



Michigan GIS 9-1-1 Database Standards

Version 1.0

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EXECUTIVE SUMMARY

The Michigan State Police (MSP) 9-1-1 Administration Section received funding through a joint National Highway Traffic Safety Administration (NHTSA) and National Telecommunication and Information Administration (NTIA) Ensuring Needed Help Arrives Near Callers Employing 9-1-1 (ENHANCE 9-1-1) grant, in September of 2009, to develop a statewide geographic information system (GIS) database repository for the 9-1-1 community. This statewide integrated GIS data repository will be a system to provide the replication capabilities for Public Safety Answering Points (PSAPs) to provide GIS 9-1-1 datasets into architecture that will integrate the datasets statewide and also receive data updates on a regular basis. The database will be usable by local 9-1-1 jurisdictions for data extracts to be used in current 9-1-1 systems, including wireless 9-1-1 and for future IP-based Next Generation 9-1-1 (NG9-1-1) systems in Michigan.

The Center for Share Solutions and Technology Partnerships (CSSTP), part of the Michigan Department of Technology, Management and Budget (DTMB) will develop the 9-1-1 GIS data repository and system interface. To implement the 9-1-1 GIS database repository, established standards need to be developed to provide a single state database model for each local dataset to be replicated into the repository. These database standards have been developed to include the foundation of the existing National Emergency Number Association (NENA) 9-1-1 GIS standards, that have been part of the 9-1-1 fabric for a number of years, but also includes the scalability of database standards for future Next Generation 9-1-1 (NG9-1-1) systems. The 9-1-1 GIS repository standards are necessary to create the interoperability between all local datasets into seamless statewide GIS data layers for 9-1-1.

These standards will help to implement effective data maintenance and quality control of the datasets. The 9-1-1 GIS database repository will provide a system of integrated datasets into a seamless statewide layer that each participating local jurisdiction will be able to download and use for dispatch and emergency services functions. Having up to date GIS datasets of neighboring jurisdiction or the entire state available to implement into a local 9-1-1 system will help during times when needing to dispatch to neighboring jurisdictions.

1. INTRODUCTION

The standards outlined in this document for the 9-1-1 GIS data repository layers will be the foundation to providing data interoperability and additional quality assurance and quality control measures. Most of the required fields within the database standards are fields that should be included and populated in any GIS system design in today's 9-1-1 systems. These database standards will also help all jurisdictions evaluate their current datasets against the minimum required fields and will help all jurisdictions assure that they are at that baseline. The standards also allow each jurisdiction to acknowledge and plan for developing more granular data in the years to come to continually increase the precision and accuracy of the data for NG9-1-1. The minimum seamless statewide GIS data requirements for the ENHANCE 9-1-1 grant repository are the road centerlines and the PSAP boundary layers. The road centerlines are typically a minimum requirement today for Computer Aided Dispatch (CAD) systems for wireless phase II, and will also be a minimum requirement in NG9-1-1 for call routing and location validation. The PSAP boundaries will also be a minimum requirement for the NG9-1-1 environment. Although not a data requirement for the ENHANCE 9-1-1 grant, the standards for the ENHANCE 9-1-1 project also data standards for site structure points and emergency service zone boundaries. This would provide more detailed data, in areas where those data layers existed, to improve public safety across 9-1-1 jurisdictions today and into the future.

2. DOCUMENT DEVELOPMENT

2.1 Technical Advisory Committee

The database standards that are outlined within this document were developed and reviewed by the Technical Advisory Committee (TAC) which was established to provide input for data and systems development and ongoing deliverable issue resolution. Members of the TAC are:

Name	Organization
Harriet Miller-Brown	Michigan State Police
Eric Swanson	CSSTP
Laura Blastic	CSSTP
Paul Harmon	CSSTP
Mark Holmes	L.R. Kimball
Mike Szor	Alpena County 9-1-1
Phyllis Fuller	Barry County 9-1-1
Mike Muskovin	Ottawa County 9-1-1
Nathan Fazer	Eastern UP Planning Region GIS
Chris Cantrell	Midland County GIS
Scott Ambs	Jackson County GIS
Ron Plamondon	Leelanau County IT
Dawn Siegel	Oakland County IT
Tom Shewchuk	Ingham County IT
Susan Moore	Oakland County GIS

2.2 Reference Documents

In the development of these standards, the following NENA Technical Standards Documents were referenced: 02-014¹ for GIS Data Collection and Maintenance, 02-010² for GIS Mapping Standards, 08-003³ for i3 standards in a NG9-1-1 environment, and the currently proposed NENA GIS Data Model 2.0⁴ in development within a dedicated NENA working group. The database standards are consistent with and adopt many of the data field specifications outlined within the NENA technical standards. This document will be maintained and updated as necessary by CSSTP and will be posted to websites through CSSTP and also the Michigan State 9-1-1 Committee.

2.3 Public Review

A public review and comment period for this document will begin on September 30, 2011 until October 14th, 2011. Comments and feedback will be reviewed by the TAC and noted, and necessary changes to the standards document will be included in an updated version to be finalized by October 28, 2011.

¹ NENA Standard Data Formats for ALI Data Exchange & GIS Mapping, 02-010, v8.2, June 10, 2009

² NENA GIS Data Collection and Maintenance Standards, 02-014, Issue 1, July 17, 2007

³ NENA Detailed Functional and Interface Standards for the NENA i3 Solution (TSD), 08-003 v1, June 14, 2011

⁴ NENA GIS Data Model 2.0 is nearing release for public review.

3. OPERATIONAL CONSIDERATIONS

3.1 Existing Systems

The minimum required fields in this document have not changed considerably from the NENA GIS Data Model 1.0 which most current GIS addressing databases, CAD systems and other 9-1-1 databases should be adhering to in today's 9-1-1 operations. This should minimize any large scale manipulation of datasets currently being used within 9-1-1 systems. Existing field names, field widths and additional fields required by 9-1-1 systems can remain intact at the local level. When updates are pushed up to the 9-1-1 GIS data repository, the system developed by CSSTP will provide the local jurisdiction to develop a configuration file specific to their data.

For example, the configuration file will establish which fields representing street name, street type, street prefix directional and street suffix directional in the local data will be uploaded to the corresponding fields in the 9-1-1 GIS data repository. If a local jurisdiction is missing a required field or has information that is imbedded in one field instead of two separate required fields, there may need to be some modifications to the attributes of the GIS data. CSSTP will assist participating entities to determine where those particular situations exist. An example of such a scenario would be a GIS attribute table for road centerline that had one field for all attributes associated with a 9-1-1 road name. If 'W MAIN ST' was concatenated into one street name field because other systems required it that way and not broken out into street name, street type, street prefix directional and street suffix directional fields, then the jurisdiction's data model would not conform to the minimum required fields for road centerlines outlined in these data standards, nor does it conform to existing NENA standards for road centerlines. To resolve this situation, the local jurisdiction would need to work on adding those additional required fields to their road centerline attribute table and populate each field by breaking out the road name information across those four fields. Some scripting can automate the process but it does require some additional manual verification. The local database would then have all of the field necessary to conform to NENA and the repository standards and also still have the concatenated street name fields that the local 9-1-1 system required.

3.2 Projections

Local data can be kept in the current map projections at the local jurisdiction. When data is initially loaded into the 9-1-1 GIS repository and future updates pushed to the 9-1-1 GIS repository, a projection conversion will take place from the local projection to the WGS 84 projection. CSSTP will develop the scripts to project the data to WGS 84 during upload as part of the system requirements for the 9-1-1 GIS repository.

Participating jurisdictions will be able to request extracts of the GIS data and specify projections. For NG9-1-1, the Emergency Call Routing Function (ECRF) and Location Validation Function (LVF) will require datasets to be replicated in WGS 84, which is a latitude and longitude projection in decimal degree units.

As part of the system requirements CSSTP will also develop the re-projection scripting for any local requests to replicated data to an ECRF/LVF in the future.

3.3 GIS Data Maintenance

GIS data maintenance for 9-1-1 layers will continue to be performed at the local level. Most local 9-1-1 datasets will be able to maintain their current data models which are developed in many cases to work with local systems as described in the Existing Systems section. Updates performed during regular GIS maintenance at the local jurisdiction will be replicated into the state GIS data model when data is pushed up to the 9-1-1 GIS repository. Additional GIS addressing best practices and guidelines documents will be developed in conjunction with the ENHANCE 9-1-1 grant project to assist with standardization of GIS addressing maintenance and quality control.

4. DATABASE STANDARDS

4.1 Table Column Descriptions

Attribute Name	Complete attribute name. Field name column represents the actual database field name
Attribute Description	More detailed description of the role of the field and potential information values to be entered into the field.
Field Name	Actual database field name.
R/O/C	Denotes if the field is Required, Optional or Conditional.
Field Type	Denotes the recommended field type for the information to be entered into this database field. A – Alphanumeric, D – Date field, N – Number field such as integer or double

4.2 Road Centerlines

Road centerlines for 9-1-1 datasets are geospatial line features that represent the center of an addressable road. The road centerline line feature collected to represent the each addressable road should be within 1 to 3 meters of the center of each road segment.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Road Centerline ID	ID that is guaranteed to be unique in a set of aggregated data. ID is not to be reused when road is split or deleted.	RCL_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Abbreviation Left	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH	STATE_L	R	A

	(Ohio), IN (Indiana) on the Left side of the FROM Node			
State Abbreviation Right	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)) on the Right side of the FROM Node	STATE_R	R	A
County Name Left	County Name on the Left side of the FROM Node , completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COL	R	A
County Name Right	County Name on the Right side of the FROM Node , completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COR	R	A
Municipality Name Left	Name of the Municipality on the Left side of the FROM Node. Only required if a road centerline segment is within a named Municipality or is coincident with a Municipal boundary whereby the Municipality is on the Left side of the road centerline.	MUNI_L	R	A
Municipality Name Right	Name of the Municipality on the Right side of the FROM Node. Only required if a road centerline segment is within a named Municipality or is coincident with a Municipal boundary whereby the Municipality is on the Right side of the road centerline.	MUNI_R	R	A
Municipality Division Left	Name of the Municipality Division	MCD_DIV_L	R	A

	<p>on the left side of the FROM Node. Only used if a named municipality with a defined boundary. E.G. Borough, Township, City, etc. Only required if a road centerline segment is within a named Municipality or is coincident with a Municipal boundary whereby the Municipality is on the Left side of the road centerline.</p>			
Municipality Division Right	<p>Name of the Municipality Division on the right side of the FROM Node. Only used if a named municipality with a defined boundary. E.G. Borough, Township, City, etc. Only required if a road centerline segment is within a named Municipality or is coincident with a Municipal boundary whereby the Municipality is on the Left side of the road centerline.</p>	MCD_DIV_R	R	A
Unincorporated Comm. Left	<p>The name of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county, where the address is located. The unincorporated community on the Left side of the FROM Node. The unincorporated community must have a definite boundary.</p>	UNCORP_L	O	A
Unincorporated Comm. Right	<p>The name of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county, where the address is located. The unincorporated community on the Right side of the FROM Node. The unincorporated community must have a definite boundary.</p>	UNCORP_R	O	A

Neighborhood Left	Neighborhood or other informal designation for a part of a city on the left side of the FROM Node. A known subdivision with definite boundary, gated community, etc.	NGHBRHD_L	O	A
Neighborhood Right	Neighborhood or other informal designation for a part of a city on the right side of the FROM Node. A known subdivision with definite boundary, gated community, etc.	NGHBRHD_R	O	A
Address Range Prefix Left	That part of an address preceding the numeric address, on the Left side of the FROM Node. Ex. "101-" in 101-123 Grid Way Dr	ADRG_PRE_L	O	A
Address Range Prefix Right	That part of an address preceding the numeric address, on the Right side of the FROM Node. Ex. "2N3W-" in 2N3W-124 Township Dr	ADRG_PRE_R	O	A
Left From Address	The address on the Left side of the road, which corresponds to the "Left FROM Node" of the line feature.	LLO	R	N
Left To Address	The address on the Left side of the road, which corresponds to the "Left TO Node" of the line feature.	LHI	R	N
Right From Address	The address on the Right side of the road which corresponds to the Right "From Node" of the line feature.	RLO	R	N
Right To Address	The address on the Right side of the road, which corresponds to the "To Node" end of the line feature.	RHI	R	N
Parity Left	Parity of Address Range on the Left side of the FROM Node. Valid entries are: E or O or B for Even, Odd, or Both. If Address Range is 0 to 0 Use B for Both	PARITY_L	O	A

Parity Right	Parity of Address Range on the Right side of the FROM Node. Valid entries are: E or O or B for Even, Odd, or Both. If Address Range is 0 to 0 Use B for Both	PARITY_R	O	A
Postal Community Left	Postal Community Name, completely spelled out, as identified on the Left side of the FROM Node. Post Office that deliver mail to a given address. This may differ from the MSAG community of that address.	PSTCOMM_L	O	A
Postal Community Right	Postal Community Name, completely spelled out, as identified on the Right side of the FROM Node	PSTCOMM_R	O	A
Zip Code Left	ZIP Code of Road Segment on the Left side of the FROM Node	ZIP_L	O	A
Zip Code Right	ZIP Code of Road Segment on the Right side of the FROM Node	ZIP_R	O	A
ESN Left	Emergency Service Number (ESN) of Road Segment on the Left side of the FROM Node. The ESN represents the number associated with an Emergency Service Zone which is a geographic area representing a unique combination of fire, police and EMS responders.	ESN_L	R	A
ESN Right	Emergency Service Number (ESN) of Road Segment on the Right side of the FROM Node. The ESN represents the number associated with an Emergency Service Zone which is a geographic area representing a unique combination of fire, police and EMS responders.	ESN_R	R	A
PSAP Left	Public Safety Answering Point (PSAP) for the road segment on the	PSAP_L	R	A

	left side of the FROM Node			
PSAP Right	Public Safety Answering Point (PSAP) for the road segment on the right side of the FROM Node	PSAP_R	R	A
MSAG Community Left	Valid service community name as identified by the MSAG on the left side of the FROM Node	MSAG_L	R	A
MSAG Community Right	Valid service community name as identified by the MSAG on the left side of the FROM Node	MSAG_R	R	A
Street Pre-Modifier	A word or phrase that precedes the primary street name and is not a leading street direction. Street Pre-Modifier is only used when the Street Prefix Directional is also used. Valid Entries: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass, Overpass.	ST_PREMOD	O	A
Prefix Street Direction	Leading street direction prefix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Prefix Street Direction exists for that street.	PRD	R/C	A
Street Type Prefix	The type of street preceding the street name element. Must always be spelled out. Not used in most applications	STTYPE_PRF	O	A
Street Name	The Legal street name as assigned by local addressing authority. This field shall always have a value.	STN	R	A
Street Type Suffix	The type of street following the street name. Abbreviations listed in USPS Publication 28 Appendix C1. (E.g. ST, AVE, RD). In some	STS	R/C	A

	instances, there may be a Street Name that does not require a Street Type. (e.g. 'HIGHWAY 11' would be entered in Street Name field but there is no Street Type in this case)			
Suffix Street Direction	Trailing street direction suffix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Suffix Street Direction exists for that street.	POD	R/C	A
Street Post-Modifier	A word or phrase that follows the street name and is not a street suffix or trailing street direction. Valid Entries include, but are not limited to: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass, Overpass.	ST_POSTMOD	O	A
Full Street Name	Full Concatenated Street Name. This will combine the values in the fields [PRD], [STN], [STS], [POD]. The field must have a value to be represented in the street name concatenation. For example a road segment will field values of 'PINE' for STN and 'LN' for STS, but no values in PRD or POD would concatenate to 'PINE LN' in this field. PRD and POD would not be considered because they have no values in this particular case. If a jurisdiction was using the optional Street Modifier fields, those would need to be considered in the concatenation where field values were present.	FULL_STN	R	A
Speed Limit	Normal Posted Speed in mph	SPEEDLIMIT	O	N

One Way Street	One way road classification. B or Blank – travel in both directions allowed FT – One-way from FROM node to TO node (in direction of segment) ; TF – One way from TO node to FROM Node (opposite direction of segment)	ONE_WAY	O	A
Road Class	Primary; Secondary; Local (City, Neighborhood, or Rural Road); Ramp; Service (usually along a limited access highway) Walkway (Pedestrian Trail, Boardwalk); Private (service vehicles, logging, oil fields, ranches, etc.); Alley; Parking Lot; Trail (Ski, Bike, Walking / Hiking Trail); Other	RD_CLASS	O	A
Collection Method	1- Heads up digitized, 2- GPS, 3- digital plan, 4 –Photogrammetrically Collected 5 -Other	COL_METHOD	O	N
From Node Elevation	0=intersection(no separation), 1=underpass, 2=overpass and 3=intersection for more than 1 thoroughfare	GSF	O	N
To Node Elevation	0=intersection(no separation), 1=underpass, 2=overpass and 3=intersection for more than 1 thoroughfare	GST	O	N
Road Surface	0-paved, 1-unpaved, 2-unknown	RDSURFACE	O	N
Notes	field for brief comments specific to feature - 100 characters	NOTES	O	A
Exception	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.3 Road Name Alias Table

The development of this alias or alternate names table is optional. This table would list any alternate road names that might exist for a particular road segment. The legal primary name should be captured in the street names fields of the road centerline dataset. Any secondary or alternate street names would be listed in this table and linked back to the GIS road centerline segment by the RCL_ID. Depending on the number of alternate road names, there could be multiple entries for an RCL_ID within the Alias table.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Road Centerline Unique ID	Unique ID of road segment record in Road Centerline attribute table. If there are multiple road names for a road, there could be multiple records in the Alias table with the same RCL_ID.	RCL_ID	R	N
Street Pre-Modifier	A word or phrase that precedes the primary street name and is not a leading street direction. Street Pre-Modifier is only used when the Street Prefix Directional is also used. Valid Entries: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass, Overpass.	ST_PREMOD	O	A
Prefix Street Direction	Leading street direction prefix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Prefix Street Direction exists for that street.	PRD	R/C	A
Street Type Prefix	The type of street preceding the street name element. Must always be spelled out. Not used in most applications	STTYPE_PRF	O	A
Street Name	The Legal street name as assigned by local addressing authority. This	STN	R	A

	field shall always have a value.			
Street Type Suffix	The type of street following the street name. Abbreviations listed in USPS Publication 28 Appendix C1. (E.g. ST, AVE, RD). In some instances, there may be a Street Name that does not require a Street Type. (e.g. 'HIGHWAY 11' would be entered in Street Name field but there is no Street Type in this case)	STS	R/C	A
Suffix Street Direction	Trailing street direction suffix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Suffix Street Direction exists for that street.	POD	R/C	A
Street Post-Modifier	A word or phrase that follows the street name and is not a street suffix or trailing street direction. Valid Entries include, but are not limited to: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass, Overpass.	ST_POSTMOD	O	A
Full Street Name	Full Concatenated Street Name. This will combine the values in the fields [PRD], [STN], [STS], [POD]. The field must have a value to be represented in the street name concatenation. For example a road segment will field values of 'PINE' for STN and 'LN' for STS, but no values in PRD or POD would concatenate to 'PINE LN' in this field. PRD and POD would not be considered because they have no values in this particular case. If a jurisdiction was using the optional Street Modifier fields, those would	FULL_STN	R	A

	need to be considered in the concatenation where field values were present.			
Type of Road Name	1- Postal Name, 2- County Road Name, 3- State Road Name, 4- City Road Name, 5- Local Name 6- Name on Street Sign	RDNAMETYPE	R	N

4.4 Site Structure Points

Site structure points are geospatial point features that represent structures that are an addressable location within a jurisdiction.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Structure Point ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	SITE_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
County	County Name, completely spelled out, as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COUNTY	R	A

Municipality	The name of the incorporated municipality or other general-purpose local governmental unit (if any) where the address is located. Municipalities could be Cities, Townships, Boroughs.	MUNI	R	A
Municipality Division	The name of a portion of a municipality with a defined border. Ex: borough, ward, district	MCD_DIV	R	A
Unincorporated Community	The name of an unincorporated community, division, or area, either within an incorporated municipality or in an unincorporated portion of a county, where the address is located. The unincorporated community must have a definite boundary.	UNCORP	O	A
Neighborhood Community	Neighborhood or other informal designation for a municipality or unincorporated area of a county or portion of a tribal nation with an undefined boundary.	NGHBRHD	O	A
Address Number Prefix	An extension of the address number that precedes it and further identifies a location along a thoroughfare or within a defined area. Ex. "101-" in 101-123 Grid Way Dr	HSENO_PRE	R/C	A
Address Number	The numeric identifier of a location along a thoroughfare or within a defined community. This field shall always have a value.	HSENO	R	N
Address Number Suffix	An extension of the address number that follows it and further identifies a location along a thoroughfare or within a defined area. For example, the '1/2' in '101 ½' or the 'B' in '502B'.	HSENO_SUF	R/C	A
Street Pre-Modifier	A word or phrase that precedes the primary street name and is not a leading street direction. Street Pre-	ST_PREMOD	O	A

	Modifier is only used when the Street Prefix Directional is also used. Valid Entries: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass, Overpass.			
Prefix Street Direction	Leading street direction prefix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Prefix Street Direction exists for that street.	PRD	R/C	A
Street Type Prefix	The type of street preceding the street name element. Must always be spelled out. Not used in most applications	STTYPE_PRF	O	A
Street Name	The Legal street name as assigned by local addressing authority. This field shall always have a value.	STN	R	A
Street Type Suffix	The type of street following the street name. Abbreviations listed in USPS Publication 28 Appendix C1. (E.g. ST, AVE, RD). In some instances, there may be a Street Name that does not require a Street Type. (e.g. 'HIGHWAY 11' would be entered in Street Name field but there is no Street Type in this case)	STS	R/C	A
Suffix Street Direction	Trailing street direction suffix. Valid Entries: N S E W NE NW SE SW. This is a required field but on condition that a Suffix Street Direction exists for that street.	PRD	R/C	A
Street Post-Modifier	A word or phrase that follows the street name and is not a street suffix or trailing street direction. Valid Entries include, but are not limited to: Access, Alternate, Business, Bypass, Connector, Extended, Extension, Loop, Private, Public, Scenic, Spur, Ramp, Underpass,	ST_POSTMO D	O	A

	Overpass.			
Full Street Name	Full Concatenated Street Name. This will combine the values in the fields [PRD], [STN], [STS], [POD]. The field must have a value to be represented in the street name concatenation. For example a road segment will field values of 'PINE' for STN and 'LN' for STS, but no values in PRD or POD would concatenate to 'PINE LN' in this field. PRD and POD would not be considered because they have no values in this particular case. If a jurisdiction was using the optional Street Modifier fields, those would need to be considered in the concatenation where field values were present.	FULL_STN	R	A
Full Address Number	Full concatenated house number. This will combine the values in the fields [HSENO_PRE], [HSENO], [HSENO_SUF]. For example '101B' where [HSENO] and [HSENO_SUF] have values for a structure point and are concatenated	FULL_HNO	R	A
Full Address	Full concatenated house address - house number and street name. This will combine the values in the fields [HSENO_PRE], [HSENO], [HSENO_SUF], [PRD], [STN], [STS], [POD]. For example '101B PINE LN'	FULL_ADDR	R	A
ESN	Emergency Service Number associated with this House Number, Street Name and Community Name ³	ESN	R	A
PSAP	Public Safety Answering Point (PSAP) associated with this House Number, Street Name and Community Name ³	PSAP	R	A
Postal Community Name	The name of the post office from which mail is delivered to the address,	PSTCOMM	O	A

	completely spelled out.			
MSAG Community	Valid service community name as identified by the MSAG	MSAGCOMM	R	A
Zip Code	Postal or ZIP code; Ex. 05421 Format: AAAAA	ZIPCODE	O	A
Building	The Building Name ; Ex. Shelby Hotel, Knapp's Building	BLDG	O	A
Floor	The floor that the location is associated with.	FLOOR	O	A
Unit	Unit, apartment, or suite designation	UNIT	O	A
Room	Room number designation.	ROOM	O	A
Seat	Seat or cubicle assigned number, if assigned.	SEAT	O	A
Landmark	Landmark or Vanity address	LANDMARK	O	A
Location	Additional location information; Ex. SW corner of warehouse	LOC	O	A
Place Type	Type of place; Ex. office, store, school, residential. Official list to be finalized.	PLC_TYPE	O	A
Longitude	In decimal degrees	LONGITUDE	R	N
Latitude	In decimal degrees	LATITUDE	R	N
Structure Point Placement	1-Center of structure, 2- Driveway Access Point, 3- Front door, 4- centroid of parcel, 5-Other	SLOC_TYPE	O	N
Road Centerline ID	Structure of field and values TBD by CSSTP system architecture team	RCL_ID	O	A
Parcel ID	GIS tax parcel identification number (PIN) for the tax parcel that the structure point falls within. If multiple addressable structures fall within one parcel, the parcel ID will be applied to the structure point that is the main site	TAX_PIN	O	A

	address for the parcel, if determined.			
Collection Method	1- Heads up digitized, 2- GPS, 3-digital plan, 4- Photogrammetrically collected, 5 - Other	COLL_MTHD	O	N
Notes	field for brief comments specific to feature - 100 characters	NOTES	O	A
Exception	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.5 Public Safety Answering Points (PSAP) Boundaries

PSAP boundaries are polygon features that represent the defined geographic serving area of a PSAP.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
PSAP Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	PSAP_ID	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
Agency ID	Unique domain name for the Service.	AGENCY_ID	O	A
Route	URN/URL for Routing; Ex.	ROUTE	O	URI

	sip:sos.law@houston.eoc.tx.us			
Service URN	The URN/URL for the Emergency Service or other Well-Known Service (e.g. "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service.	SERV_URN	O	URN
Service Number	The emergency services number appropriate for the location provided in the query. The service number is the three to five digit ESN assigned to a geographic area for a unique combination of Fire, Police and EMS.	SERV_NUM	R	A
Agency VCard URI	URI for the vCARD of contact information.	AGENCY_URI	O	URI
Display Name	Display Name of the Service Ex. Houston PD	DISP_NAME	R	A
Contact Name	PSAP Contact Name	CTACT_NAME	O	A
Contact Address	PSAP Contact Address	CTACT_ADDR	O	A
Contact City	PSAP Contact City	CTACT_CITY	O	A
Contact Zip	PSAP Contact Zip Code	CTACT_ZIP	O	A
Contact Phone	PSAP Contact Phone Number	CTACT_TN	O	A
Contact Email	PSAP Contact Email	CTACT_EML	O	A
Exceptions	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.6 Emergency Service Zone (ESZ) Boundaries

ESZ boundaries are polygon features that represent the defined geographic serving area of a unique combination of fire, police and EMS emergency responders. The ESZ boundary layer can be dissolve out into separate Police, Fire and EMS polygon layers.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Emergency Service Zone ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data. Combination of PSAP_ID and ESN.	ESZ_ID	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
Agency ID	Unique domain name for the Service.	AGENCY_ID	O	A
PSAP ID	PSAP associated with the Emergency Service Zone	PSAP_ID	R	A
Route	URN/URL for Routing; Ex. sip:sos.law@houston.eoc.tx.us	ROUTE	O	URI
Service URN	The URN/URL for the Emergency Service or other Well-Known Service (e.g. "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service.	SERV_URN	O	URN
Service Number	The emergency services number (ESN) for the unique combination of fire, police and EMS for the geographic area.	ESN	R	A

Agency VCard URI	URI for the vCARD of contact information.	AGENCY_URI	O	URI
Police Name	Display Name of the Police Service	POLICE	R	A
Fire Name	Display Name of the Fire Service	FIRE	R	A
Emergency Medical Services (EMS)	Display Name of the EMS Service	EMS	R	A
Exceptions	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.7 Police Boundaries

Police boundaries are polygon features that represent the defined geographic serving area of a law enforcement agency.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Police Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	POLICE_ID	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
Agency ID	Unique domain name for the Service.	AGENCY_ID	O	A
Route	URN/URL for Routing; Ex.	ROUTE	O	URI

	sip:sos.law@houston.eoc.tx.us			
Service URN	The URN/URL for the Emergency Service or other Well-Known Service (e.g. "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service.	SERV_URN	O	URN
Service Number	The emergency services number appropriate for the location provided in the query.	SERV_NUM	R	A
Agency VCard URI	URI for the vCARD of contact information.	AGENCY_URI	O	URI
Display Name	Display Name of the Service Ex. Houston PD	DISP_NAME	R	A
Exceptions	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.8 Fire Boundaries

Fire boundaries are polygon features that represent the defined geographic serving area of a fire response agency.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Fire Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	FIRE_ID	R	A

State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
Agency ID	Unique domain name for the Service.	AGENCY_ID	O	A
Route	URN/URL for Routing; Ex. sip:sos.law@houston.eoc.tx.us	ROUTE	O	URI
Service URN	The URN/URL for the Emergency Service or other Well-Known Service (e.g. "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service.	SERV_URN	O	URN
Service Number	The emergency services number appropriate for the location provided in the query.	SERV_NUM	R	A
Agency VCard URI	URI for the vCARD of contact information.	AGENCY_URI	O	URI
Display Name	Display Name of the Service Ex. Houston PD	DISP_NAME	R	A
Exceptions	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.9 Emergency Medical Service (EMS) Boundaries

EMS boundaries are polygon features that represent the defined geographic serving area of an ambulance agency.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D

Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
EMS Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	EMS_ID	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
Agency ID	Unique domain name for the Service.	AGENCY_ID	O	A
Route	URN/URL for Routing; Ex. sip:sos.law@houston.eoc.tx.us	ROUTE	O	URI
Service URN	The URN/URL for the Emergency Service or other Well-Known Service (e.g. "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service.	SERV_URN	O	URN
Service Number	The emergency services number appropriate for the location provided in the query.	SERV_NUM	R	A
Agency VCard URI	URI for the vCARD of contact information.	AGENCY_URI	O	URI
Display Name	Display Name of the Service Ex. Houston PD	DISP_NAME	R	A
Exceptions	Structure of field and values TBD by CSSTP system architecture team	EXCEPTION	O	N

4.10 State Boundaries

State boundaries are a polygon feature that will represent the state boundary of the State of Michigan and surrounding states. CSSTP maintains a state boundary dataset and will provide this into the 9-1-1 GIS database repository.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
State Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	State_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A

4.11 County Boundaries

County boundaries are a polygon feature that will represent the county boundaries across the State of Michigan. CSSTP maintains a county boundary dataset and will provide this into the 9-1-1 GIS database repository.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D

County Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	COUNTY_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A
County Name	County Name completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COUNTY	R	A

4.12 Municipality Boundaries

Municipality boundaries are a polygon feature that will represent the geographic extent of incorporated municipalities.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Municipal Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	MUNI_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as	STATE	R	A

	defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)			
County Name	County Name completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COUNTY	R	A
Municipality Name	The name of the incorporated municipality	MUNI	R	A

4.13 Unincorporated Community Boundaries

The unincorporated community boundaries are polygon features that represent the geographic area of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Unincorporated Community Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	UNCORP_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)	STATE	R	A

County Name	County Name completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COUNTY	R	A
Municipality Name	The name of the incorporated municipality.	MUNI	R	A
Unincorporated Community Name	The name of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county, where the address is located. The area must have a definite boundary.	UNCORP	R	A

4.14 Neighborhood Boundaries

Neighborhood boundaries are polygon features that represent a neighborhood, subdivision or other informal designation for a known named geographic area within a municipality, county, unincorporated area of a county or portion of a tribal nation.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-12T01:01Z	DATE_UPD	R	D
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Neighborhood Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	NGHBRHD_ID	R	A
Country	Country Code e.g. US, CA, MX	COUNTRY	R	A
State Name	Two alpha-character U.S. State or Canadian province abbreviation as	STATE	R	A

	defined by USPS Publication 28, Appendix B Ex. MI (Michigan), OH (Ohio), IN (Indiana)			
County Name	County Name completely spelled out as given in the International Committee for Information Technology Standards (INCITS) 31:2009.	COUNTY	R	A
Municipality Name	The name of the incorporated municipality.	MUNI	R	A
Unincorporated Community Name	The name of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county, where the address is located. The area must have a definite boundary.	UNCORP	C	A
Neighborhood	Neighborhood or other informal designation for a known named geographic area within a municipality, county, unincorporated area of a county or portion of a tribal nation.	NGHBRHD	R	A

4.15 Driveways and Non-Addressable Roads

These line features represent centerlines of roads that are not considered addressable and therefore not part of the addressable 'Road Centerlines' layer. These are typically driveways that are collected that are greater than 200 feet or that need to be collected to provide more detail to display the access point off of the addressable road. These roads can also be other non-addressable roads such as forestry roads, jeep trails, and other roads that may not have addresses along them and they might not be named roads but they can provide reference as access points for emergency vehicles.

Attribute Name	Attribute Description	Field Name	R/O/C	Field Type
Source of Data	Agency that last updated the record	SOURCE	R	A
Date Updated	Date of last update using ISO 8601 format Ex. 2010 Ex. 2010-10-	DATE_UPD	R	D

	12T01:01Z			
Effective Date	Date the new layer information goes into effect using ISO 8601 format Ex. 2010 Ex. 2009-11-18T01:01Z	EFF_DATE	O	D
Driveway Unique ID	Unique ID for each record. ID that is guaranteed to be unique in a set of aggregated data.	DRV_ID	R	A
Road Code	1- Driveway, 2-Non Addressable, 3- Forestry Road, 4-Gated Road, 5- Other	ROAD_CODE	R	A
Label Display	Field to be used to display additional road or driveway name information. E.G Forest Road 1	LABEL	C	A

5. CONTACT INFORMATION

Please provide any comment, questions and potential update recommendations of the Michigan 9-1-1 GIS database repository standards to CSSTP. Please submit correspondence to:

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6. DOCUMENT AND VERSION UPDATES

Date	Version	Description of Update	Section of Document