCRIPTION

This field was created a few years ago and contains no values since the gINT software will soon be discontinued. It was originally created to link Load Test files but was never used and will be removed in the near future.

#### DESCRIPTION OF VALUES

Text

[Hide Field LoadTest ▲](#)

#### FIELD GW24hr ►

- \* ALIAS GW 24-hr
- \* DATA TYPE String
- \* WIDTH 255
- \* PRECISION 0
- \* SCALE 0

#### FIELD DESCRIPTION

Measure of ground water depth 24 hours after drilling, rounded to the nearest 0.1 foot. The water level of the boring must be measured at 0-hours as soon as practical after the drill steel has been removed in borings that do not use water or mud as a drilling fluid. When drilling fluid is used in advancing the borings, the 0-hour water level must be recorded as "N/A". All Geotechnical borings must be left open but covered for a minimum of approximately 24 hours and remeasured for the static or 24-hour water level. Only rare exceptions where potential injury to the travelling public is significant should the boring be backfilled at 0-hours.

The static groundwater level is measurable 24 hours after the boring is completed and left open but covered. The boring must be covered during the 24-hour waiting period to prevent false measurements of groundwater from rainfall and run-off and to prevent injury to people or livestock

which may step into an open hole. The 24-hour groundwater measurement is considered valid for any boring regardless of drilling technique or fluid used to advance the boring.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Values vary.

*Hide Field GW24hr ▲*

FIELD **Last\_Update** ►

\* ALIAS Last\_Update

\* DATA TYPE String

\* WIDTH 255

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

This is a new field added to the Geotechnical Boring database for querying purposes.

DESCRIPTION SOURCE

NCDOT

DESCRIPTION OF VALUES

Date values vary.

*Hide Field Last\_Update ▲*

FIELD **Is\_Correction** ►

\* ALIAS Is\_Correction

\* DATA TYPE String

\* WIDTH 255

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Indicates if a correction was made to the data record. This is a new field created for querying purposes in the Geotechnical Borings database.

DESCRIPTION SOURCE

NCDOT

LIST OF VALUES

VALUE True

DESCRIPTION A correction was made to the data record.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

VALUE False

DESCRIPTION No correction was made to the data record.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCDOT

*Hide Field Is\_Correction ▲*

FIELD **AttachURL** ►

\* ALIAS AttachURL

\* DATA TYPE String

\* WIDTH 150

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

URL link to the online NCDOT Geotechnical Unit's Subsurface Inventory Report. The file is PDF format. The file name from the ProjectFileName field will match the end of the web address, such as [https://xfer.services.ncdot.gov/BoringLogs/B5121\\_geo\\_walls.pdf](https://xfer.services.ncdot.gov/BoringLogs/B5121_geo_walls.pdf).

Subsurface Inventory report lists the areas investigated and presents all of the data collected and interpretations of the data in written and graphical formats. The Inventory Report includes a text portion detailing the presence of critical items and a graphics portion showing all the borings performed and results for all samples that were tested.

DESCRIPTION SOURCE  
NCDOT

DESCRIPTION OF VALUES  
Values vary.

[Hide Field AttachURL ▲](#)

#### 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 ▲](#)

[Hide Details for object Boring ▲](#)

[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 2023-12-22

#### ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0  
STANDARD OR PROFILE USED TO EDIT METADATA ISO19139

CREATED IN ARCGIS FOR THE ITEM 2023-12-04 09:18:28  
LAST MODIFIED IN ARCGIS FOR THE ITEM 2023-12-22 11:43:43

#### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes  
LAST UPDATE 2023-12-22 11:43:43

[Hide Metadata Details ▲](#)

## Metadata Contacts ▶

#### METADATA CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit

CONTACT'S POSITION GIS Data and Services Consultant  
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

ADDRESS

TYPE physical

DELIVERY POINT Century Center – Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

E-MAIL ADDRESS [gishelp@ncdot.gov](mailto:gishelp@ncdot.gov)

HOURS OF SERVICE

9:00am - 5:00pm Monday – Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions, or comments regarding the data. If it is an immediate need, please indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ►

MAINTENANCE

UPDATE FREQUENCY as needed

SCOPE OF THE UPDATES dataset

MAINTENANCE CONTACT

ORGANIZATION'S NAME North Carolina Department of Information Technology -Transportation, GIS Unit

CONTACT'S POSITION GIS Data and Services Consultant

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[Hide Contact information ▲](#)

[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.

#### SECURITY CONSTRAINTS

CLASSIFICATION unclassified

CLASSIFICATION SYSTEM None

#### LIMITATIONS OF USE

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[Hide Metadata Constraints ▲](#)

## Thumbnail and Enclosures ►

#### THUMBNAIL

THUMBNAIL TYPE JPG

[Hide Thumbnail and Enclosures ▲](#)