



Master Road and Addressing Project Guide

Information Technology Department



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I. The Project

Format/quality of address and road name information varied considerably across different Augusta, Georgia systems and databases. It was nearly impossible to identify all of the activity, such as building permits or police reports, associated with a given address and/or road. The various departments recognized the need for consistent processes and standards that needed to be followed by a sole, dedicated authority. The GIS Division of the Augusta Information Technology Department along with the assistance of the Planning & Development Department is now ensuring that as data reaches the varying departments, correct and consistent information is being delivered. To do so, the division initiated a countywide project for the Master Road and Addressing Database (MRAD) that would:



- A) establish standards and processes
- B) build a spatial database that would become the central location of road names and addresses
- C) identify and correct all current issues that could affect emergency response
- D) facilitate the new standards to any external agencies and/or vendors
- E) continue to promote public health, safety, convenience, and general welfare to present and future inhabitants of Augusta GA with quality data

The GIS Division reviewed federal and local standards from various agencies for roads and addresses. Some of those agencies referenced included the National Emergency Number Association (NENA), the Georgia Spatial Infrastructure Committee, the United States Postal Service (USPS) and others. But for such a project to be a success with adopted standards, critical components of the spatial database (Master Road and Addressing Database (MRAD) had to be built.

II. Components of the MRAD

The Master Road and Addressing Database (MRAD) is the sole source of all approved and verified road names and addresses in Augusta Richmond County. The MRAD is composed of 3 critical parts:

A) Master Address Repository (MAR)

The MAR is a database of addresses for various types of structures throughout Augusta, GA. Not only does the MAR include situs (parcel) addresses but also buildings, intersections, utility assets and other identifiers. Each address in the MAR is assigned unique site address identification (SITEADDID). The SITEADDID is a text field that is formatted as "SID-####". For all systems that use addresses, the SITEADDID is the critical field that will allow information to be updated and passed correctly from the MAR to other databases.

| | |
|-------------------------|-------------------|
| Other Site Subtype | Parcel |
| Site Address ID | SID-28154 |
| Address Number Prefix | 2803 |
| Address Number Suffix | |
| Full Address Number | 2803 |
| Road Directional Prefix | |
| Road Name | Vernon |
| Road Type | Drive |
| Road Directional Suffix | |
| Full Road Name | Vernon Dr |
| Address Unit Type | |
| Address Unit Number | |
| Full Site Address | 2803 Vernon Dr |
| Alternate Full Address | |
| CITY | Augusta |
| State | Georgia |
| Zip | 30906 |
| Zip+4 | |
| City, St, Zip | Augusta, GA 30906 |

B) Master Road Name Table (MRNT)

The MRNT is the table of all approved and pending road names in Augusta, GA. The table parses out all road names to easily designate directions (pre or post) and road types. This table will also include alias road names, the location, subdivision, and any other useful information. The table should be used for any system that uses road data for name validation.

| PreDirection | RoadName | RoadType | PostDirection | FullName | AltName | StateAlt | MemorialAlt | NumericAlt |
|--------------|------------------|----------|---------------|---------------------|------------------|------------------|-------------|------------|
| W | Terrace | Ct | | W Terrace Ct | | | | |
| N | Whitechurch | Ct | | N Whitechurch Ct | | | | |
| E | Chapman | St | | E Chapman St | | | | |
| S | Fieldcrest | Dr | | S Fieldcrest Dr | | | | |
| | Shinnecock Hills | Ln | | Shinnecock Hills Ln | | | | |
| | Quail | Ct | W | Quail Ct W | | | | |
| | Gaines | Ct | S | Gaines Ct S | | | | |
| | Gaines | Ct | N | Gaines Ct N | | | | |
| | Bermuda | Cir | E | Bermuda Cir | | | | |
| | Interstate 20 | | | Interstate 20 | Carl Sanders Hwy | I-20 | | |
| | Bobby Jones | Expy | | Bobby Jones Expy | | GA Hwy 232/I-520 | | |
| | Eleventh | St | | Eleventh St | | | | 11th St |
| | Sixth | Ave | | Sixth Ave | | | | 6th Ave |

C) Master Road Centerline File (MRCF)

The MRCF is the spatial data layer that represents all the road centerlines in Augusta, GA. The main features associated with each segment are derived from the MRNT. Each centerline in the MRCF is assigned a unique identification (CENTERLINEID). The CENTERLINEID is a text field that is formatted as "RD-####". For all systems that have assets/infrastructure, the CENTERLINEID is the critical field that will allow information to be updated and passed correctly from the MRCF to other databases. Additional attributes are also contained in the MRCF that enhance address matching/geocoding and vehicle routing.

| Shape * | Centerline ID | Left From Address | Left To Address | Right From Address | Right To Address | Full Road Name |
|----------|---------------|-------------------|-----------------|--------------------|------------------|--------------------|
| Polyline | RD-3732 | 4608 | 4620 | 4603 | 4619 | Clearwater Ln |
| Polyline | RD-3733 | 4604 | 4652 | 4627 | 4651 | Haviland Ct |
| Polyline | RD-3734 | 4516 | 4544 | 4515 | 4547 | Clearwater Ln |
| Polyline | RD-3735 | 4740 | 4760 | 4739 | 4759 | Clearwater Ln |
| Polyline | RD-3736 | 10803 | 10859 | 0 | 0 | Royal Porthcawl Dr |
| Polyline | RD-3737 | 4772 | 4772 | 4763 | 4783 | Clearwater Ln |
| Polyline | RD-3738 | 4804 | 4820 | 4803 | 4815 | Clearwater Ln |

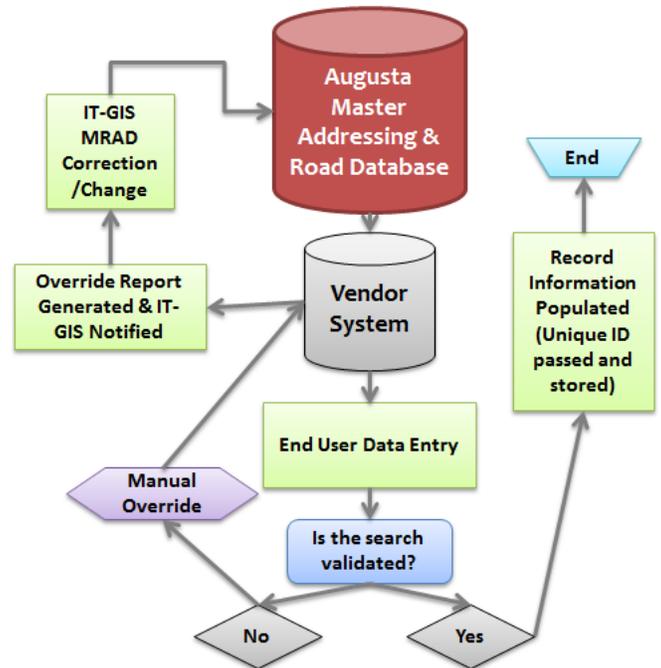


III. Integrating the MRAD and the Unique Identifiers

Vendor systems and/or solutions that use addresses or road names must incorporate the components of Augusta’s MRAD to maintain consistency and accuracy across the agency. The systems must use a web service or other real-time means of establishing an interface with MRAD. The interface will be the means of validating and updating all road names and/or addresses.

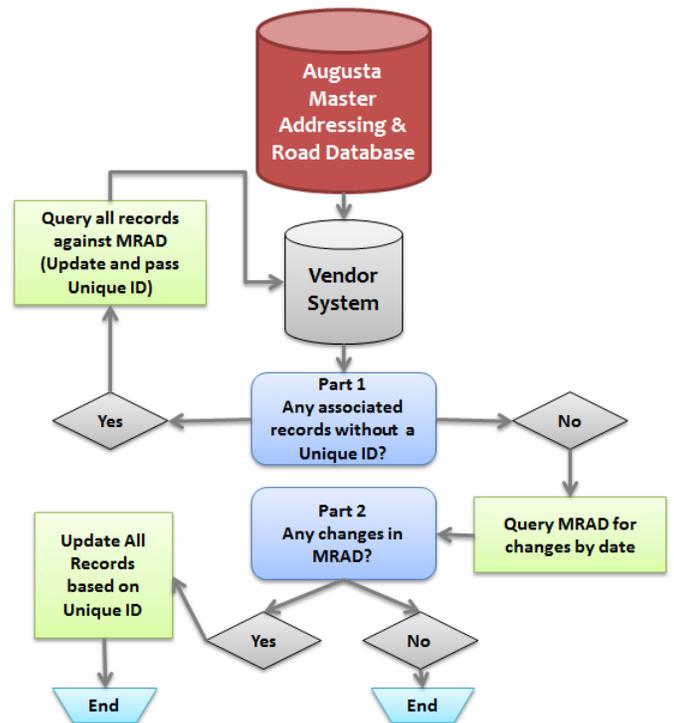
A) Validation

Any system and/or solution that requires data entry of addresses and/or road names must query the MRAD. The end user should either be allowed to select the correct address/road name or the field would auto-populate with data from the services. If a particular value is not found upon querying the service, the software/solution must have the ability to offer an administrative override function. Any road name and/or address that are given an administrative override must be reported to IT-GIS for further assessment. These reports should either be generated weekly or monthly and reference the associated record.



B) System Updates

Vendor systems must accommodate an additional text field that would be used for Augusta’s unique identifiers (SITEADDID and/or CENTERLINEID). If a record is properly validated through the MRAD, the system/solution must also associate the unique identifier in the additional field. Because addresses and road names are subject to change, the unique identifier will serve as the link between MRAD and any integrated systems. Vendor systems/solutions should update all addresses and road names daily to ensure the most update information is available for the end user. Each component of the MRAD has a field that tracks the last edit date.



Appendix A

Feature Class Name: Site Address Point
Dataset: AddressesLG

Description:

This data layer contains point locations representing all known addresses in Augusta, GA and was created to serve as part of the master road and address database (MRAD). ESRI's local government schema was used as the foundation for this layer. Originally, addresses with the tax system for parcel polygons were used for this purpose. However, the tax system was limited to providing the situs address.

Creation, History and Update Process:

An address point was made for each property by copying parcel centroids. Addresses for multi-unit properties were duplicated and moved programmatically. Misspellings and retired (historic) addresses are kept in this alias table (AugustaMasterRoadNameAlias) because there are records in other systems tied to these addresses. As addresses are updated they are moved to the approximate front door or unit location of their respective buildings. This layer is frequently updated. As new addresses are assigned, they are added.

Features and Attributes:

Addresses are represented as points placed at their corresponding parcel or building. Address points can have related address entrance points (AddressEntrancePoint) if unable to easily identify entry. A set of attributes is kept with the address points in order to determine the accuracy, currency and source of the data as well as to be able to link them back to the associated land record. The attributes and codes are listed below followed by some details about each field. The status field is important for determining which addresses are current and approved for use.

| | Field Name | Alias | Description / [Example] | Domain | Data Type | Length |
|----------------------------------|-------------------|-------------------------------|--|-------------------|------------------|---------------|
| Address Number Attributes | PREADDRNUM | Address Number Prefix | Number to the physical location / [535] | | Text | 5 |
| | ADDRNUMSUF | Address Number Suffix | ½'s or letters that proceed the road name / [½] | | Text | 5 |
| | ADDRNUM | Full Address Number | Number Prefix & Suffix / [535 ½] | | Text | 10 |
| | ADDRRANGE | Address Range | Block range of centerline / [500-599] | | Text | 20 |
| Road Name Attributes | ROADDIRPRE | Road Directional Prefix | Pre direction of road name / [W] | RoadPrefix | Text | 5 |
| | ROADNAME | Road Name | Primary part of full road name / [Blossom] | | Text | 20 |
| | ROADTYPE | Road Type | Road type as permitted by GIS / [Cir] | RoadType | Text | 5 |
| | ROADDIRSUFF | Road Directional Suffix | Post Direction of road name, if used / [NW] | RoadPostDir | Text | 5 |
| | FULLNAME | Full Road Name | Complete road name / [(W) Blossom Cir (NW)] | | Text | 40 |
| Address Unit Attributes | UNITTYPE | Address Unit Type | Unit type of the structure / [Lot] | AddressUnitType | Text | 5 |
| | UNITID | Address Unit Number | Unit number of the structure / [14] | | Text | 10 |
| Full Address Details | SITEADDRESS | Full Address | Complete address / [535 ½ Blossom Cir NW Lot 14] | | Text | 100 |
| | ALTFULLADDRESS | Alternate Full Address | Alternate for lots with multiple road frontage | | Text | 100 |
| | CITY | City | City name / [Grovetown] | ARC_Cities | Text | 20 |
| | STATE | State | State; default to [GA] | StateAbbreviation | Text | 5 |
| | ZIP | Zip | Zip code as provided by USPS / [30813] | | Text | 5 |
| | ZIP_4 | Zip+4 | Zip code + route sequencing / [30813-1542] | | Text | 20 |
| | CITY_ST_ZIP | City, State & Zip | [Grovetown, GA 30813-1542] | | Text | 50 |
| 911 Attributes | ESN | Emergency Service Number | Unique number defining response teams / [505] | | Long Integer | |
| | PSAP | Public Safety Answering Point | Name of call center dispatching / [Augusta 911] | | Text | 30 |
| | MSAG | MSAG Community | Name of area address falls within / [Blythe] | | Text | 30 |

| | | | | | | |
|---------------------------|----------------------------|---------------------------|---|-----------------------|--------------|-----|
| Location Attributes | OTHERSUBTYPE ¹ | Other Subtype | Value for type of address / [Building] | AddressSubtypes | Long Integer | |
| | POINTTYPE | Location | Description for parcel addresses / [Wireless Tower] | SiteAddressLocation | Text | 30 |
| | PIN | PIN | Tax ID / [047-1-259-00-0] | | Text | 20 |
| | PLACENAME ² | Place Name | Associated Facility Name / [Augusta Mall] | | Text | 250 |
| | MUNICIPALITY ³ | Municipality Name | Incorporated Area Name / [Blythe] | ARC_Cities | Text | 20 |
| | X | XCOORD | [718616.003861737] | | Text | 20 |
| | Y | YCOORD | [1262642.46572331] | | Text | 20 |
| | LAT | Latitude | [33.47101] | | Double | |
| | LONG | Longitude | [-81.9618] | | Double | |
| Reference Attributes | STATUS | Status | Current status of point / [Pending] | AddressStatus | Text | 30 |
| | JOIN_ID ⁴ | Join ID | Associated alias records / [1036] | | Long Integer | |
| | CAPTUREMETH | Capture Method | Point entry type / [Placed on Map] | PointCollectionMethod | Text | 30 |
| | SOURCE | Source | Data provider / [Augusta Richmond County] | AddressSource | Text | 50 |
| | BUSINESS | Business Site | [Yes[| YesNo | Text | 5 |
| | BUSINESS_NAME ⁵ | Business Name | [Lulu's Car Wash] | | Text | 200 |
| | ADDRESSEND | Address End Date | Date Address retired / [05/15/2014] | | Date | |
| | MULTIADDNUM | MultiAddress Parcel Total | Count of addresses on parcel / [148] | | Long Integer | |
| Data Integrity Attributes | SITEADDID | Site Address ID | Unique ID for each point / [SID-5863] | | Text | 20 |
| | ADDPTKEY | Address Point ID | Unique ID for point along road centerline / | | Text | 20 |
| | CREATEDATE | Create Date | Timestamp of create / [12/27/2012 12:18:39 PM] | | Date | |
| | CREATEBY | Create BY | Point created by / [AUGUSTA\perry] | | Text | 30 |
| | LASTUPDATE | Last Update | Timestamp of last edit / [5/10/2013 5:26:03 PM] | | Date | |
| | LASTEDITOR | Last Editor | Point last edited by / [AUGUSTA\johnson] | | Text | 30 |
| | COMMENTS | Comments | Comments on point, editing / [c/f Greens Rd; 8/1/13 MP] | | Text | 250 |
| | VALIDATED | Validated | [Yes] | YesNo | Text | 5 |
| | VALIDATEDBY | Validated By | Who validated / [Perry] | Editor | Text | 30 |
| | VALIDDATE | Date Validated | Date validated / [9/25/2014] | | Date | |
| | POSTED | Number Posted | [Yes] | YesNo | Text | 5 |
| | ANOMALYCODE | Anomaly Code | Anomaly Type / [Out of Sequence] | AddressAnomalyCode | Text | 50 |
| | VALID911 | Valid for 911 | [Yes] | YesNo | Text | 5 |
| Other Attributes | GlobalID | Global ID | [2F888355-009C-4CEF-A6EB-029C17DA2B4E] | | Global ID | |
| | SHAPE | SHAPE* | [Point] | | Geometry | |

- 1 Values of 0 (Parcel) or 11 (Attached Home – Parcel) are used to update the situs address in the tax system.
- 2 Facility names are pulled from the intersecting polygons of FacilitySites feature class
- 3 Does not imply the postal city name; refers to if the point falls within an incorporated area
- 4 Alias names are located in the AugustaMasterRoadNameAlias table
- 5 Business names are updated quarterly based on the business license data